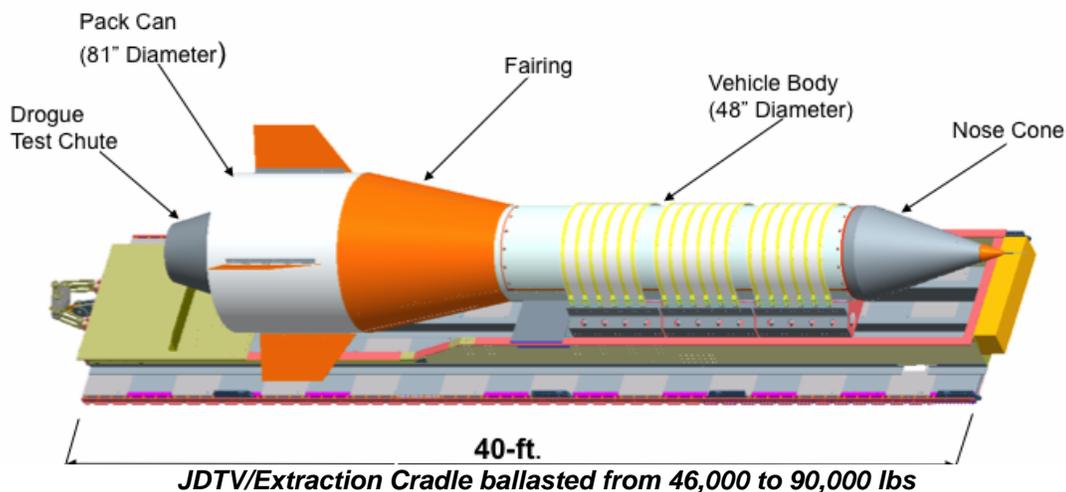




**First Stage (FS) Deceleration Subsystem (DSS) Closed Loop Dynamic Controller System (CLDCS):** The final CLDCS design review was conducted last week at Coleman Aerospace in Orlando, FL. The CLDCS, utilizing an Internal Measurement Unit (IMU) and an embedded computer, will be used to release the Jumbo Drop Test Vehicle (JDTV) from its Cradle Extraction System (CES) by sensing angular pitch and acceleration as the JDTV is extracted from the aircraft. The system will trigger the JDTV cut-away event when sensing a negative pitch down rate which will assure a clean separation of the JDTV from the CES. The system is backed up with a timed-out override and data will be recorded for post-test evaluation. The first drogue parachute drop test in July will be the initial use of the JDTV.



*Recent activities specific to the Elements include:*

- **Flight and Integrated Test Office (FITO) and Ares I-X**
  - **Integrated Vehicle Ground Vibration Test (IVGVT) 30% Review Engineering Review Board:** The IVGVT team completed incorporating comments into documentation post-table top reviews and presented the dispositioned comments and documents to the FITO Engineering Review Board (ERB). The 30% Review is being held to ensure the test is on plan to support the Ares I Preliminary Design Review (PDR) and that the IVGVT Test Plan is ready for submittal to the Ares I PDR document review process as a Review Item Discrepancy (RID) eligible document. The Test Implementation Plan and Task Plan are applicable documents for the PDR. Documents presented to the ERB included the seven IVGVT Interface Control Documents (ICDs); IVGVT Safety, Reliability and Quality Assurance (SR&QA) Plan; IVGVT Top Risks; IVGVT Transportation Plan; IVGVT Task Plan; IVGVT Test Implementation Plan; and IVGVT Test Plan. The documentation is being finalized for presentation to the FITO Engineering Change Board (ECB) on June 3, in support of the June 13 data submittal supporting the Ares I PDR.



- **Upper Stage (US)**

- **US Thrust Vector Control (TVC) Subsystem:** The Ares I US TVC team recently conducted a Design for Manufacturing and Assembly Review at NASA Glenn Research Center (GRC), supported by Boeing and Hamilton Sundstrand. The purpose of the review was to analyze the current TVC design for producibility and maintainability, and to pursue a TVC design and assembly process that produces the lowest assembly schedule and cost (while maintaining safety) and allows for line replaceable units to be removed. Brainstorming resulted in modifications and improvements to the assembly and testing time line at Michoud Assembly Facility (MAF), as well as identification of areas for further study related to the TVC layout on the thrust cone.



*Team members of the TVC Design for Manufacturing and Assembly Review with the TVC assembly flow at MAF*

- **First Stage (FS)**

- **Deceleration Subsystem (DSS) Electromagnetic Interface (EMI) Testing:** In support of the FS parachute drop tests, the U.S. Air Force has recently requested that FS provide vendor certification or test data verifying that the on-board aircraft Data Acquisition System (DAS) meets the EMI requirements of MIL-STD-462 for radiated emissions. For previous drop tests, the FS team has been only conducting an on-board aircraft EMI test prior to take off to verify that all aircraft systems were working nominally. This testing will give the Air Force extra confidence that all on-board systems, primarily those more sophisticated than the FS DAS, will not present a problem during the on-board test. To this end, USA recently conducted a successful test of the DAS unit to the requirements of MIL-STD-462, RE-102.
- **Ares I-X Pyrotechnics Fabrication:** Fabrication of the Ares I-X First Stage Detonator Booster Assemblies (DBAs) and the Flexible Confined Detonation Cords (FCDCs) is complete. These components will be used to propagate the pyrotechnic signal to the separation rings used for primary staging and the recovery phases of the Ares I-X flight. Environmental qualification for both sets of components will commence immediately. Qualification tests should be accomplished by July 17, and delivery of the flight units to the Kennedy Space Center (KSC) is anticipated by August 14.

The Ares Project looks forward to the STS-124 Shuttle Discovery launch set for May 31.

***...and as of this Ares Project Weekly Summary, there are only 320 days until the first Ares I test flight, Ares I-X!!!***