

| | | | | | |
|--|--|---|--|------------------------------|--|
| SOLICITATION, OFFER AND AWARD | | 1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700) | RATING DO-C9 | PAGE OF PAGES 1 3155 | |
| 2. CONTRACT NUMBER NNJ12JC05C | 3. SOLICITATION NUMBER NNJ11061911R | 4. TYPE OF SOLICITATION <input type="checkbox"/> SEALED B D (FB) <input checked="" type="checkbox"/> NEGOTIATED (RFP) | | 5. DATE ISSUED 02/29/2012 | 6. REQUISITION/PURCHASE NUMBER 4200428145 |
| ISSUED BY NASA/Johnson Space Center Attn: Alice J. Pursell/BJ4 2101 NASA Parkway Houston TX 77058-3696 | | CODE JSC | 8. ADDRESS OFFER TO (If other than item 7) | | |

APPROVED
Alice J. Pursell
JSC PROCUREMENT OFFICER
4/16/12
DATE

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".

SOLICITATION

9. Sealed offers in original and 3 copies for furnishing the supplies or services in the Schedule will be received at the place specified in Item 8, or if hand carried, in the depository located in REFER TO SECTION L until 1300 local time 03/07/2012

(Hour) (Date)

CAUTION: LATE Submissions, Modifications, and Withdrawals: See Section L, Provision No. 52.214-7 or 52.215-1. All offers are subject to all terms and conditions contained in this solicitation.

| | | | | | |
|---------------------------|-----------------------------|---------------------------------|--------------------|------|---|
| 10. FOR INFORMATION CALL: | A. NAME Roger M. Roberts | B. TELEPHONE (NO COLLECT CALLS) | | | C. E-MAIL ADDRESS roger.m.roberts@nasa.gov |
| | | AREA CODE 281 | NUMBER 483-2916 | EXT. | |

| (X) | SEC. | DESCRIPTION | PAGE(S) | (X) | SEC. | DESCRIPTION | PAGE(S) |
|-------------------------------------|------|---------------------------------------|---------|--|------|--|---------|
| PART I - THE SCHEDULE | | | | PART II - CONTRACT CLAUSES | | | |
| <input checked="" type="checkbox"/> | A | SOLICITATION/CONTRACT FORM | 9 | <input checked="" type="checkbox"/> | I | CONTRACT CLAUSES | 22 |
| <input checked="" type="checkbox"/> | B | SUPPLIES OR SERVICES AND PRICES/COSTS | 4 | PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACH. | | | |
| <input checked="" type="checkbox"/> | C | DESCRIPTION/SPECS./WORK STATEMENT | 327 | <input checked="" type="checkbox"/> | J | LIST OF ATTACHMENTS | 2717 |
| <input checked="" type="checkbox"/> | D | PACKAGING AND MARKING | 1 | PART IV - REPRESENTATIONS AND INSTRUCTIONS | | | |
| <input checked="" type="checkbox"/> | E | INSPECTION AND ACCEPTANCE | 1 | <input checked="" type="checkbox"/> | K | REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS | 19 |
| <input checked="" type="checkbox"/> | F | DELIVERIES OR PERFORMANCE | 13 | <input type="checkbox"/> | L | INSTRS., CONDS., AND NOTICES TO OFFERORS | |
| <input checked="" type="checkbox"/> | G | CONTRACT ADMINISTRATION DATA | 18 | <input type="checkbox"/> | M | EVALUATION FACTORS FOR AWARD | |
| <input checked="" type="checkbox"/> | H | SPECIAL CONTRACT REQUIREMENTS | 21 | | | | |

OFFER (Must be fully completed by offeror)

NOTE: Item 12 does not apply if the solicitation includes the provisions at 52.214-16, Minimum Bid Acceptance Period.

12. In compliance with the above, the undersigned agrees, if this offer is accepted within 240 calendar days (60 calendar days unless a different period is inserted by the offeror) from the date for receipt of offers specified above, to furnish any or all items upon which prices are offered at the price set opposite each item, delivered at the designated point(s), within the time specified in the schedule.

| | | | | |
|--|---|---|---|-------------------|
| 13. DISCOUNT FOR PROMPT PAYMENT (See Section I, Clause No. 52.232.8) | <input type="checkbox"/> 10 CALENDAR DAYS (%) | <input type="checkbox"/> 20 CALENDAR DAYS (%) | <input type="checkbox"/> 30 CALENDAR DAYS (%) | CALENDAR DAYS (%) |
| 14. ACKNOWLEDGEMENT OF AMENDMENTS (The offeror acknowledges receipt of amendments to the SOLICITATION for offerors and related documents numbered and dated): | AMENDMENT NO. | DATE | AMENDMENT NO. | DATE |
| | 000001 | 11/3/11 | 000003 | 11/21/11 |
| | 000002 | 11/16/11 | 000004 | 01/23/12 |

| | | | |
|---|---------------|----------|---|
| 15A. NAME AND ADDRESS OF OFFEROR DynCorp International LLC 13500 Heritage Parkway Ft. Worth, TX 76177-5318 | CODE 1SMB2 | FACILITY | 15. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print) James R. Myles Vice President, Aviation Operations |
|---|---------------|----------|---|

| | | | | | |
|---|--------------------|------|---|--|----------------|
| 15B. TELEPHONE NUMBER AREA CODE 817 | NUMBER 224-1975 | EXT. | 15C. CHECK IF REMITTANCE ADDRESS <input checked="" type="checkbox"/> IS DIFFERENT FROM ABOVE - ENTER SUCH ADDRESS IN SCHEDULE. | 17. SIGNATURE <i>James R. Myles</i> | 18. OFFER DATE |
|---|--------------------|------|---|--|----------------|

| | | |
|---|---|--|
| 19. ACCEPTED AS TO ITEMS NUMBERED B.2 | 20. AMOUNT See B.2 | 21. ACCOUNTING AND APPROPRIATION 4200428145 |
| 22. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION: <input type="checkbox"/> 10 U.S.C. 2304 (c) () <input type="checkbox"/> 41 U.S.C. 253 (c) () | | 23. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified) ITEM G.7, G.9 |
| 24. ADMINISTERED BY (If other than Item 7) CODE JSC | 25. PAYMENT WILL BE MADE BY G.7, G.9 | CODE NSSC |
| 26. NAME OF CONTRACTING OFFICER (Type or print) Alice J. Pursell | 27. UNITED STATES OF AMERICA <i>Alice Jean Pursell</i> (Signature of Contracting Officer) | 28. AWARD DATE 4/16/12 |

SF 33 Continuation Sheet

14. ACKNOWLEDGEMENT OF AMENDMENTS (The Offeror acknowledges receipt of amendments to the SOLICITATION for offerors and related documents numbered and dated):

Amendment Number

Dated

000005

02/16/12

000006

02/23/12

SECTION B - SUPPLIES OR SERVICES AND PRICES/COSTS

B.1 SCOPE OF WORK (Applies to Fixed-Price and Cost)

The Contractor shall provide all personnel, materials, and facilities (except as otherwise provided in the contract) necessary to perform those functions set forth in Section C, Statement of Work (SOW), at the Johnson Space Center (JSC) and other locations as specified in the SOW.


(End of clause)

B.2 ESTIMATED COST FIXED PRICE AND AWARD FEE (Applies to Fixed-Price and Cost)

The total estimated cost, phase-in, and fixed price of this contract is \$ (b) (4). The maximum available award fee is \$ (b) (4). Total estimated cost, fixed price, and maximum award fee is \$46,563,638.

B.2.1 The estimated cost fixed price and maximum available award fees for Johnson Space Center and Langley Research Center are:

B.2.1.1 The estimated cost, fixed price, and maximum award fee of this contract at the Johnson Space Center are as follows:

| | Estimated cost Fixed price | Maximum Award Fee |
|-------------------------|--|----------------------|
| Phase-in (Fixed Price): |  | |
| Estimated Cost | | |
| Fixed Price | | |
| Total | | |

B.2.1.2 The estimated cost, fixed price phase in only, and maximum award fee of this contract at Langley Research Center are as follows:

| | | |
|-------------------------|--|--|
| Phase-in (Fixed Price): |  | |
| Estimated Cost | | |
| Total | | |

B.2.1.3 The costing of LOE task orders for this contract shall be in accordance with the negotiated and fully burdened composite labor rates as shown in Table B-1. The rates shall be a fully burdened composites of the Team(s)' rates by skill exclusive of fee. These rates shall tie to the Contract Rates Section of the Summary Cost Template (SCT) Table for LOE. Note that the bottom of Table B-1 allows for indirect rates to be applied, if applicable, to non-labor resources (for example, an application of material handling rate on materials.)

**Table B-1 JSC LOE Rates Applies Only to COST Portion
of the Statement of Work**

| | Base Period | Option 1 | Option 2 |
|--|--|---|---|
| Fully Burdened Labor Rates (Exclusive of Fee) | June 1, 2012 - September 30, 2013 | October 1, 2013 - September 30, 2015 | October 1, 2015 - May 31, 2017 |
| Admin Support I | (b) (4) | (b) (4) | (b) (4) |
| Admin Support II | | | |
| Admin Support III | | | |
| Aircraft Mechanic I | | | |
| Aircraft Mechanic II | | | |
| Aircraft Mechanic III | | | |
| Designer | | | |
| Engineer I | | | |
| Engineer II | | | |
| Engineer III | | | |
| Equipment Operator | | | |
| Flight Engineer | | | |
| Loadmaster | | | |
| Logistics Analysis I | | | |
| Logistics Analysis II | | | |
| Logistics Analysis III | | | |
| Logistics Analysis IV | | | |
| Logistics Liaison | | | |
| Management Analyst | | | |
| Pilot | | | |
| Procurement I | | | |
| Procurement II | | | |
| Procurement III | | | |
| Procurement IV | | | |
| Project Manager I | | | |
| Project Manager II | | | |
| Project Manager III | | | |
| Quality Assurance Representative (QAR) | | | |
| Scheduler | | | |
| Technical Writing Liaison | | | |
| Test Director | | | |
| Training Specialist I | | | |

| Fully Burdened Labor Rates (Exclusive of Fee) | June 1, 2012 - September 30, 2013 | October 1, 2013 - September 30, 2015 | October 1, 2015 - May 31, 2017 |
|--|--------------------------------------|---|-----------------------------------|
| Training Specialist II | (b) (4) | | |
| Training Specialist III | | | |
| Warehouse Worker | | | |

| Table B-1 LaRC LOE Rates Applies Only to COST Portion of the Statement of Work | | | |
|---|--------------------------------------|---|-----------------------------------|
| | Base Period | Option 1 | Option 2 |
| Fully Burdened Labor Rates (Exclusive of Fee) | June 1, 2012 - September 30, 2013 | October 1, 2013 - September 30, 2015 | October 1, 2015 - May 31, 2017 |
| Executive Manager | (b) (4) | | |
| Aircraft Mechanic III | | | |
| Aircraft Mechanic II | | | |

| Indirect Cost (Rate) applied to Non-Labor Resources if required by Task Order: | | | |
|---|--------------------------------------|---|-----------------------------------|
| | Base Period | Option 1 | Option 2 |
| Indirect Rate Applied to Non-Labor Resources if Required by Task Order (Exclusive of Fee) | June 1, 2012 - September 30, 2013 | October 1, 2013 - September 30, 2015 | October 1, 2015 - May 31, 2017 |
| 1. Other Direct Costs (excluding Equip/Maint) | (b) (4) | | |
| 2. Equipment and Maintenance | | | |

REMITTANCE ADDRESS
FOR WIRE PAYMENTS:

FOR ACH PAYMENTS:

(b) (4)

(End of clause)

B.3 FUNDING (Applies to Cost)

Funds for the cost portion of the contract shall be provided for JSC in B.4 below. For LaRC, Task Orders with funding shall be issued by the Administrative Contracting Officer for that Center. Funds shall be allotted by the Task Order and subsequent modifications, if required. The "Limitation of Funds" clause applies individually to each Center.

B.4 1852.232-81 CONTRACT FUNDING. (JUN 1990) (Applies to Cost)

(a) For purposes of payment of cost, exclusive of fee, in accordance with the Limitation of Funds clause, the total amount allotted by the Government to this contract is \$ (b) (4). This allotment is for the Aircraft Maintenance and Operational Support Contract covers the following estimated period of performance: [April 24, 2012 through September 28, 2012].

(b) An additional amount of \$ (b) (4) is obligated under this contract for payment of fee.

*Note: The amounts listed are for administrative purposes only; funds will be obligated in CMM upon issuance of Task Orders.

(End of clause)

(END OF SECTION)

SECTION C - DESCRIPTION/SPECIFICATIONS/STATEMENT OF WORK

Remainder of page intentionally left blank.

Section C

Aircraft Maintenance and Operational Support Statement of Work

Flight Crew Operations Directorate
Aircraft Operations Division

Contract # NNJ12JC05C



National Aeronautics and Space Administration
Lyndon B. Johnson Space Center
Houston, Texas 77058

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Preface

During the period of performance of the Aircraft Maintenance and Operational Support (AMOS) contract, National Aeronautics and Space Administration (NASA) aircraft operations will be in a period of transition with the retirement of the Space Shuttle Program and the beginning of new NASA missions. Although there are few certainties during this transition period, this contract will support a core astronaut competency which includes aircraft spaceflight readiness training. Additionally, this contract will continue to support NASA airborne science research. Although it is anticipated that some areas of the contract will see a reduction in effort, such as the retirement of some aircraft, NASA anticipates that other areas of the contract may see an increase in effort such as airborne science research.

Given this changing climate, it is imperative that the Contractor maintain a dynamic and creative workforce in order to adapt quickly to the evolving NASA mission.

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1.0 Introduction

1.1 Overview

This Statement of Work (SOW) describes the work to be performed and the deliverables to be provided by the Contractor under the Aircraft Maintenance and Operational Support (AMOS) contract. The Contractor shall manage its workforce to ensure that quality products and safe services are provided to NASA and NASA customers for the life of the contract.

1.2 Requirements Definition

The following definitions differentiate between requirements and other statements contained in this statement of work:

| | |
|-------------------|--|
| Shall | This is the only verb used for binding requirements. |
| Should/May | These verbs are used for stating non-mandatory goals. |
| Will | This verb is used for stating facts or declaration of purpose. |

1.3 Contract Structure

The AMOS contract is a hybrid contract comprised of two contract types, a fixed-price (FP) award fee portion and a cost-reimbursable (Cost) award fee portion. The Contractor shall:

- 1) Execute the contract in accordance with the requirement categories and definitions identified in Table 1-1 below. Requirement categories are listed under each applicable paragraph heading in the statement of work beginning in SOW Subsection 4.0.
- 2) Ensure that work performed under the fixed-price portion of the contract is not charged to the cost-reimbursable portion of the contract.

Table 1-1: Requirement Categories

| Category | Definition |
|----------------|---|
| FP | <ul style="list-style-type: none"> • The Contractor shall perform all labor under the fixed-price (FP) portion of the contract. • All <i>non-labor resources</i>¹ shall be cost-reimbursable. |
| FP/Cost | <ul style="list-style-type: none"> • For all support equipment, aviators life support equipment, and T-38 aircraft: <ul style="list-style-type: none"> - The Contractor shall perform all organizational, intermediate, and depot level labor <u>supported by approved technical data</u>^{2, 3} under the fixed-price portion of the contract.⁴ - The Contractor shall perform all labor <u>not supported by approved technical data</u>² under the cost-reimbursable portion of the contract • For all other aircraft: <ul style="list-style-type: none"> - The Contractor shall perform all labor under the cost-reimbursable portion of the contract. • All non-labor resources shall be cost-reimbursable. |
| Cost | <ul style="list-style-type: none"> • The Contractor shall perform all labor under the cost-reimbursable portion of the contract. • All non-labor resources shall be cost-reimbursable. |
| General | <ul style="list-style-type: none"> • General contract requirement or background information not suited for a specific category assignment |

¹ See SOW Appendix B for a definition of the term “non-labor resources.”

² See SOW Subsection 1.4 for definitions of the terms “supported” and “not supported” by approved technical data.

³ See SOW Subsection 1.4 for a definition of the term “approved technical data.”

⁴ See SOW Appendix B for definitions of the terms “organizational,” “intermediate,” and “depot” level maintenance.

1.4 Work Supported or Not Supported by Approved Technical Data

1.4.1 Definitions

For the purposes of this statement of work, the Contractor shall use the following definitions:

- 1) *Approved Technical Data* is defined as Government or original equipment manufacturer (OEM) approved and released items listed in Appendix C, engineering work orders (EWOs), fleet modification instructions (FMIs), engineering drawings, test procedure – flight research project (TP-FRP) instructions, Federal Aviation Authority (FAA)-approved OEM standards, aircraft change directives (ACDs) (e.g. airworthiness directives, service bulletins, etc) and any other subscriptions, data, and specifications necessary in order to service, repair, and keep aircraft and their related systems in an airworthy and serviceable condition.
- 2) *Supported by approved technical data* is defined as any maintenance activity where approved technical data exists.⁵
- 3) *Not supported by approved technical data* is any maintenance activity where:
 - a. Approved technical data does not exist per Appendix C;
 - b. Technical data prohibits repair in-house; or
 - c. The technical data instructs the Contractor to seek additional subject matter expert guidance (e.g. ⁶ AOD Form 14, *Engineering Work Order*) before the maintenance action can be completed.⁷
- 4) *Touch Labor* is defined as hands-on labor related directly to maintaining, manufacturing, upgrading, processing, or testing.

⁵ For example, labor to replace the T-38 44% spar attachment fitting per Technical Order (T.O.) IT-38A-3, Paragraph 2.116 would be performed under the fixed-price portion of the contract.

⁶ The abbreviation “e.g.” as used in this statement of work means “for example.”

⁷ For example, an aircraft structural crack has exceeded T.O. limits for the repair and engineering must be contacted for disposition.

1.4.2 Process⁸

For all Johnson Space Center requirements that are:

- 1) T-38 aircraft touch labor (e.g. SOW Subsection 7.4.1);
- 2) Support equipment touch labor (e.g. SOW Subsections 7.4.3 and 7.6.3); or
- 3) Aviator's life support systems touch labor (e.g. SOW Subsection 7.4.2).

That is:

- 1) Believed by the Contractor to be “not supported” by approved technical data; and
- 2) Is a requirement categorized as “FP” or “FP/Cost” per SOW Subsection 1.3.

The Contractor shall:

- 1) Follow the process outlined in SOW Subsection 10.2.2 to determine that the work is “not supported” by approved technical data;
- 2) Complete an applicable AOD form (e.g. AOD Form 14, *Engineering Work Order*) to include technical requirements and labor hour estimates, and receive NASA signature approval prior to performing any touch labor under the cost-reimbursable portion of the contract;⁹
- 3) Archive the applicable AOD form in the NASA Aircraft Management Information System (NAMIS) per SOW Subsection 7.2.1; and
- 4) Perform only that portion of the touch labor approved to be “not supported” by approved technical data under the cost-reimbursable portion of the contract. Perform all other touch labor under the fixed-price portion of the contract.¹⁰

1.4.3 Engineering Projects

The Contractor shall work all NASA approved engineering projects that have been designated as Not Mission Capable Engineering Project (NMCEP)¹¹ per AOD WI 34100, Table 1, Aircraft Status Code under the cost-reimbursable portion of the contract.

⁸ This process does not apply to Langley Research Center.

⁹ AOD forms will be prepared by either the Contractor or NASA per NASA directive. In either case, the Contractor shall be required to review the AOD form content and provide labor hour estimates and project code to complete the work. The project code and Contractor reporting system shall support cost and labor hour data broken out by aircraft tail number, project task, technical directive number and work center.

¹⁰ For example, during a T-38 maintenance inspection, a structural crack is detected on step 10 of a 20 step process. The crack's dimensions are found to exceed the approved technical data repair limits. Consequently, an AOD Form 14, *Engineering Work Order (EWO)* is generated to provide instructions to repair the crack. The touch labor to complete the steps noted as “cost” on the engineering work order will be accomplished under the cost-reimbursable portion of the contract, while the steps noted as “fixed-price” will be accomplished under the fixed-price portion of the contract. The touch labor for the remaining inspection steps, 11 through 20, will be accomplished under the fixed-price portion of the contract.

¹¹ Use of NMCEP shall not apply to maintenance/repair dispositions provided by Engineering utilizing the AOD Form 14, *Engineering Work Order*.

1.5 Background

1.5.1 Johnson Space Center

Located in Houston, Texas, Ellington Field, shown in Figure 1-1, was built in 1917 to train pilots for combat in the First World War. Since then, the airfield has functioned in a variety of operational roles; as an active duty base, an Air Force Reserve base, and an Air National Guard base. Since 1962, Ellington Field has been the home for all NASA Johnson Space Center (JSC) astronaut flight training. In 1984, the city of Houston purchased Ellington Field and the airfield remains active today serving NASA, military, commercial, and general aviation needs.

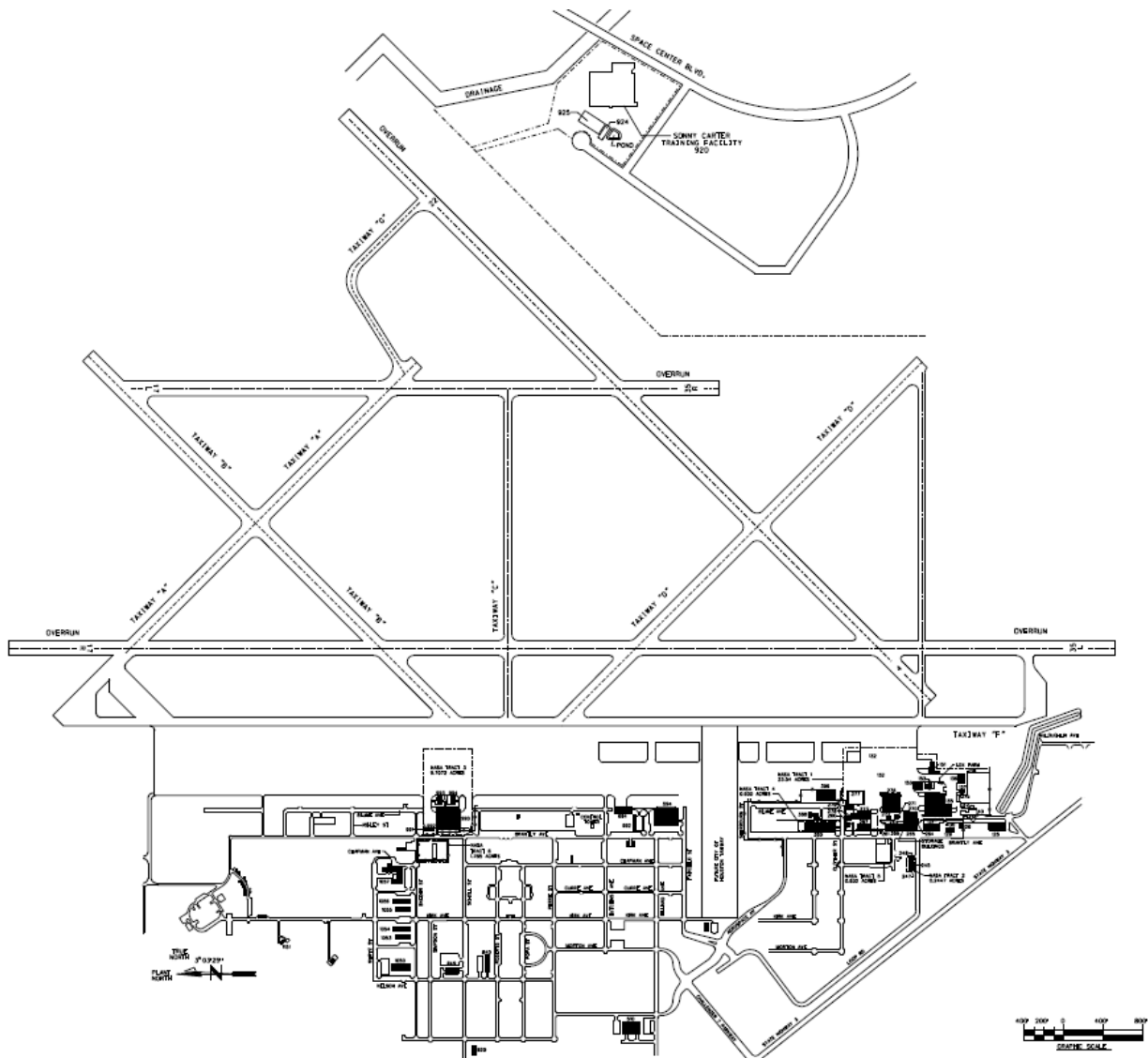


Figure 1-1: Ellington Field

1.5.1.1 JSC Managed Facilities

The facilities and shops listed in Table 1-2 through Table 1-4 are managed by the Johnson Space Center (JSC):

Table 1-2: Ellington Field (EFD) Facilities

| Shop or Facility | Location and Building | Remarks |
|---|-----------------------|---|
| Administration Office | EFD, Building 273 | NASA Maintenance, IT, Contractor Administration |
| Aircraft Test Article Facility | EED, Building 142 | |
| Battery Shop | EFD, Building 135 | |
| Corrosion/Paint Shop | EFD, Building 136 | |
| Egress Shop | EFD, Building 271 | Maintain T-38/WB-57 pyrotechnics for egress systems |
| Electric Shop | EFD, Building 135 | |
| Electronics Lab | EFD, Building 135 | |
| Engine Shop | EFD, Building 135 | |
| Engineering | EFD, Building 135 | |
| Flight Line/Ramp | EFD, EDW, ELP | |
| Fuel Cell Maintenance | EFD, Building 150 | |
| Ground Support Equipment Shop | EFD, Building 278 | |
| Hangar 135 | EFD, Building 135 | G-III, Maintenance, QC/QA, Engineering |
| Hangar/Docks 276 | EFD, Building 276 | T-38 Maintenance |
| Hangar 990 | EFD, Building 990 | DC-9, WB-57F Maintenance, and WB-57 Program Office |
| Hydraulic Shop | EFD, Building 276 | |
| Jet Engine Test Facility | EFD, Building 140 | |
| Mechanical Accessories Shop | EFD, Building 272 | |
| NASA Division Office, Flight Operations and Safety Office | EFD, Building 276 | |
| Nondestructive Inspection (NDI) Testing Lab | EFD, Building 150 | |
| Personal Equipment Shop | EFD, Building 276 | Maintain aircrew pyrotechnics |
| Pressure Suit Shop | EFD, Building 990 | |
| Production Control | EFD, Building 276 | |
| Quality Offices | EFD, Building 267 | NASA Government Quality Assurance (QA), Contractor Quality Control (QC) |
| Sound Suppression Facility | EFD, Building 151 | |
| Sheet Metal Shop | EFD, Building 135 | |

| Shop or Facility | Location and Building | Remarks |
|----------------------------------|---|--------------------------|
| Supply Building 333 | JSC Site, Building 333—Partial Use/Shared with other NASA Contractors | |
| Supply Building 338 | JSC Site, Building 338—Partial Use/Shared with other NASA Contractors | |
| Supply Building 993 | EFD, Building 993 (Reduced Gravity Facility) | |
| Supply Building 994 | EFD, Building 994 (WB-57 Special Projects) | |
| Supply- Class B And C Explosives | EFD, Building E270 | Storage for pyrotechnics |
| T-38 Simulator | JSC Site, Building 5 | |
| Tire and Wheel Shop | EFD, Building 137 | |
| Tire and Wheel Storage | EFD, Building 137B | |
| Warehouse, Building 265 | EFD, Building 265 | Storage for pyrotechnics |
| Warehouse, Building 266 | EFD, Building 266 | |
| Warehouse, Building 270 | EFD, Building 270 | |
| Warehouse, Building 380 | EFD, Building 380 | |
| Welding Shop | EFD, Building 279 | |
| Aircraft Wash Rack | EFD, Building 280 | |

Table 1-3: El Paso (ELP) Facilities¹²

| Shop or Facility | Location and Building | Remarks |
|------------------|-----------------------|--|
| Hangar 8101 | ELP, Building 8101 | T-38, G-III, and 377 Super Guppy Maintenance |
| Hangar 8102 | ELP, Building 8102 | T-38 Maintenance (depot) |

Table 1-4: Edwards Air Force Base (EDW) Facilities

| Shop or Facility | Location and Building | Remarks |
|--------------------------------|-----------------------|--------------------------------|
| Building 4859 | EDW/DFRC | Administration |
| Shuttle Handling Area “Area-A” | EDW/DFRC | Shuttle Support (747 aircraft) |

¹² See SOW Subsection 7.8.1 regarding El Paso depot requirements.

1.5.1.2 JSC Assigned Aircraft

Aircraft currently assigned to JSC are shown in Table 1-5.¹³

Table 1-5: JSC Aircraft and Engine Assignments

| Qty | Type Aircraft | Mission | Type Engine | Location |
|------------------------------|-------------------------|---|-----------------------------|--|
| 21 - 16 ^{14, 15 16} | Northrop T-38N | Program Support Aircraft, Space Flight Readiness Training | General Electric J-85-5 | JSC, Houston, Texas (Ellington Field) |
| 3 ¹⁷ | General Dynamics WB-57F | Program Support Aircraft, Life Science | Pratt and Whitney TF-33-P11 | JSC, Houston, Texas (Ellington Field) |
| 1 | B377 SGT Super Guppy | Program Support Aircraft, Life Sciences | Allison 501-D22C | El Paso, Texas |
| 2 ¹⁸ | Boeing 747 | Program Support Aircraft, Shuttle Carrier Aircraft (SCA) | Pratt and Whitney JT9D-7J | DFRC, Edwards Air Force Base (EDW), California |
| 1 | Boeing DC-9 | Program Support Aircraft | Pratt and Whitney JT-8D-9 | JSC, Houston, Texas (Ellington Field) |
| 1 | Gulfstream G-III | Program Support, Mission Management Aircraft | Rolls Royce Spey MK511-8 | JSC, Houston, Texas (Ellington Field) |

¹³ JSC may add or remove aircraft during the contract period of performance. The added or removed aircraft may be the same aircraft types shown in Table 1-5 or different aircraft types. If T-38 aircraft are decreased, refer to Section F, Subsection F.8.3 for contract options. If aircraft other than T-38's are added, these aircraft will be included in the cost-reimbursable portion of the contract until an evaluation can be made by both NASA and the Contractor to determine if the aircraft type is appropriate for the fixed-price portion of the contract. See SOW Subsection 1.3 for a description of the contract structure.

¹⁴ NASA anticipates that at contract start there will be twenty-one (21) T-38 aircraft. NASA estimates that one (1) T-38 aircraft may be retired for preservation per year down to a minimum of sixteen (16) aircraft.

¹⁵ NASA anticipates the T-38 utilization rate will be no more than thirty (30) flight hours per aircraft per month.

¹⁶ One (1) T-38 aircraft will initially be reserved by NASA as a dedicated project aircraft. The Contractor shall not rely on this aircraft for normal flight operations scheduling.

¹⁷ NASA anticipates that a 3rd WB-57 will become fully operational during the 4th quarter of calendar year 2012. Prior to this date, NASA expects that the Contractor shall be required to support some activities (e.g. maintenance, logistics and quality control) to assist in the 3rd aircraft's refurbishment.

¹⁸ NASA anticipates that the Boeing 747s will be retired or reassigned following the end of the Space Shuttle program and the relocation of the Shuttle Orbiters to their final exhibition locations.

1.5.1.2.1 Northrop T-38N

The T-38A “Talon” is a two-place, twin turbojet, swept-wing, supersonic aircraft originally designed for the United States Air Force as a high performance trainer. NASA currently uses a modified version of the Air Force T-38A aircraft designated the T-38N shown in Figure 1-2. The T-38N is used for astronaut space flight readiness training, and is fully aerobatic.

NASA currently operates twenty-one T-38N aircraft based at Ellington Field in Houston, Texas.



Figure 1-2: Northrop T-38N

1.5.1.2.2 General Dynamics WB-57

The WB-57, shown in Figure 1-3, is a mid-wing, long range aircraft capable of operation for extended periods of time from sea level to altitudes well in excess of 60,000 feet. The WB-57 can fly for approximately 6.5 hours and has a range of approximately 2,600 miles. The WB-57 can carry up to 8,800 pounds (lbs) of payload. Two crewmembers are positioned at separate tandem locations with the pilot sitting in the front and sensor equipment operator sitting in the rear.



Figure 1-3: General Dynamics WB-57

1.5.1.2.3 Airbus Industries Super Guppy Transport

The Super Guppy Transport (SGT) aircraft, shown in Figure 1-4, was acquired by NASA from the European Space Agency and was manufactured by Airbus Industries in 1983. The SGT is the latest version in a long line of Guppy cargo aircraft used by NASA, and is designed to transport oversized cargo.

The SGT, also designated 377SGT-F, has a cargo compartment that is 25 feet tall, 25 feet wide and 111 feet long. The aircraft has a unique hinged nose that can open more than 100 degrees, allowing large pieces of cargo to be loaded and unloaded from the front. The maximum takeoff weight is 170,000 lbs, and maximum range is 1,730 NM.



Figure 1-4: Airbus Industries Super Guppy

1.5.1.2.4 Boeing 747 – Shuttle Carrier Aircraft

NASA operates two Shuttle Carrier Aircraft (SCAs). These aircraft, one shown in Figure 1-5, are extensively modified Boeing 747 airliners. NASA maintains one 747-100 model and one short range 747-100SR.

The SCAs are used to ferry space shuttles from landing sites back to the launch complex at the Kennedy Space Center. The orbiters are placed on top of the SCAs by large gantry-like structures that hoist the orbiters off the ground for post-flight servicing, and then mate them with the SCAs for ferry flights.

Flying with the additional drag and weight of the Orbiter imposes significant fuel and altitude penalties. The range is reduced to 1,000 nautical miles, compared to a commercial non-stop range of 5500 nautical miles, requiring an SCA to stop several times to refuel on a transcontinental flight. The SCA has an altitude ceiling of 15,000 feet and a maximum cruise speed of Mach 0.6 with the orbiter attached.



Figure 1-5: Boeing 747 Shuttle Carrier Aircraft

1.5.1.2.5 McDonnell Douglas DC-9

The DC-9, shown in Figure 1-6, was acquired by NASA from the U.S. Navy in 2003. It is the military version of the McDonnell Douglas DC-9 used for many years by the commercial airlines. The U.S. Navy utilized the DC-9 aircraft in support of passenger transportation, medical evacuation and special missions.

The primary mission of the NASA DC-9 is to provide support for the movement of the shuttle from landing sites in California and New Mexico back to Kennedy Space Center, Trans-Atlantic Landing support and the Emergency Mission Control Move mission. Future use of the aircraft will include movement of cargo both domestically and internationally in support of US space operations.

The NASA DC-9 has a maximum gross take-off weight of 110,000 lb and will be fitted with auxiliary fuel tanks installed in the lower cargo hold to augment the aircraft's range to nearly 2,600 nautical miles for overseas missions.



Figure 1-6: McDonnell Douglas DC-9

1.5.1.2.6 Gulfstream III – Mission Management Aircraft

JSC operates one program support/mission management aircraft (MMA), shown in Figure 1-7, in support of US space operations. The Gulfstream III was built by Gulfstream Aerospace Corp. In its commercial versions, the G-III's basic role is that of an executive business aircraft that can carry up to 15 passengers. The C-20B version currently flown by the Air Force serves in a similar capacity for high-level Government and military officials.

The G-III's maximum takeoff weight with full fuel and passengers/cargo is 69,700 lbs. Empty, the unmodified airplane weighs about 38,000 lbs. The aircraft has a wingspan of just over 77 feet, is about 83 feet long and just over 24 feet tall. Normal cruise for the aircraft is 459 knots, and its top speed is 501 knots (Mach 0.85). Its maximum operating altitude is 45,000 feet. The Gulfstream-III has a range with a full load of passengers or equipment of about 3,400 nautical miles.



Figure 1-7: Gulfstream GIII

1.5.1.2.7 T-38N Simulator

The T-38N simulator, shown in Figure 1-8 and Figure 1-9, is ground based (no motion) and is located on-site at Johnson Space Center in Building 5. The simulator is configured with a cockpit taken from a NASA T-38 aircraft and modified to meet simulator training requirements.

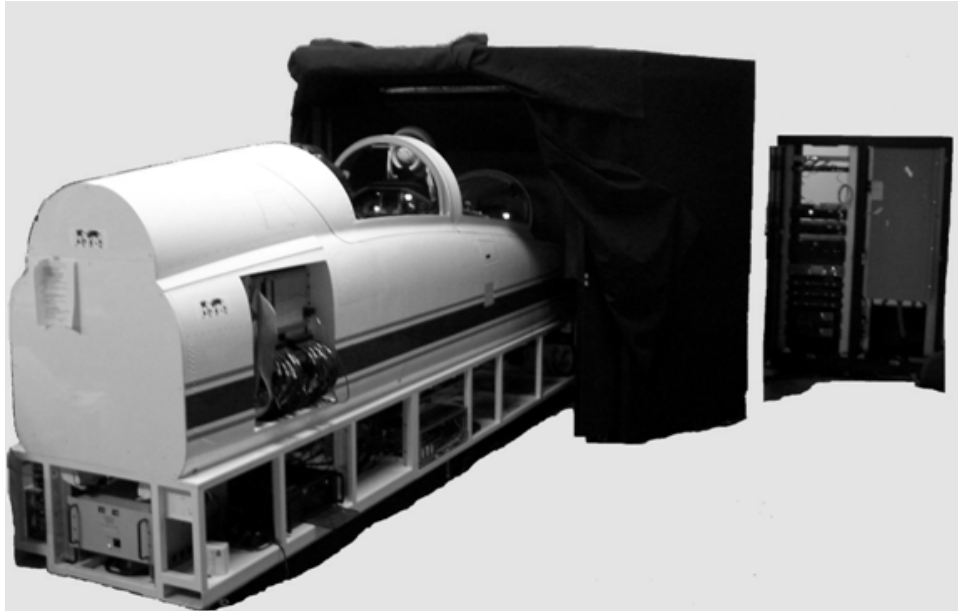


Figure 1-8: T-38N Simulator



Figure 1-9: T-38N Simulator, Cockpit View

1.5.2 Langley Research Center

Langley Research Center (LaRC) is the oldest of NASA’s field centers. Located in Hampton, Virginia, Langley was established in 1917 by the National Advisory Committee for Aeronautics. Langley focuses primarily on aeronautics research although a number of space missions have been designed at the Center. Langley currently has more than forty wind tunnels performing research on improving aircraft and spacecraft safety, performance, and efficiency. Today, two-thirds of Langley’s programs involve aeronautics research and the rest concentrate on space research. See Figure 1-10.

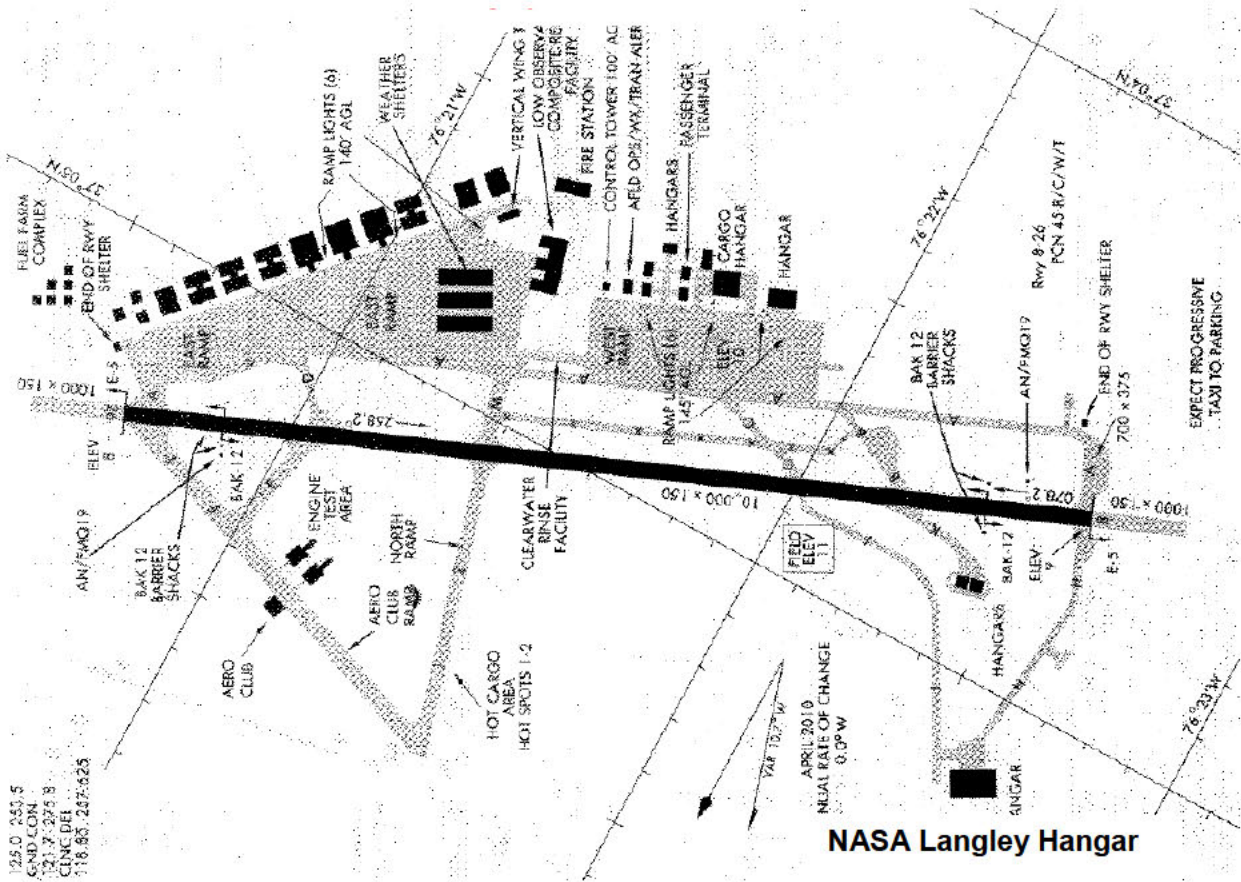


Figure 1-10: Langley Research Center

1.5.2.1 LaRC Managed Facilities

The facilities and shops listed in Table 1-6 are managed by the Langley Research Center (LaRC).

Table 1-6: LaRC Facilities

| Shop/Facility | Location/Building | Remarks |
|-------------------------------|--------------------|---|
| Administration Office | LaRC Building 1244 | NASA Maintenance, Contract Administration |
| Battery Shop | LaRC Building 1244 | |
| Electric Shop | LaRC Building 1244 | |
| Fabrication Shop | LaRC Building 1244 | |
| Flight Line/Ramp | LaRC | |
| Ground Support Equipment Shop | LaRC Building 1244 | |
| Personnel Equipment Shop | LaRC Building 1244 | |
| Quality Assurance Office | LaRC Building 1244 | |
| Supply | LaRC Building 1244 | |

1.5.2.2 LaRC Assigned Aircraft

Aircraft currently assigned to LaRC are shown in Table 1-7.¹⁹

Table 1-7: LaRC Aircraft and Engine Assignments

| Qty | Type Aircraft | Mission | Type Engine | Location |
|-----|---|-----------------------------------|-------------------------|----------|
| 1 | Beechcraft King Air B200 | Program Support Aircraft | Pratt & Whitney PT6A-42 | LaRC |
| 1 | Beechcraft UC-12B Huron | Research Aircraft | Pratt & Whitney PT6A-42 | LaRC |
| 1 | Cessna 206 | Research and Development Aircraft | Lycoming IO-540-AC1A | LaRC |
| 1 | Cirrus SR-22 | Research and Development Aircraft | Continental IO-550 | LaRC |
| 1 | Bell UH-1H (in flyable storage) | Program Support Aircraft | Lycoming T-53-L-13B | LaRC |
| 1 | Lancair Columbia LC-40 (in flyable storage) | Program Support Aircraft | Continental IO-550 | LaRC |
| 1 | North American Rockwell OV-10A (in flyable storage) | Research and Development Aircraft | Garrett-AiResearch T-76 | LaRC |
| 2 | North American Rockwell OV-10G (in flyable storage) | Research and Development Aircraft | Garrett-AiResearch T-76 | LaRC |

¹⁹ LaRC may add or remove aircraft during the contract period of performance. The added or removed aircraft may be the same aircraft types shown in Table 1-7 or different aircraft types.

1.5.2.2.1 Beechcraft B200 King Air and UC-12B Huron

The NASA-Langley B200 King Air (NASA 529) and UC-12B Huron, shown in Figure 1-11, are turbine, twin-engine research aircraft. Pressurized for flight above 30,000 ft, their fuel endurance can take them halfway across the United States. The aircraft are fully IFR capable. These aircraft are excellent platform aircraft for low-medium altitude programs.



Figure 1-11: Beechcraft B200 King Air and UC-12B Huron

1.5.2.2.2 Cessna 206H Stationair

The Cessna 206H Stationair, shown in Figure 1-12, is an all-metal, six place, high-wing, single-engine airplane equipped with tricycle landing gear and is designed for general utility purposes. The Model 206H is certified to the requirements of U.S. FAA Federal Aviation Regulation Part 23, including day, night, VFR and IFR. The aircraft has been reconfigured to accommodate a crew of three: a subject pilot, a safety pilot, and a researcher. The subject pilot may sit in either of the two front seats as required by the experiment. The researcher sits in the right aft seat at a researcher workstation.



Figure 1-12: Cessna 206H Stationair

1.5.2.2.3 Cirrus SR22

The Cirrus SR22, shown in Figure 1-13, is a composite construction, single-engine, four-place production general aviation (GA) aircraft manufactured by Cirrus Design of Duluth, Minnesota. The SR22 is one of several new-generation GA aircraft making use of the latest in materials, aerodynamics, avionics, and manufacturing technology. The SR22 aircraft received Federal Aviation Administration (FAA) certification in 2000, with over 600 aircraft having been delivered since that time. One of the innovative design features of the SR22 aircraft is the Cirrus Airframe Parachute System (CAPS). The CAPS is an emergency parachute system that can be deployed by the pilot or a passenger to safely slow and lower the entire airplane to ground if controlled flight is no longer possible.



Figure 1-13: Cirrus SR22

1.5.2.2.4 Huey UH-1H

The Huey UH-1H helicopter (N535NA), shown in Figure 1-14, is an established, turbine-driven, rotary-wing flight platform. The aircraft is primarily a research and aerial photography asset, although it also serves well in airborne surveillance and installation security. The cockpit contains dual flight controls and a minimal avionics suite consisting of VOR and DME. A mount also exists for a handheld Global Positioning System (GPS). No established research pallet position exists in the spacious rear cargo compartment, which is currently configured to carry 11 passengers. Though the cargo compartment is ideal for platform installation, most research applications were historically mounted beneath the aircraft. This configuration is possible due to the aircraft's high-skid configuration, allowing an extra 1.7 ft of clearance between the ground and the aircraft underbelly.



Figure 1-14: Huey UH-1H

1.5.2.2.5 Lancair Columbia LC-40

The Lancair Columbia LC-40 (N507NA), shown in Figure 1-15, is an established, reciprocating, single-engine, fixed-wing flight platform. The aircraft is primarily a research asset. The cockpit contains dual flight controls and an adequate avionics suite consisting of VOR/Instrument Landing System (ILS) and a GPS. The rear compartment contains one equipment operator seat and a research equipment position that extends back into the small cargo compartment.



Figure 1-15: Lancair Columbia LC-40

1.5.2.2.6 North American Rockwell OV-10A/G

The North American Rockwell OV-10A/G aircraft (N524NA), shown in Figure 1-16, is a former USAF aircraft designed for stable operation and high maneuverability. It is a twin turboprop aircraft, which can be configured with externally-mounted stores or research pods.

Additionally, it has a large internal bay available for equipment installation. The aircraft is configured with tandem seating for a pilot and observer/researcher. The front cockpit contains full flight, engine, and radio operational controls. The rear cockpit contains basic flight controls and limited engine and landing-gear controls. Both cockpits are equipped with ejection seats.



Figure 1-16: North American Rockwell OV-10A/G

2.0 Scope

2.1 Overview

The scope of the AMOS contract is to provide:

- 1) Aircraft maintenance and operational support.
- 2) Space flight readiness training.
- 3) Airborne research and development.
- 4) Astronaut Office support.

2.2 Support Locations

2.2.1 Johnson Space Center (JSC) Managed Locations

The Contractor shall provide aircraft maintenance and operational support at the following JSC managed locations:²⁰

- 1) Johnson Space Center, at Ellington Field (EFD), Houston, Texas
- 2) Forward Operating Locations (FOL):
 - a. JSC FOL at El Paso (ELP), Texas
See SOW Subsection 7.8.1.
 - b. JSC FOL at Edwards Air Force Base (EDW), California²¹
See SOW Subsection 7.8.2.
- 3) Other locations as required within the contiguous United States (CONUS) and outside the contiguous United States (OCONUS).²²

²⁰ NASA may add or remove other NASA centers or FOLs during the contract period of performance to meet NASA mission demands. Any NASA Center or FOL added following contract award will be included in the cost-reimbursable portion of the contract until an evaluation can be made by both NASA and the Contractor to determine if the addition is suitable for the fixed-price portion of the contract.

²¹ NASA anticipates that the requirement for the Edwards Air Force Base forward operating location will only be necessary until completion of Boeing 747 Shuttle Carrier operations.

²² The Contractor may be required to provide support at other Government or contractor facilities based on NASA mission requirements.

2.2.2 Langley Research Center (LaRC) Managed Locations

The Contractor shall provide aircraft maintenance and operational support at the following LaRC managed locations:

- 1) Langley Research Center, Hampton, Virginia²³
- 2) Other locations as required within the contiguous United States (CONUS) and outside the contiguous United States (OCONUS).²⁴

2.3 NASA Center Unique Differences

The format of this statement of work (SOW) reflects JSC as the primary customer. Any unique requirements for work at other NASA centers (e.g. NASA Langley Research Center) are included at the end of each SOW section and titled “Center Unique.” When included, these Center unique requirements shall take precedence over JSC’s requirements at that Center. If Center unique requirements are not included, then the JSC requirements shall apply to the other NASA Center(s). If the center unique requirement is marked as “not applicable” then there is no unique nor JSC requirement that applies.

2.4 NASA Contact References

Any reference in this statement of work to the following NASA contacts shall also apply to that person’s duly appointed designee:

- 1) NASA Contracting Officer Technical Representative (COTR)
- 2) NASA Engineering Branch Chief
- 3) NASA Maintenance Manager

²³ See SOW Subsection 2.3 regarding SOW content and NASA Langley Center unique differences.

²⁴ The Contractor may be required to provide support at other Government or contractor facilities based on NASA mission requirements.

3.0 References and Applicable Documents

3.1 Order of Precedence

In the event of a conflict between a NASA document cited in this statement of work and a non-NASA document cited herein, the NASA document shall take precedence.

3.2 Acronyms

See Appendix A.

3.3 Definitions

See Appendix B.

3.4 Applicable Documents

See Appendix C.²⁵

²⁵ All applicable documents cited in this SOW Appendix C shall be the latest active revision at time of issuance of Request for Proposal. For applicable documents referenced in this statement of work with no revision, refer to SOW Appendix C for the applicable document revision.

3.5 Changes to Applicable Documents

The Contractor shall:

- 1) Perform work in accordance with the applicable documents referenced in this statement of work.
- 2) Ensure any reference to an applicable document includes all of its supplements, amendments, and revisions.
- 3) Ensure that work is performed in accordance with the most recent version of an applicable document. Supplements, amendments, or revisions may be issued during the life of the contract.
- 4) Immediately implement those changes to applicable documents that result in no change to the contract.
- 5) Submit a proposal to the CO and obtain approval from the CO prior to implementing any supplement, amendment, or revision to an applicable document that will result in a change to the fixed-price portion of the contract.
- 6) Prepare the proposal under the fixed-price portion of the contract.
- 7) Submit the proposals within thirty (30) calendar days from the date the Contractor receives notification of the supplement, amendment, or revision giving rise to an increase in price of performance.

The CO may direct the Contractor to immediately implement the change even if there is a price impact. However, the Contractor will still be entitled to submit a proposal for equitable adjustment associated with the change.

4.0 Contract Management

4.1 General Requirements

4.1.1 Overview

Category: General

The Contractor shall retain full responsibility for the performance of the requirements set forth in this contract. The Contractor shall:

- 1) Perform in accordance with:
 - a. NPR 7900.3, *Aircraft Operations Management*
 - b. NPD 7900.4, *NASA Aircraft Operations Management*
- 2) Ensure all work is performed in accordance with approved technical data. See SOW Subsection 1.4.

4.1.2 Normal Hours of Operation

Category: General

The Contractor shall establish work hours consistent with meeting the mission at each contract location. The Contractor shall also provide personnel for varied work schedules to meet changing mission requirements.

4.1.2.1 JSC Ellington Field

Typical work hours for JSC Ellington Field are:

| | |
|----------------------------------|-------------------|
| 2:30 PM to 11:45 PM (local time) | Sunday |
| 6:30 AM to 11:45 PM (local time) | Monday – Thursday |
| 6:30 AM to 3:15 PM (local time) | Friday |

4.1.2.2 El Paso FOL

Typical work hours for the El Paso FOL are:

| | |
|---------------------------------|-------------------|
| 6:15 AM to 5:00 PM (local time) | Monday – Thursday |
|---------------------------------|-------------------|

4.1.2.3 Edwards FOL

Typical work hours for the Edwards FOL are:

| | |
|---------------------------------|-----------------|
| 7:00 AM to 4:00 PM (local time) | Monday – Friday |
|---------------------------------|-----------------|

4.1.3 Facilities

Category: General

The Contractor shall use the NASA facilities listed in Table 1-2, Table 1-3, and Table 1-4.^{26, 27}

4.1.4 Deliverables – Management

Category: FP

The Contractor shall provide the management deliverables listed in Table 4-1.

Table 4-1: Data Requirement Description - Management²⁸

| Data Requirement List (DRL) Item No. | DRD Title |
|--------------------------------------|--|
| DRD-M01 | Management Plan |
| DRD-M02 | Commercial Procurement Status Report |
| DRD-M03 | Contractor Work Breakdown Structure (WBS) and Dictionary |
| DRD-M04 | Monthly Progress Reports |
| DRD-M05 | NF533 Cost Reporting |
| DRD-M06 | Notification of Potential Labor Dispute and Contingency Strike Plan |
| DRD-M07 | Roster of Contract Personnel |
| DRD-M08 | Small Business Subcontracting Plan and Reports |
| DRD-M09 | Wage/Salary and Fringe Benefit Data |
| DRD-M10 | Reprocurement Data Package |
| DRD-M11 | Training and Certification Plan |
| DRD-M12 | Environmental and Energy Consuming Product Compliance Reports |
| DRD-M13 | Contract Phase-In Plan |
| DRD-M14 | Information Technology (IT) Capital Planning and Investment Control (CPIC) |
| DRD-M15 | Total Compensation Plan |
| DRD-M16 | Supplemental Project Cost Reporting |
| DRD-M17 | Key Personnel |
| DRD-M18 | Workload Data Plan and Workload Data Reports |
| DRD-M19 | Information Technology (IT) Security Plan, Risk Assessment |
| DRD-M20 | Organizational Conflict of Interest Mitigation Plan |

²⁶ See Section J, Attachment J-3-1 for a list of installation accountable Government property.

²⁷ The Contractor shall ensure an explosive facility license (AF 2047) is posted in all facilities storing or handling explosives in accordance with AFMAN 91-201, Explosive Safety Standards. The licensing shall be coordinated with the NASA designated representatives.

²⁸ Refer to Section J, Attachment J-1 for DRD requirements.

4.1.5 Performance Standards

Category: General

The Contractor performance standards are outlined in Appendix E1, *Fixed-Price Performance Standards* and Appendix E2, *JSC Cost Performance Standards*.

4.1.6 Process Control, Corrective Actions, and Continual Improvement

Category: FP

The Contractor shall implement process control, corrective actions, and continual improvement in accordance with the following:

- 1) JPR 1281.9 *JSC Procedural Requirement, Process Control*
- 2) JPR 1281.14 *JSC Procedural Requirement, Corrective and Preventive Actions, and Continual Improvement*
- 3) AS-9110 *Aerospace Standard, Quality Maintenance Systems – Aerospace – Requirements for Maintenance Organization, Section 8.5*

4.1.7 Contractor Information Program

Category: FP

The Contractor shall establish, maintain, and utilize a program to disseminate information to all personnel concerning issues of health, environmental, safety practices, and aircraft safety of flight items. Example items include:

- 1) Documentation of all items disseminated to Contractor personnel.
- 2) Records showing all personnel are aware of the documentation.

4.1.8 Customer Focus

Category: General

Contractor personnel will be required to interact with NASA personnel and other NASA customers including Government agencies and commercial entities. The Contractor shall ensure all personnel act in accordance with NW-2008-01-001-JSC, *JSC Expected Behaviors*.

4.2 Executive Manager

4.2.1 Overview

Category: FP

The Contractor shall provide a full-time Executive Manager located at Ellington Field to oversee all work performed in this statement of work. The Contractor shall provide an alternate Executive Manager if the primary is unavailable for duty. The Executive Manager or alternate shall:

- 1) Serve as the single-point-of-contact for all AMOS contract activities.
- 2) Have full authority to act for the Contractor on all matters relating to this contract.
- 3) Respond to NASA CO and COTR requests within the specified period established at time of request.

4.2.2 Availability

Category: FP

The Contractor's Executive Manager or alternate shall be available during normal JSC hours of operation (see SOW Subsection 4.1.2) within one (1) hour to meet at Ellington Field with NASA personnel. After normal JSC hours of operation, the Executive Manager or alternate shall be available within two (2) hours after being contacted by NASA to meet at Ellington Field.

4.3 Management Team

Category: FP

The Contractor shall provide a management team to ensure all work is performed in accordance with this SOW.

4.4 Administrative Support

Category: FP

The Contractor shall provide the necessary administrative support services to perform the requirements in SOW Subsections 1.0 through 4.0 and 6.0 through 11.0.

4.5 Management and Planning Reports

Category: FP

The Contractor shall provide general management, planning, budgeting, Data Requirements Descriptions (DRDs), and other reports specified in the fixed-price portion of the statement of work.

4.6 Meetings

4.6.1 Required Meetings

Category: FP

The Contractor shall support the following required meetings. The Contractor shall come to all meetings prepared to discuss activities or present data related to the contract, airfield activities, missions, or other programs. For those meetings marked “Contractor presented,” the Contractor shall prepare the agenda (with input from NASA), invite attendees, present the meeting, prepare meeting minutes, and track all action items generated during the meeting.

Management

- 1) Division status meetings (weekly).
- 2) Contract evaluation meetings (periodic).
- 3) Configuration Control Panel meetings (periodic – Contractor presented).²⁹
- 4) All-hands meetings (periodic).

Maintenance

- 1) Daily aircraft status meetings in accordance with AOD 34100, *Maintenance Manual* (daily – Contractor presented).
- 2) Aircraft in-phase/major aircraft inspection briefing in accordance with AOD 34100, *Maintenance Manual* (weekly – Contractor presented).
- 3) Pre-dock and post-dock meetings in accordance with AOD 34100, *Maintenance Manual* (periodic – Contractor presented).

Safety

- 1) Aviation safety meetings (periodic).

4.6.2 Other Meetings

4.6.2.1 Fixed-Price Contract Elements

Category: FP

The Contractor shall support meetings dealing primarily with fixed-price contract elements under the fixed-price portion of the contract. The Contractor shall come to all meetings prepared to discuss activities or present data related to the contract, airfield activities, missions, or other programs.

²⁹ NASA will also present at this meeting as required. The Contractor shall work with NASA to coordinate the meeting agenda.

4.6.2.2 Cost-Reimbursable Contract Elements³⁰

Category: Cost

The Contractor shall support meetings dealing primarily with cost-reimbursable contract elements under the cost-reimbursable portion of the contract. The Contractor shall come to all meetings prepared to discuss activities or present data related to the contract, airfield activities, missions, or other programs.

4.7 Financial Management

Category: FP

The Contractor shall provide financial management services (e.g. accounting and budgeting) in support of the contract.

4.8 Human Resources

4.8.1 Workforce

4.8.1.1 Human Resource Services

4.8.1.1.1 General Requirements

Category: FP

The Contractor shall provide human resources services to ensure a qualified Contractor workforce is provided to support this SOW.³¹ The Contractor shall:

- 1) Provide fully trained, qualified, and certified (if required) Contractor personnel in sufficient numbers to manage, supervise, and perform work under this contract. The Contractor's workforce shall meet the personnel requirements listed in Appendix D.
- 2) Ensure no mission impacts due to position vacancies or personnel qualifications. The Contractor shall preclude staffing that may introduce single point failures.

4.8.1.1.2 Security Clearances

The Contractor shall:

- 1) Provide personnel with security clearances up to TOP SECRET/SENSITIVE COMPARTMENTED INFORMATION (SCI) based on specific program requirements. NASA will sponsor SCI clearances.

³⁰ The "cost" category for meeting support shall not apply to Contractor personnel listed in SOW Subsections 4.2 and 4.3.

³¹ NASA may restrict the access of any employee, or prospective employee, identified as a potential threat to the health, safety, security, or operational mission of the installation and its personnel.

- 2) When identified by the government, all personnel assigned to support payload development, integration, operations, deployments, and other aircraft activities shall have a SECRET or higher security clearance based on mission requirements.

4.8.1.2 Surge Requirements

Category: FP/Cost

The Contractor shall support surge demands in staffing or workloads dictated by missions, operations, or maintenance demands. Examples include:

- 1) Adding multiple shifts
- 2) Adjusting shifts
- 3) Part time/temporary personnel

4.8.1.3 Personal Attire and Appearance

Category: General

The Contractor shall ensure that the workforce meets the following personal attire and appearance requirements:

- 1) Contractor personnel shall not wear jewelry or other forms of attire that, if lost, could constitute a Foreign Object Debris (FOD) or safety hazard, in and around aircraft or aircraft related equipment.
- 2) Contractor personnel shall wear NASA identification badges except when in the vicinity of aircraft or around mechanical equipment where they could be considered a safety or FOD hazard.
- 3) Technicians and first line maintenance supervisors shall be easily identified as a Contractor employee. They shall wear uniforms that incorporate a corporate name or logo and clearly depict the employee's first and last name.
- 4) Office personnel shall wear the appropriate attire conducive to the services being provided to NASA.

4.8.2 Physicals

Category: FP

The Contractor shall ensure personnel obtain Government provided physical examinations and physiological training in accordance with JPR 1700.1, *JSC Safety and Health Handbook*, NPR 7900.3, *Aircraft Operations Management*, and other applicable regulations governing the work task.

4.8.3 Training

4.8.3.1 Training – Safety and Health

Category: FP

The Contractor shall provide safety and health training to meet the requirements in NASA JPR 1700.1 and DRD requirements listed in Table 4-1 for all employees based on job assignment within ninety (90) calendar days of employment and anytime an employee is reassigned to new tasks that require additional safety training.

4.8.3.2 Training – Critical Task

Category: FP

The Contractor shall provide the following training identified by NASA as critical task training. Personnel trained to accomplish critical tasks shall be recertified on an annual basis or as stipulated in applicable DoD, NASA, and OEM documents.³²

- 1) T-38 and WB-57 ejection seats and seat kits (certified via Contractor certification plan based on approved technical data).
- 2) T-38 and WB-57 canopy rigging (Contractor certified based on approved technical data).
- 3) Engine run certifications by type, model, series engine, both low power and high power (Contractor certified based on approved technical data with certified personnel approved by NASA).
- 4) Engine test cell operator (Contractor certified based on approved technical data).
- 5) Auxiliary Power Unit (APU) engine run (Contractor certified based on approved technical data).
- 6) Brake rider (Contractor certified based on approved technical data).
- 7) Weight and balance quality assurance inspector(s), to include use of the automated weight and balance system (AWBS) (certified via formal Government approved classroom training).
- 8) Explosive handling/storage/shipment. Training shall include a review of responsibilities as defined in NASA JPD 4500.1, *Pyrotechnics – Logistics Management* (trained and certified in accordance with NASA-STD-8719.12, *Safety Standard for Explosives, Propellants, and Pyrotechnics*).
- 9) Engine flexible borescope inspection (Contractor certified based on approved technical data)
- 10) Non-destructive inspection procedures (shall maintain a minimum of two (2) level 3 qualified NDI technicians (certified and qualified in accordance with NAS 410, *NAS Certification and Qualification of Non-Destructive Test Personnel*).
- 11) Parachute repack (certified in accordance with DoD or FAA requirements)
- 12) Emergency response team training for each type aircraft listed in this SOW (Contractor certified based on approved technical data).

³² *In the event of a conflict between recertification training frequencies cited in this statement of work and those stipulated in other documents, the more frequent recertification training requirement shall apply.*

4.8.3.3 Training – Specialty

4.8.3.3.1 Motor Vehicle Training

Category: FP

The Contractor shall provide personnel to attend training for those who operate motor vehicles operated on the flight-line, hangars, and other JSC property. Examples include:

- 1) Ensure personnel requiring driving access to the flight line ramp, vehicle service road or taxi-lane Juliet at EFD obtain a City of Houston Airport Red Badge. Red badges will be obtained after successfully completing the Houston Airport System Vehicle Access and Operating Requirements Training. Once trained by the City of Houston Airport Authority, this training will be repeated on a twelve (12) month recurring basis. The Government or the City of Houston Airport Authority can limit the number of personnel requiring access to these areas.
- 2) Ensure Contractor personnel operating a vehicle on JSC Property are trained and familiar with the rules and regulations contained in JPR 1600.3, *JSC Traffic Regulations*. The Government reserves the right to suspend an employee from operating vehicles on Government property due to recklessness or failure to comply with referenced JPR rules and regulations.

4.8.3.3.2 Tire and Wheel Maintenance Safety Training

Category: FP

The Contractor shall provide tire and wheel maintenance safety training to all Contractor personnel maintaining tires and wheels for both aircraft and support equipment. Training includes on-equipment, removal, replacement and servicing procedures for flight-line personnel, as well as build-up and tear down procedures for back-shop (intermediate maintenance) personnel. Examples include:

- 1) Familiarization with the processes and procedures contained in approved technical data for tire and wheel maintenance as it applies to each type/model/series aircraft and support equipment (as applicable) assigned to AOD.
- 2) Operation of nitrogen and high pressure air servicing equipment.
- 3) Use and handling of aircraft and support equipment tire remote inflation equipment.
- 4) Packaging, shipping, and receiving of tire and wheel assemblies.
- 5) Calibration cycles and requirements for tire and wheel servicing equipment.
- 6) Multi-piece rim wheel training in accordance with Code of Federal Regulations (CFR) 29 CFR 1910.177.

4.8.3.3.3 Egress Familiarization Training

Category: FP

The Contractor shall:

- 1) Develop an ejection seat equipped aircraft training syllabus for egress system familiarization.
- 2) Provide Contractor and Government personnel who access aircraft cockpits with egress system initial and refresher familiarization training.
 - a. Initial training must be received prior to accessing cockpits.³³
 - b. Maintain a master list of personnel obtaining the Egress/Cockpit Familiarization initial and refresher training.
 - c. Schedule Contractor and Government personnel for refresher training every twenty-four (24) months. Individuals overdue on egress familiarization training shall not access aircraft cockpits until they complete the familiarization training.³⁴

4.8.3.3.4 Aircraft Ground Handling and Servicing Training

Category: FP

The Contractor shall provide aircraft ground handling and servicing training for Contractor personnel in accordance with approved technical data for the aircraft listed in Table 1-5. Examples include:

- 1) Towing
- 2) Parking
- 3) Mooring
- 4) Jacking
- 5) Hoisting
- 6) Engine ground operations
- 7) Servicing/de-servicing fuel, oil, hydraulics, oxygen, tire pressure
- 8) Lubrication

4.8.3.3.5 Support Equipment Training

Category: FP

The Contractor shall provide support equipment training to ensure qualified Contractor operators. Training shall include documentation requirements supporting the need for and use of Air Force Technical Order (AFTO) Form 244, *Industrial/Support Equipment Record*.

³³ Anticipate three government personnel will require initial egress familiarization training annually.

³⁴ Anticipate 30-40 government personnel will require the 24-month recurring egress refresher training.

4.8.3.3.6 Water Survival Training

4.8.3.3.6.1 All Aircraft

Category: FP

The Contractor shall provide water survival refresher training, The Contractor shall:

- 1) Train NASA and Contractor aircrew personnel (includes astronauts, staff pilots, and mission crew members).
- 2) Provide a training class every three (3) months for approximately five (5) aircrew members per class.
- 3) Obtain NASA approval for pool selection.
- 4) Review, update, and maintain the following supporting documents that shall be used by the Contractor to provide and support water survival training:
 - a. AOD Form 257, *T-38 Water Survival Training Checklist*
 - b. AOD WI 33953, *Water Survival Training Curriculum*

4.8.3.3.6.2 Pressure Suit

Category: Cost

The Contractor shall:

- 1) Provide WB-57 pressure suit water survival refresher training to NASA and Contractor aircrew personnel (includes astronauts, staff pilots, and mission crew members) as required.
- 2) Review, update, and maintain the following supporting documents that shall be used by the Contractor to provide and support water survival training:
 - a. AOD Form 258, *WB-57 Water Survival Training Checklist*
 - b. AOD WI 33955, *WB-57 Water Survival Training Curriculum*

4.8.3.3.7 Mishap Investigation Training

Category: FP

The Contractor shall ensure all Contractor personnel assigned to investigate a mishap or high-visibility close call, at a minimum, have completed the “Introduction to Mishap Investigation” course available through System for Administration, Training and Educational Resources for NASA (SATERN) as required by JWI 1040.27, *JSC Emergency Preparedness Plan, Appendix 5 – JSC Aircraft Mishap Plan* within the last year.

4.8.3.3.8 Engineering Data Management System Training

Category: FP

The Contractor shall provide training for all civil service and contract employees that require access to the Government provided engineering data management (EDM) system described in SOW Subsection 4.12.4.³⁵

4.8.3.3.9 Hangar Door Operation

Category: FP

The Contractor shall provide hangar door operation training to Contractor personnel in accordance with the following manufacturer's instructions:

- 1) Hangar E276 and Hangar E135
Industrial Door Contractors Inc., *Operations and Maintenance Manual*
- 2) Hangar E990
Hampshire Construction & Associates, *E-990 Operation & Maintenance Basic Manual*

4.8.3.3.10 Government Industry Data Exchange Program Training

Category: FP

The Contractor shall provide personnel trained in Government Industry Data Exchange Program (GIDEP) and the Federal Aviation Administration (FAA) suspected unapproved parts (SUP) program and shall coordinate all such actions with the NASA AOD GIDEP and FAA SUP representative assigned to the Aircraft Quality Assurance Branch.

4.8.3.3.11 Welders

Category: FP

The Contractor shall ensure all welders are trained and qualified in accordance with AWS D17.1, *Specification for Fusion Welding for Aerospace Applications*.

4.8.3.4 Training – Additional

Category: Cost

The Contractor shall develop training materials and provide additional training classes per NASA CO or COTR request.

³⁵ Anticipate three to five contractor or government employees per year for initial EDM system training. If a new EDM system is implemented at AOD, anticipate 60 contractor and/or government employees will require initial familiarization training on the new system.

4.8.3.5 Training – Government Provided

Category: Cost

NASA will provide job specific training classes. The Contractor shall provide personnel to attend these classes. The Contractor shall provide NASA with a list of proposed attendees to attend the classes below. The Government will approve the attendees prior to training.³⁶ Government provided training will include:

- 1) NASA Aircraft Management Information System (NAMIS) user's and database administrator training³⁷
- 2) Computer security training in accordance with the Office of Management and Budget Circular A-130, Appendix III, *Security of Federal Automated Information Resources* within three (3) months of employment and annually thereafter
- 3) Electrostatic discharge training in accordance with NASA JPR 8730.1, *Electrostatic Discharge Control Requirements for the Protection of Electronic Components and Assemblies*.
- 4) Soldered electrical connections training in accordance with NASA-STD-8739.3, *Soldered Electrical Connections*
- 5) Crimping and wire harness training in accordance with NASA-STD-8739.4, *Crimping, Interconnecting, Cables, Harnesses, and Wiring*
- 6) WB-57 pressure suit technician training
- 7) Taxi authorization for G-III
- 8) Aircrew emergency egress
- 9) Aircrew training specific to NASA aircraft or unique on-board systems for:
 - a. Pilots
 - b. Flight Engineers
 - c. Load Masters
 - d. Sensor Equipment Operators
- 10) Other classes as required

4.8.4 Conferences

Category: FP/Cost

The Contractor shall:

- 1) Attend conferences per Government request, or;
- 2) Receive concurrence from the COTR and approval from the NASA CO prior to attending any Contractor requested conferences.

³⁶ Class size or job requirements may restrict or limit the number of approved attendees.

³⁷ NASA will provide initial NAMIS training for the Contractor. The Contractor shall provide NAMIS training for all Contractor personnel no later than six (6) months after contract start.

4.9 Travel

4.9.1 General Travel

Category: Cost

The Contractor shall provide travel arrangement services for Contractor and civil servant personnel.

The Contractor shall:

- 1) Travel predominantly using commercial air unless requested by NASA to travel using Government air or other conventional modes.
- 2) Travel during normal duty hours to prevent excessive overtime unless approved otherwise by NASA.
- 3) Provide services in accordance with Joint Travel Regulations or Federal Travel Regulations as applicable.
- 4) FedTraveler.com E-Gov Travel Service (ETS) is the current system used to plan, book, track, approve, and request reimbursement for travel services for the Federal employee.

4.9.2 Deployment Travel³⁸

Category: Cost³⁹

The Contractor shall provide personnel at deployed aircraft locations both within the contiguous United States (CONUS) and outside the contiguous United States (OCONUS). The Contractor shall:

- 1) Coordinate with and receive approval from the NASA Program requesting deployment support (WB-57, Guppy, etc) to determine which technical disciplines and staffing levels will be required to support each deployment.
- 2) Ensure all support personnel have security clearances, if required, by NASA based on mission.
- 3) Ensure personnel meet all health, passport, Visa, air carrier, and security requirements when travelling.
- 4) Identify deployment personnel at least sixty (60) days in advance of OCONUS deployments in order to support Visa application and Synchronized Pre-deployment and Operational Tracker (SPOT) enrollment. NASA may require more than sixty (60) days notice for deployment to some locations.
- 5) Provide medical insurance including medical evacuation insurance for OCONUS deployed personnel.

³⁸ See SOW Appendix B for definition of “deployment.”

³⁹ The “Cost” category assignment for deployed personnel shall override any other category assignment in this SOW while employees are off-station at the deployed location.

4.9.3 SPOT, Passports, and Visas⁴⁰

Category: Cost

The Contractor shall ensure that all personnel supporting OCONUS deployments possess passports, obtain Visas, and participate in the SPOT letter of authorization (LOA) system under NASA sponsorship when required.

4.10 Operational Risk Management

Category: FP

The Contractor shall develop, integrate, and sustain an operational risk management (ORM) program throughout the workplace. The Contractor shall use a reporting format compatible with the JSC risk scorecard listed in of JPR 8000.4, *JSC Risk Management Plan, Appendix C* to report risks. Additional guidance to aid the Contractor in development of the operational risk management program can be found in:

- 1) Air Force Policy Directive 90-9, *Operational Risk Management*
- 2) AFI-90-901, *Operational Risk Management*
- 3) JPR 8000.4, *JSC Risk Management Plan*

4.11 Configuration Control

4.11.1 Configuration Management

Category: FP/Cost

The Contractor shall provide and support configuration management of all aircraft and support equipment. The Contractor shall:

- 1) Maintain the configuration of all NASA aircraft and support equipment in accordance with all approved drawings, specifications, and other data.
- 2) Maintain configuration for type certificated aircraft.⁴¹

⁴⁰ Historically there have been 30-50 personnel requiring passports and visas each year. This number should be used as a representation of the past requirements but may not be representative of future requirements.

⁴¹ This would include any supplemental type certificates and field-approved alterations incorporated into the aircraft by NASA approved authorities.

4.11.2 Configuration Tracking

Category: FP

The Contractor shall use the configuration module in NAMIS to track open and completed configuration items issued against all aircraft, engines, support equipment, and other ancillary equipment. All configuration items completed on these NASA assets shall be documented on NASA Form 1671A, *Aircraft Maintenance Packet*.

4.11.3 Configuration Control Panel (CCP)

Category: FP/Cost

The Contractor shall:

- 1) Support NASA configuration control in accordance with AOD 33839, *Aircraft Configuration Control*.
- 2) Post Configuration Control Panel (CCP) meeting minutes and approved Configuration Control Panel Directives (CCPDs) to a NASA approved database for retrieval by AOD personnel.

4.12 Document and Data Management

4.12.1 NASA Aircraft Management Information System (NAMIS)

Category: General

The Contractor shall:

- 1) Use the Government provided NASA Aircraft Management Information System (NAMIS)⁴² for aircraft operations, maintenance, and logistics support.
- 2) Use all NAMIS application modules in accordance with NPR 7900.3, *Aircraft Operations Management Manual* unless waived in writing by the NASA COTR.
- 3) Enter a clear precise narrative description of the discrepancy and corrective action. Examples include:
 - a. Troubleshooting findings
 - b. Test equipment used
 - c. Serial number of critical calibrated equipment (e.g. torque wrenches)
 - d. Original discrepancy was or was not duplicated
 - e. Ultimate repair actions

⁴² NAMIS is an integrated automated database used to capture aircraft operations, maintenance, and logistics information in support of NASA Centers that operate aircraft. NAMIS will track all scheduled inspections (inspections based on calendar, hourly, cycles, or events) and user discrepancies (unscheduled maintenance) “real-time” that are reported against aircraft, aircraft components, equipment, and special tooling.

- 4) List the technical reference that was utilized for the repair/inspections to correct the reported anomaly. The Contractor shall include the technical order/directive, engineering work order or maintenance manual number, paragraph, figure, and page number as applicable.
- 5) Enter actual elapsed maintenance times in the regular or dispatch hour block in NAMIS for each maintenance action as applicable.
- 6) Suggest recommendations for NAMIS process/software improvements.

4.12.2 NAMIS Application Administrator

Category: FP

The Contractor shall provide a NAMIS application administrator and alternate with expertise on the day-to-day use of the NAMIS system by the end of contract phase-in period.⁴³ Example application administrator tasks include:

- 1) Manage Contractor personnel access permissions and assigned roles
- 2) Create templates for assigned assets
- 3) Establish inspection baseline information including NASA approved deviations

4.12.3 Records Management

Category: FP

The Contractor shall provide records management services. The Contractor shall:

- 1) Control documents and data in accordance with JPR 1281.5, *Document and Data Control* and AOD WI 34100, *Maintenance Manual*.
- 2) Manage and retain records in accordance with JPR 1440.3, *JSC Records Management Procedural Requirements*.
- 3) Maintain records for type-certificated aircraft in accordance with 14 CFR Section 91.417, *Maintenance Records*.
- 4) Create and maintain a master file of all archived documents not maintained in NAMIS. The master file shall include a list of document titles, revisions, record locations, and archival dates. If records are relocated after initial archiving, the master file shall be updated to reflect the new record location.
- 5) Provide copies of archived records not maintained in NAMIS within four (4) hours of NASA, internal auditors, or regulatory authority's request.

⁴³ See SOW Subsection 4.8.3.5 for government provided training for the NAMIS Database Administrator.

4.12.4 Engineering Data Management

4.12.4.1 Engineering Electronic Data Management

4.12.4.1.1 General Requirements

Category: Cost

The Contractor shall:

- 1) Maintain all existing and newly generated computer aided design (CAD) drawings and engineering electronic data under configuration control using the Government provided engineering data management system.
- 2) Provide a document release notice distributed via email for all released engineering documents. The document release notice shall contain the document number, title, revision, effectivity, release date, and other applicable information as determined by the Contractor. The distribution list shall be approved by the Engineering Branch Chief.

4.12.4.1.2 Engineering Data Management System Administration

Category: Cost

The Contractor shall provide administration services for the Government provided engineering electronic data management system by the end of contract phase-in period. The Contractor shall:

- 1) Provide a primary database administrator with expertise on the day-to-day use of the existing BlueCielo Meridian Enterprise⁴⁴ system (e.g. drawing number assignment, check-in and check-out procedures, database permissions, and drawing release). The database administrator shall serve as the single point-of-contact for all engineering electronic database management day-to-day usage issues.
- 2) Provide an alternate database administrator if the primary is unavailable for duty (e.g. vacation, illness, etc.).
- 3) Provide support for a NASA engineering electronic database system database administrator.

⁴⁴ NASA may replace the existing BlueCielo Meridian Enterprise system with a new Government provided engineering database management system during the contract period of performance. If this change does occur, NASA will provide training for the Contractor database administrator on the new system.

4.12.4.2 Engineering Project Records

Category: Cost

The Contractor shall provide engineering records management services. The Contractor shall:

- 1) Maintain records for each assigned engineering project in project files stored electronically on the AOD Engineering server.
- 2) Keep the project files as a historical record for each completed project. The project files shall be organized so that AOD engineers unfamiliar with a project can locate historical data when needed. Examples include:
 - a. Task Transmittal – Engineering (TTE) records
 - b. Design requirements
 - c. Technical correspondence
 - d. Meeting minutes
 - e. Design data
 - f. Engineering calculations
 - g. Design review records
 - h. Engineering Work Orders (EWOs)
 - i. Airworthiness review records
 - j. Flight, Test, and Payload Readiness Review records
 - k. Fleet Modification Instructions (FMIs)
 - l. Material Review Board (MRB) records
 - m. Test Procedure Flight Research Project (TPFRP) records
 - n. Ground and flight test results

4.12.4.3 Engineering Archival Hard Copy Data

Category: Cost

The Contractor shall maintain all AOD engineering archival hard copy data under configuration control. This data is comprised of paper/vellum documents and aperture cards. The Contractor shall:

- 1) Maintain all existing archival documentation. Examples include:
 - a. Aircraft aperture cards (over 300,000 cards)
 - b. Paper and vellum drawings (over 100,000 drawings)
 - c. Drawing change notices
 - d. Engineering Work Orders
 - e. Fleet Modification Instructions
 - f. Engineering reference material
- 2) Archive new hard copy data.
- 3) Provide configuration/revision control for changes to hard copy archival data.

4.12.5 Data Backup

Category: General

The Contractor shall ensure that personnel follow data backup procedures so that no loss of data will occur due to hardware or software anomalies or destruction/damage to facilities.

4.13 Information Technology Systems

Category: General

The Contractor shall:

- 1) Adhere to NASA policies for the management of information technology (IT) resources.
- 2) Utilize the Government provided IT systems to accomplish the requirements in this SOW.⁴⁵
- 3) Adhere to NASA security procedures for the unauthorized use of Government computer systems.

4.14 Facility Management

4.14.1 Facility Manager Alternates

Category: FP

The Contractor shall assign a facility manager alternate to each hangar, building, warehouse, or facility used or occupied by the Contractor to assist NASA facility managers. One facility manager alternate may be responsible for multiple locations. The facility manager shall:

- 1) Perform facility inspections in accordance with AOD 33877, *Monthly/Quarterly Safety and Health Inspection*.
- 2) Report discrepancies (particularly those with safety or health implications).
- 3) Act as a point of contact in the NASA facility manager's absence.
- 4) Assist the NASA facility manager in maintaining up-to-date emergency action plans for the facility assigned.
- 5) Participate in educating occupants of assigned buildings on emergency evacuation plans.

⁴⁵ NASA will provide the necessary IT equipment and applications to accomplish the requirements of the SOW such as workstations, the Microsoft Office Suite of applications, and NASA internet access. Additional Government provided IT systems include, but are not limited to, such applications as NASA Aircraft Management Information System (NAMIS) as well as numerous other DoD technical data and logistics management systems.

4.15 Management Services

4.15.1 Special Events

Category: Cost

The Contractor shall provide coordination, setup, and teardown support for special events as required.

Examples include:

- 1) AOD all hands meetings
- 2) AOD awards ceremonies
- 3) Airshows
- 4) Public relations events
- 5) Crew return activities
- 6) Visitor support

4.15.2 Passenger Vehicles

Category: FP

The Contractor shall provide passenger vehicles licensed to operate on public roadways to accomplish the requirements in this SOW. The Government will not provide GSA vehicles for this contract.⁴⁶

⁴⁶ *The Government will provide special purpose vehicles such as fuel trucks and the pressure suit van. Refer to Section J, Attachment J-1.*

L4.0 Contract Management – LaRC Center Unique

Category: Cost (SOW Subsections L4.1 through L4.15.2)

The requirements listed in SOW Subsections L4.1 through L4.15.2 shall apply to Langley Research Center.

L4.1 General Requirements

L4.1.1 Overview

See SOW Subsection 4.1.1.

L4.1.2 Normal Hours of Operation

The Contractor shall establish operating hours consistent with meeting the mission at each contract location. The Contractor shall also provide personnel for varied work schedules to meet changing mission requirements.

L4.1.2.1 Langley Research Center

Typical work hours for Langley Research Center are:

7:00 AM to 3:30 PM (local time) Monday – Friday

L4.1.3 Facilities

The Contractor shall use the NASA facilities listed in Table 1-6.^{47, 48}

⁴⁷ See Section J, Attachment J-3-6 for a list of installation accountable Government property.

⁴⁸ The Contractor shall ensure an explosive facility license (AF 2047) is posted in all facilities storing or handling explosives in accordance with AFMAN 91-201, Explosive Safety Standards. The licensing shall be coordinated with the NASA designated representatives.

L4.1.4 Deliverables – Management

The Contractor shall provide the management deliverables listed in Table 4-1.

Table 4-2: Data Requirement Description - Management⁴⁹

| Data Requirement List (DRL) Item No. | DRD Title |
|--------------------------------------|--------------------------------------|
| DRD-M02 | Commercial Procurement Status Report |
| DRD-M04 | Monthly Progress Reports |
| DRD-M05 | NF533 Cost Reporting |
| DRD-M07 | Roster of Contract Personnel |
| DRD-M13 | Contract Phase-In Plan |

L4.1.5 Performance Goals

The Contractor performance standards are outlined in Appendix E3, *LaRC Cost Performance Standards* ..

L4.1.6 Process Control, Corrective Actions, and Continual Improvement

The Contractor shall implement process control, corrective actions and continual improvement in accordance with SAE AS9110, *Aerospace Standard, Quality Maintenance System – Aerospace – Requirements for Maintenance Organization*, Subsection 8.5.

L4.1.7 Contractor Information Program

SOW Subsection 4.1.7 not applicable.

L4.1.8 Customer Focus

See SOW Subsection 4.1.8.

⁴⁹ Refer to Section J, Attachment J-1 for DRD requirements.

L4.2 Executive Manager

L4.2.1 Overview

The Contractor shall provide a part-time Executive Manager located at LaRC to oversee all work performed in this statement of work. The Contractor shall provide an alternate Executive Manager if the primary is unavailable for duty. The Executive Manager or alternate shall:

- 1) Serve as the single-point-of-contact for all AMOS contract activities.
- 2) Have full authority to act for the Contractor on all matters relating to this contract.
- 3) Respond to NASA CO and COTR requests within the specified period established at time of request.

L4.2.2 Availability

The Contractor's Executive Manager or alternate shall be reachable during typical LaRC hours of operation (see SOW Subsection L4.1.2), and available within one (1) hour to meet with NASA personnel. After normal LaRC hours of operation, the Executive Manager or alternate shall be available within two (2) hours after being contacted by NASA.

L4.3 Management Team

SOW Subsection 4.3 not applicable.

L4.4 Administrative Support

SOW Subsection 4.4 not applicable.

L4.5 Management and Planning Reports

SOW Subsection 4.5 not applicable.

L4.6 Meetings

L4.6.1 Required Meetings

The Contractor shall come to all meetings prepared to discuss activities or present data related to the contract, airfield activities, missions, or other programs.

Maintenance

- 1) Daily aircraft status meetings in accordance with LaRC policy.
- 2) Aircraft in-phase/major aircraft inspection briefing in accordance with LaRC policy.
- 3) Pre-dock and post-dock meetings in accordance with LaRC policy

Safety

- 1) Aviation safety meetings (periodic).

L4.6.2 Other Meetings

SOW Subsection 4.6.2 not applicable.

L4.7 Financial Management

SOW Subsection 4.7 not applicable.

L4.8 Human Resources

L4.8.1 Workforce

L4.8.1.1 Human Resource Services

L4.8.1.1.1 General Requirements

SOW Subsection 4.8.1.1.1 not applicable.

L4.8.1.1.2 Security Clearances

SOW Subsection 4.8.1.1.2 not applicable.

L4.8.1.2 Surge Requirements

See SOW Subsection 4.8.1.2.

L4.8.1.3 Personal Attire and Appearance

The Contractor shall ensure that the personal attire and appearance of the workforce is conducive to a safe and professional work environment.

L4.8.2 Physicals

The Contractor shall ensure personnel designated as both qualified and non-qualified flight crew obtain Government provided physical examinations in accordance with NPR 7900.3, *Aircraft Operations Management*, and other applicable regulations governing the work task.

L4.8.3 Training

L4.8.3.1 Training – Safety and Health

The Contractor shall provide safety and health training to meet LaRC requirements for all Contractor employees based on job assignment within ninety (90) calendar days of employment and anytime an employee is reassigned to new tasks that require additional safety training.

L4.8.3.2 Training – Critical Task

The Contractor shall provide the following training identified by NASA as critical task training. Personnel trained to accomplish critical tasks shall be recertified on an annual basis or as stipulated in various DoD, NASA, and OEM documents.⁵⁰

- 1) OV-10 ejection seats and seat kits (certified via Contractor certification plan based on approved technical data).
- 2) Engine run certifications by type, model, series engine, both low power and high power (Contractor certified based on approved technical data with certified personnel approved by NASA).
- 3) Explosive handling/storage/shipment in accordance with NASA-STD-8719.12, *Safety Standard for Explosives, Propellants, and Pyrotechnics*).
- 4) Emergency response team training for each type aircraft listed in this SOW (Contractor certified based on approved technical data).

L4.8.3.3 Training – Specialty

SOW Subsection 4.8.3.3 not applicable.

L4.8.3.4 Training – Additional

SOW Subsection 4.8.3.4 not applicable.

⁵⁰ *In the event of a conflict between recertification training frequencies cited in this statement of work and those stipulated in other documents, the more frequent training requirement shall apply.*

L4.8.3.5 Training – Government Provided

NASA will provide job specific training classes. The Contractor shall provide NASA with a list of proposed attendees to attend the classes below. The Government will approve the attendees prior to training.⁵¹ Government provided training will include:

- 1) NASA Aircraft Management Information System (NAMIS) user's and database administrator training⁵²
- 2) Computer security training in accordance with the Office of Management and Budget Circular A-130, Appendix III, *Security of Federal Automated Information Resources* within three (3) months of employment and annually thereafter
- 3) Electrostatic discharge training
- 4) Soldered electrical connections training in accordance with NASA-STD-8739.3, *Soldered Electrical Connections*
- 5) Crimping and wire harness training in accordance with NASA-STD-8739.4, *Crimping, Interconnecting, Cables, Harnesses, and Wiring*
- 6) Aircrew training specific to NASA aircraft or unique on-board systems for:
 - a. Pilots
- 7) Other classes as required

L4.8.4 Conferences

SOW Subsection 4.8.4 not applicable.

L4.9 Travel

L4.9.1 General Travel

See SOW Subsection 4.9.1.

L4.9.2 Deployment Travel

See SOW Subsection 4.9.2.

L4.9.3 SPOT, Passports, and Visas

See SOW Subsection 4.9.3.

L4.10 Operational Risk Management

The Contractor shall institute a risk management process in accordance with LaRC guidelines and policies.

⁵¹ Class size or job requirements may restrict or limit the number of approved attendees.

⁵² NASA will provide initial NAMIS training for the Contractor. The Contractor shall provide NAMIS training for all Contractor personnel no later than six (6) months after contract start.

L4.11 Configuration Control

L4.11.1 Configuration Management

SOW Subsection 4.11.1 not applicable.

L4.11.2 Configuration Tracking

See SOW Subsection 4.11.2.

L4.11.3 Configuration Control Panel (CCP)

The Contractor shall support NASA configuration control in accordance with LaRC guidelines and policies.

L4.12 Document and Data Management

L4.12.1 NASA Aircraft Management Information System (NAMIS)

The Contractor shall:

- 1) Use the Government provided NASA Aircraft Management Information System (NAMIS)⁵³ for aircraft operations, maintenance, and logistics support.
- 2) Use all NAMIS application modules in accordance with NPR 7900.3, *Aircraft Operations Management Manual* unless waived in writing by the NASA COTR.
- 3) Enter a clear precise narrative description of the discrepancy and corrective action. Examples include:
 - a. Troubleshooting findings
 - b. Test equipment used
 - c. Serial number of critical calibrated equipment (e.g. torque wrenches)
 - d. Original discrepancy was or was not duplicated
 - e. Ultimate repair actions
- 4) List the technical reference that was utilized for the repair/inspections to correct the reported anomaly. The Contractor shall include the technical order/directive, engineering work order or maintenance manual number, paragraph, figure, and page number as applicable.
- 5) Enter actual elapsed maintenance times in the regular or dispatch hour block in NAMIS for each maintenance action as applicable.
- 6) Suggest recommendations for NAMIS process/software improvements.

⁵³ NAMIS is an integrated automated database used to capture aircraft operations, maintenance, and logistics information in support of NASA centers that operate aircraft. NAMIS will track all scheduled inspections (inspections based on calendar, hourly, cycles, or events) and user discrepancies (unscheduled maintenance) “real-time” that are reported against aircraft, aircraft components, equipment, and special tooling.

L4.12.2 NAMIS Application Administrator

SOW Subsection 4.12.2 not applicable.

L4.12.3 Records Management

SOW Subsection 4.12.3 not applicable.

L4.12.4 Engineering Data Management

SOW Subsection 4.12.4 not applicable.

L4.13 Information Technology Systems

See SOW Subsection 4.13.

L4.14 Facility Management

L4.14.1 Facility Manager Alternates

SOW Subsection 4.14.1 not applicable.

L4.15 Management Services

L4.15.1 Special Events

SOW Subsection 4.15.1 not applicable.

L4.15.2 Passenger Vehicles

SOW Subsection 4.15.2 not applicable.

5.0 Program and Project Support

5.1 General Requirements

Category: Cost

The Contractor shall provide program and project support to NASA. Projects may include NASA reimbursable programs, internal development projects, and new business opportunities generated as a result of shifting budgets and mission priorities. Example support services include:

- 1) Research, development, acquisition, and sustainment efforts across a broad spectrum of functional disciplines in order to effectively assist in the implementation of Government objectives.
- 2) Development of quick-reaction capabilities (QRC), streamlined acquisition and development processes, advanced concepts and technology demonstrations (ACTD), user concept of operations (CONOPS), technical assessments, and system development that will support near-term and long-term operational requirements for NASA and other Government agencies.

5.2 Project Management

Category: Cost

The Contractor shall provide project management, project control, and schedule support services for NASA projects. Project managers shall be responsible for managing and executing projects with matrix support from other contract elements in this SOW. Project management support includes tasks such as planning, organizing, technical analysis and recommendations, scheduling, and reporting. Example project management tasks include:

- 1) Task Management and Control: The Contractor shall develop and present to NASA task management plans describing the technical approach, organizational resources, and management controls to meet the cost performance and schedule requirements of NASA aircraft activities and projects.
- 2) Schedule Monitoring and Control: The Contractor shall develop and present to NASA project schedules. The Contractor shall monitor project progress, and update schedules as required.
- 3) Cost Monitoring: The Contractor shall provide cost monitoring to support of project and program activities and monitor costs for control and reporting.

5.2.1 Project Risk Management Plans

Category: Cost

The Contractor shall develop and administer risk management plans in support of project activities.

5.2.2 Reports and Briefings

Category: Cost

The Contractor shall develop reports, briefings, briefing materials, presentation packages, informational brochures, photographs, and test/demonstration/feasibility portfolios including draft and final versions.

5.2.3 Funding Plans & Budget Support

Category: Cost

The Contractor shall provide funding plans and budget support for NASA projects. Examples include:

- 1) Conduct financial studies and research.
- 2) Compile, analyze, review, and present financial data.
- 3) Evaluate project funding plans and changes.
- 4) Perform project budgeting, analysis, and assistance in the preparation and routing of financial documents.

5.3 Project Support Services

5.3.1 General Support

Category: Cost

The Contractor shall:

- 1) Attend project design reviews, technical interchange meetings, user conferences, program status reviews, management and design reviews, flight readiness reviews, and other reviews per NASA request for projects and programs.
- 2) Present briefings, record and distribute minutes, and complete assigned action items or specific assignments resulting from these meetings.

5.3.2 Data Gathering

Category: Cost

The Contractor shall conduct data gathering and perform site surveys required to support the conduct of technical studies and analyses, exercises and demonstrations, contingencies, quick reaction tasks, and other requirements. The Contractor may be required to attend and monitor operations at both on and off-site locations in order to gather, compile, develop and edit raw print, video, or digital data and summarize documentation depicting the wide range of project or sponsor capabilities into hard copy or multimedia formats.

5.3.3 Acquisition Liaison Support

Category: Cost

The Contractor shall provide acquisition support services for projects. Example tasks include:

- 1) Review and prepare technical specifications and supporting documentation.
- 2) Provide liaison support between program/project management and logistics for procurements.

5.3.4 Technical Support

Category: Cost

The Contractor shall provide technical support services for projects. Example tasks include:

- 1) Support research, development, and production.
- 2) Research candidate technologies and plan for upgrades and improvements to aircraft, equipment, facilities, processes, and programs. The Contractor shall provide to NASA recommendations with written rationale on methods to better integrate new technologies.
- 3) Support aircraft and equipment maintenance issues.
- 4) Support developing systems, subsystems, equipment, and components.
- 5) Safety analysis.

5.3.5 Administrative Support

Category: Cost

The Contractor shall provide the necessary administrative support services to perform the requirements in SOW Subsection 5.0.

5.4 Aircraft and Payload Integration

Category: Cost

The Contractor shall provide integration support for payloads, sensors, aircraft upgrades, experiments, and instrumentation. Example tasks include:

- 1) Coordinate user and aircraft availability schedules.
- 2) Provide existing data on aircraft to potential users of the aircraft.
- 3) Coordinate and assist in the assembly, checkout, installation, and troubleshooting of payloads and other equipment.
- 4) Coordinate payload integration requirements and configurations with appropriate customer organizations.
- 5) Support development and review of payload data packages (PDP) for each new system integration.
- 6) Support test and evaluation (T&E) and validation and verification (V&V) activities
- 7) Develop payload integration timelines.
- 8) Providing payload operations and development guidance to the customer for unique aircraft operating conditions.
- 9) Participate in sensor operations training and dress rehearsals scenarios as it relates to the NASA aircraft projects.

5.5 Mission Planning and Development

Category: Cost

The Contractor shall provide mission planning and development support services. Example tasks include:

- 1) Identify aircraft to meet mission needs
- 2) Recommend sensor suite optimizations/upgrades to enhance mission capabilities
- 3) Develop tasking, collection, processing, exploitation, and dissemination (TCPED) requirements.
- 4) Develop mission cost estimates
- 5) Prepare memorandums of understanding/agreements (MOU/MOA)
- 6) Prepare project implementation plans (PIP)
- 7) Prepare mission related documents:
 - a. Proposals
 - b. Concept of operations (CONOPS)
 - c. Aircraft and personnel clearance automated clearance system (APACS)
 - d. Letters of authorization (LOA)
 - e. Mission partner coordination, etc.

5.6 Mission Coordination, Implementation, and Execution

Category: Cost

The Contractor shall provide mission coordination, implementation, and execution services for CONUS and OCONUS operations. Examples tasks include:

- 1) Coordinate military airlift requests
- 2) Identify, provide, and coordinate Liaison Officer activities
- 3) Provide advance teams for CONUS and OCONUS missions
- 4) Develop, provide, and execute logistics plans
- 5) Provide data collection management support
- 6) Develop mission execution timelines
- 7) Support the Communications Security custodian as necessary
- 8) Development and execution of test cards
- 9) Support specialized equipment maintenance, training, and operations for Special Mission Unit support

5.7 Deployment Support

Category: Cost

The Contractor shall support aircraft deployments both within the contiguous United States (CONUS) and outside the contiguous United States (OCONUS). The Contractor shall:

- 1) Provide personnel in appropriate disciplines to support deployed operations.
- 2) Perform similar tasks at the deployed location as if the personnel were at their home location.
- 3) Ensure that deployed personnel have all of the resources necessary to perform their work at the deployed location including essential tools, hardware, and safety related equipment.
- 4) Provide deployment support. Example tasks include:
 - a. Perform duties identified in NPR 7900.3, *Aircraft Operations Management*.
 - b. Perform preflight, through-flight, and post-flight inspections on NASA aircraft in accordance with the Aircraft Flight Manual or NASA approved flight crew checklists.
 - c. Perform normal and emergency procedures in accordance with the Aircraft Flight Manual and NASA approved flight crew checklists.
 - d. Support Operational Readiness Reviews on aircraft prior to deployment in accordance with AOD 33872, *Operation Readiness Reviews*.
 - e. Provide/augment NASA deployment management support.
 - f. Coordinate mission partner assistance when necessary.
 - g. Collate various customer needs into a single cohesive data collection plan.
 - h. Develop deployment cost estimates.
 - i. Develop and maintain mission schedules.
 - j. Generating mission briefings.
 - k. Support the communications security (COMSEC) custodian as necessary.
 - l. Develop/provide/execute logistics plans in support of deployed operations.
 - m. Conduct data gathering and perform site surveys required to support the conduct of deployed flight operations.

L5.0 Program and Project Support – LaRC Center Unique

Category: Cost (SOW Subsections L5.1 through L5.7)

The requirements listed in SOW Subsections L5.1 through L5.7 shall apply to Langley Research Center.

L5.1 General Requirements

The Contractor shall provide program and project support to NASA. Projects may include NASA reimbursable programs, internal development projects, and new business opportunities generated as a result of shifting budgets and mission priorities. Example support services include:

- 1) Research, development, acquisition, and sustainment efforts across a broad spectrum of functional disciplines in order to effectively assist in the implementation of Government objectives.

L5.2 Project Management

SOW Subsection 5.2 not applicable.

L5.2.1 Project Risk Management Plans

SOW Subsection 5.2.1 not applicable.

L5.2.2 Reports and Briefings

SOW Subsection 5.2.2 not applicable.

L5.2.3 Funding Plans & Budget Support

SOW Subsection 5.2.3 not applicable.

L5.3 Project Support Services

L5.3.1 General Support

The Contractor shall:

- 1) Attend project design reviews, technical interchange meetings, user conferences, program status reviews, management and design reviews, flight readiness reviews, and other reviews per NASA request for projects and programs.
- 2) Present briefings, record and distribute minutes, and complete assigned action items or specific assignments resulting from these meetings.

L5.3.2 Data Gathering

SOW Subsection 5.3.2 not applicable.

L5.3.3 Acquisition Liaison Support

SOW Subsection 5.3.3 not applicable.

L5.3.4 Technical Support

The Contractor shall provide technical support services for projects. Example tasks include:

- 1) Support research and development.
- 2) Support aircraft and equipment maintenance issues.
- 3) Safety analysis.

L5.3.5 Administrative Support

SOW Subsection 5.3.5 not applicable.

L5.4 Aircraft and Payload Integration

The Contractor shall provide integration support for payloads, sensors, aircraft upgrades, experiments, and instrumentation. Example tasks include:

- 1) Coordinate and assist in the assembly, checkout, installation, and troubleshooting of payloads and other equipment.
- 2) Support test and evaluation (T&E) and validation and verification (V&V) activities
- 3) Develop payload integration timelines.

L5.5 Mission Planning and Development

SOW Subsection 5.5 not applicable.

L5.6 Mission Coordination, Implementation, and Execution

SOW Subsection 5.6 not applicable.

L5.7 Deployment Support

The Contractor shall provide deployment support. Example tasks include:

- 1) Provide personnel in appropriate disciplines to support deployed operations.
- 2) Perform similar tasks at the deployed location as if the personnel were at their home location.
- 3) Ensure that deployed personnel have all of the resources necessary to perform their work at the deployed location including essential tools, hardware, and safety related equipment.
- 4) Provide deployment support. Example tasks include:
 - a. Those duties identified in NPR 7900.3, *Aircraft Operations Management*.
 - b. Perform preflight, through-flight, and post-flight inspections on NASA aircraft in accordance with the Aircraft Flight Manual or NASA approved flight crew checklists.
 - c. Perform normal and emergency procedures in accordance with the Aircraft Flight Manual and NASA approved flight crew checklists.

Perform Operational Readiness Reviews on aircraft prior to deployment in accordance with LaRC LMS policies and directives.

6.0 Flight Operations

6.1 Projected Flight Schedule

6.1.1 T-38N

6.1.1.1 Projected Flight Hours

Category: Refer to applicable SOW paragraph for category (FP, FP/Cost, or Cost)

The Contractor shall support the projected T-38N flight hours shown in Table 6-1a and Table 6-1b below. These flight hours are the estimated total T-38N hours necessary to support the aircraft quantities listed in Table 1-5.

NASA estimates that no more than fifteen percent (15%) of the projected flight hours will occur between the hours of 5:00 PM and 11:00 PM (local time) and that no more than five percent (5%) of the flight hours will occur between the hours of 11:00 PM and 7:00 AM (local time).

Table 6-1a: T-38N Projected Flight Hours^{54, 55}

| T-38N | Base | Option 1 | Option 2 |
|-----------------|------|----------|----------|
| Projected Hours | 6000 | 9400 | 8200 |

Table 6-1b: T-38N Projected Flight Hours by Year^{54, 55}

| T-38N | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
|-----------------|--------|--------|--------|--------|--------|
| Projected Hours | 4500 | 4500 | 4800 | 4800 | 5000 |

⁵⁴ See Section F, Subsection F.8.3 for options to decrease the number of required aircraft per day and flight hours per year.

⁵⁵ One (1) T-38 aircraft will be reserved by NASA as a dedicated project aircraft. The Contractor shall not rely on this aircraft to fulfill the weekly flight schedule.

6.1.1.2 Weekly Flight Schedule

Category: Refer to applicable SOW paragraph for category (FP, FP/Cost, or Cost)

The Contractor shall provide the required number of T-38N aircraft per day shown in Table 6-2 at Ellington Field. The Contractor shall also provide the additional spare (sp) aircraft per day shown in Table 6-2.

Table 6-2: T-38N Weekly Flight Schedule

| Contract Year | Required Aircraft per Day | | | | | | | Total per Week |
|---------------|---------------------------|-------------|------------|-------------|-------------|-------------------|-------------|----------------|
| | Mon | Tue | Wed | Thu | Fri | Sat ⁵⁶ | Sun | |
| Base | 4 +1 sp | 7 +2 sp | 7 +2 sp | 7 +2 sp | 5 +2 sp | 3 +1 sp | 3 +1 sp | 30-36 + sp |
| Option 1 | 4 +1 sp | 8 +2 sp | 8 +2 sp | 8 +2 sp | 5 +1 sp | 3 +1 sp | 3 +1 sp | 33-39 + sp |
| Option 2 | 5 +1 sp | 8 + 2 sp | 8 +2 sp | 8 + 2 sp | 6 + 1 sp | 3 + 1 sp | 3 + 1 sp | 35-41 + sp |

6.1.1.3 Flight Schedule Conditions

Category: FP

For T-38N scheduling purposes the following conditions shall apply:

- 1) The Contractor shall not release an aircraft for flight with more than four (4) delayed discrepancies, excluding configuration items.
- 2) Under normal circumstances, no more than two (2) T-38 aircraft will be launched in any thirty (30) minute period. In some special cases such as memorial flyovers or mission support, the Contractor may be required to support more than two (2) T-38 launches in a thirty (30) minute period. See Table 6-3 below for an example daily schedule.
- 3) A minimum one (1) hour turn-around time applies for consecutive flights of the same aircraft.
- 4) The number of T-38N cross-country aircraft will be *counted as part of the required aircraft per day total listed in Table 6-2⁵⁷* until the aircraft returns to Ellington Field.
- 5) For air and ground aborts at locations other than the NASA Centers and Forward Operating Locations listed in SOW Subsection 2.2, the following conditions apply:
 - a. The aircraft will be *counted as part of the required aircraft per day total listed in Table 6-2 for no more than three (3) calendar days.*^{58, 59} If Contractor troubleshooting reveals

⁵⁶ Saturday and Sunday flights will vary based on weekly schedule requirements.

⁵⁷ For example, “counted as part of the required aircraft per day total listed in Table 6-2” means the following: In the base contract period, five (5) aircraft are required on Monday at Ellington Field. If two (2) aircraft leave Monday to fly cross-country and return on Thursday, the Contractor will only be required to have six (6) aircraft (8 minus 2) available on Tuesday and Wednesday (plus spares).

⁵⁸ For example, “counted as part of the required aircraft per day total listed in Table 6-2 for no more than three (3) calendar days” means the following: In the base contract period, five (5) aircraft are required on Monday. If one (1) aircraft breaks while on cross-country on Monday the Contractor will only be required to have seven (7) aircraft (8 minus 1) available on Tuesday through Thursday (plus spares). After Thursday, the Contractor will not be allowed to subtract the aircraft from the required per day total.

the repair will exceed three (3) calendar days, the Contractor may request a waiver from the NASA Maintenance Manager for an extension. If approved, the aircraft will be counted as part of the aircraft per day total listed in Table 6-2 for the approved extension period.

- b. The Contractor shall notify the NASA Maintenance Manager when the aircraft is returned to flight status, i.e. repairs are completed, the combined preflight and post-flight (CBPO) inspection is completed, and the aircraft is ready for pilot pickup.⁶⁰

Table 6-3: Example Daily Schedule⁶¹

| Take-Off Time | Landing Time | Flight Type | Tail Number ⁶² |
|---------------|--------------|---|---------------------------|
| 0800 | 1000 | Mission Specialist + Instructor Pilot 1 | 1 |
| 0800 | 1000 | Local | 2 |
| 0830 | 1030 | Local | 3 |
| 0830 | 1400 | Out and back | 4 |
| 0900 | 1500 | Out and back | 5 |
| 0900 | N/A | Cross country | 6 |
| 0930 | N/A | Cross country | 7 |
| 0930 | N/A | Cross country | 8 |
| Lunch | | | |
| 1130 | 1330 | Mission Specialist + Instructor Pilot 2 | 1 |
| 1130 | 1530 | Out and back | 2 |
| 1200 | 1600 | Out and back | 3 |
| 1500 | 1700 | Mission Specialist + Instructor Pilot 3 | 1 |
| 1530 | 1730 | Local | 4 |
| 1600 | 1800 | Local | 5 |

⁵⁹ If the air or ground abort results in a NASA decision to impound the aircraft as a close call or mishap investigation, the aircraft will be impounded in accordance with AOD WI 34100, Maintenance Manual, and the aircraft will be counted as part of the required aircraft per day total listed in Table 6-2.

⁶⁰ If a NASA pilot is unavailable for aircraft pickup, the aircraft will be counted as part of the required aircraft per day total listed in Table 6-2 until the pilot returns the aircraft to Ellington Field.

⁶¹ This example schedule is provided for reference purposes only and will change daily based on NASA mission requirements.

⁶² Tail numbers shown are for illustrative purposes only – not actual NASA tail numbers.

6.1.1.4 Flight Operations Support

Category: Refer to applicable SOW paragraph for category (FP, FP/Cost, or Cost)

The Contractor shall provide the following support services for the T-38N:

- 1) Provide aircraft launch, recovery, and maintenance services. Typical aircraft operating periods at Ellington Field are Sunday (4:00 PM to 11:00 PM), Monday-Thursday (7:00 AM to 11:00 PM) and Friday (7:00 AM to 4:00 PM).
- 2) Tow aircraft (plus spares) to and from the Ellington Field fixed base operator (FBO) to meet weekend and holiday flight schedule requirements. The Contractor is not typically required to launch and recover aircraft on weekends prior to 4:00 PM on Sundays or on holidays.
- 3) Under special circumstances, NASA may request launch and recovery services on weekends. NASA anticipates weekend launch and recovery support will not exceed six (6) weekends per year.

6.1.2 WB-57

6.1.2.1 Projected Flight Hours

Category: Refer to applicable SOW paragraph for category (FP, FP/Cost, or Cost)

The Contractor shall support the projected WB-57 flight hours shown in Table 6-4 below. The flight hours shown in Table 6-4 are the estimated total WB-57 hours necessary to support the aircraft quantities listed in Table 1-5.

NASA estimates that approximately thirty-five percent (35%) of the projected flight hours will occur between the hours of 5:00 PM and 11:00 PM (local time) and that approximately twenty percent (20%) of the flight hours will occur between the hours of 11:00 PM and 7:00 AM (local time).

Table 6-4a: WB-57 Projected Flight Hours

| WB-57 | Base | Option 1 | Option 2 |
|-----------------|------|----------|----------|
| Projected Hours | 1200 | 2320 | 1600 |

Table 6-4b: WB-57 Projected Flight Hours by Year

| WB-57 | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
|-----------------|--------|--------|--------|--------|--------|
| Projected Hours | 800 | 1200 | 1200 | 960 | 960 |

6.1.2.2 Flight Operations Support

Category: Refer to applicable SOW paragraph for category (FP, FP/Cost, or Cost)

The Contractor shall provide the following support services for the WB-57:

- 1) Provide aircraft launch, recovery, maintenance, and payload integration support services as required Mon – Sun at Ellington Field, forward operating location, or any other aircraft destination or deployed location based on flight schedule requirements.
- 2) Provide support for CONUS and OCONUS deployments. NASA estimates 665 *deployed days*⁶³ for the base contract period and 1100 deployed days for contract Option 1 and 1100 deployed days for contract Option 2.

⁶³ A *deployed day* is defined as one (1) aircraft on deployment per day.

6.1.3 Super Guppy Transport

6.1.3.1 Projected Hours

Category: Refer to applicable SOW paragraph for category (FP, FP/Cost, or Cost)

The Contractor shall support the projected Super Guppy Transport flight hours shown in Table 6-5 below. The flight hours shown in Table 6-5 are the estimated total Super Guppy hours necessary to support the aircraft quantities listed in Table 1-5.

NASA estimates that approximately ten percent (10%) of the projected flight hours will occur between the hours of 5:00 PM and 11:00 PM (local time) and that the aircraft will rarely fly between the hours of 11:00 PM and 7:00 AM (local time).

Table 6-5a: Super Guppy Transport Projected Flight Hours

| Super Guppy | Base | Option 1 | Option 2 |
|-----------------|------|----------|----------|
| Projected Hours | 260 | 330 | 270 |

Table 6-5b: Super Guppy Projected Flight Hours by Year

| Super Guppy | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
|-----------------|--------|--------|--------|--------|--------|
| Projected Hours | 200 | 180 | 160 | 160 | 160 |

6.1.3.2 Flight Operations Support

Refer to applicable SOW paragraph for category (FP, FP/Cost, or Cost)

The Contractor shall provide the following support services for the Super Guppy Transport:

- 1) Provide aircraft launch, recovery, maintenance, and payload integration support services as required Mon – Sun at Ellington Field, forward operating location, or any other aircraft destination or deployed location based on flight schedule requirements. Contingent on seat availability, Contractor personnel may travel on aircraft.

6.1.4 Boeing 747 Shuttle Carrier Aircraft

6.1.4.1 Projected Hours

Refer to applicable SOW paragraph for category (FP, FP/Cost, or Cost)

The Contractor shall support the projected Shuttle Carrier Aircraft flight hours shown in Table 6-6 below. The flight hours shown in Table 6-6 are the estimated total Boeing 747 hours necessary to support the aircraft quantities listed in Table 1-5.

The Government estimates that approximately twenty percent (20%) of the projected flight hours will occur between the hours of 5:00 PM and 11:00 PM (local time) and that the aircraft will rarely fly between the hours of 11:00 PM and 7:00 AM (local time).

Table 6-6a: Shuttle Carrier Aircraft Projected Flight Hours

| 747 | Base | Option 1 | Option 2 |
|-----------------|------|----------|----------|
| Projected Hours | 30 | 0 | 0 |

Table 6-6b: Shuttle Carrier Aircraft Projected Flight Hours by Year

| 747 | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
|-----------------|--------|--------|--------|--------|--------|
| Projected Hours | 30 | 0 | 0 | 0 | 0 |

6.1.4.2 Flight Operations Support

Refer to applicable SOW paragraph for category (FP, FP/Cost, or Cost)

The Contractor shall provide the following support services for the Shuttle Carrier Aircraft:

- 1) Provide aircraft launch, recovery, maintenance, and payload integration support services as required Mon – Sun at Ellington Field, forward operating location, or any other aircraft destination or deployed location based on flight schedule requirements. Contingent on seat availability, Contractor personnel may travel on aircraft.

6.1.5 Boeing DC-9

6.1.5.1 Projected Hours

Refer to applicable SOW paragraph for category (FP, FP/Cost, or Cost)

The Contractor shall support the projected DC-9 flight hours shown in Table 6-7 below. The flight hours shown in Table 6-7 are the estimated total DC-9 hours necessary to support the aircraft quantities listed in Table 1-5.

NASA estimates that approximately ten percent (10%) of the projected flight hours will occur between the hours of 5:00 PM and 11:00 PM (local time) and that the aircraft will rarely fly between the hours of 11:00 PM and 7:00 AM (local time).

Table 6-7a: DC-9 Projected Flight Hours

| DC-9 | Base | Option 1 | Option 2 |
|-----------------|------|----------|----------|
| Projected Hours | 35 | 80 | 65 |

Table 6-7b: DC-9 Projected Flight Hours by Year

| DC-9 | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
|-----------------|--------|--------|--------|--------|--------|
| Projected Hours | 25 | 35 | 40 | 40 | 40 |

6.1.5.2 Flight Operations Support

Refer to applicable SOW paragraph for category (FP, FP/Cost, or Cost)

The Contractor shall provide the following support services for the DC-9:

- 1) Provide aircraft launch, recovery, maintenance, and payload integration support services as required Mon – Sun at Ellington Field, forward operating location, or any other aircraft destination or deployed location based on flight schedule requirements. Contingent on seat availability, Contractor personnel may travel on aircraft.

6.1.6 Gulfstream GIII

6.1.6.1 Projected Flight Hours

Refer to applicable SOW paragraph for category (FP, FP/Cost, or Cost)

The Contractor shall support the projected GIII flight hours shown in Table 6-8 below. The flight hours shown in Table 6-8 are the estimated total GIII hours necessary to support the aircraft quantities listed in Table 1-5.

NASA estimates that approximately thirty-five percent (35%) of the projected flight hours will occur between the hours of 5:00 PM and 11:00 PM (local time) and that approximately twenty percent (20%) of the flight hours will occur between the hours of 11:00 PM and 7:00 AM (local time).

Table 6-8a: GIII Projected Flight Hours

| GIII | Base | Option 1 | Option 2 |
|-----------------|------|----------|----------|
| Projected Hours | 335 | 800 | 665 |

Table 6-8b: GIII Projected Flight Hours by Year

| GIII | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
|-----------------|--------|--------|--------|--------|--------|
| Projected Hours | 200 | 400 | 400 | 400 | 400 |

6.1.6.2 Flight Operations Support

Refer to applicable SOW paragraph for category (FP, FP/Cost, or Cost)

The Contractor shall provide the following support services for the GIII:

- 1) Provide aircraft launch, recovery, maintenance, and payload integration support services as required Mon – Sun at Ellington Field, forward operating location, or any other aircraft destination or deployed location based on flight schedule requirements. Contingent on seat availability, Contractor personnel may travel on aircraft.

6.1.7 T-38N Simulator

6.1.7.1 Projected Hours

Refer to applicable SOW paragraph for category (FP, FP/Cost, or Cost)

The Contractor shall support the projected T-38 simulator training hours shown in Table 6-9 below. The hours shown in Table 6-9 are the estimated total training hours necessary to support the T-38N simulator listed in SOW Subsection 1.5.1.2.7.

NASA estimates that no simulator training will occur between the hours of 5:00 PM and 7:00 AM (local time).

Table 6-9a: T-38N Simulator Training Hours

| Simulator | Base | Option 1 | Option 2 |
|-----------------|------|----------|----------|
| Projected Hours | 600 | 900 | 750 |

Table 6-9b: T-38N Simulator Projected Flight Hours by Year

| Simulator | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
|-----------------|--------|--------|--------|--------|--------|
| Projected Hours | 450 | 450 | 450 | 450 | 450 |

6.1.7.2 Simulator Support

Refer to applicable SOW paragraph for category (FP, FP/Cost, or Cost)

The Contractor shall provide a simulator instructor when requested by NASA to support training Mon – Fri as required.

6.2 Duty Office

6.2.1 Scheduler

Category: Cost

The Contractor shall create and manage a weekly flight schedule for all aircraft operated by AOD. The Contractor shall coordinate the requests generated by NASA managers, flight crews, project engineers, and others associated with flight operations to create an efficient use of aircraft assets.

6.2.2 Operations Duty Officer

Category: Cost

The Contractor shall provide an Operations Duty Officer (ODO) within 30 calendar days following written notification from the Contracting Officer. The ODO shall support flight operations by managing the daily flight schedule, answering operational questions, and assisting by radio during in-flight emergencies.

6.3 Flight Crew

6.3.1 General Requirements

Category: Cost

The Contractor shall provide flight crew personnel to operate and support AOD aircraft. Operational requirements will be provided to the Contractor by the NASA CO/COTR. The Contractor shall:

- 1) Ensure program support (project) aircraft operations are conducted in accordance with JSC/AOD approved operational directives and NPR 7900.3, *Aircraft Operations Management*. Aircraft will normally be operated as public use aircraft for this mission.
- 2) Conduct training in mission management aircraft on a non-interference basis with mission management operations. NASA will use mission management aircraft for some types of recurrent and other required qualification training.
- 3) Conduct operations in accordance with 14 CFR Part 91, *General Operating and Flight Rules*, and the AOD 09295, *Volume II, Aircraft Operations and Training Procedures, Research and Mission Support Aircraft* when flying mission management aircraft transporting officially approved passengers in response to Government travel requirements. The Contractor aircrew shall operate NASA Mission Management Aircraft as civil aircraft when carrying passengers.
- 4) Require aircrew to input aircraft discrepancies into the NAMIS database in accordance with NPR 7900.3, *Aircraft Operations Management Manual* and AOD 34100, *Maintenance Manual*.
- 5) Report close calls, or complete other flight paperwork as required.

6.3.2 Performance Standards

Category: Cost

The Contractor flight crew shall:

- 1) Comply with the provisions set forth in NPR 7900.3, *Aircraft Operations Management*, FAA regulations, original equipment manufacturer (OEM), and other applicable directives, regulations, policies, and instructions.
- 2) Maintain performance standards in accordance with AOD 09295, Volume I, *Aircraft Operations and Training Procedures, T-38 Operating Procedures, and Volume II, Aircraft Operations and Training Procedures, Research and Mission Support Aircraft*. Examples include:
 - a. Safety Precautions: Identified in the applicable aircraft technical data.
 - b. Airfield Operations
 - c. Normal Procedures: Identified in the applicable aircraft technical data.
 - d. Emergency Procedures: All applicable boldface emergency procedures demonstrated without reference to the checklist.
 - e. Aircraft Systems: The examiner may randomly select any system(s) for the student to demonstrate adequate skill and knowledge.
 - f. System Limitations: Demonstrated without reference to the checklist.

6.3.3 Proficiency, Currency, and Certification

Category: Cost

The Contractor shall ensure flight crew personnel maintain proficiency, currency, and annual requirements in accordance with NPR 7900.3, *Aircraft Operations Management*, AOD 09295, Volume I, *Aircraft Operations and Training Procedures, T-38 Operating Procedures, and Volume II, Aircraft Operations and Training Procedures, Research and Mission Support Aircraft*, and other applicable AOD work instructions.

The Contractor shall:

- 1) Maintain aircrew training records, which shall include: aircrew qualifications, copies of medical and FAA certificates, training status, and experience. The Contractor shall provide copies of these records to NASA Flight Operations.
- 2) Operate the designated aircraft in compliance with the current editions of the applicable aircraft flight manuals and other official aircraft documents.

The Government will provide training and qualification checks for Contractor aircrew, including required periodic simulator training. A NASA authorized flight surgeon will provide periodic flight physicals for aircrew.

The Government may, with appropriate notification to the Contractor, designate the requirement for contract aircrews to operate different aircraft, or the existing aircraft with configuration changes. The Government will provide additional training when aircraft equipment, configuration, model, or type is

changed. Mixed Contractor and Government aircrew may be required on an occasional basis to perform aircrew training, functional checks, technical evaluations, or mission operations.

6.3.4 Flight Instructors

Category: Cost

The Contractor shall provide flight instructors within 30 calendar days following written notification from the Contracting Officer. Example duties include:

- 1) Serve as aircrew in accordance with NPR 7900.3, *Aircraft Operations Management*.
- 2) Perform support ground school instruction in aircraft systems, flight characteristics, checklists, and other subjects related to the aircraft under instruction.
- 3) Perform preflight, through-flight, and post-flight inspections on NASA aircraft in accordance with the aircraft flight manual or NASA approved flight crew checklists and procedures.
- 4) Perform aircrew check flights in accordance with the Aircraft Flight Manual and NASA approved flight instructions.
- 5) Perform normal and emergency procedures in accordance with the Aircraft Flight Manual and NASA approved flight crew checklists.
- 6) Perform functional check flights or operational checks on aircraft in accordance with AOD 34100, *Maintenance Manual* and applicable aircraft checklists.
- 7) Perform/support operational readiness reviews on aircraft prior to deployment in accordance with AOD 33872, *Operation Readiness Reviews*.
- 8) Support FRRs, TRRs, and PRRs per AOD 33840, *Flight Readiness Review, Test Readiness Review, and Payload Readiness Review*.

6.3.5 Pilots

Category: Cost

The Contractor shall provide pilots within 30 calendar days following written notification from the Contracting Officer. Example duties include:

- 1) Serve as aircrew in accordance with NPR 7900.3, *Aircraft Operations Management*.
- 2) Perform preflight, through-flight, and post-flight inspections on NASA aircraft in accordance with the aircraft flight manual or NASA approved flight crew checklists and procedures.
- 3) Perform normal and emergency procedures in accordance with the Aircraft Flight Manual and NASA approved flight crew checklists.
- 4) Perform functional check flights or operational checks on aircraft in accordance with AOD 34100, *Maintenance Manual*, and applicable aircraft checklists.
- 5) Perform/support operational readiness reviews on aircraft prior to deployment in accordance with AOD 33872, *Operation Readiness Reviews*.
- 6) Support FRRs, TRRs, and PRRs per AOD 33840, *Flight Readiness Review, Test Readiness Review, and Payload Readiness Review*.

6.3.6 Ground and Simulator Instructors

Category: Cost

The Contractor shall provide personnel to perform Ground or Simulator Instructor duties within 30 calendar days following written notification from the Contracting Officer.

6.3.7 Flight Engineers

Category: Cost

The Contractor shall provide Flight Engineers within 30 calendar days following written notification from the Contracting Officer. Example duties include:

- 1) Serve as aircrew in accordance with NPR 7900.3, *Aircraft Operations Management*.
- 2) Perform preflight, through-flight, and post-flight inspections on NASA aircraft in accordance with the aircraft flight manual or NASA approved flight crew checklists and procedures.
- 3) Perform normal and emergency procedures in accordance with the Aircraft Flight Manual and NASA approved flight crew checklists.
- 4) Perform functional check flights or operational checks on aircraft in accordance with AOD 34100, *Maintenance Manual*, and applicable aircraft checklists.
- 5) Perform/support operational readiness reviews on aircraft prior to deployment in accordance with AOD 33872, *Operation Readiness Reviews*.
- 6) Review and determine that weight and center of gravity are within limits for flight in accordance with NPR 7900.3, *Aircraft Operations Management* and ensure copy of weight and balance data is carried aboard aircraft.
- 7) Perform ground engine runs when requested by maintenance personnel. Flight engineers who perform ground engine runs shall be certified in accordance with AOD 09295, Volume I, *Aircraft Operations and Training Procedures, T-38 Operating Procedures*, and Volume II, *Aircraft Operations and Training Procedures, Research and Mission Support Aircraft*.
- 8) Assist in trouble-shooting aircraft systems if requested by maintenance personnel.
- 9) Perform instructor or examiner flight engineer duties, if designated, in accordance with applicable directives.

6.3.8 Sensor Equipment Operators

Category: Cost

The Contractor shall provide Sensor Equipment Operators (SEO) within 30 calendar days following written notification from the Contracting Officer in support of WB-57 flight operations. Example duties include:

- 1) Serve as aircrew in accordance with NPR 7900.3, *Aircraft Operations Management*.
- 2) Serve as sensor equipment operator for all onboard payloads and sensors.
- 3) Perform preflight, through-flight, and post-flight inspections on NASA aircraft in accordance with the aircraft flight manual or NASA approved flight crew checklists and procedures.

- 4) Perform normal and emergency procedures in accordance with the aircraft flight manual and NASA approved flight crew checklists.
- 5) Support/perform functional check flights or operational checks on aircraft in accordance with AOD 34100, *Maintenance Manual*, and applicable aircraft checklists.
- 6) Support operational readiness reviews on aircraft prior to deployment in accordance with AOD 33872, *Operation Readiness Reviews*.
- 7) Support FRRs, TRRs, and PRRs per AOD 33840, *Flight Readiness Review, Test Readiness Review, and Payload Readiness Review*.
- 8) Assist in trouble-shooting aircraft systems if requested by maintenance personnel.
- 9) Support the development of payload data packages (PDP) for payload/system integration.
- 10) Develop SEO checklists.
- 11) Develop and execute flight test cards.
- 12) Participate in sensor operations training and dress rehearsals scenarios as it relates to the WB-57 program.
- 13) Perform instructor or examiner special equipment operator duties, if designated, in accordance with applicable directives.

6.3.9 Test Directors

Category: Cost

The Contractor shall provide test directors within 30 calendar days following written notification from the Contracting Officer to support NASA aircraft operations. Example duties include:

- 1) Serve as aircrew in accordance with NPR 7900.3, *Aircraft Operations Management*.
- 2) Perform normal and emergency procedures in accordance with the aircraft flight manual and NASA approved flight crew checklists and procedures.
- 3) Provide ground and in-flight support to ensure personnel safety.
- 4) Provide support to schedule customers for aircraft missions.
- 5) Serve as a technical interface to obtain answers to customer payload integration questions.
- 6) Communicate customer mission requirements to NASA technical and aircrew personnel.
- 7) Support operational readiness reviews on aircraft prior to deployment in accordance with AOD 33872, *Operation Readiness Reviews*.
- 8) Support Flight Readiness Reviews (FRRs), Test Readiness Reviews (TRRs), and Payload Readiness Reviews (PRRs) per AOD 33840, *Flight Readiness Review, Test Readiness Review, and Payload Readiness Review*.
- 9) Provide support to install and remove customer payloads from aircraft.
- 10) Assist in trouble-shooting payload integration issues.
- 11) Provide in-flight support to manage customer payload activities.

6.3.10 Loadmasters

Category: Cost

The Contractor shall provide loadmasters within 30 calendar days following written notification from the Contracting Officer. Example duties include:

- 1) Serve as aircrew in accordance with NPR 7900.3, *Aircraft Operations Management*.
- 2) Support preflight, through-flight, and post-flight inspections on NASA aircraft in accordance with the aircraft flight manual or NASA approved flight crew checklists.
- 3) Support normal and emergency procedures in accordance with the Aircraft Flight Manual and NASA approved flight crew checklists.
- 4) Support functional check flights or operational checks on aircraft in accordance with AOD 34100, *Maintenance Manual*, and applicable aircraft checklists.
- 5) Support operational readiness reviews on aircraft prior to deployment in accordance with AOD 33872, *Operation Readiness Reviews*.
- 6) Support FRRs, TRRs, and PRRs per AOD 33840, *Flight Readiness Review, Test Readiness Review, and Payload Readiness Review*.
- 7) Assist in trouble-shooting aircraft systems if requested by maintenance personnel.
- 8) Support the development of payload data packages (PDP) for payload/system integration.
- 9) Participate in flight operations training and dress rehearsals scenarios.
- 10) Perform instructor or examiner loadmaster duties, if designated, in accordance with applicable directives.
- 11) Perform pre-mission and post-mission planning activities that are required to ensure that all cargo and payloads operations meet all flight safety requirements.
- 12) Plan, coordinate, and execute transportation of cargo and mission payloads, and associated support equipment to ensure that all cargo and payloads meet required flight schedules and are delivered safely to the required destination.
- 13) Initiate all pre-mission activities prior to arrival of other mission personnel. Pre-mission activities include cargo load planning, cargo preparation, material handling equipment preparations and positioning, cargo-loading procedures, customer coordination, and cargo aircraft center-of-gravity requirements.
- 14) Operate the Super Guppy cargo loaders used to support Super Guppy cargo transport operations and other required aircraft loading and offloading equipment.
- 15) Review and determine that weight and center of gravity are within limits for flight. Provide appropriate weight and balance data to the aircraft pilots and flight engineers for the purpose of computing required takeoff and landing data.
- 16) Perform post-mission activities which include cargo unloading, materials handling equipment preparation and positioning, and cargo preparation.
- 17) Maintain all documentation related to Super Guppy missions. The Contractor shall ensure that all files are accurate and complete and can be accessed for future missions. The Contractor shall maintain maintenance files on all mission support equipment. The Contractor shall be required to perform weight and balance calculations.
- 18) Provide monitoring and maintenance of shipping fixtures and support equipment.
- 19) Maintain all mission support equipment with associated certification and calibration data. The Contractor shall ensure all mission support equipment certification and calibration is current.
- 20) Obtain military Special Assignment Airlift Mission (SAAM) aircraft, Commercial Charter transportation services for both cargo and passengers, surface vessel charters, as identified by the COTR to support NASA programs and projects.

L6.0 Flight Operations – LaRC Center Unique

Category: Cost (SOW Subsections L6.1 through L6.3.10)

The requirements listed in SOW Subsections L6.1 through L6.3.10 shall apply to Langley Research Center.

L6.1 Projected Flight Schedule

L6.1.1 Langley Aircraft

L6.1.1.1 Projected Flight Hours

The Contractor shall support the projected flight hours shown in Table L6-1 below. The flight hours listed in Table L6-1 are the combined total to support the aircraft listed in Table 1-7. The flight hours are dependent upon aircraft inventory and customer requirements.

Table L6-1: LaRC Projected Flight Hours

| LaRC | Base | Option 1 | Option 2 |
|-----------------|---------|----------|----------|
| Projected Hours | 470-600 | 700-900 | 550-710 |

L6.1.1.2 Weekly Flight Schedule

The Contractor shall provide the required aircraft based upon the weekly flight schedule provided by LaRC.

L6.1.1.3 Flight Schedule Conditions

SOW Subsection 6.1.1.3 not applicable.

L6.1.1.4 Flight Operations Support

The Contractor shall provide the following support services:

- 1) Provide aircraft launch, recovery, and maintenance services Mon-Fri (7:00 AM to 3:30 PM) at LaRC (local time).
- 2) Under special circumstances, NASA may request launch and recovery services on weekends and after hours for local flights, deployments, and night related projects.

L6.1.2 WB-57

SOW Subsection 6.1.2 not applicable.

L6.1.3 Super Guppy Transport

SOW Subsection 6.1.3 not applicable.

L6.1.4 Boeing 747 Shuttle Carrier Aircraft

SOW Subsection 6.1.4 not applicable.

L6.1.5 Boeing DC-9

SOW Subsection 6.1.5 not applicable.

L6.1.6 Gulfstream GIII

SOW Subsection 6.1.6 not applicable.

L6.1.7 T-38N Simulator

SOW Subsection 6.1.7 not applicable.

L6.2 Duty Office

L6.2.1 Scheduler

SOW Subsection 6.2.1 not applicable.

L6.2.2 Operations Duty Officer

SOW Subsection 6.2.2 not applicable.

L6.3 Flight Crew

L6.3.1 General Requirements

The Contractor shall provide flight crew to operate and support LaRC Research Services Directorate (RSD) aircraft. Operational requirements will be provided to the Contractor by the NASA Contracting Officer (CO). The Contractor shall:

- 1) Ensure program support (project) aircraft operations are conducted in accordance with LaRC/RSD approved operational directives and NPR 7900.3, *Aircraft Operations Management*. Aircraft will normally be operated as public use aircraft for this mission.
- 2) Require aircrew to input aircraft discrepancies into the NAMIS database.
- 3) Report close calls, or complete other flight paperwork as required.

L6.3.2 Performance Standards

The Contractor flight crew shall:

- 1) Comply with the provisions set forth in NPR 7900.3, *Aircraft Operations Management*, FAA regulations, original equipment manufacturer (OEM), and other applicable directives, regulations, policies, and instructions.
- 2) Maintain performance standards in accordance with LaRC policies and requirements. Examples include:
 - a. Safety Precautions: Identified in the applicable aircraft technical data.
 - b. Airfield Operations
 - c. Normal Procedures: Identified in the applicable aircraft technical data.
 - d. Emergency Procedures: All applicable boldface emergency procedures demonstrated without reference to the checklist.
 - e. Aircraft Systems: The examiner may randomly select any system(s) for the student to demonstrate adequate skill and knowledge.
 - f. System Limitations: Demonstrated without reference to the checklist.

L6.3.3 Proficiency, Currency, and Certification

The Contractor shall ensure flight crew personnel maintain proficiency, currency, and annual requirements in accordance with NPR 7900.3, *Aircraft Operations Management*, LPR 1710.16, *Aviation Operations and Safety Manual*, and other applicable LMS work instructions.

The Contractor shall:

- 1) Maintain aircrew training records, which shall include: aircrew qualifications, copies of medical and FAA certificates, training status, experience, and provide this information to the Chief Pilot (or designee) upon the request of the Government. The Contractor shall provide copies of these records to NASA Flight Operations.
- 2) Operate the designated aircraft in compliance with the current editions of the applicable aircraft flight manuals and other official aircraft documents.

The Government will provide training and qualification checks for Contractor aircrew, including required periodic simulator training. A NASA authorized flight surgeon will provide periodic flight physicals for aircrew.

L6.3.4 Flight Instructors

SOW Subsection 6.3.4 not applicable.

L6.3.5 Pilots (Option – 4, See SOW Subsection 12.4.1)

The Contractor shall provide pilots. Example duties include:

- 1) Serve as aircrew in accordance with NPR 7900.3, *Aircraft Operations Management*.

- 2) Perform preflight, through-flight, and post-flight inspections on NASA aircraft in accordance with the aircraft flight manual or NASA approved flight crew checklists and procedures.
- 3) Perform normal and emergency procedures in accordance with the Aircraft Flight Manual and NASA approved flight crew checklists.
- 4) Perform functional check flights or operational checks on aircraft in accordance with LaRC/LMS policies, and applicable aircraft checklists.
- 5) Perform operational readiness reviews on aircraft prior to deployment in accordance with LMS policies.
- 6) Support Flight Readiness Reviews, Test Readiness Reviews, and Payload Readiness Reviews.

L6.3.6 Ground and Simulator Instructors

SOW Subsection 6.3.6 not applicable.

L6.3.7 Flight Engineers

SOW Subsection 6.3.7 not applicable.

L6.3.8 Sensor Equipment Operators

SOW Subsection 6.3.8 not applicable.

L6.3.9 Test Directors

SOW Subsection 6.3.9 not applicable.

L6.3.10 Loadmasters

SOW Subsection 6.3.10 not applicable.

7.0 Maintenance

7.1 General Requirements

7.1.1 Overview

Category: General

The contract provides for three-tier aircraft maintenance support (organizational, intermediate, and depot level) for NASA aircraft and support equipment (airframes, engines, appliances, and other equipment) operated at locations identified in SOW Subsection 2.2 of this SOW.⁶⁴

7.1.2 Other Aircraft

Category: Cost

The Contractor shall provide aircraft maintenance and support services for other aircraft. Example aircraft may include:

- 1) Additional training or mission aircraft. The aircraft type, model, and series will be determined at a future date
- 2) Other U.S. Government/external organization aircraft

7.1.3 Deliverables – Maintenance

Category: FP

The Contractor shall provide the maintenance deliverables listed in Table 7-1.

Table 7-1: Data Requirement Description - Maintenance⁶⁵

| Data Requirement List (DRL) Item No. | DRD Title |
|--------------------------------------|--------------------------|
| DRD-N01 | Monthly Maintenance Plan |

⁶⁴ The Government reserves the right to perform occasional aircraft maintenance on Government owned aircraft, engines, accessories, and other support equipment. The Government will coordinate this type of maintenance activity with the Contractor.

⁶⁵ Refer to Section J, Attachment J-1 for DRD requirements.

7.1.4 Aircraft Maintenance Program

Category: General

The objective of the three-tier maintenance program is to maintain aircraft and equipment while optimizing the use of personnel, facilities, material, and funds to achieve mission success. The Contractor shall:

- 1) Implement aircraft/equipment maintenance programs in accordance with AOD 34100, *Maintenance Manual* and approved technical data.
- 2) Ensure aircraft released for flight are serviceable (safe and operable) and properly configured to meet mission requirements.
- 3) Be responsible for planning, scheduling, forecasting, and execution of the maintenance program.
- 4) Ensure that planning provides the most effective and efficient use of human capital, facilities, and equipment, while reducing unscheduled maintenance, and allowing for aircraft and equipment to be returned to a flyable/usable condition with the least impact on mission success.

7.1.5 NASA Maintenance Manager

Category: General

The NASA Maintenance Manager is the Government's point of contact for all matters associated with the three-tier maintenance program and oversees the Contractor's overall maintenance effort. The Contractor shall keep the NASA Maintenance Manager informed on aircraft/equipment status as it applies to scheduled and unscheduled maintenance. The NASA Maintenance Manager provides the necessary oversight/insight, authority to proceed, and related technical coordination on behalf of the Government. The NASA Maintenance Manager is not responsible for the scheduling, planning, forecasting or execution of the Contractor's maintenance efforts.

7.1.6 Maintenance Discipline

Category: General

The Contractor shall:

- 1) Not perform any work on aircraft/equipment without approved technical data.
- 2) Comply with all technical data to ensure required repairs, inspections, and documentation are completed in a safe and effective manner.
- 3) Notify NASA of any safety-of-flight anomalies discovered during maintenance activities.
- 4) Adhere to approved technical data to maintain aircraft and equipment in accordance with SAE AS9110, *Aerospace Standard, Quality Maintenance Systems – Aerospace – Requirements for Maintenance Organization, Subsections 4.2 and 7.5.1.1*.
- 5) Ensure technical data is in the immediate work area and is open to the appropriate section for quick reference throughout the period of maintenance.
- 6) Ensure personnel follow all approved technical data to make certain all warnings and cautions are adhered to and, upon completion of the maintenance task, reviewed again to ensure all requirements have been accomplished.

7.1.7 Aircraft Change Directive Compliance

Category: Cost

The Contractor shall comply with all aircraft change directives (ACDs) approved by NASA (e.g. fleet modification instructions, one time inspections, one time replacements, service changes, customer bulletins, engine bulletins, airframe changes received from aircraft or component manufacturers, the FAA or the DoD) on AOD Form 1298.

7.1.8 Aircraft Acceptance and Transfer

Category: Cost

When requested by NASA, the Contractor shall:

- 1) Perform aircraft and equipment acceptance and transfer actions in accordance with USAF Technical Order (T.O.) 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies and Procedures, Chapters 1 and 8* respectively, while continuing to support flying operations.
- 2) Work with the Government to identify “best candidate” aircraft for continued support of the NASA mission verses retirement. Drawdown and transfer timeline plans will be prepared by NASA and delivered to the Contractor prior to the FY of execution and adjusted as required quarterly.

7.1.9 FAA Part 145 Repair Station Certification

Category: Cost

If requested by NASA, the Contractor shall obtain FAA Part 145 repair station certification.

7.2 Maintenance Programs

7.2.1 Aircraft Logs and Records Program

Category: FP

The Contractor shall maintain aircraft logs and records. The Contractor shall:

- 1) Establish procedures in accordance with AOD WI 34100; *Maintenance Manual*, to ensure each person signing entries in the aircraft logs, logbooks and making entries on serviceable parts tags are trained and authorized.
- 2) Maintain AFTO Form 95s for each Department of Defense (DoD) supported aircraft, as a minimum, in accordance with the type/model/series -6 manual. Specific instructions for filling in the AFTO Form 95 are found in USAF T.O. 00-20-1, Chapter 10.
- 3) Archive all internally approved configuration documents such as Engineering Work Orders (EWOs), Fleet Modification Instructions (FMIs), Test Procedure – Flight Research Project (TP-FRP), One-Time Inspections (OTIs), and One-Time Replacements (OTRs) in NAMIS as part of the completed NASA Form 1671A, *Aircraft Maintenance Packet*.
- 4) Archive other documents in NAMIS as requested by the Government.
- 5) Retain aircraft maintenance records in accordance with NPR 1441.1, *NASA Records Retention Schedules*, Schedule 7, Agency Filing Scheme #7900 (AFS #7900). In addition, on type-certificated aircraft, records shall be maintained in accordance with 14 CFR Section 91.417, *Maintenance Records*.

7.2.2 Product Identification and Traceability Program

Category: FP

The Contractor shall establish and implement a program for inspections to ensure that purchased products meet the specified purchase requirements and that identification of the product by suitable means throughout product realization is established in accordance with SAE AS9110, *Aerospace Standard, Quality Maintenance System – Aerospace – Requirements for Maintenance Organization* and JPR 1281.8, *Product Identification and Traceability*.

7.2.2.1 Disposition of Life-limited Aircraft Parts

Category: FP

The Contractor shall control product identification and traceability of aircraft life-limited parts in compliance with 14 CFR Section 43.10, *Disposition of Life-Limited Aircraft Parts*, and 14 CFR Section 45.16, *Marking of Life Limited Parts*. Example tasks include:

- 1) Tag Parts
 - a. A tag or other record shall be attached to the parts. The tag or record shall include the part number, serial number, and current life status of the part. Each time the part is removed from a type-certificated product, either a new tag or record shall be created, or the existing tag or record shall be updated with the current life status.
- 2) Control Parts
 - a. The parts shall be controlled using NAMIS to substantiate the part number, serial number, and current life status of the part. Each time the part is removed, the record shall be updated with the current life status. Additional methods for product identification and traceability are listed below. Methods shall prevent the installation of the part on an aircraft after it has reached its life limit. Acceptable methods include:
 - i. Non-Permanent Marking
 1. The part shall be legibly marked using a non-permanent method showing its current life status. The life status shall be updated each time the part is removed from a product. If the identification mark is removed, another method of tracking shall be used. On certificated aircraft, the mark shall be accomplished in accordance with 14 CFR Section 45.16, *Marking of Life Limited Parts*, in order to maintain the integrity of the part.
 - ii. Permanent Marking
 1. Parts shall be legibly marked in accordance with 14 CFR Section 45.16, *Marking of Life Limited Parts*, in order to maintain the integrity of the part.
 - iii. Segregation
 1. The part shall be segregated using methods that prevent its installation on a product. These methods shall include at a minimum:
 - a. Maintaining a record of the part number, serial number, and current life status.
 - b. Ensuring the part is physically stored separately from parts that are currently eligible for installation.

7.2.3 Trend Analysis Program

Category: FP

The Contractor shall conduct trend analysis in accordance with AOD WI 34100, *Maintenance Manual*.

7.2.4 Tool and Equipment Control Program

Category: FP

The Contractor shall:

- 1) Provide a tool and equipment management control program to prevent and eliminate foreign object damage (FOD) to aircraft, engines, training and support equipment, and to reduce costs through strict accountability, control and security of common hand tools, special tools, test equipment, support equipment, and other assets.
- 2) Use the requirements contained in AOD WI 34100, *Maintenance Manual* to ensure that effective tool control is practiced and all tools are accounted for during all phases of maintenance. The Contractor is authorized to add additional requirements for each operating location to ensure positive inventory controls and lost tool reporting.

7.2.5 Foreign Object Debris (FOD) Prevention Program

Category: FP

The Contractor shall establish and enforce a foreign object elimination (FOE)/foreign object damage (FOD) program for NASA facilities and operating areas in accordance with AOD WI 34100, *Maintenance Manual*.

7.2.6 Facility Services Program

Category: FP

The Contractor shall promote a safe and secure work environment in accordance with JPR 1700.1, *JSC Safety and Health Handbook*. In addition to those requirements stipulated in JPR 1700.1, the Contractor's responsibilities shall include:

- 1) Promote a "clean as you go" program. The Contractor shall ensure the work area is clean:
 - a. Prior to starting an operation
 - b. As an operation progresses and work debris accumulates
 - c. When an operation cannot continue
 - d. After an operation is completed and prior to inspection and work sign-off
 - e. At the end of the shift.
- 2) Maintain a clean and orderly work area. Ensure all necessary tools, materials, and equipment are stored in their proper locations.
- 3) Ensure foreign object debris cans and containers, trash cans, and other disposal cans are strategically placed throughout the workplace to prevent foreign objects from migrating into aerospace products. These containers shall be clearly marked to avoid co-mingling of various types of debris.
- 4) Ensure hangar wall areas (within reach) are kept clean. This includes power cable racks, fire hose assemblies, fire cabinets, fire extinguishers and portable eye wash stations. Fire hoses, extinguishers, and eye wash stations shall be clean and serviceable at all times.
- 5) Maintain hangar floor cleanliness and safety:
 - a. Clean hangar floors to ensure free from dirt, grease, and oil. Machine scrub hangar floors once a week minimum to remove built-up dirt, soil or other foreign materials to prevent slip hazards.
 - b. Ensure hangar corners and areas under stairwells are cleaned at least once per month.
 - c. Remove standing water from interior of hangar or other work areas following foul weather. The Contractor shall display "wet floor" caution signs when cleaning these areas where people are or will be present before floors are dry.
 - d. Hangar spills shall be cleaned up immediately.
 - e. Sweep all hangars (to include areas under hangared aircraft) and shop areas and ensure equipment and materials are properly stored at the end of the shift and work day.
- 6) Ensure hangar doors and drain grates are free of debris.
- 7) Stow cables in "walk-overs" when in use. Cable and "walk-overs" shall be stowed when not in use to avoid trip hazards.
- 8) Ensure aircraft positioned in the hangar have drip pans placed under them.
- 9) Ensure the safe use, handling, storage and disposition of materials, including hazardous materials, used in support of aircraft maintenance and in the support shops. Products and materials such as flammables and combustibles shall be stored in approved flammable materials storage cabinets. Products that are not compatible (when stored together) shall be stored separately. Small quantities (no greater than one (1) day's usage) of flammable and combustible materials may be kept in the shop, hangars and other such work areas where it is safe to do so.

7.2.7 Weight and Balance Program

Category: FP

The Contractor shall ensure a weight and balance program for each aircraft is established and maintained in accordance with AOD WI 34100, *Maintenance Manual*.

7.2.8 Corrosion Prevention and Control Program

Category: FP

The Contractor shall conduct a corrosion prevention and control program in accordance with AOD WI 34100, *Maintenance Manual*.

7.2.9 Fuel Surveillance Program

Category: FP

The Contractor shall conduct a fuel surveillance program in accordance with AOD WI 34100, *Maintenance Manual*.

7.2.10 Hydraulic Contamination and Prevention Program

Category: FP

The Contractor shall conduct a hydraulic contamination prevention program in accordance with AOD WI 34100, *Maintenance Manual*.

7.2.11 Joint Oil Analysis Program (JOAP)

Category: FP

The Contractor shall conduct a JOAP program in accordance with AOD WI 34100, *Maintenance Manual*.

7.2.12 Electrostatic Discharge (ESD) Program

Category: FP

The Contractor shall conduct an ESD Program in accordance with AOD WI 34100, *Maintenance Manual*.

7.2.13 Aviators Breathing Oxygen Surveillance (ABO) Program

Category: FP

The Contractor shall conduct an ABO Program in accordance with AOD WI 34100, *Maintenance Manual*.

7.2.14 Support Equipment (SE) Program

Category: FP

The Contractor shall conduct an SE program for powered, non-powered, and calibrated equipment (metrology) to achieve and maintain maximum material readiness, safety, and conservation of the equipment. The Contractor shall:

- 1) Ensure that the maintenance (including calibration and repair), inventory control, and reporting of current status is an integral part of maintaining aircraft and various support equipment required to meet mission success.
- 2) Utilize NAMIS (see SOW Subsection 4.12) to maintain inventory and readiness data for all supported SE and calibration items. This includes scheduled and unscheduled maintenance complied with in accordance with original equipment manufacturer (OEM) technical data, NASA CC-WD-N6, *Aircraft Non-Powered Ground Support Equipment Work Cards* and CC-WD-G5, *Aircraft Powered Ground Support Equipment Work Cards* and all technical data referenced within this SOW.
- 3) Maintain and inspect the T-38N aircraft support cargo pods and rear seat cargo container in accordance with T.O. 1T-38A-2-2CL-6, *WSSP Removal/Installation and Inspection Procedures Checklist*.
- 4) Ensure the protection of SE from the elements by using cleaning, corrosion control, preservation methodologies to include support equipment placed in storage.
- 5) Act as a focal point for all matters involving SE, to include making recommendations to the Government on new/revised SE requirements to support known and new mission requirements.
- 6) Investigate all lost SE items and provide the Government with information necessary to fully understand the circumstances surrounding the missing equipment.
- 7) Function as the centralized SE inventory management authority responsible for coordinating redistribution of in-use assets among other users and NASA organizations supported by this SOW.
- 8) Manage metrology and calibration tools and equipment in accordance with AOD WI 34100, *Maintenance Manual*.

7.2.15 Slings and Lifting Devices Program

Category: FP

The Contractor shall establish a sling and lifting device program, to include periodic inspections to comply with the requirements of NASA-STD 8719.9, *Standard for Lifting Devices and Equipment*, USAF Technical Data T.O. 35D6-1-106, *Periodic and Maintenance Instructions –Aircraft and Engine Slings and Restraining Devices*, JPR 1700.1, *JSC Safety and Health Handbook, Chapters 5.8 and 8.5* and AOD CC-WD-P012, *Aircraft and Engine Slings Inspection Workcards*. All lifting devices shall have an AFTO Form 244, *Industrial/Support Equipment Record*, affixed and maintained by the Contractor.

7.2.15.1 Critical Lifts

Category: Cost

The Contractor shall conduct critical lifts in accordance with JPR 1700.1, *JSC Safety and Health Handbook*, Chapter 8.5, to ensure compliance with all requirements contained in NASA-STD 8719.9, *Standard for Lifting Devices and Equipment*. Example critical lifts include:

- 1) Lifting G-III engines
- 2) Lifting DC-9 engines

7.2.15.2 Pre-lift Documentation

Category: FP

The Contractor shall ensure the following documentation has been completed and available prior to any critical lift occurring:

- 1) JSC Form 941, *Pre-lift Checklist*, in accordance with NASA-STD 8719.9, *Standard for Lifting Devices and Equipment*.
- 2) An approved job hazard analysis (JHA) for the lift being accomplished.

7.2.15.3 Slings and Rigging Equipment

Category: FP

The Contractor shall ensure slings and rigging equipment to include testing and inspection meet the requirements in NASA-STD 8719.9, *Standard for Lifting Devices and Equipment*.

7.2.15.4 Suspended Load Approval

Category: FP

The Contractor shall ensure personnel are not located under suspended or moving loads unless the operation adheres to the OSHA-approved NASA Alternate Standard for Suspended Load Operations contained in NASA-STD-8719.9, *Standard for Lifting Devices and Equipment, Appendix A*.

7.3 Maintenance Control

Category: FP

The Contractor shall establish a maintenance control to serve as the centralized control point for all scheduled and unscheduled maintenance activities. Example tasks include:

- 1) Plan, schedule, forecast, and execute a sound maintenance program for maintenance identified in SOW Subsection 7.1.4 of this SOW.
- 2) Staff maintenance control when maintenance, servicing, and flight operations are being conducted.
- 3) Conduct aircrew debriefs at the termination of each sortie/mission or when a sortie/mission is aborted.

- 4) Serve as the single-point-of-contact, communicating between the NASA Maintenance Manager, NASA Quality, and NASA Operations Duty Officer on all matters affecting aircraft status, availability, and initial notification of close call and mishap reporting. This includes prompt reporting with justification of estimated time in commission (ETICs) changes after initial notification, changes in established priorities, plans and schedules.
- 5) Coordinate all aircraft engine runs and all aircraft ground movements conducted by maintenance personnel.
- 6) Be proficient in the use of the NASA Aircraft Management Information System (NAMIS) automated database (refer to SOW Subsection 4.12.1 of this SOW).
- 7) Review and approve all NASA Form 1671A, *Aircraft Maintenance Packet*, inputs generated in NAMIS.
- 8) Perform documentation and system reviews using NAMIS prior to generating a NASA Form 1673A, *Flight Preparedness Report*, to certify and release an aircraft for flight.
- 9) Ensure aircraft that are scheduled for cross-country flights will not have a scheduled maintenance event come due while the aircraft is cross-country.
- 10) Keep the NASA Aircraft Maintenance Manager informed of intentions to dispatch personnel for aircraft off-station repair actions in accordance with AOD WI 34100, *Maintenance Manual*.
- 11) Update Flight Scheduling Application (FSA) as changes occur to schedules, aircraft configuration, and aircraft status that impact aircraft flight scheduling activities.
- 12) Initiate, approve, track, and report all cannibalizations actions, regardless of location, using AOD Form 229, *Cannibalization Authorization* in accordance with AOD WI 34100, *Maintenance Manual*. The Contractor shall not cannibalize any NASA aircraft that is in storage without prior approval of the NASA Maintenance Manager.
- 13) Adhere to the Functional Check Flight (FCF), Operational Check Flight (OPS Check) program in accordance with AOD WI 34100, *Maintenance Manual*. Ensure all documentation and aircrew briefs required to support this program are fully supported.
- 14) Conduct pre-dock and de-dock meetings for planned major aircraft inspections and aircraft being inducted into the T-38 depot at El Paso, Texas in accordance with AOD WI 34100, *Maintenance Manual*.
- 15) Adhere to the notification policy and documentation requirements for reporting aircraft ground, air aborts, and maintenance delays in accordance with AOD WI 34100, *Maintenance Manual*.
- 16) Support Flight Readiness Reviews and Test Readiness Reviews in accordance with AOD WI 33840 and Operational Readiness Reviews in accordance with AOD WI 33872.
- 17) Monitor the JSC Internal Home Page for JSC Spaceflight Metrology Group (SMG) weather advisories issued via the JSC Emergency Notification System (JENS) and respond per SOW Subsection 7.3.3.
- 18) Adhere to the processes outlined in AOD WI 34100, *Maintenance Manual*, to downgrade or make symbol changes on NASA Form 1671A, *Aircraft Maintenance Packet*.

7.3.1 Aircraft Release Authority

Category: FP

The Contractor shall:

- 1) Ensure that personnel performing maintenance release of aircraft and aircraft components are qualified and certified in accordance with SAE AS9110, *Aerospace Standard, Quality Maintenance System – Aerospace – Requirements for Maintenance Organization*, Subsection 6.2.2.
- 2) Provide the CO and COTR with a list of personnel who are trained and authorized to certify an aircraft is “safe for flight.” This list shall include those personnel authorized to utilize this authority at satellite maintenance controls (e.g. FOLs) at the NASA locations specified within this SOW.
- 3) Include processes that will be utilized for personnel authorized to release aircraft for flight at deployed sites away from locations specified within this SOW.

7.3.2 Static Display and Training Aircraft

Category: FP/Cost

The Contractor shall prepare static display and training aircraft in accordance with AOD WI 34100, *Maintenance Manual*.

7.3.3 Lightning/Sudden Severe Weather

Category: FP/Cost

The Contractor shall comply with lightning/sudden severe weather requirements in accordance with AOD WI 34100, *Maintenance Manual*.

7.3.3.1 Lightning Detection System

Category: FP

The Contractor shall implement, support, maintain and manage a scheduled maintenance program for the Lightning Detection System in accordance with AOD WI 34100, *Maintenance Manual*.

7.3.3.2 Doppler Weather Radar System

Category: FP

The Contractor shall implement, support, maintain and manage a scheduled maintenance program for the Doppler Weather Radar System in accordance with AOD WI 34100, *Maintenance Manual*.

7.4 Scheduled and Unscheduled Maintenance

7.4.1 Aircraft Maintenance

Category: FP/Cost

The Contractor shall perform three-tier scheduled and unscheduled aircraft maintenance (organizational, intermediate, and depot level) in accordance with approved technical data.⁶⁶

7.4.2 Aviator's Life Support Systems and Equipment Maintenance

Category: FP/Cost

The Contractor shall perform all scheduled and unscheduled aviator's life support systems (ALSS) and equipment maintenance.^{67, 68}

7.4.3 Powered, Non-Powered, and Calibrated Support Equipment

Category: FP/Cost

The Contractor shall perform all scheduled and unscheduled maintenance for powered, non-powered, and calibrated support equipment.^{67, 68}

7.4.4 Off-Station Maintenance

Category: FP/Cost

The Contractor shall:

- 1) Follow the requirements outlined in AOD WI 34100, *Maintenance Manual* for coordinating off-station repair actions.
- 2) Obtain advance approval to dispatch Contractor personnel from the NASA Maintenance Manager to troubleshoot/repair off-station aircraft.

⁶⁶ See SOW Appendix B for definitions of "scheduled" and "unscheduled" maintenance.

⁶⁷ See Section J, Attachment J-3-1 for list of powered, non-powered, and calibrated support equipment.

⁶⁸ See SOW Subsection 1.4 for definitions of "supported" or "not supported" by approved technical data.

7.4.5 Flight Line Services

7.4.5.1 Aircraft Ground Handling/Serviceing

Category: FP/Cost

The Contractor shall accomplish all ground handling and servicing in accordance with approved technical data. Example tasks include:

- 1) Towing
- 2) Parking
- 3) Mooring
- 4) Jacking
- 5) Hoisting
- 6) Engine ground operations
- 7) Servicing/de-servicing fuel, oil, hydraulics, oxygen, tire pressure
- 8) Lubrication

7.4.5.2 Launch and Recovery

Category: FP/Cost

The Contractor shall:

- 1) Prepare the aircraft before aircrew arrival, assist the aircrew during flight preparations, and be in place to recover, inspect, and service each aircraft before the next launch in accordance with approved technical data.
- 2) Meet and park other Government aircraft, to include DoD and NASA transient aircraft during normal maintenance work shift hours.
- 3) Pre-position fire extinguishers, ladders, chocks, grounding wires, powered and non-powered SE required for aircraft arrival and inspect aircraft parking areas for evidence of foreign objects.

7.4.5.3 Aircraft Ready Times

Category: General

The Contractor shall ensure aircraft are ready for flight to meet the timelines specified in AOD WI 34100, *Maintenance Manual*.

7.5 Production Control

Category: FP

The Contractor shall establish a production control to serve as the centralized control point for all scheduled and unscheduled maintenance activities as they relate to intermediate and depot level (I-D) maintenance conducted at AOD. Examples include:

- 1) Plan, schedule, forecast, and execute a sound maintenance program.
- 2) Serve as the single-point-of-contact for overhaul, repair, check, test, certification, modification, or manufacturing processes accomplished in the intermediate and depot level support shops.
- 3) Ensure priorities for repairs, upgrades, manufacturing, and logistics are set based on requirements to support NASA missions.
- 4) Be proficient in the use of the NASA Aircraft Management Information System (NAMIS) automated database (refer to SOW Subsection 4.12.1 of this SOW).
- 5) Review and approve all NASA Form 1671A, *Aircraft Maintenance Packet* inputs generated in NAMIS to support intermediate and depot level support shops.
- 6) Initiate, approve, track, and report all cannibalizations actions using AOD Form 229, *Cannibalization Authorization* in accordance with AOD 34100, *Maintenance Manual*.
- 7) Conduct assessment of the intermediate and depot level maintenance activities for each month by conducting trend analysis, reviewing “cannot duplicate” discrepancy rates, reviewing and making recommendations to improve adverse trends and improve overall I-D level turn-around times for component repairs.
- 8) Maintain direct liaison with the Contractor’s Logistics to ensure supply stock levels do not fall below approved levels for items repairable within the back shops.
- 9) Ensure strict accountability and control of all components/assets and equipment that enter the support shops for repair or other maintenance related function.
- 10) Maintain an up-to-date CC-GEN-002, *Automatic Beyond Capability of Maintenance (BCM) Listing*, located in the AOD library to readily identify those repairable assets that “are not repairable on station” at AOD. The Contractor shall review the BCM listing every thirty (30) days and submit changes using the AOD Form 21 process in accordance with AOD 34100, *Maintenance Manual* if required.
- 11) Maintain an up-to-date CC-GEN-001, *Component Repair Listing (CRL)* located in the AOD library to readily identify those repairable assets that “are repairable on station” at AOD. The Contractor shall review the CRL every thirty (30) days and submit changes using the AOD Form 21 process in accordance with AOD 34100, *Maintenance Manual* if required.
- 12) Coordinate the dispatching of personnel with maintenance control to support on-aircraft maintenance requirements.
- 13) Adhere to the processes outlined in AOD WI 34100, *Maintenance Manual*, to downgrade or make symbol changes on the NASA Form 1671A, *Aircraft Maintenance Packet*.

7.6 Support Shop Services

7.6.1 General

Category: FP/Cost

The Contractor shall provide support shop services for scheduled and unscheduled maintenance to include the repair, alteration, fabrication, test and check, reclamation, rebuild and overhaul of parts, assemblies, sub-assemblies and end-items in accordance with approved technical data.⁶⁹ Example services include:

- 1) Electrical Systems
- 2) Communications and Navigation (COM/NAV) Systems
- 3) Pneudraulics Systems and Components
- 4) Mechanical Accessories
- 5) Sheetmetal and Composites
- 6) Welding
- 7) Battery
- 8) Paint and Corrosion Prevention and Treatment
- 9) Wheel and Tire Assembly/Disassembly
- 10) Manufacturing
- 11) Machining
- 12) Modification of end-items
- 13) Test and Check Capabilities
- 14) Rework, repair and inspecting powered and non-powered support equipment
- 15) "I" level calibration of designated equipment

7.6.2 Component Repair Listing

7.6.2.1 T-38/J85 Engine Items

Category: FP

The Contractor shall troubleshoot, check, test, and repair all items marked as T-38/J85 in AOD CC-GEN-001, *Component Repair Listing* in-house under the fixed-price portion of the contract unless otherwise authorized in advance by the NASA Contracting Officer (CO) or designated representative for off-station repair under the cost-reimbursable portion of the contract.

7.6.2.2 Other Items

Category: Cost

The Contractor shall troubleshoot, check, test, and repair all items other than those marked as T-38/J85 in AOD CC-GEN-001, *Component Repair Listing* under the cost-reimbursable portion of the contract.

⁶⁹ See Subsection 1.5.1.1 for JSC facility listing.

7.6.3 Special Equipment and Tooling

Category: FP/Cost

The Contractor shall:

- 1) Ensure all special equipment and tooling is serviceable.⁷⁰
- 2) Maintain the equipment in the proper hardware and software configurations to test all assigned assets. If maintenance of equipment is beyond the capability of the Contractor, the Contractor shall contact NASA for additional guidance.

7.6.4 Support Equipment Shop

Category: FP

The Contractor shall maintain a SE shop in accordance with Air Force Occupational Safety and Health Standard 91-20 (AFOSHSTD91-20), *Vehicle Maintenance Shops*.

⁷⁰ See contract Section J, Attachments J-3-1, J-3-2, J-3-3 and J-3-5 for list of special equipment and tooling.

7.6.5 Egress Systems Shop

Category: FP/Cost

The Contractor shall be responsible for maintaining the ejection seats listed in Table 7-2 below:

Table 7-2: Ejection Seats

| Type Model Aircraft | Make/Model Ejection Seat |
|---------------------|---|
| T-38N | Martin Baker MK US16LN-1/-2 and McCormick Selph Canopy Fracturing System |
| WB-57 ⁷¹ | Douglas 1C-6 |

Example responsibilities include:

- 1) Ensure all egress maintenance, to include removal and installation, inspection, repair, and upgrades shall be accomplished in accordance with Air Force Instruction 21-101 (AFI 21-101), *Aircraft and Equipment Management, Chapter 16* and other egress or OEM specific technical data as applicable.
- 2) Utilize approved command and response methods when directed by technical data during any task requiring the removal/installation of explosive components, and during egress final inspections.
- 3) Ensure only trained and qualified egress personnel install and remove parachutes and survival kits that are integral parts of ejection seats.

7.6.5.1 Egress Support Equipment

Category: FP/Cost

The Contractor shall maintain, inspect, repair, and modify all Martin Baker and other egress support equipment to ensure equipment is available to support both scheduled and unscheduled maintenance requirements. The Contractor shall use of AFTO Form 244, *Industrial/Support Equipment Record*, for all support equipment. Examples egress support equipment includes: cranes, cradles, and stands.

7.6.5.2 Aircraft Canopy System

Category: FP/Cost

The Contractor shall:

- 1) Perform scheduled and unscheduled canopy system maintenance to include canopy rigging, adjustments, and rig checks.
- 2) Ensure canopy system maintenance is restricted to qualified and trained egress technicians.

⁷¹ NASA is currently converting to Advanced Concept Ejection Seat (ACES II) seats for the WB-57. When this change occurs, NASA will provide O-Level maintenance training for Contractor personnel. I-Level training will be provided by DoD.

7.6.5.3 Survival Beacon Activation

Category: FP/Cost

Contractor egress personnel shall locate inadvertent beacon activation on the flight-line in accordance with AFI 11-301, *Aircrew Flight Equipment (AFE) Program, Volume 1* and take appropriate actions. If egress personnel are not available, Contractor life support technicians shall locate inadvertent beacon activations within their shops/vehicles and on the flight-line and take appropriate actions.

7.6.5.4 Explosives

7.6.5.4.1 Egress Work Center Explosive Locker

Category: FP

The Contractor shall ensure that levels of explosives in the work center explosive locker(s) do not exceed that which is authorized on the Explosive Facility License, AF Form 2047. The explosive locker(s) shall be clearly marked in accordance with federal, state and local regulations, to include proper fire symbols for the type of explosive devices stored inside the locker(s) and building(s).

7.6.5.4.2 Storage

Category: FP

The Contractor shall:

- 1) Ensure all explosive devices and seats are safetied, capped, plugged, and tagged with proper identification when not physically installed in the aircraft.
- 2) Ensure explosives removed from one seat will not be co-mingled with those from another system.
- 3) Ensure all removed ejection seats are clearly marked “armed” or “de-armed” and appropriate seat covers are installed at all times while maintenance is not being performed on the seat.

7.6.5.4.3 Transportation

Category: FP

The Contractor shall ship and transport explosives in accordance with Code of Federal Regulations (CFR) 49, *Hazardous Material Regulation* and Air Force Manual 91-201 (AFMAN 91-201), *Explosive Safety Standards*.

7.6.5.4.4 Defects

Category: FP

The Contractor shall notify the NASA Maintenance Manager immediately for guidance if an egress item is found to be defective.

7.6.6 Personal Equipment Shop

Category: FP

The Contractor shall operate the personal equipment shop as delineated in JPD 8021.1, *In-Flight Personal Equipment for JSC Aircraft Operations*. The Contractor shall:

- 1) Maintain records for each individual requiring flight gear. The Contractor may elect to use the below approved Aircraft Operations Division (AOD) forms, or develop other means, to account for in-flight personal equipment:
 - a. AOD Form 922A: *Personal Clothing and Equipment Record – Flight Status Personnel*.
 - b. AOD Form 922B: *Personal Clothing and Equipment Record – Non-Flight Status Personnel*.
- 2) Provide assistance to aircrew to ensure personal flight equipment fits properly.
- 3) Clean and maintain flight gear in accordance with approved technical data.
- 4) Fabricate and repair soft goods, both aircraft related and non-aircraft related. Pattern making and sewing skills are required to manufacture items, such as seat cushion covers, flight clothing bags, aircraft intake covers, equipment covers, aircraft forms bags, aircraft interior panel/seat covers, any items per engineering or end user drawings, and applicable technical data.
- 5) Fabricate labels, signs, and nametags.
- 6) Maintain, inspect, and replenish first aid kits.
- 7) Handle, store, and forecast explosive devices utilized to support in-flight clothing and personal equipment.
- 8) Maintain, inspect and set up night vision goggles in accordance with manufacturer's instructions.
- 9) Inspect, test, build-up, repair, and assemble smoke masks in accordance with approved technical data.
- 10) Maintain flight crew oxygen masks in accordance with approved technical data.
- 11) Maintain storage noted below:
 - a. Bonded Storage Area
 - i. Maintain bonded storage areas for personal parachute assemblies (PPAs) and their components in accordance with JWI 4210.2, *JSC Manual for the Control of Program Stock*.
 - b. Pyrotechnic Storage Locker
 - i. Maintain a pyrotechnic storage locker for PPA bonded pyrotechnic devices and a locker for flares and pyrotechnics for automatic release devices in accordance with USAF T.O.'s 11A10-26-7, *Pyrotechnic Signals*, 11A10-30-7, *Specialized Storage and Maintenance Procedures for Pyrotechnic Fuses and Fire Starters and Deming Flare* and 11P-1-7, *Specialized Storage and Maintenance Procedures for Cartridges for Aircrew Escape Systems*.
- 12) Maintain Survival Kits noted below:
 - a. MBEU 20027 Survival Kit (T-38N).
 - i. Inspect and test the MBEU 20027 survival kit in accordance with the Martin-Baker maintenance manuals.
 - b. RSSK-8E Survival Kit (B-57).

- i. Inspect and test the RSSK-8E survival kit in accordance with NAVAIR T.O. 13-1-6.3-1 and 13-1-6.3-2, *Seat Survival Kits – Aviation Crew Systems Manuals*.
- 13) Maintain Parachutes
 - a. Inspect, test, buildup, repair, and package A/P28S21 parachutes in accordance with USAF T.O. 14D3-11-1, *Emergency Personnel Recovery Parachute*.
 - b. Maintain Irwin GQ5000 parachutes for the T-38 US16LN escape system in accordance with MB526PARA, *Martin Baker T-38 Parachute Assembly Ejection Seat P/N MBEU200022 & MBEU200023 Maintenance Manual*.
- 14) Maintain Drogue Parachute
 - a. Inspect, test, buildup, repair, and package parachutes in accordance with USAF T.O. 14D1-2-436, *Ejection Seat Drogue Chute*.
- 15) Maintain PCU15P Harnesses
 - a. Inspect, test, buildup, and repair the PCU15P harnesses in accordance with USAF T.O. 14D3-11-1, *Emergency Personnel Recovery Parachute*.
- 16) Maintain PCU16P Harnesses
 - a. Inspect, test, buildup, and repair the PCU16P harnesses in accordance with the Martin-Baker maintenance manuals.
- 17) Maintain Radios/Beacons
 - a. Inspect, test, and change limited life items for radios and beacons in accordance with the manufacturer's instructions.

7.6.7 Pressure Suits and Equipment Shop

Category: Cost

The Contractor shall maintain pressure suits and pressure suit equipment in accordance with AOD 34100, *Maintenance Manual*.

7.6.8 Power Plant (Engine) Shop

Category: FP/Cost

The Contractor shall maintain a power plant (engine) shop to:

- 1) Perform on/off-equipment intermediate and depot level scheduled and unscheduled maintenance, modifications, preservation, de preservation, borescoping, blade blending, and configuration upgrades/control on J-85 engines/components in accordance with approved technical data.
- 2) Maintain engine maintenance and transportation trailers and other support equipment utilized to support engine/component maintenance.
- 3) Perform T-38 generator rotor balance in accordance with USAF T.O. 8A6-4-5-2, *AC Generator*.

7.6.8.1 Engine Test Cell

Category: FP

The Contractor shall maintain, operate, and inspect the J-85 Engine Test Cell using the technical data below:

- 1) Aircraft Jet Engine Test Stand Service Inspection Work-cards contained in USAF 33D4-6-212-36(N)WC-1
- 2) Aircraft Jet Engine Test Stand Periodic Inspection Work-cards contained in USAF 33D4-6-212-36(N)WC-2.
- 3) Operate the engine test cell in accordance with USAF 2J-J85-111-1, *Engine Test, Troubleshooting, Preservation, and Post-test Handling*, and CALTECH CORP 4-50-4, *J-85 Software User's Manual, Engine Data Acquisition System*.
- 4) Test cell maintenance will be accomplished in accordance with USAF 33D4-6-484-4, *Engine Test Stand Noise Suppressor Model A/F32T-4IPB*.

7.6.8.2 J-85 Trim Pad

Category: FP

The Contractor shall utilize 1T-38A-2-1, *General Airplane*, when positioning an aircraft into the Trim Pad Sound Suppressor.

7.6.8.3 J-85 Shipping

Category: FP

The Contractor shall ensure NASA J-85 engines are prepared for shipment in accordance with CC-ENG-J85-001; *J-85 Shipping Instructions*.

7.6.9 Weld Shop

Category: FP/Cost

The Contractor shall ensure welding procedures are qualified and welding is performed in accordance with AWS D17.1, *Specification for Fusion Welding for Aerospace Applications* or other applicable approved technical data.

7.6.10 Non-Destructive Inspection (NDI) Shop

Category: FP/Cost

The Contractor shall:

- 1) Manage an NDI shop and ensure personnel are certified in all aspects of NDI (e.g. optical, dye-penetrant, magnetic particle, ultrasonic, eddy current, and radiographic) to support on and off-equipment inspections on all aircraft and support equipment assigned to the NASA organizations identified in SOW Subsection 1.5.1.2 of this SOW.
- 2) Perform non-destructive inspection.

- 3) Ensure NDI personnel utilize USAF T.O. 33B-1-1, *Non-Destructive Inspection Methods, Basic Theory* and 1T-38A-36, *Non-Destructive Inspection for T-38 Aircraft* as well as the guidelines stipulated in AFI21-101, *Aircraft and Equipment Management, Paragraph 5.9.4* during all aspects of NDI accomplishment. This technical data may be supplemented by other process and procedures when made available by the OEM, USAF and other NASA approved sources.
- 4) Ensure all discrepancies noted during any of the above methods of inspecting shall be documented in NAMIS using NASA Form 1671A, *Aircraft Maintenance Packet*.

7.7 T-38 Simulator

Category: FP

The Contractor shall maintain and inspect the T-38N ground based simulator in accordance with:

- 1) T-38(SIM)-5, *T-38N Simulator (N900) Maintenance Plan*
- 2) T-38(SIM)-6WC, *T-38N Simulator Preventative Maintenance Inspection Work Cards*

The T-38N simulator is located on-site at JSC in Building 5.

7.8 Forward Operating Locations

7.8.1 El Paso

7.8.1.1 T-38 Depot Maintenance

Category: Refer to applicable SOW paragraph for category (FP, FP/Cost, or Cost)

The Contractor shall:

- 1) Perform T-38 depot level work at the El Paso forward operating location.⁷² In situations where relocation of the aircraft to El Paso is not possible or practical, the NASA COTR may direct the Contractor to perform the T-38 depot work at a different location.
- 2) Convene a pre-dock meeting in accordance with AOD 34100, *Maintenance Manual* prior to induction into the depot.
- 3) Once the pre-dock meeting scope of work has been approved, send a signed copy of the pre-dock package to the NASA El Paso Depot Site Manager for accomplishment by the Contractor.

7.8.1.2 Aircraft Launch, Recovery, and General Maintenance

Category: Refer to applicable SOW paragraph for category (FP, FP/Cost, or Cost)

The Contractor shall provide aircraft launch, recovery, and maintenance support for T-38 and other NASA transient aircraft in El Paso.

⁷² *These services have historically been provided in El Paso due to a required NASA presence in support of the Space Shuttle Program at White Sands, available hangar space, and dry climate.*

7.8.1.3 Super Guppy Support

Category: Cost

The Contractor shall provide aircraft launch, recovery, and maintenance services for the Super Guppy in El Paso.

7.8.1.4 Aircraft Storage and Preservation

Category: Cost

The Contractor shall provide aircraft storage and preservation services in a climate that minimizes aircraft corrosion.

7.8.2 Edwards

7.8.2.1 Aircraft Launch, Recovery, and General Maintenance

Category: Refer to applicable SOW paragraph for category (FP, FP/Cost, or Cost)

The Contractor shall provide aircraft launch, recovery, and maintenance support at the NASA Edwards Air Force Base FOL to support the Boeing 747 and other NASA transient aircraft.⁷³

⁷³ NASA anticipates that the requirement for the Edwards Air Force Base forward operating location will only be necessary until the end of Boeing 747 Shuttle Carrier operations.

L7.0 Maintenance – LaRC Center Unique

Category: Cost (SOW Subsections L7.1 through L7.8.2.1)

The requirements listed in SOW Subsections L7.1 through L7.8.2.1 shall apply to Langley Research Center.

L7.1 General Requirements

L7.1.1 Overview

The contract provides for two-tier aircraft maintenance support (organizational and intermediate level) for NASA aircraft and support equipment (airframes, engines, appliances, and other equipment) operated at locations identified in SOW Subsection 2.2 of this SOW.⁷⁴

L7.1.2 Other Aircraft

The Contractor shall provide aircraft maintenance and support services for other aircraft. Example aircraft may include other U.S. Government/external organization aircraft.

L7.1.3 Deliverables – Maintenance

SOW Subsection 7.1.3 not applicable.

L7.1.4 Aircraft Maintenance Program

The objective of the two-tier maintenance program is to maintain aircraft and equipment to optimize the use of personnel, facilities, material, and funds to achieve mission success. The Contractor shall:

- 1) Implement aircraft/equipment maintenance programs in accordance with LMS-TD-0940, *LaRC General Aircraft Maintenance Manual for Research Services Directorate (RSD)* and approved technical data.
- 2) Ensure aircraft released for flight are serviceable (safe and operable) and properly configured to meet mission requirements.
- 3) Be responsible for planning, scheduling, forecasting, and execution of the maintenance program.
- 4) Ensure that planning provides the most effective and efficient use of human capital, facilities, and equipment, while reducing unscheduled maintenance, and allowing for aircraft and equipment to be returned to a flyable/usable condition with the least impact on mission success.

L7.1.5 LaRC Chief of Maintenance

The LaRC Chief of Maintenance is the Government's single point of contact for all matters associated with the two-tier maintenance program identified in this SOW and is responsible for monitoring the

⁷⁴ *The Government reserves the right to perform aircraft maintenance on Government owned aircraft, engines, accessories, and other support equipment.*

Contractor's overall maintenance effort. The Contractor shall keep the LaRC Chief of Maintenance informed on aircraft/equipment status as it applies to scheduled and unscheduled maintenance.

L7.1.6 Maintenance Discipline

See SOW Subsection 7.1.6.

L7.1.7 Aircraft Change Directive Compliance

The Contractor shall comply with all aircraft change directives (ACDs) approved by NASA (e.g. fleet modification instructions, one time inspections, one time replacements, service changes, customer bulletins, engine bulletins, airframe changes received from aircraft or component manufacturers, the FAA or the DoD).

L7.1.8 Aircraft Acceptance and Transfer

SOW Subsection 7.1.8 not applicable.

L7.1.9 FAA Part 145 Repair Station Certification

SOW Subsection 7.1.9 not applicable.

L7.2 Maintenance Programs

L7.2.1 Aircraft Logs and Records Program

The Contractor shall maintain aircraft logs and records. The Contractor shall:

- 1) Establish procedures in accordance with LMS-TD-0940, *LaRC General Aircraft Maintenance Manual for RSD*, to ensure each person signing entries in the aircraft logs, logbooks and making entries on serviceable parts tags are trained and authorized.
- 2) Maintain AFTO Form 95s for each Department of Defense (DoD) supported aircraft, as a minimum, in accordance with the type/model/series -6 manual. Specific instructions for filling in the AFTO Form 95 are found in USAF T.O. 00-20-1, Chapter 10.
- 3) Archive all internally approved configuration documents such as Aircraft Work Orders, Experiment Software Work Requests (ESWRs), One-Time Inspections (OTIs), and One-Time Replacements (OTRs) in NAMIS as part of the completed NASA Form 1671A, *Aircraft Maintenance Packet*.
- 4) Archive other documents in NAMIS as requested by the Government.
- 5) Retain aircraft maintenance records in accordance with NPR 1441.1, *NASA Records Retention Schedules*, Schedule 7, Agency Filing Scheme #7900 (AFS #7900). In addition, on type-certificated aircraft, records shall be maintained in accordance with 14 CFR Section 91.417, *Maintenance Records*.

L7.2.2 Product Identification and Traceability Program

The Contractor shall establish and implement a program for inspections to ensure that purchased products meet the specified purchase requirements and that identification of the product by suitable means throughout product realization is established in accordance with SAE AS9110, *Aerospace Standard, Quality Maintenance System – Aerospace – Requirements for Maintenance Organization*, Subsection 7.

L7.2.2.1 Disposition of Aircraft Parts

See SOW Subsection 7.2.2.1.

L7.2.3 Trend Analysis Program

SOW Subsection 7.2.3 not applicable.

L7.2.4 Tool and Equipment Control Program

The Contractor shall:

- 1) Adhere to established LaRC tool and equipment management control program to prevent and eliminate foreign object damage (FOD) to aircraft, engines, training and support equipment, and to reduce costs through strict accountability, control and security of common hand tools, special tools, test equipment, support equipment, and other assets.
- 2) Use the requirements contained in LMS-TD-0940, *LaRC General Aircraft Maintenance Manual for RSD* to ensure that effective tool control is practiced and all tools are accounted for during all phases of maintenance. The Contractor is authorized to add additional requirements for each operating location to ensure positive inventory controls and lost tool reporting.

L7.2.5 Foreign Object Debris (FOD) Prevention Program

The Contractor shall establish and enforce a foreign object elimination (FOE)/foreign object damage (FOD) program for NASA facilities and operating areas in accordance with LMS-TD-0940, *LaRC General Aircraft Maintenance Manual for RSD*.

L7.2.6 Facility Services Program

The Contractor shall promote a safe and secure work environment in accordance with Langley Management System (LMS) policies and directives. In addition to those requirements, the Contractor's responsibilities shall include:

- 1) Promote a "clean as you go" program. All employees shall ensure the work area is clean:
 - a. Prior to starting an operation
 - b. As an operation progresses and work debris accumulates
 - c. When an operation cannot continue
 - d. After an operation is completed and prior to inspection and work sign-off
 - e. At the end of the shift.

- 2) Maintain a clean and orderly work area with necessary tools, materials, and equipment in their places of orderly arrangement.
- 3) Ensure foreign object debris cans and containers, trash cans, and other disposal cans are strategically placed throughout the workplace to prevent foreign objects from migrating into aerospace products. These containers shall be clearly marked to avoid co-mingling of various types of debris.
- 4) Maintain hangar floor cleanliness and safety:
 - a. Clean hangar floors to ensure free from dirt, grease, and oil. Machine scrub hangar floors once a week minimum to remove built-up dirt, soil or other foreign materials to prevent slip hazards.
 - b. Ensure hangar corners and areas under stairwells are cleaned at least once per month.
 - c. Remove standing water from interior of hangar or other work areas following foul weather. The Contractor shall display “wet floor” caution signs when cleaning these areas where people are or shall be present before floors are dry.
 - d. Hangar spills shall be cleaned up immediately.
 - e. Sweep all hangars (to include areas under hangared aircraft) and shop areas and ensure equipment and materials are properly stored at the end of the shift and work day.
- 5) Stow cables in “walk-overs” when in use. Cable and “walk-overs” shall be stowed when not in use to avoid trip hazards.
- 6) Ensure aircraft positioned in the hangar have drip pans placed under them.
- 7) Ensure the safe use, handling, storage and disposition of materials, including hazardous materials, used in support of aircraft maintenance and in the support shops. Products and materials such as flammables and combustibles shall be stored in approved flammable materials storage cabinets. Products that are not compatible (when stored together) shall be stored separately. Small quantities of flammable and combustible materials may be kept in the shop, hangars and other such work areas where it is safe to do so.

L7.2.7 Weight and Balance Program

SOW Subsection 7.2.7 not applicable.

L7.2.8 Corrosion Prevention and Control Program

SOW Subsection 7.2.8 not applicable.

L7.2.9 Fuel Surveillance Program

The Contractor shall conduct a fuel surveillance program in accordance with LMS policies.

L7.2.10 Hydraulic Contamination and Prevention Program

SOW Subsection 7.2.10 not applicable.

L7.2.11 Joint Oil Analysis Program (JOAP)

SOW Subsection 7.2.11 not applicable.

L7.2.12 Electrostatic Discharge (ESD) Program

SOW Subsection 7.2.12 not applicable.

L7.2.13 Aviators Breathing Oxygen Surveillance (ABO) Program

SOW Subsection 7.2.13 not applicable.

L7.2.14 Support Equipment (SE) Program

SOW Subsection 7.2.14 not applicable.

L7.2.15 Slings and Lifting Device Program

SOW Subsection 7.2.15 not applicable.

L7.2.15.1 Critical Lifts

SOW Subsection 7.2.15.1 not applicable.

L7.2.15.2 Pre-lift Documentation

SOW Subsection 7.2.15.2 not applicable.

L7.2.15.3 Slings and Rigging Equipment

SOW Subsection 7.2.15.3 not applicable.

L7.2.15.4 Suspended Load Approval

SOW Subsection 7.2.15.4 not applicable.

L7.3 Maintenance Control

The Contractor shall be responsible for reviewing and approving all NASA Form 1671A, *Aircraft Maintenance Packet*, inputs generated in NAMIS and performing documentation and system reviews using NAMIS prior to generating a NASA Form 1673A, *Flight Preparedness Report*, (refer to Subsection L7.3.1) to certify and release an aircraft safe for flight.

L7.3.1 Aircraft Release Authority

The Contractor will be tasked to release aircraft safe for flight if there are no Government personnel available to do so. Refer to SOW Subsection 7.3.1.

L7.3.2 Static Display and Training Aircraft

SOW Subsection 7.3.2 not applicable.

L7.3.3 Lightning/Sudden Severe Weather

The Contractor shall comply with lightning/sudden severe weather requirements in accordance with LaRC standards and processes.

L7.3.3.1 Lightning Detection System

SOW Subsection 7.3.3.1 not applicable.

L7.3.3.2 Doppler Weather Radar System

SOW Subsection 7.3.3.2 not applicable.

L7.4 Scheduled and Unscheduled Maintenance

L7.4.1 Aircraft Maintenance

The Contractor shall perform two-tier scheduled and unscheduled aircraft maintenance (organizational and intermediate) in accordance with approved technical data.⁷⁵

L7.4.2 Aviators Life Support Systems and Equipment Maintenance (Option 4 – See SOW Subsection 12.4.2)

See SOW Subsection 7.4.2.

L7.4.3 Powered, Non-Powered, and Calibrated Support Equipment

See SOW Subsection 7.4.3.

L7.4.4 Off-Station Maintenance

The Contractor shall:

- 1) Follow the requirements outlined in LMS-TD-0940, *LaRC General Aircraft Maintenance Manual for RSD* for coordinating off-station repair actions.
- 2) Obtain advance approval to dispatch Contractor personnel from the NASA Maintenance to troubleshoot/repair off-station aircraft.

L7.4.5 Flight Line Services

L7.4.5.1 Aircraft Ground Handling/Serviceing

See SOW Subsection 7.4.5.1.

⁷⁵ See Appendix B for definitions of “scheduled” and “unscheduled” maintenance.

L7.4.5.2 Launch and Recovery

See SOW Subsection 7.4.5.2.

L7.4.5.3 Aircraft Ready Times

The Contractor shall ensure all aircraft are ready for flight to meet the timelines specified in LMS operations policies.

L7.5 Production Control

SOW Subsection 7.5 not applicable.

L7.6 Support Services

L7.6.1 General

The Contractor shall provide support services for scheduled and unscheduled maintenance to include the repair, alteration, fabrication, test and check, reclamation, rebuild and overhaul of parts, assemblies, sub-assemblies and end-items in accordance with approved technical data.⁷⁶ Example services include:

- 1) Electrical Systems
- 2) Communications and Navigation (COM/NAV) Systems
- 3) Sheetmetal and Composites
- 4) Battery
- 5) Machining
- 6) Test and Check Capabilities
- 7) Rework, repair and inspecting powered and non-powered support equipment
- 8) Calibration of designated equipment

L7.6.2 Component Repair Listing

SOW Subsection 7.6.2 not applicable.

L7.6.3 Support Shop Test Equipment and Tooling

SOW Subsection 7.6.3 not applicable.

L7.6.4 Support Equipment Shop

SOW Subsection 7.6.4 not applicable.

⁷⁶ See Subsection 1.5.2.1 for LaRC facility listing.

L7.6.5 Egress Systems Shop (Option 4 – See SOW Subsection 12.4.3)

The Contractor shall be responsible for maintaining the ejection seats for current OV-10s and any future aircraft requirements.

Example responsibilities include:

- 1) Ensure all egress maintenance, to include removal and installation, inspection, repair, and modification shall be accomplished in accordance with AFI 21-101, *Aircraft and Equipment Management, Chapter 16* and other egress or OEM specific technical data as applicable.
- 2) Utilize approved demand response team when directed by technical data during any task requiring the removal/installation of explosive components, and during egress final inspections.
- 3) Ensure only trained and qualified egress personnel install and remove parachutes and survival kits that are integral parts of ejection seats.

L7.6.5.1 Egress Support Equipment

SOW Subsection 7.6.5.1 not applicable.

L7.6.5.2 Aircraft Canopy System

SOW Subsection 7.6.5.2 not applicable.

L7.6.5.3 Survival Beacon Activation

SOW Subsection 7.6.5.3 not applicable.

L7.6.5.4 Explosives

L7.6.5.4.1 Egress Work Center Explosive Locker

SOW Subsection 7.6.5.4.1 not applicable.

L7.6.5.4.2 Storage

See SOW Subsection 7.6.5.4.2.

L7.6.5.4.3 Transportation

SOW Subsection 7.6.5.4.3 not applicable.

L7.6.5.4.4 Defects

See SOW Subsection 7.6.5.4.4.

L7.6.6 Personal Equipment Shop

The Contractor shall operate the personal equipment shop as delineated in LMS directives. The Contractor shall:

- 1) Maintain records for each individual requiring flight gear.
- 2) Provide assistance to aircrew to ensure personal flight equipment fits properly.
- 3) Clean and maintain flight gear in accordance with approved technical data.

- 4) Fabricate and repair soft goods, both aircraft related and non-aircraft related. Pattern making and sewing skills are required to manufacture items, such as seat cushion covers, flight clothing bags, aircraft intake covers, equipment covers, aircraft forms bags, aircraft interior panel/seat covers, any items per engineering or end user drawings, and applicable technical data.
- 5) Fabricate labels, signs, and nametags.
- 6) Maintain, inspect, and replenish first aid kits.
- 7) Handle, store, and forecast explosive devices utilized to support in-flight clothing and personal equipment.
- 8) Maintain, inspect and set up night vision goggles in accordance with manufacturer's instructions.
- 9) Inspect, test, build-up, repair, and assemble smoke masks in accordance with approved technical data.
- 10) Maintain flight crew oxygen masks in accordance with approved technical data.
- 11) Maintain storage noted below:
 - a. Bonded Storage Area
 - i. Maintain bonded storage areas for personal parachute assemblies (PPAs) and their components.
 - b. Pyrotechnic Storage Locker
 - i. Maintain a pyrotechnic storage locker for PPA bonded pyrotechnic devices and a locker for flares and pyrotechnics for automatic release devices in accordance with USAF T.O.'s 11A10-26-7, *Pyrotechnic Signals*, 11A10-30-7, *Specialized Storage and Maintenance Procedures for Pyrotechnic Fuses and Fire Starters and Deming Flare* and 11P-1-7, *Specialized Storage and Maintenance Procedures for Cartridges for Aircrew Escape Systems*.
- 12) Maintain Survival Kits for specific flight missions as required.
- 13) Maintain Radios/Beacons
 - a. Inspect, test, and change limited life items for radios and beacons in accordance with the manufacturer's instructions.

L7.6.7 Maintain Pressure Suits and Equipment

SOW Subsection 7.6.7 not applicable.

L7.6.8 Power Plant (Engine) Shop

SOW Subsection 7.6.8 not applicable.

L7.6.9 Weld Shop

SOW Subsection 7.6.9 not applicable.

L7.6.10 Non-Destructive Inspection (NDI) Shop

SOW Subsection 7.6.10 not applicable.

L7.7 T-38 Simulator

SOW Subsection 7.7 not applicable.

L7.8 Forward Operating Locations

SOW Subsection 7.8 not applicable.

L7.8.1 El Paso

SOW Subsection 7.8.1 not applicable.

L7.8.2 Edwards

See SOW Subsection 7.8.2 not applicable.

8.0 Engineering

8.1 General Requirements

8.1.1 Overview

Category: Cost

The Contractor shall provide engineering support services for aircraft, payload, and support equipment development, repairs, and upgrades. The Contractor shall work with NASA engineers as required to support mission requirements. The engineering support will cover both public use and FAA certificated aircraft. Support shall be provided in a timely manner to maximize aircraft or equipment availability.

Example engineering support services include:

- 1) Aircraft maintenance support
- 2) Aircraft sustainment (e.g. locating supportable parts or generating repair procedures)
- 3) Aircraft upgrades
- 4) Aircraft troubleshooting
- 5) Aircraft ground and flight testing
- 6) Aircraft Service Changes and Customer Bulletins evaluation
- 7) Ground support equipment design, troubleshooting, and testing
- 8) Payload integration and testing
- 9) Payload shipping fixture design
- 10) Technical specifications and supporting documentation for procurements
- 11) Technical interface with other Government agencies and commercial companies

8.1.2 Task Delegation

Category: Cost

NASA will assign individual engineering support tasks to the Contractor via a Task Transmittal as defined in AOD 33841, *Task Transmittal – Engineering (TTE)*. The Contractor shall provide a written response to the TTE per the requirements defined in AOD 33841 within three (3) workdays.

8.1.3 Task Support and Administration

Category: Cost

The Contractor shall conduct engineering tasks per the following AOD work instructions:

- 1) AOD 33820 *Engineering Projects*
- 2) AOD 33840 *Flight Readiness Review, Test Readiness Review, and Payload Readiness Review.*
- 3) AOD 33842 *Engineering Work Order*

8.1.4 Engineering Schedule

Category: Cost

The Contractor shall provide a schedule for all assigned engineering tasks. The Contractor shall work with NASA to develop the schedule content. The Contractor shall:

- 1) Provide schedule support for all assigned tasks. Example schedule items include:
 - a. Resource allocation
 - b. Design completion
 - c. Analysis completion
 - d. Drawing release
 - e. Design reviews
 - f. Airworthiness reviews
 - g. Logistics and manufacturing
 - h. Flight, test, & payload readiness reviews
 - i. Test schedules
 - j. Engineering Work Order release schedule
- 2) Provide weekly schedule updates to NASA management.
- 3) Notify and receive approval for any schedule adjustments to NASA management as required.
- 4) Maintain baseline schedules to track schedule variance.

8.1.5 Engineering Cost Estimates

Category: Cost

The Contractor shall supply engineering cost estimates (e.g. labor hours, material costs, subcontract costs) when requested by NASA. Example cost estimates include:

- 1) Aircraft repair costs
- 2) Aircraft upgrade costs
- 3) Aircraft troubleshooting and testing costs
- 4) Aircraft payload integration costs

8.1.6 Engineering Reviews

8.1.6.1 Airworthiness Reviews

Category: Cost

The Contractor shall support or present engineering airworthiness reviews per AOD 33820, *Engineering Projects*.

8.1.6.2 Flight, Test, and Payload Readiness Reviews

Category: Cost

The Contractor shall support or present flight, test, and payload readiness reviews per AOD 33840, *Flight Readiness Review, Test Readiness Review, and Payload Readiness Review*.

8.2 Systems Engineering

Category: Cost

The Contractor shall institute a systems engineering process for all engineering tasks to support aircraft, payload, and ground support equipment development, repairs, or upgrades. The Contractor shall reference NASA/SP-2007-6105, *NASA Systems Engineering Handbook* for guidance. The goal of the systems engineering process is to provide optimal designs with an emphasis on increasing standardization, decreasing maintenance, and reducing technical risk. Example systems engineering tasks include:

- 1) Develop system architectures
- 2) Define and allocate requirements
- 3) Define and assess interfaces
- 4) Define, assess, and mitigate risks
- 5) Evaluate design tradeoffs to facilitate optimal designs based on cost, schedule and technical risk
- 6) Define verification and validation requirements
- 7) Support technical document development and reviews
- 8) Communicate system design goals across engineering and maintenance teams

8.3 Design

8.3.1 General Requirements

Category: Cost

The Contractor shall:

- 1) Conduct design and development activities in accordance with JPR 1281.4, *Design and Development*.
- 2) Reference AOD Engineering Document #8594002, *Design and Analysis Handbook, Aircraft Operations Division* for design guidance.

- 3) Conduct technical peer reviews for all engineering documentation, designs, and drawings prior to release. Example peer review tasks include:
 - a. Review documentation/drawings to minimize errors
 - b. Review documentation/drawings to ensure design suitability
 - c. Review documentation/drawings to ensure fabrication feasibility

8.3.2 Drafting and Computer Aided Design

8.3.2.1 Drawing Generation

Category: Cost

The Contractor shall provide drafting and Computer Aided Design (CAD) services to support aircraft, payload, and ground support equipment development, repairs, or upgrades. The CAD systems (AutoCAD and Pro/Engineer) will be Government furnished but shall be Contractor installed, operated, and maintained. The Contractor shall:

- 1) Provide drafting and CAD support. Example tasks include:
 - a. Electrical schematic generation
 - b. Printed circuit board design drawings
 - c. Wire list generation
 - d. Mechanical design drawings
 - e. Sheet metal design drawings
 - f. Structural design drawings
 - g. System level drawing generation
 - h. Aircraft configuration drawings
 - i. Drawing trees
 - j. Generating and maintaining CAD standards
- 2) Create all designs and drawings using the AutoCAD or Pro/Engineer CAD systems. The CAD software versions shall be compatible with current AOD versions.
- 3) Create and maintain all drawings in accordance with AOD 33849, *Engineering Work Instruction, Engineering Drawing Format, Requirements, and Procedures*.
- 4) Place a priority on using Pro/Engineer for mechanical/structural design tasks.
- 5) Receive approval for all changes or upgrades to the CAD system software or drawing standards by the AOD Engineering Branch Chief.
- 6) Scan or convert all drawings into Portable Document Format (PDF).
- 7) Provide access to all newly created or modified engineering drawings in both Portable Document Format (PDF) and native file formats. One PDF file shall contain all of the drawing sheets and Drawing Change Notices (DCNs) for one drawing/document number.
- 8) Support NASA civil servant CAD system installation and maintenance when requested by NASA.

8.3.2.2 Drawing Checking

Category: Cost

The Contractor shall ensure that all drawings are checked per AOD 33849, *Engineering Work Instruction, Engineering Drawing Format, Requirements, and Procedures* prior to release to minimize drawing and design errors and ensure drawings meet AOD 33849 standards.

8.3.2.3 Scanning and Duplication

Category: Cost

The Contractor shall provide scanning and duplication support services. Example tasks include:

- 1) Provide maintenance services for Government provided scanning, duplicating, and aperture card reader equipment.
- 2) Provide support to scan, electronically store, and print paper copies of engineering drawings up to “J” size (34” wide x 48” to 144” long).⁷⁷
- 3) Provide support to print paper copies of drawings from aperture cards up to “C” size (17” x 22”).⁷⁷
- 4) Provide support to print drawings up to “J” size at the El Paso forward operating location.

8.3.3 Electrical Engineering

Category: Cost

The Contractor shall provide electrical engineering services to support aircraft, payload, and ground support equipment development, repairs, or upgrades. Example electrical engineering tasks include:

- 1) Avionics integration (Aeronautical Radio Incorporated (ARINC) and Mil-Std data buses)
- 2) Line Replaceable Unit (LRU) design and integration
- 3) Circuit design (analog and digital)⁷⁸
- 4) Wire harness design
- 5) Payload electrical interface design
- 6) Data recorder programming and data post-processing (e.g. Ballard Technology data recorders, Ballard CoPilot analysis software, Aeroflex Datatrac, reduced gravity accelerometer data recorder)
- 7) Troubleshooting using electrical and avionics test equipment (e.g. multimeters, oscilloscopes, avionics test equipment, buss analyzers, aircraft ground support equipment)

⁷⁷ This service shall be accessible by all AOD Engineering Branch members (contractor and civil servant).

⁷⁸ NASA may implement a new Computer Aided Design software package for electrical design during the life of the contract. If NASA does make this change, the Contractor shall support the migration to the new system.

8.3.4 Mechanical/Aerospace Engineering

Category: Cost

The Contractor shall provide mechanical/aerospace engineering services to support aircraft, payload, or ground support equipment development, repairs, or upgrades. Example mechanical/aerospace engineering tasks include:

- 1) Repairs to aircraft or equipment that are beyond the scope of DoD Technical Orders, manufacturer's repair manuals, or routine aircraft maintenance manuals
- 2) Material Review Board (MRB) generation per AOD 33842, *Preparation of Engineering Work Orders*
- 3) Sheet metal design
- 4) Machined component design
- 5) Welded component design
- 6) Composite design
- 7) Pneumatic and hydraulic system design

8.3.5 Quality Engineering

Category: Cost

The Contractor shall provide quality engineering services to support aircraft, payload, and ground support equipment development, repairs, and upgrades. Example quality engineering tasks include:

- 1) Ensure, design, fabrication, modification/integration instructions (e.g. EWOs), and inspection processes satisfy NASA, FAA, and other statutory requirements as applicable
- 2) Review drawings to ensure proper process callouts (e.g. heat treat, weld inspection, coatings, plating, electrical fabrication requirements, etc.)
- 3) Identify critical components and corresponding inspection requirements
- 4) Perform root cause analyses and develop corrective actions
- 5) Perform Failure Modes and Effects Analysis (FMEA)
- 6) Perform trend analysis
- 7) Coordinate quality and inspection processes for components fabricated via subcontract (e.g. dimensional inspection, weld inspection)
- 8) Provides inspection skill training

8.4 Analysis

8.4.1 Structural Analysis

Category: Cost

The Contractor shall provide structural analysis services to substantiate aircraft, payload, or ground support equipment development, repairs, or upgrades. Structural analyses shall be prepared and documented per AOD Engineering Document #8594001, *Preparation of Stress Analysis Reports*.

Example tasks include:

- 1) Handbook calculations and finite element analyses of airframe structures
- 2) Handbook calculations and finite element analyses of payload structures
- 3) Handbook calculations and finite element analyses of ground support equipment
- 4) Handbook calculations and finite element analyses for aircraft repairs
- 5) Weight and balance calculations

8.4.2 Electrical Analysis

Category: Cost

The Contractor shall provide electrical analysis services to substantiate aircraft, payload, or ground support equipment development, repairs, or upgrades. Example tasks include:

- 1) Electrical loads analysis
- 2) Circuit analysis
- 3) Radio Frequency (RF) analysis including antenna pattern analysis, interference, and usage
- 4) Bus analysis
- 5) Timing analysis
- 6) Electromagnetic Interference (EMI) or Radio Frequency Interference (RFI) analysis

8.4.3 Failure Mode Effects and Criticality Analysis (FMECA)

Category: Cost

The Contractor shall perform failure mode effects and criticality analyses when requested by NASA. The FMECA shall meet the intent of MIL-STD-1629, *Procedures for Performing a Failure Mode, Effects and Criticality Analysis* and NASA/SP-2007-6105, *NASA Systems Engineering Handbook*.

8.4.4 Hazard Analysis

Category: Cost

The Contractor shall perform hazard analyses when requested by NASA. Hazard analyses for aircraft, payloads, and support equipment shall be in accordance with AOD 33840, *Flight Readiness Review, Test Readiness Review, and Payload Readiness Review*.

8.5 Engineering Troubleshooting & Testing

8.5.1 Engineering Troubleshooting

Category: Cost

The Contractor shall provide engineering troubleshooting services to assist maintenance personnel in resolving aircraft, payload, and ground support equipment issues. The goal shall be to resolve issues quickly to minimize aircraft downtime. Example engineering troubleshooting tasks include:

- 1) Diagnosing and resolving aircraft equipment failures
- 2) Diagnosing and resolving electrical or mechanical interface issues between NASA aircraft and customer payloads

The Contractor shall:

- 1) Provide engineering troubleshooting support on-call, twenty-four (24) hours a day based on mission demands
- 2) Provide on-the-aircraft engineering troubleshooting support as required at NASA Centers, NASA forward operating location, or other CONUS or OCONUS location based on mission demands

8.5.2 Engineering Testing

Category: Cost

The Contractor shall provide engineering test services for aircraft, payloads, and ground support equipment. Example testing tasks include:

- 1) Develop ground and flight test plans
- 2) Verify and validate the operation and safety of new designs, upgrades, and repairs
- 3) Flight Testing – Select instrumentation, perform data collection, and analyze data to evaluate aircraft system performance and identify flight anomalies. Flight test plans and reports shall be per AOD 33843, *Flight Test, Aircraft Operations Division*
- 4) Ground Testing – Select instrumentation, perform data collection, and analyze data for aircraft and payload systems to evaluate system performance and identify anomalies
- 5) Bench Testing – Perform integration and testing of new or modified systems to verify operation and identify anomalies
- 6) Perform troubleshooting using schematics and diagnostic equipment to support maintenance personnel
- 7) Perform propulsion system performance assessments
- 8) Generate test reports

8.5.3 Engineering Test Equipment

Category: Cost

The Contractor shall maintain inventory and provide check-in and check-out services for engineering test equipment. Example test equipment includes:

- 1) Multi-meters
- 2) Test equipment
- 3) Flight test data recorders
- 4) Test cables, connectors, probes
- 5) Data buss analyzers
- 6) Computer equipment
- 7) Cameras

8.6 Engineering Logistics Liaison

Category: Cost

The Contractor shall provide engineering logistics liaison services. The logistics liaison shall serve as an interface between the engineering group and the Contractor logistics group and shall reside in the AOD engineering branch. Example engineering logistics tasks include:

- 1) Supporting NASA engineering team members to review bill of materials on engineering drawings for accuracy and completeness.
- 2) Generating parts lists based on Bill of Materials or via engineering request.
- 3) Generating procurement requests to the Contractor logistics group.
- 4) Tracking part status working with the Contractor logistics group to ensure timely part arrival.
- 5) Providing delivery status reports by project to engineering as requested.
- 6) Identifying delivery issues and develop plan of action to resolve.
- 7) Coordinating the build-up of aircraft upgrade and payload integration kits.

8.7 Engineering Technical Writing Liaison

Category: Cost

The Contractor shall provide engineering technical writing liaison services. The technical writing liaison shall serve as an interface between the engineering group and the AOD documentation group and shall reside in the AOD engineering branch. Documentation development and revisions shall be in accordance with AOD 34100, *Maintenance Manual*. Example technical writing tasks include:

- 1) Review and provide input for technical order (T.O.) revisions based on engineering repairs, upgrades, or revisions (e.g. AOD Form 21 generation support per AOD 34100, *Maintenance Manual*).
- 2) Provide input for flight manual revisions based on engineering upgrades or revisions.
- 3) Support the development of engineering work instructions or revisions.
- 4) Engineering report or documentation generation support.

8.8 Supplementary Engineering Support Services

Category: Cost

The Contractor shall provide the engineering support services listed in SOW Subsections 8.8.1 through 8.8.5 below. These services shall support surges in engineering workload or provide supplementary support for projects requiring unique engineering specialties. The Contractor shall:

- 1) Coordinate a meeting with NASA within three (3) workdays following task assignment for initial discussions.
- 2) Commence work on the assigned task within fifteen (15) workdays following NASA request or per mutually agreed schedule at time of task assignment.
- 3) Deliver all non-proprietary reports, computer models, and electronic files generated by the support service provider to NASA.
- 4) Provide all non-proprietary data to NASA in the native file format of the originating system. For example, a finite element analysis model created using MSC NASTRAN, shall be delivered to NASA in the original MSC NASTRAN format.

8.8.1 Structural Analysis

Category: Cost

The Contractor shall provide structural analysis services to supplement the analysis requirements listed in SOW Subsection 8.4.1. Structural analyses shall be prepared and documented per AOD Engineering Document #8594001, *Preparation of Stress Analysis Reports*. In addition to the requirements listed in SOW Subsection 8.4.1, the structural analysis service provider shall provide the following analysis support:

- 1) Non-linear analysis (e.g. buckling/stability)
- 2) Vibration analysis
- 3) Composites analysis
- 4) Pressure vessel analysis

8.8.2 Aerodynamic Analysis

Category: Cost

The Contractor shall provide aerodynamic analysis services to support aircraft and payload development, repairs, or upgrades. Example aerodynamic analysis tasks include:

- 1) Perform assessments of the aeronautical impacts of aircraft alterations on aircraft stability, control, and performance.
- 2) Perform assessments of aerodynamic loading on aircraft structures and flight controls.
- 3) Perform aerodynamic assessment of payload installations.
- 4) Perform flutter analysis.

8.8.3 Materials Engineering & Testing

Category: Cost

The Contractor shall provide materials engineering and testing services. Example materials engineering and testing tasks include:

- 1) Root cause analysis of component failures due to fatigue, corrosion, wear, overloading, or other failure modes.
- 2) Recommendations for materials selection based on aircraft or ground support equipment design or repairs.
- 3) Mechanical testing. Test lab shall be accredited by the American Association for Laboratory Accreditation (A2LA) for testing aerospace grade materials.

8.8.4 Software Engineering

Category: Cost

The Contractor shall provide software engineering services to support aircraft, payload, and ground support equipment development, repairs, and upgrades. When requested by NASA, the Contractor shall follow NPR 7150.2A *NASA Software Engineering Requirements*. Example software engineering tasks include:

- 1) Data recorder programming and data post-processing (e.g. Government provided equipment: Ballard Technology data recorders, Ballard CoPilot analysis software, Aeroflex Datatrac, reduced gravity accelerometer data post-processing).
- 2) Line Replaceable Unit (LRU) software development or modification (e.g. Government provided equipment: in-house designed T-38 combined electronics unit).
- 3) Avionics special test equipment software development or modification (e.g. Government provided equipment: in-house designed T-38 combined electronics unit special test equipment).
- 4) Software programming support. Example programming languages may include: C++, Java, SQL, and Microsoft .NET framework.
- 5) Simulation software applications (e.g. Spice, MATLAB, Mathematica, Simulink).
- 6) Macro generation for Microsoft products.

8.8.5 FAA Designated Engineering Representative Support

Category: Cost

The Contractor shall provide FAA appointed Designated Engineering Representative (DER) services in the appropriate engineering discipline when required for repairs or alterations on FAA type-certificated aircraft or per NASA request.

L8.0 Engineering – LaRC Center Unique

(Option – 4, See SOW Subsection 12.4.4)

Category: Cost (SOW Subsections L8.1 through L8.8.5)

The requirements listed in SOW Subsections L8.1 through L8.8.5 shall apply to Langley Research Center.

L8.1 General Requirements

L8.1.1 Overview

The Contractor shall provide engineering support services for aircraft, payload, and support research equipment development, repairs, and upgrades. The Contractor shall work with NASA engineers as required to support mission requirements. The engineering support will cover both public use and FAA certificated aircraft. Support shall be provided in a timely manner to maximize aircraft or equipment availability. Example engineering support services include:

- 1) Aircraft maintenance support
- 2) Aircraft sustainment (e.g. locating supportable parts or repair procedures)
- 3) Aircraft upgrades
- 4) Aircraft troubleshooting
- 5) Aircraft ground and flight testing
- 6) Aircraft Service Changes and Customer Bulletins evaluation
- 7) Ground support equipment design, troubleshooting, and testing
- 8) Payload integration and testing
- 9) Technical specifications and supporting documentation for procurements
- 10) Technical interface with other Government agencies and commercial companies

L8.1.2 Task Delegation

SOW Subsection 8.1.2 not applicable.

L8.1.3 Task Support and Administration

SOW Subsection 8.1.3 not applicable.

L8.1.4 Engineering Schedule

SOW Subsection 8.1.4 not applicable.

L8.1.5 Engineering Cost Estimates

SOW Subsection 8.1.5 not applicable.

L8.1.6 Engineering Programs

See SOW Subsection 8.1.6.

L8.1.6.1 Airworthiness Reviews

The Contractor shall support or present engineering airworthiness reviews in accordance with LaRC directives.

L8.1.6.2 Flight, Test, and Payload Readiness Reviews

The Contractor shall support or present flight, test, and payload readiness reviews per LaRC directives.

L8.2 Systems Engineering

SOW Subsection 8.2 not applicable.

L8.3 Design

L8.3.1 General Requirements

SOW Subsection 8.3.1 not applicable.

L8.3.2 Drafting and Computer Aided Design

L8.3.2.1 Drawing Generation

The Contractor shall provide drafting and Computer Aided Design (CAD) services to support aircraft, payload, and ground support equipment development, repairs, or upgrades. The CAD systems (AutoCAD and Pro/Engineer) will be Government furnished but shall be Contractor installed, operated, and maintained. The Contractor shall:

- 1) Provide drafting and CAD support. Example tasks include:
 - a. Electrical schematic generation
 - b. Printed circuit board design drawings
 - c. Wire list generation
 - d. Mechanical design drawings
 - e. Sheet metal design drawings
 - f. Structural design drawings
 - g. System level drawing generation
 - h. Aircraft configuration drawings
 - i. Drawing trees
 - j. Generating and maintaining CAD standards
- 2) Create all designs and drawings using the AutoCAD or Pro/Engineer CAD systems. The CAD software versions shall be compatible with current AOD versions.

- 3) Create and maintain all drawings in accordance with LaRC Center processes and LMS procedures.
- 4) Place a priority on using Pro/Engineer for mechanical/structural design tasks.
- 5) Receive approval for all changes or upgrades to the CAD system software or drawing standards by the designated evaluator.
- 6) Scan or convert all drawings into Portable Document Format (PDF).
- 7) Provide access to all newly created or modified engineering drawings in both Portable Document Format (PDF) and native file formats. One PDF file shall contain all of the drawing sheets and Drawing Change Notices (DCNs) for one drawing/document number.
- 8) Support NASA civil servant CAD system installation and maintenance when requested by NASA.

L8.3.2.2 Drawing Checking

The Contractor shall ensure that all drawings are checked prior to release to minimize drawing and design errors and ensure drawings meet LaRC drawing standards.

L8.3.2.3 Scanning and Duplication

The Contractor shall provide scanning and duplication support services as required.

L8.3.3 Electrical Engineering

The Contractor shall provide electrical engineering services to support aircraft, payload, and ground support equipment development, repairs, or upgrades. Example electrical engineering tasks include:

- 1) Avionics integration (ARINC and Mil-Std data buses)
- 2) Line Replaceable Unit (LRU) design and integration
- 3) Circuit design (analog and digital)
- 4) Wire harness design
- 5) Payload electrical interface design
- 6) Data recorder programming and data post-processing
- 7) Troubleshooting using electrical and avionics test equipment (e.g. multimeters, oscilloscopes, avionics test equipment, buss analyzers, aircraft ground support equipment)

L8.3.4 Mechanical/Aerospace Engineering

The Contractor shall provide mechanical/aerospace engineering services to support aircraft, payload, or ground support equipment development, repairs, or upgrades. Example mechanical/aerospace engineering tasks include:

- 1) Repairs to aircraft or equipment that are beyond the scope of DoD Technical Orders, manufacturer's repair manuals, or routine aircraft maintenance manuals
- 2) Sheet metal design
- 3) Machined component design
- 4) Composite design

L8.3.5 Quality Engineering

SOW Subsection 8.3.5 not applicable.

L8.4 Analysis

L8.4.1 Structural Analysis

The Contractor shall provide structural analysis services to substantiate aircraft, payload, or ground support equipment development, repairs, or upgrades. Example structural analysis tasks include:

- 1) Handbook calculations and finite element analyses of airframe structures
- 2) Handbook calculations and finite element analyses of payload structures
- 3) Handbook calculations and finite element analyses of ground support equipment
- 4) Handbook calculations and finite element analyses for aircraft repairs
- 5) Weight and balance calculations

L8.4.2 Electrical Analysis

See SOW Subsection 8.4.2.

L8.4.3 Failure Mode Effects and Criticality Analysis (FMECA)

See SOW Subsection 8.4.3.

L8.4.4 Hazard Analysis

The Contractor shall perform hazard analyses when requested by NASA. Hazard analyses for aircraft, payloads, and support equipment shall be in accordance with LaRC/LMS directives.

L8.5 Engineering Troubleshooting & Testing

L8.5.1 Engineering Troubleshooting

See SOW Subsection 8.5.1.

L8.5.2 Engineering Testing

The Contractor shall provide engineering test services for aircraft, payloads, and ground support equipment. Example testing tasks include:

- 1) Develop ground and flight test plans
- 2) Verify and validate the operation and safety of new designs, upgrades, and repairs
- 3) Flight Testing – Select instrumentation, perform data collection, and analyze data to evaluate aircraft system performance and identify flight anomalies.

- 4) Ground Testing – Select instrumentation, perform data collection, and analyze data for aircraft and payload systems to evaluate system performance and identify anomalies
- 5) Bench Testing – Perform integration and testing of new or modified systems to verify operation and identify anomalies
- 6) Perform troubleshooting using schematics and diagnostic equipment to support maintenance personnel
- 7) Perform propulsion system performance assessments
- 8) Generate test reports

L8.5.3 Engineering Test Equipment

SOW Subsection 8.5.3 not applicable.

L8.6 Engineering Logistics Liaison

SOW Subsection 8.6 not applicable.

L8.7 Engineering Technical Writing Liaison

SOW Subsection 8.7 not applicable.

L8.8 Supplementary Engineering Support Services

SOW Subsection 8.8 not applicable.

L8.8.1 Structural Analysis

SOW Subsection 8.8.1 not applicable.

L8.8.2 Aerodynamic Analysis

SOW Subsection 8.8.2 not applicable.

L8.8.3 Materials Engineering & Testing

SOW Subsection 8.8.3 not applicable.

L8.8.4 Software Engineering

SOW Subsection 8.8.4 not applicable.

L8.8.5 FAA Designated Engineering Representative Support

SOW Subsection 8.8.5 not applicable.

9.0 Logistics

9.1 General Requirements

Category: Cost

The Contractor shall provide logistics support services for the locations listed in SOW Subsection 2.2.1. The Contractor shall utilize the NASA Aircraft Management Information System (NAMIS) in accordance with SOW Subsection 4.12.1 of this SOW for all functional areas and processes required to support logistics. More information on the functional areas and logistics processes supported by NAMIS can be found in AOD 33862, *Volume IV NAMIS Requirements – Aircraft Logistics System Level 5 Requirements*.⁷⁹

9.2 Deliverables – Logistics

Category: Cost

The Contractor shall provide the logistics deliverables listed in Table 9-1.

Table 9-1: Data Requirement Description - Logistics⁸⁰

| Data Requirement List (DRL) Item No. | DRD Title |
|--------------------------------------|-------------------------------------|
| DRD-L01 | Reports Required for Logistics |
| DRD-L02 | Contractor Logistics Operating Plan |
| DRD-L03 | Government Property Management Plan |

⁷⁹ AOD tracks over 50,000 line items in the NAMIS parts catalog for supply. The aircraft logistics support function generates in excess of 160,000 requisitions, issue, receive, and return transactions per year, with a significantly higher number of system inquiries. Approximately 60 percent of the total number of parts is obtained from DoD sources. The Contractor obtains the remainder via local purchase. NAMIS interfaces to the NASA Integrated Enterprise Management Program (IEMP) System for financial accountability, the Defense Automatic Addressing System Office (DAASO) Automated Message Exchange System (DAMES) for requisitioning spares through DoD, and an interface with the Air Force's D043 master parts catalog. In addition, there is an interface between NAMIS and the Contractor's financial accounting system.

⁸⁰ Refer to contract Section J, Appendix J1 for DRD requirements.

9.3 Logistics Services

Category: Cost

The Contractor shall provide the logistics services listed below:

- 1) Inventory Management
 - a. Material warehousing
 - b. Stock control/replenishment
 - c. Reverse posting of supply asset deliveries
 - d. Stock rotation
 - e. Supply issue points
 - f. Physical inventories
 - g. Wall-to-wall inventories
 - h. Contract transition inventories
 - i. Inquiries
 - j. Material issue processing to include parts issue counter
 - k. Bench stock management and processing
 - l. Shop stock management and processing
 - m. Shelf-life management
 - n. Material/asset turn-in processing (DIFM)
 - o. Kitting
 - i. Project kits
 - ii. Flyaway (deployment) kits
 - iii. Aircraft change directive kits
 - p. Excess and Disposal
- 2) Property Control
- 3) Cataloging
 - a. Classification of parts
 - b. Categorizing parts
 - c. Tagging and labeling parts
 - d. Grouping parts
 - e. Environmental control requirements
- 4) Acquisition
 - a. Subcontracts
 - b. Purchasing
 - c. Requisition
 - i. Public use aircraft
 - ii. Certificated aircraft
 - iii. NASA configuration items
 - d. Warranty Program
 - e. Material Receipt Processing
 - i. Material receiving
 - ii. Pilferable item security
 - iii. Verification of Purchased Products

1. Supply Discrepancy Reporting (SDR) Program
 - a. DOD Parts
 - b. Commercial Parts
- iv. Functional checks
- v. Hazardous materials
 1. Chemicals
 2. Explosives
- 5) Pyrotechnics Logistics Management
- 6) Shipping and Receiving
 - a. Special handling requirements
 - i. Over-size deliveries
 - ii. Rigging and heavy hauling support
 - iii. Escorts
 - iv. Premium transportation services
 - v. NASA aircraft transportation
- 7) Courier Services
- 8) Deployment Support

9.4 Logistics Service Details

9.4.1 Inventory Management

9.4.1.1 Warehouse Safety and Health

Category: Cost

The Contractor shall maintain warehouse safety and health in accordance with processes contained in JPR 1700.1, *Safety and Health Handbook*.

9.4.1.2 Inquiries

Category: Cost

The Contractor shall respond to inquiries for information such as part number verification, asset availability, inventory count of an individual item, part number/serial number searches, Government industry data exchange program (GIDEP) alert research and requests to physically view material within two (2) hours from initial request during normal work hours listed in SOW Subsection 4.1.2.

9.4.1.3 Awaiting Parts (AWP) Disposition

Category: Cost

The Contractor shall accomplish the following tasks if a DoD unserviceable end-item has been in an AWP status for sixty (60) days.

- 1) Contact the appropriate DoD Logistics Item Manager responsible for the piece parts or serviceable repairable unit (SRU) to get the most current status on the open requisition(s).
- 2) If delivery of the bits and pieces or SRU cannot be guaranteed within thirty (30) days, the Logistics Manager will contact the NASA Manager and request disposition of the end-item.

9.4.1.4 Excess and Disposal

9.4.1.4.1 Excess and Disposal of Government Property

Category: Cost

The Contractor shall:

- 1) Utilize the DoD Customer Asset Report (FTE) and Reply to Customer Asset Report (FTR) processes contained in NAMIS to report DoD excess supply stock and equipment requiring disposal prior to utilizing NASA procedures contained in JWI 4300.1, *JSC Instructions for Excess and Disposal of Government Property*.
- 2) Ensure products dispositioned for scrap are conspicuously and permanently marked, or positively controlled, until physically rendered unusable in accordance with SAE AS9110, *Aerospace Standard, Quality Maintenance Systems – Aerospace – Requirements for Maintenance Organization*.

9.4.1.4.2 Handling and Disposal of Lithium Cells/Batteries

Category: Cost

The Contractor shall receive and handle all lithium cells and batteries in accordance with the processes contained in JPR 8550.1, *JSC Environmental Compliance Procedural Requirements*.

9.4.2 Property Control

9.4.2.1 Management of Controlled Equipment

Category: Cost

The Contractor shall manage sensitive, controlled and functional property assigned to JSC and managed through the Property, Plant and Equipment (PP&E) System in accordance with JWI 4200.1, *Management of Controlled Equipment*.

9.4.2.2 Government Property

Category: Cost

The Contractor shall manage, inventory, control, use, preserve, protect, repair, and maintain Government property in its possession in accordance with Federal Acquisition Regulation (FAR) Clause 52.245-1, *Government Property* and NPR 4100.1, *NASA Inventory Management Manual*. The Contractor shall prepare NASA Form 598, *Property Survey Report*, for any lost, damaged, destroyed, or stolen Government property in accordance with NPR 4200.1; *NASA Equipment Management Procedural Requirements*.

9.4.2.3 Control of Customer-Supplied Products

Category: Cost

The Contractor shall control customer supplied products in accordance with AOD 33948, *Control of Customer-Supplied Products*.

9.4.2.4 Repairable Parts Center (RPC)

Category: Cost

The Contractor shall establish a repairable parts center to:

- 1) Track repairable assets.
- 2) Maintain a due-in from maintenance (DIFM) system to include a repair processing center, which shall track all repairable assets from issue to return to supply.
- 3) Verify document and serial numbers, when applicable, for issued assets, transportation, and tracking of assets while in the repair cycle.

9.4.3 Acquisition

9.4.3.1 General

Category: Cost

The Contractor shall provide procurement/subcontracting acquisition services. The Contractor shall procure when possible through the NASA, Federal, or DoD supply system.

9.4.3.2 Expedited Sub-Contracting

Category: Cost

If requested by NASA, the Contractor shall obtain services or property on an expedited basis that requires the placement of a sub-contract/purchase order. The Contractor shall notify NASA on the status of the request within three (3) working days. Special attention should be paid to obtaining the appropriate Rights in Data, when requested by NASA. Refer to SOW Subsection 9.4.3.5 for warranty information on sub-contracts.

9.4.3.3 Local Purchase

Category: Cost

The Contractor shall:

- 1) Utilize AOD Form 1307, *Purchase Request Worksheet*, for approval to purchase any item greater than \$500. This form shall be utilized for all purchases of equipment, supplies and services including fabrication, training, and sub-contracting to support the AOD mission.
- 2) Obtain approval from CO or COTR prior to ordering any new item containing a hazardous constituent.
- 3) Obtain prior approval from the CO or COTR for all commercial purchases greater than \$10,000.
- 4) Obtain CO approval on all purchase orders or sub-contracts greater than \$100,000.
- 5) Utilize the NASA Defense Priority and Allocation System rating of nine (9) for all commercial purchases.

9.4.3.4 DoD Requisitions

Category: Cost

The Contractor shall:

- 1) Ensure funding is available for DoD Requisitions.
- 2) Transmit requirements to the Defense Automated Message Exchange System (DAMES) on a daily basis.
- 3) Ensure that NAMIS purchase order amounts are updated based on DAMES response showing the unit price for items that have been shipped.
- 4) Ensure retro-grade carcasses are returned within 30-days for each Expendability, Recoverability, Reparability Category (ERRC) "T" item requisitioned.
- 5) Reconcile DoD invoices, Military Standard Billing System (MILSBILLS) with actual orders and receipts in NAMIS. Utilize assistance from the NASA Disbursement Office as required.
- 6) Provide a five-year requirements data exchange list (RDEL) for all ERRC "T" items in accordance with AFMCMAN 23-1, Chapter 27, *Requirements for Secondary Items*.
- 7) Input Requirement Data Exchanges via the Defense Automatic Addressing System (DAAS) in accordance with AFMCMAN 23-1, Chapter 27, *Requirements for Secondary Items*.

9.4.3.5 Warranty Program

Category: Cost

The Contractor shall:

- 1) Provide any benefits to NASA that would accrue or be due from commercial warranties received with the purchase and repair of materials, parts, and equipment under this contract.
- 2) Ensure all sub-contracts/purchase orders contain warranties covering design and manufacturing requirements, defects in materials and workmanship, and essential performance requirements.

9.4.3.6 Verification of Purchased Products

Category: Cost

The Contractor shall establish and implement the inspection or other activities necessary for ensuring that purchased products meet specified purchase requirements in accordance with SAE AS9110, *Aerospace Standard, Quality Maintenance System – Aerospace – Requirements for Maintenance Organization*.

9.4.3.7 Supply Discrepancy Reporting (SDR) Program

Category: Cost

The Contractor shall report parts received from DoD and Commercial sources that are identified as defective or suspect as follows:

For DoD Parts:

The Contractor shall:

- 1) Report any part received from DoD that is identified as defective or suspect via the DoD Defense Automatic Addressing System Center (DAASC), WEBBASED Supply Discrepancy Reporting System (WEBSDR)⁸¹
- 2) Segregate parts reported under the WebSDR from normal stock pending disposition from DoD sources.
- 3) Conduct follow-up action on any SDR within thirty (30) calendar days from initial report submission.

For Commercial Parts:

The Contractor shall:

- 1) Report suspect parts under the Suspect Unapproved Parts (SUP) Program using FAA Form 8120-11, Sup Report.

⁸¹ Access to WebSDR may be obtained by completing an online system access request (SAR) from the DAASC website: <https://www.daas.dla.mil>.

9.4.3.8 Material Processing Timelines

Category: Cost

The Contractor shall:

- 1) Process material requests for items in stock within two (2) hours of initial request.
- 2) Process material request for items not in stock by close of business the day after the item is received in supply, unless the material falls under the priority receipt definition.
- 3) Process priority receipts on the same day the item is received. Priority receipts are defined as
 - a. Hazardous Materials
 - b. Communications security (COMSEC)
 - c. Medical items or drugs
 - d. Work stoppage items
 - e. Receipts requiring special handling
- 4) Process routine receipts (items that do not meet priority receipt definition) no later than the second (2nd) work day after receipt of item.

9.4.4 Pyrotechnics Logistics Management

Category: Cost

The Contractor shall:

- 1) Follow the provisions outlined in JPD 4500.1F, *Pyrotechnics – Logistics Management*. Example tasks include:
 - a. Pick-up, control, store, issue, document, transport and dispose of JSC pyrotechnics in support of JSC AOD activity and crew survival pyrotechnics up to Class 1.3C.
 - b. Establish and implement inventory controls to provide identification, traceability, and reporting of pyrotechnics.
 - c. Maintain all records associated with explosive devices to meet all reporting requirements required by law and regulations. These records shall be made available within two (2) hours from initial request to the Government during surveillance audits and during the annual explosive handling certifications conducted by NASA personnel in accordance with JPD 4500.1, *Pyrotechnics – Logistics Management*.
- 2) Forecast pyrotechnic device replacement requirements for cartridge actuated devices (CAD) and propellant actuated devices (PAD) and place them on order to optimize quantity cost vs. shelf life (refer to USAF Technical Order 00-20-9 for assistance).
- 3) Dispose of explosive devices in accordance with USAF T.O. 11A- 1-42, *General Instructions for Disposal of Conventional Munitions* and USAF T.O. 11A-1-60, *Inspection of Reusable Munitions Containers and Scrap Material*.

If service lives are to expire prior to replacement part delivery, then to preclude an aircraft/equipment being placed in a not mission capable (NMC) status pending receipt of a replacement item, the Contractor shall:

- 1) Determine if a service life extension is available via normal logistic support functions. If so, present proposed service life extension (SLE) and support data to NASA Engineering for review and approval.
- 2) Coordinate SLE's for pyrotechnic devices that are not readily available via normal logistic support functions with NASA Engineering.

9.4.5 Shipping and Receiving

9.4.5.1 Export Compliance

Category: Cost

The Contractor shall ship material OCONUS in accordance with all applicable laws and regulations to include export control in accordance with JWI 2190.1, *JSC Export Compliance*.

9.4.5.2 Identification, Handling, Storage, Packaging, Preservation and Delivery

Category: Cost

The Contractor shall identify, handle, store, package, preserve, deliver, and ship products in accordance with JPR 1281.15, *Identification, Handling, Storage, Packaging, Preservation and Delivery* and USAF T.O. 00-85B-3, *How to Package Air Force Spares*.

9.4.5.3 Preparation and Processing of JSC Form 290, JSC Shipping Document

Category: Cost

When requested by NASA, the Contractor shall coordinate Government bill of lading (GBL) for property that will be transported within CONUS or OCONUS (exported) to include commercial bill of lading (CBL) in accordance with JWI 6050.1, *How to Prepare and Process JSC Form 290, JSC Shipping Document*.

9.4.5.4 Packing, Handling, and Transportation for Aeronautical and Space Systems, Equipment, and Associated Components

Category: Cost

The Contractor shall:

- 1) Use reusable containers when practical for all items that require periodic shipment to and return from repair activities and where adequate provisions to control the containers make reuse economical in accordance with NPR 6000.1H, Paragraph 2.9, *Requirements for Packing, Handling, and Transportation for Aeronautical and Space Systems, Equipment, and Associated Components*.
- 2) Reuse packaging material to the maximum extent practicable in accordance with NPR 6000.1H, Paragraph 2.9, *Requirements for Packing, Handling, and Transportation for Aeronautical and Space Systems, Equipment, and Associated Components*.

9.4.5.5 Hazardous Material Shipments

Category: Cost

The Contractor shall ensure that all shipments containing hazardous materials are packaged, packed, marked, labeled, and documented as appropriate, in accordance with the processes contained in:

- 1) Department of Transportation (DOT) Hazardous Materials Regulations in Title 49 CFR
- 2) International Civil Aviation Organizations (ICAO) Technical Instruction for the Safe Transportation of Dangerous Goods
- 3) International Maritime Organizations (IMO) Dangerous Goods Code
- 4) International Air Transport Association (IATA) Dangerous Goods Regulation

9.4.5.6 Reporting and Adjusting Discrepancies in Government Shipments

Category: Cost

The Contractor shall ensure shipping discrepancies are resolved and freight claims are processed in accordance with CFR Title 41, Volume 3, Ch-Part-Section 102-117, 190, *Reporting and Adjusting Discrepancies in Government Shipments*.

9.4.5.7 Shipments on NASA Aircraft

Category: Cost

All cargo movements onboard NASA aircraft shall be coordinated in advance with the NASA Operations Duty Officer to ensure cargo meets all Federal requirements, particularly in the transportation of hazardous materials. Hazardous cargo as defined in 49 CFR 171.8, *General Information, Regulations and Definitions*, shall not be transported on NASA mission management aircraft

9.4.6 Courier Services

Category: Cost

The Contractor shall supply courier services to pickup and deliver documents and packages to and from Ellington Field facilities, the JSC site, and Houston area locations. The Government will not provide General Services Administration (GSA) vehicles for this contract.⁴⁶

9.4.7 Deployment Support

Category: Cost

When requested by NASA, the Contractor shall provide logistics personnel at deployed locations per SOW Subsection 4.9.2.

9.5 Support Outside Normal Work Hours

Category: Cost

The Contractor shall:

- 1) Assign an on-call support person in accordance with 5 CFR Section 551.431 outside the normal work hours listed in SOW Subsection 4.1.2, to provide logistics assistance to meet any of the services identified in SOW Subsection 9.0 of this SOW.
- 2) Support person shall arrive at EFD within 2-hours of initial request for assistance.

L9.0 Logistics – LaRC Center Unique

Category: Cost (SOW Subsections L9.1 through L9.5)

The requirements listed in SOW Subsections L9.1 through L9.5 shall apply to Langley Research Center.

L9.1 General Requirements

The Contractor shall provide logistics support services for the locations listed in SOW Subsection 2.2.2. The Contractor shall utilize the NASA Aircraft Management Information System (NAMIS) in accordance with SOW Subsection L4.12.1 of this SOW for all functional areas and processes required to support logistics.

L9.2 Deliverables – Logistics

SOW Subsection 9.2 not applicable.

L9.3 Logistics Services

The Contractor shall provide the logistics services listed below:

- 1) Inventory Management
 - a. Material Warehousing
 - b. Stock control/replenishment
 - c. Reverse posting of supply asset deliveries
 - d. Stock rotation
 - e. Supply issue points
 - f. Physical inventories
 - g. Wall-to-wall inventories
 - h. Contract transition inventories
 - i. Deployment spares
 - j. Inquiries
 - k. Material issue processing
 - l. Bench stock management and processing
 - m. Shop stock management and processing
 - n. Kitting
 - i. Project kits
 - ii. Flyaway (deployment) kits
 - iii. Aircraft change directive kits
- 2) Property Control
- 3) Cataloging
 - a. Classification of parts
 - b. Categorizing parts
 - c. Tagging and labeling parts

- d. Grouping parts
- e. Environmental control requirements
- 4) Acquisition
 - a. Requisition
 - i. Public use aircraft
 - ii. Certificated aircraft
 - iii. NASA configuration (modification) items
 - b. Material Receipt Processing
 - i. Material receiving
 - ii. Pilferable item security
 - iii. Receiving inspections
 - iv. Functional checks
 - v. Hazardous materials
 - 1. Chemicals
 - 2. Explosives

L9.4 Logistics Service Details

L9.4.1 Inventory Management

L9.4.1.1 Warehouse Safety and Health

SOW Subsection 9.4.1.1 not applicable.

L9.4.1.2 Inquires

See SOW Subsection 9.4.1.2.

L9.4.1.3 Awaiting Parts (AWP) Disposition

The Contractor shall accomplish the following if a DoD unserviceable end-item has been in an AWP status for sixty (60) days.

- 1) Contact the appropriate DoD Logistics Item Manager responsible for the piece parts or serviceable repairable unit (SRU) on order to repair the unserviceable item.
- 2) If delivery of the bits and pieces or SRU cannot be guaranteed within thirty (30) days, the Logistics Manager will contact the LaRC Chief of Maintenance and request disposition of the end-item.

L9.4.1.4 Excess and Disposal

SOW Subsection 9.4.1.4 not applicable.

L9.4.2 Property Control

L9.4.2.1 Management of Controlled Equipment

SOW Subsection 9.4.2.1 not applicable.

L9.4.2.2 Government Property

The Contractor shall use and maintain the Government property provided by the Government.

L9.4.2.3 Control of Customer-Supplied Products

SOW Subsection 9.4.2.3 not applicable.

L9.4.2.4 Repairable Parts Center (RPC)

SOW Subsection 9.4.2.4 not applicable.

L9.4.3 Acquisition

L9.4.3.1 General

See SOW Subsection 9.4.3.1.

L9.4.3.2 Expedited Subcontracting

See SOW Subsection 9.4.3.2.

L9.4.3.3 Local Purchase

The Contractor shall:

- 1) Obtain LaRC Chief of Maintenance approval for all local purchases. This includes all purchases of equipment, supplies and services including fabrication, training, and sub-contracting to support the RSD mission.
- 2) Obtain approval from CO or COTR prior to ordering any new item containing a hazardous constituent.
- 3) Obtain prior approval from the CO or COTR for all commercial purchases greater than \$10,000
- 4) Obtain CO approval on all purchase orders or sub-contracts greater than \$100,000.
- 5) Utilize the NASA Defense Priority and Allocation System rating of nine (9) for all commercial purchases.

L9.4.3.4 DoD Requisitions

See SOW Subsection 9.4.3.4.

L9.4.3.5 Warranty Program

See SOW Subsection 9.4.3.5.

L9.4.3.6 Verification of Purchased Products

SOW Subsection 9.4.3.6 not applicable.

L9.4.3.7 Supply Discrepancy Reporting (SDR) System

The Contractor shall report parts received from DoD and Commercial sources that are identified as defective or suspect to the LaRC Chief of Maintenance.

L9.4.3.8 Material Processing Timelines

SOW Subsection 9.4.3.8 not applicable.

L9.4.4 Pyrotechnics Logistics Management

SOW Subsection 9.4.4 not applicable.

L9.4.5 Shipping and Receiving

L9.4.5.1 Export Compliance

SOW Subsection 9.4.5.1 not applicable.

L9.4.5.2 Identification, Handling, Storage, Packaging, Preservation and Delivery

SOW Subsection 9.4.5.2 not applicable.

L9.4.5.3 Preparation and Processing of JSC Form 290, JSC Shipping Document

SOW Subsection 9.4.5.3 not applicable.

L9.4.5.4 Packing, Handling, and Transportation for Aeronautical and Space Systems, Equipment, and Associated Components

The Contractor shall:

- 1) Use reusable containers when practical for all items that require periodic shipment to and return from repair activities and where adequate provisions to control the containers make reuse economical in accordance with NPR 6000.1H, Paragraph 2.9, *Requirements for Packing, Handling, and Transportation for Aeronautical and Space Systems, Equipment, and Associated Components*.
- 2) Reuse packaging material to the maximum extent practicable in accordance with NPR 6000.1H, Paragraph 2.9, *Requirements for Packing, Handling, and Transportation for Aeronautical and Space Systems, Equipment, and Associated Components*.

L9.4.5.5 Hazardous Material Shipments

SOW Subsection 9.4.5.5 not applicable.

L9.4.5.6 Reporting and Adjusting Discrepancies in Government Shipments

SOW Subsection 9.4.5.6 not applicable.

L9.4.5.7 Shipments on NASA Aircraft

See SOW Subsection 9.4.5.7.

L9.4.6 Courier Services

SOW Subsection 9.4.6 not applicable.

L9.4.7 Deployment Support

See SOW Subsection 9.4.7.

L9.5 Support Outside Normal Work Hours

The Contractor shall:

- 1) Assign an on-call support person in accordance with 5 CFR Section 551.431 outside the normal work hours listed in SOW Subsection L4.1.2, to provide logistics assistance to meet any of the services identified in SOW Subsection 9.0 of this SOW.

10.0 Quality Control

10.1 General Requirements

10.1.1 Quality Management System

Category: FP

The Contractor shall provide quality control services. The Contractor's quality management system (QMS) shall be certified to the quality requirements of AS-9110, *Aerospace Requirements for Aircraft Maintenance Organizations* within one year of contract award.

The Contractor's quality management system shall, as a minimum, meet the following requirements:

- 1) Federal Acquisition Regulations (FAR) and NASA FAR Supplement
- 2) NASA JPD 1280.1, *Quality Policy*
- 3) NASA JPR 1280.2, *Quality Manual*

The Contractor Quality Control shall be required to sign off on all NASA Form 1671A *Aircraft Maintenance Packet*, anomalies that meet the conditions in AOD WI 34100, *Maintenance Manual*. The Contractor may add to these requirements as deemed appropriate based on risk and criticality.

10.1.2 Deliverables – Quality

Category: FP

The Contractor shall provide the quality deliverables listed in Table 10-1.

Table 10-1: Data Requirement Description - Quality⁸²

| Data Requirement List (DRL) Item No. | DRD Title |
|--------------------------------------|--|
| DRD-Q01 | Quality Plan |
| DRD-Q02 | Government Industry Data Exchange Program (GIDEP) and NASA Advisory Problem Data Sharing and Utilization Program Documentation and Reporting |

⁸² Refer to Section J, Appendix J1 for DRD requirements.

10.1.3 NASA Quality Assurance Evaluators (QAE)

Category: General

NASA QAE personnel are assigned to the Aircraft Operations Division (AOD), Aircraft Quality Assurance (QA) Branch. These personnel provide monitoring and surveillance of the Contractor using the elements outlined in the SOW and Contractor's Management Plan.⁸³

10.1.4 Contractor Procurement Reviews

Category: General

The NASA Aircraft QA Branch will review all Contractor critical and high risk procurements for the application of quality and acceptance requirements in accordance with AOD 34100, *Maintenance Manual*.

10.1.5 Government Access

Category: General

The Contractor shall allow Government representatives access to work areas, data, provide support, and not interfere with the quality assurance evaluators (QAE's), State, Federal, and other designated personnel in the performance of their official duties.

10.1.6 Non-Conformances

Category: FP

The Contractor shall take corrective action for all non-conformances (not meeting contract requirements) identified during Government/Contractor surveillance/audits and provide corrective actions to the NASA CO and COTR in accordance with AOD 34100, *Maintenance Manual*.

10.1.7 Corrective and Preventative Action

Category: FP

The Contractor shall ensure that corrective and preventative actions include a corrective and preventive action plan that addresses why the performance threshold was not met to include root cause analysis, how performance will be returned to an acceptable level(s), and how recurrence will be prevented in the future.

⁸³ *The Government reserves the right to conduct inspections on Government owned aircraft, engines, accessories, and other support equipment.*

10.1.8 Outsourced Processes

Category: FP

The Contractor shall ensure controls of outsourced (e.g. subcontracted) processes are identified within the scope of the Contractor's Quality Management System (QMS), in accordance with SAE AS9110, *Aerospace Standard, Quality Maintenance System – Aerospace – Requirements for Maintenance Organization*, Subsection 4.1.

10.1.9 Deployment Support

Category: Cost⁸⁴

When requested by NASA, the Contractor shall provide quality control support for aircraft deployments per SOW Subsection 4.9.2.

10.2 Technical Library

Category: FP

The Contractor shall establish and maintain the Technical Library in accordance with AOD WI 34100, *Maintenance Manual*.

10.2.1 Aircraft Change Directives

Category: FP

The Contractor shall receive, review, and make recommendations to NASA on all Aircraft Change Directives (ACDs) via the use of AOD Form 1298, *Maintenance Instruction Tracking Form* in accordance with AOD WI 34100, *Maintenance Manual*.

⁸⁴ *Cost category applies to labor costs over and above those costs covered by the fixed price portion of the contract (e.g. deployment/hazardous duty pay).*

10.2.2 Inquires to Repairs Not Supported by Approved Technical Data

Category: FP

The Contractor shall ensure all discrepancies discovered on aircraft and assigned equipment are repaired in accordance with approved technical data. In the event a discrepancy is noted and the repair is not supported by approved technical data, the Contractor shall take the following actions before Engineering (NASA or Contractor) is contacted for assistance:

- 1) The Contractor shall initiate a “down” discrepancy in the NAMIS database and subsequently contact/confer with their Contractor quality personnel to validate the repair requirement. The Contractor’s Quality Control Office shall serve as the monitor for these type anomalies and will ensure a valid request is warranted.
- 2) The Contractor Quality Control Office shall review supporting technical data to determine if the repair is not supported by approved technical data. NASA Quality Assurance may be contacted if assistance is deemed warranted.
- 3) Once the validation process is complete, the Contractor Quality Control Office shall bring the appropriate technical data researched to the NASA Maintenance Manager, along with the open “downing” discrepancy to discuss the not supported by approved technical data repair requirement.

Upon completion of Items 1-3 above, the NASA Maintenance Manager will:

- 1) Determine if the repair “is” or “is not” supported by approved technical data.
- 2) Update the down discrepancy in NAMIS to indicate that the repair “is” or “is not” supported by approved technical data.

10.3 Deficiency Reporting

Category: FP

The Contractor shall ensure that deficiency reporting (DR) procedures for issue, turn-in, and storage are in accordance with T.O. 00-35D-54, *USAF Deficiency Reporting, Investigation and Resolution*. The DR shall be reported via the DoD web-based Joint Deficiency Reporting System (JDRS).

L10.0 Quality Control – LaRC Center

Unique (Option 4 – See SOW Subsection 12.4.5)

Category: Cost (SOW Subsections L10.1 through L10.3)

The requirements listed in SOW Subsections L10.1 through L10.3 shall apply to Langley Research Center.

L10.1 General Requirements

L10.1.1 Quality Management System

The Contractor shall perform assigned aircraft maintenance tasks in accordance with approved technical documentation and the established Quality Management System at Langley Research Center.

L10.1.2 Deliverables – Quality

SOW Subsection 10.1.2 not applicable.

L10.1.3 NASA Quality Assurance Evaluators (QAE)

SOW Subsection 10.1.3 not applicable.

L10.1.4 Contractor Procurement Reviews

SOW Subsection 10.1.4 not applicable.

L10.1.5 Government Access

SOW Subsection 10.1.5 not applicable.

L10.1.6 Non-Conformances

SOW Subsection 10.1.6 not applicable.

L10.1.7 Corrective and Preventative Action

SOW Subsection 10.1.7 not applicable.

L10.1.8 Outsourced Processes

SOW Subsection 10.1.8 not applicable.

L10.1.9 Deployment Support

See SOW Subsection 10.1.9.

L10.2 Quality Technical Library

The Contractor shall establish and maintain the Quality Technical Library in accordance with RSD Quality Assurance Office established procedures.

L10.2.1 Aircraft Change Directives

The Contractor shall receive, review, and make recommendations to NASA on all Aircraft Change Directives (ACDs).

L10.2.2 Inquires to Repairs Not Supported by Approved Technical Data

SOW Subsection 10.2.2 not applicable.

L10.3 Deficiency Reporting

SOW Subsection 10.3 not applicable.

11.0 Safety

11.1 General Requirements

11.1.1 Safety and Health Program

Category: FP

The Contractor shall develop, maintain, and execute a safety and health program in accordance with NASA JPR 1700.1, *JSC Safety and Health Handbook*.

11.1.2 Deliverables – Safety

Category: FP

The Contractor shall provide the safety deliverables listed in Table 11-1.

Table 11-1: Data Requirement Description - Safety⁸⁵

| Data Requirement List (DRL) Item No. | DRD Title |
|--------------------------------------|--|
| DRD-S01 | Lessons Learned Program Plan and Lessons Learned |
| DRD-S02 | Safety and Health Plan |
| DRD-S03 | Safety and Health Program Self Evaluation |
| DRD-S04 | Monthly Safety and Health Metrics |

11.1.3 Workplace Health and Safety

Category: FP

The Contractor shall:

- 1) Comply with Occupational and Health (OSHA) (Public Law 91-596) Guidance, USAF technical orders (T.O.), and other DoD and aircraft manufacturers prescribed processes/procedures to ensure the safety of their personnel.
- 2) Resolve safety and health issues as they arise.

⁸⁵ Refer to Section J, Appendix J1 for DRD requirements.

11.1.4 Deployment Support

Category: Cost⁸⁶

When requested by NASA, the Contractor shall provide safety support for aircraft deployments per SOW Subsection 4.9.2. Requested support may include assisting NASA in conducting an investigation and/or root cause analysis of a safety reported close call, mishap or injury.

11.2 Hazards

11.2.1 Job Hazard Analysis (JHA)

Category: FP

When written directives do not identify hazards for tasks being performed, the Contractor, with assistance from NASA and Contractor's safety offices, shall complete a job hazard analysis (JHA). Procedures for JHA's are contained in JPR 1700.1, *JSC Safety and Health Handbook* and ASO WI 33901, *Job Hazard Analysis*.

11.2.2 Hazardous Materials

Category: FP

The Contractor shall follow established guidelines for handling hazardous materials in accordance with JSC JPR 1700.1, Section 9, *JSC Safety and Health Handbook*.

11.3 Safety Programs

11.3.1 Voluntary Protection Program (VPP)

Category: FP

NASA, Johnson Space Center's Ellington Field Location is a VPP STAR site.

The Contractor shall support the VPP four main program elements identified below:

- 1) Management Commitment and Employee Involvement
- 2) Workplace Analysis
- 3) Hazard Prevention and Control
- 4) Safety and Health Training

⁸⁶ *Cost category applies to labor costs over and above those costs covered by the fixed price portion of the contract (e.g. deployment/hazardous duty pay).*

11.3.2 Confined Space Entry Program

Category: FP

The Contractor shall:

- 1) Conduct confined space entry in accordance with JPR 1700.1, *JSC Safety and Health Handbook*, Chapter 6.10.
- 2) Verify confined space training is current (no more than two (2) years old) for all personnel, including subcontractors, repairing NASA AOD aircraft on NASA property prior to the commencement of any work.

11.3.3 Hazardous Materials and Hazardous Waste Management Program

Category: FP

The Contractor shall ensure a Hazardous Material Control and Management Program (HAZMAT) is established, maintained, and enforced in accordance with the NASA Center HAZMAT Program as depicted in JPR 1700.1, *JSC Safety and Health Handbook*. Example program items include:

- 1) Hazardous material use
- 2) Disposal
- 3) Handling
- 4) Transportation
- 5) Long term and work site storage
- 6) Incident reporting

11.3.4 Radiation Safety Program

Category: FP

The Contractor shall ensure a Radiation Safety Program is established, maintained, and enforced in accordance with JPR 1700.1, *JSC Safety and Health Handbook*, USAF T.O. 33B-1-1, *Nondestructive Inspection Methods* and Air Force Manual (AFMAN) 48-125, *Dosimetry Program*.

11.3.5 Facility Emergency Preparedness Program

Category: FP

The Contractor shall establish emergency action procedures aligned with NASA response plans for disaster control and severe weather in accordance with JPD 1040.2, *JSC Emergency Preparedness Program*.

11.4 Mishap and Incident Response

11.4.1 Aircraft Mishap Interim Response Program

Category: FP

The Contractor shall:

- 1) Develop an interim response program to support NASA in responding to aircraft mishaps, injuries, fuel spills, environmental contamination, and weather damage to support JWI 1040.27, *JSC Emergency Preparedness Plan, Appendix 5 – JSC Aircraft Mishap Plan*
- 2) Provide the NASA COTR and CO with an up-to-date list of qualified response team members

11.4.2 Mishap and Close Call Reporting

Category: FP

The Contractor shall:

- 1) Report mishaps and close calls (flight and ground) in accordance with JPR 1700.1, *JSC Safety and Health Handbook*, NPR 7900.3, *Aircraft Operations Management Manual*, and AOD 34100, *Maintenance Manual*.
- 2) Immediately notify the NASA Operations Duty Officer of mishaps regardless of date and time.
- 3) Notify the Contracting Officer of mishaps within 48 hours
- 4) Coordinate close call reporting with the NASA Safety Office
- 5) Ensure all equipment (aircraft, engines, and support equipment) involved in the close call or mishap is impounded in accordance with AOD 34100, *Maintenance Manual* to ensure a thorough investigation into the root and causal factors can be conducted without altering the mishap scene.

11.4.3 Mishap and Close Call Investigation

Category: Cost⁸⁷

The Contractor shall:

- 1) Support mishap investigations when requested by NASA.
- 2) Ensure mishap investigation support is in accordance with JPR 1700.1, *JSC Safety and Health Handbook* and NPR 7900.3, *Aircraft Operations Management Manual*.
- 3) Ensure personnel assigned to investigate mishaps are trained per SOW Subsection 4.8.3.3.7.

⁸⁷ *Cost category does not apply to labor for safety, quality, or management personnel already performing work under the fixed-price portion of the contract.*

11.4.4 Mishap Interim Response

Category: *Cost*⁸⁸

The Contractor shall support mishap interim responses in accordance with JWI 1040.27, *JSC Emergency Preparedness Plan, Appendix 5 – JSC Aircraft Mishap Plan*.

11.4.5 Crash Trailer

11.4.5.1 General

Category: *FP*

The Contractor shall

- 1) Maintain NASA's aircraft emergency response trailer and the equipment maintained therein at Ellington Field (EFD).
- 2) Maintain an AFTO Form 244; Industrial/Support Equipment Record, for the trailer.
- 3) Ensure that a sufficient number of personnel are familiar with the technical data maintained in the crash trailer in accordance with JWI 1040.27, *JSC Emergency Preparedness Plan, Appendix 5 – JSC Aircraft Mishap Plan*, to support emergency response in the event of an aircraft mishap.

11.4.5.2 Crash Trailer Periodic Maintenance

Category: *FP*

The Contractor shall:

- 1) Inspect the crash trailer every one-hundred-eighty (180) days in accordance with CC-WD-G6; *SE Inspection Program*.
- 2) Conduct a wall-to-wall inventory every three-hundred-sixty-five (365) days of the crash trailer contents listed in JWI 1040.27, *JSC Emergency Preparedness Plan, Appendix 5 – JSC Aircraft Mishap Plan* on an annual basis. The inventory will include inflation of all aircraft lift bags in accordance with established technical data/OEM maintenance manuals.
- 3) Track and document inspections in the NAMIS database.

11.4.6 Facility Disaster Recovery and Restoration

Category: *Cost*

The Contractor shall assist the Government in disaster recovery and restoration of facilities in accordance with JWI 1040.17, *JSC Emergency Preparedness Plan, Annex M – Recovery Plan*.

⁸⁸ *Cost category does not apply to labor for safety, quality, or management personnel already performing work under the fixed-price portion of the contract.*

11.5 Aviation Safety Office Chief Engineer

Category: Cost

The Contractor shall provide an aviation safety office chief engineer. The aviation safety office chief engineer shall:

- 1) Act as the primary expert in mishap and close call investigations.
- 2) Observe and review ongoing flight and ground operations to ensure compliance with established procedures and safety guidelines, and make recommendations to the NASA Chief Aviation Safety Officer (CASO) and NASA Aviation Safety Officer (ASO), as necessary, concerning any safety issues.
- 3) Maintain a high level of knowledge in areas of aviation safety, aircraft engineering, and maintenance safety to evaluate critical issues related to safe operations of JSC aircraft.

Example duties include:

- 1) Assist the NASA Aviation Safety Office in maintaining the NASA Aviation Anomaly Reporting System (NAARS) for JSC. Coordinate NAARS routine anomaly investigations.
- 2) Review recommendations, as required, to mitigate identified aviation safety issues.
- 3) Assist in mishap investigations as assigned.
- 4) Maintain currency with mishap investigation techniques and tools.
- 5) If requested by NASA, represent the NASA Aviation Safety Office during Flight Readiness Reviews, Test Readiness Reviews, Payload Readiness Reviews, Operational Readiness Reviews, and preliminary, critical, or final engineering design reviews.
- 6) Assist in the coordination of quarterly Aviation Safety Meeting (ASM) schedules and agendas with the Astronaut Office T-38 Safety Representative. If requested by NASA, assist the NASA ASO in the hosting of ASMs.
- 7) Serve as the document custodian for *JWI 1040.27, JSC Emergency Preparedness Plan, Appendix 5 – JSC Aircraft Mishap Plan*, and *AOD 33887, Monthly/Quarterly Safety and Health Inspection*. Coordinate periodic document reviews and update documents as required.
- 8) Assist in the accomplishment of monthly facility inspections as assigned to identify hazards and recommend upgrades to improve safety and health.
- 9) Assist in the coordination of annual AOD Safety and Health Day events and in the organization and execution of AOD Safety Stand-downs as required.

L11.0 Safety – LaRC Center Unique

Category: Cost (SOW Subsections L11.1 through L11.5)

The requirements listed in SOW Subsections L11.1 through L11.5 shall apply to Langley Research Center.

L11.1 General Requirements

L11.1.1 Safety and Health Program

The Contractor is responsible for following and maintaining all LaRC safety requirements and policies.

L11.1.2 Deliverables – Safety

See SOW Subsection 11.1.2.

L11.1.3 Workplace Health and Safety

The Contractor shall:

- 1) Comply with Occupational and Health (OSHA) (Public Law 91-596) Guidance, USAF technical orders (T.O.), and other aircraft manufacturers prescribed processes/procedures to ensure the safety of their personnel.
- 2) Comply with NPR 1800.1 *NASA Occupational Health Program*
- 3) Resolve safety and health issues as they arise.

L11.1.4 Deployment Support

See SOW Subsection 11.1.4.

L11.2 Hazards

The Contractor shall incorporate Operational Risk Management (ORM) within the workplace. This includes the identification, elimination or control, and documentation of hazards to minimize risk associated with uncertainty in the decision-making process.

L11.2.1 Job Hazard Analysis (JHA)

SOW Subsection 11.2.1 not applicable.

L11.2.2 Hazardous Materials

The Contractor shall follow established guidelines for handling hazardous materials in accordance with NPR 1800.1 *NASA Occupational Health Program* and LaRC and LMS policy.

L11.3 Safety Programs

L11.3.1 Voluntary Protection Program (VPP)

NASA, LaRC is a VPP STAR Center.

The Contractor shall support the VPP four main program elements identified below:

- 1) Management Commitment and Employee Involvement
- 2) Workplace Analysis
- 3) Hazard Prevention and Control
- 4) Safety and Health Training

L11.3.2 Confined Space Entry Program

SOW Subsection 11.3.2 not applicable.

L11.3.3 Hazardous Materials and Hazardous Waste Management Program

SOW Subsection 11.3.3 not applicable.

L11.3.4 Radiation Safety Program

SOW Subsection 11.3.4 not applicable.

L11.3.5 Facility Emergency Preparedness Program

The Contractor shall establish emergency action procedures aligned with NASA LaRC response plans for disaster control and severe weather.

L11.4 Mishap and Incident Response

L11.4.1 Aircraft Mishap Interim Response Program

SOW Subsection 11.4.1 not applicable.

L11.4.2 Mishap and Close Call Reporting

The Contractor shall:

- 1) Report mishaps and close calls (flight and ground) in accordance with NPR 8621.1, *NASA Procedures and Guidelines for Mishap and Close Call Reporting, Investigating, and Recordkeeping*, NPR 7900.3, *Aircraft Operations Management Manual*, and LMS-OP-0939, *Aviation Accident Reporting, Investigation, and Site Management Plan*.

- 2) In the event of a maintenance related mishap/incident, report immediately to the NASA Chief of Maintenance and/or NASA Director, Research Services Directorate. Flight related mishaps shall be immediately reported to the LaRC Aviation Safety Officer and Director, Research Services Directorate.
- 3) Notify the Contracting Officer of mishaps within 48 hours
- 4) Coordinate close call reporting with the NASA Safety Office
- 5) Ensure all equipment (aircraft, engines, and support equipment) involved in the close call or mishap is impounded to ensure a thorough investigation into the root and causal factors can be conducted without altering the mishap scene.

L11.4.3 Mishap and Close Call Investigation

The Contractor shall:

- 1) Support mishap investigations when requested by NASA.
- 2) Ensure mishap investigation support is in accordance with NPR 8621.1, *NASA Procedures and Guidelines for Mishap and Close Call Reporting, Investigating, and Recordkeeping* and NPR 7900.3, *Aircraft Operations Management Manual*.

L11.4.4 Mishap Interim Response

SOW Subsection 11.4.4 not applicable.

L11.4.5 Crash Trailer

SOW Subsection 11.4.5 not applicable.

L11.4.6 Facility Disaster Recovery and Restoration

The Contractor shall assist the Government in disaster recovery and restoration of facilities.

L11.5 Aviation Safety Office Chief Engineer

SOW Subsection 11.5 not applicable.

12.0 SOW Options

12.1 Option 1 – Technical Publications and Document Management Services

Category: Cost

The Contractor shall provide technical publications and document management services. Example tasks include:

- 1) Provide research and consult with subject matter experts to generate technical publications that accurately reflect the current configuration of aircraft and support equipment so that the aircraft and equipment can be properly maintained and operated.
- 2) Ensure document and data control is in accordance with AOD 34100, *Maintenance Manual*.
- 3) Provide process verification to ensure the technical completeness of each document.
- 4) Ensure that current publications are made accessible to NASA as soon as possible so that NASA can perform maintenance and operations using the most up-to-date information available.
- 5) Provide increased accessibility to technical publications through the creation, conversion, and availability of electronic publications on the AOD Web site.
- 6) Ensure consistency of technical publications in terms of format, structure, terminology, use of color, and literary elements (e.g. voice and person).
- 7) Provide documentation life cycle management:
 - a. Support the full life cycle of AOD technical publications, from requirements definition to final delivery including project mgt., quality assurance, and configuration control.
- 8) Provide document life cycle tracking:
 - a. Track the status and location of all documents that are under development or are in the review and approval cycle, and provide this information to AOD management, as required, including the time each document has been under review by each reviewer.
- 9) Work with organizations outside of AOD, such as NASA Headquarters, the JSC Information Resources Directorate (IRD), the Center Directives Management System (CDMS), the JSC Quality Management System (QMS), and the Scientific and Technical Information Center (STIC) to publish forms and documents with affectivity outside of AOD.
- 10) Act as the custodians for AOD and maintain the AOD/Flight Crew Operations Directorate (FCOD) Safety Office master list in a current status to accurately reflect AOD's technical publications.
- 11) Maintain AOD-produced JSC internal documents and JSC Work Instructions (JWI) in accordance with identified directives.
- 12) Ensure that electronic/hard copy deliverables and archived records are managed and maintained in accordance with identified files and records management and procedures.
- 13) Develop and implement the necessary processes and procedures for the NAMIS Work Cards System documentation at AOD, from initial concept to final delivery to:
 - a. Convert work cards from their existing format into the Work Cards System
 - b. Maintain Work Cards System documentation.

12.2 Option 2 – Spaceflight Parachute Assembly Services

Category: Cost

The Contractor shall provide spaceflight parachute assembly inspecting, testing, buildup, repairing, and packing services.

12.3 Option 3 – Security Services

Category: Cost

The Contractor shall provide security services per NASA request. Examples of security services support include:

- 1) Provide support to programs and projects requiring Special Security Officer (SSO) support.
- 2) Provide development and management of program/project security guides, classification guides, document marking, safeguarding, and procedures
- 3) Provide development, management, and operations support for secure facilities
- 4) Provide development and implementation of policies, instructions, procedures, control systems, and methods
- 5) Manage personnel access controls and assists with security education
- 6) Transmit, transfer, downgrade, and destroy information
- 7) Support personnel security, communications security, physical security, COMSEC, information security, and information systems security

12.4 Option 4 – Langley Research Center Support

12.4.1 LaRC – Pilots

Category: Cost

See SOW Subsection L6.3.5.

12.4.2 LaRC – Aviators Life Support Systems and Equipment Maintenance

Category: Cost

See SOW Subsection L7.4.2.

12.4.3 LaRC – Egress Systems Shop

Category: Cost

See SOW Subsection L7.6.5.

12.4.4 LaRC – Engineering

Category: Cost

See SOW Subsection L8.0.

12.4.5 LaRC – Quality Control

Category: Cost

See SOW Subsection L10.0.

Appendix A – Acronyms

| Acronym | Definition |
|---------|---|
| A2LA | American Association of Laboratory Accreditation |
| ABO | Aviators Breathing Oxygen |
| ACD | Aircraft Change Directives |
| ACES | Advanced Concept Ejection Seat |
| ACTD | Advanced Concepts and Technology Demonstrations |
| ADAS | Advanced Digital Avionics System (STA) |
| AFE | Aircrew Flight Equipment |
| AFI | Air Force Instructions |
| AFMAN | Air Force Manual |
| AFOHSTD | Air Force Occupational Safety and Health Standard |
| AFPAM | Air Force Pamphlet |
| AFS | Agency Filing Scheme |
| AFTO | Air Force Technical Order |
| ALSS | Aviation Life Support System |
| AMOS | Aircraft Maintenance and Operational Support contract |
| AOD | Aircraft Operations Division |
| APACS | Aircraft and Personnel Automated Clearance System |
| APU | Auxiliary Power Unit |
| ARINC | Aeronautical Radio, Incorporated |
| AWBS | Automated Weight and Balance System |
| AWP | Awaiting Parts |
| BCM | Beyond the Capability of Maintenance |
| CAD | Computer Aided Design or Cartridge Activated Device |
| CAPS | Cirrus Airframe Parachute System |
| CBL | Commercial Bill of Lading |
| CBPO | Combined Preflight and Basic Post Flight |
| CCP | Configuration Control Panel |
| CCPD | Configuration Control Panel Directives |
| CDMS | Center Directives Management System |
| CFR | Code of Federal Regulation |
| CMP | Computerized Maintenance Program (G-II and G-III) |
| CO | Contracting Officer |
| COM | Communications |
| COM/NAV | Communications and Navigation |
| COMSEC | Communications Security |
| CONOPS | Concept of Operations |
| CONUS | Contiguous United States |
| COTR | Contracting Officer's Technical Representative |

| Acronym | Definition |
|---------|---|
| CRL | Component Repair Listing |
| DAASO | Defense Automatic Addressing System Office |
| DAMES | Defense Automatic Addressing System Office (DAASO) Automated Message Entry System |
| DER | Designated Engineering Representative |
| DCN | Drawing Change Notice |
| DFRC | Dryden Flight Research Center |
| DIFM | Due in from Maintenance |
| DME | Distance Measuring Equipment |
| DLC | Direct Lift Control |
| DOD | Department of Defense |
| DOT | Department of Transportation |
| DR | Deficiency Report |
| DRD | Data Requirement Description |
| DRL | Data Requirements List |
| EDM | Engineering Data Management |
| EDW | Edwards Air Force Base, California |
| EFD | Ellington Field, Texas |
| ELP | El Paso, Texas |
| EMI | Electromagnetic Interference |
| ERRC | Expendability, Reparability, Recoverability Category |
| ESWR | Experiment Software Work Order |
| ETIC | Estimated Time-in-Commission |
| ESD | Electrostatic Discharge |
| EWO | Engineering Work Order |
| FAA | Federal Aviation Administration |
| FAR | Federal Aviation Regulation or Federal Acquisition Regulation |
| FBO | Fixed Base Operator |
| FCE | Flight Crew Equipment |
| FCF | Functional Check Flight |
| FCOD | Flight Crew Operations Directorate |
| FMC | Full Mission Capable |
| FMEA | Failure Mode and Effects Analysis |
| FMECA | Failure Mode Effects and Criticality Analysis |
| FMI | Fleet Modification Instruction |
| FOD | Foreign Object Damage/Debris |
| FOE | Foreign Object Elimination |
| FOL | Forward Operating Location |
| FRR | Flight Readiness Review |
| FSA | Flight Scheduling Application |
| FTE | Customer Asset Report |
| FTR | Reply to Customer Asset Report |

| Acronym | Definition |
|-----------|--|
| FP | Fixed Price |
| FY | Fiscal Year |
| G-II | Gulfstream 1159 Aircraft |
| G-III | Gulfstream 1159A Aircraft |
| GA | General Aviation |
| GBL | Government Bill of Lading |
| GIDEP | Government Industry Data Exchange Program |
| GPS | Global Positioning System |
| GSA | General Services Administration |
| HAZMAT | Hazardous Material |
| I-D | Intermediate and Depot |
| IT | Information Technology |
| IATA | International Air Transport Association |
| ICAO | International Civil Aviation Organizations |
| IFR | Instrument Flight Rules |
| ILS | Instrument Landing System |
| IMO | International Maritime Organizations |
| JDRS | Joint Deficiency Reporting System |
| JENS | Johnson Space Center Emergency Notification System |
| JHA | Job Hazard Analysis |
| JOAP | Joint Oil Analysis Program |
| JOFLS | JSC Outbound Freight Logistics System |
| JPR | JSC Procedural Requirement |
| JSC | Johnson Space Center |
| JWI | Johnson Space Center Work Instruction |
| LMS | Langley Management System |
| LaRC | Langley Research Center |
| LOA | Letter of Authorization |
| LRU | Line Replaceable Unit |
| MC | Mission Capable |
| MILSBILLS | Military Standard Billing List |
| MMA | Mission Management Aircraft |
| MOA | Memorandum of Agreement |
| MOU | Memorandum of Understanding |
| MRB | Material Review Board |
| NAMIS | NASA Aircraft Management Information System |
| NASA | National Aeronautics and Space Administration |
| NDI | Non-Destructive Inspection |
| NMC | Not Mission Capable |
| NMCD | Not Mission Capable Decision |
| NMCE | Not Mission Capable Engineering |
| NMCEP | Not Mission Capable Engineering Project |

| Acronym | Definition |
|---------|--|
| NMCFS | Not Mission Capable Storage |
| NMCI | Not Mission Capable Investigation |
| NMCM | Not Mission Capable Maintenance |
| NMCO | Not Mission Capable Operations |
| NMCR | Not Mission Capable Retirement |
| NMCS | Not Mission Capable Supply |
| NPR | NASA Procedural Requirements |
| OCONUS | Outside the Contiguous United States |
| ODO | Operations Duty Officer (NASA) |
| OEM | Original Equipment Manufacturer |
| ORM | Operational Risk Management |
| ORR | Operational Readiness Review |
| OSHA | Occupational Safety & Health Administration |
| OTI | One Time Inspection |
| OTR | One Time Replacement |
| PAD | Propellant Activated Device |
| PDF | Portable Document Format |
| PDP | Payload Data Package |
| PIP | Program Implementation Plan |
| PPA | Personal Parachute Assembly |
| PP&E | Property, Plant and Equipment |
| PRR | Payload Readiness Review |
| QA | Quality Assurance (NASA) |
| QAE | Quality Assurance Evaluator |
| QC | Quality Control (Contractor) |
| QMS | Quality Management System |
| QRC | Quick Reaction Capability |
| RDEL | Requirements Data Exchange List |
| RFI | Radio Frequency Interference |
| RPC | Repair Processing Center |
| RSD | Research Services Directorate |
| SAAM | Special Assignment Airlift Mission |
| SAE | SAE International (formerly Society of Automotive Engineers) |
| SATERN | System for Administration, Training and Education Resources for NASA |
| SCA | Shuttle Carrier Aircraft |
| SCI | Sensitive Compartmented Information |
| SDR | Supply Discrepancy Report |
| SE | Support Equipment |
| SEO | Sensor Equipment Operator |
| SGT | Super Guppy Transport |
| SLE | Service Life Extension |
| SME | Spaceflight Metrology Group |

| Acronym | Definition |
|---------|--|
| SOW | Statement of Work |
| SP | Spare |
| SPOT | Synchronized Pre-deployment and Operational Tracker |
| SRU | Serviceable Repairable Unit |
| SSO | Special Security Officer |
| STIC | Science and Technology Information Center |
| STD | Standard |
| SUP | Suspected Unapproved Parts |
| T&E | Test and Evaluation |
| TCPED | Tasking, Collection, Processing, Exploitation, and Dissemination |
| T.O. | Technical Order |
| TP-FRP | Test Procedure-Flight Research Project |
| TRR | Test Readiness Review |
| TTE | Task Transmittal Engineering |
| USAF | United States Air Force |
| V&V | Validation and Verification |
| VFR | Visual Flight Rules |
| VOR | VHF Omni-directional Range |
| VPP | Voluntary Protection Program (OSHA) |
| WEBSDR | Web Based Supply Discrepancy Report |
| WI | Work Instruction |

Appendix B – Definitions

| Word | Definition |
|--|---|
| Acceptance Inspection | Inspection performed at the time an aircraft changes physical or reporting custody. Includes as a minimum, logs and records review, NAMIS baseline data entry, configuration verification to include any one-time inspections/replacements issued by NASA, and the equivalent of a preflight inspection. NASA may elect to increase inspection depth if the aircraft material condition or record examination indicates such actions are warranted. |
| Accessory | A self-contained unit mounted on a higher assembly or is installed in a weapon system or end item of equipment. It is designed to perform a specific function; such as, generating electrical power, producing hydraulic or oil pressure or to apply these sources of power for actuating doors, mechanisms, and flight control surfaces. |
| Accumulated Work Hours | Hours that are expended against a job/task by individuals assigned to the same task (refer to man-hours). |
| Air Abort | Any discrepancy discovered in flight that results in an aircrew aborting his/her planned mission to safely land the aircraft before the mission objectives are completed. |
| Aircraft Change Directive | Aircraft change directives (ACD) apply to all AOD aircraft and aircraft-related systems. An ACD refers to airworthiness directives, service changes, customer bulletins, service bulletins, engine bulletins, airframe bulletins, and airframe changes that are received from aircraft or component manufacturers, the FAA, and the DOD and to NASA locally-generated one-time inspections and one-time replacements. Compliance of an ACD will be approved/disapproved via the AOD Form 1298; <i>Maintenance Instruction Tracking Form</i> . |
| Aircraft Logbook | A detailed service record maintained for each individual aircraft. |
| Aviation Life Support Systems (ALSS) Equipment | Individual items worn by, attached to, used by, or provided for aircrew and passengers to maintain life, health, function, and safety during flight and to provide for escape, descent, survival and recovery. ALSS includes life sustaining equipment such as oxygen regulators, pressurization components, egress or jettison system components, etc., installed on an aerospace vehicle. |
| Alteration | A change that does not affect the basic character or structure of the end item it is applied to. It limits, qualifies or restricts an end item to a new purpose or end. |
| Audit | A periodic evaluation of detailed plans, policies, procedures, products, and data. |
| Avionics | Includes electronic, electrical, instruments, communication and navigation equipment and their subsystems taken either as independent equipment, or integrated systems to accomplish the mission. |
| Awaiting Maintenance | Time when an aircraft or end item is not mission capable or partial mission capable and no maintenance is being accomplished on these end items that caused the not mission capable or partial mission capable status. |
| Awaiting Parts | The condition that exists when materials are required to complete the maintenance action and these materials are not readily available; work cannot be performed on the item being repaired due to lack of ordered parts. |

| Word | Definition |
|--|---|
| Bench Check | A physical inspection or functional test of an end item removed for an alleged malfunction to determine if the part or item is serviceable or repairable. It also includes any off-equipment action by maintenance in determining the condition status of an item or a determination of the extent of maintenance, repair, or possible overhaul required to return it to a serviceable status. Bench check includes repair actions when the repair is accomplished concurrently with the bench check. |
| Beyond the Capability of Maintenance | A term/code used by the intermediate and/or depot level support shops when a repair is not authorized at that level or when an maintenance activity is not capable of being accomplished due to lack of equipment, facilities, technical skills, technical data, or parts. |
| Bits and Pieces | Items that are normally treated as one piece of hardware, or are physically constructed of two or more pieces joined together in a way that prevents disassembly without destruction or impairment of the designed use. Examples of such items are nuts, screws, gaskets, seals, bearings, brushes, gears, fuses, light bulbs, tubes, capacitors, and resistors. |
| Cannibalization or Cannibalize | The removal of a component from an aircraft, engine or other end item that is not available from normal supply sources to make a second piece of equipment functional. |
| Certificated Aircraft | An aircraft certified for flight by the FAA, not a public use aircraft. Also see Type Certificated. |
| Combined, Preflight and Post-Flight Inspection | An inspection that encompasses the full scope of a pre-flight and post-flight inspection and is accomplished at the same time to satisfy both requirements. |
| Conditional Inspection | In inspection conducted as a result of a specific over-limit condition, or as a result of circumstances or events which create an administrative requirement for an inspection. Examples include hard landing, overstress/over "G", over-temperature, lightning strike, overweight landing or take-off. Examples of administrative actions include one-time inspections imposed by NASA. |
| Configuration | The functional and/or physical characteristics of hardware and software as set forth in technical documentation and achieved in a product. |
| Configuration Control | The procedures necessary to control the form, fit, and function of components, sub-systems, and systems. |
| Configuration Item | The term can be applied to anything designated for the elements of configuration management and treated as a single entity in the configuration management system. The entity must be uniquely identified so that it can be distinguished from all other configuration items. |
| Configuration Management System | A unique identification, controlled storage, change control, and status reporting of selected intermediate work products, product components, and products during the life of a system. The objective of this system is to avoid the introduction of errors related to incompatibilities with other configuration items. |
| Configuration Control Panel | A group of knowledgeable representatives that represent a cross-section of the organization (management, engineering, operations, safety, maintenance and quality) established to review and approve or disapprove configuration changes in the baseline configuration of an aircraft or asset. |
| Consumable Item | Any item or substance which, upon installation, loses its identity and is normally consumed in use or cannot be economically repaired. |

| Word | Definition |
|--|--|
| Contracting Officer | A person with the authority to enter into (purchase), administer or terminate contracts and make related determinations and findings. |
| Contracting Officer's Technical Representative | A representative designated by the CO who performs primarily technical functions such as providing technical direction, inspection, approval of drawings, testing, and other functions or a technical or administrative nature not involving a change in the scope, price, terms or conditions of the contract. |
| Controlled Equipment | All non-sensitive equipment with an acquisition cost of \$5,000 or more and an estimated service life with two years or more, which will not be consumed or expended in an experiment. Also selected items of property with an acquisition cost less than \$5,000 that are designated and identified as sensitive, by the holding Center, such as weapons and certain types of hazardous devices. |
| Customer-Supplied Product | Products, such as payloads and flight equipment, owned by NASA or another contractor for the purpose of flight processing, testing, storage, analysis, modification, and/or fabrication. |
| De-Dock/Post Dock Meeting | A formal meeting between NASA representatives and the Contractor for the purpose of identifying all maintenance requirements that were accomplished during the phase/major calendar/hourly inspection or depot work. Refer to AOD WI 34100 for additional information on these type meetings. |
| Delayed Discrepancy | A malfunction or a discrepancy that does not create a not-mission capable status and is not immediately corrected. |
| Deployment | The temporary relocation of an aircraft, support personnel, and equipment from JSC, AOD, Ellington Field, or AOD FOL, to other CONUS or OCONUS locations in support of AOD missions. |
| Depot | The facility where depot level maintenance is accomplished. |
| Depot Level Maintenance ("D" Level) | Maintenance accomplished on aircraft or equipment requiring major rework or a complete rebuild of parts, assemblies, sub-assemblies and end items, including manufacture, alteration, testing and reclamation of parts as required. D-level maintenance is normally accomplished by personnel of higher technical skills and in facilities with more extensive shop facilities and equipment than available at the O and I level maintenance activities. |
| Discrepancy | A non-standard condition that is noted when operating or maintaining an aircraft/equipment that requires corrective action to restore the aircraft/equipment to normal operating conditions/parameters contained in approved technical data. |
| Due in for Maintenance | A system to track the status and location of repairable aircraft assets to be returned from repair/overhaul either at field level or depot level maintenance activities. |
| Engineering Project | A defined, bounded activity requiring engineering support. |
| Engineering Work Order | The Engineering Work Order (EWO), AOD Form 14, authorizes work on Johnson Space Center (JSC) aircraft and aircraft-related equipment. It provides detailed instructions, establishes a method of work control, collects historical records, and facilitates inspection. The EWO serves to combine documentation of change, test, fabrication, and repair into a single multi-use document. The EWO is required to initiate a configuration change (temporary or permanent) to any JSC aircraft, conduct tests where collection of engineering data is necessary, fabricate items for use on aircraft and support systems, develop software change/test instructions, or repair aircraft (refer to Material Review Board) where published technical information is not available. |

| Word | Definition |
|-----------------------------------|---|
| Estimated Time-In Commission | Estimated date/time aircraft scheduled or unscheduled maintenance actions will be completed to restore the aircraft or end item to a full mission capable status. Refer to AOD WI 34100, Table 1, Not Mission Capable Maintenance for information on ETIC establishment. |
| Familiar | Having a working knowledge for the area identified. Familiarization is normally achieved from prior military/commercial experience, formal classroom or on-the-job-training. |
| Fleet Modification Instructions | A document describing a modification to be incorporated on an entire aircraft fleet, group of aircraft, or a major system. |
| Flight Readiness Review | A thorough, impartial review by NASA Management and the support contractor to certify an aircraft is safe to fly its intended mission following completion of major structure repairs, modifications and/or alterations. Refer to AOD WI 33840 for additional information concerning Flight Readiness Reviews. |
| Forward Operating Location | A facility other than Ellington Field, operated by the Johnson Space Center, where maintenance and operations of JSC aircraft are performed |
| Full Mission Capable | The material condition of an aircraft indicating it can perform its assigned mission. A Full Mission Capable aircraft has completed a Basic Pre-flight or Thru-Flight inspection and is ready in all respects to be released "safe for flight". Refer to AOD WI 34100, Table 1 for usage of this aircraft status code. |
| Functional Check | The functional check and operation of an end-item on the aircraft or in the support shops, using equipment, procedures, and limits in approved technical data. NASA components requiring Functional Checks are contained in CC-WD-F1 work cards located in the AOD Library. |
| Functional Check Flight | A flight to determine whether the airframe, power plants, accessories and equipment are functioning per predetermined standards while subjected to the intended operating environment. Refer to AOD WI 34100 for aircraft specific maintenance actions that generate FCF requirements. |
| Functionally Controlled Equipment | Equipment under \$5,000 which is controlled by an on-site functional manager and is not considered sensitive. Functional managers are required to approve purchases and excess actions for equipment in their functional areas. |
| Ground Abort | <p>For those one of a kind aircraft (WB-57, G-III, DC-9, SGT) that cannot be spared for a mission, a ground abort is defined as any time an aircrew walks to an aircraft scheduled to fly and the aircraft is not subsequently launched due to a detected malfunction and the malfunction cannot be repaired within one hour from the time of discovery (refer to Maintenance Delay).</p> <p>For T-38aircraft, a ground abort is defined as any sortie or mission which is aborted prior to take-off due to a detected or suspected aircraft malfunction and the support contractor cannot provide a spare aircraft or the reported malfunction on the original aircraft cannot be repaired within one hour from the time of discovery (refer to Maintenance Delay) for the aircrew to make the assigned mission.</p> |
| Ground Functional Check | Accomplished when the maintenance action on an aircraft involves only the removal and reinstallation of connecting hardware without a change in adjustment or alignment to flight control systems. This ground functional check is used to determine airworthiness of an aircraft in lieu of a functional check or operational check flight. |

| Word | Definition |
|--------------------------------------|---|
| Ground Support Equipment | Powered or Non-Powered Support Equipment used to support maintenance in the servicing, repair, operation, removal/installation of equipment or test of aircraft and its related systems. Ground support equipment also includes all calibrated tools, test sets and other calibrated equipment that involves the use of approved instrument calibration procedures. |
| Hand Tool | A tool commonly used on aircraft such as screwdrivers, wrenches, sockets, which may be easily purchased from a local vendor. |
| Hazard | Any real or potential condition that can cause injury or death to personnel, or damage to, or loss of equipment or property. This hazard may be a result of personnel error, environment, design characteristics, procedural differences, or sub-systems or component failure or malfunction. |
| Human Factors | Recognition that personnel performing tasks are affected by physical fitness, physiological characteristics, personality, stress, fatigue, distraction, communication and attitude. |
| Inspection | The examination and testing of aircraft, engines, supplies and services, including raw materials, components, and intermediate assemblies, to determine whether they conform to specified requirements. |
| Intermediate Maintenance ("I" Level) | Maintenance which is the responsibility of, and is performed by designated maintenance activities for direct support of organizational maintenance activities. It includes, but is not limited to calibration, repair or replacement of damaged or unserviceable parts, components or assemblies, and the local fabrication of non-available parts. |
| Key Characteristics | The features of a material, process, or part whose variation has a significant influence of product fit, performance, service life or manufacturability. |
| Life-Limited Component | Any component for which mandatory replacements limit (calendar, hourly, cycles or events) are specified in the type design, the Instructions for Continued Airworthiness, or approved maintenance manual. |
| Life Status | The accumulated calendar days, hours, cycles or events on mandatory life-limited components. |
| Maintenance | The function of retaining material in, or restoring it to, a serviceable condition. It includes servicing, inspecting, replacement, alterations, or defect rectification of an aircraft or an aircraft component that is performed after completion of manufacturing. |
| Maintenance Delay | Any mission that is delayed due to a detected or suspected maintenance malfunction discovered by an aircrew and/or maintenance personnel on an assigned aircraft that can be corrected by the maintenance contractor within 1 hour from the received time of the reported malfunction. |
| Material Review Board (MRB) | A Material Review Board, refer to Engineering Work Order, provides technical repair instructions when no other technical data is available or the existing technical publications, engineering drawings, or procedures are inadequate (does not apply to FAA certified aircraft). |
| Major Engine Inspection | A comprehensive inspection performed to determine the material condition of an engine. This inspection is performed when the engine is removed from the aircraft. |
| Mission Capable | The material condition of an aircraft indicating it can perform its assigned missions. A Basic Preflight or Thru-flight Inspection has not been performed and the aircraft is not ready to be released "safe for flight". Refer to AOD WI 34100, Table 1 for usage of this aircraft status code. |

| Word | Definition |
|---|---|
| Mission Effectiveness | The launching of one or more aircraft to achieve a mission and the mission results are reported by an aircrew as “successfully completed” following the mission. Refer to definition of Air Abort. |
| Mission Management Aircraft | Those administrative aircraft certified by the Federal Aviation Administration and used primarily for passenger transport. These include aircraft used to transport management and staff personnel on official travel for the purpose of satisfying mission requirements or other travel for the conduct of agency business. |
| Non-conformance | A condition of product or service in which any characteristics do not conform to specifications required and/or stated. This may include failures, deficiencies, defects, malfunctions and the like. |
| Non-Labor Resources | Resources provided by the contractor other than labor to include materials, equipment, training, travel, and other direct costs. |
| Not Mission Capable | The material condition of an aircraft indicating it is not capable of performing any of its assigned missions (refer to Not Mission Capable Maintenance or Supply). |
| Not Mission Capable Decision | The material condition of an aircraft pending final disposition by NASA Management that may include picking an aircraft up that had cross-county maintenance completed, retirement, storage and the like. Refer to AOD WI 34100, Table 1 for usage of this aircraft status code. |
| Not Mission Capable Engineering | The material condition of an aircraft indicating work to be accomplished to correct a material anomaly is beyond the capability of approved technical data and the disposition to restore the aircraft to the equivalent or improved material condition it had before the discrepancy was sustained or noted comes directly from Aircraft Operations Division Engineering (NASA or Contractor). The use of this aircraft status code indicates Maintenance is at a complete work stoppage for Engineering. Refer to AOD WI 34100, Table 1 for usage of this aircraft status code. |
| Not Mission Capable Engineering Project | The material condition of an aircraft indicating the aircraft is not mission capable due to an engineering project. Refer to AOD WI 34100, Table 1 for usage of this aircraft status code. |
| Not Mission Capable Storage | The material condition of an aircraft indicating a not-mission-capable decision has been made to place the aircraft in a flyable or long-term storage. Refer to AOD WI 34100, Table 1 for usage of this aircraft status code. |
| Not Mission Capable Impoundment | The material condition of an aircraft indicating the aircraft has been impounded by NASA in accordance with ASO WI 33808, Impounding Aircraft Components and Maintenance Documentation. Refer to AOD WI 34100, Table 1 for usage of this aircraft status code. |
| Not Mission Capable Maintenance | The material condition of an aircraft or component indicating it is not capable of performing its assigned mission due to a “downing” discrepancy for scheduled or unscheduled maintenance in the NASA provided automated database. Refer to AOD WI 34100, Table 1 for usage of this aircraft status code. |
| Not Mission Capable Operations | The material condition of an aircraft indicating it is ready to be picked up and returned to EFD or other FOL site pending aircrew availability. Refer to AOD WI 34100, Table 1 for usage of this aircraft status code. |
| Not Mission Capable Retirement | The material condition of an aircraft indicating a not-mission-capable-decision has been made to retire the aircraft. Refer to AOD WI 34100, Table 1 for usage of this aircraft status code. |

| Word | Definition |
|--|--|
| Not Mission Capable Supply | The material condition of an aircraft indicating it is not capable of performing its mission due to a “downing” discrepancy for scheduled or unscheduled maintenance that cannot be accomplished due to supply shortage. Aircraft in this category are at a complete work stoppage for supply. |
| Operational Check Flight | An in-flight check of lesser severity than a functional check flight that is flown to determine whether selected aircraft systems operate per predetermined standards while subjected to the intended operating environment. Refer to AOD WI 34100 for aircraft specific maintenance actions that generate OPS Check Flight requirements. |
| Organizational Maintenance (“O” Level) | Maintenance (scheduled or unscheduled which is the responsibility of, and is performed by, a using organization on its assigned equipment. It includes, but is not limited to inspecting (conditional, special, phase, calendar, cyclic, before/after flight, acceptance or transfer) servicing, lubricating, adjusting, replacing line replaceable units, mechanical accessories, electrical/hydraulic and minor assemblies and sub-assemblies. |
| Phase Inspection | A series of related inspections performed sequentially at specific intervals. These inspections are the result of dividing the maintenance requirements into small packages containing approximately the same workload. |
| Post-Flight Inspection | An inspection conducted after each flight to detect degradation or damage that may have occurred during the flight and to determine the need for servicing. |
| Pre-Dock Meeting | A formal meeting between NASA and the support contractor prior to the input of an aircraft into scheduled phase/major calendar/hourly inspections or depot work to identify all maintenance requirements that will be accomplished during these type inspections. Refer to AOD WI 34100 for additional information regarding Pre-dock Meetings. |
| Preflight Inspection | The final inspection conducted prior to the first flight of each flight day to ensure the aircraft is safe for flight and to verify proper servicing. |
| Preventive Maintenance | Systematic inspection, detection, correction, and prevention of early failures, before they become actual or major failures. |
| Program Support Aircraft | Aircraft used to support programs and mission operations. This includes, but is not limited to, astronaut training, safety chase, photo chase, cargo transport, flight training, range surveillance, launch security, and command and control. |
| Project Aircraft | An aircraft with a problem that cannot be solved with normal maintenance technical data, requiring engineering assistance. Specific anomalies will also cause an aircraft to become a project. Refer to AOD WI 33820 for additional information on Project Aircraft. |
| Project Engine | An engine with a problem that cannot be solved with normal maintenance technical data, requiring engineering assistance. Specific anomalies will also cause an engine to become a project. Refer to AOD WI 33820 for additional information on Project Engine. |
| Property, Plant and Equipment System | An agency-wide tool/system used throughout the agency to identify, control and account for Government-owned equipment acquired by or in use by NASA and its Contractors. |
| Public Use Aircraft | An aircraft operated by or on behalf of the Government. |
| Qualifications | Training or competencies, which provide an individual the necessary skills, knowledge, or credentials to perform a specific function. These qualifications are normally achieved from prior military/commercial experience, formal classroom or on-the-job-training. |

| Word | Definition |
|---------------------------------|---|
| Quality Management System (QMS) | A system by which an organization aims to reduce and eventually eliminate non-conformances to specifications, standards, and customer expectations in the most effective and efficient manner. |
| Receiving Inspection | An inspection to verify that purchased products conform to specified purchase requirements. Verification activities may include obtaining objective evidence of the quality of the product from suppliers to include accompanying documentation, certificate of conformity, test reports, statistical records and establishment of process controls to ensure key characteristics have been met. |
| Recurring Discrepancy | When an aircrew member reports the identical discrepancy on an aircraft within ten flight hours of original occurrence. |
| Repeat Discrepancy | When an aircrew member reports the identical discrepancy on an aircraft within five flight hours of original occurrence. |
| Scheduled Maintenance | Known or predictable maintenance requirements based on calendar, hourly, events, or cycles, that can be planned or programmed for accomplishment on short and long-range schedules. This includes accomplishing recurring scheduled maintenance inspection and servicing, complying with configuration items, accomplishing scheduled time change item replacements, and correcting delayed or deferred discrepancies. It also includes modification and renovation projects that are programmed for depot. |
| Service Bulletin | A document which directs a one-time inspection of an in-service aircraft, system, sub-assemblies, components or piece of support equipment. These documents are normally issued by Federal Aviation Authority (FAA) or DoD. |
| Service Change | A document which directs and provides instructions for the accomplishment of a change, modification, repositioning or alteration of material in an in-service aircraft, system, sub-assemblies, components or piece of support equipment from its original design. These documents are normally issued by Federal Aviation Authority (FAA) or DoD. |
| Sensitive Equipment and Parts | An item of equipment that, due to its pilferable nature or the possibility of it being a hazard, requires a stringent degree of control. A sensitive item can be capital or non-capital. Generally, sensitive items are controlled at an acquisition cost of \$500 or more. |
| Serviceable Condition | The condition of an item that is capable of performing its purpose and function to the requirements for which it is originally intended. |
| Servicing | The replenishing of all fluids, fuel, oil, water methanol, as well as cleaning the aircraft exterior and interior, cleaning food dispensing equipment, ice chests, coffee pots, hot cups, chemical toilets, as required. This may also include storage of meals on the aircraft. |
| Sortie | A completed flight; equivalent to 1 takeoff and 1 full stop landing. |
| Special Inspection | A scheduled inspection with a prescribed interval other than preflight, phase, major engine or standard depot level maintenance. These intervals are specified in the applicable planned maintenance system publication and are based on elapsed calendar time, flight hours, operating hours, or number of cycles or events. Examples include 50 hour, 225 hour, 45-day, and 90-day inspections. |
| Special Upkeep | Work accomplished to an aircraft, without regards to flying hours or special events, to improve, change or restore and/or enhance the material condition. For example, corrosion control program, major paint touch-ups. |

| Word | Definition |
|--|---|
| Time Change Technical Order | A document issued by the DOD to provide technical information necessary to properly and systematically inspect or alter the configuration of aircraft, engines, systems or components. This includes all types of changes and bulletins and consists of information that is not normally disseminated by revisions to technical manuals. |
| Technical Data | Data that is necessary to ensure that the aircraft and related systems can be maintained in a condition such that serviceability and airworthiness of the aircraft and related operational and emergency equipment, is assured. This data includes computerized maintenance program (CMP) cards, NASA/Department of Defense (DoD) technical orders and work cards, manufacturer's maintenance manuals, Aircraft Operations Division (AOD) unique work instructions (WIs), engineering work orders (EWOs), fleet modification instructions (FMIs), engineering drawings, test procedure – flight research project (TP-FRP) instructions, Federal Aviation Authority (FAA)-approved original equipment manufacturer (OEM) standards, aircraft change directives (ACDs) (e.g. airworthiness directives, service bulletins, etc) and any other subscriptions, data, and specifications. |
| Test Procedure-Flight Research Project | An approved, repetitive inspection or test on NASA aircraft, components or ground support equipment. |
| Through-Flight Inspection | An inspection conducted on an aircraft between flights flown on the same day to ensure the integrity of the aircraft for flight, verify proper servicing, and to detect any degradation that may have occurred during the previous flight. |
| Training | The process of providing knowledge and skills to individuals to better enable them to perform their current duties or future duties. Training may include job-specific training such as a series of instructions or proficiency demonstrations leading to a qualification. |
| Transfer Inspection | Inspection performed at the time an aircraft changes physical or reporting custody. Includes as a minimum, logs and records review, NAMIS data storage, and the equivalent of a preflight inspection. NASA may elect to increase inspection depth if the aircraft material condition or record examination indicates such actions are warranted. |
| Troubleshooting | The logical, analytical, and where applicable, an approved technical order prescribed procedure followed in isolating aircraft/equipment malfunctions. |
| Turn-around Time | This includes wheels in the well for the first flight to wheels in the well for the second flight and any maintenance time required to repair, inspect, service and prepare the aircraft "safe for flight". |
| Type Certificated | Aircraft with FAA airworthiness certificates. |
| Unscheduled Maintenance | Unpredictable maintenance requirements, maintenance not previously planned or programmed, maintenance requiring prompt attention and must be added to, integrated with, or substituted for previously scheduled workloads. This includes, but is not limited to, compliance with immediate action aircraft change directives, correction of discrepancies discovered during flight or operation of equipment, and performance of repairs as a result of accidents or incidents. |
| Weather Abort | Any scheduled mission that is not completed due to inclement weather. |
| Work Instruction | A document that describes how to accomplish specific job activities needed to ensure consistent working methods and achieve the required quality standard. |

Appendix C - Applicable Documents

Note: Documents in gray are referenced in Section C, AMOS SOW.

| Document # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|----------------|---|----------|---------------|------------------|---------------------|
| 00-20-1 | Aerospace Equipment Maintenance Inspection, Documentation, Policies & Procedures (TO 00-20-5 merged into this book) | Basic | 15-Jun-11 | | |
| 00-20-2 | Maint Data Documentation | Basic | 1-Sep-10 | | |
| 00-20-3 | Repairable Property 7 Asset Control | 1 | 1-Jan-09 | | |
| 00-20-4 | Configuration Management System | 2 | 15-Sep-93 | | |
| 00-20-9 | Time Change Forecast | Basic | 15-Mar-08 | TMR 11-002 | |
| 00-20-14 | Metrology & Calibration Program | Basic | 30-Sep-11 | | |
| 00-20B-5 | Vehicle Equipment | 9 | 18-Nov-95 | | |
| 00-25-06-2-1 | Life Support Work Unit Code | 2 | 15-Jul-04 | | |
| 00-25-4 | Depot Maint Schedule | Basic | 15-Aug-11 | | |
| 00-25-107 | Depot Maintenance Assistance | Basic | 15-Aug-11 | | |
| 00-25-113 | Disposal of Alloys and Metals | Basic | 30-Apr-95 | | |
| 00-25-113-J85 | Critical Alloys and Precious Metals Parts List, Turbojet Engines, Model J85-GE-5, -7, -13, -17 and -21 Series | Basic | 15-Feb-07 | | |
| 00-25-113-T38A | Parts List Critical Alloy and Metals (no longer updated by USAF) | 1 | 15-Dec-87 | | |
| 00-25-172 | Ground Servicing of Aircraft | 3 | 27-May-11 | TMR 08-006 Rev B | |
| 00-25-200 | Use of Parts Kits | Basic | 1-Mar-09 | | |
| 00-25-203 | Contamination Control of Aerospace Facilities | 17 | 1-May-07 | | |
| 00-25-213 | Storage, Testing, Shelf Life for Dry Batteries | Basic | 1-Mar-10 | | |
| 00-25-223 | Integrated Pressure Systems and Components (portable & installed) | 7 | 15-May-06 | | |
| 00-25-224 | Welding High Pressure and Cryogenic Systems | Basic | 25-Sep-73 | | |
| 00-25-229 | Integrated Pressure Systems | Basic | 15-Sep-04 | | |
| 00-25-232 | Insulation Matting for High Voltage Application | Basic | 28-Feb-97 | | |
| 00-25-234 | General Shop Practice Requirements for the Repair, Maint and Test of Electrical Equipment | 38 | 14-Sep-09 | | |
| 00-25-241 | Parachute Logs and Records | 8 | 25-May-11 | | |
| 00-25-245 | Personnel Safety and Rescue Equip | 2 | 21-Oct-10 | | |
| 00-25-251 | Microwave, Magnetron, Electron Tubes | Basic | 28-Oct-03 | | |
| 00-25-255-1 | Electronic Cable Assembly | Basic | 15-Aug-06 | | |
| 00-25-255-2 | Electronic Cable Assembly | Basic | 1-Sep-07 | | |
| 00-35A-39 | Medical Kits | Basic | 15-Aug-11 | | |
| 00-35D-54 | USAF Deficiency Reporting, Investigation & Resolution | Basic | 1-Oct-09 | | |
| 00-5-1 | TO Distribution System (incorporates 00-5-2) | Basic | 1-May-11 | | |
| 00-5-3 | Air Force Manual Acquisition Procedures | Basic | 1-May-11 | | |

| Document # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|---------------|---|----------|---------------|------------------|---------------------|
| 00-5-18 | TO Numbering System | Basic | 1-Apr-10 | | |
| 00-85-20 | Engine Shipping Instructions | Basic | 15-Jul-10 | | |
| 00-85A-23-1 | Packaging & Storage of Aluminum Alloy Sheet & Plate | Basic | 22-Nov-76 | | |
| 00-85B-3 | How to Package Air Force Spares | 1 | 31-May-1999 | | |
| 00-105E-9 | Fire Protection Emergency Rescue | Rev 15 | 31-Mar-11 | | SS-1 thru SS-4 |
| 03-10EA-80 | SGT Submerged Fuel Booster Pumps, Model 122532 | Basic | 15-Oct-53 | | |
| 1-1-3 | Repair of Fuel Tanks and Cells | 5 | 25-Aug-11 | | |
| 1-1-8 | Application & Removal of Organic Coatings | 2 | 16-Jun-11 | | |
| 1-1-17 | Storage of Aircraft and Missile Systems | 4 | 15-May-08 | | |
| 1-1-19 | Vibration Isolators | Basic | 15-Feb-10 | | |
| 1-1-24 | Fiberglass Airborne Radomes | 5 | 1-Jun-10 | TMR 03-017 | |
| 1-1-300 | Functional Check Flight and Operational Check (no longer updated by USAF) | Basic | 14-Nov-07 | | |
| 1-1-638 | Repair and Disposal of Aerospace Vehicles | Basic | 1-Jan-90 | | |
| 1-1-641 | MEL for Overwater Flight | Basic | 15-Oct-72 | | |
| 1-1-655 | High Potential Voltage Testing Apparatus | Basic | 30-May-86 | | |
| 1-1-686 | Desert Storage Preservation & Process Manual (Auxiliary Power Unit Engines) | Basic | 1-Jan-09 | | |
| 1-1-689-1 | Cleaning & Corrosion Control (Vol I) - Corrosion Program & Corrosion Theory (replaces 1-1-689) | Basic | 1-Mar-05 | | |
| 1-1-689-3 | Cleaning & Corrosion Control (Vol III) - Avionics & Electronics (replaces 1-1-689) | 1 | 15-Jul-08 | | |
| 1-1-689-5 | Cleaning & Corrosion Control (Vol V) - Consumable Materials & Equipment for Avionics (replaces 1-1-689) | Basic | 1-Jul-09 | | |
| 1-1-690 | General Advanced Composite Repair Process Manual | Basic | 28-Mar-07 | | |
| 1-1-691 | Aircraft Weapons System - Cleaning, Corrosion Control | 2 | 11-May-11 | | |
| 1-1A-1 | General Structural Repair Manual | Basic | 15-Nov-06 | | |
| 1-1A-8 | Structural Hardware | Basic | 1-Oct-09 | TMR 08-005 Rev A | |
| 1-1A-9 | Metals, General Date & Usage Factors | 6 | 21-Mar-11 | | |
| 1-1A-12 | Fabrication and Repair of Plastics | Basic | 20-Sep-91 | | |
| 1-1A-14 | Installation and Repair Practices Acft Electric and Electronic Wiring | Basic | 15-Sep-09 | | Supp C |
| 1-1A-15 | Support Equipment | 1 | 20-May-11 | | |
| 1-1B-50 | Weight & Balance | Basic | 1-Apr-08 | | |
| 1B-57(A)-17 | WB-57 Storage of Aircraft | 2 | 1-Jun-70 | | |
| 1B-57(B)-4 | B-57B/B-57C/B-57E Aircraft IPB | 14 | 8-May-79 | | |
| 1B-57(R)F-01 | WB-57 List of Applicable Publications | Basic | 30-Nov-70 | | |
| 1B-57(R)F-1-2 | WB-57 Partial Flight Manual | Basic | 24-Jul-70 | | |

| Document # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|--------------------|--|----------|---------------|----------------------------|---------------------|
| 1B-57(W)F-1-3 | WB-57 Special Equipment Operator Instructions (Formerly 1B-57(R)F-1-5) | Changed | 2-Aug-68 | | |
| 1B-57(W)F-10 | WB-57 Power Package Buildup Instructions (Formerly 1B-57(R)F-10) | 11 | 1-Mar-73 | TMR 05-051 Basic PCN 1 | |
| 1B-57(W)F-102 | WB-57 Operation & Maint. Instructions for 6211 Flight Programmer (Formerly 1B-57(R)F-103) | Changed | 16-Jun-67 | | |
| 1B-57(W)F-2-1 | WB-57 Organizational Maintenance, General Airplane (Formerly 1B-57(R)F-2-1) | Basic | 6-Jul-73 | TMR 10-011 | |
| 1B-57(W)F-2-12-1-1 | WB-57 Special Equipment Maint. Instructions. | 6 | 18-Sep-73 | TMR 10-013 | |
| 1B-57(W)F-2-12-1-2 | WB-57 Special Equipment Maint. Instructions Handbook | 4 | 28-Sep-72 | | S-1 |
| 1B-57(W)F-2-12-3-1 | WB57 Special Equipment Maintenance Instructions Handbook | Changed | 18-Feb-72 | | |
| 1B-57(W)F-2-2 | WB-57 Ground Handling, Servicing & Airframe Maint Instructions | 6 | 18-Jun-81 | TMR 04-017 Basic PCN 8 | |
| 1B-57(W)F-2-3 | WB-57 Pneudraulics - Organizational Maint. | 1 | 16-Jul-81 | TMR 03-046 Basic PCN 6 | |
| 1B-57(W)F-2-4 | WB-57 Power Plant - Organization Maint. | Basic | 1-Apr-73 | TMR 03-012 Basic PCN 1 | TP-101 |
| 1B-57(W)F-2-5 | WB-57 Fuel System - Organization Maint. | Basic | 1-Apr-73 | TMR 05-049 | |
| 1B-57(W)F-2-7 | WB-57 Flight Control & Autopilot Systems | 1 | 1-Sep-73 | TMR 03-035 Rev B PCN 2 | |
| 1B-57(W)F-2-9 | Electrical System | Basic | 6-Jul-73 | 03-037 Basic PCN 5 | |
| 1B-57(W)F-3 | WB-57 Structural Repair Instructions (Formerly 1B-57(R)F-3) | 8 | 18-May-73 | TMR 05-050 Basic PCN 5 | S-2 |
| 1B-57(W)F-4 | WB-57 Illustrated Parts Breakdown (Formerly 1B-57(R)F-4) | 32 | 12-Feb-79 | TMR 02-049 Basic PCN 14 | |
| 1B-57(W)F-5 | WB-57 Basic Weight Checklist & Loading Data (Formerly 1B-57(R)F-5) | 1 | 1-Sep-72 | TMR 08-002 Rev A | S-1 |
| 1B-57(W)F-5-2 | WB-57 Basic Weight Checklist & Loading Data (Applicable to AF63-13503 only) | Basic | 1-Oct-71 | | |
| 1B-57(W)F-5-3 | WB-57 Basic Weight Checklist & Loading Data (Applicable to AF63-13501 only) | Basic | 18-Feb-72 | | |
| 1B-57(W)F-6 | WB-57 Scheduled Inspection and Maintenance Regulations | 4 | 25-Feb-80 | TMR 03-042 Basic PCN 14 | S-17, S-19, S-20 |
| 1B-57(W)F-21 | WB-57 Aircraft Inventory Record Master Guide | Basic | 17-Jan-72 | | |
| 1B-57(W)F-36 | WB-57 NDI Procedures | 3 | 17-Jan-79 | TMR 05-028 Basic PCN 1 | |
| 1C-97(K)E(C)-2-1 | Guppy - General Airplane Maintenance Organizational & Maintenance Instructions for KC-97E, F, G Aircraft | 9 | 10-Nov-72 | | SS-1 |

| Document # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|---------------------|---|----------|---------------|------------------------------------|---------------------|
| 1C-97(K)E(C)-2-2 | Guppy - Ground Handling, Servicing & Airframe, Organizational Maint Instructions, General Info - Tools/Test Equip - Gnd Handling - Servicing - Lub - Environ - Airframe Maint/Structure - Fuselage Doors/Windows - Airframe Equip- Throttle | 40 | 1-Aug-75 | EMIs 40-8213-1 & 40-8207-1 (Rev A) | |
| 1C-97(K)E(C)-2-3 | Guppy - Hydraulic & Utility Systems Organizational Maintenance Instructions for KC-97E, F, G Aircraft | 13 | 20-Feb-74 | | |
| 1C-97(K)E(C)-2-4-1 | Guppy - Power Plant Organizational Maintenance Instructions for C/KC-97 Aircraft | 42 | 1-May-77 | | |
| 1C-97(K)E(C)-2-4-2 | Guppy - Engine Conditioning Organizational Maintenance Instructions for C/KC-97 Aircraft | 26 | 1-Apr-75 | | |
| 1C-97(K)E(C)-2-5 | Guppy - Fuel Sys, Organizational Maint Instructions for KC-97E, 97F & 97G Aircraft | 19 | 20-Jan-76 | | |
| 1C-97(K)E(C)-2-6 | Guppy - Air Refueling A/R Sys, Organizational Maint Instructions for KC-97E, 97F & 97G Aircraft | 10 | 20-Feb-74 | | |
| 1C-97(K)E(C)-2-7 | Guppy - Landing Gear Organizational Maint Instructions for KC-97E, 97F & 97G Aircraft | 29 | 2-May-77 | | TP-FRP 473 & 489 |
| 1C-97(K)E(C)-2-8 | Guppy - Flight Controls, Organizational Maint Instructions for KC-97E, 97F & 97G Aircraft | 14 | 1-Mar-74 | | SS-1 |
| 1C-97(K)E(C)-2-9 | Guppy - Instruments Organizational Maint Instructions for KC-97E, F & G Aircraft | 13 | 15-Feb-72 | | |
| 1C-97(K)E(C)-2-10 | Guppy - Electrical Systems Organizational and Maintenance Instructions for KC-97E, F, G Aircraft | 15 | 5-May-72 | | |
| 1C-97(K)E(C)-2-11 | Guppy - Radio, Comm/Nav Systems Organizational Maintenance Instructions for KC-97E, F, G Aircraft | 9 | 15-Feb-72 | | |
| 1C-97(K)E(C)-4 | Guppy IPC for KC-97E, F & G Aircraft | Rev 43 | 1-Jan-77 | TMR 02-042 Rev C | |
| 1C-97A-2 | Organizational Manual for C-97A, C & D models | Changed | 15-Dec-68 | | |
| 1C-97A-3 | Guppy C-97 Structural Repair Manual | 7 | 15-Nov-73 | | |
| 1C-97D-36 | Guppy Structural Non-Destructive Inspection Procedures | Basic | 30-Jan-69 | | |
| 1C-130H-2-61JG-10-1 | Propellers-Propeller Assembly all C-130 Aircraft | 36 | 15-Oct-10 | | |
| 1C-141B-10 | Power Package Build-up Instructions for C-141B/C Acft | 11 | 1-Jan-02 | | |
| 1F-15A-2-95FI-00-1 | WB-57 Crew Escape & Safety System Fault Isolation, USAF Series F-15A 73-085 and up & F-15B 73-108 and up | 5 | 15-Jun-2006 | | |

| Document # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|--------------------|--|----------|---------------|-----------------|---------------------|
| 1F-15A-2-95GS-00-1 | WB-57 Crew Escape & Safety Systems General for USAF Series F-15A 73-085 and up & F-15B 73-108 and up | 10 | 1-Oct-2006 | | |
| 1F-15A-2-95JG-10-1 | WB-57 Crew Escape & Safety System Ejection Set, ACES II S/S/SN 95-10-01 thru 95-10-20, for F15A 73-085 and up, also for F-15C Acft | 22 | 15-Jun-11 | | |
| 1F-15A-2-95JG-10-2 | WB-57 Crew Escape & Safety System - Ejection Seat ACES II, S/S/SN 95-10-21 thru End, for F15A 73-085 and up, also for F-15C Acft | 18 | 15-Jun-11 | | |
| 1F-15A-2-95JG-50-1 | WB-57 Crew Escape & Safety System Survival Kit & Recovery Parachute, USAF Series F-15A 73-085 and up, F-15B 73-108 and up & F-15C/D/E | 14 | 1-Nov-2009 | | |
| 1F-15A-2-95SD-00-1 | WB-57 Crew Escape & Safety System Schematic Diagram, USAF Series F-15A 73-085 and up & F-15B 73-108 and up | Basic | 15-Jul-1995 | | |
| 1F-15A-4-2 | WB-57 Mechanisms, Controls, Armament & Egress Systems IPB, USAF Series F-15A 73-085 and up & F-15B 73-108 and up | 28 | 1-Jun-2009 | | |
| 1F-15A-36 | WB-57 NDI Technical Manual for F-15A/B/C/D/E Aircraft | 16 | 15-Jul-11 | | |
| 1F-15B-2-95JG-11-1 | WB-57 Crew Escape & Safety System - Ejection Seat ACES II (S/S/SN 95-11-01 thru 95-11-21) USAF Series F-15B 73-108 and up & F-15D/E | 25 | 15-Jun-2011 | | |
| 1F-15B-2-95JG-11-2 | WB-57 Crew Escape & Safety System - Ejection Seat ACES II (S/ S/ SN 95-11-22 thru 95-11-33) USAF Series F-15B 73-108 and up & F-15D/ E | 15 | 15-Jun-2011 | | |
| 1F-15B-2-95JG-11-3 | WB-57 Crew Escape & Safety System - Ejection Seat ACES II (S/ S/ SN 95-11-34 thru End) USAF Series F-15B 73-108 and up & F-15D/ E | 16 | 15-Feb-2011 | | |
| 1F-15C-2-32JG-10-1 | Landing Gear System - Main Landing Gear & Doors S/S/SN 32-10-01 thru 32-10-12 | 37 | 15-Jul-10 | | |
| 1F-15E-2-05JG-00-2 | Aircraft-General Maintenance Job Guide (S/S/SN: 05-00-12 thru 05-00-23) F-15E Series Acft. | 8 | 1-May-06 | | |
| 1F-15E-2-12JG-10-1 | WB-57 Servicing, Replenishing & Depleting - S/S/SN 12-10-01 thru 12-10-19 | 26 | 1-May-05 | | |
| 1F-15E-2-12JG-10-2 | WB-57 Servicing, Replenishing & Depleting - S/S/SN 12-10-20 thru End | 37 | 15-Oct-05 | | |
| 1F-15E-2-32JG-40-1 | Landing Gear System - Wheel Brake & Skid Control (S/S/SN 32-40-01 thru 32-40-13) - for WB57 Acft | 19 | 15-Mar-06 | | |

| Document # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|--------------------|---|----------|---------------|---|--|
| 1F-15E-2-32JG-40-3 | Landing Gear System - Wheel Brake and Skid Control Job Guide (S/S/SN 32-40-32 thru End) | 18 | 15-Jul-06 | | |
| 1F-15E-3-1 | General Information USAF F-15E Series Aircraft | 15 | 15-Jan-07 | | |
| 1F-16A-3-1 | Structures (51-00-00) SRM (for WB-57) | Basic | 1-Sep-10 | | |
| 1F-16A-3-2 | Doors (52-00-00) SRM (for WB-57) | Basic | 15-Jun-09 | | |
| 1F-16A-3-3 | Fuselage (53-00-00) SRM (for WB57) | Basic | 1-Aug-10 | | |
| 1F-16A-3-4 | Stabilizers (55-00-00) SRM (for WB-57) | Basic | 1-Aug-10 | | |
| 1F-16A-3-5 | Wings (57-00-00) SRM (for WB-57) | Basic | 1-Aug-10 | | |
| 1F-16C-2-95JG-50-1 | Survival Equipment Job Guide for F-16C/D Acft, Blocks 25, 30 & 32 | Basic | 1-Jun-11 | | |
| 1T-38 TCTO | ACTIVE 1T-38 TCTOs | Various | | | 792/D, 812/C, 815, 820/C, 823/C, 835/C, 836/D&C |
| 1T-38A-01 | List of Applicable Publications | 3 | 15-Jan-11 | TMR 11-001 | |
| 1T-38A-06 | Work Unit Codes | 5 | 15-Sep-11 | | |
| 1T-38A-1 | Flight Manual | 1 | 1-Jan-06 | TMR 05-024; NASA Memos: CC4-88-127; CC4-86-100; CC4-89-77; 38-9199-1B, 38-92310-1 | S-180, SS-181, S-183, S-184, S-185, SS-186, S-187, S-188 |
| 1T-38A-1CL-1 | Pilot's Abbreviated Flight Crew Checklist | Basic | 1-Jan-06 | | S-180, SS-181, S-183, S-185, SS-186, S-187, S-188 |
| 1T-38A-2-1 | Organizational Maintenance, General Airplane | 9 | 15-Sep-11 | 02-051 Rev A PCN 1 | |
| 1T-38A-2-1-1 | Cross-Servicing Guide | 8 | 15-Sep-11 | | |
| 1T-38A-2-2 | Ground Handling, Servicing & Airframe Maintenance | 19 | 15-Sep-11 | TMR 02-053 Rev A PCN 16 | S-3 |
| 1T-38A-2-2CL-1 | Egress System | 6 | 15-May-11 | TMR 02-036 Rev B PCN 4 | |
| 1T-38A-2-2CL-2 | Towing Procedures | 2 | 15-Sep-11 | | |
| 1T-38A-2-2CL-3 | T-38 Jacking Procedures | 3 | 15-Sep-10 | TMR 07-004 Rev A | |
| 1T-38A-2-2CL-4 | Filling/Draining/Purging/Liquid Oxygen System Procedures | 1 | 15-Sep-07 | TMR 03-016 Rev B | |

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|----------------|---|----------|---------------|--|---------------------|
| 1T-38A-2-2CL-6 | WSSP Removal/Installation & Inspection Procedures Checklist for T-38A, T-38B & T-38C (rescinded CC-MCA-001) | Basic | 4-Apr-03 | TMR 03-022 Rev A PCN 2 | |
| 1T-38A-2-3 | Flight Control Systems | 15 | 15-Sep-11 | TMR 02-047 Rev A PCN 9 | |
| 1T-38A-2-3CL-1 | Organizational Maint. Stability Augmenter Checkout Procedures - T-38A Aircraft | Basic | 30-Sep-04 | | |
| 1T-38A-2-3CL-2 | Flight Control System | 4 | 24-Feb-10 | | |
| 1T-38A-2-3CL-3 | Flight Control System Horizontal Tail Control System | 3 | 15-Jan-11 | | |
| 1T-38A-2-4 | Pneudraulic System | 12 | 15-May-11 | TMR 02-039 Rev B PCN 3 | |
| 1T-38A-2-5 | Fuel System | 5 | 15-May-11 | TMR s 02-052 Rev A PCN 2; 09-001 Basic PCN 2 (EFIS) | |
| 1T-38A-2-5CL-1 | Refueling/Defueling Procedures | Basic | 1-Sep-05 | TMR 05-020 Rev B | |
| 1T-38A-2-6 | Power Plant | 15 | 15-Sep-11 | TMRs 02-013 Rev B PCN 13; 08-011 Basic PCN 5 (EFIS) | |
| 1T-38A-2-6-2 | Engine Conditioning | 11 | 15-Jan-11 | TMR s 02-019 Rev A PCN 9 / 08-009 Basic PCN 4 (EFIS) | |
| 1T-38A-2-7 | Electrical Systems | 8 | 15-Sep-11 | 04-031 Rev A PCN 1 | |
| 1T-38A-2-8 | Landing Gear System | 13 | 15-May-11 | TMRs 02-029 Rev A PCN 6; 10-021 Basic PCN 2 {EFIS} | |
| 1T-38A-2-8CL-1 | Removing/Installing Maint Landing Gear Wheel & Nose Landing Gear Wheel Procedure | Basic | 30-Sep-04 | TMRs 02-030 Rev C; 10-020 Basic (EFIS) | |
| 1T-38A-2-9 | Instruments | 3 | 15-Sep-11 | TMR 03-014 Rev A | |
| 1T-38A-2-10 | Radio, Communication & Navigation Systems | 4 | 15-Sep-11 | TMR 02-009 Rev A | |

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|--------------|--|----------|---------------|--|---------------------|
| 1T-38A-2-11 | T-38A Aircraft Wiring Diagrams | 5 | 15-Sep-11 | TMR 05-023 Basic PCN 1 | |
| 1T-38A-3 | Structural Repair | 23 | 15-Sep-11 | TMRs 02-012 Rev B PCN 17; TMR 10-014 Rev A PCN 2 (EFIS) | |
| 1T-38A-4-1 | IPB - General Airplane | 1 | 15-May-11 | TMR 02-034 Rev C PCN 1 | |
| 1T-38A-4-2 | Aerospace Ground Equipment | 2 | 15-Sep-11 | TMR 05-025 Rev A | |
| 1T-38A-4-3 | Flight Control Systems | 17 | 15-Sep-11 | TMR 02-025 Rev A PCN 9 | |
| 1T-38A-4-4 | IPB - Pneudraulic Systems | 12 | 15-Sep-11 | TMR 02-040 Rev B PCN 2 | |
| 1T-38A-4-5 | Fuel Systems | 3 | 15-Sep-11 | TMR 04-003 Rev A PCN 4 | |
| 1T-38A-4-6 | IPB - Power Plant | 17 | 15-Sep-11 | TMR 02-044 Rev B | |
| 1T-38A-4-7 | IPB - Electrical System | 2 | 15-Jun-08 | TMR 03-050 Rev B PCN 2 | S-1 |
| 1T-38A-4-8 | Landing Gear System | 13 | 15-Sep-11 | TMR 02-061 Rev B PCN 1; 10-018 Basic PCN 1 (EFIS) | |
| 1T-38A-4-9 | Instruments | 3 | 15-Sep-11 | TMR 03-026 Rev B | |
| 1T-38A-4-10 | Radio, Communication & Navigation Systems | 3 | 15-Sep-11 | TMR 05-026 Rev A | |
| 1T-38A-4-11 | Numerical Index | 3 | 15-Sep-11 | TMR 04-019 Rev B | |
| 1T-38A-5 | Basic Weight Checklist and Loading Data | Basic | 28-May-02 | TMR 02-043 Rev A PCN 2 | |
| 1T-38A-6 | Aircraft Scheduled Inspection and Maintenance Requirements | 11 | 15-Sep-11 | TMR 02-031 Rev C PCN 6; 10-022 Basic PCN 6 {EFIS} | |
| 1T-38A-6CF-1 | Acceptance & Functional Check Flight Procedures Manual | 1 | 1-Feb-90 | | S-1 |
| 1T-38A-6WC-1 | Preflight/Basic Postflight Inspection | 12 | 15-May-11 | TMR 07-020 | |
| 1T-38A-6WC-3 | Periodic Inspection Workcards | 10 | 15-May-2011 | TMRs 08-010 Rev A PCN 1 {EFIS} | |

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|----------------|--|----------|---------------|---------------------------|---------------------|
| 1T-38A-6WC-4 | Power Packup Removal, Buildup, Installation & Inspection (NAMIS review required) | 4 | 15-May-11 | TMR 02-060 Rev A PCN 3 | |
| 1T-38A-6WC-5 | Engine Removal and Installation Inspection (NAMIS review required) | 6 | 15-May-11 | TMR 02-057 Rev A PCN 2 | |
| 1T-38A-23 | Corrosion Control | 14 | 15-Sep-11 | TMR 03-015 Basic PCN 8 | |
| 1T-38A-36 | Non-Destructive Inspection | 15 | 15-Sep-11 | TMR 05-012 Basic PCN 2 | |
| 1T-38A-103 | Structural Repair, T-38B | Basic | 30-Sep-03 | | |
| 1T-38C-01 | T-38C List of Applicable Publications | 5 | 15-May-11 | | |
| 1T-38C-06 | T-38C Work Unit Code Manual | 9 | 15-Sep-11 | | |
| 1T-38C-1 | T-38C Aircraft Flight Manual | Basic | 29-Nov-09 | | |
| 1T-38C-1-1 | T-38C Flight Manual Performance Data | Basic | 15-May-11 | | |
| 1T-38C-1-1CL-1 | T-38C Flight Crew Checklist Performance Data | Basic | 15-May-11 | | |
| 1T-38C-1CL-1 | T-38C Pilot's Abbreviated Flight Crew Checklist | Basic | 15-Jan-10 | | |
| 1T-38C-2-1 | T-38C Aircraft General | 7 | 15-Sep-11 | | |
| 1T-38C-2-1-1 | T-38C Cross-Servicing Guide | 3 | 15-Sep-11 | | |
| 1T-38C-2-1CL-1 | T-38C Aircraft General Procedures | 2 | 31-Jan-11 | | |
| 1T-38C-2-2 | T-38C Ground Handling, Servicing and Airframe Maintenance | 5 | 15-Sep-11 | | S-3 |
| 1T-38C-2-2CL-1 | T-38C Egress System | 4 | 15-Sep-11 | | |
| 1T-38C-2-2CL-2 | T-38C Towing Procedures | Basic | 31-May-07 | | |
| 1T-38C-2-2CL-3 | T-38C Jacking Procedures | 3 | 15-Apr-09 | | |
| 1T-38C-2-2CL-4 | T-38C Filling, Draining & Purging Liquid Oxygen System Procedures | 2 | 15-Feb-08 | | |
| 1T-38C-2-2CL-5 | T-38C Canopy Production Checklist | Basic | 31-Aug-06 | | |
| 1T-38C-2-2CL-6 | T-38C Weapon System Support POD (WSSP) Removal, Installation and Inspection Procedures | Basic | 31-Jan-07 | | |
| 1T-38C-2-3 | T-38C Flight Control Systems Organizational Maintenance | 10 | 15-Sep-11 | | |
| 1T-38C-2-3CL-2 | T-38C Flight Control System | 2 | 15-Sep-10 | | |
| 1T-38C-2-3CL-3 | T-38C Flight Control System Horizontal Tail Control System | 1 | 31-Oct-10 | | |
| 1T-38C-2-4 | T-38C Pseudraulic Systems Organizational Maintenance | 6 | 15-Sep-11 | | |
| 1T-38C-2-5 | T-38C Fuel Systems | 3 | 31-Dec-10 | TMR 10-017 | |
| 1T-38C-2-5CL-1 | T-38C Refueling and Defueling Procedures | 1 | 15-Apr-08 | TMR 10-016 | |
| 1T-38C-2-6 | T-38C Power Plant | 6 | 15-May-11 | | S-1 |
| 1T-38C-2-6-2 | T-38C Engine Conditioning | 5 | 31-Oct-10 | | |

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| 1T-38C-2-7 | T-38C Electrical Systems Organizational Maintenance | 5 | 15-Sep-11 | | |
| 1T-38C-2-8 | T-38C Landing Gear Systems | 7 | 15-Sep-11 | | |
| 1T-38C-2-8CL-1 | T-38C Removing / Installing Main Landing Gear Wheel and Nose Landing Gear Wheel Procedures | Basic | 31-Aug-06 | | |
| 1T-38C-2-9 | T-38C Instruments and Displays Organizational Maintenance | 9 | 15-May-11 | | |
| 1T-38C-2-10 | T-38C Radio Communication & Navigation Systems | 12 | 1-Jun-11 | | |
| 1T-38C-2-11 | T-38C Wiring Diagrams | 1 | 1-Aug-10 | | |
| 1T-38C-2-12 | Indicating & Recording System and System Integration | 9 | 1-Jun-11 | | |
| 1T-38C-3 | T-38C Structural Repair | 13 | 1-Oct-10 | | S-5 & S-4 |
| 1T-38C-4-1 | T-38C General Airplane IPB | 4 | 15-Sep-11 | | |
| 1T-38C-4-2 | T-38C Aerospace Ground Equipment | Basic | 1-Sep-09 | | |
| 1T-38C-4-3 | T-38C Flight Control Systems IPB | 4 | 15-Sep-11 | | |
| 1T-38C-4-4 | T-38C Pneudraulic Systems IPB | 3 | 15-Sep-11 | | |
| 1T-38C-4-5 | T-38C Fuel Systems | 2 | 15-May-11 | | |
| 1T-38C-4-6 | T-38C Power Plant IPB | 2 | 15-Nov-10 | | |
| 1T-38C-4-7 | T-38C Electrical Systems | 6 | 15-Sep-11 | | |
| 1T-38C-4-8 | T-38C Landing Gear Systems | 6 | 15-Sep-11 | | |
| 1T-38C-4-12 | T-38C Avionics, Communication and Navigation Systems IPB and Numerical Index | 4 | 15-May-11 | | |
| 1T-38C-4-13 | T-38C Propulsion Modernization Program (PMP) Unique IPB and Numerical Index | Basic | 30-Sep-07 | | S-1 |
| 1T-38C-5 | T-38C Basic Weight Checklist and Loading Data | Basic | 1-Aug-06 | | |
| 1T-38C-6 | T-38C Aircraft Scheduled Inspection and Maintenance Requirements | 11 | 15-Sep-11 | | |
| 1T-38C-6WC-1 | T-38C Preflight / Basic Postflight Inspection | 4 | 1-Oct-11 | | |
| 1T-38C-6WC-3 | T-38C Periodic Inspection | 5 | 15-Sep-11 | | |
| 1T-38C-6WC-4 | T-38C Power Packup Removal, Buildup, Installation and Inspection | 6 | 31-Dec-10 | | |
| 1T-38C-6WC-5 | Engine Remove/ Install Inspection | Basic | 15-May-2011 | | S-1 |
| 1T-38C-23 | T-38C Corrosion Control | 5 | 15-Sep-11 | | |
| 1T-38C-36 | T-38C Nondestructive Inspection | 12 | 15-May-11 | | |
| 1T-38C-38 | T-38C Aircraft Structural Integrity Program (ASIP) and Service Life Monitoring Program (SLMP) | Basic | 13-Dec-10 | | |
| 2-1-11 | Corrosion Control of Engine Parts during Overhaul and Field Level Maintenance | Basic | 31-Oct-84 | | |
| 2-1-18 | Aircraft Engine Operating Limits and Factors | 6 | 1-Jun-09 | TMR 08-007 | |
| 2-1-111 | Standard Maintenance Procedures (NAVAIR 02-1-517) | 49 | 15-Dec-08 | | |

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|----------------|--|----------|---------------|-----------------|---------------------|
| 2G-GTC85-31 | Pneumatic Power Gas Turbine Engine Depot Svc Instructions, Model GTC85-70A | 1 | 8-Aug-11 | | |
| 2G-GTC85-33-1 | Depot Operation Manual General Information Pneumatic Power Gas Turbine Engine | 21 | 11-Jan-11 | | |
| 2G-GTC85-33-2 | Depot Maintenance Manual Support Equipment Maintenance Pneumatic Power Gas Turbine Engine | Basic | 27-Oct-05 | | |
| 2G-GTC85-33-3 | Depot Maintenance Manual Conditional Maintenance Instructions Pneumatic Power Gas Turbine Engine | 7 | 24-May-10 | | |
| 2G-GTC85-33-4 | Depot Maintenance Manual Disassembly Instructions Pneumatic Power Gas Turbine Engine | 9 | 6-Jul-11 | | |
| 2G-GTC85-33-5 | Depot Maintenance Manual Cleaning Instructions Pneumatic Power Gas Turbine Engine | 2 | 7-Apr-10 | | |
| 2G-GTC85-33-6 | Depot Maintenance Manual Inspection Instructions Pneumatic Power Gas Turbine Engine | 3 | 6-Sep-11 | | |
| 2G-GTC85-33-7 | Depot Maintenance Manual Repair Instructions Pneumatic Power Gas Turbine Engine | 5 | 18-May-11 | | |
| 2G-GTC85-33-8 | Depot Maintenance Manual Assembly Instructions Pneumatic Power Gas Turbine Engine | 11 | 6-Sep-11 | | |
| 2G-GTC85-33-9 | Depot Maintenance Manual Fuel Components Maintenance Pneumatic Power Gas Turbine Engine | 15 | 12-Apr-11 | | |
| 2G-GTC85-33-10 | Depot Maintenance Manual Electrical Components Maintenance Pneumatic Power Gas Turbine Engine | 26 | 15-Mar-11 | | |
| 2G-GTC85-33-11 | Depot Pneumatic Maintenance Manual | Basic | 15-Feb-11 | | |
| 2G-GTC85-33-12 | Depot Lubrication Components Maintenance | 13 | 16-Jul-09 | | |
| 2G-GTC85-33-13 | Depot GTC85-15 Enclosure Maintenance | 4 | 15-Jun-95 | | |
| 2G-GTC85-34 | IPB Pneumatic Power Gas Turbine Engine | 25 | 8-Sep-11 | | |
| 2G-GTC85-41 | Intermediate Operating & Servicing Instructions | 3 | 15-Jun-95 | | |
| 2G-GTC85-46 | Maintenance Instructions | 17 | 7-Oct-03 | | |
| 2G-GTC85-51 | Intermediate Operating & Servicing Instructions Pneumatic Power Gas Turbine Engine | 1 | 1-Sep-94 | | |
| 2G-GTC85-56 | Maintenance Instructions Pneumatic Power Gas Turbine Engine | 13 | 6-Dec-01 | | |
| 2G-GTCP85-41-1 | Depot Operation & Service Instructions Pneumatic and Shaft Power Gas Turbine Engine | 20 | 9-May-11 | | |

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|-----------------|---|----------|---------------|-----------------|-----------------------------------|
| 2G-GTCP85-41-2 | Intermediate Operation & Service Instructions Pneumatic and Shaft Power Gas Turbine Engine | Basic | 6-Sep-07 | | |
| 2G-GTCP85-43-1 | General Information Pneumatic & Shaft Power Gas Turbine Engine | 2 | 6-Sep-11 | | |
| 2G-GTCP85-43-2 | Support Equipment Maintenance Pneumatic & Shaft Power Gas Turbine Engine | 5 | 16-Oct-06 | | |
| 2G-GTCP85-43-3 | Conditional Maintenance Pneumatic & Shaft Power Gas Turbine Engine | 7 | 17-Nov-10 | | |
| 2G-GTCP85-43-4 | Disassembly Instructions Pneumatic & Shaft Power Gas Turbine Engine | 6 | 25-May-11 | | |
| 2G-GTCP85-43-5 | Cleaning Instructions Pneumatic & Shaft Power Gas Turbine Engine | 4 | 23-Mar-11 | | |
| 2G-GTCP85-43-6 | Inspection Instructions Pneumatic & Shaft Power Gas Turbine Engine | 30 | 6-Sep-11 | | |
| 2G-GTCP85-43-7 | Repair Instructions Pneumatic & Shaft Power Gas Turbine Engine | 32 | 6-Jul-11 | | |
| 2G-GTCP85-43-8 | Assembly Instructions Pneumatic & Shaft Power Gas Turbine Engine | 6 | 31-May-11 | | |
| 2G-GTCP85-43-9 | Fuel Components Maintenance Pneumatic & Shaft Power Gas Turbine Engine | 4 | 11-Jul-11 | | |
| 2G-GTCP85-43-10 | Electrical Components Maintenance Pneumatic & Shaft Power Gas Turbine Engine | 7 | 3-Aug-11 | | |
| 2G-GTCP85-43-11 | Pneumatic Components Maintenance Pneumatic & Shaft Power Gas Turbine Engine | 9 | 11-Jul-11 | | |
| 2G-GTCP85-43-12 | Lubrication Components Maintenance Pneumatic & Shaft Power Gas Turbine Engine, Models GTCP85-180, -180L, 180(C) | 4 | 6-Jul-11 | | |
| 2G-GTCP85-44 | IPB - Pneumatic & Shaft Power Gas Turbine Engine | 35 | 9-Sep-11 | | |
| 2G-GTCP85-46 | Pneumatic and Shaft Power Gas Turbine Engine | 11 | 6-Oct-10 | | |
| 2J-1-13 | Cleaning of Gas Turbine Aircraft Engine and parts | 1 | 1-Nov-06 | | |
| 2J-1-18 | Preparation for Shipment and Storage of Gas Turbine | Basic | 1-Sep-10 | | |
| 2J-1-19 | Inspection and Disposition of Gas Turbine Engine | Basic | 1-Jul-03 | | |
| 2J-1-24 | Comprising a complete basic Gas Turbine Engine | Basic | 30-Sep-03 | | |
| 2J-1-27 | Minor Overhaul of Gas Turbine Engines | Basic | 15-Aug-03 | | |
| 2J-J85 TCTO | ACTIVE 2J-J85 TCTOs | Various | | | 996, 1002, 1005, 1006/E/D/C, 1013 |
| 2J-J85(N)-116-1 | Introduction and General Information Turbojet Engine Model J85-GE-5N | Basic | 1-Oct-10 | | |

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|------------------|---|-------------|---------------|------------------------|---------------------|
| 2J-J85(N)-116-2 | Support Equipment Turbojet Engine Model J85-GE-5N Intermediate Maintenance Manual | Basic | 1-Nov-10 | | |
| 2J-J85(N)-116-3 | Disassembly of Engine Turbojet Engine Model J85-GE-5N | Basic PCN 1 | 1-Jul-11 | | |
| 2J-J85(N)-116-4 | Disassembly of Subassemblies Turbojet Engine Model J85-GE-5N | Basic | 1-Dec-10 | | |
| 2J-J85(N)-116-5 | Cleaning, Inspection and Repair Turbojet Engine Model J85-FE-5N | Basic PCN 3 | 1-Sep-11 | | |
| 2J-J85(N)-116-6 | Assembly of Subassemblies Turbojet Engine Model J85-GE-5N | Basic PCN 2 | 1-Jul-11 | | |
| 2J-J85(N)-116-7 | Assembly of Engine Turbojet Engine Model J85-GE-5N | Basic PCN 1 | 1-Mar-11 | | |
| 2J-J85(N)-116-8 | Conditional Maintenance Turbojet Engine Model J85-GE-5N | Basic PCN 2 | 1-Jul-11 | | |
| 2J-J85(N)-116-9 | Afterburner Maintenance Turbojet Engine Model J85-GE-5N | Basic | 1-Sep-10 | | |
| 2J-J85(N)-116-10 | Accessory Servicing and Replacement Turbojet Engine Model J85-GE-5N | Basic | 1-Oct-10 | | |
| 2J-J85(N)-116-11 | Engine and Afterburner Adjustments (Rigging) Turbojet Engine, Model J85-GE-5N | Basic | 1-Jul-10 | | |
| 2J-J85-9 | Non-destructive inspection procedures | 1 | 1-Sep-09 | TMR 05-007 | |
| 2J-J85-54 | Turbojet Engines IPB | 14 | 26-Aug-11 | TMR 02-007 Rev C PCN 3 | |
| 2J-J85-94 | I.P.B. - Turbojet Engine | 13 | 15-Aug-11 | TMR 02-068 Rev A | |
| 2J-J85-102 | Turbo Jet Engines Corrosion control cleaning instructions | 3 | 1-Dec-10 | TMR 04-026 | |
| 2J-J85-111-1 | Engine Test, Troubleshooting, Preservation, and Post-Test Handling | 7 | 31-Aug-2010 | TMR 02-010 Rev B PCN 7 | |
| 2J-J85-111-2 | Engine Test, Troubleshooting, Preservation, and post-Test Handling | 2 | 1-Sep-09 | | |
| 2J-J85-113-5 | Turbojet Engine Cleaning, Inspection and Repair | 7 | 1-Jul-11 | TMR 09-004 | |
| 2J-J85-113-6 | Turbojet Engine Assembly of Subassemblies | 4 | 15-Nov-09 | TMR 05-002 Rev A | |
| 2J-J85-113-9 | Turbojet Engine - Minor Accessory Overhaul | 3 | 15-Apr-10 | | |
| 2J-J85-136-10 | Turbojet Engine - Accessories servicing and replacement J85-GE-* | 3 | 1-Dec-09 | TMR 02-018 Rev A PCN 1 | |
| 2J-TF33-4 | Aircraft Engine USAF models - I.P.B. | 18 | 31-Dec-10 | | |
| 2J-TF33-24 | Aircraft Engine USAF models - I.P.B. | 9 | 15-May-02 | TMR 02-048 | |
| 2J-TF33-53-2 | Rework and Reidentification Aircraft Engine Models TF33 Depot Maint. Instructions | 19 | 31-Dec-10 | | |
| 2J-TF33-66 | Maintenance Instructions for Engine Model TF33-P-7A | 60 | 1-Dec-05 | | |
| 2J-TF33-76 | Aircraft Engine USAF Models - Maintenance Instruct | 12 | 31-Dec-10 | TMR 10-006 | |

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|------------|---|----------|---------------|------------------------|---------------------|
| 4A4-20-3 | WB-57 Main Retractable Landing Gear O/H, P/N 14-40600 | 4 | 20-Jul-11 | | |
| 4A4-20-4 | WB-57 Main Retractable Landing Gear IPB, P/N 14-40600 | 9 | 12-May-11 | | |
| 4B-1-32 | Maintenance & Overhaul Instructions//All type Aircraft. Brakes | 11 | 23-Feb-11 | TMR 02-024 Rev A | |
| 4B1-2-1113 | WB-57 Multiple Disk Brake Assy O/H w/IPB, P/N 5001111-1 | Basic | 24-May-11 | | |
| 4B1-2-1213 | WB-57 Main Landing Gear, Multiple Disc Brake O/H (P/N 2605692-53 & 2605692-52) | 4 | 8-Feb-11 | TMR 08-013 | |
| 4B1-2-1214 | WB-57 Multiple Disc Brake IPB, P/ N 2605692-52 & -53 | 8 | 30-Aug-11 | | |
| 4B1-2-1263 | Multiple Disc Brake PN: 23831 - Overhaul Instructions. w/ I.P.B. | 16 | 13-Jul-11 | TMR 02-023 Rev C PCN 6 | |
| 4B1-3-133 | Expander Tube Brake O/H w/IPB, P/N H2-567-1 (WB-57) | Basic | 30-Jul-74 | | S-6 |
| 4BA1-42-3 | Master Hydraulic Brake Cylinder Assembly - Overhaul Instructions. w/ I.P.B. | 2 | 22-Jul-10 | TMR 05-044 | |
| 4BA2-6-4 | Master Hydraulic Brake Cylinder Assembly - Overhaul Instructions. w/ I.P.B. PN 40-143-1, 2, 143A1, A2, B3, B4, 40-193, 193A FSN 1630-505-5657, 5653, 1630-632-9899, 1630-651-1872, 1630-600-5511, 1630-650-0788 | 1 | 15-Nov-10 | | |
| 4BA2-14-3 | WB-57 Skid Controller O/H w/IPB, P/N 42-291-3 & -5 | Basic | 17-Jun-10 | | |
| 4BA4-13-3 | Power Brake Valves - Overhaul Instructions | Basic | 16-Apr-79 | | |
| 4BA4-13-4 | Power Brake Valves - IPB | Basic | 16-Apr-79 | | |
| 4BA4-18-23 | Brake Metering Valves - O/H Instructions | Basic | 3-Oct-07 | | |
| 4BA4-18-24 | Brake Metering Valves IPB, P/N 373707 & 8631500-10 | 1 | 7-Jul-11 | | |
| 4BA4-18-33 | Brake Metering Valves - Overhaul Instructions. w/ I.P.B. | 2 | 21-Jan-11 | | |
| 4BA4-24-3 | Solenoid Operated Valve - O/H w/IPB, P/N 35-042, 35-043, 4952, 4953, 4954A, 4955A | Basic | 15-Apr-03 | | |
| 4BA4-26-3 | WB-57 Brake Valve O/H w/IPB, P/N 10820 | Basic | 23-Dec-97 | | |
| 4BA4-91-3 | Skid Control Valve Unit, P/N 9550318 | Basic | 15-Jan-69 | | |
| 4BA4-107-3 | WB-57 Aircraft Power Brake Control Valve O/H w/IPB, P/N 45780-1 | 6 | 24-Aug-11 | | |
| 4S-1-182 | All FSC 1620 Landing Gear and Components - Overhaul and Maintenance Instructions | 18 | 24-Feb-11 | | |
| 4S1-11-3 | WB-57 Main Landing Gear Aerol Strut Assemblies Complete Overhaul Manual for models 9173-1000L, 9173-1000T, 9555 and 9555R | 3 | 25-Nov-77 | TMR 08-003 Basic PCN 2 | |

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| 4S1-11-4 | WB-57 Main Landing Gear Aerol Strut Assemblies Complete, IPB for models 9171-1000L, 9173-1000R, 9555L and 9555R. | 4 | 11-Oct-72 | TMR 08-004 | |
| 4S1-56-2 | Main Gear Oleo Assemblies, P/N's 7531273-140, -130, -120, -110, -100 & -90 | Basic | 18-Mar-03 | | |
| 4S1-56-3 | Main Gear Oleo Assemblies O/H w/IPB (p/n 7531273-90, -100, -110, -120, -130 & -140) | 2 | 7-May-09 | | |
| 4S1-75-3 | Retractable Landing Gear - Overhaul Instructions | Basic | 7-Apr-10 | TMR 09-011 Rev A | |
| 4S1-75-4 | Retractable Main Landing Gear IPB, P/N 6-40600-501, -502, -505 thru -508, -513, -514 and 7227217-50 & -60 | Basic | 7-Apr-10 | | |
| 4S1-75-13 | Retractable Landing Gear - Overhaul Instructions | 7 | 12-May-11 | TMR 07-030 | |
| 4S1-75-14 | Retractable Landing Gear - I.P.B. | 10 | 15-Nov-10 | TMRs 03-024 Rev B; 10-019 Basic (EFIS) | |
| 4S1-120-3 | Left (p/n 68A412501-1001 & -1003)& Right (p/n 68a412501-1002 & -1004) Retractable Landing Gear DEPOT O/H | 2 | 26-May-11 | | |
| 4S2-30-3 | Guppy Nose Gear Oleo & Collar Assemblies O/H w/IPB (KC-135), P/N 5-83069-8, 7327025-30, -50, -110 | 4 | 7-Aug-09 | | |
| 4S2-62-3 | Retractable Landing Gear - Overhaul Instructions | 6 | 29-Mar-11 | | |
| 4S2-62-4 | Retractable Landing Gear - I.P.B. | 1 | 22-Sep-09 | | |
| 4S2-8-3 | WB-57 Nose Landing Gear Aerol Strut Assemblies Complete - Overhaul | Basic | 25-Mar-10 | TMR 10-010 | |
| 4S2-8-4 | WB-57 Nose Landing Gear Aerol Strut Assemblies Complete - I.P.B. | Basic | 25-Mar-10 | | |
| 4SA2-45-3 | Steering Damper Assembly - Overhaul | Basic | 28-Dec-97 | | |
| 4SA2-45-4 | Steering Damper Assembly - I.P.B. | Basic | 8-Dec-97 | | |
| 4SA3-10-3 | WB-57 Nose Steering Control Valves (B200-1 & -2) and Rudder Control Valves (B200-3 & -4) O/H | 1 | 1-Jun-73 | | |
| 4SA3-10-4 | WB-57 Nose Steering Control Valves (B200-1 & -2) and Rudder Control Valves (B200-3 & -4) IPB | 1 | 1-Apr-75 | | |
| 4SA6-5-3 | SGT Nose Gear Drag Brace Assemblies O/H w/IPB, P/N 65-1390-1 & -2, 65-4829, -1, -3 & -7 | Basic | 15-Mar-11 | | |
| 4SA6-7-3 | Brace Assembly & Nose Landing Gear Drag O/H w/IPB, P/N 345726-7 & -8 | 3 | 17-Mar-11 | | |
| 4SA6-11-3 | Main Landing Gear Sidebrace - Overhaul | 2 | 11-May-11 | TMR 04-013 Rev B PCN 2 | |
| 4SA6-11-4 | Main Landing Gear Sidebrace IPB (p/n 6-40650-513 & -514 and 9235382-10 & -20) | 5 | 22-Jul-10 | | |

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| 4SA6-17-3 | Nose Landing Gear Drag Brace - Overhaul Instructions. | 2 | 12-May-11 | | |
| 4SA6-17-4 | Nose Landing Gear Drag Brace IPB, P/N 6-41650-503 | 6 | 27-Jul-11 | TMR 03-006 Rev B | |
| 4T-1-3 | Aircraft Tires & Inner Tubes - Insp./Maint./Storage & Disposition | 5 | 15-Nov-10 | TMR 03-008 Rev C PCN 3 | |
| 4T-1-4 | Application Table for Aircraft Tires & Tubes | 10 | 2-Jun-11 | TMR 03-018 Rev C | |
| 4W-1-43 | WB-57 Nose and Tail Wheels - Overhaul Instructions | Basic | 19-Apr-85 | | |
| 4W-1-61 | All Type Aircraft Wheels | 25 | 12-Jul-11 | TMR 03-023 Rev F | |
| 4W1-6-2 | Main Landing Gear Wheel Maint Instructions, P/N 2608741-6 & -5; 9235536-170, -150, -110, -70 & -50 (F-15) | 4 | 2-Mar-11 | | |
| 4W1-6-3 | Main Landing Gear Wheel O/H Instructions, P/N 2608741-6, -5 & 9235536-170, -150, -110, -70 & -50 (F-15) | 6 | 5-Aug-11 | | |
| 4W1-6-4 | Main Landing Gear Wheel IPB, P/N 2608741-6, -5 & 9235536-170, -150, -110, -70 & -50 (F-15) | 6 | 7-Jun-11 | | |
| 4W1-7-1143 | SGT Main Landing Gear Wheel Assemblies - O/H Instructions w/IPB | 6 | 13-Jan-11 | TMR 04-005 | |
| 4W1-7-1253 | Landing Gear Wheel - Overhaul w/ I.P.B. | 3 | 10-May-11 | | |
| 4W1-7-1423 | T-38 Main Landing Gear Wheel O/H w/IPB, P/N 23823/-1 | 8 | 29-Apr-11 | TMR 02-017 Rev A PCN 7 | |
| 4W1-8-63 | WB-57 Landing Gear Wheel Assy Technical Manual, P/N 5001114-3/-4 | Basic | 9-Jun-08 | | |
| 4W3-2-93 | Nose Wheel, 36 in. SC Type 1 O/H w/IPB, P/N 530991M-1 (WB-57) | Basic | 25-Oct-73 | | |
| 4W3-7-153 | WB-57 Nose Wheel Assembly - O/H w/IPB (No longer updated by USAF) | Basic | 1-Sep-72 | TMR 05-032 | S-2 |
| 4W3-7-273 | T-38 Landing Gear Wheel - O/H w/IPB | Basic | 25-Aug-09 | TMR 04-009 Rev A | |
| 4W3-7-1303 | T-38 Nose Wheel Assembly, Landing Gear, Tubeless Tire - O/H w/IPB | 5 | 3-Feb-11 | TMR 04-010 Rev C | |
| 4W3-7-1333 | SCA Nose Landing Gear O/H w/IPB, P/N 3-1251 | 8 | 21-Jan-11 | TMR 05-006 | |
| 5-1-1 | Instruments and Instrument Maintenance Parts - Inspection, Maintenance, Storage and Shipment | Basic | 15-Aug-04 | | |
| 5-1-2 | Methods of Marking Instruments and Interpretation of Markings | 1 | 1-Mar-02 | | |
| 5-1-10 | Precision Cleaning of Inertial Navigation Systems and Components. | Basic | 15-Sep-09 | | |
| 5-1-16 | Hermetically Seal Instruments - Leak Test-Purge and Fill-Fog Test | Basic | 15-Aug-06 | | |

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| 5-1-17 | Corrosion Control and Treatment of Aircraft Instruments | Basic | 15-Feb-10 | | |
| 5A1-2-22-2 | WB-57 Aircraft Automatic Pilot Type MC-1 (No longer updated by USAF) | 64 | 1-Jul-87 | TMR 00-033 | S-5; TP-2 & TP-3 |
| 5A1-2-22-12 | WB-57 Modified MC-1 Autopilot System Field Maintenance (No longer updated by USAF) | 4 | 20-Jun-73 | TMR 05-054 Rev A PCN 1 | |
| 5A11-7-13-3 | Displacement Gyroscope O/H, Models 7901A, 7901A1, 7901A2 & 7901G2 | 9 | 1-Aug-11 | | |
| 5A13-3-5-3 | Mode Selector - Overhaul Instructions (P/N 115032-01). No Longer Updated by USAF. | 8 | 1-Jan-82 | | TP-1 |
| 5A13-3-5-4 | Mode Selector - IPB, Model #1429B, P/N 115032-01 No Longer Updated by USAF. | 11 | 1-Jun-87 | | |
| 5A15-3-7-3 | Actuator, Servo - O/H Instructions, P/N 11044-01 & 113040-01 | 16 | 1-Nov-84 | | |
| 5A15-3-7-4 | Actuator, Servo - I.P.B. | 5 | 1-Nov-85 | | |
| 5A15-6-4-3 | WB57 Capstan, Electric Disconnect O/H, P/N 99289-04 & -04 | Basic | 15-Mar-03 | | |
| 5A32-2-4-3 | WB-57 Stability Augmentation Components Assembly, P/N 816463, 818110 & 818767 | Basic | 15-Apr-03 | | |
| 5A32-2-4-4 | WB-57 Stability Augmentation Components Assembly IPB, P/N 816463, 818110 & 818767 | Basic | 1-Oct-03 | | |
| 5A3-24-3 | Control Amplifier | 21 | 15-Mar-87 | | |
| 5A3-24-4 | Control Amplifier | 21 | 1-Aug-89 | | |
| 5A3-28-3 | Trim Coupler - Overhaul Instructions | Basic | 1-Jun-67 | | |
| 5A8-6-5-3 | WB57 Follow-up Control O/H, Model 4000A/B, P/N 107200-01 & 117086-01 | 4 | 15-Oct-96 | | |
| 5A8-6-5-4 | WB57 Follow-up Control IPB, Model 4000A/B, P/N 107200-01 & 117086-01 | Basic | 28-May-76 | | |
| 5A9-2-26-3 | Controller, Flight - Overhaul | 16 | 31-Aug-96 | | |
| 5A9-2-26-4 | Controller, Flight - I.P.B. | 6 | 15-May-86 | | |
| 5A9-2-28-3 | Dual Channel Coupler - Overhaul | 24 | 1-Dec-96 | | |
| 5A9-2-28-4 | Dual Channel Coupler - I.P.B. | 19 | 1-Apr-87 | | |
| 5E6-2-1-117 | Intermediate Test Procedures for Tachometer Indicators | Basic | 15-Jun-10 | | |
| 5E6-4-23-8-1 | Engine Pressure Ratio Transducers and Indicators - Intermediate Test/Checkout Procedures | 2 | 15-Jun-02 | | |
| 5F1-1-102 | Intermediate Maintenance - Angle of Attack Computer | 9 | 15-Dec-95 | | |
| 5F5-5-3-2 | Aircraft Flight Director Computer - Field Maint. TYPE CPU-4/A | Basic | 1-Sep-05 | TMR 02-050 Rev A | |
| 5F5-5-3-3 | Aircraft Flight Director Computer - Overhaul Instructions. | 1 | 15-Dec-07 | | |
| 5F5-5-3-4 | Flight Director Computer IPB, P/N 522-1279-003 | Basic | 1-Jun-07 | | |
| 5F10-4-11-3 | Synchro Transmitter Angle of Attack O/H, P/N 2562A3, 2562A5, 2562A13, 2562A13M, 2562A15 & 2562A15A | 4 | 15-May-11 | | |

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| 5F10-4-11-4 | Synchro Transmitter Angle of Attack IPB, P/N 2562A3, 2562A5, 2562A13, 2562A13M, 2562A15 & 2562A15A | 1 | 1-Jan-11 | | |
| 5L13-2-12-4 | WB-57 Fuel-Mass Flowmeter Transmitter - I.P.B. | 2 | 15-Apr-07 | | |
| 5N6-5-2-2 | Stability Augmentation Control Assembly - Intermediate Maint. and Depot Overhaul Instructions. | Basic | 1-Jun-05 | | |
| 5N6-5-2-4 | Stability Augmentation Control Assembly - I.P.B. | Basic | 15-Apr-05 | | |
| 5P5-3-8-3 | Synchro Style Hydraulic Pressure Transmitters - Overhaul Instructions. | 6 | 15-Jul-87 | | |
| 5P5-3-24-3 | Autosyn Gage Pressure Transmitter Overhaul w/IPB | Basic | 30-May-94 | | |
| 5P5-3-31-3 | T-38 Synchro Style Hydraulic Pressure Transmitter O/H | 2 | 1-Aug-79 | | S-1 |
| 5P5-3-31-4 | T-38 Synchro Style Hydraulic Pressure Transmitter IPB | Basic | 15-Mar-84 | | |
| 5P5-3-31-13 | T-38 Hydraulic Pressure Transmitter - Overhaul Instructions w/IPB, Type MJ-1, P/N 18-1704 | 1 | 17-Jan-95 | | |
| 6J3-1-1 | Prep of Gas Turbine Engine Fuel Acc for Shipment and Oil Flushing | Basic | 15-May-10 | | |
| 6J3-2-16-13 | Afterburner Fuel Control Overhaul | 1 | 1-Apr-07 | | |
| 6J3-2-16-14 | Afterburner Control IPB, P/N 6009T92G06/G07 | 2 | 15-Mar-11 | TMR 02-066 Rev A | |
| 6J3-4-55-3 | Turbine Engine Main Fuel Control TF33 Engines O/H, Model JFC25-14, P/N 707330 | Basic | 31-Aug-03 | | |
| 6J3-4-64-3 | Turbine Engine Main Fuel Control TF33 Engines, Model JFC25-18, P/N 721399 | 2 | 1-Sep-09 | | |
| 6J3-4-72-3 | Turbine Engine Main Fuel Control TF33 Engines O/H | 1 | 1-Sep-09 | TMR 93-028 | |
| 6J3-4-72-4 | Turbine Engine Main Fuel Control TF33 Engines IPB | 1 | 30-Apr-08 | TMR 93-028 | |
| 6J3-4-73-3 | Main Fuel Control O/H | 7 | 15-Mar-08 | | |
| 6J3-4-73-4 | Main Fuel Control IPB | 2 | 15-Jul-11 | | |
| 6J3-4-85-3 | Turbine Engine Main Fuel Control O/H, Model JFC46-9, P/N 599677 & 701233 | Basic | 15-Aug-04 | | |
| 6J3-8-4-23 | Nozzle Actuation System Power Unit O/H Instructions, P/N 167352-2 | Basic | 15-Nov-09 | | |
| 6J3-8-4-24 | Nozzle Actuation System Power Unit IPB | 1 | 1-Apr-06 | | |
| 6J3-8-17-3 | Variable Exhaust Nozzle Actuator O/H | Basic | 1-Oct-07 | | |
| 6J3-8-17-4 | Variable Exhaust Nozzle Actuator IPB | 1 | 1-Nov-09 | | |
| 6J5-60-3 | Fuel Strainer - Overhaul Instructions w/IPB | Basic | 1-Jan-06 | | |
| 6J7-6-23 | Isochronous Governor Assembly O/H | 2 | 1-Jan-11 | | |
| 6J7-6-24 | Isochronous Governor Assembly IPB | 1 | 15-Apr-07 | | |
| 6J8-13-4 | Fuel Nozzle Assembly IPC (P/N 9281, 11845, 11845A, 12170 & 12874) | Basic | 31-Jan-04 | | |

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| 6J8-17-3 | Fuel Nozzle Assembly O/H (P/N 5232270, 5232585, 5232905 GM & 47727 Delavan) | Basic | 15-Aug-09 | TMR 04-018 Rev A | |
| 6J8-17-4 | Fuel Nozzle Assembly IPB (P/N 5232270, 5232585, 5232905 GM & 47727 Delavan) | Basic | 15-May-04 | | |
| 6J8-20-3 | Afterburner Pilot Spraybar Assembly O/H, P/N 14519, 19252 & 24007 | 1 | 1-Apr-06 | | |
| 6R9-10-25-3 | Motor Operated Gate Valve O/H, P/N AV-16B1139A (WB57) | 1 | 15-Nov-07 | | |
| 6R9-10-25-4 | Motor Operated Gate Valve IPB, AV16B Series (WB57) | Basic | 15-Feb-10 | | |
| 6J10-3-11-3 | WB-57 Submerged Fuel Booster Pump - O/H, Model #'s TF52400-1 thru -5, -10, TF-54300, -2, -3, -6, TF-57300, -7 thru -10, -14, -21, TF-57400-7, -14, -15, -17, -21 thru -23, TF-58000, -2, -4, -6 | 15 | 1-Sep-78 | | |
| 6J10-3-11-4 | WB-57 Submerged Fuel Booster Pump - IPB MN TF-52400-1, 2, 3, 4, 5, 10, TF-54300, -2, 3, 6, TF-57300 -7, 8, 9, 10, 14, 21, TF-57400-7, 14, 15, 21, 22, 23, TF-58000, -2, 4, 6, 17, 274200-1 | 1 | 15-Jul-72 | | S-1 |
| 6J10-3-11-13 | WB-57 Submerged Fuel Booster Pump O/H, Model TF58100-1 & -1M | Basic | 15-Apr-05 | | |
| 6J10-3-11-14 | WB-57 Submerged Fuel Booster Pump IPB, Model TF58100-1 & -1M | Basic | 15-Apr-05 | | |
| 6J10-3-28-4 | SGT Submerged Fuel Booster Pumps, Model 122532 IPB | Basic | 1-May-59 | | |
| 6J10-3-32-3 | WB-57 Submerged Booster Pump, Model TB122400-1, -4 & -5 O/H w/IPB | Basic | 15-Dec-72 | TMR 10-008 | |
| 6J10-3-94-3 | Fuel Booster Pump O/H, P/N RR12000A, B, C | 1 | 15-May-09 | | |
| 6J10-3-96-4 | Fuel Booster Pump Assemblies IPB, P/N 60-357 & 60-367 | 11 | 30-Nov-97 | | |
| 6J10-3-105-3 | Fuel Booster Pump O/H, P/N 201600 | Basic | 15-Jul-06 | | |
| 6J10-3-105-13 | Fuel Booster Pump O/H, P/N 201600-10 | 1 | 31-May-05 | | |
| 6J10-3-105-14 | Fuel Booster Pump IPB, P/N 201600-10 & 386300-1 | Basic | 15-Jan-06 | | |
| 6J10-4-31-33 | Single Element Fuel Pump Model 9234 O/H, P/N 9234-A6, -A7, -A8 | Basic | 15-Jul-06 | | |
| 6J10-4-34-43 | Two-Stage Fuel Pump O/H, Models 9452, 9455, 9969, 9470, 9478, 9482 & 9483 for TF33 Acft | 1 | 1-Apr-05 | | |
| 6J10-4-34-44 | Two-Stage Fuel Pump IPB, Models 9452, 9455, 9969, 9470, 9478, 9482 & 9483 for TF33 Acft | Basic | 15-Jul-03 | | |
| 6J10-4-55-3 | Afterburner Fuel Pump and Shutoff Valve O/H, P/N ABP 102-4D, ABP 103-4D, ABP 105-4D | 4 | 15-Jul-10 | | |
| 6J10-4-55-4 | Afterburner Fuel Pump and Shutoff Valve IPB, P/N ABP 102-4D, ABP 103-4D, ABP 105-4D | Basic | 1-Dec-09 | | |

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| 6J15-3-111-3 | Aircraft Fuel Tank Float Valve O/H, P/N 13-457-51 | Basic | 1-Nov-05 | | |
| 6J15-3-111-4 | Aircraft Fuel Tank Float Valve IPB, P/N 13-457-51 | 1 | 1-Jun-10 | | |
| 6J15-4-42-3 | Fuel Drain Valve OH, P/N 37C301777G003 & 37C301777G004 | Basic | 15-Aug-04 | | |
| 6J15-4-46-3 | Water and Fuel Drain Valve OH w/IPB, P/N 1340C | Basic | 22-Aug-84 | | |
| 6J15-4-53-3 | Drain Valve Assembly OH, P/N 37D401691G002, 3001T03G02, 3001T03G03 | Basic | 15-Jan-04 | TMR 04-025 | |
| 6J15-7-38-3 | Pressurizing and Drain Valve OH, P/N 37C301344G001 & 37C301344G002 | Basic | 15-May-10 | | |
| 6J15-8-107-3 | Bleed Valve OH, P/N 374G1, 374G2, 374G5, 378G2, 378G3, 378G4, 378G10 | 1 | 15-Nov-09 | | |
| 6J15-10-79-183 | Aircraft Fuel Shutoff Valve O/H, p/n's AV16E1126B, AV16E1171B & AV16E1172B | 5 | 1-Sep-09 | | |
| 6J15-10-79-184 | Aircraft Fuel Shutoff Valve IPB, p/n's AV16E1126B, AV16E1171B & AV16E1172B | 1 | 1-Dec-08 | | |
| 7J4-2-19-44 | Power Driven Rotary Pump IPB, P/N RR16500A Series | Basic | 15-Jun-04 | | |
| 7J4-2-34-3 | Gearbox Internal Oil Pump Assembly O/H w/IPB (p/n 3-51251-1) | 1 | 1-Apr-09 | | |
| 7J10-11-23 | Oil Tank O/H | Basic | 1-Nov-08 | | |
| 8-1-1 | Aircraft Electrical System Inspection Procedures | Basic | 6-Jul-04 | | |
| 8A10-2-2-3 | Aircraft Landing Light OH, P/N 102224 | Basic | 15-Jan-04 | | |
| 8A10-2-2-4 | Aircraft Landing Light IPB, P/N 102224 | Basic | 15-Dec-03 | | |
| 8A10-8-5-3 | Aircraft Navigational Light O/H w/IPB, P/N 40-0039-1 | 3 | 15-May-11 | | |
| 8A1-11-13-3 | Alternating Current Motor, O/H w/IPB, P/N 6683 | 1 | 1-Nov-74 | | S-1 |
| 8A1-18-4-3 | Window Unit Converter Assembly Part No. D18716-3M, D18716-4M, D18716-4RM, D18716-1 | Basic | 1-Sep-86 | | |
| 8A1-25-4-3 | Motor and Gear Train Assembly | Basic | 1-Jul-83 | | |
| 8A1-26-13-3 | Alternating Current Motor O/H | Basic | 5-Jun-72 | | |
| 8A1-26-14-3 | Linear Electro-Mechanical Actuator O/H | Basic | 15-Dec-04 | | |
| 8A1-26-14-4 | Linear Electro-Mechanical Actuator IPB | Basic | 15-Jan-05 | | |
| 8A1-26-14-13 | Linear Electro-Mechanical Actuator PN20500-3 O/H Part No. 20500-3 FSN 1680-065-7957 | 1 | 30-Nov-83 | | |
| 8A1-26-14-14 | Linear Electro-Mechanical Actuator PN20500-3 IPB | Basic | 15-Oct-06 | | |
| 8A1-26-16-3 | Alternating Current Motor PN41812119/39 Part No. 41812119, 41812139 FSN 6105-725-8583, 6105-727-9071 | 1 | 27-May-71 | | |
| 8A1-26-20-3 | Crew Ejection Seat Actuators O/H | 1 | 1-Nov-08 | | |

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| 8A16-14-4 | Voltage Regulator Static Type IPB, P/N A40A1750 & 906D033-2 | Basic | 15-Jan-07 | | |
| 8A16-38-2 | Voltage Regulator PN906D872-2 FMI | Basic | 1-Jan-06 | | |
| 8A16-38-3 | Voltage Regulator PN906D872-2 OH | 1 | 15-May-09 | | |
| 8A16-38-4 | Voltage Regulator PN906D872-2 IPB | Basic | 1-Jan-06 | | |
| 8A1-7-9-3 | Rotary Electro-Mechanical Actuator O/H Part No. 515T100 Stock No. 1680-898-2434 | Basic | 15-May-81 | | S-1 |
| 8A1-7-9-4 | Rotary Electro-Mechanical Actuator IPB Part No. 5-88439-2, 5-88439-3, 5-88439-4, 5-88439-5 Stock No. 1680-723-8099, 1680-969-9956, 1680-872-5488, 1680014973293 | 1 | 25-Jan-74 | | |
| 8A1-8-7-4 | Stabilizer Trim Actuator Assemblies IPB | 2 | 1-Jun-09 | | |
| 8A1-8-25-3 | Alternating Current Motor PN E6412M4/-2 O/H | 2 | 1-Apr-11 | | |
| 8A1-8-25-4 | Alternating Current Motor PN E6412M4/-2 IPB Part No. E6412M4, E6412M4-2 Stock No. 6105-983-3162, 6105-652-6847 | Basic | 15-Apr-11 | | |
| 8A1-8-26-3 | Alternating Current Motor PNE6422M11 | Basic | 1-Sep-08 | | |
| 8A1-8-27-3 | Rotary Electro-Mechanical Actuator PN1668-1 | 8 | 1-Jun-11 | | |
| 8A1-8-28-3 | Linear Electro-Mechanical Actuator O/H | 2 | 15-Apr-09 | TMR 05-052 | |
| 8A1-8-28-4 | Linear Electro-Mechanical Actuator IPB | 2 | 1-Mar-08 | | |
| 8A1-8-31-3 | Rotary Electro-Mechanical Actuator PN817T100-1 O/H | 2 | 1-Feb-10 | TMR 08-012 Rev A | |
| 8A1-8-31-4 | Rotary Electro-Mechanical Actuator PN817T100-1 IPB Part No. 817T100-1 FSN 1680-902-2196 | Basic | 1-Jan-08 | | |
| 8A3-5-10-2 | AC Protection Panel | Basic | 1-Jun-00 | | |
| 8A3-5-10-3 | AC Protection Panel O/H Part No. A42A9232-6/-10 FSN 6110-815-3053, 6110-857-6385, 6110-727-0226 | 11 | 18-Nov-87 | | |
| 8A3-5-10-4 | AC Protection Panel IPB Part No. A42A9232-6/-9, A35A9130-10 | 7 | 18-May-92 | | |
| 8A3-5-25-12 | AC Generator Control Panel Assembly Part No. 902F284-1/-2 FSN 6110-852-0678, 6110-857-6385 | 1 | 10-Aug-69 | | C, D |
| 8A3-5-25-13 | AC Generator Control Panel Assembly OH Part No. 902F284-1/-2 FSN 6110-852-0678, 6110-780-7152 | 5 | 13-Apr-99 | | |
| 8A3-5-25-14 | AC Generator Control Panel Assembly IPB Part No. 902F284-1/-2 FSN 6110-852-0678, 6110-857-6385 | Basic | 15-Jul-06 | | |
| 8A3-5-26-3 | AC Generator Control Panel PN CR2781F111D1 OH Part No. CR2781FIIDI | Basic | 15-Jan-66 | | S-2, S-3, S-4 |
| 8A3-5-26-4 | AC Generator Control Panel PN CR2781F111D1 IPB CR2781FIIDI | Basic | 15-Apr-61 | | C |

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| 8A3-5-4-4 | AC Control Panel IPB Part No. A35A9130-3 FSN 5975-033-5986 | 8 | 30-Jan-92 | | |
| 8a3-5-7-33 | Control Panel O/H Part No. 50164-001 FSN 6110-663-4054 | 3 | 31-Aug-82 | | C |
| 8A3-5-7-34 | Control Panel IPB Part No. 50164-001 FSN 6110-663-4054 | 1 | 1-Nov-68 | | |
| 8A3-18-2-2 | Protection Panel | Basic | 1-Mar-11 | | |
| 8A3-18-2-3 | Protection Panel OH | Basic | 1-Sep-07 | | |
| 8A3-18-2-4 | Protection Panel IPB | 2 | 15-Mar-09 | | |
| 8A6-4-5-2 | AC Generator FMI | 1 | 15-Feb-2007 | TMR 02-038 Rev A | |
| 8A6-4-5-3 | AC Generator OH | 2 | 1-May-11 | TMR 04-032 Rev B | |
| 8A6-4-5-4 | T-38 AC Generator IPB, P/N 904J026-5/-6/-7 | 6 | 15-Sep-11 | TMR 04-028 Rev B | |
| 8A6-6-6-4 | Generator IPB, Models 31220-003 & -004 | Basic | 1-Sep-05 | | |
| 8C1-13-4-3 | Motor and Cam Assembly PN A3381220075, D3381220075, G3381220075, J3381220075, A546220075 NSN 2915-00-898-2500OK, 2915-00-896-0169OK, 2915-00-896-0168OK, 2915-00-987-6702OK, 2915-00-167-9145OK | 2 | 1-Nov-08 | | |
| 8C1-27-2-3 | Rotary Electro-Mechanical Actuator OH (p/n 499-00, 499-00-1, -3 & -5) | Basic | 1-Jul-10 | | |
| 8C1-27-2-4 | Rotary Electro-Mechanical Actuator IPB (p/n 499-00, 499-00-1, -3 & -5) | Basic | 15-Aug-10 | | |
| 8C14-6-6-33 | WB-57 Converter, 200 Ampere, Class A O/ H Manual, P/ N 28VS200Y-4, Type MS28132-1 | Basic | 1-Feb-1963 | | |
| 8C7-2-12-3 | Inverter O/H, P/N SE-26-1 | Basic | 1-May-07 | | |
| 8C7-2-14-13 | Motor Generator OH, Model SE16 Series | Basic | 15-Jun-07 | | |
| 8C7-3-10-3 | Static Power Inverter PN575427 OH | 1 | 1-May-11 | | |
| 8C7-3-10-4 | Static Power Inverter PN575427 IPB | 1 | 1-Apr-11 | | |
| 8D1-6-37-3 | WB-57 Motor and Brake O/H w/IPB, Model E-6015M16 | Basic | 1-Sep-70 | TMR 10-007 | |
| 8D1-8-25-13 | WB57 Linear Actuator O/H w/IPB, P/N 100420-01 (Stock #5310-558-8962) & 100420-02 (Stock #1680-529-7924) | Basic | 1-Jul-62 | | |
| 8D1-8-25-33 | WB57 Linear Actuator Assembly O/H Instructions w/IPB, P/N 100420-02, Model 397V-1 | Basic | 15-Feb-95 | | |
| 8D1-8-25-53 | WB57 Linear Actuator O/H w/IPB, P/N 118129-01 | Basic | 1-Jul-83 | TMR 10-009 | |
| 8D1-8-65-23 | Linear Actuator OH, Model Numbers M-4860M7 & M-4860M411 | 6 | 30-Jul-79 | TMR 03-003 PCN 1 | S-10 |
| 8D1-8-65-24 | Linear Actuator IPB, Model Numbers M-4860M7, M-4860M411 & M-4860M416 | Basic | 1-Mar-72 | TMR 03-004 | |
| 8D1-8-173-3 | Linear Electro-Mechanical Actuator OH, PN LA12-2 | 2 | 1-Feb-09 | | |

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| 8D1-11-4-4 | WB-57 Electromechanical Torque Actuators IPB, P/N 29698 | 13 | 15-Jan-90 | | |
| 8D1-13-33-3 | WB-57 Aircraft Direct-Current Motors O/H w/IPB, P/N 36702-2 | Basic | 15-Jan-64 | | |
| 8D1-26-40-3 | WB-57 Actuator Assembly for Twin Barrel & Seat Adjustment O/H w/IPB, P/N 5678307-509 | 6 | 15-Mar-11 | | |
| 8D1-64-7-3 | WB-57 Electric Motor, P/N S10B11BF O/H w/IPB | Basic | 1-Nov-58 | | S-2; S-1; Sup C |
| 8D2-1-31 | Aircraft Storage Batteries OSI | 4 | 15-May-11 | | |
| 8D2-3-1 | Aircraft Nickel Cadmium Storage Batteries | 1 | 1-Apr-10 | | |
| 8D2-3-4 | Aircraft Nickel Cadmium Storage Batteries IPB | 18 | 21-Oct-92 | | |
| 8D3-6-25-3 | Generator Control MNGC73-1/2/3/4 OH | Basic | 25-Mar-82 | | |
| 8D3-6-25-4 | Generator Control MNGC73-1/2/3/4 IPB | Basic | 25-Mar-82 | | |
| 8D3-11-5-13 | Landing Gear Controls | Basic | 15-May-83 | | |
| 8D10-2-3-13 | Electrically Retractable Landing Light Assemblies AN3095 OH | 3 | 13-May-83 | | |
| 8D10-2-3-14 | Electrically Retractable Landing Light Assemblies AN3095 IPB | 3 | 1-Jun-81 | | |
| 8D10-2-22-3 | Aircraft Landing and Taxiing Light PN45-0024-1 OH | Basic | 30-Sep-04 | TMR 04-015 Rev C PCN 1 | |
| 8D10-2-22-4 | Aircraft Landing and Taxiing Light PN45-0024-1 IPB | Basic | 30-Sep-04 | TMR 04-011 Rev A | |
| 8D10-8-2-3 | Flight Command Indicator PNR4703-3/5/7/1 OH | Basic | 15-May-11 | | |
| 8D10-8-2-4 | Flight Command Indicator IPB, P/N R4703-1, -3, -5, & -7 | Basic | 15-May-2011 | | |
| 8D10-11-3-3 | Aircraft Navigational Light PN40070-21-7079 OH | 2 | 15-Feb-11 | | |
| 8D10-11-3-4 | Aircraft Navigational Light IPB P/N: 40070-21-7079 & 40070-21S7079 | 5 | 1-Jan-11 | | |
| 8D10-11-4-3 | Tandem Oscillating Light Assembly O/H & Parts Breakdown P/N G-9950-1 | Basic | 15-May-83 | | |
| 8D11-3-37-3 | Battery Unit MM w/IPB, PN 7888701-011 | Basic | 1-Sep-06 | | |
| 8D15-9-19-3 | Annunciator Dimmer Assembly OH P/N's: 8035612-10, -30, -50, 7027-11200-1, -3, -5 | Basic | 1-Jan-04 | | |
| 8S7-6-3 | T-38 Nose Landing Gear Switch Assembly O/H w/IPB, P/N 3-41342-3 & -501 | Rev 1 | 15-Aug-09 | | |
| 8594001 | Preparation of Stress Analysis Reports | | 1-Dec-2009 | | |
| 8594002 | Design and Analysis Handbook | | Jun-2011 | | |
| 9H-1-1 | Test Fluid Acft Hydraulic Components General | Basic | 15-Jul-82 | | |

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| 9H1-2-2-3 | Cylindrical Hydraulic Pressure Accumulator O/H Manual, P/N 551200 Series | 1 | 15-Apr-11 | | |
| 9H1-2-2-4 | Cylindrical Hydraulic Pressure Accumulator IPB, P/N 551200 Series | 1 | 15-Apr-11 | | |
| 9H1-2-5-3 | SGT Accumulator Assembly O/H, p/n 1356-512473 | Basic | 15-Jan-07 | | |
| 9H1-2-5-4 | SGT Accumulator Assembly IPB, P/N 1356-512473 | Basic | 1-Dec-03 | | |
| 9H1-2-5-23 | Hydraulic Accumulator P/N 1356-512463 | 1 | 1-Jun-09 | | |
| 9H1-2-46-3 | Accumulator-Hydraulic | 1 | 1-Jun-09 | | |
| 9H2-1-3 | Hydraulic Cylinder Assembly O/H, Models 1000 & 1000-1 | Basic | 1-May-82 | | |
| 9H2-2-59-3 | Aircraft Actuating Cylinder PN2-43140-1/2/501/502 OH | 2 | 1-Mar-07 | | |
| 9H2-2-59-4 | Aircraft Actuating Cylinder PN2-43140-1/2/501/502 IPB | 3 | 15-Sep-11 | | |
| 9H2-2-60-3 | Uplock Cylinder PN2-43400-1/2/501/502 | Basic | 15-Jan-07 | | |
| 9H2-2-62-3 | Linear Actuating Cylinder OH | Basic | 1-Nov-09 | | |
| 9H2-2-62-4 | Linear Actuating Cylinder IPB | Basic | 15-Oct-04 | | |
| 9H2-2-63-3 | Lock Actuating Cylinder PN2-43120-1 | Basic | 1-Jul-05 | | |
| 9H2-2-67-3 | Hydraulic Cylinder O/H, Main Landing Gear Door, P/N 272A3046065, -19, 272D3047001, -19 | Basic | 15-Oct-80 | | |
| 9H2-2-77-3 | Main Landing Gear Actuating Cylinder PN6-43150-1/2 OH | Basic | 1-Feb-11 | TMR 05-042 Rev A | |
| 9H2-2-77-4 | Main Landing Gear Actuating Cylinder PN6-43150-1/2 IPB | 1 | 1-Feb-11 | | |
| 9H2-3-11-3 | Nose Gear Actuator Assemblies O/H, P/N 9175A/B/D | 3 | 1-May-82 | TMR 07-011 | |
| 9H2-3-28-3 | Nose Gear Lock Actuator Assembly PN50-6247-6/8/9 | Basic | 30-Apr-05 | | |
| 9H2-3-30-3 | SGT Nose Wheel Steering Cylinder Assemblies O/H w/IPB, P/Ns 5-86571-3 & -4 | 4 | 16-Mar-09 | | |
| 9H2-3-50-3 | Aircraft Actuating Cylinder OH | Basic | 1-Jul-06 | | |
| 9H2-3-50-4 | Aircraft Actuating Cylinder IPB | Basic | 1-Oct-07 | | |
| 9H2-3-51-3 | Nose Landing Gear Actuating Cylinder PN2-43090-1/501 OH | 2 | 1-Apr-11 | | |
| 9H2-3-51-4 | Nose Landing Gear Actuating Cylinder PN2-43090-1/501 IPB | Basic | 1-Apr-11 | | |
| 9H2-3-54-3 | Steering Damper Assembly T38 OH 1397L000,-503,-509,-511, 8154-5,-6,5078L000-1,-2 NSNs 1620-00-739-1746, 1620-00-019-5600, 1620-00-117-7326-LE, | 2 | 3-Feb-11 | | |
| 9H2-3-54-4 | Steering Damper Assembly IPB | 3 | 15-Nov-10 | | |
| 9H2-3-79-3 | WB-57 Nose Landing Gear Linear Actuating Cylinder O/H w/IPB, P/N 14-43090-1/-501 | Basic | 15-Jun-07 | | |

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| 9H2-4-26-3 | Elevator Booster Actuator P/N S4000 / -1 / -2 Overhaul Manual w/IPB | Basic | 31-Jan-07 | | |
| 9H2-4-57-3 | Power Control Units O/H, P/N HP324100, HP325100-11, -21, -111, -211 | 7 | 1-May-82 | | |
| 9H2-4-57-4 | Power Control Units IPB, P/N HP324100, HP325100-11, -21, -111, -211 | Reviewed | 20-Apr-70 | | |
| 9H2-4-109-2 | Horizontal Stabilizer Actuator IMI | Basic | 15-Mar-10 | | |
| 9H2-4-109-3 | Horizontal Stabilizer Actuator OH | 3 | 1-Mar-11 | | |
| 9H2-4-109-4 | Horizontal Stabilizer Actuator IPB | Basic | 1-May-05 | | |
| 9H2-4-110-2 | Hydraulic Servocylinder FM | Basic | 15-Aug-10 | | |
| 9H2-4-110-3 | Hydraulic Servocylinder OH, P/N 2-43330-507/-508 | Basic | 1-May-11 | | |
| 9H2-4-110-4 | Hydraulic Servocylinder IPB | 6 | 1-May-11 | | |
| 9H2-4-111-2 | Aileron Actuator IMI | Basic | 15-Jun-04 | | |
| 9H2-4-111-3 | Aileron Actuator OH, P/N 2-41360 | 5 | 1-May-11 | TMR 09-002 | |
| 9H2-4-111-4 | Aileron Actuator IPB | 3 | 1-May-11 | | |
| 9H2-4-114-13 | Aircraft Actuating Cylinder PN2-43100-503/505 OH | Basic | 1-May-2011 | | |
| 9H2-4-114-14 | Aircraft Actuating Cylinder PN2-43100-503/505 IPB | Basic | 1-May-11 | TMR 11-004 | |
| 9H2-4-115-3 | Canopy Damper Cylinder OH | 2 | 15-Jan-10 | | |
| 9H2-4-115-4 | Canopy Damper Cylinder IPB | Basic | 15-Jun-04 | | |
| 9H2-4-120-3 | Linear Actuating Cylinder OH, P/N 3-43260-503 | Basic | 15-Feb-11 | TMR 07-010 Rev A | |
| 9H2-4-120-4 | Linear Actuating Cylinder IPB | 1 | 15-Feb-11 | | |
| 9H2-4-134-3 | Hydraulic Cylinder O/H, Rudder Damper, P/N 272D8047037 | Basic | 15-May-82 | | |
| 9H2-5-36-3 | Main Landing Gear Actuating Cylinder O/H, P/N M-1000171 | Basic | 1-Jun-82 | TMR 07-025 | |
| 9H2-5-41-3 | Actuating Cylinder Assembly O/H, Canopy Latch, P/N S1600 | Basic | 15-Jan-81 | | |
| 9H2-5-64-3 | Canopy Actuating Cylinder O/H, P/N 2923, -2, -3 | Basic | 22-Sep-75 | TMR 04-006 Rev B | |
| 9H2-7-18-3 | Variable Geometry Actuator and Arm Assembly PN7257-3P01/02 | 1 | 1-Aug-11 | | |
| 9H2-7-32-2 | WB-57 JFS Air Inlet Exhaust Doors Hyd Actuator Maint Instructions w/IPB, P/N 2A1020 | Basic | 15-Feb-04 | | |
| 9H3-1-1 | Cleaning & Testing Instructions for Woven Wire Filter Elements | 4 | 31-Mar-92 | | |
| 9H3-3-4-13 | Filter Hydraulic MS28720-12 | Basic | 15-May-75 | | |
| 9H3-3-16-3 | Hydraulic Filter PN35409/50223 | Basic | 5-Jun-73 | | |
| 9H3-3-16-13 | Hydraulic Oil Filter PN50221 | Basic | 1-May-96 | | |
| 9H3-3-49-3 | Hydraulic Oil Filter PNAC-2291-10/102/104 | Basic | 1-May-11 | | |
| 9H3-3-55-3 | Hydraulic Oil Filter PN6662720 | Basic | 1-May-96 | | |
| 9H3-3-57-3 | Pressure Fluid Filter PN2373 | Basic | 11-Oct-85 | | |
| 9H3-3-58-3 | Pressure Fluid Filter PN6651359 | 2 | 1-May-83 | | |
| 9H3-3-59-3 | Pressure Fluid Filter PN6651360 | Basic | 1-Aug-94 | | |

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| 9H4-2-10-3 | Constant Displacement Hydraulic Pump O/H, PF-3906-2 Series | 5 | 15-Mar-85 | | |
| 9H4-2-10-4 | Constant Displacement Hydraulic Pump IPB, PF-3906-2 Series | Basic | 1-Sep-63 | | |
| 9H4-2-41-83 | Variable Delivery Hydraulic Pump PN66WAZ300-4/5/6 | Basic | 1-Jun-05 | | |
| 9H4-4-2-13 | Hydraulic Hand Pumps O/H | Basic | 15-Dec-04 | | |
| 9H4-4-2-14 | Hydraulic Hand Pumps IPB | Basic | 1-May-06 | | |
| 9H4-4-4-3 | Hydraulic Hand Pumps O/H, P/N 10007, 10088, 10229, 14213 & 14327 | 2 | 15-Nov-80 | | |
| 9H4-4-5-33 | Hydraulic Hand Pumps O/H, Type AN6201-1, P/N 310859 & 311250 | Basic | 30-Mar-69 | | |
| 9H4-4-7-3 | Lower Cargo Door Hydraulic Hand Pump Assembly O/H, P/N 4287417 | Basic | 15-Jan-70 | | |
| 9H4-5-3-4 | Hydraulic Pump Assembly IPB, PF-3907 Series | Changed | 1-May-66 | | |
| 9H5-2-4-3 | Brake Hydraulic Reservoir PN3-43580-1/501 Overhaul Instructions | 1 | 15-Jul-82 | | |
| 9H5-2-4-4 | Brake Hydraulic Reservoir PN3-43580-1/501 Illustrated Parts Breakdown | Basic | 15-Oct-91 | | |
| 9H5-3-21-3 | Reservoir Flight Controls O/H, P/N 57W350710-1, -2, -3, -4, -5, -6, -7, -8 | Basic | 1-Mar-82 | | |
| 9H5-3-30-3 | Aircraft Hydraulic Fluid Tank PN3-43040-1/2 OH | Basic | 15-Jun-06 | | |
| 9H5-3-30-4 | Aircraft Hydraulic Fluid Tank PN3-43040-1/2 IPB | Basic | 15-May-04 | | |
| 9H6-3-15-2 | Constant Speed Drive System MN40CSD30 FMI | Basic | 15-Jun-02 | | |
| 9H6-3-15-4 | Constant Speed Drive System MN40CSD30 IPB | Basic | 15-Oct-02 | | |
| 9H6-3-23-2 | Constant Speed Drive | Basic | 15-Aug-02 | | |
| 9H6-3-23-3 | Constant Speed Transmission | Basic | 15-Nov-02 | | |
| 9H6-3-23-4 | Constant Speed Transmission | Basic | 15-Oct-02 | | |
| 9H6-3-43-2 | Constant Speed Transmission | Basic | 15-Mar-06 | | |
| 9H6-3-43-3 | Constant Speed Transmission P/N 700842A Overhaul w/IPB | 1 | 15-Jun-11 | | |
| 9H8-2-20-3 | WB-57 Hydraulic Pressure Relief Valves O/H, P/N's 21104, 21106, 21108, 21112, 22546, 23068, 23358 & AN6279-4CD | 4 | 15-Mar-72 | | |
| 9H8-2-20-4 | WB-57 Hydraulic Pressure Relief Valves IPB, P/N's 21104, 21106, 21108, 21112, 22546, 23068 & 23358 | Basic | 15-Dec-58 | | |
| 9H8-2-21-3 | WB-57 Balanced Relief Valve O/H w/IPB, P/N 52-35 | Basic | 20-Jul-73 | | |
| 9H8-2-33-3 | Hydraulic Relief Valves O/H, P/N A-6010, A-6020-8, A-6020-8-8, A-6020-15, A-6020-2500, A-20005, A-20006 & A-50096 | 3 | 15-Feb-82 | | |
| 9H8-2-57-3 | WB-57 Hydraulic Pressure Relief Valve O/H w/IPB, Model #AA-12-10 | | 30-Aug-54 | | |
| 9H8-2-68-3 | Hydraulic Reservoir Pressurizing Valve O/H, P/N 312206-2 | 1 | 1-Apr-82 | | |

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| 9H8-2-78-3 | Valve, Relief, Hydraulic Pressure | Basic | 15-Sep-79 | | |
| 9H8-2-108-13 | Hydraulic Relief Valves PNA-50080-Y6/61 | Basic | 15-Sep-07 | | |
| 9H8-2-111-3 | Hydraulic Relief Valve PNA-50070-Z6 | Basic | 15-Feb-93 | | |
| 9H8-2-113-13 | Hydraulic Relief Valves PNA-50091-AB12/-1/121 | Basic | 1-Feb-99 | | |
| 9H8-2-114-3 | Hydraulic Relief Valves | Basic | 15-May-08 | | |
| 9H8-2-122-3 | Hydraulic Relief Valves O/H w/IPB, P/N A-50081-AB, A-50081-AB61 & 11010-3 | Basic | 1-Mar-06 | | |
| 9H8-2-123-3 | In-Line Balanced Relief Valve O/H (1250 PSI), P/N HP409100, -A, -A1 | Basic | 15-Oct-65 | | |
| 9H8-2-152-3 | Hydraulic Pressure Relief Valve PN13440 | Basic | 1-Jan-90 | | |
| 9H8-3-5-3 | Unloading Valve | 1 | 20-Feb-78 | | |
| 9H8-3-92-3 | Regulator Air Pressure Valve OH | 1 | 1-Nov-10 | | |
| 9H8-3-92-4 | Regulator Air Pressure Valve IPB | Basic | 1-Nov-10 | | |
| 9H8-4-105-43 | Motor Actuated Shut-off Valve | 1 | 1-Jun-08 | | |
| 9H8-4-127-3 | Solenoid Operated 2-way Hydraulic Valve PN6204 | Basic | 15-Jun-92 | | |
| 9H8-4-134-13 | Solenoid Valve PN1374-589867/M1 OH | Basic | 15-Oct-07 | | |
| 9H8-4-134-14 | Solenoid Valve PN1374-589867/M1 IPB | Basic | 1-Dec-85 | | |
| 9H8-4-146-3 | Motor Actuated Gate Shut-off Valve Assembly PN133425-16 | Basic | 5-Sep-84 | | |
| 9H8-4-148-3 | Manually Operated Rotary Shutoff Valve Assembly | Basic | 15-Nov-06 | | |
| 9H8-4-155-3 | Motor Actuated Gate Shut-off Valve Assembly PN135305 | Basic | 15-Apr-85 | | |
| 9H8-4-170-3 | Solenoid Operated Hydraulic Valve PNAV14J1159/48/48-1 OH | 1 | 1-Apr-11 | | |
| 9H8-4-170-4 | Solenoid Operated Hydraulic Valve PNAV14J1159/48/48-1 IPB | 1 | 15-Feb-11 | | |
| 9H8-4-171-3 | Solenoid Operated Hydraulic Valve PN51325 | Basic | 15-Nov-07 | | |
| 9H8-4-172-3 | Solenoid Valve O/H w/IPB, P/N 13633 | 1 | 1-Nov-10 | | |
| 9H8-4-175-3 | Hydraulic Valve PN66500-301/2/3/4 | 1 | 15-Apr-96 | | |
| 9H8-4-180-3 | Hydraulic Valve PN6U6019-1/2 | Basic | 1-Sep-09 | | |
| 9H8-4-40-3 | Solenoid Operated Shutoff Valve O/H, P/N 11930, 11920, 11920-1 | 2 | 15-Apr-82 | | |
| 9H8-4-40-4 | Solenoid Operated Shutoff Valve IPB, P/N 11930, 11920, 11920-1 | Basic | 15-Aug-60 | | |
| 9H8-4-80-3 | Solenoid Operated Hydraulic Shut Off Valve PN1009650/-1 | Basic | 15-Oct-07 | | |
| 9H8-4-81-3 | Gear Lock Operated Shutoff Valve Assembly O/H with IPB, P/N's S-3550-1 & 40011-001 | 1 | 15-Jan-11 | | |
| 9H8-4-94-53 | Motor Operated Gate Valve PNAV16B1464C | Basic | 15-Feb-08 | | |

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| 9H8-5-8-3 | Hydraulic Shuttle Valve O/H (p/n 20348, 2049, 20350, 20355, 22887, 22888, 22889, 27531 & 50659) | Basic | 1-Dec-07 | | |
| 9H8-5-8-4 | Hydraulic Shuttle Valve IPB (p/n 20348, 20349, 20350, 20355, 22887, 22888, 22889, 27531 & 50659) | Basic | 15-Nov-07 | | |
| 9H8-6-49-3 | Swing Check Valve PN1111-517722 | Basic | 17-Apr-63 | | |
| 9H8-6-51-3 | Restrictor Type Cone Check Valve PN1116-568078 | Basic | 1-Nov-62 | | |
| 9H8-8-18-3 | Nose Gear Variable Restrictor Assembly PN90-6941 | Basic | 10-Jan-57 | | |
| 9H8-8-20-33 | Hydraulic Differential Flow Two-way Restrictor Valve (Filtered) PN2R2452-1 | Basic | 15-Jan-61 | | |
| 9H8-8-20-43 | Hydraulic Two-way Restrictor Valve (Filtered) PN2R2446-1 | Basic | 15-Sep-79 | | |
| 9H8-8-22-3 | Nose Gear Variable Restrictor Assembly PN69-3456 | Basic | 15-Apr-85 | | |
| 9H8-9-19-3 | Hydraulic Sequence Valve O/H(3000 PSI), Model 580-2000 | Basic | 1-May-82 | | |
| 9H8-13-7-3 | Poppet Drain Cock PN2-43813-3/-4 | 1 | 15-Aug-82 | | |
| 9H8-14-91-3 | 4-Way Selector Valve O/H, AV-14 Series, P/N AV-14B1128D103 & similar valves | 6 | 1-May-82 | | |
| 9H8-14-91-4 | 4-Way Selector Valve IPB, AV-14 Series, P/N AV-14B1128D103 & similar valves | 11 | 10-Feb-76 | | |
| 9H8-14-99-3 | Three-way Two-position Solenoid Operated Hydraulic Valve PN50150/2/20/28 | Basic | 31-May-06 | | |
| 9H8-14-99-4 | Three Way, Tow Position Solenoid Operated Hydraulic Valve IPB | Basic | 1-Dec-08 | | |
| 9H8-14-99-83 | Solenoid Operated Three Way Valve | 8 | 30-Nov-03 | | |
| 9H8-15-3-3 | Hydraulic Pressure Reducing Valves OH | 1 | 15-Jun-82 | | |
| 9H8-15-3-4 | Hydraulic Pressure Reducing Valves IPB | 2 | 1-May-78 | | |
| 9H8-16-3-33 | Hydraulic System Fuse Model 900-8-40 | Basic | 15-Jun-06 | | |
| 9H8-16-4-3 | Hydraulic Flow Regulator OH | 4 | 15-Jul-92 | | |
| 9H8-16-4-4 | Hydraulic Flow Regulator IPB | Revised | 15-Jan-52 | | |
| 9H8-18-11-3 | Hydraulic Swivel Joint PN10-51058 | Basic | 15-Apr-85 | | |
| 9H8-18-12-3 | Hydraulic Swivel Joints O/H, P/N R152D3 & D4 | Basic | 1-Apr-81 | | |
| 9H8-18-15-3 | Hydraulic Tube Joint Assembly O/H w/IPB | Basic | 15-Oct-06 | | |
| 9H8-18-18-3 | Hydraulic Swivel PN2-43814-1 | Basic | 1-Apr-82 | | |
| 9H8-18-29-3 | Nose Landing Gear Hydraulic Swivel PN2-43814-1 | Basic | 1-Feb-82 | | |
| 9H8-18-31-3 | Hydraulic Swivel Joint PN22-901 | Basic | 1-Apr-98 | | |
| 9H8-18-32-3 | Hydraulic Swivel Joint PN22-900 | Basic | 15-Sep-07 | | |
| 9H8-18-34-3 | Hydraulic Swivel Joint PN22-902 | Basic | 1-Sep-85 | | |
| 9H8-18-35-3 | Hydraulic Swivel Joint PN22-903 | Basic | 15-Jun-06 | | |

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| 9H8-18-43-3 | Hydraulic Swivel P/N 0001-0009/10/11/13 (sub p/n 2-43810-5) | Basic | 15-May-06 | | |
| 9H8-22-14-3 | Hydraulic Pressure Snubber PN8195-1/22/31 | Basic | 1-Apr-82 | | |
| 9H8-23-8-3 | Hydraulic Flow Limiting Valve O/H w/IPB, Model 1121F-12-4.6 | Basic | 1-Jun-06 | | |
| 9H8-24-11-3 | Hydraulic Flow Regulator Valve O/H w/IPB, Model 199-16-16.5 | Basic | 15-Jun-06 | | |
| 9H8-26-12-13 | Hydraulic Priority Valve O/H, P/N A-50040 | Basic | 1-Dec-56 | | |
| 9H8-29-2-13 | WB-57 Motor Actuated Slide Shut-off Valve Assembly O/H w/IPB, P/N WE450-ID | Basic | 1-Apr-82 | | |
| 9H8-30-15-3 | Solenoid Valve OH | Basic | 15-Feb-11 | | |
| 9H8-30-15-4 | Solenoid Valve IPB | Basic | 15-Apr-2011 | | |
| 9H8-30-17-3 | Solenoid Operated Hydraulic Valve O/H w/IPB, P/N 1371-581640 | Basic | 1-Sep-82 | | |
| 9H8-30-18-3 | Solenoid Valve O/H w/IPB, P/N 1371-579160 | Basic | 1-Aug-82 | | |
| 9H8-30-21-3 | Solenoid Operated Hydraulic Valve PNH60G0398 | Basic | 1-May-11 | | |
| 9H8-30-21-13 | Solenoid Operated Hydraulic Valve PNH60G0396 | Basic | 1-Apr-11 | | |
| 9H8-30-22-3 | Q Spring Lock-out Valve Assembly PN65-12313-2 | Basic | 31-Jul-91 | | |
| 9H8-30-38-3 | Landing Gear & Flap Crossover Valve O/H, P/N 1U1059 | Basic | 15-Jul-64 | | |
| 9H8-30-44-4 | Rudder Servo Valve PN6U6009-1/2 IPB | Basic | 15-Dec-80 | | |
| 9H8-30-45-3 | Aileron Servo Valve PN6U6007-1/4 OH | 1 | 15-Jan-94 | | |
| 9H8-30-45-4 | Aileron Servo Valve PN6U6007-1/4 IPB | Basic | 15-Dec-07 | | |
| 9H8-30-70-3 | Aileron Servo Valve O/H, P/N 87700-301 & -302 | 1 | 1-Aug-82 | | |
| 9H8-30-70-4 | Aileron Servo Valve IPB, P/N 87700-301 & -302 | Basic | 1-Oct-70 | | |
| 9H8-30-118-3 | Skid Control Valve O/H w/IPB, P/N 39-469 (WB57 acft) | 2 | 13-Jun-2011 | | |
| 9H8-30-123-3 | Hydraulic Priority Valve Overhaul w/IPB | Basic | 1-Mar-07 | | |
| 9H8-30-138-3 | WB-57 Landing Gear Control Valve O/H w/IPB, P/N 37C37624 | Basic | 15-Mar-08 | | |
| 9H11-10-3 | Quick Disconnect Coupling Assembly PN50500 and Coupling Half PN50501/302 OH w/IPB | Basic | 1-Jul-82 | | |
| 9H17-3-9-3 | Rudder Power Control Package 27-20-1 PN60000-5003/-5005/-5007-500/9-50/11/-5013/-5015 OH | Basic | 7-May-85 | | Supp C |
| 9P1-2-17-2 | 900 Cubic Inch Spheres IPB | 3 | 20-Jul-07 | | |
| 9P1-3-3-3 | Pneu Accumulator-Pressure Vessel, Pneu Receiver | Basic | 1-Dec-07 | | |

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| 9P4-3-11-13 | Air Compressor Assembly PN890228-M OH | Changed | 1-Sep-68 | | SS-1 |
| 9P4-3-11-14 | Air Compressor Assembly PN890228-M IPB | 4 | 1-Apr-70 | | |
| 9P4-3-16-13 | Pressuring Kit O/H Instructions, Model RR-15260-A (WB57) | Basic | 30-Apr-56 | | |
| 9P4-3-16-14 | Pressuring Kit IPB, Model RR-15260-A (WB57) | Basic | 30-Apr-56 | | |
| 9P5-12-55-3 | Air Starting Inlet Check Valve PN3-50316-1 | Basic | 1-Jan-06 | TMR 07-026 | |
| 9P5-17-1-113 | Compressor Bleed Valve J57 and TF33 OH w/IPB (see title page for applicable part numbers) | 4 | 30-Apr-08 | | |
| 9P5-18-2-3 | Air Valve O/H w/IPB | 1 | 15-Dec-83 | | |
| 9P5-18-4-13 | Starting Air Diverter Valve OH P/N 3-50327-503 | 6 | 15-Jul-82 | TMR 02-045 Rev B PCN 1 | |
| 9P5-18-4-14 | REACTIVATED Starting Air Diverter Valve IPB P/N 3-50327-503 | 9 | 15-Oct-84 | TMR 07-027 Rev A | |
| 9P5-18-11-4 | Starting Air Diverter Valve IPB (P/N 8035773) | Basic | 1-Apr-06 | | |
| 9P5-3-101-3 | Air Pressure Regulator Valve OH, P/Ns AV19A1017, AV19A1026, HR2002, HR2002-1 | 1 | 15-Nov-10 | | |
| 9P5-3-101-4 | Air Pressure Regulator Valve IPB, P/Ns AV19A1017, AV19A1026, HR2002, HR2002-1 | Basic | 31-Oct-04 | | |
| 9P5-5-13-3 | WB-57 Motor Operated Butterfly Valve O/H, P/Ns 6097/A, 6105, 6109, 6115, 6163 | 5 | 1-Nov-82 | | |
| 9P5-5-13-4 | WB-57 Motor Operated Butterfly Valve IPB, P/Ns 6097/A, 6105, 6109, 6115, 6163 | Basic | 30-Jun-94 | | |
| 9P5-6-2-3 | WB-57 Air Valve Assembly, High Pressure O/H w/IPB, P/N AN6287-1 | Basic | 24-Nov-65 | | |
| 9P10-4-10-3 | Air Canopy Seal Regulator O/H (P/N 11982 & 11983) | Basic | 30-Apr-94 | | |
| 9P10-4-10-4 | Air Canopy Seal Regulator IPB (P/N 11982 & 11983) | Basic | 15-May-06 | | |
| 11A-1-10 | Munitions Serviceability Procedures | 2 | 3-Feb-11 | | |
| 11A-1-33 | Handling and Maintenance of Explosive Loaded Aircraft | 1 | 28-Jan-10 | | |
| 11A-1-42 | Disposal of Conventional Munitions - General Instructions | Basic | 10-May-06 | | |
| 11A-1-46 | Fire Fighting Guidance, Transportation & Storage Management Data | 6 | 12-Nov-08 | | |
| 11A-1-47 | DOD Explosives Hazard Classification Procedures | Basic | 5-Jan-98 | | |
| 11A-1-60 | Inspection of Reusable Munitions Containers and Scrap Material generated from items Exposed to, or containing Explosives | 1 | 17-Feb-09 | | |

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| 11A-1-61-4 | Storage and Outloading Instructions, Conventional Ammunition | 27 | 28-Feb-97 | | |
| 11A10-24-7 | Aircraft Parachute Flares | 5 | 24-Jan-11 | | |
| 11A10-26-7 | Pyrotechnic Signals | 6 | 12-Sep-11 | | |
| 11A10-30-7 | Specialized Storage and Maintenance Procedures for Pyrotechnic Fuses and Fire Starters and Deming Flare | Basic | 13-Apr-06 | | |
| 11A18-14-7 | Fire Extinguisher Cartridges and Fire Extinguisher Squibs | 12 | 6-Oct-11 | | |
| 11P-1-7 | Specialized Storage and Maintenance Procedures for Cartridges for Aircrew Escape Systems | 2 | 5-Jul-11 | TMR 03-020 | |
| 11P1-1-7 | Catapult M9 and M10 | 2 | 12-Nov-09 | | |
| 11P1-14-7 | Catapults M3A1, M4A1, M5A1 (P/N 8593635, 8593669, 8593686) | 3 | 2-Dec-09 | | |
| 11P1-15-7 | Rocket Catapults, P/N 2174, 2400, 10100, 1001 | 2 | 20-May-10 | | S-1 |
| 11P1-31-7 | Rocket Catapult and Ballistic Catapult (see title page for Model & Part Numbers) | 1 | 21-Sep-10 | | S-3 |
| 11P1-32-7 | Specialized Storage & Maintenance Procedures Vernier Rockets P/ Ns 1340-1, 50436-3/ 5/ 11 | 1 | 19-Mar-2008 | | |
| 11P3-1-7 | Cartridge Actuated Initiators | 10 | 4-Mar-11 | TMR 02-033 Rev D | |
| 11P2-3-7 | Specialized Storage & Maint Procedures for Electrically Initiated Devices & Cartridges Work Package | 6 | 7-Jun-2011 | | |
| 11P4-1-7 | Aircraft Canopy Removers, Model #'s M1A3, M3A1, RAU-1A, M4, M8A1, M9, RAU-3/A (P/Ns 2218-18, 1253-1) | 4 | 13-Jan-10 | | |
| 11P6-1-7 | Cartridge Actuated Thrusters | 10 | 26-Aug-11 | | |
| 11P6-34-7 | Parachute Ejector Assembly (Drogue Gun) P/N S05-10018-16, 1018-500/-502/-503 | 3 | 13-Jan-10 | | |
| 11P8-1-17 | Explosive Rotary Actuator Assembly PN 1000 Series | 3 | 16-Dec-09 | | |
| 11P9-1-107 | Parachute Time Delay Actuators (Empty) P/N 711-07013, -07019, -07024, -07035-5, -07047, -07091, -07095, -07096, -07099, -07116-1 | 2 | 30-Dec-83 | | |
| 11P10-6 TCTO | ACTIVE 11P10-6 TCTOs | Various | | | 502/C |
| 11P10-6-7 | Specialized Storage & Maintenance Procedures for PCU-63 UWARS, FLU-9 Inflation Assemblies, SEAWARS, and UWARS Kits (P/N's listed on title pg of tech order) | 1 | 26-Jul-11 | | |
| 11P12-15-7 | Reefing Line Cutters, P/N ISE172-1.15, ISE172-4.0, C1-1.15, C1-4.0, D10C-2 (A168-3) | 4 | 30-Dec-09 | | |
| 12M5-4-2-2 | Universal U-1 Foil PN385539-9/9M/17/19M | 10 | 1-Jun-05 | | |

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| 12M5-4-2-12 | U-1 Foil With Clam Shell Door and Inflatable Seal PN385539-21 | 8 | 10-May-06 | | |
| 12P4-2APX-142 | Control, Transponder Set | 17 | 22-Apr-10 | | |
| 12P4-2APX-192 | Transponder Set Test Set TS-1843A/APX with Depot Overhaul Instructions & IPB (P/N 01A233750-21-11, -12) | 21 | 11-Feb-08 | | |
| 12P4-2APX-202 | Test Set, Transponder Set TS-1843B/APX | 29 | 10-Oct-07 | | |
| 12P4-2APX64-2 | Radio Receiver-Transmitters Part of Transponder Set AN/APX064(V) | 47 | 21-Oct-10 | | |
| 12P4-2APX64-2CL-1 | Radio Receiver-Transmitters Part of Transponder Set AN/APX064(V) | 4 | 30-Jun-94 | | |
| 12P4-2APX64-4 | Radio Receiver-Transmitters Part of Transponder Set AN/APX064(V) IPB | 4 | 22-Jun-07 | | |
| 12P5-2APN194-2 | Electronic Altimeter Set AN/APN-194(V) | 3 | 1-Apr-09 | | |
| 12R2-2AIC10-4 | Intercommunication Set AN/AIC-10 IPB | 5 | 20-May-93 | | |
| 12R2-2AIC10-22 | Intercommunication Set AN/AIC-10 | 42 | 15-Dec-06 | | |
| 12R2-2AIC18-2 | Intercommunication Set AN/AIC-18 and Set Controls ARC-89(V) | 31 | 10-May-06 | | |
| 12R2-2AIC18-4 | Intercommunication Set AN/AIC-18 and Set Controls ARC-89(V) IPB | 15 | 20-Dec-05 | | TP-1 |
| 12R2-2AIC-121 | Headset-Microphone Adapter MX-1646/AIC | 1 | 10-Aug-67 | | S-1 |
| 12R2-2ARC164-2 | Radio Set ARC-164(V) | 12 | 15-Dec-06 | TMR 07-015 | |
| 12R2-2ARC164-2-4 | Receiver-Transmitter Radio RT-1288/A/ARC164(V) - P/Ns 706224-801, 802 & 803 and Electrical Equipment Mounting Base, MT-6017/ARC-164(V) - P/N 706625-801 | 4 | 20-Oct-94 | | |
| 12R2-2ARC164-3 | Radio Set AN/ARC-164(V) | 8 | 20-Jul-10 | | |
| 12R2-2ARC164-3-4 | Radio Set AN/ARC-164(V)12 and 16 | 2 | 1-Jun-90 | | |
| 12R2-2ARC164-4 | Radio Set AN/ARC-164(V) IPB | 1 | 11-Mar-08 | | |
| 12R2-2ARC164-4-4 | Radio Set AN/ARC-164(V)12 and AN/ARC-164(V)16 IPB | Basic | 8-Dec-08 | | |
| 12R2-2ARC190-2 | Radio Set AN/ARC-190(V) | 11 | 15-Mar-05 | | |
| 12R2-2ARC190-3 | Radio Set AN/ARC-190(V) OH | 8 | 7-Dec-07 | | |
| 12R2-2ARC190-4 | Radio Set AN/ARC-190(V) IPB | 1 | 26-Apr-11 | | |
| 12R2-4-47-2 | Intercom Control Panel PN3-61320-509/11/13/15 | Basic | 15-Mar-07 | | |
| 12R5-2ARN-164 | Radio Magnetic Indicator IPB | Basic | 19-Aug-10 | | |

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| 12R5-2ARN-193 | Course Indicator ID-249A/387/ARN OH | Basic | 1-Oct-06 | | |
| 12R5-2ARN-203 | Course Indicator ID-249(B)/351/A/B OH PN 140192, 140313, 140314, 140700 | 6 | 15-Jul-04 | | |
| 12R5-2ARN-204 | Course Indicator ID-249(B)/351/A/B IPB | 2 | 1-Aug-07 | | |
| 12R5-2ARN-263 | Course Indicator ID-351(B)/ARN OH | 7 | 31-Mar-06 | | |
| 12R5-2ARN118-8-3 | AN/ARN-188 TACAN and Control, Receiver-Transmitter, P/N 622-0748-001 Test Procedures Manual | Basic | 30-Sep-04 | | |
| 12R5-2ARN118-12 | TACAN Navigational Set AN/ARN-118(V)Maint Instructions w/IPB | 30 | 11-Dec-09 | | |
| 12R5-2ARN154-12 | Receiver-Transmitter, Radio ARN-154(V), P/N 805D0602-20 | 6 | 15-Mar-09 | | |
| 12R5-4-6-12 | Glide Scope Radio Receiver, Model 51V-4 & 4A Field Maintenance | 12 | 5-Oct-97 | | |
| 12R5-4-6-14 | Glide Slope Radio Receiver 51V-4A IPB | 6 | 27-Jan-93 | | |
| 12R5-4-58-2 | Radio Receiver Type 51R-6/A | 19 | 10-Sep-09 | | |
| 12R5-4-58-4 | Radio Receiver Type 51R-6/A IPB | Basic | 27-Apr-10 | | |
| 12R5-4-75-14 | Radio Receiver-Transmitter 860F-1 IPB | 6 | 8-Dec-10 | | |
| 12R5-4-77-14 | Flight Director Control 614E-9G IPB | Basic | 6-Jul-10 | | |
| 12R5-4-81-24 | Roll Computer IPB, Type 562R-1E; CPN 522-4428-018 | 12 | 2-Dec-10 | | |
| 12R5-4-90-12 | Warning Monitor Display Type 914G-1 CPN 522-3918-007 OH | 9 | 23-Jun-11 | | |
| 12R5-4-90-14 | Warning Monitor Display Type 914G-1 CPN 522-3918-007 IPB | 1 | 2-Aug-11 | | |
| 12R5-4-93-14 | HSI Type 331A-8H IPB | Basic | 1-Apr-10 | | |
| 12R5-4-124-2 | RGA Computer Type 562U-1 OH | 11 | 20-May-10 | | |
| 12R5-4-124-4 | RGA Computer Type 562U-1 IPB | 1 | 28-Jul-11 | | |
| 12R5-4-125-2 | RGA Control Unit Type 915W-1 OH | 7 | 28-Feb-07 | | |
| 12R5-4-125-4 | RGA Control Unit Type 915W-1 IPB | Basic | 8-Feb-11 | | |
| 12R5-4-126-2 | Angle of Attack Indicator Type 813G-1 OH | 6 | 15-Apr-10 | | |
| 12R5-4-127-2 | Angle of Attack Transmitter Type 345F-1 OH | 1 | 18-Oct-10 | | |
| 12S10-2AVS9-2 | Image Intensifier Set, Night Vision MM w/IPB, Type AN/AVS-9 (p/n 264359-3, -4, -7, -8, -9 & -12 & 275504-1 & -2) | 2 | 9-Jun-11 | | |
| 13A1-1-1 | Safety Belts, Shoulder Harness, Cleaning, Inspection, Etc. | 60 | 26-May-11 | | |
| 13A1-1-2 | Automatic Opening Lap Belts, Cleaning, Inspection, Etc. | 2 | 1-Jul-82 | | S-2 |
| 13A1-7-3 | Automatic Opening Lap Belts, OH/IPB | 4 | 31-Aug-82 | TMR 05-039 | |
| 13A1-8-1 | Automatic Lap Belt Type HBU-12A | 15 | 5-Apr-10 | | |

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| 13A4-3-3 | Shoulder Harness Take-Up Reels Overhaul PN HR30-1001/1002/1007/1009/1011/1012/1014/1017/1018/1021-1023/1025/1027/1030/1032/1033/1039 | 2 | 15-Aug-73 | | |
| 13A4-3-4 | Shoulder Harness Take-Up Reels IPB PN HR30-1001/1002/1007/1009/1011/1012/1014/1017/1018/1021/1022/1023/1025/1027/1030/1032/1033/1039 | Basic | 1-May-72 | | |
| 13A4-10-3 | Inertia Lock Shoulder Harness Reel, P/N 2-70286-7 & -9 | Basic | 1-Oct-76 | | |
| 13A4-10-4 | Inertia Lock Shoulder Harness Reel IPB | 2 | 15-Nov-76 | TMR 93-014 | S-2 |
| 13A4-14-3 | Power Retraction Inertia Reel Assembly (ESCAPAC) OH | 3 | 15-Aug-94 | | |
| 13A4-14-4 | Power Retraction Inertia Reel Assembly (ESCAPAC) IPB | Basic | 15-Apr-80 | | |
| 13A4-22-13 | WB-57 Inertia-Locking, Power Retracting Reel Assembly O/ H w/ IPB, P/ N 0103190-07 & -41 | 14 | 1-Jun-2011 | | |
| 13A4-24-3 | Power Reel Assembly OH/IPB | 5 | 15-Feb-89 | TMR 05-040 | |
| 13A5-35-3 | Rocket Ejection Seat Assembly (ESCAPAC 1C-6) OH PN 5824995-1, -501, 503, 505, 507, 509, 511 | 10 | 1-Nov-76 | TMR 09-010 | SS-8 |
| 13A5-35-4 | Rocket Ejection Seat Assembly (ESCAPAC 1C-6) IPB PN 5824995-1/501/503/505/507/509/511 | 7 | 15-Apr-77 | | |
| 13A5-45-3 | Crew Ejection Seat OH | 34 | 28-Apr-09 | TMR 05-037 | |
| 13A5-45-4 | Crew Ejection Seat IPB 2-70200-523 | 21 | 11-Apr-08 | TMR 05-038 Rev A | |
| 13A5-56-11 | WB-57 Escape System Assemblies Ops & Maint Instructions w/IPB | 21 | 20-Oct-10 | | S-4 |
| 13A6-22-12 | DC-9 Aircraft Crew Seat P/N 77208-402 Maint. Inst. W/IPB | 6 | 22-Apr-04 | | |
| 13A6-22-14 | DC-9 Auxiliary Crew Aircraft Seats IPB | 15 | 14-Oct-10 | | |
| 13A6-40-44 | Aircrew Swivel Seat Assembly Models 649, 686, 687 IPB | 16 | 31-Dec-06 | | |
| 13A12-13-3 | Ejection Seat Anti-G Personal Leads Disconnect | Basic | 30-Apr-00 | | |
| 13A19-2-2 | Evacuation Systems for Series C-135 Aircraft (p/n 16D22230 & -103) | 7 | 2-Sep-10 | | |
| 13C1-7-3 | SGT Cargo Hoist Power Unit O/H, P/N A19A6168 & -2 | Changed | 14-Mar-69 | | |
| 13C1-7-4 | SGT Cargo Hoist Power Unit IPB, P/N A19A6168-2 | Reviewed & Current | 1-Apr-72 | | |
| 13F6-2-23 | Fire Extinguisher Container O/H w/IPB, P/N A800530 & 800530-1 | 6 | 1-Jun-11 | | |
| 14-1-4 | Clothing and Personal Type Flying Equipment | 26 | 1-Nov-06 | | |
| 14D1-1-1 | Styles of Parachutes Used in Various Aircraft | 7 | 15-Jun-07 | | |
| 14D1-1-2 | Cleaning Parachute Assembly | Basic | 1-May-96 | | |

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| 14D1-2-1 | Personnel Parachutes | 37 | 20-Sep-10 | | |
| 14D1-2-436 | Ejection Seat Drogue Chute | 17 | 25-Apr-11 | | |
| 14D2-8-1 | Automatic Parachute Ripcord Release | 23 | 19-Sep-08 | TMR 90-005 | |
| 14D3-10-1 | Ejection Seat Aircrew Recovery Parachute | 41 | 20-Aug-10 | | |
| 14D3-11-1 | Emergency Personnel Recovery Parachute | 46 | 22-Jun-11 | TMR 02-032 Rev A | |
| 14P3-1-112 | Nomex Flight Gear | 30 | 19-Nov-07 | | |
| 14P3-1-121 | Fitting Procedures for Flying Helmet Assemblies | 9 | 31-Jan-00 | | |
| 14P3-1-161 | Advanced Technology G Ensemble Ops & Maint Instructions w/IPB, Mask Assy P/N G010-1100-41/42/43/44 | 37 | 23-Jun-11 | TMR 02-062 Rev B | |
| 14P3-4-151 | Flyers Helmet Type HGU-55/P | 10 | 28-May-10 | | |
| 14P3-5-91 | Flyers Anti-Exposure Coveralls, P/N 1370AS403-(101), Models CWU-74/P, CWU-62B/P & CWU-62C/P Operation & Maint Instruction w/IPB | 32 | 21-Jun-11 | TMR 10-015 | |
| 14P3-6-131 | Flying Outfit, Full Pressure, High Alt. Type A/P22S-6A | Basic | 31-Oct-99 | TMR 07-008 | |
| 14P3-12-1 | Inflatable Lumbar Support Pad; Use, Fitting, Inspection & Repair | 9 | 1-Dec-06 | TMR 05-027 | |
| 14P3-GNS1034-2 | Pilot's Protective Assembly GNS1034 Operation & Maint Instructions w/IPB | 24 | 27-Sep-10 | TMR 07-009 Rev A | |
| 14S-1-102 | Flotation Equipment | 26 | 11-Mar-03 | TMR 05-036 | |
| 14S-1-102-11 | USAF Flotation Equipment Life Rafts LRU-16P & LRU-17P & Life Preserver LPU-9P Maint Instructions w/IPB | 8 | 26-Jul-10 | | |
| 14S-1-131 | Operational & Maintenance Instructions for Survival Vest Assembly, SRU 21/P Air Ace, Air Crew Survival Armor Recovery Vest, Insert & Packets, Load Bearing Vest | 12 | 29-Apr-09 | | |
| 14S1-3-51 | Survival Kits, Model SRU-16/9 | 22 | 13-May-11 | TMR 10-004 | |
| 14S1-3-81 | Container, Survival Kits | 12 | 1-Aug-94 | TMR 05-035 | |
| 14S10-2-2 | Distress Marker Light | Basic | 4-Feb-2010 | TMR 05-011 Rev D | |
| 15A1-2-27-3 | T-38 Cabin Pressure Regulator O/H, P/N 545745, 556768, 573901 | Basic | 15-Jul-10 | | |
| 15A1-2-27-4 | T-38 Cabin Pressure Regulator IPB, P/N 545745, 556768, 573901 | Basic | 15-Apr-10 | | |
| 15A2-2-13-173 | WB-57 2-1/2" Diameter Electric Air Shutoff Valve O/H w/IPB, P/N 104058 | Basic | 1-Jun-59 | | |
| 15A2-2-13-183 | WB-57 1-1/2" Diameter Modulating Electric Air Shutoff Valves O/H w/IPB, P/N 104056 & 104056-0-4 | Basic | 1-Feb-80 | | |
| 15A2-2-95-3 | Hot Air Shutoff Valve O/H w/IPB, P/N 1520-277 & 1520-77A | Basic | 15-Oct-10 | TMR 05-053 | |
| 15A2-3-41-3 | Cabin Temperature Control Valve OH/IPB | Basic | 1-Oct-10 | | |
| 15A2-7-15-4 | WB-57 Pressure Regulator & Shutoff Valve Assembly IPB, P/N D82C03 & E82C03 | Basic | 15-Jun-03 | | |

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| 15A3-2-5-3 | WB-57 Cooling Turbines O/H, P/N 57730-1-8 | Basic | 15-Feb-1975 | | |
| 15A3-2-5-4 | WB-57 Cooling Turbines IPB, P/N 57730-1-8 | Basic | 15-Feb-1975 | | |
| 15A3-2-11-43 | Aircraft Cooling Turbines O/H Instructions, P/N 203430 | 1 | 1-Mar-06 | | |
| 15A3-3-14-82 | Refrigeration Unit MM(p/n's 570622, 576609, 710070-1, 748871-1 & -2 and 753400-2) | Basic | 30-Sep-04 | | |
| 15A3-3-14-83 | Refrigeration Unit O/H (p/n's 570622 & 576609) | Basic | 15-Jul-10 | | |
| 15A3-3-14-84 | Refrigeration Unit IPB (p/n's 570622, 576609, 710070-1, 748871-1 & -2 and 753400-2) | Basic | 1-Aug-10 | | |
| 15A4-2-13 | WB-57 Heat Exchangers O/H, P/N 80190 | Basic | 1-Aug-09 | | |
| 15A4-2-14 | WB-57 Heat Exchangers IPB, P/N 80190 | Basic | 15-Sep-04 | | |
| 15A7-2-20-3 | Water Separator O/H (p/n 552058 & 588799) | Basic | 15-Dec-10 | | |
| 15A7-2-20-4 | Water Separator IPB (p/n's 552058 & 588799) | Basic | 15-Dec-04 | | |
| 15A8-8-3-3 | Defog Flow Selector O/H w/IPB (p/n 552026) | Basic | 31-Oct-06 | | |
| 15E2-2-7-4 | WB-57 Motor Actuated Ram Air Shutoff Valve IPB, P/N 2520-19, -20 & -21 | 2 | 15-Sep-85 | | |
| 15E2-2-9-4 | WB-57 Valve & Actuator Assembly IPB, Models DY LZ4307/-1 | Basic | 31-Jul-66 | | |
| 15E2-2-34-63 | Anti-Icing Valve O/H w/IPB (p/n 123335-2 & -3) | Basic | 1-Mar-10 | | |
| 15E2-2-34-103 | Motor Actuated Butterfly Shutoff Valve Used on TF33 Engines | 1 | 31-Jul-06 | | |
| 15E2-4-6-3 | WB-57 Venturi-Type Air Flow Control Regulators O/H, P/N 106018, Model AFR2-1 | Changed | 15-Jan-1967 | | |
| 15E2-4-6-4 | WB-57 Venturi-Type Air Flow Control Regulators IPB, p/n 106018, Model AFR2-1 | Changed | 15-Aug-62 | | |
| 15E2-5-27-3 | De-Fog Temperature Control Valve & De-fog Flow Control Valve | 1 | 1-Jun-10 | | |
| 15H3-2-26-33 | WB-57 Axial Flow Blower O/H w/IPB, P/N X702-140 | Basic | 30-Aug-74 | | |
| 15H3-2-26-73 | WB-57 Axial Blower Fan O/H w/IPB, P/N X702-228 | Basic | 21-Apr-58 | | |
| 15H3-2-26-233 | WB-57 Axivane Aircraft Fans O/H, P/Ns U702-40A/B; X702-47A, -51A, -66/A, -73, -79, -93A-1, -94, -102, -113 & -146 | Basic | 15-Aug-72 | | |
| 15H3-2-26-234 | WB-57 Axivane Aircraft Fans IPB, P/Ns U702-40A/B; X702-47A, 51A, 66/A, 79, 93A-1, 94, 102, 113 & 146 | 3 | 15-Sep-73 | | |

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| 15E3-2-49-3 | WB-57 Interpreter Ice Detector O/H w/IPB, P/N 6524310 | Basic | 15-Mar-85 | | |
| 15E3-2-51-3 | Anti-Ice Control O/H w/IPB (p/n's 570642 & 740818-1) | Basic | 15-Jun-09 | | |
| 15H5-2-15-63 | WB-57 Two-Inch Diameter Electric Air Shutoff & Modulating Valves O/H w/IPB, P/N 104602, 104602-1-4, 104602-2 | 4 | 15-Jun-85 | | |
| 15H5-4-2-3 | Solenoid Valve OH (p/n 403-00-1, -3, -5) | Basic | 1-Sep-05 | TMR 09-005 | |
| 15H5-4-2-4 | Solenoid Valve IPB (p/n 403-00-1, -3, -5) | Basic | 15-Aug-03 | | |
| 15H6-2-2-244 | WB-57 Windshield Anti-Icing Control Box IPB, Model CYLZ 4205-1 & -2 | Basic | 31-Jul-66 | | |
| 15H6-2-2-254 | WB-57 Control Box, Cabin Temperature IPB, Model CYLZ 4223-2, -3 & -4 | 1 | 15-Nov-81 | | |
| 15H6-5-3-3 | Air Outlet Assembly OH, PN 2280 | Basic | 1-Aug-05 | | |
| 15X-1-1 | Oxygen Equipment Maint Instructions | 10 | 15-Dec-08 | | |
| 15X-1-3 | Refinishing of Airborne Oxygen Equipment | Basic | 1-Aug-08 | | |
| 15X1-3-1-33 | High Pressure Oxygen Cylinders OH | Basic | 15-Aug-06 | | |
| 15X1-4-2-4 | Emergency Bail-Out Oxygen Cylinders Types MD-1, MD-2, CRU-10/P & H-2 | Basic | 15-Jan-11 | | |
| 15X1-4-2-12 | Emergency Bail-Out Oxygen Cylinder Assemblies, Operation & Field Maint Instructions | 6 | 15-Dec-08 | | |
| 15X2-6-7-3 | Liquid Oxygen Converter, Type GCU-2/A, GCU-2A/A, P/N 10C-0005-10 & -11 | Basic | 15-May-05 | | |
| 15X2-6-9-3 | Liquid Oxygen Converter OH, Type GCU-24/A (P/N 10C-0016-10), GCU-24A/A (P/N 10C-0016-15 & 10C-0016-16) | 1 | 15-Nov-10 | | |
| 15X2-6-9-4 | Liquid Oxygen Converter IPB, Type GCU-24/A (P/N 10C-0016-10), GCU-24A/A (10C-0016-15 & 10C-0016-16) | Basic | 1-Jan-11 | | |
| 15X5-3-6-1 | MBU-12/P Pressure Demand Oxygen Mask, P/Ns 834-75-01/02/03/04/10 | 44 | 27-May-11 | TMR 02-064 Rev A | |
| 15X5-4-1-101 | Oxygen Mask To Regulator Connector Assemblies, Type CRU-8/P, CRU-60/P, CRU-43/A, CRU-43A/A | 4 | 15-May-09 | | |
| 15X5-4-4-12 | Pressure Demand Breathing Oxygen Mask, Type MBU-5/P, P/N 450-191, -192, -193, -194; with Retention Devices (P/N 70280-10LH & 70280-20RH & 345-301); & Quik-Don Suspension Assembly P/N 450-481A | 27 | 2-May-05 | | |

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| 15X5-4-4-13 | Pressure Demand Breathing Oxygen Mask OH w/IPB, Type MBU-5/P, P/N 450-191, -192, -193, -194; with Retention Devices (P/N 70280-10LH & 70280-20RH & 345-301); & Quik-Don Suspension Assembly P/N 450-481A | 31 | 19-Sep-07 | TMR 02-063 Rev A | |
| 15X5-4-5-3 | Mask Assembly Oxygen Breathing OH w/IPB, P/N 249-350 & 249-355 | Basic | 1-Jul-89 | | |
| 15X5-5-3-1 | Fire Fighters and Oxygen Smoke Mask Assemblies (p/n 651-280, 280D & -475-3) | 22 | 27-Sep-07 | | |
| 15X6-3-2-23 | Diluter Demand Oxygen Regulator Tech Manual (P/N's: 0-521-306C, 0-616-1, 0-616-A) | 11 | 15-Jun-86 | | |
| 15X6-3-2-24 | Diluter Demand Oxygen Regulator IPB (P/N's: 0-521-306C & 0-616-1) | 3 | 15-Jul-84 | | |
| 15X6-3-21-3 | Diluter Demand Pressure Breathing Oxygen Regulator OHM (P/Ns 29270-10A-B1, 29270-10A-A1, 68B850059-1003) | 5 | 15-Jun-11 | | |
| 15X6-3-21-4 | T-38 Diluter Demand Pressure Breathing Oxygen Regulator IPB, P/N 29170-10A-A1/B1 & 68B850059-1003 | 2 | 15-Jun-11 | | |
| 15X6-4-2-1 | Pressure Breathing Diluter Demand Oxygen Regulator (Type A-14) | 11 | 25-Feb-78 | | |
| 15X6-4-3-1 | Type MA-1 Portable Breathing Oxygen Cylinder & Regulator, P/N 9000A & 9000A-1 | Basic | 1-Aug-07 | | |
| 15X11-19-2 | Survival Kit Container Assembly O/H w/IPB, P/N 140000-24, -24A, -44, -64, -70, -100, -113 | 15 | 2-Jun-11 | | SS-16 |
| 16A1-14-37-3 | Load Relief Stabilizer Cylinder O/H w/IPB, P/N 3-73151-1 | Basic | 15-Aug-08 | | |
| 16C1-10-10-2 | Horizontal Tail Operating Mechanism | 16 | 1-Sep-98 | TMR 91-046 | |
| 16C1-12-21-2 | Landing Gear Control | Basic | 1-Jun-04 | | |
| 16C1-12-21-4 | Landing Gear Control IPB | Basic | 1-Jun-04 | | |
| 16C1-12-22-2 | Landing Gear Control Maint Instructions, P/N 248-7/-13/-15 | 3 | 15-Jul-02 | | |
| 16C1-12-22-4 | Landing Gear Control IPB | Basic | 15-Sep-03 | | |
| 16C1-27-13-2 | Control Stick Grip Assemblies | Basic | 15-Oct-04 | TMR 05-029 Rev A | |
| 16G1-85-3 | Wing Flap Gear Drive Assembly OH/IPB, P/N 523EA-2, -5 thru -9 | Basic | 31-Jul-05 | | |
| 16G1-102-2 | Accessory Drive Gearbox P/N 3-5110-1 and 14-51100-1 | 2 | 15-Oct-07 | TMR 05-022 Rev A | |
| 16G1-102-3 | Accessory Drive Gearbox | Basic | 15-Feb-10 | TMR 04-008 Rev B | |
| 16G1-102-4 | Accessory Drive Gearbox | Basic | 12-Oct-10 | TMR 05-056 | |
| 16G2-7-2-3 | Drive Assembly | Basic | 12-Oct-10 | TMR 03-041 Rev C | |
| 16L1-3-13-3 | Main Landing Gear Uplock OH, P/N 3-40125-1 (lh) & 3-40125-2 (rh) | Basic | 06-Apr-11 | | |

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| 16L1-3-13-4 | Main Landing Gear Uplock IPB, P/N 3-40125-1 (lh)& 3-40125-2 (rh) | Basic | 6-Apr-11 | | |
| 16R1-2-8-3 | WB-57 Cable Tension Regulator Assembly O/H w/IPB, P/N R73-8001-56-00 & R73-1002-35-00 | Basic | 15-Jul-06 | | |
| 16R1-3-26-2 | T-38 Instructor's Throttle Control Quadrant Maint Instructions w/IPB, P/N 3-50813-500 & -501 | 3 | 15-Feb-10 | | |
| 16R1-3-26-12 | T-38 Throttle Control Quadrant Field Maintenance w/IPB, P/Ns 3-50814-511, 7141029-50 & -500 | 5 | 1-Dec-10 | TMR 05-033 | |
| 16R1-3-38-3 | Control Assembly PN 7-42879-1 and -2 OH/IPB | Basic | 1-Apr-07 | | |
| 16W12-6-3 | Landing Gear Alternate Release Control Mechanism Support OH | 5 | 30-Jul-99 | TMR 08-016 Basic PCN 1 | |
| 16W12-6-4 | Landing Gear Alternate Release Control Mechanism Support IPB | Basic | 15-Feb-97 | | |
| 31-1-141-1 | Testing Information & Safety Practices | 7 | 20-Mar-96 | | |
| 31-1-141-10 | Merit Measurements | Basic | 26-Aug-03 | | |
| 31-1-141-11 | Transmission Line & Waveguide Principles & Measurements | Basic | 3-Nov-05 | | |
| 31-1-141-12 | Antenna Principles & Measurements | Basic | 26-Aug-03 | | |
| 31-1-141-13 | Electronics Tech & Test Practices Telemetry & Intelligence Modulation Techniques | Basic | 4-Dec-03 | | |
| 31-1-141-14 | Electronics Tech & Test Practices Autotune Mechanisms | Basic | 17-Mar-04 | | |
| 31-1-141-15 | Electronics Tech & Test Practices Parts Replacement & Substitution | Basic | 23-Jun-04 | | |
| 31-1-141-2 | Magnetic And Electrical Fundamentals | Basic | 15-Oct-04 | | |
| 31-1-141-3 | Electronic Circuit Theory | Basic | 30-Oct-08 | | |
| 31-1-141-4 | Semiconductor Circuit Theory | Basic | 23-Jun-08 | | |
| 31-1-141-5 | Math for Electrical And Electronics Technicians | Basic | 23-Jun-08 | | |
| 31-1-141-6 | Basic Computer Programming Techniques | Basic | 3-Apr-03 | | |
| 31-1-141-7 | Testing Equipment | Basic | 23-Jun-08 | | |
| 31-1-141-8 | Fundamental Measurements | Basic | 23-Jun-08 | | |
| 31-1-141-9 | Testing Techniques & Practices | Basic | 23-Jun-08 | | |
| 31R2-1-251 | Transmission of False Distress Signals on Emergency Frequencies | Basic | 11-Sep-05 | | |
| 31R2-2PR-101 | Radio Set AN/PRC-90 & Radio Test Set AN/PRM-32 & TS-20/PRM-32A - Sylvania Electronic Systems | 3 | 5-Aug-10 | TMR 05-055 Rev B | |
| 31R2-2PRC90-1 | Radio Set Type AN/PRC90-2, Operation & Maint Manual | 4 | 23-Feb-11 | | |
| 31R2-2PRC90-2 | Radio Set AN/PRC90-2 Intermediate Maint Instructions | 3 | 28-Feb-11 | | |
| 31R2-2PRC90-4 | Radio Set AN/PRC90-1 & AN/PRC90-2 IPB | 1 | 15-Jun-87 | | |
| 32-1-101 | Care And Use of Hand And Measuring Tools | 6 | 6-Oct-10 | | |

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| 32-1-151 | Hand Measuring And Power Tools | 4 | 24-Mar-08 | | |
| 32-1-201 | Maintenance Of Measuring Tools | 2 | 3-Mar-97 | | |
| 32A20-2-6-1 | X-Ray Tube Head Stand Assembly 275/300 KV | 1 | 1-Mar-84 | | |
| 32B14-3-1-101 | Torque Indicating Devices | 13 | 29-Oct-10 | | |
| 33-1-19 | General Care, Use & Maint. of Pressure, Vacuum and Compound Gages | Basic | 15-Apr-10 | | |
| 33-1-27 | Logistic Support of Test Measurement & Diagnostic Equipment in FSC | 1 | 30-Nov-98 | | |
| 33-1-32 | Input Power Wiring Of Electrical/Electronic Support Equipment | Basic | 19-May-11 | | |
| 33-1-37-1 | JOAP - Introduction, Theory, Customer Samples, Reports (Vol 1) | Basic | 1-Aug-10 | | |
| 33-1-37-2 | JOAP - Introduction, Theory, Customer Samples, Reports (Vol 2) | Basic | 1-Aug-10 | | |
| 33-1-37-3 | JOAP - Lab Analysis, Methodology, Equipment Criteria | Basic | 1-Aug-10 | TMR 05-013 Rev A | |
| 33-1-37-4 | JOAP - Methodology and Equipment Criteria | Basic | 1-Aug-10 | | |
| 33A1-3-358-11 | DEPOT Maintenance w/IPB for Test Set, Transponder Set Type AN/APM- 239A | 28 | 30-Nov-10 | | |
| 33A1-3-426-21- 2 | Radar Test Set AN/UPM-137A Vol 2 | 1 | 1-Nov-75 | | S-2 S-3 S-4 S-5 S-6 |
| 33A1-8-843-1 | Rockwell Collins VOR ILS Signal Generator, 479S-6 (book also contains Desc Pub 523-0767898 & Parts List 523-0768803) | Rev 2 | 1-Jun-83 | | R S T U V |
| 33A1-15-53-1 | Insulation Breakdown Test Set Model 4300 | 2 | 15-Jul-94 | | |
| 33A2-2-1- 166(N)WC-1 | Periodic Inspection Portable Hydraulic Test Stands Gasoline/Diesel Engine and Electric Motor Driven Work Cards | Rev B | 10-Oct-08 | | |
| 33A2-2-1- 166WC-1 | Gasoline/Diesel Engine & Electric Motor Driven Hydraulic Test Stands | Basic | 10-Dec-09 | | |
| 33A2-2-35-1 | Hydraulic Component Tester Model HCT-6 | 45 | 3-Mar-10 | | |
| 33A2-2-35-4 | Hydraulic Component Tester Model HCT-6, HCT-12, HCT-13 IPB | 10 | 1-Nov-83 | | |
| 33A2-2-6-4 | Portable Gasoline Engine Driven Hydraulic Test Stand, Type D-5, P/N 930-500 IPB | 7 | 31-Dec-83 | | |
| 33A2-2-6-21 | Portable Electric Motor Driven Hydraulic Test Stand Op & Svc Instructions, Type D-6, P/N 930-600 & 1304-100 | 7 | 15-Feb-78 | | |
| 33A2-2-6-24 | Portable Electric Motor Driven Hydraulic Test Stand IPB, Type D-6, P/N 930-600 & 1304-100 | 4 | 30-May-74 | | |
| 33A2-2-6-31 | Electric Motor Driven Hydraulic Test Stand Type D-6/ Thrust Reverser Test Stand | 8 | 15-Apr-85 | | |

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| 33A2-2-6-34 | Electric Motor Driven Hydraulic Test Stand Type D-6/ Thrust Reverser Test Stand IPB | 10 | 1-Mar-84 | TMR 05-047 | |
| 33A2-2-6-51 | Electric Motor Driven Hydraulic Test Stand Type D-6A | 13 | 1-Mar-80 | | |
| 33A2-2-6-54 | Electric Motor Driven Hydraulic Test Stand Type D-6A IPB | 6 | 15-Aug-73 | | |
| 33A2-2-6-61 | Gasoline Engine Driven Hydraulic Systems Test Stand, Type D5-A, Model AHT-5A-1 Service Instructions | 5 | 1-Dec-79 | | |
| 33A2-2-63-1 | Portable Hydraulic Test Stand Operation & Maint Instructions, Model MJ-2A-1, P/N 88043-100 | 29 | 1-Sep-11 | | |
| 33A2-2-63-3 | Portable Hydraulic Test Stand, Type MJ-2A-1, P/N 88043-100 O/H & Depot Maint | 8 | 31-Aug-11 | | |
| 33A2-2-63-4 | IPB for Portable Hydraulic Test Stand P/N 88043-100 | Basic | 5-Jan-11 | | |
| 33A6-4-7-1 | Hydraulic Pressure Gage, Dead Weight Tester | 4 | 31-Dec-94 | | |
| 33A6-4-20-1 | IPB-Dead Weight Gauge Tester | Basic | 9-Jul-75 | | |
| 33A8-4-6-1 | Portable Cable Terminal Pull Tester AT-520CT | 1 | 11-May-98 | | |
| 33AA7-6-21 | Portable Load Bank Tester Type A-1 | 1 | 15-Oct-77 | | |
| 33AA18-61-3 | Repair and Maintenance Contour Probe | Basic | 7-Jul-87 | | |
| 33B-1-1 | Non-Destructive Inspection Methods, Basic Theory | Basic | 15-Sep-2010 | | |
| 33B-1-2 | NDI General Procedures & Process Controls | 2 | 1-Jan-11 | | |
| 33B2-3-21 | Magnetic Particle Inspection Equipment Model ARQ-966 | 2 | 15-Aug-94 | | |
| 33B4-2-29-1 | Spectroil M Oil Analysis Spectrometers Operation & User Manual (JOAP) | 16 | 29-Oct-03 | | Sup C |
| 33B2-4-1 | Magnetic Particle Inspection Equipment Model KCH-3D | 2 | 31-Aug-84 | | |
| 33B2-7-11 | Flaw Detector, Eddy Current Locator UH-B | 2 | 1-Nov-94 | | |
| 33B2-64-1 | Nortec 2000 Dual Eddyscope Operation & Service Manual, P/N 7720061.00 (Staveley Instruments) | Rev 1 | 1-Apr-00 | | Supp C |
| 33D2-3-135-1 | J85 Fuel System Test Set Ops & Maint Instructions, PN 21C3954G02, G05, G07, P01 | 2 | 14-Apr-06 | | |
| 33D2-3-135-4 | J85 Fuel System Test Set | Basic | 15-Aug-97 | | |
| 33D2-3-21-1 | Gas Turbine Engine Analyzer PN: 281069-1 | 16 | 27-Jan-09 | | |
| 33D2-3-21-4 | Gas Turbine Engine Analyzer PN: 281069-1 | Basic | 15-Dec-96 | | |
| 33D2-4-4-11 | Aircraft Generator Test Stand Type A-2 | 2 | 1-May-83 | | |
| 33D2-4-4-14 | Aircraft Generator Test Stand, Type A-2 IPB | 2 | 30-May-74 | | |

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| 33D2-6-11-31 | Capacitor Type Fuel Qty Gage Tank Unit Tester Ops & Serv Manual (WB-57 Acft), P/N 100030, Type MD-2A, FSN 4920-509-1508 | 5 | 15-Sep-84 | | |
| 33D2-8-329-1 | Test Set, TACAN, AN/ARM-135 (p/n 17000000) | 5 | 15-Mar-91 | | |
| 33D2-8-329-2 | Test Set, TACAN, AN/ARM-135, P/N 17000000 | 17 | 20-Mar-09 | | |
| 33D2-8-329-4 | Test Set, TACAN, AN/ARM-135 IPB (p/n 17000000) | 13 | 1-Sep-91 | | |
| 33D2-8-356-1 | Test Set, TACAN, AN/ARM-135(A) | 25 | 15-Apr-06 | | |
| 33D2-10-10-31 | Tester, Oxygen Mask, Headset & Microphone Type MQ1 | Basic | 15-Oct-83 | | |
| 33D2-10-67-2 | PBG Oxygen Regulator Field Tester Maint Instructions, P/N 3300223-6001, -6002 & -6003 (for T38 Acft) | 1 | 1-Nov-04 | | |
| 33D2-10-67-4 | PBG Oxygen Regulator Field Tester IPB, P/N 3300223-6002 (for T38 Acft) | Basic | 1-May-11 | | |
| 33D2-10-135-1 | Oxygen Mask Test Unit Ops & Maint Instructions, P/N 6112300 | Rev A | 21-Mar-00 | | C |
| 33D2-11-69-1 | Guppy - RPM & phase indicator test set w/cable adapter assembly w/IPB | 3 | 15-Aug-79 | | S-1 |
| 33D2-11-75-1 | SGT Synchrophaser System w/IPB Operation and Service Instructions | 5 | 15-Sep-75 | | S-1 thru S-6 |
| 33D2-28-12-1 | Tester, Pressurized Cabin Leakage, Type AF/M24T-3 | 9 | 8-Mar-11 | | |
| 33D2-28-12-4 | Tester, Pressurized Cabin Leakage, Type AF/M24T-3 IPB | 13 | 15-Apr-06 | | |
| 33D2-DN-D152.1000.6-1 | Liquid Oxygen Ventilation & Breathing Ventilator (P/N DN-D152-1000-6) and Chemical, Biological, Radiological Accessory Kit (P/N DN-D172-1070-1) Operation & Maint Instructions w/IPB | Basic | 1-Sep-09 | | |
| 33D2-DN-DN278.2860.8-1 | Pilot's Protective Assembly Portable Test Console Operation and Maint Instructions, P/N DN-D278-2860-8 | Basic | 27-Apr-09 | | |
| 33D3-8-29-1 | Servoactuator Test Fixture | 1 | 31-Jul-84 | | |
| 33D3-9-38-4 | Type MC-1 Aircraft Automatic Pilot Test Stand IPB | 4 | 31-Aug-74 | | |
| 33D3-9-38-11 | MC-1 Auto Pilot Test System Stand | 7 | 1-Dec-94 | TMR 05-048 | |
| 33D3-9-88-1 | Portable Analyzer for Modified HC-1 Autopilot Systems | 2 | 15-Mar-85 | | |
| 33D3-9-92-1 | Test Stand, MC-1 Autopilot System (Modified for RB-57F Aircraft) | 2 | 15-May-73 | TMR 05-004 Rev A | |
| 33D3-15-18-1 | Automatic Parachute Actuator Tester (p/n 711-07135 & -5) | 18 | 15-Mar-99 | | |
| 33D4-2-40-1 | Turbine Bleed Air Flow Test Kit | 9 | 1-Aug-94 | TMR 05-046 | |
| 33D4-6-18-21 | Jet Engine Analyzer Ops, Svc, Maint & Repair for Model BH112J & JA | 10 | 15-Nov-87 | | S-4, S-3 |
| 33D4-6-18-24 | Jet Engine Analyzer IPB for Model BH112J & JA | 4 | 1-Sep-80 | | |
| 33D4-6-198-1 | Seal Leakage Tester | 4 | 15-Sep-84 | | |
| 33D4-6-198-4 | Seal Leakage Tester IPB | Basic | 31-Oct-68 | | |

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| 33D4-6-199-1 | Bleed Valve Test Stand | 1 | 15-May-75 | | |
| 33D4-6-199-4 | Bleed Valve Test Stand IPB | Basic | 30-Jan-71 | | |
| 33D4-6-202-4 | Speed Signal Amplifier Test IPB, P/N 21C2595G001 | 2 | 1-Feb-82 | | |
| 33D4-6-212-36(N)WC-1 | Aircraft Jet Engine Test Stand A/M37T-6C/ -16/ -20/ -20A/ -20B/ -21/ -21A/ 22 Service Inspection Work Cards | A | 4-Aug-2009 | | |
| 33D4-6-212-36(N)WC-2 | Aircraft Jet Engine Test Stand A/M37T-6/-6A/-6B/-6C/-16/-20/-20A/-20B/-21/-21A Periodic Inspection Workcards (150 Hours) | Basic | 10-Oct-2006 | | |
| 33D4-6-212-36WC-1 | Aircraft Jet Engine Test Stand | Basic | 24-Feb-09 | | |
| 33D4-6-212-36WC-2 | Periodic Inspection WC (150) Aircraft Engine Test Stand | 19 | 18-Nov-08 | | |
| 33D4-6-212-41 | Jet Engine Test Stand Turboprop Engine Test Stand | 7 | 24-Jan-08 | | |
| 33D4-6-212-44 | Jet Engine Test Stand Turboprop Engine Test Stand | 4 | 21-Mar-08 | | |
| 33D4-6-256-1 | Field Tester Ops & Svc Instruction w/IPB, P/N 892818 (FSN 4920L0011762039) | 2 | 5-Apr-2011 | | |
| 33D4-6-264-1 | Engine Control Kit Operation & Service Manual, P/N 21C2734G001 & 005 | 3 | 15-Sep-91 | | |
| 33D4-6-264-4 | Engine Control Kit IPB | Basic | 1-Apr-74 | | |
| 33D4-6-265-1 | Electrical Components Test Console | 3 | 15-Nov-94 | TMR 05-045 | |
| 33D4-6-316-1 | Fuel Nozzle Test Stand (P/N 83322, 84592, 85195) | 5 | 1-Jul-82 | TMR 03-043 Rev A | |
| 33D4-6-316-4 | Fuel Nozzle Test Stand IPB P/N 83322, 84592, 85195) | 4 | 1-Jul-87 | | |
| 33D4-6-442-1 | Demountable Noise Suppressor Complex, Aircraft Ground Run-Up for T-38 Aircraft | Basic | 1-May-09 | TMR 05-001 Rev A | |
| 33D4-6-442-4 | Demountable Noise Suppressor Complex, Aircraft Ground Run-Up for T-38 Aircraft IPB | Basic | 30-Jun-09 | | |
| 33D4-6-465-1 | Exhaust Gas Temperature Test Controller Operation & Maint Instructions, P/N H239-2 & -11 | 6 | 9-May-11 | | |
| 33D4-6-465-4 | Exhaust Gas Temperature Test Controller IPB, P/N H239-2 & -11 | 3 | 1-Dec-81 | | |
| 33D4-6-472-3 | Single Range Fuel Flow Indicator Not on Active List by USAF | 2 | 31-Mar-84 | | |
| 33D4-6-473-1 | Operation & Maintenance Instructions - Electrical, Mechanical, Instrumentation & Control Systems A/F 32T-4, Engine Test Cell (5592-100-1, -2, 5592-100A-1, A-2, 5592-100B-1) | 7 | 1-Mar-97 | | |
| 33D4-6-473-4 | IPB - Electrical, Mechanical, Instrumentation & Control Systems A/F 32T-4, Engine Test Cell (5592-100-1, -2, 5592-100A-1, A-2) | 5 | 30-Mar-99 | | |

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|-----------------|---|----------|---------------|-----------------|---------------------|
| 33D4-6-473-11 | Operation & Maintenance Instructions - Electrical, Mechanical, Instrumentation, & Control Systems A/F 32T-4, Engine Test Cell (P/N's: 5592-1000-1 & -2) | 1 | 15-Mar-95 | | |
| 33D4-6-473-14 | IPB - Electrical, Mechanical, Instrumentation & Control Systems A/F 32T-4, Engine Test Cell (P/N's: 5592-1000-1 & -2) | 1 | 30-Jun-96 | | |
| 33D4-6-484-1 | Engine Test Stand Noise Suppressor System Model A/F32T-4 | 5 | 15-Oct-95 | | |
| 33D4-6-484-3 | Engine Test Stand Noise Suppressor System Model A/F32T-4 OH | 3 | 30-Apr-91 | | S-1 |
| 33D4-6-484-4 | USAF, Engine Test Stand Noise Suppressor Model A/F32T-4IPB | Basic | 30-Apr-1991 | | |
| 33D4-6-803-1 | F118 DEC Functional Test System (DFTS) Ops & Tech Procedures Manual, P/N 200332100 (T38 Acft) | Basic | 15-Nov-05 | | |
| 33D7-3-60-71 | Pressure Temp Test Set Ops & Maint Instructions, Models TTU-205D/F/H & TTU-205J w/Enhanced Calibration Capability, P/N TTU-205J 200317658-30 | 2 | 10-Sep-06 | | |
| 33D7-3-60-74 | Pressure Temp Test Set IPB, Models TTU-205D/F/H & TTU-205J w/Enhanced Calibration Capability, P/N TTU-205J 200317658-30 | 9 | 13-Apr-09 | | |
| 33D7-47-122-1 | Universal Control Panel Test Set Model #K735 (P/N: K735A15061) | 5 | 20-Aug-08 | | |
| 33D7-47-122-4 | IPB Universal Control Panel Test Set Model #K735 (P/N: K735A15061) | 3 | 24-Aug-07 | | |
| 33D7-47-122-11 | Adapter Sets for Universal Test Set, Model K735, P/N K735A15061 Operation & Maint Instructions | 1 | 1-Mar-95 | | |
| 33D7-47-122-14 | Adapter Sets for Universal Test Set Model K735, P/N K735A15061 IPB | 2 | 30-Oct-01 | | |
| 33D7-50-159-1 | Test Set Radio AN/ARM-173 Adapter, Test MS 9530/ARC | 9 | 15-Jun-98 | | |
| 33D7-50-159-1-1 | MK-1954/ARM-173 Kit, Cable Adapter for Test Set Ops & Maint Manual w/IPB | Basic | 15-Jan-79 | | |
| 33D7-71-42-1 | Radio Test Set Model ARC/TS-24(B) | 14 | 30-Nov-07 | | |
| 33DA39-52-3 | Fuel Flow Rate Measurement System Wide Range | 2 | 31-Oct-85 | | |
| 33K-1-100-1 | Calibration Procedure for TMDE Calibration Notes, Maint Data Collection Codes & Calibration Measurement Summaries (Avlb on CD & AODWEB) | Basic | 30-Nov-10 | | |
| 33K1-4-1646-1 | Calibration Procedure For Nozzle Control System Tester (P/N 21C912G005) | Basic | 30-Jun-94 | | |
| 33K3-4-329-1 | Calibration Procedure Ramp Test Set and Battery Charger AN/ARM-186 | Basic | 30-Dec-06 | | |

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| 33K3-4-1967-1 | Calibration Procedure for Tacan Test Set AN/ARM-135 | 1 | 30-Sep-08 | | |
| 33K6-4-121-1 | Calibration Procedure for Cylindrical Plugs and Precision Drill Pins | Basic | 30-Aug-11 | | |
| 33K6-4-205-1 | Calibration Procedure for Hydraulic Pressure Gage Dead Weight | Basic | 30-May-08 | | |
| 33K6-4-226-1 | Calibration Procedure for JETCAL Analyzer/Trimmer, P/N BH112JB40 & BH112JB25 | Basic | 30-Jul-04 | | |
| 33K6-4-2193-1 | Calibration Procedure for Snap action, impulse feel torque wrenches | Basic | 30-Jul-11 | | |
| 33K6-4-2908-1 | Calibration Procedure for Optical Comparator, LT-14, QB-14 & H14Q16 | Basic | 30-Sep-06 | | |
| 33K6-4-3014-1 | Calibration Procedure for Torque Screwdrivers | Basic | 30-Jul-11 | | |
| 33K6-4-3015-1 | Calibration Procedure for Deflecting Beam & Rigid Case Dial Indicating Torque Wrenches | Basic | 30-Dec-10 | | |
| 33K6-4-3016-1 | Calibration Procedure Torque Multipliers, Torque Limiters or Limiting Devices | Basic | 30-Jun-08 | | |
| 33K6-4-3017-1 | Calibration Procedure for "T" Handle Torque Wrenches | Basic | 30-Jun-11 | | |
| 33K6-4-3241-1 | Calibration Procedure for Engine Test for J85-5 Engines, A/M37T20C | 2 | 30-Mar-06 | | |
| 33K6-4-575-1 | Calibration Procedure for Portable Dead Weight Tester | Basic | 30-Aug-04 | | |
| 33K6-4-700-1 | Calibration Procedure for Pressure Temperature TTU 205D | Basic | 30-Nov-10 | | |
| 33K6-4-970-1 | Calibration Procedure for Internal and External Spline Gages | Basic | 30-Jun-11 | | |
| 34-1-3 | Inspection and Maintenance of Machinery and Shop Equipment | Basic | 11-Sep-06 | | |
| 34G1-9-6-1 | Lakeland Power Tube Flarer | Basic | 1-Apr-68 | TMR 01-076 | |
| 34W4-1-5 | Welding Theory and Application | Basic | 18-Dec-98 | | |
| 34Y1-87-41 | Air Compressor MC-2A | 17 | 30-Apr-89 | | |
| 34Y1-87-43 | Air Compressor MC-2A | 18 | 1-Jan-87 | | |
| 34Y1-87-44 | IPB Air Compressor MC-2A | 32 | 22-Jul-89 | | |
| 34Y1-87-61 | Trailer Mounted Diesel Engine Driven Rotary Air Compressor Model MC-2A | 11 | 1-Jun-09 | | |
| 34Y1-253-1 | Overhaul/IPB Compressor, Air, Rotary, Diesel Engine Driven 2 Wheel Trailer Mounted | 15 | 20-Jul-10 | | |
| 34Y2-83-1 | Bearing Cleaning Bench PN: 21022 | 6 | 15-Aug-82 | | |
| 34Y30-2-1 | Hose and Fittings Assembly Machine | 24 | 1-May-04 | | |
| 34Y30-4-1 | Hose Cutting and Skiving Machine | 22 | 11-Jun-08 | | |
| 34Y5-3-35-1 | High Vacuum Pump Model KT-500B Ops & Maint. Manual w/IPB | 2 | 15-Oct-77 | | |
| 34Y9-6-2-1 | Tire Bead Breaker Model 5033 | 2 | 28-Feb-91 | | |
| 34Y9-6-6-1 | Operation and Maintenance Instructions, Bead Breaker, ACFT Pneu Tire - P/N 6500 (Randall) | Basic | 15-May-88 | | |

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| 35-1-151WC-1 | Portable Heaters | 7 | 15-Jul-11 | | |
| 35-1-226(N)WC-1 | Lubrication, Fuel Dispensing and Coolant Servicing Systems (FSC 4930), Hydraulic Servicing Carts (FSC 4910), Fuel Bowsers (FSC 2330; MMAC Code Yr) Non-Powered Support Equipment Workcards Periodic Inspection | Rev E | 1-Feb-11 | | |
| 35-1-226WC-1 | Non-Powered Support Equipment Periodic Inspection Workcards | 17 | 24-Sep-10 | | |
| 35-1-236(N)WC-1 | Non-Powered Aerospace Ground Equipment, Gas Generating and Dispensing Systems (FSC 3655) Periodic Inspection Workcards | Rev E | 23-Dec-09 | | |
| 35-1-236WC-1 | Non-powered Aerospace Ground Equipment Gas Generating and Dispensing Systems | 11 | 28-Sep-10 | | |
| 35-1-246(N)WC-1 | Non-Powered Aerospace Ground Equipment, Aircraft Ground Servicing Equipment (FSC 1730), and Airfield Specialized Trucks and Trailers (FSC 1740) Periodic Inspection Workcards | Rev E | 7-May-09 | | |
| 35-1-246WC-1 | Non-powered Aerospace Ground Equipment | Basic | 20-Oct-09 | | |
| 35-1-3 | Corrosion Prevention, Painting and Marking of USAF Support Equipment | 7 | 15-Jul-11 | TMR 05-003 Rev A | |
| 35-1-4 | Processing & Inspection of Support Equipment for Storage & Shipment | 2 | 25-Nov-06 | | |
| 35-1-7 | Power Supply Units for Ground Starting & Maintenance of Jet Aircraft | 8 | 20-Aug-09 | | |
| 35-1-8 | Matched Rail Support Equipment and Related Component Adapters | 36 | 15-May-92 | | |
| 35A2-1-1 | Overhaul Instructions For Hydraulic Jacks | Basic | 23-Sep-10 | | |
| 35A2-2-10-1 | 5 Ton Hydraulic Tripod Jack | 2 | 1-Mar-99 | | |
| 35A2-2-10-4 | 5 Ton Hydraulic Tripod Jack IPB | 2 | 1-Aug-03 | | |
| 35A2-2-11-1 | 10 Ton Hydraulic Tripod Jack | 2 | 4-Sep-08 | | |
| 35A2-2-11-4 | 10 Ton Hydraulic Tripod Jack IPB | 9 | 13-Feb-09 | | |
| 35A2-2-12-31 | 50 Ton Hydraulic Axle Jack Type F-3A | 2 | 15-Dec-81 | | |
| 35A2-2-12-34 | 50 Ton Hydraulic Axle Jack Type F-3A IPB | 6 | 1-Apr-79 | | |
| 35A2-2-34-21 | 35 Ton Axle Jack Model 1921 | 2 | 30-Sep-83 | | |
| 35A2-2-34-24 | 35 Ton Axle Jack Model 1921 IPB | 5 | 15-Aug-83 | | |
| 35A2-2-37-1 | 5 Ton Hydraulic Aircraft Hand Jack | 3 | 30-Jun-87 | | |
| 35A2-2-37-4 | 5 Ton Hydraulic Aircraft Hand Jack IPB | Basic | 30-Jun-87 | | |
| 35A2-2-44-3 | 20 Ton Aircraft Hydraulic Axle Hand Jack OH | 3 | 12-Sep-03 | | |
| 35A2-2-44-4 | 20 Ton Aircraft Hydraulic Axle Hand Jack IPB | 6 | 15-Aug-03 | | |
| 35A2-2-54-1 | Jack, Hydraulic Tripod, 20 Ton Capacity Ops & Svc Instructions | 13 | 16-Oct-07 | | |
| 35A2-2-54-3 | Jack, Hydraulic Tripod, 20 Ton Capacity O/H Manual | 8 | 1-Jul-94 | | |

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| 35A2-2-54-4 | Jack, Hydraulic Tripod, 20 Ton Capacity IPB | 19 | 15-Jul-02 | | |
| 35A2-2-7-1 | 20 Ton Adjustable Tripod Hydraulic Jack | 12 | 1-Nov-87 | | |
| 35A2-2-7-3 | 20 Ton Adjustable Tripod Hydraulic Jack OH | 11 | 1-Mar-91 | | |
| 35A2-2-7-4 | 20 Ton Adjustable Tripod Hydraulic Jack IPB | 19 | 30-Aug-02 | | |
| 35A2-2-9-11 | Folding Tripod Hydraulic Hand Jack Assembly | 17 | 28-Feb-08 | | |
| 35A2-2-9-14 | Folding Tripod Hydraulic Hand Jack Assembly IPB | 25 | 1-Mar-04 | | |
| 35A2-2-9-21 | 30 Ton Capacity Folding Tripod Hydraulic Hand Jack Assembly Ops & Maint Instructions w/IPB, P/N 53J6268 | 1 | 25-Aug-10 | | |
| 35A2-2-94-3 | Aircraft Hydraulic Jacks | Basic | 1-Nov-80 | | S-9, S-10, S-11, S-12 |
| 35A2-5-13-3 | Telescopic Hydraulic Cylinder OH/IPB | 2 | 15-Feb-82 | | |
| 35A2-5-28-1 | Aircraft Landing Gear Jack PN 65J33607 | 10 | 1-Jul-87 | | |
| 35A4-2-3-11 | Adjustable Aircraft Maintenance Platform Type B-2 | 10 | 18-Oct-10 | | |
| 35A4-2-3-14 | Adjustable Aircraft Maintenance Platform IPB, Type B-2 | Basic | 16-Jun-10 | | |
| 35A4-2-3-51 | Maintenance Platform Adjustable Aircraft, Type B-1 | 13 | 5-Oct-10 | | S-4 |
| 35A4-2-3-54 | Maintenance Platform Adjustable Aircraft IPB, Type B-1 | 1 | 31-Aug-10 | | |
| 35A4-2-5-1 | Platform, Adjustable Aircraft Maintenance Type B-4A | 11 | 6-Aug-09 | | |
| 35A4-2-5-4 | Platform, Adjustable Aircraft Maintenance IPB | 1 | 21-Sep-10 | | |
| 35A4-2-6-1 | Aircraft Maintenance Stand, Type B-5A | 11 | 2-Sep-10 | | |
| 35A4-2-6-4 | Aircraft Maintenance Stand IPB, Type B-5A | 1 | 17-Mar-11 | | |
| 35A4-2-33-1 | Gas Turbine Type Accommodated Aircraft Engine Maintenance Stand | Basic | 1-Sep-64 | | C D |
| 35A4-3-7-1 | Work Stand Assemblies | 8 | 9-Oct-96 | | |
| 35A4-3-7-4 | Work Stand Assemblies IPB | 4 | 15-Oct-74 | | |
| 35A4-3-16-3 | Maintenance Platform O/H w/IPB, Type C1 | Basic | 2-Jul-10 | | |
| 35B2-2-2-31 | Aircraft Electronic Weighing Kit, Type C-1, P/N 104422-9 | 1 | 15-Jun-82 | | |
| 35B2-2-7-1 | Electronic Weighing Kit IPB, PN 155800-03 | 8 | 1-Jan-88 | | |
| 35B5-18-31 | Universal Aircraft Towbar, MD-1 Ops & Maint Instructions w/IPB, P/N's 55J22139-3, -4 & -5 | 16 | 20-Jul-10 | | |
| 35B5-20-11 | Airplane Towing and Steering Bar Assembly | 39 | 4-May-11 | | |
| 35B5-29-1 | Aircraft Towbar | Basic | 1-Nov-03 | TMR 02-003 Rev A | |

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|-------------------------|--|----------|---------------|-----------------|---------------------|
| 35C2-2-1-101(N)WC-1 | Motor Driven Generator Sets Periodic Inspection Workcards (500 Hours), Types MC-1, MC-1A, MC-1A-1, MD-2, MD-2C, MD-2D, MD-2D1, MD-3, MD-4, MD-4M0, ECU-105E, A/E2A-3, ECU-110E-A | Rev A | 20-Jun-08 | | |
| 35C2-2-1-101WC-1 | Motor Driven Generator Sets Workcards | Basic | 10-Mar-08 | | |
| 35C2-2-34-1 | Motor Generator Set Trailer Mounted Type MC-1 Series | 10 | 17-Sep-09 | | |
| 35C2-2-34-3 | Motor Generator Set Trailer Mounted Type MC-1Series OH | 6 | 1-Nov-84 | | |
| 35C2-2-34-4 | Motor Generator Set Trailer Mounted Type MC-1Series IPB | 10 | 1-Aug-91 | | |
| 35C2-2-34-21 | Motor Generator Set, Type MC-1A and MC-1A-1 | 6 | 25-Mar-05 | | |
| 35C2-2-34-23 | Motor Generator Set, Type MC-1A and MC-1A-1 OH | 5 | 15-Jun-02 | | |
| 35C2-2-34-24 | Motor Generator Set, Type MC-1A and MC-1A-1 IPB | 8 | 25-May-94 | | Sup F |
| 35C2-2-34-31 | Motor-Generator Trailer Mounted, Type MC-1A, Model 7781 P/N D-21280 | 4 | 4-Sep-09 | | |
| 35C2-2-34-41 | Motor Generator Set Mobile Type MC1A OH/IPB | 15 | 10-Feb-10 | | |
| 35C2-3-1-426(N)WC-1-2-1 | Turbine Driven Generator Sets, Type A/M32A-60 Series Periodic Inspection Workcards | Rev B | 15-Jul-08 | | |
| 35C2-3-1-426 | FSC 6115 Electrical Generator Sets Engine Driven (SE) | Basic | 15-Dec-90 | | |
| 35C2-3-1-426WC-1-2-1 | Turbine Driven Generator Sets, Type A/M32A-60 Series Workcards | 1 | 1-Apr-07 | | |
| 35C2-3-372-1 | Generator Set Gas Turbine, Wheel Mounted Type M32A-60 | 20 | 24-Sep-10 | | |
| 35C2-3-372-3 | Generator Set Gas Turbine, Wheel Mounted Type M32A-60 OH | 43 | 1-Dec-03 | | |
| 35C2-3-372-4 | Generator Set Gas Turbine, Wheel Mounted Type M32A-60/B IPB | Basic | 31-Mar-09 | | |
| 35C2-3-372-11 | Generator Set Gas Turbine, Wheel Mounted Type M32A-60A | 15 | 19-Feb-10 | | S-2 |
| 35C2-3-469-1 | Generator Set, Diesel Engine Driven, Wheel MTD, 72 KW 3 Phase, 4 Wire, 115/200 Volts | 8 | 3-Mar-11 | | |
| 35C2-3-469-2 | Generator Set, Diesel Engine Driven Wheel MTD, 72KW 3 Phase, 4 Wire, 115/200 Volts | 24 | 15-Mar-07 | | |
| 35C2-3-469-2-1 | SGT Generation System Generator P/N 481487 & 849046 & Voltage Reg | 19 | 9-Mar-11 | | |
| 35C2-3-469-4 | Generator Set, Diesel Engine Driven Wheel MTD, 72 KW, 3 Phase, 4 Wire, 115/200 Volts | 21 | 17-Jun-11 | | |
| 35C2-3-469-11 | Generator Set Model A/M32A-86A AND -86D | 16 | 23-May-11 | | |

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| 35C2-3-469-12 | Generator Set, Diesel Engine Driven, Wheel Mtd, 72KW3 Phase, 4-Wire, 115/200 or 230/400 Volts, Model A/M32A-86A/D | 21 | 3-Mar-11 | | |
| 35C2-3-469-14 | Generator Set Model A/M32A-86A AND -86D IPB | 3 | 24-Jun-10 | | |
| 35C2-3-510-1 | Generator set, diesel engine driven wheel mounted model #B809A NSN 6115-01-389-4093 | 3 | 27-Jun-11 | | |
| 35C3-3-7-21 | Portable DC Power Supply Rectifier Model H28-200T24 (Type B8) | 4 | 1-Mar-90 | | |
| 35C3-3-7-24 | Portable DC Power Supply Rectifier Model H28-200T24 (Type B8) IPB | 2 | 30-Apr-80 | | |
| 35C3-3-119-1 | Transformer Rectifier Model TR-1528 OM/IPB | Basic | 5-Feb-82 | | Supp's: E, F, G, H, J, K, L, M |
| 35CA1-3-2-1 | Ground Power Junction Box and Cables | Basic | 7-Sep-93 | TMR 05-014 Basic PCN 2 | |
| 35CA1-3-2-4 | Ground Power Junction Box and Cables IPB, P/N SE-1076 | Basic | 12-Mar-81 | | Sup C |
| 35D3-3-25-1 | Engine Transportation Trailer Model 2000 Repair Manual, Modified P/N AF 64E34634 | 5 | 15-Jun-82 | | |
| 35D3-3-25-4 | Engine Transportation Trailer Model 2000 IPB, Modified P/N AF 64E34634 | 6 | 15-Apr-86 | | |
| 35D3-3-26-1 | Engine Transportation Trailer Repair Instructions, Model 3000 | 4 | 30-Nov-09 | | |
| 35D3-3-26-4 | Engine Transportation Trailer IPB, Model 3000 | 29 | 8-Dec-03 | | |
| 35D3-3-26-11 | Engine Transportation Trailer Repair Instructions, Model 3010 | 26 | 29-Dec-95 | | |
| 35D3-3-26-14 | Engine Transportation Trailer IPB, Model 3010 | 12 | 31-Jan-85 | | |
| 35D3-3-26-21 | Aircraft & Missile Engine Trailer, Type ETU/14E, Model 3030 | 32 | 29-Dec-95 | | |
| 35D3-3-34-1 | Installation and Removal Trailer Repair Instructions, Models 4000A/B | 28 | 31-Jan-03 | | |
| 35D3-3-34-4 | Installation and Removal Trailer IPB, Models 4000A/B | 32 | 31-Mar-07 | | |
| 35D3-3-34-11 | Installation and Removal Trailer Repair Instructions, Model 4100 & 4100B | 32 | 30-Aug-02 | | |
| 35D3-3-34-14 | Installation and Removal Trailer IPB, Model 4100 & 4100B | 29 | 1-Sep-06 | | |
| 35D3-3-34-21 | Installation and Removal Trailer Repair Instructions, Model 4000 | 12 | 21-Mar-97 | | |
| 35D3-3-34-71 | Aircraft and Missile Engine Lift Trailer Service & Repair, Model 4100B Type ETU-9/E | 1 | 23-Jul-07 | | |
| 35D3-3-34-74 | Aircraft and Missile Engine Lift Trailer IPB, Model 4100B Type ETU-9/E IPB | 15 | 16-Jul-07 | | |
| 35D3-3-34-76(N)WC-1 | Trailer, Engine Installation and Removal (Models 4100 and 4100B) Periodic Inspection Workcards | Rev A | 16-Jul-08 | | |

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|----------------------|---|----------|---------------|------------------|---------------------|
| 35D3-3-59-1 | Lift Trailer, Type ETU-77/E & Transportation Trailer Type ETU-76/E | 9 | 15-Jun-95 | | |
| 35D3-3-59-4 | Lift Trailer, Type ETU-77/E & Transportation Trailer Type ETU-76/E IPB | 6 | 15-Dec-03 | | |
| 35D3-3-59-21 | Trailer, Rail Type Lift Type ETU-77A/E IPB | 19 | 1-Oct-03 | | |
| 35D3-6-46-1 | Trailer, Oxygen Servicing Type AF/M32R-3 Maint. Instructions w/IPB | 9 | 1-Apr-06 | | |
| 35D3-8-14-1 | OPR & Maint. Instruction with IPB, Landing Gear, 402500 (Metric Sys) | Basic | 15-Nov-82 | | |
| 35D3-9-6-1 | Aircraft Component Handling Lift Trailer/Adapter | 18 | 15-Feb-07 | TMR 01-062 | |
| 35D3-9-6-4 | Aircraft Component Handling Lift Trailer/Adapter IPB | 19 | 29-Oct-03 | TMR 01-063 | |
| 35D3-9-6-11 | Aircraft Component Handling Lift Trailer/Adapter Operation, Service & Repair Manual, P/N 3-76500-1 | 2 | 15-Mar-85 | | |
| 35D3-9-23-1 | Manually Operated Lift Truck, P/ N 8644725-10, Model MHU-194/ E | 17 | 5-Jan-2009 | | |
| 35D3-18-8-1 | Hydraulic Filler and Pressurizing Unit PN E-6550 | 22 | 1-Feb-05 | | |
| 35D3-18-12-1 | Hydraulic Filler and Pressurizing Unit PN E-10385 | Basic | 8-Feb-11 | | |
| 35D3-18-15-1 | Hydraulic Filler and Pressurizing Unit PN 204000 | 5 | 15-Aug-98 | | |
| 35D3-47-2-1 | WB-57 Aircraft Ejection Seat Dolly Svc Instr & IPB, Model NESD-1, P/ N 64A127J1-1 | Basic | 1-Jun-1966 | | S-1 |
| 35D4-1-101 | Inspection & Repair Procedures for Casters, Attaching Hardware & Frame Components for Type J-1, J-1B, J-2, J-3 & MA-1 Hoist & Portable Engine or Turret Hoist (in accordance with TO 35D4-2-5-11) | Basic | 31-Jan-72 | | |
| 35D4-2-2-1 | Winch Assembly Type A-1 | 10 | 15-Oct-99 | | |
| 35D4-2-2-4 | Winch Assembly Type A-1 IPB | 2 | 14-Mar-77 | | |
| 35D4-2-5-11 | Mobile Floor Crane Type J-1B | 5 | 6-Dec-10 | | |
| 35D4-2-5-14 | Mobile Floor Crane Type J-1B IPB | 2 | 27-Sep-76 | | |
| 35D5-5-3-11 | Pneumatic Bag, Aircraft, Lifting 12 Ton Capacity, Type F-2, F-1 | Basic | 15-Jan-02 | | |
| 35D6-1-106 | Periodic and Maintenance Instruction Acft and Engine Slings and Restraining Devices | Basic | 9-Dec-10 | TMR 08-001 Basic | |
| 35D8-14-3-1 | WB-57 Sling Ejection Seat Lifting Shroud Assembly, Ops & Svc Instructions w/ IPB | 14 | 30-Jun-2008 | | |
| 35D12-2-1-101(N)WC-1 | FSC 2835YZ Trailer Mounted Gas Turbine Pneumatic Power Units MA-1A and A/M32A-95 Periodic Inspection Workcards | Rev B | 1-Aug-08 | | |
| 35D12-2-1-101WC-1 | Trailer Mounted Gas Turbine Pneumatic Power Units | 1 | 4-Mar-10 | | S-1 |

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| 35D12-2-4-3 | Trailer Mounted Gas Turbine Compressors OH | 29 | 15-Mar-95 | TMR 04-012 | |
| 35D12-2-4-4 | Trailer Mounted Gas Turbine Compressors OH | 35 | 2-Sep-97 | | |
| 35D12-2-14-1 | Compressor, Gas Turbine, Trailer Mounted Type A/M32A-95 (Libby Corp P/N's 8446000 & 945465410) & (Honeywell P/N 9454654-10) | 6 | 18-Feb-10 | | |
| 35D25-9-3-1 | Wheel Assembly Fixture OM/IPB | Basic | 1-Sep-02 | | |
| 35E11-1-101(N)WC-1 | Portable Blowers and Fans Periodic Inspection Workcards (150 Hours) | Rev A | 16-Jul-08 | | |
| 35E11-1-101WC-1 | Portable Blowers and Fans | 1 | 31-Jul-08 | | |
| 35E11-2-3 | Blower Exhaust Type MA-1, P/N D-12722, A/B/C | 2 | 30-Apr-99 | | |
| 35E11-82-11 | Blower Gasoline Engine Driven PN: 6901B | 3 | 15-Sep-00 | | S-1 |
| 35E11-82-13 | Blower Gasoline Engine Driven PN: 6901B OH | 4 | 15-Jun-00 | | |
| 35E11-82-14 | Blower Gasoline Engine Driven PN: 6901B IPB | 1 | 1-Nov-89 | | |
| 35E13-20-3 | Hydraulic Hand Pump Assembly PN 449400-301 OH | 2 | 30-Nov-82 | | |
| 35E13-20-4 | Hydraulic Hand Pump Assembly PN 449400-301 IPB | 3 | 30-Apr-86 | | |
| 35E13-42-3 | Axial Piston Variable Volume Pump OH | 5 | 1-Oct-87 | | |
| 35E13-42-4 | Axial Piston Variable Volume Pump IPB | 6 | 1-Sep-89 | | |
| 35E22-5-5-1 | Air Purging Unit, Type GSU-62/M for Liquid Oxygen Storage Tanks, P/N 791070-001, MIL-P-27456C, Ops/Maint/O-H w/IPB Manual | Basic | 4-Jan-10 | | |
| 35E36-2-1 | Portable Radiation X-Ray Warning Device Ops & Maint Instr w/ PL | Basic | 30-Jan-89 | | |
| 35E7-6-9-11 | Heater, Electric, Portable Duct Type, Trailer Mounted, Type HDU-13/M Ops, Maint, O/H w/IPB, Type HDU-13/M | 2 | 15-Jul-11 | | |
| 35E9-1-101WC-1 | Trailer Mounted Air Conditioners Workcards | 1 | 17-Sep-10 | | |
| 35E9-163-1 | Ops & Maintenance Instructions w/IPB Air Conditioner A/E32G-39 P/N 12090-601 to 605 | 17 | 28-Apr-00 | | |
| 35F5-1-2 | General Instructions for Explosion-Proof Lanterns and Extension Light Assemblies, Model 1090-HZ | 10 | 24-Apr-08 | | |
| 35F5-5-11-6(N)WC-1 | This Inspection Being Accomplished Under Inspection Schedule FSC 6230 Portable Gasoline Engine Driven Lighting Units Type NF-2 (Only) Periodic Inspection (150 Hours) Workcards | Rev A | 20-Jun-08 | | |
| 35F5-5-11-31 | Floodlight Set Portable Model NF2 IPB | 69 | 30-Jan-98 | | |

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| 36-1-3 | Paint, Marking & Lighting Requirements for USAF Vehicles | 7 | 30-Dec-92 | | |
| 36-1-50 | Motor Vehicle Maintenance Guide | 7 | 15-Feb-00 | | |
| 36-1-121 | Standardization of Lunette & Pintle Hook Towing Attachments (Type I, Class 1 & 2) | Basic | 24-Aug-07 | | |
| 36A10-3-23-21 | Tractor, Aircraft Towing, DED, 4X4, Four Wheel Steer, 10,300 lbs Drawbar Pull, Type MB-4 | 7 | 20-Mar-04 | | |
| 36A10-3-23-22 | Tractor, Aircraft Towing, DED, 4x4 Type MB-4 Maintenance Instructions | 7 | 14-Nov-03 | | |
| 36A10-3-23-24 | Tractor, Aircraft Towing, DED, 4x4, Four-Wheel Steer 10,300 lb Drawbar Pull IPB | Basic | 2-Dec-09 | | |
| 36A10-3-5-81 | SGT Aircraft Towing Tractor Operator Maint Instructions, Model MB-2 | 2 | 10-Aug-09 | | |
| 36A10-3-5-83 | SGT Aircraft Towing Tractor Maint & O/H, Model MB-2 | 8 | 30-Aug-05 | | |
| 36A10-3-5-83-1 | SGT Aircraft Towing Tractor O/H Technical Manual, Model MB-2 | Basic | 1-Jul-1983 | | Sup C |
| 36A10-3-5-84 | SGT Aircraft Towing Tractor IPB, Model MB-2 | 9 | 1-Apr-06 | | |
| 36A10-3-6-1 | Towing Tractor, Type MB-4, Model G-40 Operation and Service | 7 | 1-Dec-91 | | |
| 36A10-3-6-3 | Towing Tractor, Type MB-4, Model G-40, Overhaul | 8 | 26-Jan-84 | | SS-1 |
| 36A10-3-6-4 | Towing Tractor, Type MB-4, Model G-40 IPB | 11 | 15-Jun-89 | | |
| 36A11-10-15-1 | Tank, Trailer Mounted Recoverable Aviation Fuel 400 Gallon, P/N 277TR400 | 10 | 24-Aug-07 | | |
| 36C3-6-8-1 | Crane, Floor, Portable, Boom Type, Model PC-1032, Serial 17309 thru 17329 | 1 | 30-Sep-93 | | Supp H |
| 36M3-3-31-41 | Warehouse Towing Tractor Models JG4OPT Series | 10 | 16-Jun-77 | | |
| 36M3-3-31-43 | Warehouse Towing Tractor Models JG4OPT Series OH | Changed | 15-May-72 | TMR 05-015 | |
| 36M3-3-31-44 | Warehouse Towing Tractor Models JG4OPT Series IPB | 11 | 1-Sep-75 | | TP-101 |
| 37A-1-101 | Fuel, Water & Lubricant Dispensing Equipment | Basic | 1-Jul-11 | | |
| 37C2-8-1-116(N)WC-1 | Non-Powered Aerospace Ground Equipment Liquid Oxygen, Liquid Nitrogen, Liquid Argon, Liquid Air Storage and Transfer Tanks (FSC 3655) Periodic Inspection Workcards | Rev C | 1-Aug-08 | | |
| 37C2-8-1-116WC-1 | Non-Powered Aerospace Ground Equip., Liquid Oxygen, Liquid Nitrogen, Liquid Argon, Liquid Air Storage | 10 | 24-Nov-08 | | |
| 37C2-8-1-127 | Liquid Oxygen/Nitrogen Overboard Vent System | 6 | 27-Feb-09 | | |

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| 37C2-8-3-11 | Liquid Oxygen Storage and Transfer Tank Type TMU 27/M | 9 | 30-Apr-07 | | |
| 37C2-8-3-13 | Liquid Oxygen Storage and Transfer Tank Type TMU 27/M OH | 14 | 1-Jun-06 | | |
| 37C2-8-3-14 | Liquid Oxygen Storage and Transfer Tank Type TMU 27/M IPB | Basic | 2-Jul-09 | | |
| 37C2-8-10-1 | 400 Gal. LOX and Nitrogen Storage & Transfer Tank IPB | 13 | 10-Jun-05 | | |
| 37C2-8-10-4 | 400 Gal. LOX and Nitrogen Storage & Transfer Tank, P/N 2429500-1 & 2427600-1 IPB | 10 | 15-Oct-85 | | |
| 37C2-8-25-1 | 50 Gal. LOX Storage & Transfer Tank Svc Instructions, Type TMU-27/M, P/N 103780 | 12 | 8-Aug-11 | | |
| 37C2-8-25-11 | 50 Gallon Liquid Oxygen Storage & Transfer Tanks, Type TMU-27/M, P/N 263005 Operation & Service Instructions | 1 | 22-Aug-11 | | |
| 37C2-8-25-13 | 50 Gallon Liquid Oxygen Storage & Transfer Tanks, Type TMU-27/M, P/N 263005 O/H Instructions | 2 | 8-Dec-10 | | |
| 37C2-8-25-14 | 50 Gallon Liquid Oxygen Storage & Transfer Tanks, Type TMU-27/M, P/N 263005 IPB | 1 | 8-Aug-11 | | |
| 37C2-8-30-1 | 50 Gal. LOX Storage & Transfer Tank Type TMU-27/M | 10 | 6-Mar-08 | | S-2 |
| 37C2-8-30-3 | 50 Gal. LOX Storage & Transfer Tank Type TMU-27/M OH | 8 | 16-May-11 | | |
| 37C2-8-30-4 | 50 Gal. LOX Storage & Transfer Tank Type TMU-27/M, p/n C70029 IPB (NSN 3655-01-245-8410YD) | Basic | 26-Jan-09 | | |
| 38-1-23 | Exhaust Spark Arrestors & Exhaust Purifiers for Non-Aircraft Engines | Basic | 1-Mar-89 | | S-1 |
| 38G1-88-3 | Diesel engine, John Deere Model 3179 Davey Compressor Co., Maint and O/H w/IPB | 7 | 20-Dec-10 | | |
| 38G1-107-4 | Detroit Diesel Engine, 71 Series In-line IPB | 4 | 11-Jul-11 | | |
| 38G1-121-1 | Automotive, Recreational Vehicle, Bus & Industrial B3.9 and B5.9 Series Engines Operation & Maint Manual | Basic | 1-Mar-00 | | |
| 38G1-121-3 | Diesel Engines, Model 4Bt3.9 Four Cylinder & 6Bt5.9 Six Cylinder | Basic | 30-Apr-99 | | Sup C |
| 38G1-121-4 | Cummins Diesel Engine For B809 72W, 3 Phase, 4 Wire, 400 HZ 115/200 or 230/400 Volts AC 28.5 & 270 Volts DC IPB, P/N 6BTA5.9 | 1 | 31-Aug-10 | | |
| 38G2-30-3 | Gasoline Engine Model VF4, MVE4D & MVF4D OH | 12 | 1-Jun-95 | | S-1 |
| 38G2-30-4 | Gasoline Engine Model VF4, MVE4D & MVF4D IPB | 21 | 1-Jun-94 | | |
| 38G2-30-31 | Gasoline Engine Model MVF4D Operator Maint Manual | 1 | 31-Aug-85 | | |

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| 38G2-90-1 | Engine, Gas, 6 HP | 2 | 1-Aug-96 | | S-3 C |
| 38G2-108-1 | Wisconsin Air Cooled Four Cylinder Engine | Basic | 12-Nov-69 | | Supp C |
| 40W4-15-1 | Manual Reverse Osmosis Desalinators MROD-35-LA-1, Ops & Maint. w/IPB | Basic | 1-Sep-93 | | C, D |
| 42A-1-1 | Safety, Fire Precaution & help promotion aspects of painting & paint remover | 4 | 15-Apr-92 | | |
| 42A3-1-2 | Cements, Sealants and Coatings | 14 | 1-Apr-04 | | |
| 42B-1-1 | Quality Control of Fuels and Lubricants | Basic | 15-Jun-11 | | |
| 42B-1-6 | Corrosion Preventive Lubricants, and Anti-Seize Compounds | 1 | 1-May-94 | | |
| 42B-1-22 | Quality Control of Compressed and Liquid Breathing Air | Basic | 13-Mar-09 | | |
| 42B-1-23 | Management of Recoverable Waste Liquid Petro Products | Basic | 22-Jun-07 | | |
| 42B1-1-1 | Fuels for USAF Piston and Turbine Support Equipment and Administrative Vehicles | 1 | 22-Dec-06 | | |
| 42B1-1-14 | Fuels For USAF Aircraft | Basic | 23-Aug-10 | | |
| 42B1-1-15 | NATO/ASCC Interchangeability Aviation Fuels, Lubricants, and Allied Products | 1 | 28-Mar-11 | | |
| 42B2-1-1 | Use and Grades of Aircraft Engine Lubricating Oils | 1 | 30-Jul-05 | | |
| 42B2-1-11 | Use and Grades of Diesel Engine Lubricating Oils | Basic | 30-Apr-04 | | |
| 42B2-1-3 | General Fluids for Hydraulic Equipment | 2 | 26-Apr-10 | | |
| 42B5-1-2 | Gas Cylinders, Use, Handling and Maintenance | 3 | 16-Aug-10 | TMR 03-045 Rev A | |
| 42B6-1-1 | Breathing Oxygen | Basic | 16-Aug-10 | | |
| 42B7-3-1-1 | Nitrogen | Basic | 25-Apr-11 | | |
| 42B7-3-1-2 | Pressurizing Agent Helium | Basic | 17-May-10 | | |
| 42C-1-2 | Anti-Icing, De-Icing and Defrosting of Parked Aircraft | 4 | 4-Apr-11 | | |
| 42C-1-12 | QC of Chemicals | Basic | 9-Aug-10 | | |
| 42C-1-16 | QC Demineralized Water and Water-Alcohol Mixtures | 2 | 19-Apr-10 | | |
| 42D4-1-4 | Rain Repellent for Windshields | 1 | 5-Apr-10 | | |
| 42E1-1-1 | Aerospace Hose Assemblies | Basic | 30-Jul-07 | TMR 03-031 Rev C | |
| 42E2-1-2 | ID Use and Disposition Hydraulic Packing and Gaskets | Basic | 15-Dec-02 | | |
| 43D3-5-16-2 | US16T-1 & US16T-2 Ejection Seat Trainer, p/n MBEU206500 | Basic | 12-Sep-08 | | |
| 43D8-3-1-101 | Hypobaric Training Chambers Operation & Maintenance Instructions | 1 | 19-Oct-09 | | |
| 43D8-3-2-21 | Hypobaric Chamber Assembly Operation Instructions, Models 20M331, 20M491 & 37M423 | 1 | 19-Oct-09 | | |

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| 43D8-3-2-22 | Hypobaric Chamber Assembly Maintenance Instructions, Models 20M331 & 20M491 | 1 | 19-Oct-09 | | |
| 43D8-3-2-24 | Twenty-Man Low Pressure Altitude Training Chamber Assembly IPB, Models 20M331 & 20M491 | Basic | 20-Apr-06 | | |
| 43D8-3-2-31 | Twenty-Man Hypobaric Chamber Assembly Operation Instructions, Model 20M6321 | 1 | 19-Oct-09 | | |
| 43D8-3-2-32 | Twenty-Man Hypobaric Chamber Assembly Maint Instructions, Model 20M6321 | Basic | 18-Jan-07 | | |
| 43D8-3-2-34 | Twenty-Man Altitude Chamber Assembly Non-IPC, Model 20M6321 | Basic | 6-Apr-07 | | |
| 43D8-3-2-6 | Hypobaric Training Chambers Inspection Requirements | Basic | 16-Jan-07 | | |
| 43D8-3-2-63 | Hypobaric Chamber Assembly 16-Man Capacity Overhaul P/N 10006 | Basic | 19-Feb-07 | | |
| 43D8-3-2-6WC-1 | Low Pressure Altitude Training Chamber WorkCards | Basic | 19-Oct-09 | | |
| 44B-1-2 | Airframe Antifriction Bearings General Maint Instructions | 2 | 5-Mar-10 | | |
| 44B-1-3 | Antifriction Bearings Aircraft Wheel Bearing Cups and Grease Seals | 7 | 12-Jan-09 | TMR 09-008 | |
| 44B-1-15 | Jet Engine Antifriction Bearing Handling, Removal, Cleaning Inspection, & Installation | 6 | 10-Feb-11 | | |
| 44B-1-102 | Antifriction Bearings Maint. Instructions | 22 | 1-Dec-06 | | |
| 44H1-1-13 | General Use of Rosan Fasteners, Fluid Fittings & Crissair Check Valves (Per USAF use the NAVAIR 01-1A-15 version) | 4 | 1-Feb-09 | | |
| 44H1-1-117 | General Installation of Heli-coil Inserts | Basic | 15-Dec-02 | | |
| A1-F18AC-LMM-000 | F/A-18A/B/C/D Line Maintenance Procedures | 26 | 15-May-10 | | |
| ABEX SB | Service Bulletins | 29-153, Rev 1 | 3-Apr-92 | | SB 29-153, Rev 1 |
| ABSC AP-322 | GIII Control Box Test Set MM w/IPL, P/N 9560835 (AP-322) | Rev 2 | 30-Mar-84 | | |
| ABSC CMM 32-40-01 | GII Nose Wheel AP-255, AP-293 thru AP-296 | Rev 6 | 16-Jul-07 | TMR 03-049 | |
| ABSC CMM 32-40-34 | DC9 Brake Assembly CMM w/IPB Manual, P/N 9560861(AP-298) | Rev 13 | 30-Jun-99 | | |
| ABSC CMM 32-46-13 | DC-9 Nose Wheel Assembly CMM w/IPB, p/n 9550267 (AP-483) | Rev 13 | 1-Mar-05 | | SB 32-01; SL-16; Temp Rev's 32-15 thru 32-12 |
| AEROFLEX TCAS 201-2 | TCAS 201-2 Ramp Test Set Operation Manual | Issue 3 | 1-Sep-04 | | |
| AFI 11-301 | Aircrew Flight Equipment (AFE) Program, Volume 1 | | 25-Feb-2009 | | |

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| AFI 21-101 | AFI21-101, Air Force Instruction, Aircraft and Equipment Management | | 26-Jul-2010 | | |
| AFI 90-901 | Operational Risk Management | | 1-Apr-2000 | | |
| AFMAN 48-125 | Air Force Manual, Dosimetry Program | | 7-Aug-2006 | | |
| AFMAN 91-201 | Explosive Safety Standards | | 12-Jan-2011 | | |
| AFMCMAN 23-1 | Requirements For Secondary Items (D200A, D200N) | IC-4 | 28-FEB-2011 | | |
| AFOSHSTD91-20 | Air Force Occupational Safety and Health Standard 91-20, Vehicle Maintenance Shops. | | 1-Sep-1998 | | |
| AFPD 90-9 | Air Force Policy Directive, Operational Risk Management | | 1-Apr-2000 | | |
| AIRCELL AXXESS II | GIII Axxess II Satcom System User Manual, P/N D12058 | Rev A | 1-Apr-06 | | |
| AIRCRAFT MODULAR 25-20-01 | GII Executive Track and Swivel Single Seat MM w/IPB | Rev D | 17-Dec-07 | | |
| ALLIED SIGNAL 006-00902 | RDS 84/RS 841A/TN 842A Installation & Maintenance Manual | Rev 2 | 1-Oct-89 | | |
| ALLIED SIGNAL 006-05232 | SG 464/465 Symbol Generator Maint Manual | Rev 1 | 1-Dec-92 | | SG 465-4 |
| ALLIED SIGNAL 006-05234 | CP467/468/469/470 Control Panels Maint Manual | Basic | 1-May-92 | | |
| ALLIED SIGNAL 006-05240 | ED 551/551A Electronic Display Maint Manual | Basic | 1-Nov-91 | TMR 10-001 | SB's: A-1 (Rev 1), A-4 (Rev 1), A-5, A-6 |
| ALLIED SIGNAL 006-05308 | RMU 556 Radio Mgmt Unit CMM w/IPB, P/N 066-04028 (ATA 45-00-01) | Basic | 1-May-93 | | SB's - RMU 556-5 & 556-4 |
| ALLIED SIGNAL 006-05373 | KDA 557 Data Adapter CMM w/IPB, P/N 066-04029-0101 (ATA 45-00-02) | Basic | 1-May-93 | | SB'S 557-4, -2, -1 |
| ALLIED SIGNAL 006-05907 (40A) | VCS 40A VHF Comm Maint Manual | Rev 10 | 1-Dec-94 | TMR 07-014 Rev A | Service Aid - VC-401B-103; Service Bulletin VC-401B-21 & 20 |
| ALLIED SIGNAL 006-05908 | VN-411A/B, CD412B, CD413B VHF Nav Maint Manual | Rev 6 | 1-Nov-94 | | SB's 411B-21 & -19 |

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| ALLIED SIGNAL 006-05998 | RDS 84 Maintenance Manual Color Weather Radar System | Rev 2 | 1-Sep-94 | | Service Aids RS-841A-109, -108, -106 & IN 842A/IN 862A-103 |
| ALLIED SIGNAL 4-200 | GII/GIII Cooling Turbine, P/N 203925-4-1 Operation & Maint Instructions | Basic | 30-Jun-91 | | |
| ALLIED SIGNAL 34-45-17 | C-9 Ground Proximity Warning Computer CMM w/ IPL, P/ N 965-0476-088/ 092/ 093 | Rev 11 | 16-Dec-97 | | |
| ALLIED SIGNAL 49-22-51 | DC-9 Pneumatic & Shaft Power Gas Turbine Engine MM, Model GTCP85-98D, P/N 380256-1-1 | Rev 4 | 19-Apr-96 | | |
| ALLIED SIGNAL CMM 31-30-33 | Allied Signal Universal Flight Data Recorder Component Maint Manual P/N 980-4100 | Rev 10 | 20-Jul-07 | | |
| ALLIED SIGNAL OHM 49-21-03 | GTCP660-4 Allied Signal Gas Turbine Engine Overhaul Manual 49-21-03 Bks 1-4 | 30 | 18-Sep-98 | | Temp Rev 49-391, 49-393, 49-394, 49-395, 49-396, 49-397, 49-398, 49-399, 49-403, 49-404, 49-405, 49-406, 49-407; SB: 49-7392; 49-3216 |
| ALLISON 14RC1 | Allison Operating Manual 501-D22C Turboprop | 1st Edition, 7th Rev | 9-Mar-84 | | |
| ALLISON 14RC2 | Allison Maint Manual Volume 1 & 2 | 2nd Edition | 1-Sep-93 | | WP-1 |
| ALLISON 14RC4 | Allison IPC 501-D22C&G Turboprop | 6th Edition | 1-Dec-93 | | |
| ALLISON CEB | Allison CEBs | Basic | 2-Apr-09 | | CEB 72-1001 thru 77-1002 |
| ALLISON CSL | Allison CSLs | Basic | 2-Apr-09 | | CSL 1001 thru 1114 |
| AMEREX 05604 | Hand Portable 5 lb. Halon 1211 Fire Extinguisher, Maint & Recharge Service Manual, Model B355 | Rev F | 1-Mar-11 | | |
| AOD 09295, Vol I | Aircraft Operations and Training Procedures, T-38 Operating Procedures Volume I | Rev K PCN 4 | 1-Mar-11 | NS-2 | |
| AOD 09295, Vol II | Aircraft Operations and Training Procedures, Research and Mission Support Aircraft Volume II | Rev E PCN 2 | 1-Mar-11 | | |
| AOD 12397 | Introduction to the Shuttle Training Aircraft | Basic | 1-May-87 | | |

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| AOD 27620 | Test Report - T-38 Inlet Redesign Project, Flight Tests of the Prototype Inlet | Basic | 10-Jul-97 | | |
| AOD 33805 | Aircraft Operations Division Quality Plan | Rev I | 1-Oct-06 | | |
| AOD 33807 | Crew Resource Management Training Manual | Rev B | 1-Jan-09 | | |
| AOD 33810 | Administrative Procedures | Rev B | 1-Sep-10 | | |
| AOD 33820 | Engineering Projects | Rev F | 1-Aug-10 | | |
| AOD 33831 | Non-Aircraft Work Unit Codes | Rev C | 1-Aug-06 | | |
| AOD 33836 | Maintenance Work Instruction Super Guppy Transport Nose Opening and Cargo Loading Roles and Responsibilities | Basic | 1-Jul-98 | | |
| AOD 33837 | Aircraft Flight Training Syllabi | Rev D PCN 1 | 1-Jun-09 | | |
| AOD 33839 | Aircraft Configuration Control | Rev B | 1-Apr-06 | | |
| AOD 33840 | Flight Readiness Review, Test Readiness Review, and Payload Readiness Review | Rev E | 1-Dec-08 | | |
| AOD 33841 | Task Transmittal-Engineering | Rev A | 1-Jun-08 | | |
| AOD 33842 | Preparation of Engineering Work Orders | Rev E | 1-Nov-11 | | |
| AOD 33843 | Engineering Work Instruction Flight Test | Rev C | 1-Nov-10 | | |
| AOD 33849 | Engineering Drawing Format, Requirements, and Procedures | Rev A | 1-May-06 | | |
| AOD 33859 | Security Plan for the FCOD Servers | Rev D | 1-Jan-07 | | |
| AOD 33861 | T-38 Flight Operating Techniques | Basic | 1-Sep-00 | | |
| AOD 33862 (Vol I) | NAMIS Requirements - Levels 3 & 4 Requirements Specification (Vol I) | Rev A | 1-Aug-06 | | |
| AOD 33862 (Vol II) | NAMIS Requirements -Flight Scheduling Application Level 5 Requirements (Vol II) | Rev B | 1-Dec-10 | | |
| AOD 33862 (Vol III) | NAMIS Requirements -Flight Records/Currency Level 5 Requirements (Vol III) | Rev C | 1-Jun-11 | | |
| AOD 33862 (Vol IV) | NAMIS Requirements - Aircraft Logistics System Level 5 Requirements (Vol IV) | Rev A | 1-Oct-06 | | |
| AOD 33862 (Vol V) | NAMIS Requirements - Aircraft Financial System Level 5 Requirements (Vol V) | Rev A | 1-Jul-06 | | |
| AOD 33862 (Vol VI) | NAMIS Requirements - Aircraft Maintenance System Level 5 Requirements (Vol VI) | Basic | 1-Aug-06 | | |
| AOD 33862 (Vol VI Supp) | NASA Aircraft Management Information System (NAMIS) Requirements - Flightline Supplement to Aircraft Maintenance System Level 5 Requirements | Basic | 1-Nov-07 | | |
| AOD 33862 (Vol VII) | NAMIS Requirements -Aircraft Operations Division (AOD) Web Site Level 5 Requirements (Vol VII) | Basic | 1-May-06 | | |

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| AOD 33862 (Vol VIII) | NAMIS Requirements -Flight Data Capture (FDC) Module Level 5 Requirements (Vol VIII) | Basic | 1-May-06 | | |
| AOD 33862 (Vol IX) | NAMIS Requirements -Work Cards System Level 5 Requirements (Vol IX) | Rev A | 1-Apr-10 | | |
| AOD 33862 (Vol X) | NAMIS Requirements - Administration Module Level 5 Requirements (Vol X) | Basic | 1-Oct-07 | | |
| AOD 33867 | General Support System Security Plan - STA Flight Software Development and Support Systems | A | 1-Jan-03 | | |
| AOD 33869 | T-38 Aircrew Proficiency Standards | Rev A | 1-Oct-08 | | |
| AOD 33872 | Operational Readiness Review | Rev B | 1-Feb-11 | | |
| AOD 33874 | T-38N Air Data Computer Production Software Evaluation Test Plan | Basic | 1-Feb-00 | | |
| AOD 33877 | Monthly/Quarterly Safety and Health Inspection | Rev B | 1-Jan-09 | | |
| AOD 33890 | WB-57F Experimenter's Handbook | Rev A | 1-Nov-10 | | |
| AOD 33895 | Visitor's Guide NASA JSC RGO | Rev D | 1-Jan-11 | | |
| AOD 33896 | Test Equipment Data Package Requirement and Guidelines NASA JSC RGO | Rev D | 1-Dec-10 | | |
| AOD 33897 | Experiment Design Requirements and Guidelines for Microgravity Research | Rev D | 1-Dec-10 | | |
| AOD 33899 | JSC Reduced Gravity Program User's Guide | Rev C | 1-Jan-11 | | |
| AOD 33900 | JSC Aircraft Anomaly Reporting System (JAARS) User's Guide | Rev C | 1-Nov-09 | | |
| AOD 33908 | Document Tracking Tool Requirements Specification | Rev A | 1-Sep-07 | | |
| AOD 33909 | NASA Aircraft Anomaly Reporting System Software Requirements System | Rev B | 1-Apr-09 | | |
| AOD 33910 | NASA Aircraft Anomaly Reporting System Software Design Specification | Rev C | 1-Nov-09 | | |
| AOD 33912 | Interface Control Document NASA 932 C-9B | Rev C | 1-Feb-11 | | |
| AOD 33913 | Aviation Safety Office Fire Evacuation Drill Plan | Rev B | 1-Jan-11 | | |
| AOD 33914 | Aviation Safety Office VPP Annual Safety and Health Self-Evaluation | Rev A | 1-Mar-08 | | |
| AOD 33921 | Integrated Enterprise Management Program Aircraft Maintenance Module Configuration Control Board Charter | Basic | 1-Jun-06 | | |
| AOD 33922 | WB-57F Ground Handling & Crash Rescue Instructions | Rev A | 1-Jun-09 | | |
| AOD 33924 | T-38N Air Data Calibration Test Plan | Rev A | 1-Jul-09 | | |
| AOD 33925 | Operations Duty Officer (ODO) Instructions | Rev B | 1-May-11 | | |
| AOD 33926 | Quality Monitoring Tool | Basic | 1-Jun-2007 | | |
| AOD 33927 | Security Plan for Flight Crew Operations Office Automation (paper copy only) | Basic | 1-Mar-07 | | |
| AOD 33928 | Mission Management Aircraft (MMA) and NetJets Scheduling Procedures | Rev B | 1-Apr-11 | | |

| Document # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|---------------------------|--|----------------|---------------|-----------------|---------------------|
| AOD 33929 | T-38N Multi-Task Trainer Hazard Analysis | Basic | 1-Jan-07 | | |
| AOD 33932 | POL Software Requirements Specification | Basic | 1-Oct-10 | | |
| AOD 33933 | Name Tag Software Requirements Specification | Basic | 1-Sep-07 | | |
| AOD 33934 | Personnel Software Requirements Specification | Basic | 1-Sep-07 | | |
| AOD 33941 | Contract Surveillance Plan for Zero-G/Amerijet at JSC | Basic | 1-Aug-08 | | |
| AOD 33944 | T-38N Block 3 Upgrade Ground Test Procedure | Basic PCN 3 | 1-Jul-10 | | |
| AOD 33945 | Hurricane Preparedness and Aircraft Evacuation Plan, JSC Hurricane Management Plan Annex G (Supersedes JSC 05900 Attachment K) | Basic | 1-Jul-2009 | | |
| AOD 33946 | Aircrew Designation for Restricted Aircraft | Basic | 1-Mar-10 | | |
| AOD 33948 | Control of Customer-Supplied Products | B | 1-May-2011 | | |
| AOD 33949 | AOD Aircraft Program Procedures | Basic | 1-Aug-10 | | |
| AOD 33950 | AOD Reduced Gravity Office Manual | Basic | 1-Sep-10 | | |
| AOD 33952 | Federal Aviation Interactive Reporting System (FAIRS) Procedures | A | 1-Jul-11 | | |
| AOD 33953 | T-38 Water Survival Training | Basic | 1-Jul-11 | | |
| AOD 33955 | WB-57 Pressure Suit Water Survival Training | Basic | 1-Jul-11 | | |
| AOD 34100 | AOD Maintenance Manual | Rev B PCN 1 | 1-Sep-11 | | |
| AOD 37515 | T-38 Astronaut Space Flight Readiness Training Syllabus | Rev C | 1-Jul-00 | | |
| AS-9110 | AS9110, Aerospace Standard, Quality Maintenance Systems – Aerospace – Requirements for Maintenance Organization | A | 2009-06 | | |
| ASO 33808 | Impounding Aircraft, Components, and Maintenance Documentation Flight Crew Operations Directorate (supersedes AOD 33808) | Rev A | 1-Sep-10 | | |
| ASO 33887 | Aviation Safety Program Plan | Rev B | 1-Apr-11 | | |
| ASO 33901 | Job Hazard Analysis Work Instructions | Rev A | 1-Jul-05 | | |
| ASO 33943 | JSC Aircraft Mishap Reference List | Rev D | 1-Sep-11 | | |
| AWS D17.1 | Specification for Fusion Welding for Aerospace Applications | 2nd Edition | 18-Nov-2010 | | |
| BF GOODRICH 009-10064-001 | Airborne TACAN System RT-1634V Radio Transmitter Receiver MM (Vol I) | Basic | 15-Mar-96 | | |
| BOEING D6-30151-SCA | 747 Operation Manuals (Vol 2-4) | Rev 9 | 23-Oct-92 | | |
| BOEING D6-33391 | 747 Dispatch Deviations Procedures Guide | Rev 27 | 25-May-06 | | |
| BOEING D6-34477-7 (JAL) | 747 Ramp Maintenance Manual, JAL Only (Vol I & II) | Rev 60 | 25-Apr-98 | | |

| Document # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|-----------------------------|--|----------------|---------------|-----------------|--|
| BOEING D6-35999 | 747 Aging Airplane Service Bulletin Structural Modification & Inspection Program | Rev E | 17-Jan-95 | | |
| BOEING D6-7829 | DC-9 Airplane Rescue & Fire Fighting Information | Rev 5 | 31-Oct-09 | | |
| BOEING MDC-K1572 | DC-9/MD-80 Aging Aircraft Service Action Requirements Document | Rev B | 15-Jan-93 | | |
| BOEING WIRING N905 D6-30247 | N905 Boeing 747 Wiring Diagram Manual | Rev B-32 | 1-Aug-95 | TMR 97-028 | Temp Revs B-28, B-29, B-30, B-31, B-32 |
| BOEING WIRING N911 D6-30207 | N911 Boeing 747 Wiring Diagram Manual | 88 | 31-Aug-98 | TMR 97-028 | Supplement update only, dtd 28 Sep 90 |
| BURNS CMM 25-21-99 | DC-9 Passenger Seat CMM with IPB | Rev 3 | 10-Jan-94 | | |
| C-9 NDI | DC-9 Nondestructive Testing Manual (for -932 only) | 93 | 15-Mar-04 | | |
| C-9(N)-2 | C-9 Maintenance Manual (for -932 only), Introduction through Chapter 91 | Rev A PCN 9 | 1-Mar-11 | | BOEING Rpt MDC-92K9145 (Rev J) |
| C-9(N)-2-6CL | C-9B (NASA 932) Engine Run and APU Operation Procedures | Basic PCN 2 | 1-Mar-07 | | |
| C-9(N)-2CL-1 | C-9B Aircraft Towing Procedures | Basic PCN 2 | 1-Jan-09 | | |
| CA-CCR | Ground Safety Close Call Resolution | Rev B | 31-Aug-11 | | |
| CALTECH CORP 4-50-4 | J-85 Software User's Manual, Engine Data Acquisition System | B | 01-Mar-2003 | | |
| CC-ENG-J85-001 | J-85 Shipping Instructions | Rev A | 1-Jan-2000 | | |
| CC-GEN-001 | Individual Component Repair List | Basic | 1-May-11 | | |
| CC-GEN-002 | Automatic BCM Listing | Basic | 1-May-11 | | |
| CC-GPR-001 | SGT - PED 100 Operators Manual (Translated from book 1010) | Basic | 1-Jun-99 | | |
| CC-GPR-002 | SGT PED 100 Illustrated Parts Breakdown (Original Issue of Translated French Manual) | Basic | 1-Aug-99 | | |
| CC-GPR-003 | SGT - 15 Ton Operators Manual Landing Gear Jack | Basic | 1-Jan-00 | | |
| CC-GPR-004 | SGT - 40 Ton Operators Manual Landing Gear Jack | Basic | 1-Jan-00 | | |
| CC-GPR-005 | High/Low Nitrogen Service Cart w/Booster Operation Instructions | Basic | 1-Feb-02 | | |
| CC-GPR-006 | Nitrogen Cart Booster Operation Checklist | Rev A | 1-Apr-00 | | |
| CC-GPR-007 | Shuttle Landing Facility Ground Power Equipment Inspection Guide | Basic | 1-May-03 | | |
| CC-GPR-008 | SGT Cargo Loader PED 100 Maintenance Manual | Basic | 1-Jul-08 | | |
| CC-PSE-001 | Full Pressure Suit Packing and Transporting Checklist | Basic | 1-Sep-98 | | |

| Document # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|---------------------|---|-------------|---------------|-----------------|---------------------|
| CC-PSE-007 | WB-57 Parachute / Survival Kit Installation / Removal Checklist | Rev B | 8-Oct-08 | | |
| CC-PSE-008 | RSSK-8E Survival Kit Emergency Oxygen System Functional Test Procedures (supersedes TP-FRP-619) | Rev A | 1-Jan-06 | | |
| CC-PSE-009 | Integration Instructions for LPU-36/P Flotation Collar with PCU-15/PCU-16 Torso Harness | Rev B | 13-Aug-08 | | |
| CC-PSE-010 | Modified Portable Liquid Oxygen Ventilator P/N F152-1040-1 Maintenance and Operations | Basic | 1-Sep-09 | | |
| CC-WD-C4 | Aircraft Component Calibration Work Deck | Rev C | 1-Apr-10 | | |
| CC-WD-F1 | Functional Check Work Deck | Rev V | 17-Aug-11 | | |
| CC-WD-G5 | Aircraft Powered Ground Support Equipment Work Cards | Rev B | 5-Feb-09 | | |
| CC-WD-G6 | Support Equipment (SE) Inspection and Documentation Program | Rev A | 1-Dec-07 | | |
| CC-WD-G7 | Vendor-Painted Ground Support Equipment Acceptance Inspection | Basic | 1-Feb-06 | | |
| CC-WD-N6 | Aircraft Non-Powered Ground Support Equipment Work Deck | Rev A | 13-Feb-07 | | |
| CC-WD-O3 | Component Overhaul Work Deck | Rev B | 29-Mar-11 | | |
| CC-WD-O4 | Valve & Actuator Assembly O/H Manual, Models DYLZ4307/-1 | Basic | 1-Mar-11 | | |
| CC-WD-P2 | CD-Personal Support Equipment/Survival Equipment Work Deck | Basic PCN 1 | 1-Nov-05 | | |
| CC-WD-P003 | A/P 28S-21 Automatic Back Style Parachute | Rev B | 25-Mar-09 | | |
| CC-WD-P006 | LPU-36/P Low-Profile Flotation Collar Inspection/Repack Checklist (360-Day Inspection) | Rev A | 3-Sep-08 | | |
| CC-WD-P007 | RSSK-8E Survival Kit 180-Day Inspection/Repack | Rev A | 19-Aug-08 | | |
| CC-WD-P009 | WB-57 30-Day Inspection Guide for A/P28S-21 Parachute and PCU-15/P Torso Harness | Rev A | 13-Aug-08 | | |
| CC-WD-P011 | RSSK-8E Survival Kit Oxygen Cylinder Annual Functional Check | Rev A | 5-Dec-08 | | |
| CC-WD-P012 | Aircraft and Engine Slings Inspection Program | Basic | 13-May-09 | | |
| CELTECH 4-215 | Four Channel Intercom (IC4) Ops & Maint Instructions, P/N 20-215 | Basic | 24-Sep-96 | | |
| CELTECH 12-102 | Calibration Procedure for Jet Engine Test Stand | Rev 2 | 2-Apr-02 | | |
| CELTECH 20-4001 | Electric Throttle Controller User Manual (p/n 20-4001-1 thru -7) | Change 1 | | | |
| CELTECH CORP 4-50-4 | J-85 Software Users Manual, Engine Data Acquisition System | Rev B | 1-Mar-03 | | |

| Document # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|---|--|-------------|---------------|-----------------|---------------------|
| CFR Title 5, Vol 1, Ch I, Part-Section 551.431 | 5 CFR Section 551.431, Time spent on standby duty or in an on-call status | | 1-Jan-2011 | | |
| CFR Title 14, Vol 1, Ch I, Part 91 | 14 CFR Part 91, General Operating and Flight Rules | | 1-Jan-2011 | | |
| CFR Title 14, Vol 1, Ch I, Part-Section 43.10 | 14 CFR Section 43.10, Disposition of Life-Limited Aircraft Parts | Amdt. 43-38 | 15-Apr-2002 | | |
| CFR Title 14, Vol 1, Ch I, Part-Section 45.16 | 14 CFR Section 45.16, Marking of Life Limited Parts | Amdt. 45-26 | 16-Apr-2011 | | |
| CFR Title 14, Vol 1, Ch I, Part-Section 91.417 | 14 CFR Section 91.417, Maintenance Records | | 1-Jan-2011 | | |
| CFR Title 29, Vol 5, Ch XVII, Part-Section 1910.177 | 29 CFR 1910.177, Servicing multi-piece and single piece rim wheels | | 1-Jul-10 | | |
| CFR Title 49 | Title 49 CFR, Code of Federal Regulations CFR 49, Hazardous Material Regulation | | 1-Oct-2010 | | |
| CFR Title 49, Vol 2, Ch I, Part-Section 171.8 | 49 CFR 171.8, Transportation, Pipeline and Hazardous Materials Safety Administration, Department of Transportation, General Information, Regulations and Definitions | | 1-Oct-2010 | | |
| CHELTON DRAWINGS 150-042000 | Chelton VCS 40C VHF Comm System Maintenance Manual Drawings (NOTE - these figures are part of 150-042000 Maint Manual) | Rev E | 25-Apr-07 | | |
| CHELTON IM 150-040972 | Chelton VNS 41A Navigation System Installation Manual (formerly Allied Signal 006-00956) | Rev J | 17-Apr-09 | | |
| CHELTON IM 150-040984 | Chelton VCS 40A VHF Comm Installation Manual (formerly Allied Signal 006-00694) | Rev K | 27-Feb-07 | | |
| CHELTON IM 150-041212 | Chelton RMS 555 Radio Management System Installation Manual (formerly Allied Signal 006-00675) | Rev F | 6-Jul-07 | | |
| CHELTON IM 150-042001 | Chelton VCS 40C VHF Comm Installation Manual | Rev H | 27-Feb-07 | | |
| CHELTON MM 150-042000 | Chelton VCS 40C VHF Comm System Maintenance Manual (NOTE - please see 150-042000 Drawings for Figures) | Rev E | 25-Apr-07 | | |
| CLARK_C70D PM | Clark Forklift Parts Manual (Model C70D, Serial #P680D-0009-9825) | 9 | 24-Jan-2011 | | |

| Document # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|--------------------------------|--|--------------------|---------------|-----------------|--------------------------------------|
| CLARK_PMA432 | Clark Planned Maintenance & Adjustment Procedures, Model PMA 432 & EC500 685 | Basic | 1-Jun-83 | | |
| CLARK_SM751 | Clark C70 Service Manual, P/N 8051043 | Basic | 1-Feb-09 | | |
| COLLINS 523-0758870 (34-47-05) | WB-57 860F-1 Radio Altimeter O/H Manual w.IPL, P/N 522-3698-003 (formerly USAF TO 12R5-4-75-2) | Rev 8 | 1-Feb-79 | | Supps N, M, L, K, J, H, G, F, E, C |
| COLLINS 523-0758989 (23-24-00) | 618M-2 VHF Comm Transceiver MM | Rev 7 | 1-Nov-77 | | Temp Rev - 2 |
| COLLINS 523-0758990 (23-24-00) | 618M-2 VHF Transmitter O/H | Rev 13 | 1-Apr-86 | | Temp Revs - 15, -14, -11 thru -9 |
| COLLINS 523-0759575 (23-24-01) | 680T-1 VHF Synthesizer Planar Assembly O/H w/IPB, (Part of 618M-2 manual) | Rev 7 | 1-Dec-77 | | Temp Revs - 4 thru -1 |
| COLLINS 523-0759576 (23-24-02) | 1051A-1/2 Overhaul Manual w/IPL VHF Receiver Planar Assembly, (Part of 618M-2 manual) | Rev 16 | 1-Apr-86 | | |
| COLLINS 523-0759912 | 977B-1 Test Panel Equipment Instruction Book (Part of 618M-2 manual) | 3rd Edition, Rev 1 | 1-Nov-77 | | |
| COLLINS 523-0759914 | 977D-1 Test Unit Instruction Manual (Part of 618M-2 Manual) | 2nd Edition | 1-Oct-74 | | |
| COLLINS 523-0760756 (34-35-05) | SGT 844A-1 VOR/LOC Instrumentation Planar Assembly O/H w/IPB (part of 51RV-2B) | Rev 7 | 1-Oct-92 | | Temp Revs - 14, -13, -11, -9 thru -7 |
| COLLINS 523-0760757 (34-35-03) | SGT 51RV-2B VOR/ILS Receiver O/H w/IPB | Rev 10 | 15-Aug-92 | | Temp Revs - 25 & -21 |
| COLLINS 523-0760758 (34-35-03) | SGT 51RV-2B VOR/ILS Receiver Maint Manual w/IPB | Rev 4 | 1-Jun-76 | | Temp Rev - 3 |
| COLLINS 523-0760759 (34-35-04) | SGT 1051B-1 VHF NAV Receiver Planar Assembly O/H w/IPB | Rev 7 | 15-Oct-78 | | Temp Rev's -13 thru -7 |
| COLLINS 523-0760760 (34-35-06) | SGT 951A-1 Glidescope Receiver Planar Assembly O/H w/IPB | Rev 7 | 15-Oct-78 | | TR's - 11, 9, 8, 7 |
| COLLINS 523-0765046 (23-26-00) | 618M-3/3A VHF Communications Transceiver Maint. Manual | Rev 4 | 1-Dec-79 | | |
| COLLINS 523-0772719 | Comm/Nav Pulse System Installation Manual, Parts A & B VIR-32/33 | Rev 19 | 27-Apr-11 | | |

| Document # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|-----------------------|--|-------------|---------------|-----------------|---|
| COLLINS 523-0772819 | VIR-32/33 Navigation Receiver Repair Manual (also includes: 523-0772454, 523-0772455, 523-0772456, 523-0772714, 523-0774294) | Rev I | 1-Dec-95 | | Addendums - 1, 3 thru 11, 13, 15 thru 17, & 19; Temp Rev's - 24 thru 27, 29 thru 31, 33, 36, 42 thru 45 |
| CONCORDE #5-0142 | T-38 Concorde Maint Manual Supplement for Valve Regulated Lead-Acid Main Battery (Drawing 5-0142) | Rev J | 20-Feb-07 | | |
| CONCORDE #5-0164 | T-38 Concorde Aircraft Battery Owner/Operator Manual (Drawing 5-0164) | Rev B | 9-Sep-05 | | |
| CONCORDE #5-0171 | T-38 Concorde RG Series CMM, Main Aircraft Battery (Doc #5-0171) | Rev L | 11-Mar-2011 | | |
| CONCORDE #5-0324 | T-38 Concorde RG Series Aircraft Battery Owner/ Operator Manual (Doc #5-0324) | Rev A | 23-Feb-2011 | | |
| CRANE 28-22-06 | Fuel Boost Pump Assembly CMM, P/N 60-755 Series (DC-9) | Rev 7 | 25-May-07 | | |
| CRANE 33-09-01 | 747 Incandescent Lam Dimmer O/H w/IPB, P/Ns 2-456, 2-459 & 2-701 | Rev 21 | 11-May-11 | | |
| CRANE CMM 32-42-35 | Crane Hydro-Aire CMM Anti-Skid Modular Assemblies P/N 39-233, 39-491, and 39-525 series | Rev 9 | 20-Oct-06 | | |
| CRANE CMM 32-47-02 | Wheel Speed Transducer (p/n 40-805) and Drive Coupling Assembly (p/n's 40-80567 & 40-80570) CMM w/IPL | Basic | 10-Mar-08 | | |
| CRANE OHM 73-31-03 | Eldec Fuel Flow Electronics Package, P/N 9-113-08/-09 | Rev 16 | 9-May-06 | | |
| DC-9 CUE CARD | DC-9 NASA Cue Card | Rev D | 1-Aug-07 | | |
| DC-9 Weight & Balance | DC-9 Weight & Balance Manual (MDC K5503) | Basic | 10-Dec-90 | | |
| DC-9(N)-1CL-1 | DC-9 Test Director Checklist | Basic | 1-Feb-10 | | |
| DC-9(N)-2-11 Vol I | DC-9 Wiring Diagrams Vol I | Basic PCN 2 | 1-Aug-11 | | BOEING REPORT MDC-92K9145, Rev G Dtd 07 Jun 07 |
| DC-9(N)-2-11 Vol II | DC-9 Wiring Diagrams Vol II | Basic PCN 1 | 1-May-08 | | |
| DC-9(N)-2-12 | DC-9 Minimum Equipment List (MEL) | Basic | 1-Apr-06 | | |
| DC-9(N)-2CL | DC-9 Maint Checklist (supersedes NAVAIR 01-C9B-6-1 & 01-C9B-6-3 - except for refueling procedures) | Basic PCN 4 | 1-Dec-08 | | |
| DC-9(N)-5 | N932 Reduced Gravity Aircraft Maintenance Program (supersedes C-9(N)-5 dated Apr 04) | Rev F PCN 2 | 1-Sep-11 | | |

| Document # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|-------------------------------|---|--------------|---------------|-----------------|---------------------|
| DC-9(N)-6CF-PCL | DC-9 Functional Check Flight Checklist (supersedes NAVAIR 01-C9BAAA-1F) | Rev A | 1-Apr-10 | | |
| DC-9(N)-6WC | NASA Addendum to Boeing Check Manual | Basic PCN 10 | 1-Sep-11 | | |
| DC-9(N)-6WC-1 | DC-9 Special Inspection and Servicing Work Cards (supersedes 01-C9B-6-3) | Basic | 1-Aug-07 | | |
| DF-50320-003 | ADAS Phase III Index (DF-50320-003) | Rev O | 30-Aug-10 | | |
| DIVERSI-TECH DD4X4 | Downdraft Tables Owner's Manual, Model DD4X4 | Basic | | | |
| DOUGLAS Cargo Loading Manual | DC-9 Douglas Cargo Loading Manual | Rev 22 | 1-Dec-78 | | |
| Druck ADTS User Manual | ADTS 405 Air Data Test Systems User Manual, K114 | Issue 9 | 1-Oct-05 | | |
| DUKANE 03-TM-0037 | Underwater Acoustic Beacon Tech Manual, Models DK100/120/130/140 | Rev 17 | 15-Mar-11 | | |
| DUKANE 03-TM-0045 | Ultrasonic Test Set Tech Manual, Model TS200 | Rev 2 | 28-Jan-04 | | |
| EAGLE_4TNV98 | Eagle Tug Parts & Service Manual, Engine Type 4TNV98 Tier II | Rev 1 | 17-Nov-10 | | |
| EAGLE_OpsM | Eagle Tugs Ops Manual, All USATS Models | 1 | 18-Sep-11 | | |
| EAGLE_SvcM | Eagle USATS Tug Parts & Service Manual, Yanmar Engine Type 4TNV98 Tier II/III | 3 | 18-Sep-11 | | |
| EAP | Emergency Action Plan Building 994 Ellington Field | Rev D | 1-Mar-08 | | |
| EAP | Emergency Action Plan for T-38 Aircraft Parking Ramp | Rev D | 1-Jun-10 | | |
| EAP | Emergency Action Plan - El Paso STA Hangar | A | 1-Jul-11 | | |
| EAP | Emergency Action Plan - El Paso T38 Hangar | A | 1-Jul-11 | | |
| EAPs (Various EFD Facilities) | Various Ellington Field Facilities Emergency Actions Plans | Various | Various | | |
| EROS 4NUT0046A | Full Face Quick Donning Mask-Regulator Operating and Maintenance Instructions | Basic | 15-Oct-99 | TMR 02-005 | |
| Exam | Standard Answer Sheet | Basic | 7-Jul-98 | | |
| Exam | DC-9 Proficiency Exam | Rev A | 23-Oct-06 | | |
| Exam | NASA Aircraft Operations Division Super Guppy Examination | Basic | 1-Oct-98 | | |
| Exam | NASA Aircrew Annual Instrument Refresher Exam | Rev I | 1-Sep-06 | | |
| Exam | NASA Aircrew GIII Emergency Exam | Basic | 7-Sep-06 | | |
| Exam | T-38 Initial Handbook Exam | Rev L | 6-Oct-11 | | |
| Exam | T-38N Proficiency Exam Aircraft Part I | Rev J | 6-Oct-11 | | |
| Exam | WB-57F Annual Proficiency Exam | Rev C | 22-Apr-10 | | |
| Exam | WB-57F Initial Exam | Rev C | 22-Apr-10 | | |
| Exam | WB-57F Pilot/SEO Currency Exam | Rev C | 22-Apr-10 | | |

| Document # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|-------------------------|--|-------------|-----------------------------|--|---|
| FAA Part 145 | Repair Stations | Varies | 31-Jan-2004 thru 6-Apr-2006 | | |
| FAR Clause 52.245-1 | Federal Acquisition Regulation Clause , Government Property | | Aug-2010 | | |
| FAR Part 23 | U.S. FAA Federal Aviation Regulation Part 23, Airworthiness Standards: Normal, Utility, Acrobatic, And Commuter Category Airplanes | 23-61 | 8-Aug-11 | | |
| FDS 151CV-LP | GIII Low Profile LCD 15.1" Installation & Operation Manual (FD151CV-LP) | Rev F | 10-Mar-10 | | |
| FDS 932DVD-4B | GIII DVD/CD/MP3 Player Installation & Operation Manual (FD932DVD-4B) | Rev M | 1-Apr-09 | | |
| GENTEX 74D2682 | Side-Actuated Dual Visor Kit Installation and Operations Instructions (P/N 74D2682) | Rev 3 | 1-Nov-05 | | |
| GII CMP | GII/STA CMP Index (all CMP Chapters except Chapter 22 but including Code 221514) | CSC Chg 45 | 31-Dec-10 | | |
| GII Flight Manual | GII Flight Manual (944, 945, 946, 947 only) | Rev 39 | 14-Jul-10 | TMR 91-026 | Supp AP-200, 113M15, 150M01, 118M12 |
| GII Maint. Library | GII Maintenance Library | Rev 77 | 31-Dec-10 | TMR 03-034 Rev A PCN 3 (AMM); TMR 09-009 (SRM); TMR 07-017 (IPC) | |
| GII(N)-2CL | GII Maintenance Checklist | Basic PCN 2 | 1-Jan-10 | | |
| GII-GIII MMEL | GII / GIII MMEL for Part 91 Operations Only | Rev 9A | 30-Dec-09 | | |
| GIII CMP | GIII Computerized Maintenance Program Index | Rev 58 | 28-Feb-10 | | |
| GIII Cue Card | GIII Cue Card | Basic PCN 1 | 1-Dec-07 | | |
| GIII Flight Manual | GIII Flight Manual | Rev 22 | 14-Dec-10 | | Supp 8162006 & 98-01; OIS-1 thru OIS-13 |
| GIII Inspection Program | GIII Inspection Program | Rev B | 31-Mar-11 | | |
| GIII Maint Library | GIII Maintenance Library | 60 | 30-Sep-11 | | |
| GIII(N)-2-11 | GIII Wiring Diagrams | Rev B PCN 1 | 1-Dec-10 | | |
| GIII(N)-2-11-1 | GIII Wiring Diagrams Supplement | Basic | 1-Feb-07 | | |
| GIII(N)-2CL | GIII Maintenance Checklist | Basic PCN 1 | 1-Aug-11 | | |

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|-------------------------|--|-------------|---------------|-----------------|---------------------|
| GIII(N)-PCL-1 | GIII Flight Crew Checklist | Basic PCN 2 | 1-Dec-10 | | |
| GIII_14 CFR Part 91 Ops | GIII 14 CFR Part 91 Operations | Amendment 2 | 24-Aug-11 | | |
| GIII_MNPS | GIII International Operations Supplement for MNPS and Special Use Airspace | Basic | 22-Mar-10 | | |
| GIII_MOP | GIII MOP Procedures Manual | Rev 9A | 30-Dec-09 | | |
| GIII_RVSM | GIII Reduced Vertical Separation Minimum (RVSM) Operations Manual | Basic | 1-Mar-10 | | |
| GOODYEAR SB's | Goodyear Tire & Rubber SB's | Various | | | SB 2005-32-004 |
| GRIMES 33-40-09 | Aircraft Navigational Upper Oscillating Warning Light CMM w/IPL, P/N 40-0070-2 & -4 | Rev 2 | 15-Dec-00 | | |
| GRIMES CMM 33-10-04 | 747 Indicator Light Assembly CMM, P/N 75-0123-1 thru -31 | Rev 3 | 1-Jul-00 | | |
| GRIMES CMM 33-20-51 | Fluorescent Window Light CMM, P/N 10-1327-1,-2,-3,-4,-7,-8 and -10 | Rev 7 | 15-Sep-03 | | TIL 419 |
| GRIMES CMM 33-20-52 | Interior Illuminated Window/Exit Sign CMM, P/N 10-1331/2 | Rev 4 | 1-Jul-03 | | |
| GRIMES CMM 33-20-56 | Passenger Warning Light CMM, P/N 10-0331 | Rev 2 | 15-Dec-00 | | |
| GRIMES CMM 33-20-75 | Fluorescent Ceiling Light CMM, P/N 10-1352 | Basic | 1-Oct-00 | | |
| GRIMES CMM 33-20-77 | Passenger Warning Light CMM, 10-0331 | Basic | 15-Dec-00 | | |
| GRIMES CMM 33-21-42 | Passenger Svc Unit CMM w/IPB, P/N 11-6537-1 | Rev 7 | 15-Mar-06 | | |
| GRIMES CMM 33-23-05 | Passenger Reading Light Assembly CMM, P/N 10-1006-1 | Rev 2 | 15-Apr-00 | | |
| GRIMES CMM 33-30-33 | 747 Dome Light Assembly CMM, P/N 15-0103-1/-3/-5 | Rev 1 | 1-Dec-00 | | |
| GRIMES CMM 33-30-41 | 747 Attendant Floodlight CMM, P/N 10-1037-1/-3 | Basic | 15-Feb-02 | | |
| GRIMES CMM 33-40-19 | 747 Nav Tail-Position Light CMM, P/N 40-0112-1 | Rev 3 | 1-Oct-00 | | |
| GRIMES CMM 33-40-20 | 747 Navigation Wing Position Light CMM, P/N 40-0135 | Rev 3 | 1-Aug-00 | | |
| GRIMES CMM 33-40-40 | Wheel Well Dome Light CMM, 10-0015-1/-3/-7/-9/-11/-15/-17/-19 | Rev 2 | 15-May-00 | | |
| GRIMES CMM 33-40-94 | Aircraft Navigational Anticollision Light CMM, P/N 30-1401-1,-3,-5,-7,-9,-11,-13,-15 | Rev 4 | 1-Jun-00 | | |
| GRIMES CMM 33-41-72 | Taxiing Light CMM w/IPB, P/N 50-0128-1 to -15. | Rev 5 | 15-Jun-05 | | |
| GRIMES CMM 33-41-98 | Trail Position Aircraft Navigational Light CMM | Basic | 1-Jun-00 | | |
| GRIMES CMM 33-50-42 | Emergency Exit Light Power Supply CMM, P/N 60-1321-1,-5,-7 | Rev 4 | 1-Mar-06 | | |
| GRIMES CMM 33-51-33 | Interior Illuminated Exit Sign CMM, P/N 10-1074 | Rev 6 | 1-Nov-02 | | |

| Document # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|---|---|----------|---------------|-----------------|---------------------|
| GRIMES OHM 33-50-02 | Rechargeable Battery Power Supply OHM, P/N 60-0304, -31, -33 & -51 Overhaul Manual with IPB | Rev 6 | 15-Jan-06 | | |
| GV-SGER-012 | GII/GIII Shoring Document | Basic | 14-Dec-01 | | |
| H276/H135 Hangar Door | H276 & H135 Hangar Doors Operations & Maint Manual | Basic | | | |
| H990 Hangar Door | H990 Hangar Doors Operation & Maint Manual | Basic | | | |
| HAMILTON SPM 20-00-01 | Mechanical Standard Practice Manual | 8 | 23-Sep-11 | | |
| HAMILTON SPM 20-00-02 | Electronic Standard Practices Manual | 10 | 27-Jul-11 | | |
| HAMILTON STANDARD P5133 | SGT Variable Pitch Aircraft Propeller System, Model 54H60-123 MM w/IPL | Rev 3 | 17-Dec-99 | TMR 08-008 | |
| HAMILTON SUNDSTRAND (Bulletin 960-1) | DC-9 Constant Speed Drive Transmission Maint Manual, P/N 696233 | Rev 45 | 1-Aug-91 | | SB 24-661 |
| HAMILTON SUNDSTRAND (Bulletin 960-2) | DC-9 Constant Speed Drive Transmission O/H Manual, P/N 696233, A/B | Rev 50 | 15-Jun-98 | | |
| HAMILTON_2 0-00-02 | Electronic Standard Practices Manual | Rev 9 | 17-Jun-11 | | |
| HAWKER 2602-0018 | WB57 Hawker Valve Regulated Sealed Lead Acid Aircraft Battery Maint Manual | Rev 3 | 20-Oct-04 | TMR 09-007 | |
| HAWKER CMM 24-32-35 | Hawker CMM for 40Ah Sealed Lead Acid Battery (STA/GII/GIII) | Rev E | 17-Jun-05 | TMR 07-002 | |
| HOBART OM-2098C (p/n 001-004, 008, 009) | Operation & Maint Manual w/IPL for 60CU24, 60kVA, 3 Phase, 115/200 Volt 400Hz Generator Set (Series 500060C-001 thru 004, 008, 009) | Rev 9 | 3-Jul-08 | | |
| HOBART OM-2098C (p/n 005-007, 010, 011) | Operation & Maint Manual w/IPL for 60CU24, 60kVA, 3 Phase, 115/200 Volt 400Hz Generator Set (Series 500060C-005 thru 007, 010, 011) | Rev 9 | 3-Jul-08 | | |
| HONEYWELL SPM 32-49-01 | 747 Standard Practices Manual, Landing Sys Wheels and Brakes (Pub 12-688) | Rev 3 | 15-Oct-07 | | |
| HONEYWELL / BAKER ELEC 23-50-12 | Audio Control Panel Maint Manual, P/N B1035 / B1045 | Basic | 12-Dec-91 | | |
| HONEYWELL 006-00177 | KDM 706/706A Distance Measuring Equipment Installation Manual | Rev 6 | 1-Jul-04 | | |
| HONEYWELL 006-00643 | WB-57 Color Weather Radar System, RDR 2000 Installation Manual | Rev 7 | 1-Jul-02 | | |
| HONEYWELL 006-00681 | MST 67A Mode S Transponder System Installation Manual (formerly Allied Signal 006-00681) | Rev 9 | 1-Jan-08 | | |
| HONEYWELL 006-05332 | WB-57 Color Weather Radar Antenna / Receiver / Transmitter, ART 2000 MM | Rev 3 | 1-Jun-02 | | |
| HONEYWELL 006-05340 | CAS 67A TCAS II System Installation Manual (34-40-01) -formerly Allied Signal 006-05340 | Rev 8 | 1-May-07 | | |

| Document # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|-----------------------------|---|----------|---------------|-----------------|---|
| HONEYWELL 006-05370 | CAS 66A TCAS I System Installation Manual | Rev 8 | 1-Sep-04 | | |
| HONEYWELL 006-05375 | CD 671C Mode S/TCAS Control Unit CMM | Basic | 1-Dec-03 | | |
| HONEYWELL 006-05377 | MST 67A Mode S Transponder CMM (formerly Allied Signal 006-05307) | Rev 4 | 1-Jul-07 | | SB MST 67A-4_Rev1 (dtd Jul 05); SW MST 67A-4_Rev 1(dtd May 06); Temp Rev 34-2 |
| HONEYWELL 006-05378 | KFS 578A Mode S Control Unit CMM (formerly Allied Signal 006-05307) | Rev 2 | 1-Oct-02 | | |
| HONEYWELL 006-05392 | WB-57 Configuration Module Programmer, KPA 900 MM & Operator Guide | Rev 2 | 1-Dec-07 | | |
| HONEYWELL 006-15665 | KDM 706 Distance Measuring Equipment Maint Manual (formerly Allied Signal 006-05177) | Rev 9 | 1-Jun-04 | | |
| HONEYWELL 006-15666 | KDM 706A Distance Measuring Equipment Maint Manual (formerly Allied Signal 006-05177) | Rev 9 | 1-Jul-04 | | |
| HONEYWELL 006-18201-0000 | GIII TCAS II Pilot's Guide | Rev 2 | 1-Mar-04 | | |
| HONEYWELL 15-1147-01 | GII Honeywell SPI-501/502 Flight Director Instrumentation System | Rev 2 | 15-Oct-84 | | |
| HONEYWELL 49-20-07 | 747 Direct Current Motor CMM w/IPL, P/N 519802-4 | Rev 22 | 6-Apr-11 | | |
| HONEYWELL 49-22-49 | DC-9 Pneumatic & Shaft Power Gas Turbine Engine IPB, Model GTCP85-98D, P/N 380256-1-1 | Rev 6 | 25-Aug-03 | | |
| HONEYWELL 49-70-36 | DC-9 Pneumatic Thermostat O/H w/IPB, PN 107996 | Rev 17 | 13-Apr-07 | | |
| HONEYWELL 51-52-25-118 | UDC2500 Universal Digital Controller Limit Control Model Product Manual | Rev 5 | 1-Mar-07 | | |
| HONEYWELL 51-52-25-127 | UDC2500 Universal Digital Controller Product Manual | Rev 5 | 1-Apr-07 | | |
| HONEYWELL CMM 21-10-16 | 747 CMM Engine Bleed Air Precooler 189100 | Rev 1 | 31-Aug-06 | | |
| HONEYWELL CMM 21-20-10 | 747 CMM Motor Driven Centrifugal Fan | Rev 21 | 10-Nov-09 | | |
| HONEYWELL CMM 21-30-54 | 747 CMM Turbine Wheel Air Flow Sensor 948692 | Rev 11 | 25-Mar-11 | | |
| HONEYWELL CMM 24-09-07 | 747 CMM Solenoid Valve Assembly, P/N 320263-8/-16/-17 | Rev 5 | 16-Jun-06 | | |
| HONEYWELL CMM 24-09-09 | 747/GII/DC-9 CMM Direct Current Electrical Solenoid Assembly, P/N 319405 & 319675 | Rev 6 | 29-Aug-03 | | |
| HONEYWELL CMM 24-09-71 | GII/DC-9 CMM Solenoid Shutoff Valve, P/N 320362-2-1 & 320362-3-1 | Rev 1 | 31-May-04 | | |
| HONEYWELL CMM 24-21-02 | AC Generator CMM (Formerly 21-20-01) P/N 28B362 | Rev 1 | 26-Jan-04 | | |

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|------------------------|--|----------|---------------|-----------------|---------------------|
| HONEYWELL CMM 24-21-04 | AC Generator CMM, P/N 28B263-13A & 13B | Rev 5 | 3-Jun-10 | | |
| HONEYWELL CMM 27-80-14 | 747 CMM Alternating Current Geared Motor, P/N 519022-3 thru -8 | Rev 4 | 29-Oct-09 | | |
| HONEYWELL CMM 27-81-11 | 747 Pneumatic Drive Actuator CMM, P/N 126762-1/-2, -5 thru -10 | Rev 12 | 29-Jun-11 | | \ |
| HONEYWELL CMM 27-81-13 | 747 Honeywell Pneumatic Drive Actuator CMM, P/N 126748 | Rev 8 | 27-Apr-07 | | |
| HONEYWELL CMM 27-81-15 | 747 Pneumatic Drive Actuator CMM, P/N 126248 & 126344 | Rev 8 | 30-Apr-06 | | |
| HONEYWELL CMM 31-30-32 | 747 CMM w/IPB Universal Flight Data Recorder 980-4100A | Rev 19 | 22-Dec-06 | | |
| HONEYWELL CMM 32-41-30 | 747 CMM w/IPB Main Brake Assembly, (747-100)P/N 2601902-1 thru -6, -30, -40, -60 and P/N 2602012-30, -40 & -50 | Rev 25 | 15-Jul-05 | | |
| HONEYWELL CMM 32-45-10 | 747 Main Wheel Assembly CMM w/IPB, P/N 2601901 | Rev 22 | 30-Apr-04 | | |
| HONEYWELL CMM 33-20-67 | 747 Interior Illuminated Sign Light Subassembly CMM, P/N 11-5833 | Rev 5 | 8-Nov-10 | | |
| HONEYWELL CMM 33-21-43 | 747 CMM w/IPL Fluorescent Lamp Ballast Assembly, P/N 70-0366-1, -3, -5, -7, -9, -11 | Rev 4 | 1-Feb-11 | | |
| HONEYWELL CMM 33-40-08 | Retractable Landing Light Assembly CMM w/IPL, P/N 45-0057-1/-3/-9/-11 | Rev 12 | 25-Jul-11 | | |
| HONEYWELL CMM 33-40-69 | 747 High-Intensity Strobe Light CMM w/IPB, P/N 30-0906 | Rev 7 | 2-Aug-11 | | |
| HONEYWELL CMM 33-51-56 | Interior Illuminated Exit Sign CMM w/IPB, P/N 10-1076 | Rev 2 | 25-May-10 | | |
| HONEYWELL CMM 34-13-08 | Sperry CMM w/IPB, Model BA-800 Barometric Altimeter, P/N 4039892-904 thru -910 (Pub#C15-2182-002) | Rev 17 | 15-Oct-08 | | |
| HONEYWELL CMM 34-40-14 | GII TPU 67A TCAS Processor CMM | Rev 4 | 15-Nov-10 | | |
| HONEYWELL CMM 36-10-44 | 747 CMM Engine Bleed Air Precooler P/N 189440 | Rev 7 | 30-Jan-01 | | |
| HONEYWELL CMM 36-11-02 | 747 CMM Alternating Current Motor | Rev 8 | 15-Jul-05 | | |
| HONEYWELL CMM 36-11-32 | Honeywell Rotary Electromechanical Actuator CMM P/N 544286 | Rev 8 | 22-Mar-10 | | |
| HONEYWELL CMM 36-12-49 | 747 CMM Relief Valves, P/N 3215114-2 | Rev 1 | 31-Jan-03 | | |
| HONEYWELL CMM 49-20-08 | 747 CMM Engine Starter Motor, GTCP660 P/N 519806-1, -2, -3 | Rev 16 | 1-Dec-04 | | |
| HONEYWELL CMM 49-51-05 | 747 CMM Five-Inch Diameter Pneumatic Shutoff Butterfly Valve, P/N 397728 & 380716 | Rev 12 | 31-Mar-03 | | |
| HONEYWELL CMM 49-53-23 | 747 Four-Inch Diameter Pneumatic Modulating Butterfly Valve CMM, Component P/N 109818-1-1 thru -7-1, -9-1/-10-1; Engine P/N 380716-1/-2/-3 | Rev 2 | 30-Jun-06 | | |

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| HONEYWELL CMM 49-53-25 | 747 CMM Pneumatic Modulating Butterfly Valve (P/N 109820-1-1 through 109820-7-1, 109820-9-1, 109820-10-1) | Rev 4 | 30-Jun-06 | | |
| HONEYWELL CMM 49-60-12 | 747 CMM Turbine Electronics Control, P/N 2100906 | Rev 12 | 23-Aug-10 | | |
| HONEYWELL CMM 49-61-78 | 747 CMM Turbine Electronics Controls for GTCP660, P/N 948958 | Rev 2 | 23-Jul-08 | | |
| HONEYWELL CMM 49-61-80 | 747 CMM Turbine Electronics Controls for GTCP660, P/N 948958 | Rev 3 | 23-Jul-08 | | |
| HONEYWELL CMM 49-94-16 | 747 CMM Air to Oil Cooler P/N 160412-1/-2/-3 | Rev 2 | 31-Jul-00 | | |
| HONEYWELL CMM 73-21-65 | 747 Permanent Magnet Alternator CMM, P/N 9045465-1/-2 & 10-621595-2, Model PW4000 | Rev 1 | 30-May-04 | | |
| HONEYWELL CMM 73-21-80 | 747 CMM Permanent Magnet Alternator (PMA) Stator & Rotor, P/N 2710540-1 & 2704480-1 | Rev 1 | 15-Sep-04 | | |
| HONEYWELL CMM 78-31-87 | 747 CMM Pneumatic Drive Unit Actuator, P/N 126712 | Rev 10 | 17-Jun-11 | | |
| HONEYWELL I/R 27-81-17 | 747 Pneumatic Actuator Drive Leading Edge Flap Drive Inspection/Repair Manual, P/N 126248, 126344, 126748, 126762 | Rev 6 | 10-May-10 | | |
| HONEYWELL IB8023129 | Honeywell D1-4002 Digital Indicator Maint Manual | Rev 1 | 30-Jul-98 | | |
| HONEYWELL IB8029076 | Honeywell Primus 400/400SL Coloradar System Installation Manual | Rev 3 | 1-Dec-89 | | |
| HONEYWELL IM 006-00698 | EFS 40/50 Electronic Flight Instrument System Installation Manual (Vol I & II) | Rev 9 | 19-Oct-10 | | |
| HONEYWELL IPC 49-21-95 | GII IPC Pneumatic & Shaft Power Gas Turbine Engine for model GTCP36-100G, P/N 3800062 | Rev 12 | 17-Sep-04 | | |
| HONEYWELL MM 006-05231 | CP 466A/B Radar Control Panel Maint Manual | Rev 3 | 1-Aug-06 | | |
| HONEYWELL MM 22-14-00 (Vol 1) | GII MM SPZ-800 Integrated Flight Control System (Pub #15-1146-09) | 2 | 15-Dec-83 | | |
| HONEYWELL MM 22-14-00 (Vol 2) | GII MM SPZ-800 Integrated Flight Control System (Pub #15-1146-09) | 2 | 15-Dec-83 | | |
| HONEYWELL MM 34-27-12 | Installation and MM Inertial Reference System (IRS) P/N YG4037AB & HG2100AB (T-38, WB-57 & DC-9) | Rev 8 | 5-Oct-10 | | |
| HONEYWELL MM 49-21-89 | GII MM Pneumatic & Shaft Power Gas Turbine Engine for model GTCP36-100G, P/N 3800062 | Rev 14 | 1-Oct-04 | | |
| HONEYWELL OHM 21-10-03 | DC-9 OHM Air Conditioning Three-Inch Diameter Flow Control Valve, P/N 396130 | Rev 11 | 31-May-04 | | |
| HONEYWELL OHM 21-10-05 | 747 OHM Nine Inch Diameter Check Valve | Rev 5 | 31-Jul-03 | | |

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|--|--|----------|---------------|-----------------|--|
| HONEYWELL OHM 22-50-00 | Vertical Gyro O/H w/IPB, P/N 2587335-8 thru -14, -21, -22, -111 thru - 114, -121, -122 & -211 (Pub#C15-3212- 001) | Rev 30 | 1-Jun-10 | | |
| HONEYWELL OHM 24-09-17 | 747 OHM Solenoid Valve Assembly, P/N 320349-1/-2 | Rev 1 | 31-May-04 | | |
| HONEYWELL OHM 27-81-07 | 747 Two & 1/2 Inch Diameter Pneumatic Modulating Butterfly Valve OHM, P/N 3213944 & 3290402 | Rev 8 | 31-Mar-03 | | |
| HONEYWELL OHM 28-40-10 | Honeywell Fuel Quantity Indicator O/H Manual | Rev 13 | 15-Oct-03 | | |
| HONEYWELL OHM 36-10-02 | 747 OHM Engine Bleed Air Precooler, P/N 189680-1 thru -3 | Rev 16 | 15-Aug-04 | | |
| HONEYWELL OHM 36-11-02 | 747 Check Valve O/H Manual, P/N 123710-1-1, 123934-1-1 & -2-1 | Rev 11 | 30-Jun-10 | | |
| HONEYWELL OHM 36-12-01 | 747 OHM Pressure Anticipator, P/N 129296 | Rev 5 | 30-Apr-04 | | |
| HONEYWELL OHM 36-12-09 | 747 OHM Linear Pneumatic Actuator P/N 109522-1/-2-1 | Rev 6 | 29-Apr-05 | | |
| HONEYWELL OHM 36-12-15 | 747 OHM Fan Air Valve 979018-1 | Rev 6 | 31-May-04 | | |
| HONEYWELL OHM 36-12-17 | 747 OHM Modulating Valve, P/N 979088 | Rev 8 | 31-Mar-06 | | Errata Notice ERN- 04 |
| HONEYWELL OHM 36-21-03 | 747 OHM Pneumatic Temperature Control, P/N 129364 | Rev 16 | 30-Jun-04 | | |
| HONEYWELL OHM 49-53-04 | 747 OHM Four and One-half inch Diameter Pneumatic Shutoff Butterfly Valve, P/N 978602 | Rev 11 | 30-Jun-06 | | |
| HONEYWELL OHM 78-31-23 | 747 OHM P/N 898108-3-1/-4-1/-5-1/-6- 1/-7-1 shutoff fluid pressure reg valve | Rev 13 | 30-Apr-03 | | |
| HONEYWELL OHM 78-31-41 | 747 OHM Ballscrew & Gearbox OHM, Component P/N 121424-1-1/-2-1/-3-1/- 4-1/-5-1 | Rev 7 | 28-Apr-06 | | Temp Rev's 78-04 & 78- 03 |
| HONEYWELL OHM 78-31-63 | 747 OHM Pneumatic Drive Unit Actuator, P/N 126236 | Rev 22 | 31-Aug-04 | | |
| HONEYWELL OHM 78-32-15 | 747 OHM Flexible Shaft Assemblies P/Ns 121178-1, 121184-1, 121652-1-1 | Rev 10 | 31-Mar-03 | | Temp Rev 78-05 |
| HONEYWELL PUB INDEX 12-536 | Commercial Aircraft Landing Gear Equipment CMM, SB, SIL Publications Index | Rev 18 | 31-Jan-06 | | |
| HONEYWELL SIL | Honeywell SIL's | Various | | | SIL APU- 83, SIL-791, SIL-792 Sup 1 |
| HONEYWELL SPM 20-00-02 | Honeywell Standard Practices Manual - General Aircraft | Rev 15 | 31-Aug-11 | | |
| HONEYWELL TP INDEX 012- 0800-001 | Honeywell TP Index CAS | Rev 6 | 22-May-06 | | |
| HONEYWELL _D20080800008 3 | Tray Alignment Tool Operation Manual, P/N 26018704-206 | Rev 4 | 16-Aug-11 | | |

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|-------------------------------|---|--------------------|---------------|-----------------|---------------------|
| HOWELL_BH1 12JB-25 | JETCAL Analyzer/Trimmer Service Manual, Model BH112JB-25 | Basic | 14-Jun-76 | | |
| HOWELL_BH1 12JB-40 | JETCAL Analyzer/Trimmer Service Manual, Model BH112JB-40 (Serial # Eff: 5000 & Subsequent) | Basic | 1-Feb-86 | | |
| IPECO CMM 25-10-88 | DC-9 Pilot & Co-Pilot Seat Assembly CMM, P/N 3A071-0003, -0004, -0005, -0006 | Rev 12 | 11-May-10 | | |
| IPECO IPC 25- 10-88 | DC-9 Pilot & Co-Pilot Seat Assembly IPC, P/N 3A071-0003, -0004, -0005, -0006 | Rev 15 | 14-Jun-11 | | |
| JETMAC_OPE RATOR MANUAL | WB-57 Hydraulic Power Unit Operator Manual, P/ N 1006-SA-7-23218SP | N/A | 31-May-2011 | | |
| JFM Supercharger 60 | Supercharger 60 Operators Manual | Rev 3.1 | 13-Mar-08 | | |
| JPD 1040.2 | JSC Emergency Preparedness Program | E | 7-Feb-2011 | | |
| JPD 1280.1 | Quality Policy | Rev A, Change 1 | Aug-2011 | | |
| JPD 4500.1 | Pyrotechnics – Logistics Management | G | 1-Jul-2011 | | |
| JPD 8021.1 | In-Flight Personal Equipment for JSC Aircraft Operations | D | 8-Apr-2009 | | |
| JPR 1280.2 | Quality Manual | A | 14-Aug-2009 | | |
| JPR 1281.4 | Design and Development | Basic, Change 1 | 17-Dec-2009 | | |
| JPR 1281.5 | Document and Data Control | Change 1 | Apr-2011 | | |
| JPR 1281.8 | Product Identification and Traceability | Basic, Change 3 | Jan-2010 | | |
| JPR 1281.9 | JSC Procedural Requirement, Process Control | A | 14-Aug-2009 | | |
| JPR 1281.14 | JSC Procedural Requirement, Corrective and Preventive Actions, and Continual Improvement | B | 8-Aug-2011 | | |
| JPR 1281.15 | Identification, Handling, Storage, Packaging, Preservation and Delivery | Basic, Change 2 | Jul-2011 | | |
| JPR 1440.3 | JSC Records Management Procedural Requirements | C | 19-Dec-2008 | | |
| JPR 1600.3 | JSC Traffic Regulations. | Update | 24-Nov-2010 | | |
| JPR 1700.1 | JSC Safety and Health Handbook | Rev J, Change 2 | 9-Jun-2011 | | |
| JPR 8000.4 | JSC Risk Management Plan | Baseline | Apr-2010 | | |
| JPR 8550.1 | JSC Environmental Compliance Procedural Requirements | A | 25-Mar-2011 | | |
| JPR 8730.1 | Electrostatic Discharge Control Requirements for the Protection of Electronic Components and Assemblies | Baseline | 15-Apr-2008 | | |
| JWI 1040.17 | JSC Emergency Preparedness Plan, Annex M – Recovery Plan | Baseline | 11-Sep-2009 | | |
| JWI 1040.27 | JSC Emergency Preparedness Plan, Appendix 5 – JSC Aircraft Mishap Plan | A | 25-Jan-2011 | | |

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|---|---|-----------------|---------------|-----------------|---------------------|
| JWI 2190.1 | JSC Export Compliance | Rev A, Change 1 | 1-Dec-2010 | | |
| JWI 4200.1 | Management of Controlled Equipment | Baseline | 15-Jul-2008 | | |
| JWI 4210.2 | JSC Instructions for Control of Program Stock | Basic, Change 1 | Jul-2011 | | |
| JWI 4300.1 | JSC Instructions for Excess and Disposal of Government Property | Baseline | 28-Sep-2009 | | |
| JWI 6050.1 | Procedures for Processing Shipments From JSC | A | 19-May-2011 | | |
| KIDDE AEROSPACE CMM 26-21-34 | Power Device Cartridges CMM, P/N 873571-02 | Rev 14 | 9-Apr-10 | | |
| Kinney Manual 1843-2 | KT Series Single Stage, Triplex Rotary Piston Pumps | Basic | 1-Feb-08 | | |
| Kinney Manual 1849-2 | KT-LP Series Rotary Piston Vacuum Pumps | Basic | 1-Jun-08 | | |
| Kinney Manual 1859-2 | KT-VFP Series Rotary Piston Vacuum Pumps | Basic | 1-Jun-08 | | |
| KUBOTA_IPB | WB-57 Kubota Utility Vehicle IPB, Model RTV1140CPX | N/A | 1-Mar-09 | | |
| KUBOTA_Ops M | WB-57 Kubota Utility Vehicle Operators Manual, Model RTV1140CPX | N/A | | | |
| KUBOTA_WS M | WB-57 Kubota Utility Vehicle Workshop Manual, Model RTV1140CPX | N/A | 1-Jun-09 | | |
| L-3 CMM 165E0514-00 | L3 Comm - Aviation Recorders CMM w/IPB P/N 165E0514-00 | Rev 1 | 21-Sep-93 | | |
| L-3 CMM 31-30-02 | L3 Comm - Solid-State Flight Data Recorder CMM w/IPB, Model F1000 | Rev 5 | 1-Mar-04 | | |
| L-3 COMM 11625-010 | T-38N EFIS Upgrade Maint Manual | Rev B | 27-Aug-08 | TMR 10-012 | |
| L-3 Comm_TP-336 | GIII Emergency Power Supply Installation Manual, JET Model PS-835, P/N 501-1228-() - TP-336 | Rev E | 12-May-06 | | |
| L-3 IOM 165E2350-1 | L3 Comm - Solid-State Flight Data Recorder, Model F1000 Installation & Operation Instruction Manual, P/N 165E2350-1 | Basic | 1-Jul-01 | | |
| LATCHWAYS 15000-98 | Wingrip Vacuum Based Anchors Installation and User Manual | Rev 1 | 19-Apr-04 | TMR 05-018 | |
| LITTON AERO PRODUCTS TP20120 (34-52-00) | 747 Global Positioning System Sensor System (GPSSS), LTN-2012, P/N 465900 Installation/Line Maint Manual | Rev 3 | 12-Aug-05 | | |
| LITTON AERO PRODUCTS TP468 | 747 Operation & Service Instruction Manual, LTN-92/LTN-72RL Portable Data Loader, P/N 465130-01-01 | Rev 7 | 14-Aug-01 | | |
| LITTON AERO PRODUCTS TP723 (34-44-30) | 747 Mode Selector Unit OHM w/IPB, LTN-72, P/N 452100 | Rev 13 | 13-Jan-06 | | |

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|---|--|-------------|---------------|-----------------|---|
| LITTON AERO PRODUCTS TP920 (Vol I) 34-47-26 | 747 Inertial Navigation System Installation/Line Maint Manual, LTN-92, P/N 463000 | Rev 24 | 17-Mar-06 | | |
| LITTON AERO PRODUCTS TP920 (Vol II) | 747 Installation Hardware Manual, LTN-92/-72 | Rev 6 | 15-Jul-04 | | |
| LITTON_TP92-0413G | 747 Pilot's Guide LTN-92, Inertial Navigation System/GPS-Worldwide Data Base/DP/STAR/Runways Program 92-0413 | Rev 13 | 1-Aug-05 | | |
| LMS-OP-0939 | Aviation Accident Reporting, Investigation, and Site Management Plan | G | 7-Jan-2010 | | |
| LMS-TD-0940 | (Formerly RSD CP-0940) Langley Research Center General Aircraft Maintenance Manual for Research Services Directorate (RSD) | G | 23-Oct-2009 | | |
| LOCKHEED MARTIN DC-9 DRAWINGS | DC-9 Phase 1 Drawings (3 Disc Volume) | Basic | | | |
| LPR 1710.16 | Aviation Operations and Safety Manual | | 14-Jun-2011 | | |
| LUCIFER FURNACES INC | Electric Heat Treating Furnace Instruction Manual (Model 46-S48, Serial # 7429) | Basic | | | |
| LUCIFER FURNACES INC | Lucifer Furnace, Model HL82-K36, S/N 6071 Operating & Maint Instructions | Basic | | | |
| MABS 32-40-63 | GIII Main Wheel Assembly CMM w/IPL, P/N 5004899 | Rev 7 | 30-Jun-08 | | |
| MABS 32-40-88 | GIII Main Wheel Assembly CMM w/IPL, P/N 5008447 | Rev 4 | 22-Feb-08 | | TR 32-7 |
| MABS 32-43-93 | GIII Brake Assembly CMM w/IPL, P/N 5010933 | Rev 1 | 15-Jun-98 | | TR's 32-5 thru 32-10; SB 32-30; SL-7 & SL-8 |
| MABS 32-44-83 | GIII Brake Assembly CMM w/IPL, P/N 90000420 | Rev 1 | 17-Jun-08 | | |
| MALABAR 8377 | 3-Bottle Nitrogen Cart, S/N 403, Model 8377 Owners Manual | Basic | 18-May-04 | | |
| Marathon OMM 24-34-00 | Nickel-Cadmium Aircraft Batteries Operating & Maintenance Manual (general acft) | Rev 7 | 15-Apr-06 | | |
| MB SIL's | Martin-Baker Special Information Leaflet's (Info only) | Various | | | SIL 613, SIL 618A |
| MB373 | Martin-Baker T-38 Functional/Leak Test Set Operation & Maint Instructions w/IPB, P/N MBEU55170-2 & MBEU55170-2-403 | 2nd Edition | 1-May-82 | | |

| Document # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|--------------------------------|--|------------------|---------------|------------------------|---------------------|
| MB475 | Martin-Baker T-38 Test Set Altitude Operation & Maint Instructions w/IPB, P/N MBEU143054 | 2nd Edition | 1-Sep-05 | | |
| MB526ACM | Martin-Baker T38 Aircrew Manual | Issue 3 | 1-May-09 | TMR 10-002 | |
| MB526AMM | Martin-Baker T38 Ejection Seat Aircraft Maintenance Manual | Issue 2 | 31-Mar-08 | TMR 04-024 Rev D PCN 1 | FMI 15-000118 |
| MB526IPC | Martin-Baker T38 Ejection Seat MK US16LN-1 & US16LN-2 (Northrop T38 TALON/NASA Aircraft) Illustrated Parts Catalogue | Issue 3 | 1-Mar-09 | TMR 04-020 Rev D | |
| MB526PARA | Martin-Baker T38 Parachute Assembly Ejection Seat, P/N MBEU200022 & MBEU200023 Maintenance Manual | Issue 1 | 2-Dec-04 | | |
| MB526SMM | Martin-Baker T38 Ejection Seat Scheduled Maintenance Manual | Issue 2, Amend 3 | 1-Jun-10 | TMR 04-016 Rev D PCN 4 | |
| MB526SSK | Martin-Baker T38 Ejection Seat Survival Kit Manual | Issue 1, Amend 2 | 1-Apr-08 | TMR 03-038 Rev B PCN 3 | |
| MB583 | Martin Baker 4-Wheel Seat Stand & Adapter Set Ops & Maint Instructions w/IPL (P/N MBEU191546 & MBEU205120) | Basic | 1-Apr-08 | | |
| MBSIL190 | Martin-Baker Aircraft Assisted Escape Systems Recommended Lives of Components | 2nd Edition | 1-Sep-99 | TMR 07-003 Rev D PCN 1 | |
| McDONNELL DOUGLAS GS 9148-9190 | DC9 Publications Indoctrination Manual | Basic | | | |
| MIL-STD-1629 | Procedures for Performing a Failure Mode, Effects and Criticality Analysis | A | 24-Nov-1980 | | |
| MOVINCOOL_OPSM | WB-57 Classic Plus 14 Ops Manual (Serial #'s 06111673140 & 06111704140) | Basic | 1-Jan-09 | | |
| MOVINCOOL_SPC | WB-57 Classic Plus 14 Spare Parts Catalog (Serial #'s 06111673140 & 06111704140) | Basic | 1-Jun-08 | | |
| MOVINCOOL_SPECS | WB-57 Classic Plus 14 Spec Sheet | N/A | | | |
| MOVINCOOL_SVCM | WB-57 Classic Plus 14 Service Manual (Serial #'s 06111673140 & 06111704140) | Basic | 1-Jul-08 | | |
| MQ POWER_DCA-45SSIU3_IM | Whisperwatt Series 60 Hz Generator, Model DCA-45SSIU3 Instruction Manual | Basic | | | |
| MQ POWER_DCA-45SSIU3_MM | Whisperwatt Series 60 Hz Generator, Model DCA-45SSIU3 Maint Manual | Basic | 30-Nov-2005 | | |
| MQ POWER_DCA-45SSIU3_PL | Whisperwatt Series 60 Hz Generator Parts List, Model DCA-45SSIU3 | N/A | | | |

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|------------------------------|--|----------|---------------|-----------------|---------------------|
| MQ POWER_DCA2 5-150_SM | DCA25-150 Generator Service Manual | | | | |
| NAS 410 | NAS Certification and Qualification of Non-Destructive Test Personnel | 3 | Mar-2008 | | |
| NASA/SP-2007-6105 | NASA Systems Engineering Handbook | Rev 1 | 1-Dec-2007 | | |
| NASA-STD 8719.9 | Standard for Lifting Devices and Equipment | Change 1 | 9-May-2002 | | |
| NASA-STD-8719.12 | Safety Standard for Explosives, Propellants, and Pyrotechnics | Baseline | 29-Jan-2010 | | |
| NASA-STD-8739.3 | Soldered Electrical Connections | Change 5 | 23-Sep-2011 | | |
| NASA-STD-8739.4 | Crimping, Interconnecting, Cables, Harnesses, and Wiring | Change 6 | 29-Mar-2011 | | |
| NAVAIR 00-25-100 | NAVAIR Tech Manual Program | Basic | 30-Dec-10 | | |
| NAVAIR 00-25-300 | Technical Directive System | Basic | 1-Jan-09 | | |
| NAVAIR 00-500A | Naval Aeronautic Publication Index | Basic | 1-Oct-00 | | |
| NAVAIR 01-1A-17 | Aviation Hydraulics Manual | 1 | 1-Aug-08 | | |
| NAVAIR 01-1A-23 | Electronic Assembly Repair Standard Maintenance Practices (Depot Level) | Rev 3 | 1-Oct-06 | | |
| NAVAIR 01-1A-34 | Aeronautical Equipment Welding Maint Instructions (USAF TO 00-25-252) | Basic | 1-Sep-09 | TMR 09-012 | |
| NAVAIR 01-1A-509-1 | WB-57 Cleaning & Corrosion Control - Vol I (Corrosion Program & Corrosion Theory) | Basic | 1-Mar-05 | | |
| NAVAIR 01-1A-509-2 | WB-57 Cleaning & Corrosion Control - Vol II (Aircraft) | Change 1 | 31-Mar-10 | | |
| NAVAIR 01-1A-509-3 | WB-57 Cleaning & Corrosion Control - Vol III (Avionics & Electronics) | Change 1 | 15-Jul-08 | | |
| NAVAIR 01-1A-509-4 | WB-57 Cleaning & Corrosion Control - Vol IV (Consumable Materials & Equipment for Aircraft & Avionics) | Basic | 1-Jul-09 | | IRAC 2 |
| NAVAIR 01-1A-509-5 | WB-57 Cleaning & Corrosion Control - Vol V (Consumable Materials & Equipment for Avionics) | Basic | 1-Jul-09 | | |
| NAVAIR 01-75PAA-2-4 | Guppy NAVAIR - Technical manual, org maint, powerplant and related systems, navy models P-3A, P-3B, and P-3C aircraft. Description/Ops - Intro - General Maintenance - Tech Pubs Deficiency Rpt - Ground Runup Ops Ck - Warnings | 7 | 28-Feb-11 | | |

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|-----------------------|--|----------|---------------|-----------------|---------------------|
| NAVAIR 01-75PAA-2-4.1 | Guppy NAVAIR - Technical Manual, Intermediate Maintenance w/IPB, Powerplant Buildup, Navy Models P-3A P-3B P-3C Aircraft. Pwr Plant - Eng - Oil Tank - Nose/Bottom/Top Cowl - Remove/Install - Overhaul - Wire Harness Install - IPB | 5 | 1-Apr-09 | | IRAC 17 |
| NAVAIR 01-75PAA-2-4.3 | Guppy NAVAIR -Maint. PowerPlant Navy P-3 | 5 | 15-Apr-11 | | |
| NAVAIR 01-75PAA-2-4.5 | Guppy NAVAIR - Powerplant Quick Engine Change Assembly | 7 | 15-Jul-10 | | IRAC 20 |
| NAVAIR 01-75PAA-2-4.6 | Guppy NAVAIR - Org. Maint. Propeller P-3A/B/C | 6 | 15-Jan-11 | | IRAC 28 |
| NAVAIR 01-75PAA-4-5 | Guppy NAVAIR - Powerplant and Related Systems Navy Models P-3A and P-3B Aircraft (Guppy) | 7 | 1-Aug-05 | | IRAC 3 |
| NAVAIR 01-75PAC-4-5 | Guppy NAVAIR - Illustrated Parts Breakdown. Power Plant - Engine Control Syst - Oil Syst - Nacelle Fuel & Oil Drain - Fuel Syst - APU | 16 | 15-Jun-11 | | IRAC 23 |
| NAVAIR 01-C9B-2-30 | C-9 MM Ice/Rain Protection-Pitot Static, Windows, Windshields | 3 | 1-Oct-97 | | |
| NAVAIR 01-C9B-2-31 | C-9 Instruments | 3 | 15-Sep-02 | | |
| NAVAIR 01-C9B-2-52 | C-9 Doors-passenger, crew, emergency, lining, cargo, service, electrical compartment | 3 | 1-Dec-99 | | |
| NAVAIR 01-C9B-2-55 | C-9 MM Stabilizers-Horizontal, Elevator, Vertical, Rudder | 2 | 1-Jul-00 | | |
| NAVAIR 01-C9B-2-70 | C-9 MM Standard Practices-Engines-Antiseize compounds,tubing | 2 | 1-Jul-00 | | |
| NAVAIR 01-C9B-2-75 | C-9 Air-anti-icing,nose cowl,accessory cooling,compressor control. | 2 | 1-Jun-00 | | |
| NAVAIR 01-C9B-2-80 | C-9 MM Starting-Cranking,Air Shutoff Valve | 5 | 15-Jul-01 | | |
| NAVAIR 01-C9B-4-23 | C-9 IPB Communications-HF,VHF,interphone,audio integrating,voice recorders,V/UHF | 3 | 15-Sep-02 | TMR 10-005 | |
| NAVAIR 01-C9B-4-27-1 | C-9 IPB Flight Controls (Vol 1) - Aileron/tab,rudder,elevator,horizontal stabilizer | 5 | 15-Aug-00 | | |
| NAVAIR 01-C9B-4-30 | C-9 IPB Ice/Rain Protection-Airfoil, intakes, pitot static, windows | 1 | 1-Jul-99 | | |
| NAVAIR 01-C9B-4-34 | C-9 IPB Navigation-Pitot static,Altitude warning,SCAT, TACAN,compass,VOR,ADF,marker beacon | 4 | 1-Sep-02 | TMR 07-029 | |
| NAVAIR 01-C9B-4-52 | C-9 IPB Doors-external,aft,emergency,passenger,cargo, sevice,fixed interior,entrance stairs,warning | 3 | 1-Jul-99 | | |
| NAVAIR 01-C9B-4-55 | C-9 IPB Stabilizers-fuselage/tail & vertical,horizontal,elevator, rudder | 1 | 15-Jun-94 | | |

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| NAVAIR 01-C9B-4-80 | C-9 Starting IPB | 2 | 1-Dec-99 | | |
| NAVAIR 01-C9B-6 | C-9 Periodic Maint Information | 9 | 15-Nov-01 | | |
| NAVAIR 01-C9B-6-4 | C-9 Phase Maintenance Requirement Cards | Basic | 15-Sep-02 | | |
| NAVAIR 01-C9B-9 | C-9 Cargo Loading Manual | 2 | 15-Nov-97 | | |
| NAVAIR 01-C9BAAA-1 | NAVAIR C-9 Flight Manual | Basic | 1-Nov-02 | TMR 07-024 | AFM R2479-03_Rev A |
| NAVAIR 01-C9BAAA-1.1B | C-9 NATOPS Crewman Pocket Checklist, C-9B Model | Basic | 1-Mar-09 | | |
| NAVAIR 01-C9BAAA-1C | C-9 NATOPS Takeoff and Landing Data Cards, C-9B acft | Basic | 1-Mar-09 | | |
| NAVAIR 01-C9BAAA-1G | C-9B/DC-9 Emergency Checklist (Replaces 01-C9BAAA-1B) | Basic | 1-Mar-09 | | |
| NAVAIR 01-C9BAAA-8 | C-9 Work Unit Codes | Basic | 15-Jun-10 | TM R 05-009 Rev C | |
| NAVAIR 02B-5DD-4 | Guppy NAVAIR - Turboprop Engine Model T56-a-14 | 8 | 1-Nov-09 | | |
| NAVAIR 02B-5DH-6-1V1 | Intermediate Maintenance for Turboprop Engines Vol I, Models T56-A-14, -16 & -425 (supersedes NAVAIR 02B-5DD-6-1) | 3 | 1-Jun-10 | | |
| NAVAIR 02B-5DH-6-1V2 | Intermediate Maintenance for Turboprop Engines Vol II, Models T56-A-14, -16 & -425 (supersedes NAVAIR 02B-5DD-6-1) | 3 | 1-Jun-10 | | |
| NAVAIR 02B-JT8D-4-1 | C-9 IPB Turbofan Engines JT8D P/N 481675 | Basic | 15-Apr-04 | | |
| NAVAIR 02B-JT8D-4-2 | C-9 IPB Turbofan Engines-diffuser group, fairing fuel manifolds | Basic | 15-Apr-04 | | |
| NAVAIR 02B-JT8D-6-1 | C-9 Maint Organizational Instructions IPB Turbofan Engines NAVY Model C-9B/DC-9 (This book includes 6-1-1 & 6-1-2) | Basic | 15-Oct-04 | | |
| NAVAIR 03-5CFA-5 | WB-57 Converter, 200 Ampere, Class B & C O/ H, P/ N 28VS200Y-4, Type MS28132-1 | Basic | 1-Nov-1978 | | |
| NAVAIR 03-5CFA-6 | WB-57 Converter, 200 Ampere, Class B & C IPB, P/N 28VS200Y-4, Type MS28132-1 | Basic | 1-Nov-1978 | | |
| NAVAIR 03-20CBBK-1 | Variable Pitch Aircraft Propeller Systems Model # 54h60-77 | Basic | 15-Jul-11 | | |
| NAVAIR 03-20VAM-1 | Guppy NAVAIR - Maintenance Manual w/IPB T-56 Propulsion System Vibration Analysis | 5 | 1-Jun-11 | | |
| NAVAIR 13-1-6.1-1 | Inflatable Survival Equipment (Liferaft) | Basic | 1-Aug-11 | TMR 05-005 Rev B | IRAC 35 |
| NAVAIR 13-1-6.1-2 | Inflatable Survival Equipment (Life Preservers) | Basic | 1-Aug-11 | TMR 04-014 Rev C | |

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|----------------------|---|----------|---------------|------------------|---------------------|
| NAVAIR 13-1-6.2 | Emergency Personnel and Drogue Parachute Systems | Basic | 1-Aug-11 | | |
| NAVAIR 13-1-6.3-1 | Aviation-Crew Systems, Seat Survival Kits, (Oxygen Hoses And Non-SKU-Series Seat Kits) (Part 1 of 2) | 6 | 1-Mar-10 | TMR 03-009 Rev A | IRAC 27 |
| NAVAIR 13-1-6.3-2 | Seat Survival Kits - Aviation-Crew Systems (Part 2 of 2) | 6 | 1-Mar-10 | | IRAC 24 |
| NAVAIR 13-1-6.4-1 | Oxygen Systems (Acraft Equipment Masks & Other Systems) | Basic | 1-Sep-10 | | IRAC 31, 32 |
| NAVAIR 13-1-6.4-2 | Oxygen Equipment (Regulators) | Basic | 1-Sep-10 | | IRACs 21 & 22 |
| NAVAIR 13-1-6.5 | Rescue and Survival Equipment | Basic | 1-Aug-11 | | |
| NAVAIR 13-1-6.7-1 | Aircrew Personal Protective Equipment | Basic | 1-Aug-11 | | |
| NAVAIR 13-1-6.7-3 | NAVAIR Aircrew Personal Protective Equipment Helmet and Masks | Basic | 1-Sep-10 | | IRACs 32, 33, 34 |
| NAVAIR 13-1-6.10 | Special Mission Aircrew Equipment | 15 | 1-Sep-09 | | |
| NAVAIR 16-30APM403-1 | AN/APM-403 Altimeter Set Test Set, P/N UG2580AB04, Operation Instructions w/IPB | 3 | 1-Mar-07 | | |
| NAVAIR 16-30APN194-4 | Receiver-Transmitter, RT-1015A/APN-194(V) and RT-1042/APN-194(V), P/N HG7194C1 & HG7194C2 | 5 | 1-Oct-07 | | |
| NAVAIR 16-30ASM663-1 | Radio Test Set, AN/ASM-663, P/N 1000-0000 (for SGT) | Basic | 1-Nov-85 | | |
| NAVAIR 16-30URT140-1 | Radio Beacon Set AN/URT-140 (p/n 2155-0908300) & -140-T1 (p/n MEA-23100-0002) Operation & Maint Instructions w/IPB | Basic | 1-Aug-10 | TMR 09-006 Rev A | |
| NAVAIR 16-35AVS9-4 | Image Intensifier Set, Night Vision, Type AN/AVS-9(V) MM (p/n's 264359-15, -26, -27, -28 & -47) | 3 | 1-Feb-10 | | |
| NAVAIR 17-1-114.1 | Guppy NAVAIR - Vol I Inspection & Proofload Testing of Lifting Slings for Aircraft & Related Components (Depot Maint & IPB) | Basic | 30-Jul-07 | | |
| NAVAIR 17-1-114.9 | Guppy NAVAIR - Vol IX Inspection & Proofload Testing of Lifting Slings for T56 Engines & Related Components (Depot Maint & IPB) | Basic | 30-Sep-04 | | IRACs 1 & 2 |
| NAVAIR 17-1-114.11 | Guppy NAVAIR - Vol II Inspection & Proofload Testing of Lifting Slings for Acft Propellers & Related Components (Depot Maint & IPB) | 4 | 1-Jun-10 | | IRAC 13 |
| NAVAIR 17-15CAL-42 | Hangar Deck Crane, P/N 128SEME10189-3 Maint Instructions w/IPB | Basic | 1-Jun-76 | | |
| NAVAIR 19-1-145 | Operation & Intermediate Maintenance Instructions w/IPB - Universal Propeller Dolly, Model A/M 32M-26, P/N 519AS100-1 | Basic | 1-Apr-78 | | |

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|--|---|------------------|---------------|-----------------|---------------------|
| NAVAIR AE-256AC-720-000 | Height Indicator ID-2163/A, DEPOT Maint w/IPB, P/N 3809413-3 | 4 | 15-Jan-10 | | |
| NAVAIR CD - 11-100-1.1 | General use Cartridges and Cartridge Actuated Devices for aircraft (Avlb in QC on CD only) | Basic | 1-Jul-11 | | |
| NAVAIR DC-9 IPC CD's | NAVAIR DC-9 IPC Pubs(Series 4) CD's | Various Pubs | | | |
| NAVAIR_660-DM-1535-0 | Vacuum Sanding System, P/N 660-DM-1535-0 Operation & Maint Instructions w/IPB | Basic | 27-Feb-04 | | |
| No Doc # | Safety Information Guide | Basic | 1-Aug-08 | | |
| NORDIC AIR_567-00002 | Environmental Control Unit; 36,000 BTUH 3-ton Cooling Capacity; 31,000 BTUH Heating Capacity | Rev 3 | 7-Jun-10 | | |
| NPD 1800.2 | NASA Occupational Health Program | C | 26-Jul-2010 | | |
| NPD 7900.4 | NASA Aircraft Operations Management | C | 8-Apr-2009 | | |
| NPR 1441.1 | NASA Records Retention Schedules | Rev D, Change 5 | 26-Jun-2009 | | |
| NPR 1800.1 | NASA Occupational Health Program Procedures | Rev C , Change 1 | 31-Dec-2009 | | |
| NPR 4100.1 | NASA Materials Inventory Management Manual | Rev D, Change 1 | 12-Mar-2004 | | |
| NPR 4200.1 | NASA Equipment Management Procedural Requirements | G | 30-Mar-2010 | | |
| NPR 6000.1 | Requirements for Packing, Handling, and Transportation for Aeronautical and Space Systems, Equipment, and Associated Components | H | 10-Nov-2010 | | |
| NPR 7150.2 | NASA Software Engineering Requirements | A | 19-Nov-2009 | | |
| NPR 7900.3 | Aircraft Operations Management | C | 15-Jul-2011 | | |
| NPR 8621.1 | NASA Procedures and Guidelines for Mishap and Close Call Reporting, Investigating, and Recordkeeping | Rev B, Change 5 | 15-Mar-2010 | | |
| NW-2008-01-001-JSC, JSC Expected Behaviors | JSC Expected Behaviors | --- | --- | | |
| OMB Circular A-130, Appendix III | Office of Management and Budget Circular A-130, Appendix III, Security of Federal Automated Information Resources | | 28-Nov-2000 | | |
| OSHA Public Law 91-596 | Occupational Safety and Health Act of 1970 | | 1-Jan-2004 | | |
| OTI 20-000106 | OTI - for EAM-5 five-man life rafts | | 11-Jan-00 | | |
| OTI 20-000107 | OTI - T-38 Front Cockpit Landing Gear Control Handle Wiring Harness Service Loop | | 25-Jan-00 | | |

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| OTI 20-000108R | OTI - J85-5 Igniter Plug Depth | | 14-Mar-00 | | |
| OTI 20-000110 | OTI - T-38(N) Flight Director System (supersedes OTI 20-000109) | | 22-Mar-00 | | |
| OTI 20-000115 | OTI - T-38(N) Fuel & LOX Quantity Coaxial Connectors | | 22-May-00 | | |
| OTI 20-000116 | OTI - Front Cockpit Canopy Locking Hook Hardware (bolt) | | 30-May-00 | | |
| OTI 20-000117 | OTI - T-38 Main Landing Gear Axles (NDI Procedure) | | 23-Jun-00 | | |
| OTI 20-000118 | OTI - CRU-60/P Parachute Oxygen Connector Assembly | | 13-Jul-00 | | |
| OTI 20-000119 | OTI - M-53 Ejection Seat Initiators (for N928) | | 26-Jul-00 | | |
| OTI 20-000120 | OTI - STA Engine Tailpipes, check for cracks in weld seams per CMP 784011 & 784016) | | 8-Aug-00 | | |
| OTI 20-000121 | OTI - Compressor Bleed Air System (left & right) for N926 & N928 | | 14-Aug-00 | | |
| OTI 20-000122 | OTI - Inspect Nose Landing Gear Door Actuator Switch | | 21-Aug-00 | | |
| OTI 20-000123 | OTI - Inspect N2 & N948 of parts certified by QAS between 6/98 and 6/99 | | 29-Sep-00 | | |
| OTI 20-000124 | OTI - Update VHF & UHF preset frequencies on T-38 aircraft | | 4-Oct-00 | | |
| OTI 20-000126 | OTI - Update UHF preset frequencies on NASA Heavy Aircraft (n/a to N941) | | 17-Oct-00 | | |
| OTI 20-000127 | OTI - Update UHF preset frequencies on STA & N2 (n/a to N948) | | 17-Oct-00 | | |
| OTI 20-000129 | OTI - Inspect all T-38 left/right wing flap inboard hinges for cracks | | 2-Nov-00 | | |
| OTI 20-000131 | OTI - Inspect J85-5N Fleet for Proper Engine Cam Followers (supersedes OTI 20-000111) | | 14-Dec-00 | | |
| OTI 20-000132 | OTI - Inspect all Vertical Fin Access Panel installations | | 5-Feb-01 | | |
| OTI 20-000133 | OTI - Inspect all T-38 Vertical Stabilizer Lower Attach Bolts (per USAF MSG R21171OZ, dated Feb 01) | | 6-Mar-01 | | |
| OTI 20-000134 | OTI - Inspect T-38 Main Landing Gear Strut Orifice Support Tube Bolt (supersedes OTI 20-000130) | | 24-Apr-01 | | |
| OTI 20-000135 | OTI - Inspect all T-38 Main Wheel Bolts (p/n MS21297) | | 20-Jun-01 | | |
| OTI 20-000136 | OTI - Inspect all T-38 Horizontal Stabilizer Control Rod Ends (p/n 2-73030) | | 14-Aug-01 | | |
| OTI 20-000137 | OTI - Inspect all T-38 Crossfeed Valve & Fuel Shutoff Valve Actuators | | 15-Aug-01 | | |
| OTI 20-000138 | OTI - Inspect Restrictor Release Lanyard | | 14-Sep-01 | | |
| OTI 20-000139 | OTI - Inspect all GOX Servicing Carts | | 23-Oct-01 | | |

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| OTI 20-000141 | OTI - T-38/J85-5N Engine Inspection to determine Type Cases | | 28-Nov-01 | | |
| OTI 20-000142 | OTI - Inspect T-38 FCP & RCP Wire Harness Installations | | 2-May-02 | | |
| OTI 20-000143 | OTI - Inspect all SPEY MK511-8 Engines for FOD | | 8-Mar-02 | | |
| OTI 20-000145 | OTI - Inspect all T-38N with Digital T-5 Amps (p/n 5071-T08P03) - superseded OTI 20-000144 | | 9-Apr-02 | | |
| OTI 20-000146 | OTI - Weight/Balance to ensure Center of Gravity computations are accurate | | 9-Apr-02 | | |
| OTI 20-000147 | OTI - Inspect Oxygen Extension Hose on IP & SIM pilot's Smoke Mask (STA fleet) | | 24-Apr-02 | | |
| OTI 20-000148 | OTI - Inspect all T-38 Main Wheel Bolts (p/n MS21297) | | 15-May-02 | | |
| OTI 20-000149 | OTI - Inspect T-38 fleet Radar Altimeter R/T's | | 30-May-02 | | |
| OTI 20-000150 | OTI - Inspect all T-38 Horizontal Stabilizer Quadrant Frames | | 31-May-02 | | |
| OTI 20-000151 | OTI - Inspect GII Main Landing Gear Control Valve Blanking Pin | | 11-Jul-02 | | |
| OTI 20-000152 | OTI - Inspect all STA Main Landing Gear Control Valve Blanking Pin | | 11-Jul-02 | | |
| OTI 20-000153 | OTI - Inspect KC-135 N931 Pylon Fuel Hose Assembly (p/n 90-4536) | | 31-Jul-02 | | |
| OTI 20-000154 | OTI - NDI to inspect N926 & N928 Right/Left Customer Bleed Air Ducts for cracks | | 2-Aug-02 | | |
| OTI 20-000155 | OTI - Inspect N902, N960 & N967 Horizontal Stabilizer Mixer for the Trim Actuator (p/n 3-73193) | | 26-Sep-02 | | |
| OTI 20-000157 | OTI - Inspect all T-38N Avionics Bay DC Circuit Breaker Panels | | 22-Oct-02 | | |
| OTI 20-000158 | OTI - Inspect all Martin-Baker Ejection Seats (Serial #1-#30) Top Latch Locking Nut Counter Bore Recess position | | 17-Oct-02 | | |
| OTI 20-000159 | OTI - NDI to inspect GII/STA for cracks at AFT Vertical Attach Bulkhead | | 11-Oct-02 | | |
| OTI 20-000160 | OTI - Reposition Rear Seat Communication Electrical Lead on Martin-Baker seats | | 18-Oct-02 | | |
| OTI 20-000161 | OTI - Inspect Front/Rear Cockpit for Northrop Ejection Seat Handle Ground Safety Pin | | 12-Nov-02 | | |
| OTI 20-000162 | OTI - Inspect/Reposition Hold Down Clamp of Wire bundle in Rear Cockpit right hand side of Center Console | | 21-Nov-02 | | |
| OTI 20-000163 | OTI - Inspect all T-38 Aft Lower Wing Skin Panel | | 14-Feb-03 | | |
| OTI 20-000163 | OTI - Inspect all T-38N Avionics Bay DC Circuit Breaker Panels | | 22-Oct-02 | | |

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| OTI 20-000164 | OTI - Inspect on Martin-Baker seats the Front/Rear Cockpit Manual Release Handle Housing Block (supersedes OTI 20-000156) | | 3-Mar-03 | | |
| OTI 20-000165 | OTI - Inspect installed Diverter Valve Harness, Connector & Junction Box for defects | | 19-Mar-03 | | |
| OTI 20-000166 | OTI - Inspect T-38 Boarding Ladders for critical measurements | | 17-Apr-03 | | |
| OTI 20-000167 | OTI - Inspect Interconnect Hose on Martin-Baker Seats | | 5-May-03 | | |
| OTI 20-000168 | OTI - Inspect Martin-Baker Sear Kit Beacon AN/URT-33 | | 4-Jun-03 | | |
| OTI 20-000169 | OTI - Inspect Passenger Seats on all STA's | | 6-Jun-03 | | |
| OTI 20-000170 | OTI - Inspect Martin-Baker Seat Initiator Attachment Hardware | | 1-Jul-03 | | |
| OTI 20-000172 | OTI - Inspect T-38N Ejector Side Fairing Clearance (supersedes OTI 20-000171) | | 16-Jul-03 | | |
| OTI 20-000174 | OTI - Inspect Crew 60 Mounting Plate for Security | | 22-Aug-03 | | |
| OTI 20-000175 | OTI - Place Range Marking on T-38 Cabin Altimeter | | 8-Sep-03 | | |
| OTI 20-000176 | OTI - Inspect Installed & Uninstalled Engines J-85 Afterburner for cracks/distortions | | 6-Oct-03 | | |
| OTI 20-000177 | OTI - Inspect J-85 Fuel Flow Transmitter (N564 & N965 only) | | 31-Oct-03 | | |
| OTI 20-000178 | OTI - Conduct Serviceability check on all supply stock/uninstalled Main Fuel Nozzles (p/n 37D401657P111 or P116) | | 14-Nov-03 | | |
| OTI 20-000179 | OTI - Inspect Rudder Hydraulic Line for chaffing on Fire Wall Panel Screws for T-38 aircraft | | 24-Nov-03 | | |
| OTI 20-000180 | OTI - Inspect all J-85 Engines Fuel Flow Connectors for burned Pin B | | 4-Dec-03 | | |
| OTI 20-000181 | OTI - Inspect Mode "S" Transponder Rack for presence of the Upper Hold Down Pin Assembly | | 9-Jan-04 | | |
| OTI 20-000183 | OTI - Inspect Martin-Baker Front Cockpit Inter-seat Sequencing (ISS) Ballistic Hoses (supersedes OTI 20-000182) | | 6-Feb-04 | | |
| OTI 20-000184 | OTI - Inspect Left Hand COM/NAV Door Cooling Fan for presence of Deflector (p/n 3-54454-3) | | 27-Feb-04 | | |
| OTI 20-000185 | OTI - Inspect Wiring Harness on all Towing Vehicles | | 12-Apr-04 | | |
| OTI 20-000186 | OTI - Adjust all T-38N Landing Light Assemblies to new criteria for Taxi/Landing positions | | 21-Apr-04 | | |

| Document # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|---------------|--|----------|---------------|-----------------|---------------------|
| OTI 20-000187 | OTI - Inspect Martin-Baker Under-seat Rocket Motors the position, serial number & fill date | | 24-May-04 | | |
| OTI 20-000188 | OTI - Collect McCormick-Selph Acceptor/Donor assembly installation date for entering into NALCOMIS for tracking time change requirements | | 9-Jan-04 | | |
| OTI 20-000189 | OTI - Inspect all T-38 Canopy Fracturing System(CFS) Acceptor/Donor alignment | | 15-Jun-04 | | |
| OTI 20-000190 | OTI - Inspect all T-38 for defective Pitch Trim Cutoff Switches | | 31-Jul-04 | | |
| OTI 20-000191 | OTI - Inspect Left/Right STA Main Landing Gear Up-lock Shafts for cracking | | 11-Aug-04 | | |
| OTI 20-000192 | OTI - Inspect N944 of the installed Upper Check Valve | | 27-Aug-04 | | |
| OTI 20-000193 | OTI - Inspect Main Flight Control & Throttle Cables through panel 160 for proper tension | | 25-Oct-04 | | |
| OTI 20-000195 | OTI - Inspect STA Flaperon Linkage for evidence of contact with the adjacent structure | | 3-Dec-04 | | |
| OTI 20-000196 | OTI - Inspect T-38 Generator Rotor Vespel Spindle for proper installation of screw assembly (p/n 4131603-2) - supersedes OTI 20-000194 | | 6-Dec-04 | | |
| OTI 20-000197 | OTI - Inspect all STA aircraft & N950 for proper Nose Landing Gear Down-lock Switch adjustment | | 9-Dec-04 | | |
| OTI 20-000198 | OTI - Inspect all STA's to visually check Inner/Outer Thrust Reverser Shafts for excessive play | | 13-Dec-04 | | |
| OTI 20-000199 | OTI - Inspect all STA's to visually check Wing Trailing Edge Flap & Flaperon Access Panel Screws | | 15-Dec-04 | | |
| OTI 20-000200 | OTI - Inspect all T-38A/N Flight & Throttle Control Cables (superseded OTR 21-000128 against N907 only) | | 10-Dec-05 | | |
| OTI 20-000201 | OTI - Inspect Nose Landing Gear Up-lock Hook on N944, N945 & N947 for cracking | | 10-Jan-05 | | |
| OTI 20-000202 | OTI - Inspect Wire Bundle secured to FCP/Upper CRT for chafing & proper clamp installation | | 18-Jan-05 | | |
| OTI 20-000203 | OTI - Inspect Wire Bundle behind Right Console Lower Trim Panel for chafing & proper security of wire bundle | | 18-Jan-05 | | |
| OTI 20-000204 | OTI - Inspect Elevator Trim Actuator Cables on STAs & N950 for condition & security | | 10-Feb-05 | | |

| Document # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|---------------|--|----------|---------------|-----------------|---------------------|
| OTI 20-000205 | OTI - Inspect T-38 Martin-Baker or Northrop seat IFF & PE lead Quick Disconnect Lanyard Cables for condition, security & proper installation | | 11-Apr-05 | | |
| OTI 20-000206 | OTI - Inspect T-38 Center Boarding Step | | 11-Apr-05 | | |
| OTI 20-000207 | OTI - Inspect Electrical Junction Boxes for proper installation of Pin Receptacle Shields | | 19-Apr-05 | | |
| OTI 20-000209 | OTI - Inspect T-38A/N Engine Tracks for material (alum or titan) & proper installation hardware (supersedes OTI 20-000208) | | 5-May-05 | | |
| OTI 20-000210 | OTI - Inspect FCP & RCP MK US16LN-1 Martin-Baker Seat Firing System for proper hardware & installation | | 24-May-05 | | |
| OTI 20-000211 | OTI - Inspect a 25% sample of installed front/rear cockpit Martin-Baker ejection seats | | 26-May-05 | | |
| OTI 20-000212 | OTI - Inspect #2 Main Bearings on J-85 Engines | | 2-Jun-05 | | |
| OTI 20-000214 | OTI - Inspect Aft Section Ejector Firewall hardware to proper torque of screws (supersedes OTI 20-000213) | | 15-Jul-05 | | |
| OTI 20-000215 | OTI - Inspect T-38 Cockpit Lighting Control Panel for condition of wiring & fuses (p/n 3887123-301) | | 15-Aug-05 | | |
| OTI 20-000216 | OTI - Inspect & lubricate all Aircraft Left/Right Thrust Reverser Teleflex cables | | 19-Aug-05 | | |
| OTI 20-000217 | OTI - Inspect/Repair all T-38 both cockpit Right Upper Trim Panel Flood Light Receptacle Wiring | | 19-Aug-05 | | |
| OTI 20-000218 | OTI - Inspect Left/Right Upper/Lower Engine Throttle Cables | | 24-Aug-05 | | |
| OTI 20-000219 | OTI - Inspect all T-38A/N Sidebrace Assemblies for proper belt installation | | 9-Sep-05 | | |
| OTI 20-000220 | OTI - Inspect Vertical Tip VHF Antenna Coax Cable Connector | | 15-Sep-05 | | |
| OTI 20-000221 | OTI - Inspect DLC Control Lever for possible interference from wire Harness | | 27-Sep-05 | | |
| OTI 20-000222 | OTI - Inspect STAs & N950 Engine Generator Ammeter & Battery Monitor System Shunts | | 11-Oct-05 | | |
| OTI 20-000223 | OTI - Inspect DC-9 Horizontal Stabilizer Actuator Gimble Assembly Orientation & accessible grease fittings | | 13-Oct-05 | | |
| OTI 20-000224 | OTI - Inspect STA Main Aircraft Battery Quick Connect Receptacles for corrosion & arcing | | 29-Nov-05 | | |

| Document # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|---------------|---|----------|---------------|-----------------|---------------------|
| OTI 20-000225 | OTI - Inspect B-4 Maintenance Stands for proper placards, warnings & hydraulic pump hoses | | 29-Nov-05 | | |
| OTI 20-000226 | OTI - NDI Inspection of T-38 Left/Right Upper Longerons & Hook slots | | 13-Dec-05 | | |
| OTI 20-000227 | OTI - Inspect Rotational Hand Controller wiring & connector for correct pin installation | | 13-Dec-05 | | |
| OTI 20-000228 | OTI - Inspect STA & GII the Four Emergency Exit Windows for proper installation | | 13-Dec-05 | | |
| OTI 20-000229 | OTI - Inspect Torque on T-38 MLG Torque Line Pin | | 25-Jan-06 | | |
| OTI 20-000230 | OTI - Inspect all STAs for cracks at the Nose Landing Gear Wheel-Well Fuselage Pressure Skin | | 30-Jan-06 | | |
| OTI 20-000231 | OTI - Inspect T-38N Landing Gear Control & Warning System | | 7-Mar-06 | | |
| OTI 20-000232 | OTI - Inspect T-38N Aircraft Canopy Jettison Ballistic Hoses for condition & corrosion | | 24-Jul-06 | | |
| OTI 20-000233 | OTI - Inspect T-38N Wire Harness w/Flight Control Cables for chaffing | | 22-Sep-06 | | |
| OTI 20-000234 | OTI - Inspect GII/GIII Right/Left Hand Generator Cables for proper installation | | 17-Nov-06 | | |
| OTI 20-000235 | OTI - Identify suspect/defective Aft Fuselage (boat tail) Fire Overheat Warning Detector Assembly | | 29-Nov-06 | | |
| OTI 20-000236 | OTI - Confirm Aircraft Records & Maint Tracking Database is accurate | | 2-Mar-07 | | |
| OTI 20-000237 | OTI - Inspect Left/Right Precoolers to determine if Aft Coupling Split Lock Retaining Ring is installed | | 25-May-07 | | |
| OTI 20-000238 | OTI - Search Logs/Records to determine correct p/n & serial number of Heat Exchanger (Precooler) is installed on STAs, GII & N2NA | | 29-Jun-07 | | |
| OTI 20-000241 | OTI - Inspect STAs Instructor/Student Pilot & Flight Engr Jump-seat Adjustable Lap Belts & Shoulder Harness for condition | | 16-Oct-07 | | |
| OTI 20-000242 | OTI - Inspect T-38 Upper Cockpit Longerons FS 225 & FS 232 (supersedes OTI 20-000239 & OTI 20-000240) | | 8-Jan-08 | | |
| OTI 20-000243 | OTI - Inspect STA/GII/GIII Engine Log Books for current compliance status of MOD 5270 | | 30-Jan-08 | | |
| OTI 20-000244 | OTI - For STA/GII to prevent Anti-skid Control Hydraulic Lines from crossing during installation | | 20-Feb-08 | | |

| Document # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|---------------------|--|----------|---------------|-----------------|---------------------|
| OTI 20-000245 | OTI - Inspect NLG Axle Assembly on STA 945 | | 20-Mar-08 | | |
| OTI 20-000246 | OTI - Inspect accessible portions of High Pressure Duct (STA/GII/GIII) | | 8-Apr-08 | | |
| OTI 20-000247 | OTI - SPEY 511-8 Engines overhauled at Goodrich-Montreal | | 20-May-08 | | |
| OTI 20-000249 | OTI - Inspect Goodyear Main Landing Gear Tires (N944, N945, N946 & N947) | | 18-Jul-08 | | |
| OTI 20-000250 | OTI - Inspect Goodyear Main Landing Gear Tires (N948 & N949) | | 18-Jul-08 | | |
| OTI 20-000251 | OTI - Inspect Goodyear Main Landing Tires (for N2NA) | | 18-Jul-08 | | |
| OTI 20-000252 | OTI - Lubricate all slings & restraint devices | | 10-Oct-08 | | |
| OTI 20-000253 | OTI - Verify all ADU serial numbers & DOM's in Martin Baker seat kits | | 20-Oct-08 | | |
| OTI 20-000254 | OTI - Inspect for signs of water intrusion in upper wing position light lens holder | | 19-Nov-08 | | |
| OTI 20-000254 Rev 1 | OTI - Inspect for signs of water intrusion in upper wing position light lens holder | | 30-Jan-09 | | |
| OTI 20-000255 | OTI - Inspect STA/GII MLG Steel Brake Lines | | 22-Dec-08 | | |
| OTI 20-000256 | OTI - Remove existing PN label from Time Delay Subassembly | | 17-Feb-09 | | |
| OTI 20-000257 | OTI - Perform External Power Receptacle Inspection for DC-9 | | 26-Feb-09 | | |
| OTI 20-000258 | OTI - Inspect for clearance of wire bundle above let rear rudder pedal, Block 3 T-38 | | 26-May-09 | | |
| OTI 20-000259 | OTI - Verify proper installation of fuel control rod assembly on STA's | | 4-Jun-09 | | |
| OTI 20-000260 | OTI - Identify FCP & RCP audio control panel P/N & S/N on EFIS T-38 only | | 4-Jun-09 | | |
| OTI 20-000261 | OTI - Inspect rudder force producing ring for tooling marks per TCTO 1T-38-823 | | 5-Jun-09 | | |
| OTI 20-000262 | OTI - Martin-Baker ADU placed in "automatic" position | | 30-Jun-09 | | |
| OTI 20-000263 | OTI - Conduct NDI of Rudder Control Rod Assemblies for defects | | 10-Jul-09 | | |
| OTI_20-000264 | OTI - Inspect/Replace all non Self-locking Nuts with Self-locking nuts on Primary Flt Controls | | 30-Jul-09 | | |
| OTI_20-000265 | OTI - Inspect for debris in Comm/Nav Bay & Radome on T38 B3 | | 30-Jul-09 | | |
| OTI 20-000266 | T-38 Lower Wing Skin Inspection | Basic | 6-Oct-09 | | |
| OTI 20-000267 | T-38 44% Spar Exposed Fitting Inspection | Basic | | | |
| OTI 20-000268 | T-38 Instrument Panel Grounding Strap Inspection | Basic | | | |

| Document # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|------------------|---|----------|---------------|-----------------|---------------------|
| OTI_20-000269 | OTI - Inspect ICS Chord Connections & Audio Control Panel Wiring for chaffing | | 17-Nov-09 | | |
| OTI_20-000270 | OTI - Prevent chafing of Wires on Right Comm/Nav Door Fan | | 3-Dec-09 | | |
| OTI_20-000271 | OTI - Inspect Horizontal & Vertical Stabs for Popping Noise (STA's) | | 8-Jan-10 | | |
| OTI_20-000272 | OTI - Inspect Horizontal & Vertical Stabs for Popping Noise (N949) | | 8-Jan-10 | | |
| OTI_20-000273_R1 | Inspect for the presence of "Restricted G" placards on T-38 B3 instrument panels | | 29-Mar-10 | | |
| OTI_20-000274 | Inventory DADC/DDADC and configuration modules to capture serial numbers installed on T-38 aircraft | | 15-Apr-10 | | |
| OTI_20-000275 | Configuration control of the TAWS database cards installed in T-38 B3 aircraft | | 7-Jun-10 | | |
| OTI_20-000276 | Verify Pitot Heat circuit configuration in existing T-38 B3 aircraft is at current mod level | | 7-Jun-10 | | |
| OTI_20-000277 | Landing Light lost in-flight N917 | | 17-Jun-10 | | |
| OTI_20-000278_R1 | Un-commanded Rudder Kick N955 | | 28-Jul-10 | | |
| OTI_20-000279_R1 | Inspect all T-38s (including mod line & flyable storage) for Un-commanded Rudder Kick | | 28-Jul-10 | | |
| OTI_20-000280 | Inspect all T-38 fleet (including mod line & flyable storage) 66% wing fittings to determine metal type | | 2-Aug-10 | | |
| OTI_20-000281 | Baseline new inspection cycle and ensure only Grimes lights are installed on T-38s | | 10-Aug-10 | | |
| OTI_20-000282 | Provide technical reference for new inspection requirements on t-38 Landing lights | | 10-Aug-10 | | |
| OTI_20-000283 | Inspect T38 Throttle Quadrant Cables | | 19-Jan-11 | | |
| OTI_20-000284 | Inspect STAs & GIII Engine Thrust Strut | | 25-Jan-11 | | |
| OTI_20-000285 | N918 Landing Light Inspection | | 18-Mar-11 | | |
| OTI_20-000286 | OTI - Inspect N966 Canopy Jettison System | | 5-Apr-2011 | | |
| OTI_20-000287 | OTI - GIII/ STA Perform leak check for Pressure Fueling Float Valve Lines | | 15-Apr-2011 | | |
| OTI_20-000288 | OTI - Inspect Windscreen Bow on T-38 Fleet | | 11-Jul-2011 | | |
| OTI_20-000289 | OTI - T-38 Visual Inspection of the Engine Mount | | 5-Aug-11 | | |
| OTR 21-000074 | OTR - STA/GII Thrust Reverser Spherical Bearings | | 22-Mar-00 | | |
| OTR 21-000075 | OTR - T-38 Fuel Compensator Probes | | 25-Apr-00 | | |
| OTR 21-000076 | OTR - Replace Clevis, Cockpit Main Step Upper Tube | | 9-May-00 | | |

| Document # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|----------------|---|----------|---------------|-----------------|---------------------|
| OTR 21-000077 | OTR - Replace CRU-60/P Parachute Oxygen Connector Assembly (NSN 1660-00-076-9662) | | 12-Jul-00 | | |
| OTR 21-000078 | OTR - Update existing Airspeed Limitation Placard (per NASA Dwg C21F1214) | | 17-Jul-00 | | |
| OTR 21-000079 | OTR - Replace T-38 Engine Mount Bolts (p/n 6-50205-1) | | 13-Mar-01 | | |
| OTR 21-000080 | OTR - Replace T-38 Generators with suspect out-of-balance rotors | | 28-Sep-00 | | |
| OTR 21-000081 | OTR - Replace two Elevator Down Springs in boiler room | | 24-Oct-00 | | |
| OTR 21-000082 | OTR - Replace T-38 Ejection Seat Catapult Upper Mount Bolts & Washers (forward/aft seats) | | 29-Nov-00 | | |
| OTR 21-000082A | OTR - Replace T-38 Ejection Seat Catapult Upper Mount Bolts & Washers (forward/aft seats) | | 29-Nov-00 | | |
| OTR 21-000084 | OTR - Replace T-38 Main Landing Gear Brakes | | 13-Dec-00 | | |
| OTR 21-000085 | OTR - Replace Digital T-5 Amplifier (T-38N only) | | 17-Apr-01 | | |
| OTR 21-000086 | OTR - Replace J85-5N Aspirator Clamps | | 14-May-01 | | |
| OTR 21-000087 | OTR - Replace Afterburner Fuel Control PS-3 Drain Line (fleet wide) | | 20-Jun-01 | | |
| OTR 21-000088 | OTR - Replace Modified Combined Electronics Unit (fleet wide) | | 23-Jul-01 | | |
| OTR 21-000089 | OTR - Replace Front & Rear Cockpit Utility Light Locking Device | | 20-Aug-01 | | |
| OTR 21-000091 | OTR - Replace all KC-135 LPU's (new p/n P0723E105PW) | | 23-Oct-01 | | |
| OTR 21-000092 | OTR - Replace J85-5N Ignition System Components | | 11-Dec-01 | | |
| OTR 21-000093 | OTR - Replace Stage One & Two Stators on existing J85-5N Fleet | | 11-Dec-01 | | |
| OTR 21-000094 | OTR - Replace J85 Fleet Stainless Steel Compressor Case | | 11-Dec-01 | | |
| OTR 21-000095 | OTR - Replace T-38N Symbol Generator (new p/n066-04021-1113) | | 7-Jan-02 | | |
| OTR 21-000096 | OTR - Replace T-38 Ejector Assembly (p/n 4146TO1G01) | | 15-Mar-02 | | |
| OTR 21-000098 | OTR - Replace T-38 Nose Landing Gear Strut Drag Brace Stud Shoulder Bolt (p/n 9756C94) | | 14-Aug-02 | | |
| OTR 21-000099 | OTR - Replace T-38 Brakes with new Green Dot Brakes | | 8-Aug-02 | | |
| OTR 21-000101 | OTR - Replace left/right Fasteners on Gutter/Landing Light Panel (supersedes OTR 21-000100) | | 16-Oct-02 | | |
| OTR 21-000103 | OTR - Install newly designed Turbine Cases (p/n 6052T90G01) | | 24-Mar-03 | | |

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| OTR 21-000104 | OTR - Replace Cap Screw for Main Fuel Control | | 26-Mar-03 | | |
| OTR 21-000105 | OTR - Replace Cap Screws for Afterburner Fuel Control | | 26-Mar-03 | | |
| OTR 21-000106 | OTR - Replace currently installed Concord Batteries with new Soldering Procedure Batteries as received from Manf. | | 16-Apr-03 | | |
| OTR 21-000107 | OTR - Replace T-38 Fleet Decals located on Main Landing Gear Doors | | 5-May-03 | | |
| OTR 21-000108 | OTR - Remove all unauthorized parts from all T-38 Canopy Seal Coalescer Filter Housings | | 13-May-03 | | |
| OTR 21-000108A | OTR - Remove all unauthorized parts from all T-38 Canopy Seal Coalescer Filter Housings | | 6-Jun-03 | | |
| OTR 21-000109 | OTR - Correct IRS Initialization Problem with IRS Sensor on T-38N Aircraft (N906, 907, 909, 919, 961 & 963) | | 10-Jun-03 | | |
| OTR 21-000110 | OTR - Replace T-38N Martin-Baker Ejection Seat Shoulder Harness to Frost UWARS & fittings to Koch UWARS | | 6-Jun-03 | | |
| OTR 21-000111 | OTR - Replace all uncoated Flight Control Cables on T-38 Aircraft | | 16-Jul-03 | | |
| OTR 21-000112 | OTR - Replace all T-38 Airframe & Engine Power Coupling Assemblies | | 12-Sep-03 | | |
| OTR 21-000113 | OTR - Rebuild T-38 Accessory Power Assembly Airframes | | 12-Sep-03 | | |
| OTR 21-000114 | OTR - Replace STA Thrust Reverser Three Segment Clamps with new nuts & bolts | | 5-Dec-03 | | |
| OTR 21-000114A | OTR - Replace STA Thrust Reverser Three Segment Clamps with new nuts & bolts | | 15-Dec-03 | | |
| OTR 21-000115 | OTR - Replace all J85-5N Fuel Nozzles | | 6-Jan-04 | | |
| OTR 21-000116 | OTR - Remove Martin-Baker ISS Handle and replace with p/n MBEU200212-1 | | 9-Jan-04 | | |
| OTR 21-000117 | OTR - Remove IRS 429 Syncro Adapter P/N 934520-00 & replace with MOD-1 Syncro Adapter Unit P/N 934520-00 | | 16-Jan-04 | | |
| OTR 21-000118 | OTR - Remove ELDEC Fuel Flow Indicators p/n 9-328-41 | | 16-Jan-04 | | |
| OTR 21-000119 | OTR - Remove MLG Goodyear 12PR Tires, replace with Goodyear 14PR Bias Tires (p/n 461B-3779-TL) | | 13-Feb-04 | | |
| OTR 21-000121 | OTR - Upgrade Safe/Arm Handle Plate to thicker plate (p/n MBEU20076-1) | | 23-Apr-04 | | |
| OTR 21-000122 | OTR - Remove/replace Cabin Pressure Regulator Sensing Line | | 21-Jun-04 | | |

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|-----------------|--|----------|---------------|-----------------|---------------------|
| OTR 21-000123 | OTR - Improve protection of ISS Hoses to eliminate the need for 25-hr recurring inspections | | 8-Jul-04 | | |
| OTR 21-000124 | OTR - Remove/replace all STA Nose Landing Gear Actuator Rod Ends | | 19-Jul-04 | | |
| OTR 21-000125 | OTR - Remove/replace Nose Landing Gear Actuator Rod End (N950 only) | | 19-Jul-04 | | |
| OTR 21-000126 | OTR - Replace/inspect on STA's Check Valves on the Combine Hyd System Manifold in right wheel well | | 25-Aug-04 | | |
| OTR 21-000127 | OTR - Replace Right Side HPRU covers with modified part (p/n MBEU201224) | | 9-Sep-04 | | |
| OTR 21-000129 | OTR - Remove T-38 Generator Rotors for proper installation of Vespel Spindles | | 6-Dec-04 | | |
| OTR 21-000130 | OTR - Replace remaining T-38A/N Main & Interconnect Flight Control Cables | | 14-Dec-04 | | |
| OTR 21-000131 | OTR - Replace STA Nose Landing Gear Up-lock Hooks | | 13-Jan-05 | | |
| OTR 21-000132 | OTR - Remove/Reinstall MST 67A Transponder on T-38N Aircraft for Mod | | 22-Feb-05 | | |
| OTR 21-000133 | OTR - Remove/replace Left/Right Engine Throttle Cables (Per CMP cards) | | 26-Aug-05 | | |
| OTR 21-000134 | OTR - Replace T-38N Front/Rear Cockpit Lighting Control Panels with mod panel (p/n 3887123-701) | | 15-Sep-05 | | |
| OTR 21-000135 | OTR - Replace Steering Gearbox Mount Hardware on tugs | | 15-Nov-05 | | |
| OTR 21-000136 | OTR - Replace T-38 Main Landing Gear Upper/Lower Torque Arm Pin Retention Hardware | | 15-Dec-05 | | |
| OTR 21-000137 | OTR - Replace Canopy Downlock Mechanism Mounting Hardware | | 3-Jan-06 | | |
| OTR 21-000138 | OTR - Replace PRC-90 Survival Radio & Spare Batteries on T-38 Aircraft | | 20-Mar-06 | | |
| OTR 21-000139 | OTR - Replace PRC-90 Survival Radio and Spare Batteries on WB-57 Aircraft | | 20-Mar-06 | | |
| OTR 21-000140 | OTR - Replace SAFE/ARMED Handle on Martin-Baker Ejection Seats (p/n MBEU188912) | | 24-Jul-06 | | |
| OTR 21-000141 | OTR - Replace Nose Landing Gear Actuator Rod End on N2NA & N948 | | 10-Aug-06 | | |
| OTR 21-000142 | OTR - Replace Current Steel Quill Shaft in Airframe-Mounted Gearbox Power Shaft Coupling (p/n 3121603) | | 14-Sep-06 | | |
| OTR 21-000143R1 | OTR - Replace T-38 Airframe Gearboxes, Filler Tubes & Oil Fill Sight Gauge Assembly (supersedes OTI 21-000143) | | 9-Nov-06 | | |
| OTR 21-000144 | OTR - Replace T-38 Airframe Gearboxes, Filler Tubes & Oil Fill Sight Gauge Assembly | | 6-Oct-06 | | |

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|---------------------|--|----------|---------------|-----------------|---------------------|
| OTR 21-000144 | OTR - Replace on T-38N Gearboxes oil fill tube (p/n 3-51230-3) with oil sight gauge assembly (p/n 14-622-501) | Rev A | 31-Jul-07 | | |
| OTR 21-000145R | OTR - Remove/replace suspect Canopy Seal Regulator Supply Line Bulkhead Elbow Fitting (supersedes OTR 21-000145) | | 25-May-07 | | |
| OTR 21-000146 | OTR - Replace T-38 Pitot Static Hoses | | 6-Oct-08 | | |
| OTR 21-000146 Rev 1 | OTR - Replace T-38 Pitot Static Hoses | | 28-Jan-09 | | |
| OTR_21-000147 | OTR - Replace Alternate Release Cable | | 27-Aug-09 | | |
| OTR_21-000148 | Replace the 44% Spar fittings discovered defective by compliance of OTI 20-000627. | | 6-May-10 | | |
| OTR_21-000149 | Replace Front & Rear Throttle Quads for all T-38 aircraft (except 901,912,913,916,956 & 962) | | 20-Sep-10 | | |
| OTR_21-000150 | OTR - Replacement of original 7075-T6 fittings on all T-38s | | 08/02/2011 | | |
| OTR_21-000150 Rev 1 | OTR - Rev 1 - Replace original 7075-T6 fittings on all T38s | | 08/26/2011 | | |
| P&W AMM | Pratt & Whitney JT8D Eagle Disc - 1/17AR (contains AMM, EMM, IPC & SB's for DC9 Acft) | Rev 141 | 15-Apr-11 | | |
| P&W ENGINE MANUAL | Pratt & Whitney JT9D Eagle Disc - JT9D-3A-7 (CD contains Engine Manual, IPC & SB's for SCA Acft) | Rev 127 | 15-Aug-11 | | |
| P&W SPM | Pratt & Whitney JT8D Standard Practices Manual | Rev 129 | 1-Jun-11 | | |
| PARKER CMM 27-30-10 | Outboard Elevator Control Package, P/N 234700 | Rev 9 | 22-Sep-10 | | |
| PARKER CMM 28-11-06 | Parker CMM Sump Drain Solenoid Valve 2000078-101 | Basic | 28-Feb-02 | | |
| PARKER CMM 32-30-28 | Parker CMM Safety Landing Gear Door Modular Assembly P/N 2670112 | Rev 8 | 23-Oct-98 | | |
| PARKER CMM 32-30-30 | Nose Wheel Steering Metering Valve Assembly, Boeing P/N 60B00210-2/-4/-5/-6/-7 (Parker p/n 2670005) | Rev 10 | 5-Feb-10 | | |
| PATS 6-Tank IPC | DC-9 6-Tank Auxiliary Fuel System IPC (Rpt #TO-549) | Basic | 31-Jan-97 | | |
| PATS 6-Tank MM Sup | DC-9 6-Tank Auxiliary Fuel System MM Supplement (Rpt #TO-548) | Basic | 31-Jan-97 | | |
| REGENT MFG 3936-011 | 25 Ton Tripod Jack, Model 3936-011 Operation & Maint Manual w/IPL (for GII & STA) | Basic | 1-Jun-96 | | |
| REGENT MFG 3936R | 25 Ton Fixed Height Tripod Hydraulic Jack, Model 3936R Ops & Svc Manual w/IPB | Basic | 1-Jan-87 | | |
| REGENT MFG 5033-010 | Tire Bead Breaker, 2000 lb capacity Operation & Maint Manual w/IPB, Model 5033-010 | Basic | 10-Mar-11 | | |

| Document # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|-----------------------------------|--|-------------|---------------|-----------------|----------------------------------|
| SAFT 24-30-02 | DC-9 Aircraft Battery CMM w/IPB, Model 43BO34LB03, P/N 021904-000 | Rev 6 | 21-Jul-03 | TMR 07-006 | Temp Rev 24-10; SB 01-02 (Rev 2) |
| SAFT 24-32-10 | SGT Nickel-Cadmium Battery, P/N 4050A1 | Basic | 1-Jun-74 | TMR 10-003 | |
| SANDEL_SN3500 Installation Manual | WB57 - SN3500 Primary Navigation Display Installation Manual | Rev K | 30-Nov-11 | | |
| SANDEL_SN3500 Pilot Guide | WB57 - SN3500 Primary Navigation Display Pilot's Guide | Rev K1 | 29-Nov-10 | | |
| SCA(N)-06 | SCA Maintenance Work Unit Code Manual | Basic PCN 3 | 1-Jan-06 | | |
| SCA(N)-1 | SCA Flight Manual | Basic PCN 3 | 1-Feb-10 | | |
| SCA(N)-2 | Shuttle Carrier Aircraft (SCA/B747) Maintenance Manual (SCA MM) | Basic PCN 6 | 1-Apr-10 | | |
| SCA(N)-2-9CL | Avionics System Preflight Checkout Procedures | Basic PCN 1 | 1-Nov-08 | | |
| SCA(N)-2CL-1 | SCA Towing Procedures | Basic | 1-Nov-10 | | |
| SCA(N)-4CAM | Shuttle Carrier Aircraft Technical Manual, NASA 911, IPC Supplement | Basic | 1-Feb-02 | | |
| SCA(N)-5 | Shuttle Carrier Aircraft (SCA/B-747) Special Requirements | Rev C | 1-Apr-11 | | |
| SCA(N)-6CF-PCL | SCA Functional Check Flight | Basic | 1-Apr-10 | | |
| SCA(N)-6WC | SCA/B-747 Shuttle Carrier Aircraft-Maintenance Inspection Work Cards | Rev A PCN 1 | 1-Sep-10 | | |
| SCA(N)-6WC-1 | SCA/B-747 Maintenance Inspection Work Cards (Work Pkg 1 thru 4) | Rev A PCN 1 | 1-Jan-06 | | |
| SCA(N)-6WC-5 | SCA/B-747 Maintenance Inspection Work Cards (Work Pkg 5) | Rev A | 30-Jun-03 | | |
| SCA(N)-6WC-6 | SCA/B-747 Maintenance Inspection Work Cards (Work Pkg 6) | Rev A PCN 2 | 1-Jan-06 | | |
| SCA(N)-6WC-7 | SCA/B-747 Maintenance Inspection Work Cards (Work Pkg 7) | Rev B | 1-Jan-06 | | |
| SCA(N)-6WC-8 | SCA/B-747 Maintenance Inspection Work Cards (Work Pkg 8) | Rev A PCN 2 | 1-Jan-06 | | |
| SCA(N)-6WC-9 | SCA/B-747 Maintenance Inspection Work Cards (Work Pkg 9) | Rev A PCN 2 | 1-Jan-06 | | |
| SCA(N)-6WC-10 | SCA/B-747 Maintenance Inspection Work Cards (Work Pkg 10) | Rev A PCN 1 | 1-Jan-06 | | |
| SCA(N)-6WC-11 | SCA/B-747 Maintenance Inspection Work Cards (Work Pkg 11) | Rev A PCN 1 | 1-Jul-05 | | |
| SCA(N)-6WC-12 | SCA/B-747 Maintenance Inspection Work Cards (Work Pkg 12) | Rev A PCN 1 | 1-Jan-06 | | |
| SCA(N)-6WC-A | SCA/B-747 Maintenance Inspection Work Cards (Work Pkg A) | Rev A | 26-Mar-04 | | |
| SCA(N)-6WC-B | SCA/B-747 Maintenance Inspection Work Cards (Work Pkg B) | Rev A | 26-Mar-04 | | |
| SCA(N)-6WC-C | SCA/B-747 Maintenance Inspection Work Cards (Work Pkg C) | Rev A | 1-Mar-04 | | |

| Document # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|-------------------------------------|--|--------------|---------------|-----------------|---------------------|
| SCA(N)-PCL-1 | SCA Flight Crew Checklist (superseded SCA(N)-FCL-1) | Basic PCN 3 | 1-Feb-10 | | |
| SCA(N)-PCL-1 Cue Card | SCA Cue Card | Basic PCN 1 | 1-Jan-06 | | |
| SECURAPLAN E 24-32-12 | WB-57 XL2410-01 Emergency Battery System CMM - Sealed Lead Acid Technology (Manual #MM-0033-01)P/N 100-2410-01 | Rev 7 | 5-Dec-07 | | |
| SECURAPLAN E 24-32-22 | WB-57 Backup Battery System CMM, P/N XL2410-02 | Rev 5 | 2-May-07 | | |
| SECURAPLAN E 26-15-00 (AMM 0004-01) | DC-9 Smoke Detection and Fire Suppression System AMM/IPC Supplement | Rev C | 23-May-02 | | |
| SECURAPLAN E ST-3000 | Pilot's Guide for Fire Detection and Suppression System, ST-3000 (DC-9 Supplement to Flight Manual) | Basic | 1-Jul-00 | | |
| SEI-590 | Training Guide J85-5 | N/A | 1-Jan-02 | | |
| SGT Reference Inspection Guide | SGT "REFERENCE" Inspection Guide | N/A | | | |
| SGT(N)-06 | SGT ATA Codes (Work Unit Codes) | Rev B PCN 2 | 1-Apr-10 | | |
| SGT(N)-1 | SGT Flight Manual | Basic PCN 3 | 1-Sep-09 | NS-2 | |
| SGT(N)-1-1 | SGT Performance Charts | Basic PCN 1 | 1-Aug-09 | | |
| SGT(N)-1PCL-1 | SGT Flight Checklist | Rev C PCN 4 | 1-Nov-09 | | |
| SGT(N)-2 | SGT Maintenance Manual | Basic PCN 12 | 1-Jul-10 | | |
| SGT(N)-2-1CL-1 | SGT Transport Towing Procedures | Rev A | 1-Mar-08 | | |
| SGT(N)-2-1CL-1-001 | SGT Ground Operations Nose Opening & Closing Checklist | Rev A | 1-Mar-00 | NS-1 | |
| SGT(N)-2-6CL | SGT Inspection Workcards | Rev A | 1-Aug-01 | | |
| SGT(N)-2-11 (Vol I) | SGT Electrical Wiring Diagrams, Vol I | Rev B PCN 2 | 1-Oct-08 | | |
| SGT(N)-2-11 (Vol II) | SGT Electrical Wiring Diagrams, Vol II | Rev A PCN 2 | 1-May-09 | | |
| SGT(N)-2-12 | SGT MMEL | Basic | 1-Feb-11 | | |
| SGT(N)-3 | SGT Structural Repair Manual (supersedes RUN-0-02) | Basic | 1-Sep-02 | | |
| SGT(N)-6 | SGT Inspection Program | A | 1-Sep-11 | | |
| SGT(N)-6CF-PCL | SGT Functional Check Flight | Rev A PCN 2 | 1-Jun-11 | | |
| SGT(N)-6WC | SGT Workcards | Rev B PCN 1 | 1-Aug-10 | | |
| SGT(N)-6WC-1 | SGT Inspection Workcards | Rev A PCN 3 | 1-Jun-10 | | |
| SMITHS CMM 34-10-60 | Overspeed Limit Sensor CMM, Models B0704-10043, -10049, -10051, -10055, -10056, -10057, -10060 & -10061) | Rev 11 | 3-Sep-04 | | |

| Document # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|-------------------------------------|---|--------------|---------------|-----------------|---------------------|
| SOUTHWEST RESEARCH INSTITUTE (SwRI) | T-38 AMAD Test Stand User's Manual | 2 | 17-Nov-04 | | |
| SOUTHWEST RESEARCH INSTITUTE (SwRI) | T-38 AMAD Test Stand Maintenance Manual | 2 | 17-Nov-04 | | |
| SPERRY 31-3100-03 | Ground Equipment Manual for Standby Compass Calibrator Set (p/n 2591553-901) & Master Magnetic Compass (p/n 2593239) - replaces USAF TO 5N3-3-9-1 | Rev 1 | 30-May-72 | | |
| SPERRY MM 15-1147-05 | SPERRY C-IIB Gyrosyn Compass System Installation & Maint Manual, P/N 2855302-5 (Pub #15-1147-05) | Basic | 27-Nov-80 | | |
| SPERRY OHM 15-3411-02 | DC-9 Air Data Computer O/H w/IPL, P/N 2587400-436, 437, 637, 936 | Revised | 30-Sep-77 | | |
| SPERRY OHM 22-10-82 | Sperry O/H w/IPB, Air Data Computer, P/N 2587400-542, -745, -844 (Pub#15-3411-04) | Rev 11 | 1-Aug-90 | | |
| SPERRY OHM 22-11-10 | Sperry O/H w/IPB, Monitor and Logic Unit (P/N 2591027-902, -904, -905) and Monitor and Logic Unit Rack (P/N 2591468-903) - (Pub#15-1143-25) | Rev 18 | 1-May-98 | | |
| SPERRY OHM 22-13-44 | Sperry O/H w/IPB, Pitch Computer (P/N 2590622-925, -927, -936) and Pitch Rack (P/N 2591468-901) - (Pub#15-1144-16) | Rev 11 | 1-Aug-98 | | |
| SPERRY OHM 34-22-01 | Sperry O/H w/IPB, Type HZ-6F Attitude Director Indicator, P/N 2590281-901,-905 thru -910 (Pub#C15-2112-003) | Rev 16 | 12-Oct-06 | | |
| SPERRY OHM 34-22-02 | Sperry O/H w/IPB, Z-14 Flight Director Computer Roll Channel, P/N 2588145-901, -904, -906, -907, -910, -918 (Pub#15-2512-02) | Rev 9 | 15-Jun-81 | | |
| SPERRY OHM 34-22-3 | Sperry O/H w/IPB, Mode Selector Switch, P/N 2588262-901, 2589582-901,-902,-903,-905 (Pub#15-2532-02) | Rev 10 | 1-Feb-00 | | |
| SPEY 501-D22 CEB's | Spey/Rolls-Royce Commercial Engine Bulletins (Vol I & II) | Various | | | 72-001 thru 77-1002 |
| SPEY 501-D22 CSL's | Spey/Rolls-Royce Commercial Service Letters | Various | | | 1001 thru 1114 |
| SPEY MAINT DATA | SPEY Maintenance Data for GII(Contains Maint Manual, IPC, Operation Instructions, NTO's, Eng Maint Tools & Equip) | Issue 2010/1 | 15-Nov-10 | | |
| SPEY Mrig-GT.440 | Spey Speed, Swirl Vane and Throttle Angle Test Set UT.440 Revision Svc | 6 | 6-Jan-97 | | |
| SPEY O/H DATA | SPEY O/H Data for GII/GIII (Avlb on AEROMANAGER only) | Issue 2010/1 | 15-Nov-10 | | |

| Document # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|----------------------------|---|-----------------|---------------|--|---------------------|
| SPEY S-Sp512-B_Vol I | SPEY IPC for 512-14 Engines BAC 111 (Volume I) | Trans Letter 68 | 1-Sep-94 | TMR 07-028 | |
| SPEY S-Sp512-B_Vol II | SPEY IPC for 512-14 Engines BAC 111 (Volume II) | Trans Letter 68 | 1-Sep-94 | TMR 07-028 | |
| SPEY TSD-1848 | Spey Index of Mandatory Svc Bulletins | Rev 12 | 24-Aug-01 | | |
| STA(N)-1 | STA Flight Manual - Flight Crew Operations Directorate (Supersedes JSC-16690A) | Basic PCN 5 | 1-May-09 | NS-2 | |
| STA(N)-2 | Shuttle Training Aircraft Maintenance Manual (Vol I - III) | Rev A PCN 16 | 1-Feb-11 | | |
| STA(N)-2-11 | STA Wiring Diagrams | Rev C PCN 1 | 1-Mar-10 | | |
| STA(N)-2CL | Shuttle Training Aircraft Maint. Checklists (supersedes STA(N)-2-CL-1 Rev D) | Basic PCN 8 | 1-Feb-10 | | |
| STA(N)-2CL-1 | STA/Gulfstream Towing Checklist (supersedes GIII(N)-2CL-1) | Basic PCN 1 | 1-Mar-10 | | |
| STA(N)-10-DAS3-F | Shuttle Training Aircraft DAS-3 User's Guide | Rev F | 1-Jul-11 | | |
| STA(N)-10-DAS3-P | PFT Software User's Guide - DAS-3 | Rev B | 1-Nov-08 | | |
| STA(N)-36 | STA Non-Destructive Inspection Manual (Supersedes JSC 24782) | Basic | 1-May-05 | | |
| STA(N)-PCL-1 | STA Flight Crew Checklist (supersedes JSC-10553) | Basic PCN 6 | 1-Jul-09 | NS-2 | |
| STA(N)-PCL-1 Cue Card | STA Cue Card | Basic PCN 6 | 1-Nov-09 | | |
| STEWART & STEVENSON CD 238 | Stewart & Stevenson Pneumatic Power Uni, TR/TM AC-150, Ops, Maint. & Parts Manual | 238-02/Rev 3 | 30-Dec-87 | | |
| STEWART & STEVENSON CD 289 | S&S Tug TR/TMAC-150/170 Air Start Unit Ops, Maint. & Parts | Basic | 1-Feb-00 | | |
| T-38(N)-01 | T-38N List of Applicable Publications | Basic | 1-Feb-11 | | |
| T-38(N)-06 | Aircraft Maintenance Work Unit Code Manual (T-38A, AT-38B & T-38N acft) | Basic PCN 14 | 1-Feb-11 | TMR 07-012 Basic PCN 4 (EFIS Block 3) | |
| T-38(N)-1 | NASA T-38N Flight Manual (Replaces 1T-38N-1 Block 2) | Rev A | 1-Nov-03 | NS-1 | |
| T-38(N)-1B3 | T-38N Flight Manual - Block 3 | Basic | 1-Feb-11 | | |
| T-38(N)-2-10 | T-38 Radio, Communications and Navigation Systems - Block 2 | Rev A PCN 8 | 1-Mar-11 | | |
| T-38(N)-2-10B3 | T-38 Radio, Communications and Navigation Systems - Block 3 | Basic PCN 4 | 1-Sep-11 | | |
| T-38(N)-2-10CLB3 | Avionics Equipment Support Manual - Block 3 | Basic PCN 1 | 1-May-10 | | |
| T-38(N)-2-11 | T-38N Aircraft Wiring Diagrams - Block 3 (N919 Specific) - Vol I | Basic PCN 1 | 1-Oct-07 | | |
| T-38(N)-2-11 | T-38N Aircraft Wiring Diagrams | Rev A PCN 9 | 1-Jan-11 | | |

| Document # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|------------------|--|-----------------|---------------|----------------------------------|---------------------|
| T-38(N)-2-13B3 | T-38N Simulator Drawings Block 3 - Vol I & II | Rev B | 1-Mar-11 | | |
| T-38(N)-2-11B3 | T-38(N) Aircraft Wiring Diagrams Block 3 - Production (Vol II) | Rev C PCN 1 | 1-Mar-11 | | |
| T-38(N)-2-2CL | Martin Baker Ejection Seat Recovery Parachute Assembly and UWARS Inspection | Rev D | 26-Jan-11 | | |
| T-38(N)-2-6CL-1 | J85 Engine Post Shutdown Fire Procedures | Rev B PCN 4 | 1-Jul-10 | | |
| T-38(N)-2-7 | Electrical System | Rev A PCN 11 | 1-May-11 | | |
| T-38(N)-2-7B3 | T-38(N) Aircraft Electrical Instruments Maintenance Manual (Block 3) | Basic PCN 4 | 1-May-11 | | |
| T-38(N)-2-9 | T-38 Aircraft Instruments | Rev A PCN 15 | 1-Aug-10 | | |
| T-38(N)-2-9B3 | T-38N Aircraft Instruments - Block 3 | Basic PCN 5 | 1-Jun-11 | | |
| T-38(N)-2CL-1 | T-38 Aircraft Towing Procedures (formerly T-38(N)-2-1CL-1) | Rev D | 1-Feb-08 | | |
| T-38(N)-4 | T-38N Illustrated Parts Breakdown | Basic PCN 6 | 1-Mar-10 | | |
| T-38(N)-4B3 | T-38N Illustrated Parts Breakdown - Block 3 | Basic PCN 5 | 1-Jul-11 | | |
| T-38(N)-6CF-1 | T-38N Acceptance and Functional Check Flight Procedures Manual | Basic | 1-Mar-98 | | |
| T-38(N)-6CF-1B3 | T-38N Acceptance & Functional Check Flight Procedures Manual | Basic | 1-Jul-11 | | |
| T-38(N)-6CF-PCL | Acceptance and Functional Check Flight Procedures Checklist T-38N | Basic | 1-Mar-98 | Critical TMR 02-027 | |
| T-38(N)-6WC | NASA T-38 Aircraft Preflight/Postflight Inspection Work Cards | Rev D PCN 2 | 1-Aug-11 | TMR 07-018 Rev B PCN 3 (EFIS) | |
| T-38(N)-6WC-4 | Power Packup Removal, Buildup Installation, and Inspection | Rev H | 29-Jun-09 | | |
| T-38(N)-6WC-5 | Engine Removal and Installation Inspection | Rev D | 16-Jul-08 | | |
| T-38(N)-8-1B3 | T-38(N) Aircraft and Maintenance Software Manual (Block 3) | Rev D | 1-Dec-10 | | |
| T-38(N)-30-3 | T-38 Inlet Nacelle Modification Manufacturing Instructions | D | 1-Sep-02 | | |
| T-38(N)-30-8 | T-38 Landing Gear Door Uplock Assembly Overhaul Instructions, P/N 3-40410-501 & -502 | Basic | 1-Oct-09 | | |
| T-38(N)-IFG | T-38 In-Flight Guide | Basic PCN 5 | 1-Oct-08 | | |
| T-38(N)-PCL-1 | NASA's Pilots Abbreviated Flight Crew Checklist for T-38N | Rev B PCN 1 | 1-Apr-07 | NS-1 | |
| T-38(N)-PCL-1B3 | T-38N Block 3 Pilot's Abbreviated Flight Crew Checklist | Basic | 1-Feb-09 | NS-1 | |
| T-38(SIM)-10-1B3 | T-38N Power Sequencing System - Simulator BLOCK 3 | Basic | 1-Apr-11 | | |
| T-38(SIM)-10-2B3 | T-38N Instructor Operator Station User Manual - Simulator BLOCK 3 | Basic | 1-Apr-11 | | |

| Document # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|------------------------------|---|--------------|---------------|-----------------|-------------------------------|
| T-38(SIM)-5 | T-38N Simulator (N900) Maintenance Plan | A | 1-Jul-2010 | | |
| T-38(SIM)-6WC | T-38N Simulator Preventative Maintenance Inspection Work Cards | B | 1-May-2011 | | |
| TELAIR 27-60-07 | Auto Spoiler Actuator CMM w/IPL, P/N 1040T100-5 | Rev 6 | 15-Aug-06 | | |
| TM 55-4920-341-14 | Hydraulic Test Stand, Gasoline Engine Driven, Model D-5B (specific to WB57) | Basic | 1-Jan-72 | | |
| UNIVERSAL 23-20-03 | GIII UniLink UL-700 Installation Manual | Basic | 10-Oct-02 | | |
| UNIVERSAL 23-20-04.01 | GIII UniLink UL-700/701 Operator's Manual | Basic | 23-May-06 | | |
| UNIVERSAL 2411sv803/903 | GIII UNS-1 SCN 803/903 Operator's Checklist | Basic | 20-Apr-06 | | |
| UNIVERSAL 2423sv1000/1100 | T-38 FMS SCN 1000/1100 Operator's Manual | Basic | 29-Aug-07 | | |
| UNIVERSAL 2423sv100X/110X.01 | T-38 FMS SCN 1000/1100 Reference Guide | Basic | 10-Sep-07 | | |
| UNIVERSAL 2423SV802/902 | FMS SCN 802/902 Operators Manual (C9 & WB57) | Basic | 16-Sep-03 | | |
| UNIVERSAL 2423sv803/903 | GIII FMS SCN 803 & 903 Operator's Manual | Rev 2 | 20-Feb-08 | | Temp Changes 1 thru 9 |
| UNIVERSAL 2423sv80X-90X.01 | GIII FMS SCN 803/903 and Later SCN 803.X/903.X Reference Guide | Rev 1 | 12-Dec-07 | | Temp Changes 1, 2, 3, 4, 5, 6 |
| UNIVERSAL 34-20-02 | GIII MFD Installation Manual | Rev 5 | 16-Feb-09 | | |
| UNIVERSAL 34-20-02.01 | GIII MFD Operator's Manual | Revised | 19-Jan-04 | | |
| UNIVERSAL 34-20-03 | C-9 Multi-Funtion Display (MFD) CMM w/IPL, P/N 6402-1XXX1-0X Series | Basic | 1-Dec-02 | | |
| UNIVERSAL 34-60-26 | GIII FMS Configuration Manual for SCN 800/900 and Subsequent | Rev 6 | 1-Apr-09 | | |
| WB-57(N)-06 | WB-57 Aircraft Maintenance Work Unit Code Manual (Supersedes 1B-57(W)F-06 and TMR 02-002) | Basic PCN 10 | 1-May-11 | | |
| WB-57(N)-1 | WB-57 Flight Manual (this manual supersedes 1B-57(W)F-1 & 1B-57(W)F-1-1) | Basic PCN 3 | 1-May-10 | NS-3 | |
| WB-57(N)-2-6 | WB-57 Landing Gear Maintenance Manual | Basic | 1-Aug-10 | | |
| WB-57(N)-2-8 | WB-57 Aircraft Instruments (supersedes 1B-57(W)-F-2-8) | Rev A PCN 2 | 1-Aug-10 | | |
| WB-57(N)-2-10 | WB-57 Communication and Navigation Systems (Supersedes 1B-57(W)F-2-10) | Basic PCN 4 | 1-Mar-11 | | |
| WB-57(N)-2-11 (Vol I) | WB-57 Aircraft Wiring Diagrams Vol I - Avionics Upgrade Diagrams | H | 1-Sep-11 | | |
| WB-57(N)-2-11 (Vol II) | WB-57 Aircraft Wiring Diagrams - Volume II | Rev K | 1-Oct-11 | | |

| Document # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|--------------------------------------|--|----------------|---------------|-----------------|--|
| WB-57(N)-2-11 (Vol III) | WB-57 Aircraft Wiring Diagrams - Vol III | Rev B PCN 4 | 1-Sep-11 | | |
| WB-57(N)-4 | WB-57(N) Illustrated Parts Breakdown | Rev A PCN 1 | 1-May-11 | | |
| WB-57(N)-6CF-1 | WB-57 Functional Check Flight Procedures Manual | Rev A | 1-Mar-09 | | |
| WB-57(N)-6CF-PCL | WB-57 Functional Check Flight In-Flight Aircrew Checklist (supersedes AOD Form 91) | Rev A | 1-Mar-09 | | |
| WB-57(N)-6WC | NASA WB-57 Aircraft Preflight/Postflight Inspection Work Cards | Rev A PCN 8 | 1-Jul-10 | | |
| WB-57(N)-6WC-4 | WB-57 Ops Inspection Workcards | Rev A PCN 3 | 1-May-10 | | |
| WB-57(N)-6WC-4-1 | WB-57 Minor Inspection Workcards | Basic | 9-Sep-11 | | |
| WB-57(N)-PCL-1 | Pilots Abbreviated Flight Crew Checklist | Basic PCN 3 | 1-Oct-08 | NS-3 | |
| WEBER AIRCRAFT CMM 38-30-11 | C-9 Flushing Toilet Assemblies CMM, P/N 1-111385-1 & -2 | Rev 3 | 15-Aug-85 | | |
| WESTMORE W100324 1 | WB-57 Fuel Transfer Cart Operations & Parts Manual, Serial #W100324 | Basic | 1-Feb-11 | | |
| WILSON FIRE EQUIPMENT Project 103031 | Wilson Fire Operations & Maintenance Manual (Test Cell Documentation) | Basic | 30-Oct-02 | | |
| YANMAR_Ops M | Yanmar Industrial Diesel Engine Ops Manual, Models 3TNV & 4TNV | N/A | | | |
| YANMAR_Svc M | Yanmar Service Manual Industrial Diesel Engine, Models 3TNV & 4TNV | N/A | | | |
| YANMAR_TR BLSHT | Yanmar Engine Trouble Shooting | N/A | | | |
| YORK IND. INC. | Accumulator - Hydraulic O/H Manual w/IPB (P/N: 08 8424 010) | Basic | 1-Dec-94 | | |
| ZODIAC (Air Cruisers) OB's | Zodiac Operations Bulletins | Various | | | OB 2002-01 |
| ZODIAC (Air Cruisers) SB's | Zodiac SB's | Various | | | SB 10-35-123, MXP410-35-130, MXP402-35-129 |

Note: Forms in gray are referenced in Section C, AMOS SOW.

| Form # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
|------------------------|---|----------|---------------|-----------------|---------------------|
| AF Form 2047 (AF 2047) | Explosive Facility License | V1 | 4-Jul-1998 | | |
| AFTO Form 244 | Industrial/Support Equipment Record | | 13-Jan-2011 | | |
| AOD Form 2 | AOD Document Number Configuration Control Log | Rev E | 1-Aug-06 | | |
| AOD Form 4 | Aircraft Operations Division Forms Configuration Control Log | G | 1-Feb-04 | | |
| AOD Form 5 | Correspondence Log | Basic | 1-Jun-96 | | |
| AOD Form 6A | Weekly/Monthly Maintenance & Service Inspection Sign-Off Sheet | Rev A | 1-Jun-10 | | |
| AOD Form 6B | Six Month or 2000 Burn Maintenance & Service Inspection Sign-Off Sheet | Rev A | 1-Jun-10 | | |
| AOD Form 11 | Engine Maintenance Worksheet | C | 1-Jul-04 | | |
| AOD Form 14 | Aircraft Operations Division Engineering Work Order (Electronic Version) | Rev F | 1-Jun-11 | | |
| AOD Form 15 | Hazardous Waste Accumulation Log | Rev A | 1-Jun-10 | | |
| AOD Form 16 | Product Quality Deficiency Report Data Input Form | Rev J | 1-Oct-10 | | |
| AOD Form 21 | Process/Preventive Action/Technical Data (TD)/Document Improvement Recommendation | Rev I | 1-Jun-09 | | |
| AOD Form 25 | Impoundment Form | Rev C | 1-Jul-09 | | |
| AOD Form 25A | Maintenance Error Decision Aid (MEDA) Results Form | Rev B | 1-Aug-09 | | |
| AOD Form 29 | Removal and Installation Record | Rev C | 1-Jun-10 | | |
| AOD Form 32 | Shuttle Carrier Aircraft Weighing Record | Basic | 1-Jul-96 | | |
| AOD Form 33 | Aircraft Operations Division Fleet Modification Instruction | Rev E | 1-Apr-11 | | |
| AOD Form 41 | Task Transmittal--Engineering | Basic | 1-Jul-97 | | |
| AOD Form 42 | Test Readiness Review Certification | Rev D | 1-Apr-11 | | |
| AOD Form 43 | Flight Readiness Review Certification | Rev C | 1-Mar-11 | | |
| AOD Form 45 | AOD Drawing Change Notice**Word Version | Rev A | 1-Sep-99 | | |
| AOD Form 45 | AOD Drawing Change Notice**AutoCad Version | Rev A | 1-Sep-99 | | |
| AOD Form 45A | AOD Drawing Change Notice (Cont.)**Word Version | Rev A | 1-Sep-99 | | |
| AOD Form 45A | AOD Drawing Change Notice (Cont.)**AutoCad Version | Rev A | 1-Sep-99 | | |
| AOD Form 46-A-H | Aircraft Drawing Format A-H | Basic | 1-Oct-03 | | |
| AOD Form 46-A-H2 | Aircraft Drawing Format A-H2 | Basic | 1-Oct-03 | | |
| AOD Form 46-A-V | Aircraft Drawing Format V **Word Version** | Basic | 1-Oct-03 | | |
| AOD Form 46-A-V2 | Aircraft Drawing Format V2 **Word Version** | Basic | 1-Oct-03 | | |

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| AOD Form 46-B | Aircraft Drawing Format B | B | 1-Oct-03 | | |
| AOD Form 46-B2 | Aircraft Drawing Format B2 | Basic | 1-Oct-03 | | |
| AOD Form 46-C | Aircraft Drawing Format C | B | 1-Oct-03 | | |
| AOD Form 46-C2 | Aircraft Drawing Format C2 | Basic | 1-Oct-03 | | |
| AOD Form 46-D | Aircraft Drawing Format D | B | 1-Oct-03 | | |
| AOD Form 46-D2 | Aircraft Drawing Format D2 | Basic | 1-Oct-03 | | |
| AOD Form 46-E | Aircraft Drawing Format E | B | 1-Oct-03 | | |
| AOD Form 46-E2 | Aircraft Drawing Format E2 | Basic | 1-Oct-03 | | |
| AOD Form 46-V1 | Aircraft Drawing Format | Basic | 1-Oct-03 | | |
| AOD Form 46-V2 | Aircraft Drawing Format | Basic | 1-Oct-03 | | |
| AOD Form 48 | Daily Training Record | Basic | 1-Oct-97 | | |
| AOD Form 51 | Job Evaluation Questionnaire | Basic | 1-May-03 | | |
| AOD Form 54 | Inspection Workcard Carryover Form | Rev A | 1-Jun-10 | | |
| AOD Form 56 | QA Employee Orientation | Rev E | 1-Jun-11 | | |
| AOD Form 57 | Additional Training | Rev C | 1-Jun-11 | | |
| AOD Form 58 | QA Procedures | Rev G | 1-Jun-11 | | |
| AOD Form 61 | Automatic BCM Listing | Basic | 1-Oct-99 | | |
| AOD Form 62 | AOD Task Agreement | Basic | 1-Jan-98 | | |
| AOD Form 67 | T-38 Engine Trim Checklist | Basic | 1-Aug-02 | | |
| AOD Form 68 | LPU--9/P Life Preserver | Basic | 1-Aug-02 | | |
| AOD Form 69 | Flight Plan | Basic | 1-Aug-02 | | |
| AOD Form 72 | C-9B Quick Reference Data Sheet | Rev B | 1-Oct-07 | | |
| AOD Form 73 | Battery Inspection Date Label | Rev B | 1-May-09 | | |
| AOD Form 74 | Safety Inspection Report | Rev A | 1-Jun-10 | | |
| AOD Form 75 | Safety Office Commendable Action Report | Rev A | 1-Jun-10 | | |
| AOD Form 76 | Safety Representative Monthly Report | Rev A | 1-Jun-10 | | |
| AOD Form 77 | Audit Process Checklist | Rev B | 1-Jul-07 | | |
| AOD Form 78 | SLF Aircraft Ground Equipment Discrepancy Reporting (Refer to CC-GPR-007) | Basic | 1-May-03 | | |
| AOD Form 79 | Routing Slip | Rev B | 1-May-11 | | |
| AOD Form 82 | JSC/AOD Ground Close Call Reporting Form | Rev A | 1-Apr-07 | | |
| AOD Form 83 | Magnetic Particle Process Control | Rev A | 1-Apr-09 | | |
| AOD Form 84 | Fluorescent Penetrant Process Control | Rev B | 1-Jun-10 | | |
| AOD Form 85 | NDI X-Ray Interlock Check-Out | Rev A | 1-Jun-10 | | |
| AOD Form 89 | DN Register | Rev B | 1-Jun-00 | | |
| AOD Form 90 | WB-57F Horz. Stab. Relay Test | Basic | 1-Jul-98 | | |
| AOD Form 92 | PR Request for Custom Made Flight Boots | Rev A | 1-Aug-00 | | |
| AOD Form 94 | Document Tracking Log | Rev C | 1-Aug-07 | | |

| Form # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
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| AOD Form 95 | PR Request for HGU 33P/55P Type Custom Made Flight Helmet | Rev A | 1-Jul-03 | | |
| AOD Form 97 | T-38 Engine Post Shut Down Fire Data | Rev D | 1-Mar-06 | | |
| AOD Form 98 | Maintenance Record | Basic | 1-Oct-98 | | |
| AOD Form 100 | Portable Eyewash Inspection | Rev B | 1-Jun-10 | | |
| AOD Form 102 | Operational Readiness Review Certification | Rev A | 1-Sep-10 | | |
| AOD Form 103 | WB57 Trim Sheet | Basic | 1-May-99 | | |
| AOD Form 104 | Aircraft Logbook Record Technical Directives | Rev A | 1-Sep-00 | | |
| AOD Form 105 | Aircraft Logbook Record - Time Change Components | Rev B | 1-Mar-04 | | |
| AOD Form 106 | Airframe Logbook Record Significant Historical Data | Rev B | 1-Oct-05 | | |
| AOD Form 106A | Engine Logbook Record Significant Historical Data | Basic | 1-Oct-05 | | |
| AOD Form 107 | Aircraft Operations Next-of-Kin Notification Sheet | Rev A | 1-Jun-00 | | |
| AOD Form 109 | AOD Customer Supplied Product Status Log | Basic | 1-Apr-00 | | |
| AOD Form 113 | T-38 Engine Stall/Flameout Troubleshooting | Rev D | 1-Oct-08 | | |
| AOD Form 113A | T-38 Engine Stall/Flameout Checklist | Basic | 1-Jul-97 | | |
| AOD Form 115 | Work Sheet Second Stage Nozzle Measurement | Rev A | 1-Jan-07 | | |
| AOD Form 116 | Work Sheet First Stage Nozzle Measurement | Rev A | 1-Jan-07 | | |
| AOD Form 120 | Flight Jacket Patch Placement Form | Basic | 1-Mar-01 | | |
| AOD Form 121 | J85 Engine Start Problems "Information Write-Up" | Basic | 1-Apr-96 | | |
| AOD Form 122 | Flight Suit Patch Placement Form | A | 16-Aug-01 | | |
| AOD Form 124 | Electronic Technical Data Distribution Form | Rev E | 1-Jun-10 | | |
| AOD Form 127 | AOD Safety and Health Inspection Checklist | Rev E | 1-Mar-11 | | |
| AOD Form 128 | SGT Told Data | Rev B | 1-May-05 | | |
| AOD Form 143 | Request for Local Manufacture | Rev A | 1-Jul-10 | | |
| AOD Form 144 | J85-5 False P3 Test With DRS @ JP-4 For Alternate Fuel (Jet A, Jet A-1, JP-5, or JP8) | Rev B | 1-May-02 | | |
| AOD Form 145 | J85 Engine Test Cell Run Log | Basic | 1-Jan-02 | | |
| AOD Form 147 | PPA Quality Record Index | Basic | 1-Jan-02 | | |
| AOD Form 149 | T-38 Inspection of Compressor Blades After Foreign Object Ingestion Checklist | Basic | 1-Jul-02 | | |
| AOD Form 150 | Human Research Master Protocol | Basic | 1-Jul-02 | | |
| AOD Form 151 | NASA/JSC Human Research Informed Consent | Basic | 1-Jul-02 | | |
| AOD Form 152 | 747 Weight & Balance Checklist | Rev A | 1-Sep-07 | | |
| AOD Form 156 | Microgravity Mission Manifest Worksheet | Rev D | 1-Sep-10 | | |

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| AOD Form 157 | Job Hazard Analysis Form | Basic | 1-May-03 | | |
| AOD Form 158 | Tool Bag / Travel Tool Kit Inventory | Basic | 1-May-03 | | |
| AOD Form 159 | Boarding Orders for NASA N974AJ | Rev E | 1-Aug-10 | | |
| AOD Form 160 | T-38 Northrop Seat Teardown—Rear Cockpit Seat | Basic | 1-Mar-02 | | |
| AOD Form 161 | T-38 Northrop Seat Teardown—Front Cockpit Seat | Basic | 1-Mar-02 | | |
| AOD Form 162 | T-38 Martin - Baker Seat Buildup—Rear Cockpit Seat | Rev F | 1-Feb-08 | | |
| AOD Form 163 | T-38 Martin - Baker Seat Buildup—Front Cockpit Seat | Rev D | 1-Feb-08 | | |
| AOD Form 164 | Martin – Baker Seat Modification Work Sheet | Rev B | 1-Oct-02 | | |
| AOD Form 164A | Martin – Baker Seat Modification Work Sheet Teardown Continuation Sheet | Basic | 1-Mar-02 | | |
| AOD Form 164B | Martin – Baker Seat Modification Work Sheet Installation Continuation Sheet | Basic | 1-Mar-02 | | |
| AOD Form 165 | T-38 MSI Canopy Buildup | Rev A | 1-Jul-08 | | |
| AOD Form 166 | Hangar/Facility Safety Inspection Checklist | Rev C | 1-Mar-11 | | |
| AOD Form 167 | VOR Check | Basic | 1-Aug-02 | | |
| AOD Form 168 | Engine Life Monitor (ELM) Calibration/Test Form | Rev B | 1-Apr-09 | | |
| AOD Form 169 | J-85 Turbine Stationary Seal Runout | Rev B | 1-Sep-06 | | |
| AOD Form 170 | J85 Turbine Blade Tip Radius | Rev A | 1-Aug-06 | | |
| AOD Form 171 | TMR Configuration Control Log | Rev B | 1-Mar-11 | | |
| AOD Form 172 | Aircraft Operations Division Safety Gram | Rev A | 1-Jun-10 | | |
| AOD Form 173 | LPU-36/P Life Preserver Inspection Card | Basic | 1-Nov-03 | | |
| AOD Form 174 | J85-5 Engine Fuel Nozzle Test | Rev B | 3-May-04 | | |
| AOD Form 175 | Tool Room Sign Out Log | Rev A | 1-Jun-10 | | |
| AOD Form 176 | Survival Seat Kit Inspection Tag | Rev A | 1-Oct-07 | | |
| AOD Form 177 | STA/GII CMP Configuration Control Log | Rev B | 1-Feb-09 | | |
| AOD Form 179 | General Daily Service Inspection Requirements - All Powered GSE | Rev A | 1-Sep-10 | | |
| AOD Form 181 | General Daily Service Inspection Requirements - Non Powered GSE | Rev A | 1-Sep-10 | | |
| AOD Form 182 | Aircraft Operations Division Review Item Disposition (RID) | Basic | 1-Feb-05 | | |
| AOD Form 183 | Ellington Field Safety Information Guide | Basic | 6-May-05 | | |
| AOD Form 184 | Shipment Planning Worksheet | Rev A | 1-Jun-10 | | |
| AOD Form 185 | Crash Trailer Inventory | Rev A | 1-Jan-10 | | |
| AOD Form 186 | AOD Interim NASA Supplement Form | Rev B | 1-Jan-10 | | |
| AOD Form 187 | Engine Test Cell Operations Noise Exposure Log | Rev A | 1-Apr-07 | | |
| AOD Form 188 | Aircraft Operations Division Confined Space Fuel Tank Entry | Rev D | 1-Jun-11 | | |
| AOD Form 189 | Interim NASA Supplement (INS) Configuration Control Log (CCL) | Rev A | 1-Aug-06 | | |

| Form # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
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| AOD Form 191 | WB-57F Daily Maintenance Data Entry Log | Rev A | 1-Jul-10 | | |
| AOD Form 192 | AOD Lightning Detection Equipment Checklist | Rev A | 1-Jun-10 | | |
| AOD Form 193 | Ellington Field Lightning Detection System Maintenance Record | Rev B | 1-Jun-10 | | |
| AOD Form 194 | Test Cell EPA Run Log | Basic | 1-Feb-07 | | |
| AOD Form 195 | Aircraft Operations Hazard Analysis | Basic | 1-Jun-07 | | |
| AOD Form 196 | Pre-flight/Post-flight Data Sheet for Pressure Suit 1034 | Basic | 1-May-07 | | |
| AOD Form 197 | Pre-flight/Post-flight Data Sheet for Pressure Suit 1024 | Basic | 1-May-07 | | |
| AOD Form 198 | On-The-Job Training Maintenance Qualification Record | Basic | 1-Jun-07 | | |
| AOD Form 199 | TVI Card | Basic | 1-Jun-07 | | |
| AOD Form 200 | Quality Assurance Egress Maintenance Training Record AOD | Basic | 1-Jul-07 | | |
| AOD Form 201-2 | NASA Training Checklist: Engine Run, DC-9 Qualification | Rev A | 1-Jun-11 | | |
| AOD Form 202 | C-9B Engine Test Checklist | Basic | 1-Aug-07 | | |
| AOD Form 203 | Seat Kit Repack Labels | Basic | 1-Oct-07 | | |
| AOD Form 204 | TF-33 Fuel Control Repair/Overhaul Report | Basic | 1-Nov-07 | | |
| AOD Form 205 | T-38 Major Phase Verification Checklist | Rev A | 1-Jan-09 | | |
| AOD Form 209 | OTI/OTR Log | Basic | 1-Jan-10 | | |
| AOD Form 210 | AOD 21 Log | Rev B | 1-Jun-10 | | |
| AOD Form 211 | CC III/EFIS Workbook Index | Rev B | 1-Dec-10 | | |
| AOD Form 213 | N932 Status Sheet | Basic | 1-Jul-08 | | |
| AOD Form 214 | EFIS Workbook | Rev F | 1-Jun-11 | | |
| AOD Form 215 | EFIS Material Review Board | Basic | 1-Jul-08 | | |
| AOD Form 216 | Zero G/Amerijet Corporation Microgravity Authorizations | Rev A | 1-May-10 | | |
| AOD Form 217 | Flight Test Release Form | Basic | 1-Oct-08 | | |
| AOD Form 218 | Weight and Balance Form | Basic | 1-Mar-10 | | |
| AOD Form 219 | Test Procedure Flight Research Project (TP-FRP) | Basic | 1-Apr-09 | | |
| AOD Form 220 | Ladder Tag | Rev A | 1-Jun-10 | | |
| AOD Form 221 | Absorbent Supplies Spill Kit Inventory Inspection | Rev A | 1-Jun-10 | | |
| AOD Form 222 | WB-57 Corrosion Control History | Basic | 1-Jul-09 | | |
| AOD Form 223 | NASA Historical Data Sheet | Basic | 1-May-09 | | |
| AOD Form 224 | AFTO 22 Log | Rev A | 1-Jun-10 | | |
| AOD Form 226 | Modified Portable Liquid Oxygen Ventilator, P/N F152-1040-1 Maintenance Record | Basic | 1-Sep-09 | | |
| AOD Form 227 | Listabin Toolbox Sign-Out Sheet | Rev A | 1-Jul-10 | | |
| AOD Form 228 | T-38 Aircraft Skin and Panel Replacement | Rev A | 1-Jun-06 | | |
| AOD Form 229 | Cannibalization Authorization | Rev A | 1-Jun-10 | | |
| AOD Form 230 | GNS-1034-2 Full Pressure Suit Periodic Inspection | Basic | 1-Dec-09 | | |

| Form # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
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| AOD Form 231 | 120 Day Periodic Inspection A/P22S-6A FPS Helmet (Ref TO 14P3-6-131, Chapters 5 and 7) | Basic | 1-Dec-09 | | |
| AOD Form 232 | Liquid Oxygen Ventilator Inspection (Ref TM 33D2-DN-D152.1000.6-1) | Basic | 1-Dec-09 | | |
| AOD Form 233 | A/P22S-6A/S1031C-2 Full Pressure Suit Annual Inspection | Basic | 1-Dec-09 | | |
| AOD Form 234 | NASA AOD Cover Page | Basic | 1-Dec-09 | | |
| AOD Form 235 | Canopy Fracturing System Donor/Acceptor Alignment | Basic | 1-Dec-10 | | |
| AOD Form 236 | Aircraft Restriction/Release Form (Ref: AOD 33946) | Basic | 1-Mar-10 | | |
| AOD Form 239 | NASA AOD Flight Operations Reduced Gravity Mishap Notification Form | Basic | 1-Mar-10 | | |
| AOD Form 240 | NASA Acknowledgement for Flying on Public Aircraft (Crewmembers and Qualified Non-Crewmembers) | A | 1-Jul-11 | | |
| AOD Form 241 | WB-57F Egress System Arm Checklist | Rev A | 1-Aug-09 | | |
| AOD Form 241A | WB 57F Egress System De-Arm Checklist | Rev B | 1-Aug-09 | | |
| AOD Form 242 | Super Guppy Flight Data Log | Basic | 1-May-10 | | |
| AOD Form 245 | AOD Payload Receiving/Shipping Inventory | Basic | 1-Aug-10 | | |
| AOD Form 246 | Program Office Letter of Authorization to Proceed | Basic | 1-Jul-10 | | |
| AOD Form 247 | Fuel Usage Report | Basic | 1-Dec-10 | | |
| AOD Form 248 | Panel Open/Close Requirements | Basic | 1-Sep-10 | | |
| AOD Form 249 | Aircraft Acceptance Inspection | Rev A | 1-Nov-10 | | |
| AOD Form 250 | Engine Acceptance Inspection | Basic | 1-Sep-10 | | |
| AOD Form 251 | Aircraft Final Inspection | Basic | 1-Nov-10 | | |
| AOD Form 252 | Part 145 Preliminary Inspection Form | Rev A | 1-Jan-11 | | |
| AOD Form 253 | AOD Document-Generated Records Index | Basic | 1-Feb-11 | | |
| AOD Form 254 | AOD Calibration Program | Basic | 1-Mar-11 | | |
| AOD Form 255 | WB-57 Flameout Data Card | Basic | 1-Mar-11 | | |
| AOD Form 257 | T-38 Water Survival Training Checklist | A | 1-Jul-11 | | |
| AOD Form 258 | WB-57 Water Safety Survival Training Checklist | Basic | 1-May-11 | | |
| AOD Form 260 | El Paso FOL Weekly Inspection | Basic | 1-Aug-11 | | |
| AOD Form 261 | GIII Takeoff and Landing Data | Basic | 1-Sep-11 | | |
| AOD Form 287 | Flight Loading Manifest | Basic | 1-Jul-96 | | |
| AOD Form 298 | Signature Record | Rev C | 1-Nov-10 | | |
| AOD Form 299A | T-38 Inspection Work Card Verification | Rev D | 1-Sep-08 | | |
| AOD Form 299D | WB-57 Inspection Work Card Verification (cancels AOD Form 299D1, D2 & D3) | Basic | 1-Mar-05 | | |
| AOD Form 299E | Aircraft Inspection Work Card Verification (cancels AOD Form 299E1 through E15) | Rev B | 1-Nov-10 | | |
| AOD Form 299F | T-38 Martin Baker Seat Installation | D | 1-Mar-04 | | |

| Form # | Title | Revision | Revision Date | NASA Supplement | External Supplement |
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| AOD Form 299H | Aircraft Engine Change Work Card Verification (cancels AOD Form 299I) | Rev C | 1-Nov-10 | | |
| AOD Form 299J | T-38 Martin Baker Two Year Seat Maintenance Sign-off Sheet | Rev G | 1-Feb-08 | | |
| AOD Form 299L | DC-9 Inspection Work Card Verification | Basic | 1-Feb-07 | | |
| AOD Form 299O | SCA Inspection Work Card Verification | Rev B | 1-Dec-08 | | |
| AOD Form 299P | N941 300-Hour Engine Inspection Work Card Verification | Rev A | 1-Aug-10 | | |
| AOD Form 299Q | GIII Inspection Work Card Verification | Basic | 1-Apr-10 | | |
| AOD Form 299R | T-38 Inspection Work Package Verification | Basic | 1-Sep-10 | | |
| AOD Form 300 | Quality Egress Final NASA T-38 Northrop Ejection Seat | Basic | 1-Jun-03 | | |
| AOD Form 301 | Tool Cabinet/Tool Box Inventory | Rev E | 1-Jun-10 | | |
| AOD Form 302 | T-38N Aircraft Alignment Worksheet | Rev B | 1-Jun-10 | | |
| AOD Form 303 | Torque Wrench Calibrator Transducer Certificate of Calibration | Basic | 1-Apr-04 | | |
| AOD Form 304 | WB-57 Preflight and Eminent Pre-Entry, Hook-Up Crewmember in Pressure Suit Checklist | Basic | 1-May-08 | | |
| AOD Form 305 | Quality Control Receiving Inspection Checklist for Martin-Baker Ejection Seat (10 Yr Program) | Rev A | 1-Aug-10 | | |
| AOD Form 306 | QAR and DSI Stamp Issue and Tracking Form | Basic | 1-Jul-10 | | |
| AOD Form 347 | Bird Strike Checklist | Rev F | 1-Apr-10 | | |
| AOD Form 354 | Waste Accumulation Area Inspection | Rev A | 1-Jun-10 | | |
| AOD Form 381 | SCA Flight Data Log | Rev B | 1-Feb-04 | | |
| AOD Form 384 | Gulfstream/NASA 2 Inventory for All Items | Rev B | 1-Mar-05 | | |
| AOD Form 388 | FMS Software Configuration for WAAS-Configured Aircraft | Basic | 1-Aug-08 | | |
| AOD Form 389 | FMS Software Configuration for Non-WAAS Configured Aircraft | Basic | 1-Aug-08 | | |
| AOD Form 393 | Automatic Parachute Ripcord Release Log | Basic | 1-Jun-07 | | |
| AOD Form 518-1 | Tool Box Inventory Signoff Sheet | Rev C | 1-Nov-10 | | |
| AOD Form 518-1A | Special Tool Inventory Signoff Sheet (Dual Shift) | Rev B | 1-Oct-10 | | |
| AOD Form 518-2 | Special Tool Sign Out Log | Rev B | 1-Jun-10 | | |
| AOD Form 620 | Aircraft Scheduled Inspection, Minor Discrepancy Worksheet | Rev B | 1-Jun-10 | | |
| AOD Form 688 | Fuel Control J57/TF33 Historical Record | Basic | 1-Sep-96 | | |
| AOD Form 703 | Flameout Data Card | Rev B | 1-Aug-06 | | |
| AOD Form 740A | Request To Schedule NASA JSC Aircraft | Rev C | 1-Feb-10 | | |

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| AOD Form 765 | T-38 Corrosion Control History | Rev C | 1-Jul-06 | | |
| AOD Form 766 | G-1159/STA Corrosion Control History | Basic | 1-Aug-02 | | |
| AOD Form 767 | C-9B Corrosion Control History | Basic | 1-Feb-04 | | |
| AOD Form 819 | Certificate of Aircrew Qualification | Rev A | 1-Feb-00 | | |
| AOD Form 820 | Collateral Duty Assignment | Rev A | 1-May-11 | | |
| AOD Form 821 | Training Session Record | Rev A | 1-May-11 | | |
| AOD Form 822 | QA Qualification Record | Rev A | 1-May-11 | | |
| AOD Form 836 | Quality Assurance Checklist | Rev F | 18-Sep-07 | | |
| AOD Form 836A | Shuttle-Crew Escape Parachute Assembly Configuration, Inspection, and History Record | Rev D | 1-Feb-07 | | |
| AOD Form 836B | Shuttle Parachute Assembly Life Raft Component Inspection Checklist | Rev A | 1-Oct-01 | | |
| AOD Form 836C | Shuttle Parachute Assembly Tool Inventory Checklist | Rev D | 1-Feb-08 | | |
| AOD Form 836D | SARSAT Beacon PIA Data Sheet | Rev E | 1-Apr-08 | | |
| AOD Form 836E | Quality Assurance Certification | Rev A | 1-Oct-01 | | |
| AOD Form 836F | Shuttle Parachute Shipping Checklist | Basic | 1-May-98 | | |
| AOD Form 836H | Shuttle Parachute Assembly | Rev A | 1-Oct-01 | | |
| AOD Form 855 | Aircraft Wheel Historical Record | Basic | 1-Apr-98 | | |
| AOD Form 922A | Personal Clothing and Equipment Record Flight Status Personnel | Rev A | 1-Jul-98 | | |
| AOD Form 922B | Personal Clothing and Equipment Record Non-Flight Status Personnel | Rev A | 1-Jul-98 | | |
| AOD Form 1073 | NASA JSC Flight Weather Form | Basic | 1-Apr-02 | | |
| AOD Form 1104 | T-38 Weapon System Support Pod 'WSSP' Installation Record | Rev A | 1-Feb-07 | | |
| AOD Form 1112 | Aircraft Operations Division Technical Manual Revision | Rev L | 1-Aug-09 | | |
| AOD Form 1112A | Aircraft Operations Division Technical Manual Revision (Workcard) | Rev H | 1-Aug-09 | | |
| AOD Form 1112B | Aircraft Operations Division Technical Manual Revision (Checklist Size) | Rev I | 1-Aug-09 | | |
| AOD Form 1127 | T-38 Wing Inspection Record | Basic | 1-May-98 | | |
| AOD Form 1138 | AOD T-38 PMB Masking Work Control Document | Basic | 1-Apr-98 | | |
| AOD Form 1156 | Plastic Media Blast Checklist | Rev B | 1-Jun-10 | | |
| AOD Form 1178 | Serviceable Parts Tag | Rev A | 1-Jun-10 | | |
| AOD Form 1298 | Maintenance Instruction Approval Form | Rev M | 1-Jun-11 | | |
| AOD Form 1298A | Maintenance Instruction Tracking Form | Rev D | 1-Jun-10 | | |
| AOD Form 1307 | Purchase Request Worksheet | Rev C | 1-Jul-11 | | |

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| AOD Form 1320 | STA Discrepancy Notice (DN) | C | 1-Jun-00 | | |
| AOD Form 1419 | SCA Type 1 Take-Off and Landing Data Card | Basic | 1-Oct-96 | | |
| AOD Form 1419A | SCA Type 2 Take-Off and Landing Data Card | Basic | 1-Oct-96 | | |
| AOD Form 1419B | SCA Type 3 Take-Off and Landing Data Card (Flaps 10) | Basic | 1-Oct-96 | | |
| AOD Form 1419C | SCA Type 3 Take-Off and Landing Data Card (Flaps 20) | Basic | 1-Oct-96 | | |
| AOD Form 1483 | SCA T.R. Data Log | Basic | 1-Jul-96 | | |
| AOD Form 1492 | NASA Aircraft Mishap/Close-Call Reporting System | C | 1-Mar-04 | | |
| AOD Form 1517 | Deployment (TDY) Checklist for Pressure Suit Support | Basic | 1-Apr-98 | | |
| AOD Form 1530 | AOD Aircraft/Engine Foreign Object Damage (FOD) Report | Rev A | 1-Jun-10 | | |
| AOD Form 1684 | Document Sign Out | Rev A | 1-Jun-10 | | |
| AOD Form 1692 | Configuration Control Panel Directive | Rev C | 1-Jul-06 | | |
| AOD Form 1748 | Lost Tool Report | Rev D | 1-Jul-10 | | |
| AOD Form 1786 | J-85 Engine Performance Test Record | Rev C | 1-Feb-07 | | |
| AOD Form 2150 | Building Evacuation Accountability Record | Rev A | 1-Jul-10 | | |
| AOD Form 2172 | Shuttle Training Aircraft Engineering Order | Basic | 1-Feb-01 | | |
| AOD Form 2305 | Altimeter System Test and Inspection | Basic | 1-Jan-11 | | |
| AOD Form 2306 | ATC Transponder Tests and Inspections | Basic | 1-Jan-11 | | |
| AOD Form 2307 | Self Evaluation Form | Basic | 1-Jan-11 | | |
| AFTO Form 95 | Significant Historical Data | V-4 | 17-Jun-2002 | | |
| FAA Form 8120-11 | Suspected Unapproved Parts Report | | 5-Nov-2010 | | |
| JSC Form 290 | JSC Shipping Document | | 1-Sep-2011 | | |
| JSC Form 941 | Pre-lift Checklist | | 3-Jun-2003 | | |
| NASA Form 598 | Property Survey Report | 1.6 | 12-Dec-2005 | | |
| NASA Form 1671A | Aircraft Maintenance Packet | 1.0 | 11-Mar-2008 | | |
| NASA Form 1673A | Flight Preparedness Report, | 2.0 | 30-Nov-2010 | | |

Appendix D – Personnel Requirements

| SLC | Job Description Guidelines |
|-------------------|---|
| Executive Manager | <p>Manages all functions of the Aircraft Maintenance Operations Support contract. The Executive Manager shall be the point of contact for all NASA Centers included in this contract. Qualifications for this position shall be a minimum of ten years in the aviation field in a management position. Individual shall have experience leading a diversified team in an aerospace environment, possess strong interpersonal and team building skills, with a proven ability to attract, hire and motivate a strong management team. Excellent written and verbal communications skills. Individual shall hold a BS degree in an aviation related or management discipline.</p> |
| Accountant I | <p>Prepares balance sheets, profit and loss statements, and other financial reports. Responsibilities also include analyzing trends, costs, revenues, financial commitments, and obligations incurred to predict future revenues and expenses. Reports organization's finances to management, and offers suggestions about resource utilization, tax strategies, and assumptions underlying budget forecasts. May require a bachelor's degree in area of specialty and 0-2 years of experience in the field or in a related area. Has knowledge of commonly-used concepts, practices, and procedures within a particular field. Relies on instructions and pre-established guidelines to perform the functions of the job. Works under immediate supervision. Primary job functions do not typically require exercising independent judgment. Typically reports to a supervisor or manager.</p> |
| Accountant II | <p>Prepares balance sheets, profit and loss statements, and other financial reports. Responsibilities also include analyzing trends, costs, revenues, financial commitments, and obligations incurred to predict future revenues and expenses. Reports organization's finances to management, and offers suggestions about resource utilization, tax strategies, and assumptions underlying budget forecasts. May require a bachelor's degree in area of specialty and 2-4 years of experience in the field or in a related area. Familiar with standard concepts, practices, and procedures within a particular field. Relies on experience and judgment to plan and accomplish goals. Performs a variety of tasks. Works under general supervision. A certain degree of creativity and latitude is required. Typically reports to a supervisor or manager.</p> |
| Accountant III | <p>Prepares balance sheets, profit and loss statements, and other financial reports. Responsibilities also include analyzing trends, costs, revenues, financial commitments, and obligations incurred to predict future revenues and expenses. Reports organization's finances to management, and offers suggestions about resource utilization, tax strategies, and assumptions underlying budget forecasts. Requires a bachelor's degree in area of specialty, and 4-6 years of experience in the field or in a related area. Familiar with a variety of the field's concepts, practices, and procedures. Relies on experience and judgment to plan and accomplish goals. Performs a variety of complicated tasks. May lead and direct the work of others. A wide degree of creativity and latitude is expected. Typically reports to a manager or head of a unit/department.</p> |
| Accountant IV | <p>Prepares balance sheets, profit and loss statements, and other financial reports. Responsibilities also include analyzing trends, costs, revenues, financial commitments, and obligations incurred to predict future revenues and expenses. Reports organization's finances to management, and offers suggestions about resource utilization, tax strategies, and assumptions underlying budget forecasts. Requires a bachelor's degree in area of specialty and 6-8 years of experience in the field or in a related area.</p> |

| SLC | Job Description Guidelines |
|----------------------------|--|
| | Familiar with a variety of the field's concepts, practices, and procedures. Relies on extensive experience and judgment to plan and accomplish goals. Performs a variety of tasks. May lead and direct the work of others. A wide degree of creativity and latitude is expected. Typically reports to a manager or head of a unit/department. |
| Administrative Support I | Typically responsible for performing daily office tasks such as filing, recording, maintaining records, copying, posting, and other similar duties, using a computer terminal, typewriter, and other word processors. Follows organization and department procedures to complete tasks in a timely manner. Familiar with standard concepts, practices, and procedures within a particular field. Performs a variety of additional office-work tasks. Works under general supervision. Typically reports to a more senior administrative specialist, professional, supervisor or manager. Typically requires a high school diploma or its equivalent. Typically requires 0-2 years of work experience. |
| Administrative Support II | Typically responsible for performing daily office tasks such as filing, recording, maintaining records, copying, posting, and other similar duties, using a computer terminal, typewriter, and other word processors. Follows organization and department procedures to complete tasks in a highly skilled and timely manner. Familiar with standard concepts, practices, and procedures within a particular field. Relies on experience and judgment to plan and accomplish goals. Performs a variety of additional office-work and support tasks. Typically reports to a more senior Administrative Specialist, supervisor or a manager. May direct the efforts of others. Typically requires a high school diploma or its equivalent. Typically requires 2-4 years of experience. |
| Administrative Support III | Typically responsible for performing daily office tasks such as filing, recording, maintaining records, copying, posting, and other similar duties, using a computer terminal, typewriter, and other word processors. Follows organization and department procedures to complete tasks in a highly skilled and timely manner. Familiar with standard concepts, practices, and procedures within a particular field. Relies on experience and judgment to plan and accomplish goals. Performs a wide variety of additional management support functions and other duties as assigned. May serve as facility manager/coordinator. May direct, guide, and coordinate the activities of a team of administrative personnel. Typically reports to a supervisor, manager or program manager. Typically requires a high school diploma or its equivalent. Typically requires 5 years of experience. Perform project coordination duties including calendar control, customer and expense reports. |
| Aircraft Mechanic I | A fully qualified journeyman qualified to perform maintenance on aircraft or ground support equipment (AGE). |
| Aircraft Mechanic II | Oversees and coordinates the maintenance of aircraft or aircraft components. Individual should be a fully qualified aircraft journeyman and have the ability to direct others in the completion of aircraft related maintenance tasks. Possesses Federal Aviation Administration (FAA) Airplane or Powerplant certification or special skills. |
| Aircraft Mechanic III | Oversees and coordinates the maintenance of aircraft or aircraft components. Individual should be a fully qualified aircraft journeyman and have the ability to direct others in the completion of aircraft related maintenance tasks. Possesses Federal Aviation Administration (FAA) Airplane and Powerplant certification or special certification defined in the SOW (e.g. NDI, Welder). |
| Designer | Design or create engineering drawings using CAD systems with reference to engineering specifications. |

| SLC | Job Description Guidelines |
|-----------------------------|---|
| Documentation Specialist I | Types technical material with reference to rough drafts and corrected copy using a word processor, computer or typewriter. Performs basic editing and suggests grammatical and punctuation corrections to technical personnel. Intermediate knowledge of Microsoft Word, Excel, and Adobe Acrobat. |
| Documentation Specialist II | Types technical material with reference to rough drafts and corrected copy using a word processor, computer or typewriter. Performs advanced editing. Proficient with Microsoft Word, Excel, PowerPoint, and Adobe Acrobat. Knowledge of Adobe Photoshop. |
| Engineer I | Typically responsible for design, development, test, implementation, and analysis of technical products and systems. May develop a range of products. Familiar with commonly-used concepts, practices, and procedures within a particular field. Typically reports to a more senior Engineer, supervisor or a manager. Typically requires a bachelor's degree in engineering. Typically requires 2 years of experience in the field or in a related area. |
| Engineer II | Typically responsible for design, development, test, implementation, and analysis of technical products and systems. May develop a range of products. Familiar with commonly used concepts, practices, and procedures within a particular field. Typically reports to a more senior Engineer, supervisor or a manager. May direct the efforts of others. Typically requires a bachelor's degree in engineering. Typically requires 5 years of experience in the field or in a related area. |
| Engineer III | Typically responsible for design, development, test, implementation, and analysis. Recognized as technical leader and resource. Proficient with a variety of the field's concepts, practices, and procedures. Relies on extensive experience and judgment to plan and accomplish goals. Responsible for the solution of complex total system problems. May direct, guide, and coordinate the activities of a team of technical personnel performing complex engineering activities. Typically reports to a manager or program manager. Typically requires a bachelor's degree in engineering. Typically requires 10 years of related experience. License and certification may be required. |
| Engineering Manager | Demonstrated experience managing a diversified team of engineers in an aerospace engineering environment. Demonstrated experience leading the design, development, testing, troubleshooting, and fabrication of aircraft components and systems. Proven ability to manage and implement computer aided design processes (AutoCAD and Pro/Engineer preferred). Strong interpersonal and team building skills with a proven ability to attract, hire, and motivate a strong engineering team. Excellent written and verbal communication skills. Proven track record of completing projects on schedule, within budget, with satisfied customers. Requires BS/MS degree from an accredited institution with 10+ years aerospace industry experience in a key leadership role. |
| Equipment Operator | Performs ground and flight tests on aircraft and research equipment. Typically, formulates and applies mathematical modeling and other optimizing methods to develop and interpret information for research packages. |
| Flight Engineer | Flight operations duty position. Maintain proficiency, currency, and annual requirements required by NASA. |
| Graphics Specialist | Designs or creates graphics for technical material following Air Transport Association technical documentation standards. Technical illustration skills. Proficient with Adobe Photoshop and Corel Designer. Knowledge of AutoCAD, Adobe Acrobat, Microsoft Word, and Excel. |
| Helper | Entry-level mechanic with no aviation related experience. |

| SLC | Job Description Guidelines |
|-----------------------------------|---|
| Loadmaster | Flight operations duty position. Maintain proficiency, currency, and annual requirements required by NASA. Must have attended a service related school in the methods of loading and the weight and balance of cargo aircraft with 5 years of experience. |
| Logistics Analysis I | Performs shipping, stocking, receiving, issuing, inventory of materials. Enhances product workflow by analyzing and developing logistics plans that affect production, distribution, and inventory. Creates and reviews procedures for distribution and inventory management to maximize customer satisfaction and minimize cost. Has knowledge of commonly-used concepts, practices, and procedures within a particular field. Relies on instructions and pre-established guidelines to perform the functions of the job. Works under immediate supervision. Primary job functions do not typically require exercising independent judgment. Typically reports to a supervisor or manager. |
| Logistics Analysis II | Enhances product workflow by analyzing and developing logistics plans that affect production, distribution, and inventory. Creates and reviews procedures for distribution and inventory management to maximize customer satisfaction and minimize cost. May require an associate's degree or equivalent and 2-4 years of experience in the field or in a related area. Familiar with standard concepts, practices, and procedures within a particular field. Relies on limited experience and judgment to plan and accomplish goals. Performs a variety of tasks. Works under general supervision; typically reports to a supervisor or manager. A certain degree of creativity and latitude is required. |
| Logistics Analysis III | Enhances product workflow by analyzing and developing logistics plans that affect production, distribution, and inventory. Creates and reviews procedures for distribution and inventory management to maximize customer satisfaction and minimize cost. Requires an associate's degree or equivalent and 4-6 years of experience in the field or in a related area. Familiar with a variety of the field's concepts, practices, and procedures. Relies on experience and judgment to plan and accomplish goals. Performs a variety of complicated tasks. May report to an executive or a manager. A wide degree of creativity and latitude is expected. |
| Logistics Analysis IV | Enhances product workflow by analyzing and developing logistics plans that affect production, distribution, and inventory. Creates and reviews procedures for distribution and inventory management to maximize customer satisfaction and minimize cost. May require an associate's degree or its equivalent with 6-8 years of experience in the field or in a related area. Familiar with a variety of the field's concepts, practices, and procedures. Relies on extensive experience and judgment to plan and accomplish goals. Performs a variety of tasks. Leads and directs the work of others. A wide degree of creativity and latitude is expected. May report to an executive or a manager. |
| Maintenance/Production Controller | Shall have a minimum of 3 years experience as an aircraft maintenance/production controller coordinating and monitoring the maintenance workload for a multi-aircraft fleet, some one-of-a-kind aircraft and over 3,000 line items of assets. Shall be able to multi-task; to include forecasting and effectively communicating with a wide-variety of work disciplines to provide up-to-date technical information on queries associated with aircraft/equipment statuses include providing estimated times in commission (ETIC's) for items in a not-mission-capable status. Shall be proactive in orchestrating the daily work priorities and flight schedule requirements to ensure full capability of the assigned personnel to meet mission requirements. |
| Manager | Directs work of Supervisors and other employees. Ensures employees |

| SLC | Job Description Guidelines |
|-------------------------------------|---|
| | follow all established safety, technical procedures necessary for successful contract performance. Familiar with standard concepts, practices, and procedures within a particular field. Relies on extensive experience and judgment to plan and accomplish goals. Performs a variety of complex tasks. Experience in progressively challenging management positions, including successfully managing people. Must have demonstrated experience managing a diversified team. Strong interpersonal and team building skills. Excellent written and verbal communication skills. Proven track record of completing projects on schedule, within budget, with satisfied customers. Typically reports to a program manager. Typically requires a bachelor's degree. Typically requires 5 years of experience. |
| Manager I, Aircraft Maintenance | Manages the service, repair, and overall maintenance of aircraft and aircraft engines to verify aircrafts are safe for flight. Ensures compliance to all FAA maintenance regulations and safety requirements. Oversees the scheduling of repairs and maintenance. Ensures projects are completed on time and within budget. Acts as advisor to aircraft maintenance team regarding projects, tasks, and operations. Requires a bachelor's degree and 7-10 years of experience in the field or in a related area and a FAA aircraft and engine mechanic license. Familiar with standard concepts, practices, and procedures within a particular field. Relies on extensive experience and judgment to plan and accomplish goals. Performs a variety of complex tasks. A certain degree of creativity and latitude is required. Typically reports to a unit/department head. |
| Manager II, Aircraft Maintenance | Manages the service, repair, and overall maintenance of aircraft and aircraft engines to verify aircrafts are safe for flight. Ensures compliance to all FAA maintenance regulations and safety requirements. Oversees the scheduling of repairs and maintenance. Ensures projects are completed on time and within budget. Acts as advisor to aircraft maintenance team regarding projects, tasks, and operations. Requires a bachelor's degree and at least 10 years of experience in the field or in a related area and a FAA aircraft and engine mechanic license. Familiar with standard concepts, practices, and procedures within a particular field. Relies on extensive experience and judgment to plan and accomplish goals. Performs a variety of complex tasks. A certain degree of creativity and latitude is required. Typically reports to a unit/department head. |
| Management Analyst | Analyzes accounting records to determine financial resources required to implement programs and makes recommendations for budget allocations to ensure conformance to budgetary limits. Also responsible for reviewing operating budgets periodically in order to analyze trends affecting budget needs. Requires a bachelor's degree in area of specialty and 6-8 years of experience in the field or in a related area. Familiar with a variety of the field's concepts, practices, and procedures. Relies on extensive experience and judgment to plan and accomplish goals. Performs a variety of tasks. Leads and directs the work of others. A wide degree of creativity and latitude is expected. May report to an executive or a manager. |
| Pilot | Flight operations duty position. Maintain proficiency, currency, and annual requirements required by NASA. Must have minimum of 2000 flight hours in type related aircraft. |
| Procurement I | Responsible for purchasing and negotiating materials, equipment, and supplies from vendors. Evaluates vendor quotes and services to determine most desirable suppliers. May require a bachelor's degree and 0-3 years of experience in the field or in a related area. Has knowledge of commonly-used concepts, practices, and procedures within a particular field. Relies on instructions and pre-established guidelines to perform the functions of the job. Works under immediate supervision. Primary job functions do not |

| SLC | Job Description Guidelines |
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| | typically require exercising independent judgment. Typically reports to a supervisor or manager. |
| Procurement II | Responsible for purchasing and negotiating materials, equipment, and supplies from vendors. Evaluates vendor quotes and services to determine most desirable suppliers. May require a bachelor's degree and 2-5 years of experience in the field or in a related area. Familiar with standard concepts, practices, and procedures within a particular field. Relies on limited experience and judgment to plan and accomplish goals to perform a variety of tasks. Works under general supervision. A certain degree of creativity and latitude is required. Typically reports to a supervisor or manager. |
| Procurement III | Responsible for purchasing and negotiating materials, equipment, and supplies from vendors. Evaluates vendor quotes and services to determine most desirable suppliers. May require a bachelor's degree and 5-8 years of experience in the field or in a related area. Familiar with a variety of the field's concepts, practices, and procedures. Relies on experience and judgment to plan and accomplish goals. Performs a variety of complicated tasks. A wide degree of creativity and latitude is expected. May report to an executive or a manager. |
| Procurement IV | Responsible for purchasing and negotiating materials, equipment, and supplies from vendors. Evaluates vendor quotes and services to determine most desirable suppliers. May require a bachelor's degree and at least 8 years of experience in the field or in a related area. Familiar with a variety of the field's concepts, practices, and procedures. Relies on extensive experience and judgment to plan and accomplish goals. Performs a variety of tasks. May lead and direct the work of others. A wide degree of creativity and latitude is expected. Typically reports to a manager or head of a unit/department. |
| Project Manager I | Responsible for the coordination and completion of projects. Oversees all aspects of projects. Sets deadlines, assigns responsibilities, and monitors and summarizes progress of project. Prepares reports for upper management regarding status of project. May require a bachelor's degree and 2-4 years of experience in the field or in a related area. Familiar with a variety of the field's concepts, practices, and procedures. Relies on limited experience and judgment to plan and accomplish goals. Performs a variety of tasks. Leads and directs the work of others. A wide degree of creativity and latitude is expected. Typically reports to a manager or head of a unit/department. |
| Project Manager II | Responsible for the coordination and completion of projects. Oversees all aspects of projects. Sets deadlines, assigns responsibilities, and monitors and summarizes progress of project. Prepares reports for upper management regarding status of project. May require a bachelor's degree and 4-7 years of experience in the field or in a related area. Familiar with a variety of the field's concepts, practices, and procedures. Relies on extensive experience and judgment to plan and accomplish goals. Performs a variety of tasks. Leads and directs the work of others. A wide degree of creativity and latitude is expected. Typically reports to a manager or head of a unit/department. |
| Project Manager III | Responsible for the coordination and completion of projects. Oversees all aspects of projects. Sets deadlines, assigns responsibilities, and monitors and summarizes progress of project. Prepares reports for upper management regarding status of project. May require a bachelor's degree and at least 7 years of experience in the field or in a related area. Familiar with a variety of the field's concepts, practices, and procedures. Relies on extensive experience and judgment to plan and accomplish goals. |

| SLC | Job Description Guidelines |
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| | Performs a variety of tasks. Leads and directs the work of others. A wide degree of creativity and latitude is expected. Must have demonstrated experience managing projects. Strong interpersonal and team building skills. Excellent written and verbal communication skills. Proven track record of completing projects on schedule, within budget, with satisfied customers. Typically reports to a manager or head of a unit/department. |
| Quality Manager | Provides management of all quality functions of the Aircraft Maintenance Operations Support contract. Must have demonstrated experience managing a diversified team. Strong interpersonal and team building skills. Excellent written and verbal communication skills. Proven track record of completing projects on schedule, within budget, with satisfied customers. |
| Quality Assurance Representative (QAR) | Shall have a minimum of three years experience on airframes, avionics, electrical, egress, aviator's life support equipment of NDI, coupled with familiarity with the tools, concepts and methodologies of quality management. Have knowledge of Aerospace Standard AS-9110 and be able to conduct audits, surveillance and monitoring to assess compliance with stated requirements. Have experience in root cause analysis and corrective/preventative actions and be able to develop and initiate corrective action plans while ensuring focus on organizational continuous improvement. |
| Safety Manager | Provides management of all safety and health functions of the Aircraft Maintenance Operations Support contract. Must have demonstrated experience managing a safety program. Strong interpersonal skills. Excellent written and verbal communication skills. |
| Scheduler | Coordinate with flight crew and production control to plan aircraft flight schedules. |
| Security Specialist I | Performs security oversight as defined by security operational manuals. |
| Security Specialist II | Performs security oversight as defined by security operational manuals. Development and management of program/project security guides, classification guides, document marking, safeguarding, and procedures. |
| Security Specialist III | Provides management oversight of security personnel. Responsible for the development and management of program/project security guides, classification guides, document marking, safeguarding, and procedures. Responsible for the operations of classified facilities. |
| Technical Editor I | Plans, coordinates, and edits content of material for publication. May review proposals and drafts for possible publication. Proficient with Microsoft Word and Adobe Acrobat. Organizational, coordination, and customer service skills. |
| Technical Editor II | Plans, coordinates, and edits content of material for publication. May review proposals and drafts for possible publication. May possess advanced degree. Technical writing and editing expertise. Proficient with Microsoft Word, Excel, PowerPoint, and Adobe Acrobat. Knowledge of Adobe Photoshop. Excellent organizational, coordination, and customer service skills. |
| Technical Library Support Technician | Shall have related experience in maintaining a master technical library comprised of aircraft manufacturers, Federal Aviation, Department of Defense, and JSC library technical publications, forms, and other related technical documentation that is supplemented by unique Aircraft Operations Division change processes and procedures to support a wide-variety of aircraft and ancillary equipment. Shall be able to audit remote locations or dispersed technical libraries for accuracy and provide training to remote library custodians. |
| Technical Writer | Develops, writes, and edits technical materials, such as equipment manuals instruction books, and related technical publications to include |

| SLC | Job Description Guidelines |
|---------------------------|--|
| | operating and maintenance instructions. The writer interprets blueprints, sketches, parts lists, specifications, mockups and product samples to integrate and delineate technology, operating, and production procedures in accordance with established standards. Posses technical writing skills, organizational, coordination and customer service skills, and knowledge of Microsoft Word and Excel. |
| Technical Writing Liaison | Technical liaison between engineering and the documentation management office. Interprets engineering drawings to assist technical writers in providing manuals to include operating and maintenance instructions. |
| Test Director | Flight operations duty position. Maintain proficiency, currency, and annual requirements required by NASA. |
| Training Specialist I | Designs and conducts company training programs. Monitors and reports the effectiveness of training on employees during the orientation period and for career development. May be involved in initial plan design and existing plan enhancements. Requires a bachelor's degree in a related area and 0-3 years of experience in the field or in a related area. Has knowledge of commonly-used concepts, practices, and procedures within a particular field. Relies on instructions and pre-established guidelines to perform the functions of the job. Works under immediate supervision. Primary job functions do not typically require exercising independent judgment. Typically reports to a manager. |
| Training Specialist II | Designs and conducts company training programs. Monitors and reports the effectiveness of training on employees during the orientation period and for career development. Involved in initial plan design and existing plan enhancements. Requires a bachelor's degree in a related area and 2-5 years of experience in the field or in a related area. Familiar with standard concepts, practices and procedures within a particular field. Relies on experience and judgment to plan and accomplish goals. Performs a variety of tasks. Works under general supervision. A certain degree of creativity and latitude is required. Typically reports to a manager. |
| Training Specialist III | Designs and conducts company training programs. Monitors and reports the effectiveness of training on employees during the orientation period and for career development. May be involved in initial plan design and existing plan enhancements. Requires a bachelor's degree in a related area and 4-8 years of experience in the field or in a related area. Familiar with a variety of the field's concepts, practices, and procedures. Relies on experience and judgment to plan and accomplish goals. Performs a variety of complicated tasks. May lead and direct the work of others. May report directly to an executive or head of a unit/department. A wide degree of creativity and latitude is expected. |
| Warehouse Manager | Manages all warehouse activities. Manages the warehouse ensuring the receipt, coordination, and safety of goods coming through a warehouse. Also ensures that orders arrive and are dispatched on time to the appropriate destinations and in the expected quantities. Requires a high school diploma or its equivalent with 5-7 years of experience in the field or in a related area. Familiar with a variety of the field's concepts, practices, and procedures. Relies on experience and judgment to plan and accomplish goals. Performs a variety of complicated tasks. Leads and directs the work of others. A wide degree of creativity and latitude is required. Typically reports to a head of a unit/department. |
| Warehouse Supervisor | Supervises the receiving, storing, packing, and shipping of merchandise or materials. Maintains stock records and schedules. Requires a high school diploma or its equivalent with at least 4 years of experience in the field or in a related area. Familiar with a variety of the field's concepts, practices, |

| SLC | Job Description Guidelines |
|------------------|---|
| | and procedures. Relies on experience and judgment to plan and accomplish goals. Performs a variety of complicated tasks. Leads and directs the work of others. A wide degree of creativity and latitude is required. Typically reports to a manager. |
| Warehouse Worker | Receives, unpacks, checks, and stores merchandise or materials. Fills requisitions and orders. Packs, crates, and ships products and materials to distribution center, departments, or assembly line. May operate fork lift. Requires a high school diploma or its equivalent with 2-4 years of experience in the field or in a related area. Familiar with standard concepts, practices, and procedures within a particular field. Relies on limited experience and judgment to plan and accomplish goals. Performs a variety of tasks. Works under general supervision; typically reports to a supervisor or manager. |

Appendix E1

Fixed-Price Performance Standards

| Category | Performance Standard | Acceptable Quality Level | Surveillance Method |
|--------------------------------------|--|--|------------------------------------|
| Technical Performance | | | |
| Technical | Mission effectiveness | 100% mission effectiveness | NAMIS data |
| Technical | Functional Check Flight (FCF) effectiveness | >85% success rate on first flight attempt | NAMIS data |
| Technical | Operational check (OPS Check) flight effectiveness | >90% success rate on first flight attempt | NAMIS data |
| Technical | Aircraft delayed discrepancies | No more than 4 discrepancies per aircraft (excludes aircraft in phase inspection) | NAMIS data |
| Technical | Mishaps/close calls due to failure to comply with approved technical data and/or safety procedures | <1 per month | NAARS, Close Call Reporting System |
| Safety & Health Employee Involvement | NASA JPR 1700.1; Safety and Health Handbook | Promote, implement, and sustain employee (e.g., non-supervisory) involvement in safety and health compliance program development, implementation and decision-making | Contractor Provided Data |

| Category | Performance Standard | Acceptable Quality Level | Surveillance Method |
|---|---|---|--|
| Safety & Health Management & Leadership | NASA JPR 1700.1; Safety and Health Handbook | Sustaining commitment to safety and health compliance | Contractor Provided Data |
| Quality Performance | | | |
| Quality | Contractor generated audit conformance rate | >90% conformance rate monthly | Contractor provided data |
| Quality | NASA performed Quality surveillance audits | >90% conformance rate monthly | NASA QMT database |
| Quality | NASA performed process audits | >95% conformance rate | NASA QMT database |
| Quality | Documentation accuracy in NAMIS | >95% accuracy rate | Government Sampling of NAMIS |
| Quality | Repeat pilot discrepancies | <1% of total monthly sorties flown | NAMIS |
| Quality | Recurring pilot discrepancies | <1% of total monthly sorties flown | NAMIS |
| Quality | Documentation research accuracy for items outside of approved technical data | >95% accuracy | NASA Maintenance Manager Tracking |
| Quality | Tool control program violations | <2 violations per month | NAMIS, NASA QMT database |
| Management Performance | | | |
| Management | Ensure no mission impacts due to position vacancies or personnel qualifications | Vacancies are filled within 30 calendar days | Contractor provided self-evaluation data in DRD-M04, Monthly Progress Report |

| Category | Performance Standard | Acceptable Quality Level | Surveillance Method |
|-----------------|---|--|------------------------------|
| Management | Scheduled Inspection Compliance | <1% of scheduled inspections exceeding the NASA approved maximum negative deviation (without waiver) | NAMIS |
| Management | Timeliness of Archiving NASA Form 1671A | < 7 working days from date of completion on NASA Form 1671A | Government Sampling of NAMIS |
| Management | Support shops | <300 items back logged | NAMIS |
| Management | Overdue training | <5% scheduled training events overdue | Contractor provided data |
| Management | T-38 fleet time | >225 hours | NAMIS |
| Management | J-85 engine fleet time | >450 hours | NAMIS |

Appendix E2

JSC Cost Performance Standards

| Category | Performance Standard | Acceptable Quality Level | Surveillance Method |
|------------------------------|--|---|--|
| Technical Performance | | | |
| Technical | Mission effectiveness | >98% mission Effectivity | NAMIS data |
| Technical | Functional Check Flight (FCF) effectiveness | >85% success rate on first flight attempt | NAMIS data |
| Technical | Mishaps/close calls due to failure to comply with approved technical data and/or safety procedures | <1 per month | NAARS, Close Call Reporting System |
| Technical | Configuration Management | <2% deficiencies in configuration management | Government Evaluation/Sampling |
| Technical | Aircraft and Payload Integration Support of external customers | >90% customer satisfaction | Government survey of external customers |
| Technical | Engineering Task Support and Administration | <5% of total schedule delays in project milestones (5% or 15 day maximum, whichever is lower). For example, total milestone slips for a 100 day project could not exceed 5 days without NASA concurrence. | Government Surveillance/ Contractor provided self-evaluation data |
| Technical | Engineering documents | >98% of engineering documents are released on time, | Government Surveillance/ Contractor provided self-evaluation data |

| | | | |
|---|---|--|--|
| | | no significant errors are found during government sign off, and no significant redlines are found during fabrication or maintenance activities | |
| Technical | Engineering Schedule Estimates | >90% of engineering projects are completed per government approved Contractor baseline schedule estimates | Government Surveillance/ Contractor provided self-evaluation data |
| Technical | Engineering Customer Support | >95% of engineering designs, repairs, and modifications meet customer requirements during initial implementation and require no significant re-design | Government Surveillance/ Contractor provided self-evaluation data |
| Safety & Health Employee Involvement | NASA JPR 1700.1; Safety and Health Handbook | Promote, implement, and sustain employee (e.g., non-supervisory) involvement in safety and health compliance program development, implementation and decision-making | Contractor Provided Data |
| Safety & Health Management & Leadership | NASA JPR 1700.1; Safety and Health Handbook | Sustaining commitment to safety and health compliance | Contractor Provided Data |

| Quality Performance | | | |
|-------------------------------|--|--|--|
| Quality | Repeat pilot discrepancies | <1% of total monthly sorties flown | NAMIS |
| Quality | Recurring pilot discrepancies | <1% of total monthly sorties flown | NAMIS |
| Quality | Tool control program violations | <2 violations per month | NAMIS, NASA QMT database |
| Logistics Performance | | | |
| Logistics | Inventory Management | >98% accuracy in maintaining inventory | NAMIS and Inventory Sampling |
| Logistics | Shipping and receiving | 100% compliance with all Federal, State and Local laws and regulations | Government oversight and surveillance |
| Management Performance | | | |
| Management | Surge and deployment support | No delays/mission impacts caused by staffing deficiencies | NASA Surveillance and Monitoring |
| Management | Scheduled Inspection Compliance | <1% of scheduled inspections exceeding the NASA approved maximum negative deviation (without waiver) | NAMIS |
| Management | Project Management, Control and Support Services | >90% of projects completed per Government approved Contractor baseline estimates | Contractor provided self-evaluation data in DRD-M04, Monthly Progress Report |
| Cost Performance | | | |
| Cost | Actual wrap rate vs. contract wrap rate | | Government Surveillance |

| | | | |
|-----------------------------|--|--|--|
| Cost | Cost performance measured against government approved Contractor baseline cost estimates | 90% of projects completed per government approved Contractor baseline cost estimates | Contractor provided self-evaluation data in DRD-M04, Monthly Progress Report |
| Small Business Goals | | | |
| Small Business | Contractor meets small business goals per contract requirements | Contractor meets 100% of stated goals | Contractor provided self-evaluation data in DRD-M04, Monthly Progress Report |

Appendix E3

LaRC Cost Performance Standards

| Category | Performance Standard | Acceptable Quality Level | Surveillance Method |
|------------------------------|--|---|---------------------------------|
| Technical Performance | | | |
| Quality | Aircraft Maintenance Records – Historical Records | <10 days to incorporate aircraft records of newly acquired aircraft into the QAO database | Quality Surveillance |
| Quality | Aircraft records accuracy | >97 % records reviewed without errors | Quality Surveillance |
| Quality | Service change accuracy | >95% of service change record accuracy concerning airworthiness directives and manufacturers service bulletins to determine applicability to aircraft/accessories | Quality Surveillance |
| Quality | Weight and Balance processes | 100% accuracy in weighing, computing and recording of weight and balance processes and record accuracy for all assigned aircraft | Quality Surveillance |
| Quality | Equipment records updated | Every 7 days equipment records will be reviewed, updated and appropriate reports distributed. | Quality Surveillance and Audits |
| Quality | Final inspections on major maintenance | >97% error free inspection of major maintenance items per GAMM on assigned aircraft | Quality Surveillance |
| Maintenance | Pre-flight, post-flight and periodic checks (when scheduled) | >95% error free pre-flight, post-flight and periodic checks | Quality Surveillance |
| Maintenance | Estimated time in commission (ETIC) effectiveness (scheduled ETIC work days versus actual) | >90% of agreed upon ETICs are met | Quality Surveillance |

| Management Performance | | | |
|-------------------------------|--|---|------------------------------|
| Management | Full Mission Capable (FMC) Rate | >75% FMC success rate of aircraft | NAMIS data |
| Management | Functional Check Flight (FCF) effectiveness | >90% success rate on first flight attempt | NAMIS data |
| Management | Mission effectiveness | >95% mission success rate | NAMIS data |
| Management | Aviation Ground equipment (AGE) FMC rate | >95% FMC rate of assigned AGE | NAMIS data |
| Management | AGE Scheduled Maintenance ETIC effectiveness | >98% of AGE scheduled maintenance (inspections) that meet ETIC's | NAMIS data |
| Management | Communication/Navigation (COM/NAV) Shop Equipment Calibration FMC rate | >98% of equipment calibrated by the COM/NAV shop is maintained in an FMC condition | NAMIS data |
| Management | Battery FMC rate | >95% of assigned batteries are maintained in an FMC condition | NAMIS data |
| Management | Avionics Spares | >95% of the total compliment of avionics spares are maintained in an FMC condition | NAMIS data |
| Management | Personal Equipment (PE) FMC rate | >95% of personal equipment is maintained in an FMC condition | NAMIS data |
| Management | Personal Equipment (PE) ETIC effectiveness | >98% of PE scheduled inspections meet ETIC's | NAMIS data |
| Logistics Performance | | | |
| Logistics | Inventory Management (procurement/stock) | >90% timeliness in acquisition, proper stockroom management, ordering accuracy and controlling access | NAMIS and Inventory Sampling |

Appendix F – Business Sensitive Information

(b) (4)

SECTION D - PACKAGING AND MARKING

D.1 1852.211-70 PACKAGING, HANDLING, AND TRANSPORTATION (SEP 2005) (Applies to Fixed-Price and Cost)

- (a) The Contractor shall comply with NASA Procedural Requirements (NPR) 6000.1, "Requirements for Packaging, Handling, and Transportation for Aeronautical and Space Systems, Equipment, and Associated Components", as may be supplemented by the statement of work or specifications of this contract, for all items designated as Class I, II, or III.
- (b) The Contractor's packaging, handling, and transportation procedures may be used, in whole or in part, subject to the written approval of the Contracting Officer, provided (1) the Contractor's procedures are not in conflict with any requirements of this contract, and (2) the requirements of this contract shall take precedence in the event of any conflict with the Contractor's procedures.
- (c) The Contractor must place the requirements of this clause in all subcontracts for items that will become components of deliverable Class I, II, or III items.

(End of clause)

(END OF SECTION)

SECTION E - INSPECTION AND ACCEPTANCE

- E.1 52.246-2 INSPECTION OF SUPPLIES - FIXED-PRICE. (AUG 1996) (Applies to Fixed-Price)
- E.2 52.246-3 INSPECTION OF SUPPLIES - COST-REIMBURSEMENT. (MAY 2001) (Applies to Cost)
- E.3 52.246-4 INSPECTION OF SERVICES - FIXED-PRICE. (AUG 1996) (Applies to Fixed-Price)
- E.4 52.246-5 INSPECTION OF SERVICES - COST-REIMBURSEMENT. (APR 1984) (Applies to Cost)
- E.5 52.246-16 RESPONSIBILITY FOR SUPPLIES. (APR 1984) (Applies to Fixed-Price and Cost)
- E.6 1852.246-73 HUMAN SPACE FLIGHT ITEM. (MAR 1997) (Applies to Fixed Price and Cost)
- E.7 52.246-11 HIGHER-LEVEL CONTRACT QUALITY REQUIREMENT. (FEB 1999) (Applies to Fixed-Price and Cost)

The Contractor shall comply with the higher-level quality standard selected below.

The Contractor shall have a quality program that is certified with the International Organization for Standardization document AS-9110, *Aerospace Requirements for Aircraft Maintenance Organizations* within one year of contract award.

(End of clause)

(END OF SECTION)

SECTION F - DELIVERIES AND PERFORMANCE

F.1 52.247-34 F.O.B. DESTINATION. (NOV 1991) (Applies to Cost)

F.2 52.242-15 STOP-WORK ORDER. (AUG 1989) (Applies to Fixed-Price)

(a) The Contracting Officer may, at any time, by written order to the Contractor, require the Contractor to stop all, or any part, of the work called for by this contract for a period of 90 days after the order is delivered to the Contractor, and for any further period to which the parties may agree. The order shall be specifically identified as a stop-work order issued under this clause. Upon receipt of the order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order during the period of work stoppage. Within a period of 90 days after a stop-work is delivered to the Contractor, or within any extension of that period to which the parties shall have agreed, the Contracting Officer shall either -

(1) Cancel the stop-work order; or

(2) Terminate the work covered by the order as provided in the Default, or the Termination for Convenience of the Government, clause of this contract.

(b) If a stop-work order issued under this clause is canceled or the period of the order or any extension thereof expires, the Contractor shall resume work. The Contracting Officer shall make an equitable adjustment in the delivery schedule or contract price, or both, and the contract shall be modified, in writing, accordingly, if -

(1) The stop-work order results in an increase in the time required for, or in the Contractor's cost properly allocable to, the performance of any part of this contract; and

(2) The Contractor asserts its right to the adjustment within 30 days after the end of the period of work stoppage; provided that the Contracting Officer decides the facts justify the action, the Contracting Officer may receive and act upon the claim submitted at any time before final payment under this contract.

(c) If a stop-work order is not canceled and the work covered by the order is terminated for the convenience of the Government, the Contracting Officer shall allow reasonable costs resulting from the stop-work order in arriving at the termination settlement.

(d) If a stop-work order is not canceled and the work covered by the order is terminated for default, the Contracting Officer shall allow, by equitable adjustment or otherwise, reasonable costs resulting from the stop-work order.

(End of clause)

F.3 52.242-15 STOP-WORK ORDER. (AUG 1989) - ALTERNATE I (APR 1984)
(Applies to Cost)

(a) The Contracting Officer may, at any time, by written order to the Contractor, require the Contractor to stop all, or any part, of the work called for by this contract for a period of 90 days after the order is delivered to the Contractor, and for any further period to which the parties may

agree. The order shall be specifically identified as a stop-work order issued under this clause. Upon receipt of the order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order during the period of work stoppage. Within a period of 90 days after a stop-work is delivered to the Contractor, or within any extension of that period to which the parties shall have agreed, the Contracting Officer shall either -

- (1) Cancel the stop-work order; or
 - (2) Terminate the work covered by the order as provided in the Termination clause of this contract.
- (b) If a stop-work order issued under this clause is canceled or the period of the order or any extension thereof expires, the Contractor shall resume work. The Contracting Officer shall make an equitable adjustment in the delivery schedule, the estimated cost, the fee, or a combination thereof, and in any other terms of the contract that may be affected, and the contract shall be modified, in writing, accordingly, if -
- (1) The stop-work order results in an increase in the time required for, or in the Contractor's cost properly allocable to, the performance of any part of this contract; and
 - (2) The Contractor asserts its right to the adjustment within 30 days after the end of the period of work stoppage; provided that, if the Contracting Officer decides the facts justify the action, the Contracting Officer may receive and act upon the claim submitted at any time before final payment under this contract.
- (c) If a stop-work order is not canceled and the work covered by the order is terminated for the convenience of the Government, the Contracting Officer shall allow reasonable costs resulting from the stop-work order in arriving at the termination settlement.
- (d) If a stop-work order is not canceled and the work covered by the order is terminated for default, the Contracting Officer shall allow, by equitable adjustment or otherwise, reasonable costs resulting from the stop-work order.

(End of clause)

F.4 1852.247-73 BILLS OF LADING. (JUN 2002) (Applies to Fixed-Price and Cost)

The purpose of this clause is to define when a commercial bill of lading or a government bill of lading is to be used when shipments of deliverable items under this contract are f.o.b. origin.

- (a) Commercial Bills of Lading. All domestic shipments shall be made via commercial bills of lading (CBLs). The Contractor shall prepay domestic transportation charges. The Government shall reimburse the Contractor for these charges if they are added to the invoice as a separate line item supported by the paid freight receipts. If paid receipts in support of the invoice are not obtainable, a statement as described below must be completed, signed by an authorized company representative, and attached to the invoice.

I certify that the shipments identified below have been made, transportation charges have been paid by (company name), and paid freight or comparable receipts are not obtainable.

Contract or Order Number: TBD

Destination: TBD

(b) Government Bills of Lading. (1) International (export) and domestic overseas shipments of items deliverable under this contract shall be made by Government bills of lading (GBLs). As used in this clause, domestic overseas means non-continental United States, i.e. Hawaii, Commonwealth of Puerto Rico, and possessions of the United States.

(2) At least 15 days before shipment, the Contractor shall request in writing GBLs from: Silvia Hanagriff, Lead, Center Transportation, 2101 NASA Road One, Mail Code JB7, Houston, TX 77058. If time is limited, requests may be by telephone: 281-483-3208. Requests for GBLs shall include the following information.

(i) Item identification/ description.

(ii) Origin and destination.

(iii) Individual and total weights.

(iv) Dimensional Weight.

(v) Dimensions and total cubic footage.

(vi) Total number of pieces.

(vii) Total dollar value.

(viii) Other pertinent data.

(End of clause)

F.5 PERIOD OF PERFORMANCE (Applies to Fixed-Price and Cost)

The Period of Performance for the Phase-In is April 24, 2012 through May 31, 2012.

The period of performance for the contract is June 1, 2012 through September 30, 2013.

(End of clause)

F.6 OPTION TO EXTEND PERIOD OF PERFORMANCE (Applies to Fixed-Price and Cost)

The Government may require the contractor to continue to perform services under this contract. The Contracting Officer may exercise this option(s) by issuance of a unilateral contract modification 30 days or more before the completion date set forth in Section F.4. Should the option be exercised, the resultant contract will include all terms and conditions of the basic contract as it exists immediately prior to the exercise of the option except for the following changes:

Option 1

B.2 entitled "ESTIMATED COST, FIXED PRICE AND AWARD FEES" will be modified to reflect the additions of \$ **(b) (4)** to the estimated cost and fixed price and \$ **(b) (4)** to the maximum available award fees.

B.2.1.1 will be modified to reflect the addition to the estimated cost, fixed price and maximum available award fees as follows:

| | Maximum Available |
|----------------|-------------------|
| Estimated Cost | (b) (4) |
| Fixed Price | |
| Total | |

B.2.1.2 will be modified to reflect the addition to the estimated cost, fixed price and maximum available award fees as follows:

| | Maximum Available |
|----------------|-------------------|
| Estimated Cost | (b) (4) |
| Total | |

F.5 entitled "PERIOD OF PERFORMANCE" will be modified to state:
"The Period of Performance of this contract shall be June 1, 2012 through September 30, 2015

H.20 entitled "LEVEL OF EFFORT (COST)" will be modified to reflect the addition of **(b) (4)** total direct hours to the number of hours shown in (a).

H.20 Johnson Space Center will be modified to reflect the addition of **(b) (4)** total direct labor hours shown in (a)(1).

H.20 Langley Research Center will be modified to reflect the addition of **(b) (4)** total direct labor hours shown in (a)(2).

I.35 entitled "PAYMENT OF OVERTIME PREMIUMS" will be modified to reflect an addition of \$ **(b) (4)**

Option 2

B.2 entitled "ESTIMATED COST, FIXED PRICE AND AWARD FEES" will be modified to reflect the additions of \$ **(b) (4)** to the estimated cost and fixed price and \$ **(b) (4)** to the maximum available award fees.

B.2.1.1 will be modified to reflect the addition to the estimated cost, fixed price and maximum available award fees as follows:

| | Maximum Available Award Fee |
|----------------|--------------------------------|
| Estimated Cost | (b) (4) |
| Fixed Price | |
| Total | |

B.2.1.2 will be modified to reflect the addition to the estimated cost, fixed price and maximum

available award fees as follows:

| | Maximum Available Award Fee |
|----------------|--------------------------------|
| Estimated Cost | (b) (4) |
| Total | |

F.5 entitled “PERIOD OF PERFORMANCE” will be modified to state:
 “The Period of Performance of this contract shall be June 1, 2012 through May 31, 2017.

H.20 entitled “LEVEL OF EFFORT (COST) will be modified to reflect the addition of (b) (4) total direct hours to the number of hours shown in (a)

H.20 Johnson Space Center will be modified to reflect the addition of (b) (4) total direct labor hours shown in (a)(1).

H.20 Langley Research Center will be modified to reflect the addition of (b) (4) total direct labor hours shown in (a)(2).

I.35 entitled “PAYMENT OF OVERTIME PREMIUMS” will be modified to reflect an addition of \$ (b) (4)

(End of clause)

F.7 OPTION FOR THE INCREMENTAL INCREASE OF LEVEL OF EFFORT REQUIRED DURING CONTRACT PERFORMANCE (Applies to Cost)

The Government may increase the number of direct labor hours required to be furnished during the period of performance by an amount ranging from 1 to 762,600 direct labor hours. If the Government elects to exercise its option to increase the number of direct labor hours to be furnished, the Contractor will be so notified by a contract modification executed by the Contracting Officer. The terms and conditions relating the Government’s option rights as provided herein are as follows:

- (a) The Government may increase the direct labor hours to be furnished (up to the maximum amount specified) by the exercise of one option, or by the exercise of multiple options, during the period of performance.
- (b) The Contract Periods for Incremental Increase of Effort Options are defined as follows:
 Base Period – June 1, 2012 through September 30, 2013
 Option 1 – October 1, 2013 through September 30, 2015
 Option 2, October 1, 2015 through May 31, 2017
- (b)(1) If the Government exercises one or more options pursuant to this clause for **Johnson Space Center**, the estimated cost and fee values will be increased as follows:
 - (i) For options exercised for work to be performed during Base Period, the estimated cost and award fee will be increased by \$ (b) (4) and \$ (b) (4) respectively, for every hour ordered by the exercise of an option.

- (ii) For Options exercised for work to be performed during Option 1, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively for every hour ordered by the exercise of an option.
 - (iii) For options exercised for work to be performed during Option 2, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively, for every hour ordered by the exercise of an option.
- (b)(2) If the Government exercises one or more options pursuant to this provision for **Langley Research Center**, the estimated cost and fee values will be increased as follows:
- (i) For options exercised for work to be performed during Base Period, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively, for every hour ordered by the exercise of an option.
 - (ii) For options exercised for work to be performed during Option 1, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively for every hour ordered by the exercise of an option.
 - (ii) For options exercised for work to be performed during Option 2, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively, for every hour ordered by the exercise of an option.

(End of clause)

F.8 TECHNICAL OPTIONS (Applies to Cost)

The Government may increase the number of direct labor hours required to be furnished for technical options during the period of performance by an amount ranging from 1 to 107,356 direct labor hours. If the Government elects to exercise its option to increase the number of direct labor hours to be furnished, the Contractor will be so notified by a contract modification executed by the Contracting Officer. The terms and conditions relating the Government's option rights as provided herein are as follows:

- (a) The Government may increase the direct labor hours to be furnished (up to the maximum amount specified) by the exercise of one option, or by the exercise of multiple options, during the period of performance.

The Contract Periods for Technical Options are defined as follows:

- Base Period – June 1, 2012 through September 30, 2013
- Option 1 – October 1, 2013 through September 30, 2015
- Option 2, October 1, 2015 through May 31, 2017

- (b)(1) If the Government exercises one or more options pursuant to this clause, the estimated cost and fee values will be increased as follows:

F.8.1 TECHNICAL OPTIONS FOR JOHNSON SPACE CENTER (Applies to Cost)

F.8.1.1 TECHNICAL PUBLICATIONS AND DOCUMENT MANAGEMENT SERVICES (SECTION 12.1 of the SOW) (Applies to Cost)

The Contracting Officer may exercise this option by issuance of a unilateral contract modification before the required commencement of work as follows: 1 to 40 direct labor hours; **5** calendar days in advance, 41 to 80 direct labor hours; **10** calendar days in advance, and over 81 direct labor hours; **15** calendar days in advance. The terms and conditions relating the Government’s Option rights as provided herein are as follows:

If the Government exercises one or more options pursuant to this clause for **JSC**, the estimated cost and fee values will be increased as follows:

- (i) For options exercised for work to be performed during Base Period, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively, for every hour ordered by the exercise of an option.
- (ii) For options exercised for work to be performed during Option 1, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively for every hour ordered by the exercise of an option.
- (ii) For options exercised for work to be performed during Option 2, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively, for every hour ordered by the exercise of an option.

F.8.1.2 OPTION FOR SPACEFLIGHT PARACHUTE ASSEMBLY (SECTION 12.2 of the SOW) (Applies to Cost)

The Contracting Officer may exercise this option by issuance of a unilateral contract modification before the required commencement of work **30** calendar days in advance. The terms and conditions relating the Government’s option rights as provided herein are as follows:

If the Government exercises one or more options pursuant to this provision for JSC, the estimated cost and fee values for every hour ordered by the exercise of an option will be increased as follows:

- (i) For options exercised for work to be performed during Base Period, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively, for every standard time (ST) hour ordered by the exercise of an option.
- (ii) For options exercised for work to be performed during Base Period, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively, for every overtime time (OT) hour ordered by the exercise of an option.
- (iii) For options exercised for work to be performed during Option 1, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively for every ST hour ordered by the exercise of an option.
- (iv) For options exercised for work to be performed during Option 1, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively for every over time hour ordered by the exercise of an option.
- (v) For options exercised for work to be performed during Option 2, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively, for every ST hour ordered by the exercise of an option.

- (vi) For options exercised for work to be performed during Option 2, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively, for every OT hour ordered by the exercise of an option

F.8.1.3 OPTION FOR SECURITY SERVICES (SECTION 12.3 of the SOW) (Applies to Cost)

The Contracting Officer may exercise this option by issuance of a unilateral contract modification before the required commencement of work 30 calendar days in advance. The terms and conditions relating the Government’s option rights as provided herein are as follows:

If the Government exercises one or more options pursuant to this clause for JSC, the estimated cost and fee values will be increased as follows:

- (i) For options exercised for work to be performed during Base Period, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively, for every standard time (ST) hour ordered by the exercise of an option.
- (ii) For options exercised for work to be performed during Base Period, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively, for every overtime time (OT) hour ordered by the exercise of an option.
- (iii) For options exercised for work to be performed during Option 1, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively for every ST hour ordered by the exercise of an option.
- (iv) For options exercised for work to be performed during Option 1, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively for every OT hour ordered by the exercise of an option.
- (v) For options exercised for work to be performed during Option 2, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively, for every ST hour ordered by the exercise of an option.
- (vi) For options exercised for work to be performed during Option 2, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively, for every OT hour ordered by the exercise of an option

(End of clause)

F.8.2 TECHNICAL OPTIONS FOR LANGLEY RESEARCH CENTER (Applies to Cost)

F.8.2.1 OPTION FOR PILOTS (SECTION 12.4.1 of the SOW) (Applies to Cost)

The Contracting Officer may exercise this option by issuance of a unilateral contract modification 30 calendar days before the required commencement of work. The terms and conditions relating the Government’s Option rights as provided herein are as follows:

If the Government exercises one or more options pursuant to this provision for LaRC, the estimated cost and fee values for every hour ordered by the exercise of an option will be increased as follows

for Pilots

- (i) For options exercised for work to be performed during Base Period, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively, for every standard time (ST) hour ordered by the exercise of an option.
- (ii) For options exercised for work to be performed during Base Period, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively, for every overtime time (OT) hour ordered by the exercise of an option.
- (iii) For options exercised for work to be performed during Option 1, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively for every ST hour ordered by the exercise of an option.
- (iv) For options exercised for work to be performed during Option 1, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively for every OT hour ordered by the exercise of an option.
- (v) For options exercised for work to be performed during Option 2, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively, for every ST hour ordered by the exercise of an option.
- (vi) For options exercised for work to be performed during Option 2, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively, for every OT hour ordered by the exercise of an option

F.8.2.2 OPTIONS FOR AVIATORS LIFE SUPPORT SYSTEMS AND EQUIPMENT MANAGEMENT SERVICES (SECTION 12.4.2 of the SOW) (Applies to Cost)

The Contracting Officer may exercise this option by issuance of a unilateral contract modification 30 calendar days before the required commencement of work. The terms and conditions relating the Government’s Option rights as provided herein are as follows:

If the Government exercises one or more options pursuant to this provision for LaRC, the estimated cost and fee values for every hour ordered by the exercise of an option will be increased as follows for Aviators Life Support Systems and Equipment (Aircraft Mechanic II)?

- (i) For options exercised for work to be performed during Base Period, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively, for every standard time (ST) hour ordered by the exercise of an option.
- (ii) For options exercised for work to be performed during Base Period, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively, for every overtime time (OT) hour ordered by the exercise of an option.
- (iii) For options exercised for work to be performed during Option 1, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively for every ST hour ordered by the exercise of an option.
- (iv) For options exercised for work to be performed during Option 1, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively for every OT hour ordered by the exercise of an option.

- (v) For options exercised for work to be performed during Option 2, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively, for every ST hour ordered by the exercise of an option.
- (vi) For options exercised for work to be performed during Option 2, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively, for every OT hour ordered by the exercise of an option

F.8.2.3 OPTIONS FOR EGRESS SYSTEMS SHOP (SECTION 12.4.3 of the SOW) (Applies to Cost)

The Contracting Officer may exercise this option by issuance of a unilateral contract modification 30 calendar days before the required commencement of work. The terms and conditions relating the Government’s Option rights as provided herein are as follows:

If the Government exercises one or more options pursuant to this provision for LaRC, the estimated cost and fee values for every hour ordered by the exercise of an option will be increased as follows for Riggers.

- (i) For options exercised for work to be performed during Base Period, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively, for every standard time (ST) hour ordered by the exercise of an option.
- (ii) For options exercised for work to be performed during Base Period, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively, for every overtime time (OT) hour ordered by the exercise of an option.
- (iii) For options exercised for work to be performed during Option 1, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively for every ST hour ordered by the exercise of an option.
- (iv) For options exercised for work to be performed during Option 1, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively for every OT hour ordered by the exercise of an option.
- (v) For options exercised for work to be performed during Option 2, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively, for every ST hour ordered by the exercise of an option.
- (vi) For options exercised for work to be performed during Option 2, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively, for every OT hour ordered by the exercise of an option.

F.8.2.4 OPTION FOR ENGINEERING (SECTION 12.4.4 of the SOW) (Applies to Cost)

The Contracting Officer may exercise this option by issuance of a unilateral contract modification before the required commencement of work **30** calendar days in advance. The terms and conditions relating the Government’s option rights as provided herein are as follows:

If the Government exercises one or more options pursuant to this clause for **an Engineer II**, the estimated cost and fee values will be increased as follows:

- (i) For options exercised for work to be performed during Base Period, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively, for every hour ordered by the exercise of an option.
- (ii) For options exercised for work to be performed during Option 1, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively for every hour ordered by the exercise of an option.
- (iii) For options exercised for work to be performed during Option 2, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively, for every hour ordered by the exercise of an option.

F.8.2.5 OPTIONS FOR QUALITY CONTROL (SECTION 12.4.5 of the SOW) (Applies to Cost)

The Contracting Officer may exercise this option by issuance of a unilateral contract modification 30 calendar days before the required commencement of work. The terms and conditions relating the Government’s Option rights as provided herein are as follows:

If the Government exercises one or more options pursuant to this provision for LaRC, the estimated cost and fee values for every hour ordered by the exercise of an option will be increased as follows for Quality Control.

- (i) For options exercised for work to be performed during Base Period, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively, for every hour ordered by the exercise of an option.
- (ii) For options exercised for work to be performed during Option 1, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively for every hour ordered by the exercise of an option.
- (ii) For options exercised for work to be performed during Option 2, the estimated cost and award fee will be increased by \$(b) (4) and \$(b) (4) respectively, for every hour ordered by the exercise of an option.

F.8.3 OPTIONS FOR DECREASE IN T-38N AIRCRAFT (Applies to fixed price)

Note: At no time during this contract will the Government remove more than two T-38 aircraft or reduce the number of T-38 flight hours more than 600 hours.

F.8.3.1 The Government may require the contractor to remove one T-38N from the required number of T-38N aircraft per day in Section C, Table 6-2 T-38N “Weekly Flight Schedule” and 300 hours per year, shown in Section C, Table 6-1 “Projected Flight Hours.” The Contracting Officer may exercise this option at time of award of the contract or with the Option to Extend the Period of Performance Options by issuance of a unilateral contract modification. Should the option be exercised, the resultant contract will include all terms and conditions of the basic contract as it

exists immediately prior to the exercise of the option except for the following changes:

F.8.3.1.1 Option exercised at time of award of the contract, the fixed price and award fee are decreased as follows:

(i) For Base Period the fixed price and award fee will be decreased by \$ (b) (4) and \$ (b) (4) respectively.

F.8.3.1.2 Option exercised at time of exercise of Option 1, the fixed price and award fee are decreased as follows:

(i) For Option 1 Period, the fixed price and award fee will be decreased by \$ (b) (4) and \$ (b) (4) respectively.

F.8.3.1.3 Option exercised at time of exercise of Option 2, the fixed price and award fee are decreased as follows:

(i) For Option 2 Period, the fixed price and award fee will be decreased by \$ (b) (4) and \$ (b) (4) respectively.

F.8.3.2 The Government may require the contractor to remove two T-38N from the required number of T-38N aircraft per day in Section C, Table 6-2 T-38N "Weekly Flight Schedule" and 600 hours per year, shown in Section C, Table 6-1 "Projected Flight Hours." The Contracting Officer may exercise this option at time of award of the contract or with the Option to Extend the Period of Performance Options by issuance of a unilateral contract modification. Should the option be exercised, the resultant contract will include all terms and conditions of the basic contract as it exists immediately prior to the exercise of the option except for the following changes:

F.8.3.2.1 Option exercised at time of award of the contract, the fixed price and award fee are decreased as follows:

(i) For Base Period the fixed price and award fee will be decreased by \$ (b) (4) and \$ (b) (4) respectively.

F.8.3.2.2 Option exercised at time of exercise of Option 1, the fixed price and award fee are decreased as follows:

(i) For Option 1 Period, the fixed price and award fee will be decreased by \$ (b) (4) and \$ (b) (4) respectively.

F.8.3.2.3 Option exercised at time of exercise of Option 2, the fixed price and award fee are decreased as follows:

(i) For Option 2 Period, the fixed price and award fee will be decreased by \$ (b) (4) and \$ (b) (4) respectively.

(End of clause)

F.9 FLIGHT ITEM (JSC PROCUREMENT INSTRUCTION 52.247-95) (AUG 2005)
(Applies to Fixed-Price and Cost)

NNJ12JC05C

Block 16 of each Department of Defense Form 250 prepared for flight hardware or related equipment to be shipped under this contract must be annotated as follows in 1/4-inch letters or larger by hand printing or rubber stamp:

"THIS IS A FLIGHT ITEM:" OR "THIS IS MISSION ESSENTIAL GROUND SUPPORT EQUIPMENT," as applicable.

(End of clause)

(END OF SECTION)

SECTION G - CONTRACT ADMINISTRATION DATA

- G.1 1852.223-71 FREQUENCY AUTHORIZATION. DEC 1988) (Applies to Fixed-Price and Cost)
- G.2 1852.227-70 NEW TECHNOLOGY. (MAY 2002) (Applies to Fixed-Price and Cost)
- G.3 1852.227-86 COMMERCIAL COMPUTER SOFTWARE - LICENSING. (DEC 1987) (Applies to Fixed-Price and Cost)
- G.4 1852.242-71 TRAVEL OUTSIDE OF THE UNITED STATES. (DEC 1988) (Applies to Cost)
- G.5 1852.242-73 NASA CONTRACTOR FINANCIAL MANAGEMENT REPORTING. (NOV 2004) (Applies to Cost)
- G.6 1852.216-76 AWARD FEE FOR SERVICE CONTRACTS. (JUN 2000) (Applies to Cost)

- (a) The Contractor can earn award fee from the cost portion of the contract from a minimum of zero dollars to the maximum stated in paragraphs B.2.1.1 and B.2.1.2 for cost elements of clause B.2 ESTIMATED COST, FIXED PRICE AND AWARD FEE (Applies to Fixed-Price and Cost).
- (b) The first award fee period will be 4-months long beginning on the effective date of this contract. Thereafter, the Government shall evaluate the Contractor's performance every 6 months to determine the amount of award fee earned by the Contractor during the period. The Contractor may submit a self-evaluation of performance for each evaluation period under consideration. These self-evaluations will be considered by the Government in its evaluation. The Government's Fee Determination Official (FDO) will determine the award fee amounts based on the Contractor's performance in accordance with Attachment J-2-1. The plan may be revised unilaterally by the Government prior to the beginning of any rating period to redirect emphasis.
- (c) The Government will advise the Contractor in writing of the evaluation results. The payment office will make payment based on unilateral modification by the Contracting Officer.
- (d) After 85 percent of the potential award fee has been paid, the Contracting Officer may direct the withholding of further payment of award fee until a reserve is set aside in an amount that the Contracting Officer considers necessary to protect the Government's interest. This reserve shall not exceed 15 percent of the total potential award fee.
- (e) The amount of award fee which can be awarded in each evaluation period is limited to the amounts set forth at Attachment J-2-1 Cost Plus Award Fee Plan. Award fee which is not earned in an evaluation period cannot be reallocated to future evaluation periods.
- (f)(1) Provisional award fee payments will be made under this contract pending the determination of the amount of fee earned for an evaluation period. If applicable, provisional award fee payments will be made to the Contractor on a monthly basis. The total amount of award fee available in an evaluation period that will be provisionally paid is the lesser of 80 percent or the prior period's

evaluation score.

- (2) Provisional award fee payments will be superseded by the final award fee evaluation for that period. If provisional payments exceed the final evaluation score, the Contractor will either credit the next payment voucher for the amount of such overpayment or refund the difference to the Government, as directed by the Contracting Officer.
- (3) If the Contracting Officer determines that the Contractor will not achieve a level of performance commensurate with the provisional rate, payment of provisional award fee will be discontinued or reduced in such amounts as the Contracting Officer deems appropriate. The Contracting Officer will notify the Contractor in writing if it is determined that such discontinuance or reduction is appropriate.
- (4) Provisional award fee payments will be made prior to the first award fee determination by the Government.
- (g) Award fee determinations are unilateral decisions made solely at the discretion of the Government.

(End of clause)

G.7 SUBMISSION OF INVOICES FIXED PRICE (Applies to Fixed-Price)

- (1) The Contractor shall submit an original invoice and three copies (or electronic invoice, if authorized) to the address designated in the contract, (See Form 33, Block 25) to receive invoices. An invoice must include—
 - (i) Name and address of the Contractor;
 - (ii) Invoice date and number;
 - (iii) Contract number, contract line item number and, if applicable, the order number;
 - (iv) Description, quantity, unit of measure, unit price and extended price of the items delivered;
 - (v) Name and address of official to whom payment is to be sent;
 - (vi) Name, title, and phone number of person to notify in event of defective invoice; and
 - (vii) Taxpayer Identification Number (TIN). The Contractor shall include its TIN on the invoice only if required elsewhere in this contract.
 - (viii) Electronic funds transfer (EFT) banking information.
 - (ix) The NASA Shared Services Center is the Designated Billing Office for NASA invoices. All invoices/vouchers shall be submitted via email to NSSC-AccountsPayable@nasa.gov, with no more than one invoice/voucher per email submission. The contractor shall also include a carbon copy of the emailed invoice to the NASA JSC Contracting Officer.
- (A) The Contractor shall include EFT banking information on the invoice only if required elsewhere in this contract.

(B) If EFT banking information is not required to be on the invoice, in order for the invoice to be a proper invoice, the Contractor shall have submitted correct EFT banking information in accordance with the applicable solicitation provision, contract clause (e.g., 52.232-33, Payment by Electronic Funds Transfer—Central Contractor Registration), or applicable agency procedures.

(C) EFT banking information is not required if the Government waived the requirement to pay by EFT.

(2) Invoices will be handled in accordance with the Prompt Payment Act (31 U.S.C. 3903) and Office of Management and Budget (OMB) prompt payment regulations at 5 CFR Part 1315.

(D) The Contractor may invoice monthly for the preceding month for the Fixed-Price Portion of the Contract, exclusive of the Award Fee, based on the following:

G.7.1 For Johnson Space Center, Phase-In And Base Period

G.7.1.1 JSC Phase-In Period

| Item No | Description | Quantity | Unit | Unit Price | Amount |
|---------|-------------|----------|------|------------|--------|
| JSC 1 | Phase-In | 1 | Lot | (b) (4) | |

*This amount shall be the same as found in B.2.1.1 (Phase-In).

G.7.1.2 Fixed Price Quantities for the Base Period (June 1, 2012 – September 30, 2013)

| Item No | Description | Quantity | Unit | Unit Price | Amount |
|---------|---------------------------------|----------|-------|------------|--------|
| JSC 2 | Base Period (6/1/12 – 9/30/12) | 4 | Month | (b) (4) | (4) |
| JSC 3 | Base Period (10/1/12 – 9/30/13) | 12 | Month | | |
| Total | | | | | |

** This amount shall be the same as found in B.2.1.1 (fixed price)

G.7.1.3 Fixed Price Quantities for the Option 1, Option to Extend Period of Performance (October 1, 2013 – September 30, 2015), JSC

| Item No | Description | Quantity | Unit | Unit Price | Amount |
|---------|----------------------------|----------|-------|------------|--------|
| JSC 4 | Period 10/1/13 – 9/30/14 | 12 | Month | (b) (4) | (4) |
| JSC 5 | Period (10/1/14 – 9/30/15) | 12 | Month | | |
| Total | | | | | |

**** This amount shall be the same as found in F5. B.2.1.1, Fixed Price

G.7.1.4 Fixed Price Quantities for the Option 2, Option to Extend Period of Performance (October 1, 2015 – May 31, 2017)

| Item No | Description | Quantity | Unit | Unit Price | Amount |
|---------|------------------------------|----------|-------|------------|--------|
| JSC 6 | Period 10/1/2015 – 9/30/2016 | 12 | Month | (b) (4) | (4) |
| JSC 7 | Period (10/1/2016 –5/31/17) | 8 | Month | | |
| Total | | | | | |

***** This amount shall be the same as found in F.5. B.2.1.1

G.7.1.5 If the amounts shown in Section B, and F.5 Option to Extend the Period of Performance, Options 1 and 2, differ, the lower amount shall apply.

G.7.2 For Langley Research Center, Phase In

G.7.2.1 Langley Research Center, Phase-In

| Item No | Description | Quantity | Unit | Unit Price | Amount |
|---------|-------------|----------|------|------------|--------|
| 1 | Phase- In | 1 | Lot | (b) (4) | |

*****This amount shall be the same as found in B.2.1.2**

(End of clause)

G.8 AWARD FEE FOR FIXED PRICED SERVICE CONTRACTS (Applies to Fixed-Price)

- (a) The Contractor can earn award fee from a minimum of zero dollars to the maximum stated in paragraphs B.2.1.1 and B.2.1.2 for the Fixed Price elements of clause B.2 ESTIMATED COST FIXED PRICE AND AWARD FEE (Applies to Fixed-Price and Cost).
- (b) The first award fee period will be 4-months long beginning on the effective date of this contract. Thereafter, the Government shall evaluate the Contractor's performance every 6 months to determine the amount of award fee earned by the Contractor during the period. The Contractor may submit a self-evaluation of performance for each evaluation period under consideration. These self-evaluations will be considered by the Government in its evaluation. The Government's Fee Determination Official (FDO) will determine the award fee amounts based on the Contractor's performance in accordance with Attachment J-2-2. The plan may be revised unilaterally by the Government prior to the beginning of any rating period to redirect emphasis.
- (c) The Government will advise the Contractor in writing of the evaluation results. The payment office will make payment based on unilateral modification by the Contracting Officer.
- (d) After 85 percent of the potential award fee has been paid, the Contracting Officer may direct the withholding of further payment of award fee until a reserve is set aside in an amount that the Contracting Officer considers necessary to protect the Government's interest. This reserve shall not exceed 15 percent of the total potential award fee.
- (e) The amount of award fee which can be awarded in each evaluation period is limited to the amounts set forth at Attachment J-2-2 Fixed Price Award Fee Plan. Award fee which is not earned in an evaluation period cannot be reallocated to future evaluation periods.

- (f)(1) Provisional award fee payments will not be made under this contract.
- (2) Award fee payments will be made after award Fee Determination Official (FDO) has determined the award fee earned and payable for each evaluation period.
- (g) Award fee determinations are unilateral decisions made solely at the discretion of the Government.

(End of clause)

G.9 1852.216-87 SUBMISSION OF VOUCHERS FOR PAYMENT. (MAR 1998)
(Applies to Cost)

- (a) The designated billing office for cost vouchers for purposes of the Prompt Payment clause of this contract is indicated below. Public vouchers for payment of costs shall include a reference to the number of this contract.
- (b) (1) If the Contractor is authorized to submit interim cost vouchers directly to the NASA paying office, the original voucher should be submitted to:

NASA Shared Services Center
Financial Management Division (FMD) Accounts Payable
Bldg. 1111
Stennis Space Center, MS 39529

- (2) For any period that the Defense Contract Audit Agency has authorized the Contractor to submit interim cost vouchers directly to the Government paying office, interim vouchers are not required to be sent to the Auditor, and are considered to be provisionally approved for payment, subject to final audit.
- (3) Copies of vouchers should be submitted as directed by the Contracting Officer.
- (c) If the Contractor is not authorized to submit interim cost vouchers directly to the paying office as described in paragraph (b), the Contractor shall prepare and submit vouchers as follows:
 - (1) One original Standard Form (SF) 1034, SF 1035, or equivalent Contractor's attachment to: Defense Contract Audit Agency (DCAA) Direct Submission Authorization TBD Date.
 - (2) Five copies of SF 1034, SF 1035A, or equivalent Contractor's attachment to the following offices by insertion in the memorandum block of their names and addresses:
 - (i) Copy 1 NASA Contracting Officer
 - (ii) Copy 2 Auditor
 - (iii) Copy 3 Contractor
 - (iv) Copy 4 Contract administration office; and
 - (v) Copy 5 Project management office

- (3) The Contracting Officer may designate other recipients as required.
- (d) Public vouchers for payment of fee shall be prepared similarly to the procedures in paragraphs (b) or (c) of this clause, whichever is applicable, and be forwarded to:

For JSC:
 NASA Lyndon B. Johnson Space Center
 Institutional Procurement Office
 Attn: Alice J. Pursell
 Houston, TX 77058-3696

For LaRC:
 NASA Langley Research Center
 Office of Procurement
 Attn: Michael T. Stubbs, Mail Stop 126
 Hampton, VA 23681-0001 This is the designated billing office for fee vouchers for purposes of the Prompt Payment clause of this contract.

- (e) In the event that amounts are withheld from payment in accordance with provisions of this contract, a separate voucher for the amount withheld will be required before payment for that amount may be made.

(End of clause)

G.10 1852.227-72 DESIGNATION OF NEW TECHNOLOGY REPRESENTATIVE AND PATENT REPRESENTATIVE. (JUL 1997) (Applies to Fixed-Price and Cost)

- (a) For purposes of administration of the clause of this contract entitled "New Technology" or "Patent Rights - Retention by the Contractor (Short Form)," whichever is included, the following named representatives are hereby designated by the Contracting Officer to administer such clause:

| Title | Office Code | Address (including zip code) |
|-------------------------------|--------------------|--|
| New Technology Representative | AD2 | NASA, Lyndon B. Johnson Space Center Technology Transfer and Commercialization Office Houston, TX 77058-3696 |
| Patent Counsel | AL | NASA, Lyndon B. Johnson Space Center, Office of Chief Counsel, Houston, TX 77058-3696 |

- (b) Reports of reportable items, and disclosure of subject inventions, interim reports, final reports, utilization reports, and other reports required by the clause, as well as any correspondence with respect to such matters, should be directed to the New Technology Representative unless transmitted in response to correspondence or request from the Patent Representative. Inquires or requests regarding disposition of rights, election of rights, or related matters should be directed to the Patent Representative. This clause shall be included in any subcontract hereunder requiring a "New Technology" clause or "Patent Rights - Retention by the Contractor (Short Form)" clause, unless otherwise authorized or directed by the Contracting Officer. The respective responsibilities and authorities of the above-named representatives are set forth in

1827.305-370 of the NASA FAR Supplement.

(End of clause)

G.11 1852.242-70 TECHNICAL DIRECTION. (SEP 1993) (Applies to Fixed-Price and Cost)

- (a) Performance of the work under this contract is subject to the written technical direction of the Contracting Officer Technical Representative (COTR), who shall be specifically appointed by the Contracting Officer in writing in accordance with NASA FAR Supplement 1842.270. "Technical direction" means a directive to the Contractor that approves approaches, solutions, designs, or refinements; fills in details or otherwise completes the general description of work or documentation items; shifts emphasis among work areas or tasks; or furnishes similar instruction to the Contractor. Technical direction includes requiring studies and pursuit of certain lines of inquiry regarding matters within the general tasks and requirements in Section C of this contract.
- (b) The COTR does not have the authority to, and shall not, issue any instruction purporting to be technical direction that -
- (1) Constitutes an assignment of additional work outside the statement of work;
 - (2) Constitutes a change as defined in the changes clause;
 - (3) Constitutes a basis for any increase or decrease in the total estimated contract cost, the fixed fee (if any), or the time required for contract performance;
 - (4) Changes any of the expressed terms, conditions, or specifications of the contract; or
 - (5) Interferes with the Contractor's rights to perform the terms and conditions of the contract.
- (c) All technical direction shall be issued in writing by the COTR.
- (d) The Contractor shall proceed promptly with the performance of technical direction duly issued by the COTR in the manner prescribed by this clause and within the COTR's authority. If, in the Contractor's opinion, any instruction or direction by the COTR falls within any of the categories defined in paragraph (b) of this clause, the Contractor shall not proceed but shall notify the Contracting Officer in writing within 5 working days after receiving it and shall request the Contracting Officer to take action as described in this clause. Upon receiving this notification, the Contracting Officer shall either issue an appropriate contract modification within a reasonable time or advise the Contractor in writing within 30 days that the instruction or direction is -
- (1) Rescinded in its entirety; or
 - (2) Within the requirements of the contract and does not constitute a change under the changes clause of the contract, and that the Contractor should proceed promptly with its performance.
- (e) A failure of the Contractor and Contracting Officer to agree that the instruction or direction is both within the requirements of the contract and does not constitute a change under the changes clause, or a failure to agree upon the contract action to be taken with respect to the instruction or

direction, shall be subject to the Disputes clause of this contract.

- (f) Any action(s) taken by the Contractor in response to any direction given by any person other than the Contracting Officer or the COTR shall be at the Contractor's risk.

(End of clause)

G.12 1852.245-70 CONTRACTOR REQUESTS FOR GOVERNMENT-PROVIDED EQUIPMENT. (JAN 2011) ALTERNATE I (JAN 2011) (Applies to Fixed-Price and Cost)

- (a) The Contractor shall provide all property required for the performance of this contract. The Contractor shall not acquire or construct items of property to which the Government will have title under the provisions of this contract without the Contracting Officer's written authorization. Property which will be acquired as a deliverable end item as material or as a component for incorporation into a deliverable end item is exempt from this requirement. Property approved as part of the contract award or specifically required within the statement of work is exempt from this requirement.
- (b)(1) In the event the Contractor is unable to provide the property necessary for performance, and the Contractor requests provision of property by the Government, the Contractor's request shall
 - (i) Justify the need for the property;
 - (ii) Provide the reasons why Contractor-owned property cannot be used;
 - (iii) Describe the property in sufficient detail to enable the Government to screen its inventories for available property or to otherwise acquire property, including applicable manufacturer, model, part, catalog, National Stock Number or other pertinent identifiers;
 - (iv) Combine requests for quantities of items with identical descriptions and estimated values when the estimated values do not exceed \$100,000 per unit; and
 - (v) Include only a single unit when the acquisition or construction value equals or exceeds \$100,000.
- (2) Contracting Officer authorization is required for items the Contractor intends to manufacture as well as those it intends to purchase.
- (3) The Contractor shall submit requests to the Contracting Officer no less than 30 days in advance of the date the Contractor would, should it receive authorization, acquire or begin fabrication of the item.
- (c) The Contractor shall maintain copies of Contracting Officer authorizations, appropriately cross-referenced to the individual property record, within its property management system.
- (d) Property furnished from Government excess sources is provided as-is, where-is. The Government makes no warranty regarding its applicability for performance of the contract or its ability to operate. Failure of property obtained from Government excess sources under this clause is insufficient reason for submission of requests for equitable adjustments discussed in the clause at FAR 52.245-1, Government Property, as incorporated in this contract.

- (e) In the event the Contracting Officer issues written authorization to provide property, the Contractor shall screen Government sources to determine the availability of property from Government inventory or excess property.
- (1) The Contractor shall review NASA inventories and other authorized Federal excess sources for availability of items that meet the performance requirements of the requested property.
 - (i) If the Contractor determines that a suitable item is available from NASA supply inventory, it shall request the item using applicable Center procedures.
 - (ii) If the Contractor determines that an item within NASA or Federal excess is suitable, it shall contact the Center Industrial Property Officer to arrange for transfer of the item from the identified source to the Contractor.
- (2) If the Contractor determines that the required property is not available from inventory or excess sources, the Contractor shall note the acquisition file with a list of sources reviewed and the findings regarding the lack of availability. If the required property is available, but unsuitable for use, the Contractor shall document the rationale for rejection of available property. The Contractor shall retain appropriate cross-referenced documentary evidence of the outcome of those screening efforts as part of its property records system.

(End of clause)

G.13 1852.245-71 INSTALLATION-ACCOUNTABLE GOVERNMENT PROPERTY. (JAN 2011) ALTERNATE I (JAN 2011) (Applies to Fixed-Price and Cost)

(a) The Government property described in paragraph (c) of this clause may be made available to the Contractor on a no-charge basis for use in performance of this contract. This property shall be utilized only within the physical confines of the NASA installation that provided the property unless authorized by the Contracting Officer under (b)(1)(iv). Under this clause, the Government retains accountability for, and title to, the property, and the Contractor shall comply with the following:

NASA Procedural Requirements (NPR) 4100.1, NASA Materials Inventory Management Manual;

NASA Procedural Requirements (NPR) 4200.1, NASA Equipment Management Procedural Requirements;

NASA Procedural Requirement (NPR) 4300.1, NASA Personal Property Disposal Procedural Requirements;

[JWI 4210.2 JSC Instructions for Control of Program Stock](#)

Property not recorded in NASA property systems must be managed in accordance with the requirements of the clause at FAR 52.245-1, as incorporated in this contract. The Contractor shall establish and adhere to a system of written procedures to assure continued, effective management control and compliance with these user responsibilities. In accordance with FAR 52.245-1(h)(1) the Contractor shall be liable for property lost, damaged, destroyed or stolen by the Contractor or their employees when determined responsible by a NASA Property Survey Board, in accordance with the NASA guidance in this clause.

- (b)(1) The official accountable recordkeeping, financial control, and reporting of the property subject to this clause shall be retained by the Government and accomplished within NASA management information systems prescribed by the installation Supply and Equipment Management Officer (SEMO) and Financial Management Officer. If this contract provides for the Contractor to acquire property, title to which will vest in the Government, the following additional procedures apply:
- (i) The Contractor shall not utilize the installation's central receiving facility for receipt of contractor-acquired property. However, the Contractor shall provide listings suitable for establishing accountable records of all such property received, on a monthly basis, to the SEMO.
 - (ii) The Contractor shall furnish a copy of each purchase order, prior to delivery by the vendor, to the installation central receiving area.
 - (iii) The Contractor shall establish a record for Government titled property as required by FAR 52.245-1, as incorporated in this contract, and shall maintain that record until accountability is accepted by the Government.
 - (iv) Contractor use of Government property at an off-site location and off-site subcontractor use requires advance approval of the Contracting Officer and notification of the Industrial Property Officer. The property shall be considered Government furnished and the Contractor shall assume accountability and financial reporting responsibility. The Contractor shall establish records and property control procedures and maintain the property in accordance with the requirements of FAR 52.245-1, Government Property (as incorporated in this contract), until its return to the installation. NASA Procedural Requirements related to property loans shall not apply to offsite use of property by contractors.
- (2) After transfer of accountability to the Government, the Contractor shall continue to maintain such internal records as are necessary to execute the user responsibilities identified in paragraph (a) of this clause and document the acquisition, billing, and disposition of the property. These records and supporting documentation shall be made available, upon request, to the SEMO and any other authorized representatives of the Contracting Officer.
- (c) The following property and services are provided if checked:
- (1) Office space, work area space, and utilities. Government telephones are available for official purposes only.
 - (2) Office furniture.
 - (3) Property listed in Attachment J-3.
- (i) If the Contractor acquires property, title to which vests in the Government pursuant to other provisions of this contract, this property also shall become accountable to the Government upon its entry into Government records.
 - (ii) The Contractor shall not bring to the installation for use under this contract any property owned or leased by the Contractor, or other property that the Contractor is accountable for under any other Government contract, without the Contracting Officer's prior written approval.

- [] (4) Supplies from stores stock.
- [X] (5) Publications and blank forms stocked by the installation.
- [X] (6) Safety and fire protection for Contractor personnel and facilities.
- [X] (7) Installation service facilities: See Table 1, 2, and 3 listed below.

Table 1: Ellington Field (EFD) Facilities

| Shop or Facility | Location and Building |
|---|-----------------------|
| Administration Office | EFD, Building 273 |
| Aircraft Test Article Facility | EED, Building 142 |
| Battery Shop | EFD, Building 135 |
| Corrosion/Paint Shop | EFD, Building 136 |
| Egress Shop | EFD, Building 271 |
| Electric Shop | EFD, Building 135 |
| Electronics Lab | EFD, Building 135 |
| Engine Shop | EFD, Building 135 |
| Engineering | EFD, Building 135 |
| Flight Line/Ramp | EFD, EDW, ELP |
| Fuel Cell Maintenance | EFD, Building 150 |
| Ground Support Equipment Shop | EFD, Building 278 |
| Hangar 135 | EFD, Building 135 |
| Hangar/Docks 276 | EFD, Building 276 |
| Hangar 990 | EFD, Building 990 |
| Hydraulic Shop | EFD, Building 276 |
| Jet Engine Test Facility | EFD, Building 140 |
| Mechanical Accessories Shop | EFD, Building 272 |
| NASA Division Office, Flight Operations and Safety Office | EFD, Building 276 |
| Nondestructive Inspection (NDI) Testing Lab | EFD, Building 150 |
| Personal Equipment Shop | EFD, Building 276 |
| Pressure Suit Shop | EFD, Building 990 |
| Production Control | EFD, Building 276 |
| Quality Offices | EFD, Building 267 |
| Sound Suppression Facility | EFD, Building 151 |

| Shop or Facility | Location and Building |
|----------------------------------|---|
| Sheet Metal Shop | EFD, Building 135 |
| Supply Building 333 | JSC Site, Building 333—Partial Use/Shared with other NASA Contractors |
| Supply Building 338 | JSC Site, Building 338—Partial Use/Shared with other NASA Contractors |
| Supply Building 993 | EFD, Building 993 (Reduced Gravity Facility) |
| Supply Building 994 | EFD, Building 994 (WB-57 Special Projects) |
| Supply- Class B And C Explosives | EFD, Building E270 |
| T-38 Simulator | JSC Site, Building 5 |
| Tire and Wheel Shop | EFD, Building 137 |
| Tire and Wheel Storage | EFD, Building 137B |
| Warehouse, Building 265 | EFD, Building 265 |
| Warehouse, Building 266 | EFD, Building 266 |
| Warehouse, Building 270 | EFD, Building 270 |
| Warehouse, Building 380 | EFD, Building 380 |
| Welding Shop | EFD, Building 279 |
| Aircraft Wash Rack | EFD, Building 280 |

Table 2: El Paso (ELP) Facilities

| Shop or Facility | Location and Building |
|------------------|-----------------------|
| Hangar 8101 | ELP, Building 8101 |
| Hangar 8102 | ELP, Building 8102 |

Table 3: Edwards Air Force Base (EDW) Facilities

| Shop or Facility | Location and Building |
|--------------------------------|-----------------------|
| Building 4859 | EDW/DFRC |
| Shuttle Handling Area “Area-A” | EDW/DFRC |

[X] (8) Medical treatment of a first-aid nature for Contractor personnel injuries or illnesses sustained during on-site duty.

[X] (9) Cafeteria privileges for Contractor employees during normal operating hours.

[X] (10) Building maintenance for facilities occupied by Contractor personnel.

[X] (11) Moving and hauling for office moves, movement of large equipment, and delivery of supplies. Moving services may be provided on-site, as approved by the Contracting Officer.

(End of clause)

G.14 1852.245-75 PROPERTY MANAGEMENT CHANGES. (JAN 2011) (Applies to Fixed-Price and Cost)

(a) The Contractor shall submit any changes to standards and practices used for management and control of Government property under this contract to the assigned property administrator prior to making the change whenever the change -

(1) Employs a standard that allows increase in thresholds or changes the timing for reporting loss, damage, or destruction of property;

(2) Alters physical inventory timing or procedures;

(3) Alters recordkeeping practices;

(4) Alters practices for recording the transport or delivery of Government property; or

(5) Alters practices for disposition of Government property.

(End of clause)

G.15 1852.245-76 LIST OF GOVERNMENT PROPERTY FURNISHED PURSUANT TO FAR 52.245-1. (JAN 2011) (Applies to Fixed-Price and Cost)

For performance of work under this contract, the Government will make available Government property identified below on a no charge-for-use basis pursuant to the clause at FAR 52.245-1, Government Property, as incorporated in this contract. The Contractor shall use this property in the performance of this contract at other location(s) as may be approved by the Contracting Officer. Under FAR 52.245-1, the Contractor is accountable for the identified property.

NO GOVERNMENT PROPERTY WILL BE MADE AVAILABLE OR PROVIDED TO THE CONTRACTOR AS GOVERNMENT FURNISHED PROPERTY (GFP) UNDER THIS CLAUSE. PROPERTY UNDER AMOS WILL BE AVAILABLE AS INSTALLATION ACCOUNTABLE PROPERTY IN ACCORDANCE WITH NASA FAR SUPPLEMENT (NFS) 1852.245-71 (JAN 2011) UNLESS OTHERWISE AUTHORIZED IN THIS CONTRACT.

(End of clause)

G.16 1852.245-78 PHYSICAL INVENTORY OF CAPITAL PERSONAL PROPERTY. (JAN 2011) (Applies to Fixed-Price and Cost)

(a) In addition to physical inventory requirements under the clause at FAR 52.245-1, Government Property, as incorporated in this contract, the Contractor shall conduct annual physical inventories

for individual property items with an acquisition cost exceeding \$100,000.

(1) The Contractor shall inventory -

(i) Items of property furnished by the Government;

(ii) Items acquired by the Contractor and titled to the Government under the clause at FAR 52.245-1;

(iii) Items constructed by the Contractor and not included in the deliverable, but titled to the Government under the clause at FAR 52.245-1; and

(iv) Complete but undelivered deliverables.

(2) The Contractor shall use the physical inventory results to validate the property record data, specifically location and use status, and to prepare summary reports of inventory as described in paragraph (c) of this clause.

(b) Unless specifically authorized in writing by the Property Administrator, the inventory shall be performed and posted by individuals other than those assigned custody of the items, responsibility for maintenance, or responsibility for posting to the property record. The Contractor may request a waiver from this separation of duties requirement from the Property Administrator, when all of the conditions in either (1) or (2) of this paragraph are met.

(1) The Contractor utilizes an electronic system for property identification, such as a laser bar-code reader or radio frequency identification reader, and

(i) The programs or software preclude manual data entry of inventory identification data by the individual performing the inventory; and

(ii) The inventory and property management systems contain sufficient management controls to prevent tampering and assure proper posting of collected inventory data.

(2) The Contractor has limited quantities of property, limited personnel, or limited property systems; and the Contractor provides written confirmation that the Government property exists in the recorded condition and location;

(3) The Contractor shall submit the request to the cognizant property administrator and obtain approval from the property administrator prior to implementation of the practice.

(c) The Contractor shall report the results of the physical inventory to the property administrator within 10 calendar days of completion of the physical inventory. The report shall -

(1) Provide a summary showing number and value of items inventoried; and

(2) Include additional supporting reports of -

(i) Loss in accordance with the clause at 52.245-1, Government Property;

(ii) Idle property available for reuse or disposition; and

(iii) A summary of adjustments made to location, condition, status, or user as a result of the

physical inventory reconciliation.

(d) The Contractor shall retain auditable physical inventory records, including records supporting transactions associated with inventory reconciliation. All records shall be subject to Government review and/or audit.

(End of clause)

G.17 1852.245-79 RECORDS AND DISPOSITION REPORTS FOR GOVERNMENT PROPERTY WITH POTENTIAL HISTORIC OR SIGNIFICANT REAL VALUE. (JAN 2011) (Applies to Fixed-Price and Cost)

(a) In addition to the property record data required by the clause at FAR 52.245-1, Government Property as incorporated in this contract, Contractor records of all Government property under this contract shall -

- (1) Identify the projects or missions that used the items;
- (2) Specifically identify items of flown property;
- (3) When known, associate individual items of property used in space flight operations with the using astronaut(s); and
- (4) Identify property used in test activity and, when known, the individuals who conducted the test.

(b) The Contractor shall include this information within item descriptions -

- (1) On any Standard Form 1428, Inventory Schedule;
- (2) In automated disposition systems;
- (3) In any other disposition related reports; and
- (4) In other requests for disposition instructions.

(c) The Contractor shall not remove NASA identification or markings from Government property prior to or during disposition without the advanced written approval of the Plant Clearance Officer.

(End of clause)

G.18 1852.245-82 OCCUPANCY MANAGEMENT REQUIREMENTS. (JAN 2011) (Applies to Fixed-Price and Cost)

(a) In addition to the requirements of the clause at FAR 52.245-1, Government Property, as included in this contract, the Contractor shall comply with the following in performance of work in and around Government real property:

- (1) NPD 8800.14, Policy for Real Property Management.
- (2) NPR 8831.2, Facility Maintenance Management.

- (b) The Contractor shall obtain the written approval of the Contracting Officer before installing or removing Contractor-owned property onto or into any Government real property or when movement of Contractor-owned property may damage or destroy Government-owned property. The Contractor shall restore damaged property to its original condition at the Contractor's expense.
- (c) The Contractor shall not acquire, construct or install any fixed improvement or structural alterations in Government buildings or other real property without the advance, written approval of the Contracting Officer. Fixed improvement or structural alterations, as used herein, means any alteration or improvement in the nature of the building or other real property that, after completion, cannot be removed without substantial loss of value or damage to the premises. Title to such property shall vest in the Government.
- (d) The Contractor shall report any real property or any portion thereof when it is no longer required for performance under the contract, as directed by the Contracting Officer.

(End of Clause)

G.19 EL PASO INTERNATIONAL AIRPORT 10-YEAR FINGER PRINT CRIMINAL HISTORY CHECK (Applies to Fixed-Price and Cost)

All Contractor employees who require unescorted access to the El Paso International Airport Security Identification Display Area (SIDA) shall submit his/her fingerprints to the United States Office of Personnel Management for a fingerprint-based criminal history record check. The Contractor may contact the El Paso International Airport Badging Office at 915-780-4750 to make an appointment for fingerprinting.

(End of clause)

G.20 SECURITY/BADGING REQUIREMENTS FOR FOREIGN NATIONAL VISITORS AND EMPLOYEES/REPRESENTATIVES OF FOREIGN CONTRACTORS (JSC PROCUREMENT INSTRUCTION 52.204-91) (JAN 2006) (Applies to Fixed-Price and Cost)

- (a) An employee of a domestic Johnson Space Center (JSC) Contractor or its subcontractor who is not a U.S. citizen (foreign national) may not be admitted to the JSC site for purposes of performing work without special arrangements. In addition, all employees or representatives of a foreign JSC Contractor/subcontractor may not be admitted to the JSC or WSTF site without special arrangements. For employees as described above, advance notice must be given to the Security Office of the host installation at least 3 weeks prior to the scheduled need for access to the site so that instructions on obtaining access may be provided. Contractors should be aware that approval for access to the site and issuance of a badge may take much longer than three weeks and sufficient lead time must be allowed to accommodate the approval process.
- (b) All visit/badge requests for persons described in (a) above must be entered in the NASA Foreign National Management System (NFNMS) for acceptance, review, concurrence and approval purposes. When an authorized company official requests a JSC or LaRC badge for site access, he/she is certifying that steps have been taken to ensure that its Contractor or subcontractor employees, visitors, or representatives will not be given access to export-controlled or classified information for which they are not authorized. The authorized company officials shall serve as the Contractor's representative(s) in certifying that all

visit/badge request forms are processed in accordance with JSC and LaRC security and export control procedures. No foreign national, representative, or resident alien Contractor/subcontractor employee shall be granted access into JSC or WSTF until approved and processed through the NFNMS. Unescorted access will not be granted unless a favorable National Agency Check (NAC) has been completed by the JSC Security Office, and an approved NASA Foreign National Visitor Security/Technology Control Plan (STTCP), (previously called the Access Control Plan) has been submitted and approved.

- (c) The Contractor agrees that it will not employ for the performance of work onsite at the JSC or WSTF any individuals who are not legally authorized to work in the United States. If the JSC or WSTF Industrial Security Specialist or the Contracting Officer has reason to believe that any employee of the Contractor may not be legally authorized to work in the United States and/or on the contract, the Contractor may be required to furnish copies of Form I-9 (Employment Eligibility Verification), U.S. Department of Labor Application for Alien Employment Certification, and any other type of employment authorization document.

The Contractor agrees to provide the information requested by the JSC or WSTF Security Office in order to comply with NASA policy directives and guidelines related to foreign visits to NASA facilities so that (1) the visitor/employee/ representative may be allowed access to JSC or other NASA Centers for performance of this contract, (2) required investigations can be conducted, and (3) required annual or revalidation reports can be submitted to NASA Headquarters. All requested information must be submitted in a timely manner in accordance with instructions provided by JSC or any other Center to be visited.

(End of clause)

G.21 IDENTIFICATION OF EMPLOYEES (JSC PROCUREMENT INSTRUCTION 52.242-92) (AUG 2009) (Applies to Fixed-Price and Cost)

- (a) At all times while on Government property, the Contractor, subcontractors, their employees and agents shall wear badges which will be issued by the NASA Badging & Visitor Control Office, located in Building 110 at the Johnson Space Center (JSC), or at the Main Gate at the White Sands Test Facility (WSTF). JSC badges and credentials will be issued only between the hours of 6:00 a.m. to 5:30 p.m., Monday through Friday. WSTF employee badges will be issued only between the hours of 8 a.m. to 2 p.m., Monday through Friday. WSTF visitor badges will be issued on a 7-day a week, 24-hour a day basis at the forward gate (B-117). Resident aliens and foreign nationals/representatives shall be issued green foreign national badges.
- (b) Each individual who wears a badge shall be required to sign personally for the badge. The Contractor shall be held accountable for issued badges and all other related items and must assure that they are returned to the NASA Badging & Visitor Control Offices upon completion of work under the contract in accordance with Security Management Directive (SMD) 500-15, "Security Termination Procedures." Failure to comply with the NASA Contractor termination procedures upon completion of the work (e.g., return of badges, keys, CAA cards, clearance terminations, JSC Public Key Infrastructure (PKI)/special program deletions, etc.) may result in final payment being delayed.

(End of clause)

(END OF SECTION)

SECTION H - SPECIAL CONTRACT REQUIREMENTS

- H.1 1852.208-81 RESTRICTIONS ON PRINTING AND DUPLICATING. (NOV 2004)
(Applies to Fixed-Price and Cost)
- H.2 1852.225-70 EXPORT LICENSES. (FEB 2000) (Applies to Fixed-Price and Cost)
- (b) The Contractor shall be responsible for obtaining export licenses, if required, before utilizing foreign persons in the performance of this contract, including instances where the work is to be performed on-site at (JSC and LaRC), where the foreign person will have access to export-controlled technical data or software.
- H.3 1852.228-70 AIRCRAFT GROUND AND FLIGHT RISK. (OCT 1996) (Applies to Fixed-Price)
Add the following:
(k) Definition of aircraft is modified to include helicopters. The helicopter covered under this contract has reached a point of manufacture comparable to that specified in the standard definition, which is written for conventional winged aircraft.
- H.4 1852.228-71 AIRCRAFT FLIGHT RISKS. (DEC 1988) (Applies to Cost)
- H.5 1852.246-70 MISSION CRITICAL SPACE SYSTEM PERSONNEL RELIABILITY PROGRAM. (MAR 1997) (Applies to Fixed-Price and Cost)
- H.6 1852.247-71 PROTECTION OF THE FLORIDA MANATEE. (MAR 1989) (Applies to Fixed-Price and Cost)
- H.7 TASK ORDERING PROCEDURE. (Applies to Cost)
- (a) Only the Contracting Officer may issue task orders to the Contractor, providing specific authorization or direction to perform work within the scope of the contract and as specified in the schedule. The Contractor may incur costs under this contract in performance of task orders and task order modifications issued in accordance with this clause. No other costs are authorized unless otherwise specified in the contract or expressly authorized by the Contracting Officer.
- (b) Prior to issuing a task order, the Contracting Officer shall provide the Contractor with the following data:
- (1) A functional description of the work identifying the objectives or results desired from the contemplated task order.
- (2) Proposed performance standards to be used as criteria for determining whether the work requirements have been met.
- (3) A request for a task plan from the Contractor to include the technical approach, period of performance, appropriate cost information, and any other information required to determine the reasonableness of the Contractor's proposal.
- (c) Within 10 calendar days after receipt of the Contracting Officer's request, the Contractor shall

submit a task plan conforming to the request.

- (d) After review and any necessary discussions, the Contracting Officer may issue a task order to the Contractor containing, as a minimum, the following:
 - (1) Date of the order.
 - (2) Contract number and order number.
 - (3) Functional description of the work identifying the objectives or results desired from the task order, including special instructions or other information necessary for performance of the task.
 - (4) Performance standards, and where appropriate, quality assurance standards.
 - (5) Maximum dollar amount authorized (cost and fee or price). This includes allocation of award fee among award fee periods, if applicable.
 - (6) Any other resources (travel, materials, equipment, facilities, etc.) authorized.
 - (7) Delivery/performance schedule including start and end dates.
 - (8) If contract funding is by individual task order, accounting and appropriation data.
- (e) The Contractor shall provide acknowledgment of receipt to the Contracting Officer within 5 calendar days after receipt of the task order.
- (f) If time constraints do not permit issuance of a fully defined task order in accordance with the procedures described in paragraphs (a) through (d), a task order which includes a ceiling price may be issued.
- (g) The Contracting Officer may amend tasks in the same manner in which they were issued.
- (h) In the event of a conflict between the requirements of the task order and the Contractor's approved task plan, the task order shall prevail.

(End of clause)

H.8 1852.223-70 SAFETY AND HEALTH. (APR 2002) (Applies to Fixed-Price and Cost)

- (a) Safety is the freedom from those conditions that can cause death, injury, occupational illness, damage to or loss of equipment or property, or damage to the environment. NASA's safety priority is to protect: (1) the public, (2) astronauts and pilots, (3) the NASA workforce (including Contractor employees working on NASA contracts), and (4) high-value equipment and property.
- (b) The Contractor shall take all reasonable safety and occupational health measures in performing this contract. The Contractor shall comply with all Federal, State, and local laws applicable to safety and occupational health and with the safety and occupational health standards, specifications, reporting requirements, and any other relevant requirements of this contract.

- (c) The Contractor shall take, or cause to be taken, any other safety, and occupational health measures the Contracting Officer may reasonably direct. To the extent that the Contractor may be entitled to an equitable adjustment for those measures under the terms and conditions of this contract, the equitable adjustment shall be determined pursuant to the procedures of the changes clause of this contract; provided, that no adjustment shall be made under this Safety and Health clause for any change for which an equitable adjustment is expressly provided under any other clause of the contract.
- (d) The Contractor shall immediately notify and promptly report to the Contracting Officer or a designee any accident, incident, or exposure resulting in fatality, lost-time occupational injury, occupational disease, contamination of property beyond any stated acceptable limits set forth in the contract Schedule; or property loss of \$25,000 or more, or Close Call (a situation or occurrence with no injury, no damage or only minor damage (less than \$1,000) but possesses the potential to cause any type mishap, or any injury, damage, or negative mission impact) that may be of immediate interest to NASA, arising out of work performed under this contract. The Contractor is not required to include in any report an expression of opinion as to the fault or negligence of any employee. In addition, service contractors (excluding construction contracts) shall provide quarterly reports specifying lost-time frequency rate, number of lost-time injuries, exposure, and accident/incident dollar losses as specified in the contract Schedule.
- (e) The Contractor shall investigate all work-related incidents, accidents, and Close Calls, to the extent necessary to determine their causes and furnish the Contracting Officer a report, in such form as the Contracting Officer may require, of the investigative findings and proposed or completed corrective actions.
- (f) (1) The Contracting Officer may notify the Contractor in writing of any noncompliance with this clause and specify corrective actions to be taken. When the Contracting Officer becomes aware of noncompliance that may pose a serious or imminent danger to safety and health of the public, astronauts and pilots, the NASA workforce (including Contractor employees working on NASA contracts), or high value mission critical equipment or property, the Contracting Officer shall notify the Contractor orally, with written confirmation. The Contractor shall promptly take and report any necessary corrective action.

(2) If the Contractor fails or refuses to institute prompt corrective action in accordance with subparagraph (f) (1) of this clause, the Contracting Officer may invoke the stop-work order clause in this contract or any other remedy available to the Government in the event of such failure or refusal.
- (g) The Contractor (or subcontractor or supplier) shall insert the substance of this clause, including this paragraph (g) and any applicable Schedule provisions and clauses, with appropriate changes of designations of the parties, in all solicitations and subcontracts of every tier, when one or more of the following conditions exist:
 - (1) The work will be conducted completely or partly on premises owned or controlled by the Government.
 - (2) The work includes construction, alteration, or repair of facilities in excess of the simplified acquisition threshold.
 - (3) The work, regardless of place of performance, involves hazards that could endanger the public, astronauts and pilots, the NASA workforce (including Contractor employees working on NASA contracts), or high value equipment or property, and the hazards are not adequately addressed by

Occupational Safety and Health Administration (OSHA) or Department of Transportation (DOT) regulations (if applicable).

- (4) When the Contractor (or subcontractor or supplier) determines that the assessed risk and consequences of a failure to properly manage and control the hazard(s) warrants use of the clause.
- (h) The Contractor (or subcontractor or supplier) may exclude the provisions of paragraph (g) from its solicitation(s) and subcontract(s) of every tier when it determines that the clause is not necessary because the application of the OSHA and DOT (if applicable) regulations constitute adequate safety and occupational health protection. When a determination is made to exclude the provisions of paragraph (g) from a solicitation and subcontract, the Contractor must notify and provide the basis for the determination to the Contracting Officer. In subcontracts of every tier above the micro-purchase threshold for which paragraph (g) does not apply, the Contractor (or subcontractor or supplier) shall insert the substance of paragraphs (a), (b), (c), and (f) of this clause).
- (i) Authorized Government representatives of the Contracting Officer shall have access to and the right to examine the sites or areas where work under this contract is being performed in order to determine the adequacy of the Contractor's safety and occupational health measures under this clause.
- (j) The Contractor shall continually update the safety and health plan when necessary. In particular, the Contractor shall furnish a list of all hazardous operations to be performed, and a list of other major or key operations required or planned in the performance of the contract, even though not deemed hazardous by the Contractor. NASA and the Contractor shall jointly decide which operations are to be considered hazardous, with NASA as the final authority. Before hazardous operations commence, the Contractor shall submit for NASA concurrence -
 - (1) Written hazardous operating procedures for all hazardous operations; and/or
 - (2) Qualification standards for personnel involved in hazardous operations.

(End of clause)

H.9 1852.223-75 MAJOR BREACH OF SAFETY OR SECURITY. (FEB 2002) (Applies to Fixed-Price and Cost)

- (a) Safety is the freedom from those conditions that can cause death, injury, occupational illness, damage to or loss of equipment or property, or damage to the environment. Safety is essential to NASA and is a material part of this contract. NASA's safety priority is to protect: (1) the public; (2) astronauts and pilots; (3) the NASA workforce (including contractor employees working on NASA contracts); and (4) high-value equipment and property. A major breach of safety may constitute a breach of contract that entitles the Government to exercise any of its rights and remedies applicable to material parts of this contract, including termination for default. A major breach of safety must be related directly to the work on the contract. A major breach of safety is an act or omission of the Contractor that consists of an accident, incident, or exposure resulting in a fatality or mission failure; or in damage to equipment or property equal to or greater than \$1 million; or in any "willful" or "repeat" violation cited by the Occupational Safety and Health Administration (OSHA) or by a state agency operating under an OSHA approved plan.

- (b) Security is the condition of safeguarding against espionage, sabotage, crime (including computer crime), or attack. A major breach of security may constitute a breach of contract that entitles the Government to exercise any of its rights and remedies applicable to material parts of this contract, including termination for default. A major breach of security may occur on or off Government installations, but must be related directly to the work on the contract. A major breach of security is an act or omission by the Contractor that results in compromise of classified information, illegal technology transfer, workplace violence resulting in criminal conviction, sabotage, compromise or denial of information technology services, equipment or property damage from vandalism greater than \$250,000, or theft greater than \$250,000.
- (c) In the event of a major breach of safety or security, the Contractor shall report the breach to the Contracting Officer. If directed by the Contracting Officer, the Contractor shall conduct its own investigation and report the results to the Government. The Contractor shall cooperate with the Government investigation, if conducted.

(End of clause)

H.10 1852.228-76 CROSS-WAIVER OF LIABILITY FOR INTERNATIONAL SPACE STATION ACTIVITIES (DEVIATION) 10/5/2009 NASA PROCUREMENT INFORMATION CIRCULAR 09-11 (Applies to Cost)

- (a) The Intergovernmental Agreement Among the Government of Canada, Governments of Member States of the European Space Agency, the Government of Japan, the Government of the Russian Federation, and the Government of the United States of America concerning Cooperation on the Civil International Space Station (IGA) for the International Space Station (ISS) contains a cross-waiver of liability provision to encourage participation in the exploration, exploitation, and use of outer space through the ISS. The Parties intend that this cross-waiver of liability be broadly construed to achieve this objective.
- (b) As used in this clause, the term:
 - (1) "Agreement" refers to any NASA Space Act agreement that contains the cross-waiver of liability provision authorized by 14 CFR Part 1266.102.
 - (2) "Damage" means:
 - (i) Bodily injury to, or other impairment of health of, or death of, any person;
 - (ii) Damage to, loss of, or loss of use of any property;
 - (iii) Loss of revenue or profits; or
 - (iv) Other direct, indirect, or consequential damage.
 - (3) "Launch Vehicle" means an object, or any part thereof, intended for launch, launched from Earth, or returning to Earth which carries payloads or persons, or both.
 - (4) "Partner State" includes each Contracting Party for which the IGA has entered into force, pursuant to Article 25 of the IGA or pursuant to any successor agreement. A Partner State includes its Cooperating Agency. It also includes any entity specified in the Memorandum of Understanding (MOU) between NASA and the Government of Japan's Cooperating Agency in

the implementation of that MOU.

- (5) "Party" means a party to a NASA Space Act agreement involving activities in connection with the ISS and a party that is neither the prime contractor under this contract nor a subcontractor at any tier.
- (6) "Payload" means all property to be flown or used on or in a Launch Vehicle or the ISS.
- (7) "Protected Space Operations" means all Launch or Transfer Vehicle activities, ISS activities, and Payload activities on Earth, in outer space, or in transit between Earth and outer space in implementation of the IGA, MOUs concluded pursuant to the IGA, implementing agreements, and contracts to perform work in support of NASA's obligations under these Agreements. It includes, but is not limited to:
 - (i) Research, design, development, test, manufacture, assembly, integration, operation, or use of Launch or Transfer Vehicles, the ISS, Payloads, or instruments, as well as related support equipment and facilities and services; and
 - (ii) All activities related to ground support, test, training, simulation, or guidance and control equipment and related facilities or services. "Protected Space Operations" also includes all activities related to evolution of the ISS, as provided for in Article 14 of the IGA. "Protected Space Operations" excludes activities on Earth which are conducted on return from the ISS to develop further a Payload's product or process for use other than for ISS-related activities in implementation of the IGA.
- (8) "Related Entity" means:
 - (i) A contractor or subcontractor of a Party or a Partner State at any tier;
 - (ii) A user or customer of a Party or a Partner State at any tier; or
 - (iii) A contractor or subcontractor of a user or customer of a Party or a Partner State at any tier. The terms "contractor" and "subcontractor" include suppliers of any kind.
- (9) "Transfer Vehicle" means any vehicle that operates in space and transfers Payloads or persons or both between two different space objects, between two different locations on the same space object, or between a space object and the surface of a celestial body. A "Transfer Vehicle" also includes a vehicle that departs from and returns to the same location on a space object.
 - (c)(1) The Contractor agrees to a cross-waiver of liability pursuant to which it waives all claims against any of the entities or persons listed in paragraphs (c)(1)(i) through (c)(1)(iv) of this clause based on Damage arising out of Protected Space Operations. This cross-waiver shall apply only if the person, entity, or property causing the Damage is involved in Protected Space Operations and the person, entity, or property damaged is damaged by virtue of its involvement in Protected Space Operations. The cross-waiver shall apply to any claims for Damage, whatever the legal basis for such claims, against:
 - (i) A Party as defined in (B)(5) above;
 - (ii) A Partner State other than the United States of America;
 - (iii) A Related Entity of any entity identified in paragraph (c)(1)(i) or (c)(1)(ii) of this clause; or

(iv) The employees of any of the entities identified in paragraphs (c)(1)(i) through (c)(1)(iii) of this clause.

(2) In addition, the contractor shall, by contract or otherwise, extend the cross-waiver of liability set forth in paragraph (c)(1) of this clause to its subcontractors at any tier by requiring them, by contract or otherwise, to:

(i) Waive all claims against the entities or persons identified in paragraphs (c)(1)(i) through (c)(1)(iv) of this clause; and

(ii) Require that their subcontractors waive all claims against the entities or persons identified in paragraphs (c)(1)(i) through (c)(1)(iv) of this clause.

(3) For avoidance of doubt, this cross-waiver of liability includes a cross-waiver of claims arising from the *Convention on International Liability for Damage Caused by Space Objects*, which entered into force on September 1, 1972, where the person, entity, or property causing the Damage is involved in Protected Space Operations and the person, entity, or property damaged is damaged by virtue of its involvement in Protected Space Operations.

(4) Notwithstanding the other provisions of this clause, this cross-waiver of liability shall not be applicable to:

(i) Claims between the Government and its own contractors or between its own contractors and subcontractors;

(ii) Claims made by a natural person, his/her estate, survivors or subrogees (except when a subrogee is a Party to an Agreement or is otherwise bound by the terms of this cross-waiver) for bodily injury to, or other impairment of health of, or death of, such person;

(iii) Claims for Damage caused by willful misconduct;

(iv) Intellectual property claims;

(v) Claims for Damage resulting from a failure of the contractor to extend the cross-waiver of liability to its subcontractors and related entities, pursuant to paragraph (c)(2) of this clause; or

(vi) Claims by the Government arising out of or relating to the contractor's failure to perform its obligations under this contract.

(5) Nothing in this clause shall be construed to create the basis for a claim or suit where none would otherwise exist.

(6) This cross-waiver shall not be applicable when 49 U.S.C. Subtitle IX, Chapter 701 is applicable.

(End of clause)

H.11 1852.228-78, CROSS-WAIVER OF LIABILITY FOR SCIENCE OR SPACE EXPLORATION ACTIVITIES UNRELATED TO THE INTERNATIONAL SPACE STATION (DEVIATION) (10/5/2009 NASA PROCUREMENT INFORMATION CIRCULAR 09-11) (APPLIES TO COST)

(a) The purpose of this clause is to extend a cross-waiver of liability to NASA contracts for work done in support of Agreements between Parties involving Science or Space Exploration activities, unrelated to the International Space Station (ISS), but which involve a launch. This cross-waiver of liability shall be broadly construed to achieve the objective of furthering participation in space exploration, use, and investment.

(b) As used in this clause, the term:

(1) "Agreement" refers to any NASA Space Act agreement that contains the cross-waiver of liability provision authorized in 14 CFR 1266.104.

(2) "Damage" means:

(i) Bodily injury to, or other impairment of health of, or death of, any person;

(ii) Damage to, loss of, or loss of use of any property;

(iii) Loss of revenue or profits; or

(iv) Other direct, indirect, or consequential Damage;

(3) "Launch Vehicle" means an object, or any part thereof, intended for launch, launched from Earth, or returning to Earth which carries Payloads or persons, or both.

(4) "Party" means a party to a NASA Space Act agreement for Science or Space Exploration activities, unrelated to the ISS, but which involve a launch and a party that is neither the prime contractor under this contract nor a subcontractor at any tier hereto. (5) "Payload" means all property to be flown or used on or in a Launch Vehicle.

(6) "Protected Space Operations" means all Launch or Transfer Vehicle activities and Payload activities on Earth, in outer space, or in transit between Earth and outer space in implementation of an Agreement for Science or Space Exploration activities, unrelated to the ISS, but which involve a launch. Protected Space Operations begins at the signature of the Agreement and ends when all activities done in implementation of the agreement are completed. It includes, but is not limited to:

(i) Research, design, development, test, manufacture, assembly, integration, operation, or use of Launch or Transfer Vehicles, Payloads, or instruments, as well as related support equipment and facilities and services; and

(ii) All activities related to ground support, test, training, simulation, or guidance and control equipment, and related facilities or services.

Protected Space Operations excludes activities on Earth which are conducted on return from space to develop further a Payload's product or process other than for the activities within the scope of an Agreement.

(7) "Related entity" means:

(i) A contractor or subcontractor of a Party at any tier;

(ii) A user or customer of a party at any tier; or

(iii) A contractor or subcontractor of a user or customer of a Party at any tier.

The terms “contractors” and “subcontractors” include suppliers of any kind. (c) Cross-waiver of liability:

(1) The contractor agrees to a waiver of liability pursuant to which it waives all claims against any of the entities or persons listed in paragraphs (c)(1)(i) through (c)(1)(iv) of this clause based on Damage arising out of Protected Space Operations. This cross-waiver shall apply only if the person, entity, or property causing the Damage is involved in Protected Space Operations and the person, entity, or property damaged is damaged by virtue of its involvement in Protected Space Operations. The waiver shall apply to any claims for Damage, whatever the legal basis for such claims, against:

(i) A Party;

(ii) A Party to another NASA Agreement or contract that includes flight on the same Launch Vehicle;

(iii) A Related Entity of any of the entities identified in (c)(1)(i) or (c)(1)(ii) of this clause; or (iv)

The employees of any of the entities identified in (c)(1)(i) through (c)(1)(iii) of this clause. (2)

The contractor agrees to extend the cross-waiver of liability as set forth in paragraph (c)(1) of this clause to its own subcontractors at all tiers by requiring them, by contract or otherwise, to:

(i) Waive all claims against the entities or persons identified in paragraphs (c)(1)(i) through (c)(1)(iv) of this clause; and

(ii) Require that their Related Entities waive all claims against the entities or persons identified in paragraph (c)(1)(i) through (c)(1)(iv) of this clause.

(3) For avoidance of doubt, this cross-waiver includes a cross-waiver of claims arising from the Convention on International Liability for Damage Caused by Space Objects, which entered into force on September 1, 1972, where the person, entity, or property causing the Damage is involved in Protected Space Operations and the person, entity, or property damaged is damaged by virtue of its involvement in Protected Space Operations.

(4) Notwithstanding the other provisions of this clause, this cross-waiver of liability shall not be applicable to:

(i) Claims between the Government and its own contractors or between its own contractors and subcontractors;

(ii) Claims made by a natural person, his/her estate, survivors, or subrogees (except when a subrogee is a Party to an Agreement or is otherwise bound by the terms of this cross-waiver) for bodily injury to, or other impairment of health, or death of such person;

(iii) Claims for Damage caused by willful misconduct;

(iv) Intellectual property claims;

- (v) Claims for damages resulting from failure of the contractor to extend the cross-waiver of liability to its subcontractors and related entities, pursuant to paragraph (c)(2) of this clause; or
- (vi) Claims by the Government arising out of or relating to a contractor's failure to perform its obligations under this contract.
- (5) Nothing in this clause shall be construed to create the basis for a claim or suit where none would otherwise exist.
- (6) This cross-waiver shall not be applicable when 49 U.S.C. Subtitle IX, Chapter 701 is applicable.

(End of clause)

**H.12 1852.232-77 LIMITATION OF FUNDS (FIXED- PRICE CONTRACT). (MAR 1989)
(Applies to Fixed-Price)**

- (a) Of the total fixed price of items in Section B.2, the sum of \$ (b) (4) is presently available for payment and allotted to this contract. It is anticipated that from time to time additional funds will be allocated to the contract in accordance with the following schedule, until the total price of said items is allotted:

SCHEDULE FOR ALLOTMENT OF FUNDS

| Date | Amounts |
|-------------------------|------------|
| <u>August 1, 2012</u> | \$ (b) (4) |
| <u>November 1, 2012</u> | \$ (b) (4) |
| <u>February 1, 2013</u> | \$ (b) (4) |
| <u>May 1, 2013</u> | \$ (b) (4) |

*Note: The amounts listed are for administrative purposes only, funds will be obligated in CMM upon issuance of Task Orders.

- (b) The Contractor agrees to perform or have performed work on the items specified in paragraph (a) of this clause up to the point at which, if this contract is terminated pursuant to the Termination for Convenience of the Government clause of this contract, the total amount payable by the Government (including amounts payable for subcontracts and settlement costs) pursuant to paragraphs (f) and (g) of that clause would, in the exercise of reasonable judgment by the Contractor, approximate the total amount at the time allotted to the contract. The Contractor is not obligated to continue performance of the work beyond that point. The Government is not obligated in any event to pay or reimburse the Contractor more than the amount from time to time allotted to the contract, anything to the contrary in the Termination for Convenience of the Government clause notwithstanding.
- (c) (1) It is contemplated that funds presently allotted to this contract will cover the work to be performed until October 31, 2012.
- (2) If funds allotted are considered by the Contractor to be inadequate to cover the work to be performed until that date, or an agreed date substituted for it, the Contractor shall notify the Contracting Officer in writing when within the next 60 days the work will reach a point at which, if the contract is terminated pursuant to the Termination for Convenience of the Government clause of this contract, the total amount payable by the Government (including amounts payable for subcontracts and settlement costs) pursuant to paragraphs (f) and (g) of that clause will approximate 75 percent of the total amount then allotted to the contract.

- (3) (i) The notice shall state the estimate when the point referred to in paragraph (c) (2) of this clause will be reached and the estimated amount of additional funds required to continue performance to the date specified in paragraph (c) (1) of this clause, or an agreed date substituted for it.
- (ii) The Contractor shall, 60 days in advance of the date specified in paragraph (c) (1) of this clause, or an agreed date substituted for it, advise the Contracting Officer in writing as to the estimated amount of additional funds required for the timely performance of the contract for a further period as may be specified in the contract or otherwise agreed to by the parties.
- (4) If, after the notification referred to in paragraph (c) (3) (ii) of this clause, additional funds are not allotted by the date specified in paragraph (c) (1) of this clause, or an agreed date substituted for it, the Contracting Officer shall, upon the Contractor's written request, terminate this contract on that date or on the date set forth in the request, whichever is later, pursuant to the Termination for Convenience of the Government clause.
- (d) When additional funds are allotted from time to time for continued performance of the work under this contract, the parties shall agree on the applicable period of contract performance to be covered by these funds. The provisions of paragraphs (b) and (c) of this clause shall apply to these additional allotted funds and the substituted date pertaining to them, and the contract shall be modified accordingly.
- (e) If, solely by reason of the Government's failure to allot additional funds in amounts sufficient for the timely performance of this contract, the Contractor incurs additional costs or is delayed in the performance of the work under this contract, and if additional funds are allotted, an equitable adjustment shall be made in the price or prices (including appropriate target, billing, and ceiling prices where applicable) of the items to be delivered, or in the time of delivery, or both.
- (f) The Government may at any time before termination, and, with the consent of the Contractor, after notice of termination, allot additional funds for this contract.
- (g) The provisions of this clause with respect to termination shall in no way be deemed to limit the rights of the Government under the default clause of this contract. The provisions of this Limitation of Funds clause are limited to the work on and allotment of funds for the items set forth in paragraph (a) of this clause. This clause shall become inoperative upon the allotment of funds for the total price of said work except for rights and obligations then existing under this clause.
- (h) Nothing in this clause shall affect the right of the Government to terminate this contract pursuant to the Termination for Convenience of the Government clause of this contract.

Note: It is the Government's intention to obligate incremental funding, dependent upon availability, to advance fund in 90-operating day increments with no less than 60-operating days funded in advance at all times.

(End of clause)

H.13 1852.235-71 KEY PERSONNEL AND FACILITIES. (MAR 1989) (Applies to Fixed-Price and Cost)

- (a) The personnel in the positions or managing the functional areas listed below and/or facilities listed below (or specified in the contract Schedule) are considered essential to the work being performed under this contract. Before removing, replacing, or diverting any of the listed or

specified personnel or facilities, the Contractor shall (1) notify the Contracting Officer reasonably in advance and (2) submit justification (including proposed substitutions) in sufficient detail to permit evaluation of the impact on this contract.

- (b) The Contractor shall make no diversion without the Contracting Officer's written consent; provided that the Contracting Officer may ratify in writing the proposed change, and that ratification shall constitute the Contracting Officer's consent required by this clause.
- (c) The personnel in the positions or managing the functional areas listed below and/or facilities (shown below or as specified in the contract Schedule) may, with the consent of the contracting parties, be amended from time to time during the course of the contract to add or delete personnel and/or facilities.

| Position/Functional Area | Personnel |
|--------------------------------|----------------|
| Executive Manager | Edward Lasley |
| Executive Manager - Alternate | Timothy Wolard |
| Engineering | (b) (4) |
| WB-57 Maintenance | |
| Program and Project Support | |
| Logistics | |
| Maintenance | |
| Quality Control | (OFI) |
| Safety and Health Officer | (OFI) |
| Sub-contracting and Purchasing | (OFI) |
| LaRC Executive Manager | (OFI) |

(End of clause)

H.14 1852.242-72 OBSERVANCE OF LEGAL HOLIDAYS. (AUG 1992) (Applies to Fixed-Price and Cost)

- (a) The on-site Government personnel observe the following holidays:

New Year's Day
 Labor Day
 Martin Luther King, Jr.'s Birthday
 Columbus Day
 President's Day
 Veterans Day
 Memorial Day
 Thanksgiving Day
 Independence Day
 Christmas Day
 Any other day designated by Federal statute, Executive order, or the President's proclamation.

- (b) When any holiday falls on a Saturday, the preceding Friday is observed. When any holiday falls on a Sunday, the following Monday is observed. Observance of such days by Government personnel shall not by itself be cause for an additional period of performance or entitlement of compensation except as set forth within the contract.

(End of clause)

H.15 REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFEROR (Applies to Fixed-Price and Cost)

The completed provision 52.204-8, Annual Representations and Certifications, including any amended representation(s) made at paragraph (b) of the provision; and other representations, certifications and other statements contained in Section K completed and submitted as part of the offer dated [07 March 2012] are hereby incorporated by reference in this resulting contract.

(End of Clause)

H.16 JSC HAZARDOUS MATERIALS USE (JSC PROCUREMENT INSTRUCTION 52.223-92) (DEC 1999) (Applies to Fixed-Price and Cost)

- (a) This clause is JSC-unique, and the requirements are in addition to any U.S. Environmental Protection Agency, U.S. Occupational Safety and Health Administration, or other state or Federal regulation or statute. Therefore, the following requirements do NOT supersede any statutory or regulatory requirements for any entity subject to this clause.
- (b) "Hazardous materials," for the purposes of this clause, consist of the following:
 - (1) Those materials defined as "highly hazardous chemicals" in Occupational Safety and Health Administration Process Safety Management Regulation, 29 Code of Federal Regulation 1010.119, without regard for quantity.
 - (2) Those "extremely hazardous substances" subject to the emergency planning requirements in the Environmental Protection Agency Emergency Planning and Community Right-to-Know Regulation, 40 Code of Federal Regulation 355, Part 355, without regard for quantity.
 - (3) Those "hazardous substances" subject to the release notification requirements under Environmental Protection Agency's Emergency Planning and Community Right-to-Know Regulation, 40 Code of Federal Regulation 302.4, without regard for quantity.
 - (4) Any radioisotope material or device that produces ionizing radiation.
 - (5) Any Class II, III, or IV laser as defined by the American National Standards Institute No. Z136.1 (1986)
 - (6) Any explosive or any pyrotechnics.
 - (7) Any pesticide.
- (c) The Contractor shall develop and maintain an inventory listing the identity and quantity of hazardous materials stored or used onsite at JSC for the performance of the contract.
- (d) The Contractor shall ensure that the proper training of its employees in the use and inherent hazards of these materials is accomplished prior to use.
- (e) The Contractor shall notify the JSC Occupational Health and Test Support Office (SD13) prior to any initial use or different application of these materials.
- (f) The Contractor shall use all hazardous materials properly and take all necessary precautions to ensure no harm is done to humans or the environment.
- (g) The Contractor shall insert the substance of this clause, including this Paragraph F with

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appropriate changes of designations of the parties, in subcontracts under which hazardous materials will be utilized, or may reasonably be expected to be utilized, onsite at JSC.

- (h) In the event the Contractor fails or refuses to comply with any aspect of this clause, such failure or refusal may be considered a material breach of this contract.

(End of clause)

H.17 52.223-93 ENVIRONMENTAL AND ENERGY CONSERVATION REQUIREMENTS (Feb 2011) (JSC Procurement Instruction) (Applies to Fixed-Price and Cost)

- (a) The Contractor shall ensure that all work performed and equipment used to fulfill the requirements of this contract are in compliance with all Federal, state, and local regulations and public laws, and the following NASA JSC directives: JPD 8500.1, JSC Environmental Excellence Policy; JPR 8550.1, JSC Environmental Compliance Procedural Requirements; JPR 8553.1, JSC Environmental Management System Manual; JWI 8553.1, EMS Aspect/Impact Assessment and EMP Process; NPR 8570.1, Energy Efficiency and Water Conservation; and JWI 8570.1, Energy Conservation. The Contractor shall provide data on affirmative procurement, waste reduction activity, energy efficient product procurement, and ozone depleting substances in accordance with DRD [insert number], Environmental and Energy Consuming Product Compliance Reports.
- (b) The Government remains the owner and operator of record for all environmental activities conducted at NASA owned properties unless otherwise documented in assigned agreement between NASA and the Contractor. The Contractor is advised that activities performed at JSC and associated facilities are subject to Federal, state and local regulatory agency inspections to review compliance with environmental laws and regulations. For on-site issues, JSC's Environmental Office will be the single point of contact with Federal and state regulatory agencies and their representatives unless otherwise directed by the Contracting Officer or the Environmental Office. The Contractor shall immediately notify the JSC Environmental Office when contacted by external regulatory agency representatives and shall cooperate fully. The Contractor shall complete, maintain, and make available to the Contracting Officer, JSC Environmental Office, JSC Energy Manager, or regulatory agency personnel all documentation relating to environmental compliance matters under applicable laws. The Contractor shall immediately notify the JSC Environmental Office upon issuance of a Notice of Violation or noncompliance to the Contractor.
- (c) Should a Notice of Violation, Notice of Noncompliance, Notice of Deficiency, or similar regulatory agency notice be issued to the Government as a facility owner/operator on account of the actions or inactions of the Contractor or one of its subcontractors in the performance of work under this contract, the Contractor shall fully cooperate with the Government in correcting any problems and defending against regulatory assessment of any civil fines or penalties arising out of such actions or inactions.

(End of clause)

H.18 SMALL BUSINESS SUBCONTRACTING GOALS (JSC PROCUREMENT INSTRUCTION 52.219-90) (OCT 2006) (Applies to Fixed-Price and Cost)

The total small business goal, expressed as a percent of total contract value including options, is [REDACTED] percent. The small business percentage goal includes the following goals expressed as a percent of total contract value:

| Subcategories of Small Business Concerns** | Dollar Target | Percentage of Total Contract Value | Percentage of Subcontract value |
|--|---|------------------------------------|---------------------------------|
| Other than Small Business | <div style="font-size: 4em; color: red; font-weight: bold;">(b) (4)</div> | | |
| Small Business | | | |
| Women Owned Small Business | | | |
| Small Disadvantaged Business | | | |
| Veteran Owned Small Business | | | |
| Service-Disabled Veteran-Owned Small Business | | | |
| HUBZone Small Business | | | |
| Historically Black Colleges and Universities | | | |
| <p>**For purposes of this clause, the terms, "HUBZone Small Business Concern," "Small Disadvantaged Business Concern," "Service-Disabled, Veteran-Owned Small Business Concern," "Veteran-Owned Small Business Concern," "Women-Owned Small Business Concern," and "Historically Black College or University (HBCU)" are defined in paragraph 2.101 of the Federal Acquisition Regulation.</p> | | | |

(End of clause)

H.19 ADMINISTRATIVE LEAVE (JSC PROCUREMENT INSTRUCTION 52.242-94) (SEP 2008) (Applies to Fixed-Price and Cost)

- (a) When the NASA installation grants administrative leave to its Government employees (e.g., as a result of inclement weather, potentially hazardous conditions, or other special circumstances), the following personnel should also be dismissed upon notification of a center closure provided by the Contracting Officer:

Contractor personnel working on-site; and Contractor personnel dedicated to the contract effort who are working off-site within 10 miles of JSC; and unable to perform their NASA contract duties at their off-site location because their normal place of business has been or is expected to be negatively impacted by an emergency situation (e.g. has sustained damage, has been evacuated, etc.).

However, the Contractor shall provide sufficient on-site personnel to perform round-the-clock requirements of critical work already in process, unless otherwise instructed by the Contracting Officer or authorized representative.

- (b) Administrative leave granted under this clause shall be subject to modification or termination by the Contracting Officer and in all instances shall be subject to the availability of funds. The cost of salaries and wages to the Contractor for the period of any such excused absence shall be a reimbursable item of cost under this contract for effected employees in accordance with the Contractor's established accounting policy.

1. If a labor hour-based contract, administrative leave granted under this clause shall be accounted for consistent with productive hours under this contract for employees in accordance with the Contractor's established accounting policy.
 2. For fixed price contracts based on other than labor hours for deliverables, the Contracting Officer and Contractor shall as a precondition to any reimbursement negotiate an advanced agreement to determine the appropriate method in which to grant administrative leave under this clause.
 3. All invoices requesting payment under this clause shall be marked as "Administrative Leave in accordance with 52.242-94, Administrative Leave." All such invoices paid will be subject to review, audit, and revision when routine operations re-commence.
- (c) The Contractor shall include this clause in all services subcontracts that include personnel in the categories described in (a) above.

(End of clause)

H.20 LEVEL-OF-EFFORT (COST)(Applies to Cost)

- (a) During the term of the contract, the Contractor is obligated to provide not less than 90% nor more than 110% of 305,400 total direct labor hours. An allocation of the hours by specific NASA center is provided below.
- (1) Johnson Space Center
During the term of the contract, the Contractor is obligated to provide not less than 90% nor more than 110% of 286,304 total direct labor hours.
- (2) Langley Research Center
During the term of the contract, the Contractor is obligated to provide not less than 90% nor more than 110% of 19,096 total direct labor hours.
- (b) "Direct labor hours" are those productive hours expended by Contractor personnel, including subcontracted personnel, in performing work requirements described in the Statement of Work or elsewhere in this contract that are charged as direct labor under the Contractor's established accounting policy and procedures.
- (c) Once the maximum number of direct labor hours is reached or the contract term has ended, the Contractor's requirements under the contract are fulfilled, even though the specified work may not have been completed. The Contractor is not authorized to exceed the maximum of the direct labor hours specified in paragraph (a) unless a bilateral contract modification is executed. Any estimated cost and fee(s) adjustments for any additional direct labor hours shall be based solely upon the quantity of additional hours being added to the maximum number of direct labor hours specified in this clause.
- (d) The fee, if any, is based upon the furnishing of at least the specified minimum number of direct labor hours, including subcontract hours. If the Contractor provides less than that specified minimum number of hours prior to expiration of the contract term, and the Government has not invoked its rights under the Termination clause of this contract to adjust the contract for such reduced effort, the Contracting Officer may unilaterally make an equitable downward adjustment to the contract fee. The downward adjustment in fee will be

based upon the difference between the minimum direct labor hours specified under this clause and the amount of direct labor hours provided by the Contractor. Prior to making such an adjustment, the Contracting Officer will request the Contractor provide a written discussion of any extenuating circumstances (e.g., productivity improvements or reductions in contract scope) which contributed to the underrun. Any information provided by the Contractor will be considered by the Contracting Officer in determining the amount of the downward adjustment in fee.

(End of clause)

H.21 SECURITY PROGRAM/NON-U.S. CITIZEN EMPLOYEE ACCESS REQUIREMENTS (FEB 2007) (Applies to Fixed-Price and Cost)

Access to the LaRC by non-U.S. citizen employees, including those in lawful permanent resident status, shall be approved in accordance with NPR 1371.2A, " Requirements for Processing Requests for Access to NASA Installations or Facilities by Foreign Nationals or U.S. Citizens Who are Reprs of Foreign Entities". Processing requires advance notice of a minimum of 20 days depending on the nationality of the non-U.S. citizen or foreign representative. Access authorization shall be for a maximum of one year and must be re-evaluated annually. Non-U.S. citizen employees or foreign representatives must be under escort at all times while on Center (by a NASA Civil Servant or permanently badged Contractor) unless otherwise approved by the International Visitors Coordinator (IVC).

(End of clause)

H.22 OBSERVATION OF SAFETY STAND DOWN EVENT BY CONTRACTOR EMPLOYEES (Langley Clause 52.223-92) (MAY 2006) (Applies to Fixed-Price and Cost)

The Langley Research Center (LaRC) Safety Stand Down Event is an annual event dedicated to learning best practices for a safe work environment. When the LaRC Director designates the Safety Stand Down Event, the Contractor shall require all onsite and near-site employees to participate in Safety Stand Down activities at LaRC.

(End of clause)

H.23 ASSOCIATE CONTRACTOR AGREEMENT (ACA) (Applies to Fixed-Price and Cost)

JSC is a Government-owned, Government-operated installation. Government-Contractor and Contractor-Contractor partnering is essential to the success of JSC operations. Therefore, an Associate Contractor Agreement (ACA) among support Contractors are required to ensure the successful operation at JSC. Example support contracts include:

| | |
|-----------------------------------|------------|
| JSC Logistics Operations Contract | NNJ08JA01C |
| JSC Security Contract | NAS9-01055 |
| JSC Facilities Contract | NNJ08JA02C |
| Custodial Contract | NNJ08JB96C |
| Grounds Contract | NNJ08JA03C |
| JSC Environmental Contract | NNJ08JB01C |
| NAMIS Support Contract | NNJ11JC26T |

WB-57 Special Capabilities Support and Engineering Services Contract
 WB-57 Mechanical Engineering Services Contract
 WB-57 Aeronautics and Structural Engineering Services Contract
 Microgravity Services

NNJ11JB28C

Additional ACA's may be required as contracts are competed / re-competed or as new contractor relationships develop.

The associate Contractors need to establish guidelines to address coordination, cooperation, and communication. In addition the associate Contractors need to establish the means for the exchange of such data and communications as needed. A copy of the ACA shall be provided to the Contracting Officer within 30 days after agreement is reached.

(End of clause)

H.24 NASA RECORDS MANAGEMENT (Applies to Fixed-Price and Cost)

The contractor shall create, maintain, preserve, and dispose of NASA records in accordance with NPG 1441.1D "NASA Records Retention Schedules."

(End of clause)

H.25 CENTER UNIQUE CLAUSES (Applies to Fixed-Price and Cost)

Federal Acquisition Regulation (FAR), NASA FAR Supplement (NFS) clauses, and clauses with no Federal regulation clause number designation covers all work at JSC and LaRC. Unless otherwise noted, clauses with JSC Procurement Instruction (JPI) and Langley are only applicable to the appropriate Center.

(End of clause)

H.26 EMERGENCY PREPAREDNESS AND RESPONSE (Applies to Fixed-Price and Cost)

The Contractor's obligation may include resolution of unusual or emergency situations. The Contractor may be required to assist NASA, within the general scope of work, but in currently unidentified ways, in preparation for, or in response to emergencies. Obligations under this requirement shall only arise when one or more of the criteria at FAR 18.001, enabling NASA to utilize "Emergency Acquisition Flexibilities", are met. If the emergency preparedness and response requirements result in changes to the contract, all contract adjustments will be processed in accordance with the Changes clause of this contract.

(End of clause)

H.27 CONTINUITY OF SERVICES (Applies to Fixed-Price and Cost)

1. In the event the incumbent is not the successful contractor for the follow-on contract award, the incumbent contractor hereby agrees to cooperate with the successor. Further, the contractor shall turn over to the successor contractor all administrative records and technical data acquired or formulated during the life of this contract.
2. The incumbent contractor's own work shall carefully fit into the successor contractor's

phase-in schedule. The incumbent contractor shall not commit or permit any act, which will interfere with the performance of work by the successor contractor or by the government. The incumbent contractor shall take reasonable steps to aid in the transition of the successor's work force into the environment, on a non-interference basis with the incumbent contractor's responsibilities.

3. On a non-interference basis the successor shall be allowed to observe all activities, which occur during the phase-in period. These activities shall include as a minimum over-the-shoulder observance of daily activities and other requests mutually agreed to by the involved parties.

H.28 CONTRACT TYPE CONVERSION (Applies to Fixed-Price and Cost)

If sufficient data becomes available on a repetitive task being performed in the cost portion of the contract, either the Contracting Officer or the contractor may request a firm-fixed-price for that item for the remaining life of the contract. Any modification to the contract as a result of this clause when be in accordance with clause I.103.

(End of clause)

**H.29 1852.209-71 LIMITATION OF FUTURE CONTRACTING.(DECEMBER 1988)
(APPLIES TO FIXED-PRICE AND COST)**

- (a) The Contracting Officer has determined that this acquisition may give rise to a potential organizational conflict of interest. Accordingly, the attention of prospective offerors is invited to FAR Subpart 9.5--Organizational Conflicts of Interest
- (b) The nature of this conflict is that it may provide technical specifications and supporting documentation for procurements as detailed in:
 - (1) Section C, Statement of Work, 5.3.3 1 "Acquisition Liaison Support;"
 - (2) 8.0 "Engineering," 8.1 "General Requirements," 8.1.1 "Overview" Sub-bullet # 10 "Technical specifications and supporting documentation for procurements;" and
 - (3) L.8.0; "Engineering," L.8.1 "General Requirements," L.8.1.1 "Overview" Sub-bullet # 9 "Technical specifications and supporting documentation for procurements"
- (c) The restrictions upon future contracting are as follows:
 - (1) If the Contractor, under the terms of this contract, or through the performance of tasks pursuant to this contract, is required to develop specifications or statements of work that are to be incorporated into a solicitation, the Contractor shall be ineligible to perform the work described in that solicitation as a prime or first-tier subcontractor under an ensuing NASA contract. This restriction shall remain in effect for a reasonable time, as agreed to by the Contracting Officer and the Contractor, sufficient to avoid unfair competitive advantage or potential bias (this time shall in no case be less than the duration of the initial production contract). NASA shall not unilaterally require the Contractor to prepare such specifications or statements of work under this contract.
 - (2) To the extent that the work under this contract requires access to proprietary, business confidential, or financial data of other companies, and as long as these data remain proprietary

or confidential, the Contractor shall protect these data from unauthorized use and disclosure and agrees not to use them to compete with those other companies.

(End of clause)

H.30 MITIGATION OF ORGANIZATIONAL CONFLICTS OF INTEREST (APPLIES TO FIXED-PRICE AND COST)

- (a) Mitigation plan. The Organizational Conflict of Interest Mitigation Plan and its obligations are hereby incorporated in the contract by reference.
- (b) Changes. (1) Either the Contractor or the Government may propose changes to the Organizational Conflict of Interest Mitigation Plan. Such changes are subject to the mutual agreement of the parties and will become effective only upon incorporating the change into the plan by contract amendment.

(2) In the event that the Government and the Contractor cannot agree upon a mutually acceptable change, the Government reserves the right to make a unilateral change to the OCI Plan as necessary, with the approval of the head of the contracting activity, subject to Contractor appeal as provided in the Disputes clause.
- (c) Violation. The Contractor shall report any violation of the Organizational Conflict of Interest Mitigation Plan, whether by its own personnel or those of the Government or other contractors, to the Contracting Officer. This report shall include a description of the violation and the actions the Contractor has taken or proposes to take to mitigate and avoid repetition of the violation. After conducting such further inquiries and discussions as may be necessary, the Contracting Officer and the Contractor shall agree on appropriate corrective action, if any, or the Contracting Officer shall direct corrective action.
- (d) Breach. Any breach of the above restrictions or any nondisclosure or misrepresentation of any relevant facts required regarding organizational conflicts of interests to be disclosed may result in termination of this contract for default or other remedies as may be available under law or regulation.
- (e) Subcontracts. The Contractor shall include the substance of this clause, including this paragraph (e), in subcontracts where the work includes or may include tasks related to the organizational conflict of interest. The terms —Contractor and —Contracting Officer shall be appropriately modified to reflect the change in parties and to preserve the Government’s rights.

(End of clause)

H.31 DISCLOSURE OF ORGANIZATIONAL CONFLICT OF INTEREST AFTER CONTRACT AWARD (Applies to Fixed-Price and Cost)

- (a) If the Contractor identifies an actual or potential organizational conflict of interest that has not already been adequately disclosed and resolved (or waived in accordance with FAR 9.503), the Contractor shall make a prompt and full disclosure in writing to the Contracting Officer. This disclosure shall include a description of the action the Contractor has taken or proposes to take in order to resolve the conflict. This reporting requirement also includes subcontractors’ actual or potential organizational conflicts of interest not adequately disclosed and resolved prior to award.

- (b) Mitigation plan. If there is a mitigation plan in the contract, the Contractor shall periodically update the plan, based on changes such as changes to the legal entity, the overall structure of the organization, subcontractor arrangements, contractor management, ownership, ownership relationships, or modification of the work scope.

(End of clause)

(END OF SECTION)

SECTION I - CONTRACT CLAUSES

- I.1 52.202-1 DEFINITIONS. (JUL 2004) (Applies to Fixed-Price and Cost)
- I.2 52.203-3 GRATUITIES. (APR 1984) (Applies to Fixed-Price and Cost)
- I.3 52.203-5 COVENANT AGAINST CONTINGENT FEES. (APR 1984) (Applies to Fixed-Price and Cost) (Applies to Fixed-Price and Cost)
- I.4 52.203-6 RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT. (SEP 2006) (Applies to Fixed-Price and Cost) (Applies to Fixed-Price and Cost)
- I.5 52.203-7 ANTI-KICKBACK PROCEDURES. (OCT 2010) (Applies to Fixed-Price and Cost) (Applies to Fixed-Price and Cost)
- I.6 52.203-8 CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY. (JAN 1997) (Applies to Fixed-Price and Cost)
- I.7 52.203-10 PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY. (JAN 1997) (Applies to Fixed-Price and Cost)
- I.8 52.203-12 LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS. (OCT 2010) (Applies to Fixed-Price and Cost)
- I.9 52.203-13 CONTRACTOR CODE OF BUSINESS ETHICS AND CONDUCT. (APR 2010) (Applies to Fixed-Price and Cost)
- I.10 52.203-14 DISPLAY OF HOTLINE POSTER(S). (DEC 2007) (Applies to Fixed-Price and Cost)

Poster(s) Obtain from Office of the Inspector General, Fraud Detection Office, Attn: Poster Request, 1300 N. 17th Street, Suite 3200 Arlington, VA 22209
- I.11 52.204-2 SECURITY REQUIREMENTS. (AUG 1996) (Applies to Fixed-Price and Cost)
- I.12 52.204-4 PRINTED OR COPIED DOUBLE-SIDED ON POSTCONSUMER FIBER CONTENT PAPER. (MAY 2011) (Applies to Fixed-Price and Cost)
- I.13 52.204-7 CENTRAL CONTRACTOR REGISTRATION. (APR 2008) (Applies to Fixed-Price and Cost)
- I.14 52.204-9 PERSONAL IDENTITY VERIFICATION OF CONTRACTOR PERSONNEL. (JAN 2011) (Applies to Fixed-Price and Cost)
- I.15 52.204-10 REPORTING EXECUTIVE COMPENSATION AND FIRST-TIER

- SUBCONTRACT AWARDS. (JUL 2010) (Applies to Fixed-Price and Cost)
- I.16 52.209-6 PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT. (DEC 2010) (Applies to Fixed-Price and Cost)
- I.17 52.211-5 MATERIAL REQUIREMENTS. (AUG 2000) (Applies to Fixed-Price and Cost)
- I.18 52.211-15 DEFENSE PRIORITY AND ALLOCATION REQUIREMENTS. (APR 2008) (Applies to Fixed-Price and Cost)
- I.19 52.215-2 AUDIT AND RECORDS - NEGOTIATION. (OCT 2010) (Applies to Cost)
- I.20 52.215-8 ORDER OF PRECEDENCE - UNIFORM CONTRACT FORMAT. (OCT 1997) (Applies to Fixed-Price and Cost)
- I.21 52.215-10 PRICE REDUCTION FOR DEFECTIVE CERTIFIED COST OR PRICING DATA. (AUG 2011) (Applies to Cost)
- I.22 52.215-12 SUBCONTRACTOR CERTIFIED COST OR PRICING DATA. (OCT 2010) (Applies to Cost)
- I.23 52.215-14 INTEGRITY OF UNIT PRICES. (OCT 2010) (Applies to Fixed-Price and Cost)
- I.24 52.215-15 PENSION ADJUSTMENTS AND ASSET REVERSIONS. (OCT 2010) (Applies to Fixed-Price and Cost)
- I.25 52.215-18 REVERSION OR ADJUSTMENT OF PLANS FOR POSTRETIREMENT BENEFITS (PRB) OTHER THAN PENSIONS. (JUL 2005) (Applies to Fixed-Price and Cost)
- I.26 52.215-21 REQUIREMENTS FOR CERTIFIED COST OR PRICING DATA OR DATA OTHER THAN COST OR PRICING DATA - MODIFICATIONS. (OCT 2010) (Applies to Cost)
- I.27 52.215-23 LIMITATIONS ON PASS-THROUGH CHARGES. (OCT 2009) (Applies to Cost)
- I.28 52.216-7 ALLOWABLE COST AND PAYMENT. (JUN 2011) (Applies to Cost)
- (3) The designated payment office will make interim payments for contract financing on the “30th” day after the designated billing office receives a proper payment request.
- I.29 52.217-8 OPTION TO EXTEND SERVICES. (NOV 1999) Option to Extend Services. (Applies to Fixed-Price and Cost)

The Government may require continued performance of any services within the limits and at the

rates specified in the contract. These rates may be adjusted only as a result of revisions to prevailing labor rates provided by the Secretary of Labor. The option provision may be exercised more than once, but the total extension of performance hereunder shall not exceed 6 months. The Contracting Officer may exercise the option by written notice to the Contractor by issuance of a unilateral contract modification 30 days or more before the completion date set forth in Sections F.5.

- I.30 52.219-8 UTILIZATION OF SMALL BUSINESS CONCERNS. (JAN 2011) (Applies to Fixed-Price and Cost)
- I.31 52.219-9 SMALL BUSINESS SUBCONTRACTING PLAN. (JAN 2011) - ALTERNATE II (OCT 2001) (Applies to Fixed-Price and Cost)
- I.32 52.219-16 LIQUIDATED DAMAGES - SUBCONTRACTING PLAN. (JAN 1999) (Applies to Fixed-Price and Cost)
- I.33 52.219-28 POST-AWARD SMALL BUSINESS PROGRAM REREPRESENTATION. (APR 2009) (Applies to Fixed-Price and Cost)
- I.34 52.222-1 NOTICE TO THE GOVERNMENT OF LABOR DISPUTES. (FEB 1997) (Applies to Fixed-Price and Cost)
- I.35 52.222-2 PAYMENT FOR OVERTIME PREMIUMS. (JUL 1990) (Applies to Cost)
 (a) The use of overtime is authorized under this contract if the overtime premium does not exceed [Government Fill In To be filled in prior to award] or the overtime premium is paid for work -
- I.36 52.222-3 CONVICT LABOR. (JUN 2003) (Applies to Fixed-Price and Cost)
- I.37 52.222-4 CONTRACT WORK HOURS AND SAFETY STANDARDS ACT - OVERTIME COMPENSATION. (JUL 2005) (Applies to Fixed-Price and Cost)
- I.38 52.222-19 CHILD LABOR - COOPERATION WITH AUTHORITIES AND REMEDIES. (JUL 2010) (Applies to Fixed-Price and Cost)
- I.39 52.222-21 PROHIBITION OF SEGREGATED FACILITIES. (FEB 1999) (Applies to Fixed-Price and Cost)
- I.40 52.222-26 EQUAL OPPORTUNITY. (MAR 2007) (Applies to Fixed-Price and Cost)
- I.41 52.222-29 NOTIFICATION OF VISA DENIAL. (JUN 2003) (Applies to Fixed-Price and Cost)
- I.42 52.222-35 EQUAL OPPORTUNITY FOR VETERANS. (SEP 2010) (Applies to Fixed-Price and Cost)
- I.43 52.222-36 AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES. (OCT 2010) (Applies to Fixed-Price and Cost)

- I.44 52.222-37 EMPLOYMENT REPORTS ON VETERANS. (SEP 2010) (Applies to Fixed-Price and Cost)
- I.45 52.222-40 NOTIFICATION OF EMPLOYEE RIGHTS UNDER THE NATIONAL LABOR RELATIONS ACT. (DEC 2010) (Applies to Fixed-Price and Cost)
- I.46 52.222-41 SERVICE CONTRACT ACT OF 1965. (NOV 2007) (Applies to Fixed-Price and Cost)
- I.47 52.222-43 FAIR LABOR STANDARDS ACT AND SERVICE CONTRACT ACT - PRICE ADJUSTMENT (MULTIPLE YEAR AND OPTION CONTRACTS). (SEP 2009) (Applies to Fixed-Price)
- I.48 52.222-50 COMBATING TRAFFICKING IN PERSONS. (FEB 2009) (Applies to Fixed-Price and Cost)
- I.49 52.222-54 EMPLOYMENT ELIGIBILITY VERIFICATION. (JAN 2009) (Applies to Fixed-Price and Cost)
- I.50 52.223-2 AFFIRMATIVE PROCUREMENT OF BIOBASED PRODUCTS UNDER SERVICE AND CONSTRUCTION CONTRACTS. (DEC 2007) (Applies to Fixed-Price and Cost)
- I.51 52.223-3 HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SAFETY DATA. (JAN 1997) - ALTERNATE I (JUL 1995) (Applies to Fixed-Price and Cost)
- I.52 52.223-5 POLLUTION PREVENTION AND RIGHT-TO-KNOW INFORMATION. (MAY 2011) -- ALTERNATE I (MAY 2011) (Applies to Fixed-Price and Cost)
- I.53 52.223-6 DRUG-FREE WORKPLACE. (MAY 2001) (Applies to Fixed-Price and Cost)
- I.54 52.223-10 WASTE REDUCTION PROGRAM. (MAY 2011) (Applies to Fixed-Price and Cost)
- I.55 52.223-12 REFRIGERATION EQUIPMENT AND AIR CONDITIONERS. (MAY 1995) (Applies to Fixed-Price and Cost)
- I.56 52.223-15 ENERGY EFFICIENCY IN ENERGY-CONSUMING PRODUCTS. (DEC 2007) (Applies to Fixed-Price and Cost)
- I.57 52.223-16 IEEE 1680 STANDARD FOR THE ENVIRONMENTAL ASSESSMENT OF PERSONAL COMPUTER PRODUCTS. (DEC 2007) (Applies to Fixed-Price and Cost)
- I.58 52.223-17 AFFIRMATIVE PROCUREMENT OF EPA-DESIGNATED ITEMS IN SERVICE AND CONSTRUCTION CONTRACTS. (MAY 2008) (Applies to Fixed-Price and Cost)

- I.59 52.223-18 ENCOURAGING CONTRACTOR POLICIES TO BAN TEXT MESSAGING WHILE DRIVING. (AUG 2011) (Applies to Fixed-Price and Cost)
- I.60 52.224-1 PRIVACY ACT NOTIFICATION. (APR 1984) (Applies to Fixed-Price and Cost)
- I.61 52.224-2 PRIVACY ACT. (APR 1984) (Applies to Fixed-Price and Cost)
- I.62 52.225-1 BUY AMERICAN ACT - SUPPLIES. (FEB 2009) (Applies to Fixed-Price and Cost)
- I.63 52.225-8 DUTY-FREE ENTRY. (OCT 2010) (Applies to Fixed-Price and Cost)
- (4) Notation "UNITED STATES GOVERNMENT, **NASA**, Duty-free entry to be claimed pursuant to Item No(s) [**TBD**], Harmonized Tariff Schedules of the United States. Upon arrival of shipment at port of entry, District Director of Customs, please release shipment under 19 CFR part 142 and notify **see block 7 SE33** for execution of Customs Forms 7501 and 7501-A and any required duty-free entry certificates.";
- I.64 52.225-13 RESTRICTIONS ON CERTAIN FOREIGN PURCHASES. (JUN 2008) (Applies to Fixed-Price and Cost)
- I.65 52.225-19 CONTRACTOR PERSONNEL IN A DESIGNATED OPERATIONAL AREA OR SUPPORTING A DIPLOMATIC OR CONSULAR MISSION OUTSIDE THE UNITED STATES. (MAR 2008) (Applies to Cost)
- (ii) The Contracting Officer may issue Installation Accountable weapons and ammunition to the Contractor for issuance to specified Contractor employees.
- I.66 52.225-25 PROHIBITION ON ENGAGING IN SANCTIONED ACTIVITIES RELATING TO IRAN-CERTIFICATION. (SEP 2010) (Applies to Fixed-Price and Cost)
- I.67 52.227-1 AUTHORIZATION AND CONSENT. (DEC 2007) (Applies to Fixed-Price and Cost)
- I.68 52.227-2 NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT. (DEC 2007) (Applies to Fixed-Price and Cost)
- I.69 52.227-3 PATENT INDEMNITY. (APR 1984) (Applies to Fixed-Price and Cost)
- I.70 52.227-14 RIGHTS IN DATA--GENERAL. (DEC 2007) (Applies to Fixed-Price and Cost)
- I.71 52.228-5 INSURANCE - WORK ON A GOVERNMENT INSTALLATION. (JAN 1997) (Applies to Fixed-Price)
- I.72 52.228-7 INSURANCE - LIABILITY TO THIRD PERSONS. (MAR 1996) (Applies to Cost)

- I.73 52.229-3 FEDERAL, STATE, AND LOCAL TAXES. (APR 2003) (Applies to Fixed-Price)
- I.74 52.229-8 TAXES - FOREIGN COST-REIMBURSEMENT CONTRACTS. (MAR 1990) (Applies to Cost)
 - (a) Any tax or duty from which the United States Government is exempt by agreement with the Government of [*TBD on a required basis*], or from which the Contractor or any subcontractor under this contract is exempt under the laws of [*TBD on a required basis*], shall not constitute an allowable cost under this contract.
- I.75 52.229-10 STATE OF NEW MEXICO GROSS RECEIPTS AND COMPENSATING TAX. (APR 2003) (Applies to Cost)

When the Type 15 Nontaxable Transaction Certificate is issued by the Revenue Division, the Contractor shall use these certificates strictly in accordance with this contract, and the agreement between the NASA and the New Mexico Taxation and Revenue Department

 - (g) The NASA may receive information regarding the Contractor from the Revenue Division of the New Mexico Taxation and Revenue Department and, at the discretion of the NASA, may participate in any matters or proceedings pertaining to this clause or the above-mentioned Agreement. This shall not preclude the Contractor from having its own representative nor does it obligate the NASA to represent its Contractor.
- I.76 52.230-2 COST ACCOUNTING STANDARDS. (OCT 2010) (Applies to Fixed-Price and Cost)
- I.77 52.230-6 ADMINISTRATION OF COST ACCOUNTING STANDARDS. (JUN 2010) (Applies to Fixed-Price and Cost)
- I.78 52.232-1 PAYMENTS. (APR 1984) (Applies to Fixed-Price)
- I.79 52.232-8 DISCOUNTS FOR PROMPT PAYMENT. (FEB 2002) (Applies to Fixed-Price)
- I.80 52.232-9 LIMITATION ON WITHHOLDING OF PAYMENTS. (APR 1984) (Applies to Fixed-Price and Cost)
- I.81 52.232-11 EXTRAS. (APR 1984) (Applies to Fixed-Price)
- I.82 52.232-17 INTEREST. (OCT 2010) (Applies to Fixed-Price and Cost)
- I.83 52.232-18 AVAILABILITY OF FUNDS. (APR 1984) (Applies to Fixed-Price and Cost)
- I.84 52.232-22 LIMITATION OF FUNDS. (APR 1984) (Applies to Cost)
- I.85 52.232-23 ASSIGNMENT OF CLAIMS. (JAN 1986) (Applies to Fixed-Price and Cost)

- I.86 52.232-25 PROMPT PAYMENT. (OCT 2008) (Applies to Fixed-Price)
 - I.87 52.232-25 PROMPT PAYMENT. (OCT 2008) -- ALTERNATE I (FEB 2002) (Applies to Cost)
 - I.88 52.232-33 PAYMENT BY ELECTRONIC FUNDS TRANSFER - CENTRAL CONTRACTOR REGISTRATION. (OCT 2003) (Applies to Fixed-Price and Cost)
 - I.89 52.232-35 DESIGNATION OF OFFICE FOR GOVERNMENT RECEIPT OF ELECTRONIC FUNDS TRANSFER INFORMATION. (MAY 1999) (Applies to Fixed-Price and Cost)
- NASA Shared Services Center
Financial Management Division (FMD) – Accounts Payable
Bldg. 1111
C. Road,
Stennis Space Center, MS 39529
- I.90 52.233-1 DISPUTES. (JUL 2002) - ALTERNATE I (DEC 1991) (Applies to Fixed-Price and Cost)
 - I.91 52.233-3 PROTEST AFTER AWARD. (AUG 1996) (Applies to Fixed-Price)
 - I.92 52.233-3 PROTEST AFTER AWARD. (AUG 1996) - ALTERNATE I (JUN 1985) (Applies to Cost)
 - I.93 52.233-4 APPLICABLE LAW FOR BREACH OF CONTRACT CLAIM. (OCT 2004) (Applies to Fixed-Price and Cost)
 - I.94 52.237-2 PROTECTION OF GOVERNMENT BUILDINGS, EQUIPMENT, AND VEGETATION. (APR 1984) (Applies to Fixed-Price and Cost)
 - I.95 52.237-3 CONTINUITY OF SERVICES. (JAN 1991) (Applies to Fixed-Price and Cost)
 - I.96 52.237-11 ACCEPTING AND DISPENSING OF \$1 COIN. (SEP 2008) (Applies to Fixed-Price and Cost)
 - I.97 52.239-1 PRIVACY OR SECURITY SAFEGUARDS. (AUG 1996) (Applies to Fixed-Price and Cost)
 - I.98 52.242-1 NOTICE OF INTENT TO DISALLOW COSTS. (APR 1984) (Applies to Cost)
 - I.99 52.242-3 PENALTIES FOR UNALLOWABLE COSTS. (MAY 2001) (Applies to Fixed-Price and Cost)
 - I.100 52.242-4 CERTIFICATION OF FINAL INDIRECT COSTS. (JAN 1997) (Applies to

Cost)

- I.101 52.242-13 BANKRUPTCY. (JUL 1995) (Applies to Fixed-Price and Cost)
- I.102 52.243-1 CHANGES - FIXED-PRICE. (AUG 1987) - ALTERNATE II (APR 1984) (Applies to Fixed-Price)
- I.103 52.243-2 CHANGES - COST-REIMBURSEMENT. (AUG 1987) - ALTERNATE II (APR 1984) (Applies to Cost)
- I.104 52.244-2 SUBCONTRACTS. (OCT 2010) - ALTERNATE I (JUN 2007) (Applies to Cost)
 - (d) If the Contractor has an approved purchasing system, the Contractor nevertheless shall obtain the Contracting Officer's written consent before placing the following subcontracts: **subcontracts in excess of \$100,000.**
 - (j) Paragraphs (c) and (e) of this clause do not apply to the following subcontracts, which were evaluated during negotiations: [Government Fill In To be filled in prior to award]
- I.105 52.244-5 COMPETITION IN SUBCONTRACTING. (DEC 1996) (Applies to Cost)
- I.106 52.244-6 SUBCONTRACTS FOR COMMERCIAL ITEMS. (DEC 2010) (Applies to Fixed-Price and Cost)
- I.107 52.245-1 GOVERNMENT PROPERTY. (AUG 2010) (Applies to Fixed-Price and Cost)
- I.108 52.245-9 USE AND CHARGES. (AUG 2010) (Applies to Fixed-Price and Cost)
- I.109 52.246-23 LIMITATION OF LIABILITY. (FEB 1997) (Applies to Fixed-Price and Cost)
- I.110 52.246-25 LIMITATION OF LIABILITY - SERVICES. (FEB 1997) (Applies to Fixed-Price and Cost)
- I.111 52.247-1 COMMERCIAL BILL OF LADING NOTATIONS. (FEB 2006) (Applies to Fixed-Price and Cost)
 - Transportation is for NASA and the actual total transportation charges paid to the carrier(s) by the consignor or consignee are assignable to, and shall be reimbursed by, the Government.
 - Transportation is for NASA and the actual total transportation charges paid to the carrier(s) by the consignor or consignee shall be reimbursed by the Government, pursuant to cost-reimbursement contract No. [Government Fill In]. This may be confirmed by contacting: **see block 7 SF33.**
- I.112 52.247-63 PREFERENCE FOR U.S.-FLAG AIR CARRIERS. (JUN 2003) (Applies to Fixed-Price and Cost)
- I.113 52.247-64 PREFERENCE FOR PRIVATELY OWNED U.S.-FLAG COMMERCIAL VESSELS. (FEB 2006) (Applies to Fixed-Price and Cost)

- I.114 52.248-1 VALUE ENGINEERING. (OCT 2010) (Applies to Fixed-Price and Cost)
- I.115 52.249-2 TERMINATION FOR CONVENIENCE OF THE GOVERNMENT(FIXED-PRICE). (MAY 2004) (Applies to Fixed-Price)
- I.116 52.249-6 TERMINATION (COST-REIMBURSEMENT). (MAY 2004) (Applies to Cost)
- I.117 52.249-8 DEFAULT (FIXED-PRICE SUPPLY AND SERVICE). (APR 1984) (Applies to Fixed-Price)
- I.118 52.249-14 EXCUSABLE DELAYS. (APR 1984) (Applies to Cost)
- I.119 52.251-1 GOVERNMENT SUPPLY SOURCES. (AUG 2010) (Applies to Fixed-Price and Cost)
- I.120 52.253-1 COMPUTER GENERATED FORMS. (JAN 1991) (Applies to Fixed-Price and Cost)
- I.121 1852.216-89 ASSIGNMENT AND RELEASE FORMS. (JUL 1997) (Applies to Fixed-Price and Cost)
- I.122 1852.219-74 USE OF RURAL AREA SMALL BUSINESSES. (SEP 1990) (Applies to Fixed-Price and Cost)
- I.123 1852.219-75 SMALL BUSINESS SUBCONTRACTING REPORTING. (MAY 1999) (Applies to Fixed-Price and Cost)
- I.124 1852.219-77 NASA MENTOR-PROTEGE PROGRAM. (MAY 2009) (Applies to Fixed-Price and Cost)
- I.125 1852.223-74 DRUG-AND ALCOHOL-FREE WORKFORCE. (MAR 1996) (Applies to Fixed-Price and Cost)
- I.126 1852.227-14 RIGHTS IN DATA - GENERAL. (Applies to Fixed-Price and Cost)
- I.127 1852.237-70 EMERGENCY EVACUATION PROCEDURES. (DEC 1988) (Applies to Fixed-Price and Cost)
- I.128 1852.242-78 EMERGENCY MEDICAL SERVICES AND EVACUATION. (APR 2001) (Applies to Fixed-Price and Cost)
- I.129 1852.243-71 SHARED SAVINGS. (MAR 1997) (Applies to Fixed-Price and Cost)
- I.130 52.204-1 APPROVAL OF CONTRACT. (DEC 1989) (Applies to Fixed-Price and Cost)

This contract is subject to the written approval of **the JSC Procurement Officer** and shall not be

binding until so approved.

(End of clause)

I.131 52.215-19 NOTIFICATION OF OWNERSHIP CHANGES. (OCT 1997) (Applies to Cost)

(a) The Contractor shall make the following notifications in writing:

(1) When the Contractor becomes aware that a change in its ownership has occurred, or is certain to occur, that could result in changes in the valuation of its capitalized assets in the accounting records, the Contractor shall notify the Administrative Contracting Officer (ACO) within 30 days.

(2) The Contractor shall also notify the ACO within 30 days whenever changes to asset valuations or any other cost changes have occurred or are certain to occur as a result of a change in ownership.

(b) The Contractor shall -

(1) Maintain current, accurate, and complete inventory records of assets and their costs;

(2) Provide the ACO or designated representative ready access to the records upon request;

(3) Ensure that all individual and grouped assets, their capitalized values, accumulated depreciation or amortization, and remaining useful lives are identified accurately before and after each of the Contractor's ownership changes; and

(4) Retain and continue to maintain depreciation and amortization schedules based on the asset records maintained before each Contractor ownership change.

(c) The Contractor shall include the substance of this clause in all subcontracts under this contract that meet the applicability requirement of FAR 15.408(k).

(End of clause)

I.132 52.222-42 STATEMENT OF EQUIVALENT RATES FOR FEDERAL HIRES. (MAY 1989) (Applies to Fixed-Price and Cost)

In compliance with the Service Contract Act of 1965, as amended, and the regulations of the Secretary of Labor (29 CFR Part 4), this clause identifies the classes of service employees expected to be employed under the contract and states the wages and fringe benefits payable to each if they were employed by the contracting agency subject to the provisions of 5 U.S.C. 5341 or 5332.

This Statement is for Information Only:

It is not a Wage Determination

Employee Class
See Attachment J-4

Monetary Wage - Fringe Benefits
See Attachment J-4

(End of clause)

I.133 52.223-7 NOTICE OF RADIOACTIVE MATERIALS. (JAN 1997) (Applies to Fixed-Price and Cost)

(a) The Contractor shall notify the Contracting Officer or designee, in writing, 5 days prior to the delivery of, or prior to completion of any servicing required by this contract of, items containing either (1) radioactive material requiring specific licensing under the regulations issued pursuant to the Atomic Energy Act of 1954, as amended, as set forth in Title 10 of the Code of Federal Regulations, in effect on the date of this contract, or (2) other radioactive material not requiring specific licensing in which the specific activity is greater than 0.002 microcuries per gram or the activity per item equals or exceeds 0.01 microcuries. Such notice shall specify the part or parts of the items which contain radioactive materials, a description of the materials, the name and activity of the isotope, the manufacturer of the materials, and any other information known to the Contractor which will put users of the items on notice as to the hazards involved (OMB No. 9000-0107).

* The Contracting Officer shall insert the number of days required in advance of delivery of the item or completion of the servicing to assure that required licenses are obtained and appropriate personnel are notified to institute any necessary safety and health precautions. See FAR 23.601(d).

(b) If there has been no change affecting the quantity of activity, or the characteristics and composition of the radioactive material from deliveries under this contract or prior contracts, the Contractor may request that the Contracting Officer or designee waive the notice requirement in paragraph (a) of this clause. Any such request shall -

(1) Be submitted in writing;

(2) State that the quantity of activity, characteristics, and composition of the radioactive material have not changed; and

(3) Cite the contract number on which the prior notification was submitted and the contracting office to which it was submitted.

(c) All items, parts, or subassemblies which contain radioactive materials in which the specific activity is greater than 0.002 microcuries per gram or activity per item equals or exceeds 0.01 microcuries, and all containers in which such items, parts or subassemblies are delivered to the Government shall be clearly marked and labeled as required by the latest revision of MIL-STD 129 in effect on the date of the contract.

(d) This clause, including this paragraph (d), shall be inserted in all subcontracts for radioactive materials meeting the criteria in paragraph (a) of this clause.

(End of clause)

I.134 52.223-9 ESTIMATE OF PERCENTAGE OF RECOVERED MATERIAL CONTENT FOR EPA-DESIGNATED ITEMS. (MAY 2008) (Applies to Fixed-Price and Cost)

(a) *Definitions.* As used in this clause -

"Postconsumer material" means a material or finished product that has served its intended use and has been discarded for disposal or recovery, having completed its life as a consumer item. Postconsumer material is a part of the broader category of "recovered material."

"Recovered material" means waste materials and by-products recovered or diverted from solid waste, but the term does not include those materials and by-products generated from, and commonly reused within, an original manufacturing process.

(b) The Contractor, on completion of this contract, shall -

- (1) Estimate the percentage of the total recovered material content for EPA-designated item(s) delivered and/or used in contract performance, including, if applicable, the percentage of post-consumer material content; and
- (2) Submit this estimate to the Contracting Officer.

(End of clause)

I.135 52.223-11 OZONE-DEPLETING SUBSTANCES. (MAY 2001) (Applies to Fixed-Price and Cost)

(a) Definition. Ozone-depleting substance, as used in this clause, means any substance the Environmental Protection Agency designates in 40 CFR part 82 as--

- (1) Class I, including, but not limited to, chlorofluorocarbons, halons, carbon tetrachloride, and methyl chloroform; or
- (2) Class II, including, but not limited to, hydrochlorofluorocarbons.

(b) The Contractor shall label products which contain or are manufactured with ozone-depleting substances in the manner and to the extent required by 42 U.S.C. 7671j (b), (c), and (d) and 40 CFR Part 82, Subpart E, as follows:

Warning

Contains (or manufactured with, if applicable) *none at this time, a substance(s) which harm(s) public health and environment by destroying ozone in the upper atmosphere.

* The Contractor shall insert the name of the substance(s).

(End of clause)

I.136 52.247-67 SUBMISSION OF TRANSPORTATION DOCUMENTS FOR AUDIT. (FEB 2006) (Applies to Cost)

(a) The Contractor shall submit to the address identified below, for prepayment audit, transportation documents on which the United States will assume freight charges that were paid--

- (1) By the Contractor under a cost-reimbursement contract; and

- (2) By a first-tier subcontractor under a cost-reimbursement subcontract thereunder.
- (b) Cost-reimbursement Contractors shall only submit for audit those bills of lading with freight shipment charges exceeding \$100. Bills under \$100 shall be retained on-site by the Contractor and made available for on-site audits. This exception only applies to freight shipment bills and is not intended to apply to bills and invoices for any other transportation services.
- (c) Contractors shall submit the above referenced transportation documents to--

General Services Administration
Attn: FWA
1800 F Street, NW
Washington, DC 20405

(End of clause)

I.137 52.252-2 CLAUSES INCORPORATED BY REFERENCE. (FEB 1998) (Applies to Fixed-Price and Cost)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

Federal Acquisition Regulation Internet address - <http://www.arnet.gov/far/>

NASA FAR Supplement Internet address
- <http://www.hq.nasa.gov/office/procurement/reg/nfstoc.htm>

(End of clause)

I.138 52.252-4 ALTERATIONS IN CONTRACT. (APR 1984) (Applies to Fixed-Price and Cost)

Portions of this contract are altered as follows: Clause 52.243-2, Changes - Cost-Reimbursement, is modified by deleting the 30-day reference and inserting a reference to 60 days in lieu thereof.

(End of clause)

I.139 52.252-6 AUTHORIZED DEVIATIONS IN CLAUSES. (APR 1984) (Applies to Fixed-Price and Cost)

- (a) The use in this solicitation or contract of any Federal Acquisition Regulation (48 CFR Chapter 1) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the date of the clause.
- (b) The use in this solicitation or contract of any NASA FAR Supplement (48 CFR Chapter 18) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

(End of clause)

I.140 1852.204-75 SECURITY CLASSIFICATION REQUIREMENTS. (SEP 1989)
(Applies to Fixed-Price and Cost)

Performance under this contract will involve access to and/or generation of classified information, work in a security area, or both, up to the level of TOP SECRET and will require Sensitive Compartmented Information (SCI) access. See Federal Acquisition Regulation clause 52.204-2 in this contract and DD Form 254, Contract Security Classification Specification, Attachment J-5.

(End of clause)

I.141 11852.204-76 SECURITY REQUIREMENTS FOR UNCLASSIFIED
INFORMATION TECHNOLOGY RESOURCES. (JAN 2011) (Applies to
Fixed-Price and Cost)

(a) The Contractor shall protect the confidentiality, integrity, and availability of NASA Electronic Information and IT resources and protect NASA Electronic Information from unauthorized disclosure.

(b) This clause is applicable to all NASA contractors and sub-contractors that process, manage, access, or store unclassified electronic information, to include Sensitive But Unclassified (SBU) information, for NASA in support of NASA's missions, programs, projects and/or institutional requirements. Applicable requirements, regulations, policies, and guidelines are identified in the Applicable Documents List (ADL) provided as an attachment to the contract. The documents listed in the ADL can be found at: <http://www.nasa.gov/offices/ocio/itsecurity/index.html>. For policy information considered sensitive, the documents will be identified as such in the ADL and made available through the Contracting Officer.

(c) Definitions.

(1) IT resources means any hardware or software or interconnected system or subsystem of equipment, that is used to process, manage, access, or store electronic information.

(2) NASA Electronic Information is any data (as defined in the Rights in Data clause of this contract) or information (including information incidental to contract administration, such as financial, administrative, cost or pricing, or management information) that is processed, managed, accessed or stored on an IT system(s) in the performance of a NASA contract.

(3) IT Security Management Plan--This plan shall describe the processes and procedures that will be followed to ensure appropriate security of IT resources that are developed, processed, or used under this contract. Unlike the IT security plan, which addresses the IT system, the IT Security Management Plan addresses how the Contractor will manage personnel and processes associated with IT Security on the instant contract.

(4) IT Security Plan--this is a FISMA requirement; see the ADL for applicable requirements. The IT Security Plan is specific to the IT System and not the contract. Within 30 days after award, the Contractor shall develop and deliver an IT Security Management Plan to the Contracting Officer; the approval authority will be included in the ADL. All Contractor personnel requiring physical or logical access to NASA IT resources must complete NASA's annual IT Security Awareness training. Refer to the IT Training policy located in the IT Security Web site at <https://itsecurity.nasa.gov/policies/index.html>.

- (d) The Contractor shall afford Government access to the Contractor's and subcontractors' facilities, installations, operations, documentation, databases, and personnel used in performance of the contract. Access shall be provided to the extent required to carry out a program of IT inspection (to include vulnerability testing), investigation and audit to safeguard against threats and hazards to the integrity, availability, and confidentiality of NASA Electronic Information or to the function of IT systems operated on behalf of NASA, and to preserve evidence of computer crime.
- (e) At the completion of the contract, the Contractor shall return all NASA information and IT resources provided to the Contractor during the performance of the contract in accordance with retention documentation available in the ADL. The Contractor shall provide a listing of all NASA Electronic information and IT resources generated in performance of the contract. At that time, the Contractor shall request disposition instructions from the Contracting Officer. The Contracting Officer will provide disposition instructions within 30 calendar days of the Contractor's request. Parts of the clause and referenced ADL may be waived by the Contracting Officer, if the Contractor's ongoing IT security program meets or exceeds the requirements of NASA Procedural Requirements (NPR) 2810.1 in effect at time of award. The current version of NPR 2810.1 is referenced in the ADL. The Contractor shall submit a written waiver request to the Contracting Officer within 30 days of award. The waiver request will be reviewed by the Center IT Security Manager. If approved, the Contractor Officer will notify the Contractor, by contract modification, which parts of the clause or provisions of the ADL are waived.
- (f) The Contractor shall insert this clause, including this paragraph in all subcontracts that process, manage, access or store NASA Electronic Information in support of the mission of the Agency.

(End of clause)

I.142 1852.215-84 OMBUDSMAN. (OCT 2003) (Applies to Fixed-Price and Cost)

- (a) An ombudsman has been appointed to hear and facilitate the resolution of concerns from offerors, potential offerors, and contractors during the preaward and postaward phases of this acquisition. When requested, the ombudsman will maintain strict confidentiality as to the source of the concern. The existence of the ombudsman is not to diminish the authority of the Contracting Officer, the Source Evaluation Board, or the selection official. Further, the ombudsman does not participate in the evaluation of proposals, the source selection process, or the adjudication of formal contract disputes. Therefore, before consulting with an ombudsman, interested parties must first address their concerns, issues, disagreements, and/or recommendations to the Contracting Officer for resolution.
- (b) If resolution cannot be made by the Contracting Officer, interested parties may contact the installation ombudsman, which is posted at http://prod.nais.nasa.gov/pub/pub_library/Omb.html. Concerns, issues, disagreements, and recommendations which cannot be resolved at the installation may be referred to the NASA ombudsman, the Director of the Contract Management Division, at 202-358-0445, facsimile 202-358-3083, e-mail ronald.a.poussard@nasa.gov. Please do not contact the ombudsman to request copies of the solicitation, verify offer due date, or clarify technical requirements. Such inquiries shall be directed to the Contracting Officer or as specified elsewhere in this document.

(End of clause)

I.143 1852.219-76 NASA 8 PERCENT GOAL. (JUL 1997) (Applies to Fixed-Price and Cost)

(a) Definitions.

"Historically Black Colleges or University," as used in this clause, means an institution determined by the Secretary of Education to meet the requirements of 34 CFR Section 608.2. The term also includes any nonprofit research institution that was an integral part of such a college or university before November 14, 1986.

"Minority institutions," as used in this clause, means an institution of higher education meeting the requirements of section 1046(3) of the Higher Education Act of 1965 (20 U.S.C. 1135d-5(3)) which for the purposes of this clause includes a Hispanic-serving institution of higher education as defined in section 316(b)(1) of the Act (20 U.S.C. 1059c(b)(1)).

"Small disadvantaged business concern," as used in this clause, means a small business concern that (1) is at least 51 percent unconditionally owned by one or more individuals who are both socially and economically disadvantaged, or a publicly owned business having at least 51 percent of its stock unconditionally owned by one or more socially and economically disadvantaged individuals, and (2) has its management and daily business controlled by one or more such individuals. This term also means a small business concern that is at least 51 percent unconditionally owned by an economically disadvantaged Indian tribe or Native Hawaiian Organization, or a publicly owned business having at least 51 percent of its stock unconditionally owned by one or more of these entities, which has its management and daily business controlled by members of an economically disadvantaged Indian tribe or Native Hawaiian Organization, and which meets the requirements of 13 CFR 124.

"Women-owned small business concern," as used in this clause, means a small business concern (1) which is at least 51 percent owned by one or more women or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women, and (2) whose management and daily business operations are controlled by one or more women.

(b) The NASA Administrator is required by statute to establish annually a goal to make available to small disadvantaged business concerns, Historically Black Colleges and Universities, minority institutions, and women-owned small business concerns, at least 8 percent of NASA's procurement dollars under prime contracts or subcontracts awarded in support of authorized programs, including the space station by the time operational status is obtained.

(c) The Contractor hereby agrees to assist NASA in achieving this goal by using its best efforts to award subcontracts to such entities to the fullest extent consistent with efficient contract performance.

(d) Contractors acting in good faith may rely on written representations by their subcontractors regarding their status as small disadvantaged business concerns, Historically Black Colleges and Universities, minority institutions, and women-owned small business concerns.

(End of clause)

I.144 1852.219-79 MENTOR REQUIREMENTS AND EVALUATION. (MAY 2009) (Applies to Fixed-Price and Cost)

- (a) The purpose of the NASA Mentor-Protégé Program is for a NASA prime Contractor to provide developmental assistance to certain subcontractors qualifying as protégés.

Eligible protégés include certified small disadvantaged business concerns, women-owned small business concerns, veteran-owned or service-disabled veteran-owned small business concerns, HUBZone small business concerns, Historically Black Colleges and Universities, minority institutions of higher education, as defined in FAR Part 2, Definitions of Parts and Terms, active NASA SBIR Phase II companies and nonprofit agencies employing the blind or severely handicapped as defined in 41 CFR Chapter 51.

- (b) NASA will evaluate the Contractor's performance on the following factors. If this contract includes an award fee incentive, this assessment will be accomplished as part of the fee evaluation process.

- (1) Specific actions taken by the Contractor, during the evaluation period, to increase the participation of protégés as subcontractors and suppliers;
- (2) Specific actions taken by the Contractor during this evaluation period to develop the technical and corporate administrative expertise of a protégé as defined in the agreement;
- (3) To what extent the mentor and protégé have met the developmental milestones outlined in the agreement; and
- (4) To what extent the entities' participation in the Mentor-Protégé Program resulted in the protégé receiving competitive contract(s) and subcontract(s) from private firms and agencies other than the mentor.

- (c) Semiannual reports shall be submitted by the mentor and the protégé to the cognizant NASA center and NASA Headquarters Office of Small Business Programs (OSBP), following the semiannual report template found on the Web site at <http://www.osbp.nasa.gov>.

- (d) The mentor will notify the cognizant NASA center and NASA OSBP in writing, at least 30 days in advance of the mentor's intent to voluntarily withdraw from the program or upon receipt of a protégé's notice to withdraw from the Program;

- (e) At the end of each year in the Mentor-Protégé Program, the mentor and protégé, as appropriate, will formally brief the NASA Mentor-Protégé program manager, the technical program manager, and the Contracting Officer during a formal program review regarding Program accomplishments, as it pertains to the approved agreement.

- (f) NASA may terminate mentor-protégé agreements for good cause, thereby excluding mentors or protégés from participating in the NASA Mentor-Protégé program. These actions shall be approved by the NASA OSBP. NASA shall terminate an agreement by delivering to the Contractor a letter specifying the reason for termination and the effective date. Termination of an agreement does not constitute a termination of the subcontract between the mentor and the protégé. A plan for accomplishing the subcontract effort should the agreement be terminated shall be submitted with the agreement.

(End of clause)

I.145 1852.228-75 MINIMUM INSURANCE COVERAGE. (OCT 1988) (Applies to

Fixed-Price and Cost)

The Contractor shall obtain and maintain insurance coverage as follows for the performance of this contract:

- (a) Worker's compensation and employer's liability insurance as required by applicable Federal and state workers' compensation and occupational disease statutes. If occupational diseases are not compensable under those statutes, they shall be covered under the employer's liability section of the insurance policy, except when contract operations are so commingled with the Contractor's commercial operations that it would not be practical. The employer's liability coverage shall be at least \$100,000, except in States with exclusive or monopolistic funds that do not permit workers' compensation to be written by private carriers.
- (b) Comprehensive general (bodily injury) liability insurance of at least \$500,000 per occurrence.
- (c) Motor vehicle liability insurance written on the comprehensive form of policy which provides for bodily injury and property damage liability covering the operation of all motor vehicles used in connection with performing the contract. Policies covering motor vehicles operated in the United States shall provide coverage of at least \$200,000 per person and \$500,000 per occurrence for bodily injury liability and \$20,000 per occurrence for property damage. The amount of liability coverage on other policies shall be commensurate with any legal requirements of the locality and sufficient to meet normal and customary claims.
- (d) Comprehensive general and motor vehicle liability policies shall contain a provision worded as follows:

"The insurance company waives any right of subrogation against the United States of America which may arise by reason of any payment under the policy."

(e) When aircraft are used in connection with performing the contract, aircraft public and passenger liability insurance of at least \$200,000 per person and \$500,000 per occurrence for bodily injury, other than passenger liability, and \$200,000 per occurrence for property damage. Coverage for passenger liability bodily injury shall be at least \$200,000 multiplied by the number of seats or passengers, whichever is greater.
- (f) Insurance for emergency medical services and evacuation. See NFS 1852.242-78.

(End of clause)

I.146 1852.237-72 ACCESS TO SENSITIVE INFORMATION. (JUN 2005) (Applies to Fixed-Price and Cost)

- (a) As used in this clause, "sensitive information" refers to information that a Contractor has developed at private expense, or that the Government has generated that qualifies for an exception to the Freedom of Information Act, which is not currently in the public domain, and which may embody trade secrets or commercial or financial information, and which may be sensitive or privileged.
- (b) To assist NASA in accomplishing management activities and administrative functions, the Contractor shall provide the services specified elsewhere in this contract.

- (c) If performing this contract entails access to sensitive information, as defined above, the Contractor agrees to--
- (1) Utilize any sensitive information coming into its possession only for the purposes of performing the services specified in this contract, and not to improve its own competitive position in another procurement.
 - (2) Safeguard sensitive information coming into its possession from unauthorized use and disclosure.
 - (3) Allow access to sensitive information only to those employees that need it to perform services under this contract.
 - (4) Preclude access and disclosure of sensitive information to persons and entities outside of the Contractor's organization.
 - (5) Train employees who may require access to sensitive information about their obligations to utilize it only to perform the services specified in this contract and to safeguard it from unauthorized use and disclosure.
 - (6) Obtain a written affirmation from each employee that he/she has received and will comply with training on the authorized uses and mandatory protections of sensitive information needed in performing this contract.
 - (7) Administer a monitoring process to ensure that employees comply with all reasonable security procedures, report any breaches to the Contracting Officer, and implement any necessary corrective actions.
- (d) The Contractor will comply with all procedures and obligations specified in its Organizational Conflicts of Interest Avoidance Plan, which this contract incorporates as a compliance document.
- (e) The nature of the work on this contract may subject the Contractor and its employees to a variety of laws and regulations relating to ethics, conflicts of interest, corruption, and other criminal or civil matters relating to the award and administration of government contracts. Recognizing that this contract establishes a high standard of accountability and trust, the Government will carefully review the Contractor's performance in relation to the mandates and restrictions found in these laws and regulations. Unauthorized uses or disclosures of sensitive information may result in termination of this contract for default, or in debarment of the Contractor for serious misconduct affecting present responsibility as a government Contractor.
- (f) The Contractor shall include the substance of this clause, including this paragraph (f), suitably modified to reflect the relationship of the parties, in all subcontracts that may involve access to sensitive information

(End of clause)

I.147 1852.237-73 RELEASE OF SENSITIVE INFORMATION. (JUN 2005) (Applies to Fixed-Price and Cost)

- (a) As used in this clause, "Sensitive information" refers to information, not currently in the public

domain, that the Contractor has developed at private expense, that may embody trade secrets or commercial or financial information, and that may be sensitive or privileged.

- (b) In accomplishing management activities and administrative functions, NASA relies heavily on the support of various service providers. To support NASA activities and functions, these service providers, as well as their subcontractors and their individual employees, may need access to sensitive information submitted by the Contractor under this contract. By submitting this proposal or performing this contract, the Contractor agrees that NASA may release to its service providers, their subcontractors, and their individual employees, sensitive information submitted during the course of this procurement, subject to the enumerated protections mandated by the clause at 1852.237-72, Access to Sensitive Information.
- (c) (1) The Contractor shall identify any sensitive information submitted in support of this proposal or in performing this contract. For purposes of identifying sensitive information, the Contractor may, in addition to any other notice or legend otherwise required, use a notice similar to the following:

Mark the title page with the following legend:

This proposal or document includes sensitive information that NASA shall not disclose outside the Agency and its service providers that support management activities and administrative functions. To gain access to this sensitive information, a service provider's contract must contain the clause at NFS 1852.237-72, Access to Sensitive Information. Consistent with this clause, the service provider shall not duplicate, use, or disclose the information in whole or in part for any purpose other than to perform the services specified in its contract. This restriction does not limit the Government's right to use this information if it is obtained from another source without restriction. The information subject to this restriction is contained in pages [*insert page numbers or other identification of pages*]. Mark each page of sensitive information the Contractor wishes to restrict with the following legend:

Use or disclosure of sensitive information contained on this page is subject to the restriction on the title page of this proposal or document.

- (2) The Contracting Officer shall evaluate the facts supporting any claim that particular information is "sensitive." This evaluation shall consider the time and resources necessary to protect the information in accordance with the detailed safeguards mandated by the clause at 1852.237-72, Access to Sensitive Information. However, unless the Contracting Officer decides, with the advice of Center counsel, that reasonable grounds exist to challenge the Contractor's claim that particular information is sensitive, NASA and its service providers and their employees shall comply with all of the safeguards contained in paragraph (d) of this clause.
- (d) To receive access to sensitive information needed to assist NASA in accomplishing management activities and administrative functions, the service provider must be operating under a contract that contains the clause at 1852.237-72, Access to Sensitive Information. This clause obligates the service provider to do the following:
 - (1) Comply with all specified procedures and obligations, including the Organizational Conflicts of Interest Avoidance Plan, which the contract has incorporated as a compliance document.
 - (2) Utilize any sensitive information coming into its possession only for the purpose of performing the services specified in its contract.

- (3) Safeguard sensitive information coming into its possession from unauthorized use and disclosure.
- (4) Allow access to sensitive information only to those employees that need it to perform services under its contract.
- (5) Preclude access and disclosure of sensitive information to persons and entities outside of the service provider's organization.
- (6) Train employees who may require access to sensitive information about their obligations to utilize it only to perform the services specified in its contract and to safeguard it from unauthorized use and disclosure.
- (7) Obtain a written affirmation from each employee that he/she has received and will comply with training on the authorized uses and mandatory protections of sensitive information needed in performing this contract.
- (8) Administer a monitoring process to ensure that employees comply with all reasonable security procedures, report any breaches to the Contracting Officer, and implement any necessary corrective actions.
- (e) When the service provider will have primary responsibility for operating an information technology system for NASA that contains sensitive information, the service provider's contract shall include the clause at 1852.204-76, Security Requirements for Unclassified Information Technology Resources. The Security Requirements clause requires the service provider to implement an Information Technology Security Plan to protect information processed, stored, or transmitted from unauthorized access, alteration, disclosure, or use. Service provider personnel requiring privileged access or limited privileged access to these information technology systems are subject to screening using the standard National Agency Check (NAC) forms appropriate to the level of risk for adverse impact to NASA missions. The Contracting Officer may allow the service provider to conduct its own screening, provided the service provider employs substantially equivalent screening procedures.
- (f) This clause does not affect NASA's responsibilities under the Freedom of Information Act.
- (g) The Contractor shall insert this clause, including this paragraph (g), suitably modified to reflect the relationship of the parties, in all subcontracts that may require the furnishing of sensitive information.

(End of clause)

**I.148 1852.243-70 ENGINEERING CHANGE PROPOSALS. (OCT 2001) --
ALTERNATE II (SEP 1990) (Applies to Fixed-Price and Cost)**

(a) Definitions.

"ECP" means an Engineering Change Proposal (ECP) which is a proposed engineering change and the documentation by which the change is described, justified, and submitted to the procuring activity for approval or disapproval.

(b) Either party to the contract may originate ECPs. Implementation of an approved ECP may occur

by either a supplemental agreement or, if appropriate, as a written change order to the contract.

- (c) Any ECP submitted to the Contracting Officer shall include a "not-to-exceed" TBD increase or decrease adjustment amount, if any, and the required TBD adjustment, if any, acceptable to the originator of the ECP. If the change is originated within the Government, the Contracting Officer shall obtain a written agreement with the Contractor regarding the "not-to-exceed" TBD and TBD adjustments, if any, prior to issuing an order for implementation of the change. An ECP accepted in accordance with the Changes clause of this contract shall not be considered an authorization to the Contractor to exceed the estimated cost in the contract Schedule, unless the estimated cost is increased by the change order or other contract modification.
- (d) After submission of a Contractor initiated ECP, the Contracting Officer may require the Contractor to submit the following information:
 - (1) Cost or pricing data in accordance with FAR 15.403-5 if the proposed change meets the criteria for its submission under FAR 15.403-4; or
 - (2) Information other than cost or pricing data adequate for Contracting Officer determination of price reasonableness or cost realism. The Contracting Officer reserves the right to request additional information if that provided by the Contractor is considered inadequate for that purpose. If the Contractor claims applicability of one of the exceptions to submission of cost or pricing data, it shall cite the exception and provide rationale for its applicability.
- (e) If the ECP is initiated by NASA, the Contracting Officer shall specify the cost information requirements, if any.

(End of clause)

"1.149 52.209-9 UPDATES OF PUBLICLY AVAILABLE INFORMATION REGARDING RESPONSIBILITY MATTERS (JAN 2012) (Applies to Fixed-Price and Cost) (JAN 2012)

- (a) The Contractor shall update the information in the Federal Awardee Performance and Integrity Information System (FAPIIS) on a semi-annual basis, throughout the life of the contract, by posting the required information in the Central Contractor Registration database at <http://www.ccr.gov>.
- (b) As required by section 3010 of the Supplemental Appropriations Act, 2010 (Pub. L. 111–212), all information posted in FAPIIS on or after April 15, 2011, except past performance reviews, will be publicly available. FAPIIS consists of two segments—
 - (1) The non-public segment, into which Government officials and the Contractor post information, which can only be viewed by—
 - (i) Government personnel and authorized users performing business on behalf of the Government; or
 - (ii) The Contractor, when viewing data on itself; and
 - (2) The publicly-available segment, to which all data in the non-public segment of FAPIIS is automatically transferred after a waiting period of 14 calendar days, except for—
 - (i) Past performance reviews required by subpart 42.15;

- (ii) Information that was entered prior to April 15, 2011; or
- (iii) Information that is withdrawn during the 14-calendar-day waiting period by the Government official who posted it in accordance with paragraph (c)(1) of this clause.
- (c) The Contractor will receive notification when the Government posts new information to the Contractor's record.
 - (1) If the Contractor asserts in writing within 7 calendar days, to the Government official who posted the information, that some of the information posted to the non-public segment of FAPIIS is covered by a disclosure exemption under the Freedom of Information Act, the Government official who posted the information must within 7 calendar days remove the posting from FAPIIS and resolve the issue in accordance with agency Freedom of Information procedures, prior to reposting the releasable information. The contractor must cite 52.209-9 and request removal within 7 calendar days of the posting to FAPIIS.
 - (2) The Contractor will also have an opportunity to post comments regarding information that has been posted by the Government. The comments will be retained as long as the associated information is retained, *i.e.*, for a total period of 6 years. Contractor comments will remain a part of the record unless the Contractor revises them.
 - (3) As required by section 3010 of Pub. L. 111-212, all information posted in FAPIIS on or after April 15, 2011, except past performance reviews, will be publicly available.
 - (d) Public requests for system information posted prior to April 15, 2011, will be handled under Freedom of Information Act procedures, including, where appropriate, procedures promulgated under E.O. 12600.

(End of clause)

I.150 1852.225-71. RESTRICTION ON FUNDING ACTIVITY WITH CHINA
(FEB 2012)(Applies to Fixed Price and Cost)

- (a) Definition - "China" or "Chinese-owned company" means the People's Republic of China, any company owned by the People's Republic of China or any company incorporated under the laws of the People's Republic of China.
- (b) Public Laws 112-10, Section 1340(a) and 112-55, Section 539, restrict NASA from contracting to participate, collaborate, coordinate bilaterally in any way with China or a Chinese-owned company using funds appropriated on or after April 25, 2011. Contracts for commercial and non developmental items are exempted from the prohibition because they constitute purchase of goods or services that would not involve participation, collaboration, or coordination between the parties.
- (c) This contract may use restricted funding that was appropriated on or after April 25, 2011. The contractor shall not contract with China or Chinese-owned companies for any effort related to this contract except for acquisition of commercial and non-developmental items. If the contractor anticipates making an award to China or Chinese-owned companies, the contractor must contact the contracting officer to determine if funding on this contract can be used for that purpose.
- (d) Subcontracts - The contractor shall include the substance of this clause in all subcontracts made hereunder.

(End of clause)

I.151 52.215-17 WAIVER OF FACILITIES CAPITAL COST OF MONEY
(OCT 1997) (Applies to Fixed Price and Cost).

As prescribed in 15.408(i), insert the following clause: WAIVER OF FACILITIES CAPITAL COST OF MONEY (OCT 1997). The Contractor did not include facilities capital cost of money as a proposed cost of this contract. Therefore, it is an unallowable cost under this contract.

(End of clause)

(END OF SECTION)