

NASA

SECTION 38

MPS 17" Feedline Ball Strut Tie Rod Assembly Ball Crack

Presenter:

David Rigby

Date:

Orbiter 01/14/03

BSTRA Ball FOD Testing (cont):

- Testing to date has shown that the potential for FOD exists
- To understand the mechanism for particle generation and the potential associated particle size, we are investigating
 - Metallurgical analysis of the cracked balls
 - Completing additional testing
 - Less severely cracked ball testing
 - Complete Eddy Current and CT scan of remaining spare balls to determine potential use for testing
 - FOD characterization testing
 - Probabilistic Risk Assessment
- Stress Analysis

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Flight Rationale Based on Resolution of Two Issues

- Joint performance with cracked balls
- Cracks must be self-limiting
 - Ball remains intact
 - Load margins remain positive
- Joint angulation capability not compromised
 - Friction
 - Binding
- FOD from cracked balls
- Crack propagation does not create FOD
- No spalling

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MPS 17" Feedline Ball Strut Tie Rod Assembly Ball Crack

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Conclusions:

- The test program to support flight rationale is still in work
- This test program and development of rationale for safe flight of the potentially cracked BSTRA balls is not yet complete
- Final flight rationale will be presented at the STS-107 PMMT review

107jobstr.a.ppt 01/13/03 4:00pm



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STS-107 PRELAUNCH MMT

	Presenter:
Organization/Date: Orbiter 01/14/03	

FLIGHT READINESS STATEMENT

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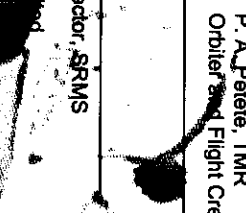

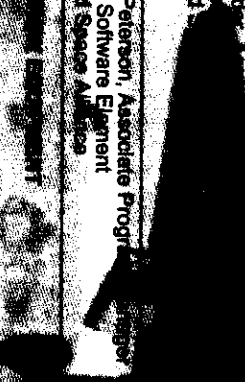

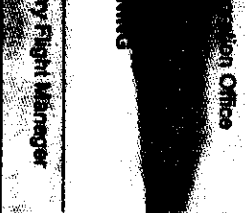
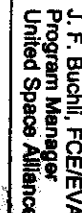



VE-9





SSVEO Is Ready to Fly STS-107

ORBITER FLIGHT SOFTWARE EQUIPMENT  P. A. Petete, TMR Shuttle Engineering Office	 D. E. Stamp, TMR Software	 P. A. Petete, TMR Orbiter and Flight Crew Equipment
ORBITER/FLIGHT  B. I. Beltruk, Program NASA Systems The Boeing Company	 J. W. ..., TMR Management Office,	 P. A. Petete, TMR Orbiter and Flight Crew Equipment
 J. W. ..., TMR Shuttle Engineering Office	 T. F. Peterson, Associate Program Flight Software Element United Space Alliance	 D. L. McCormick, Ferry Flight Manager
 J. F. Buchli, FCE/EVA Associate Program Manager United Space Alliance	 Ralph R. Roe, Manager Space Shuttle Vehicle Engineering	

STS-107

PRELAUNCH MISSION MANAGEMENT

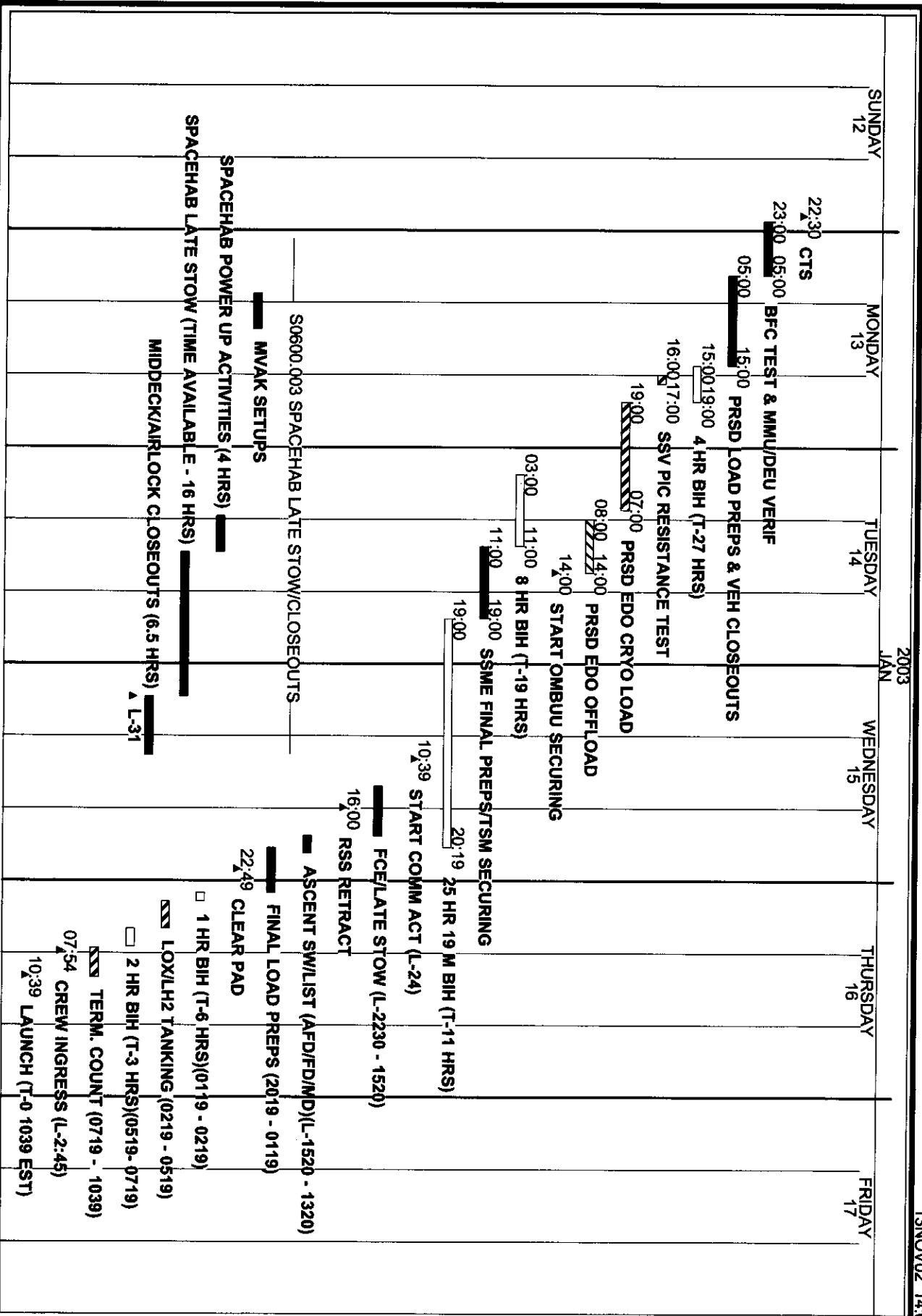
TEAM REVIEW

JANUARY 14, 2003

Ground Operations



STS-107 OV-102 Launch Countdown Summary



NOTE: Actual Scrub turnaround timelines will be determined realtime based on specific conditions encountered.

STS-107 LAUNCH COUNTDOWN TURNAROUND OPTIONS

OPR: J. Spaulding (1-9306)
06JAN03 11:37

		2003																	
		JAN																	
		13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
LAUNCH CONSTRAINTS							F-1's▲		F-1's▲										
	Notes (Launch Constraints): 1. Next STS-107 open launch dates after 1/27 are 2/5 & 2/6 - Delta II GPS 1/27-1/30 - Delta IV DSCS 2/1-2/3 2. RSA cutover 2/10 - 3/4 with NO launch/landing support.									▲ LH2 HOLD LIMIT (4.2 DAYS) ▲ LOX HOLD LIMIT (6.3 DAYS)									
BASELINE																			
	Notes (Baseline): Assumes Titan and Pegasus SORCE deconflicted with Shuttle launch attempts on 1/21-1/22 and 1/26-1/27																		
LAUNCH ATTEMPTS																			
OPTION 1																			
	Notes (Option 1): Assumes Pegasus SORCE moves off 1/25 - 1/26.																		

LANDING OPERATIONS STATUS

Presenter:

Mike Leinbach

Organization/Date:

Ground Ops/01-14-03

- Launch Support
 - ❖ RTLS: KSC
 - ❖ TAL:
 - Moron (Prime) Deploy at L-6 days, Jan 10, 2002
 - Zaragoza (Alt) Deploy at L-6 days, Jan 10, 2002
 - ❖ AOA:
 - DFRC/EDW (Prime) Deploy at L-2 days, Jan 14, 2002
 - KSC/WSSH (Alt)
- Mission Support
 - ❖ KSC (Prime EOM) Deploy at L-2 days, Jan 14, 2002
 - ❖ DFRC/EDW
 - ❖ WSSH
- Site Status
 - ❖ Ben Guerir will not be manned for STS-107.

