SSVEO IFA List

Date:02/27/2003

STS - 113, OV - 105, Endeavour (19)

Time:03:39:PM

Tracking No	Time	Classification	Documentation		Subsystem
MER - 1	**MET:** Prelaunch	Problem	**FIAR**	**IFA** STS-113-V-01	Pressure Control System
	GMT: Prelaunch		**SPR** 113RF01	**UA**	**Manager:** Isaac Andu
REV - A			**IPR** 113V-0063	**PR** ECL-5-19-0757	281-853-1553
					Engineer: Tom Londrigan
					281-828-6130

Title: O2 Concentration in the Mid Body above Expected Baseline (ORB)

Summary: The mid body and payload Bay HGDS sample lines showed high levels of O2 during the pre-launch. The levels measured 130 to 15 ppm and they should be approximately zero. Troubleshooting isolated the leakage to Pressure Control System (PCS) System 2 between the valve panel and the 576 bulkhead. Post-scrub inspection of the hardware found a blowing leak, 550 scim, on the flex hose on the upper side of the flex hose braid at the 576 bulkhead fitting.

The flex hose braiding showed signs of bird caging deformation, typically an indication the flex hose has been subjected to an applied external load. The O2 flex hose was removed and replaced and failure analysis was performed on the flex hose. The findings indicated the presence of cracks and fatigue striations in some flex hoses, which are a result of relatively low frequency reverse bending fatigue. All flex lines examined to date that have exhibited fatigue cracking have had associated damage on the exterior of the line.

Tracking No	Time	Classification	Documentation		Subsystem
MER - 3	**MET:** 000:00:03	Problem	**FIAR**	**IFA** STS-113-V-02	OMS/RCS
PROP-01	**GMT:** 328:00:53		**SPR** 113RF02	**UA**	**Manager:** Brian Werner
REV - C			**IPR** 115V-0004	**PR**	321-861-4559
					Engineer: Steve Arrieta
					281-853-1554

Title: Right OMS Engine BiPropellant Valve 2 Indicates Open (ORB)

Summary: At the end of the OMS assist burn, the right OMS ball valve 2 continued to indicate open. The indication dropped only 0.5% so that the current reading is 95.8% and should be 0%. Per the flight rules, the right OMS may be used for deorbit only. The remaining on-orbit OMS burns were performed single engine using the left OMS.

The ball valve 2 gave a constant reading of 95.1% before, during, and immediately after the de-orbit burn (it did eventually increase to 95.8 during entry). At KSC the troubleshooting will verify valve position during ball valve drain scheduled for Dec. 14, 2002. If necessary, the LVDT (most probable cause) will be replaced by the vendor.

Tracking No	Time	Classification	Documentation		Subsystem
MER - 11	**MET:** 000:19:47	Problem	**FIAR**	**IFA** STS-113-V-03	RMS
RMS-002	**GMT:** 328:20:37		**SPR** DN 30980	**UA**	**Manager:** George Glenn
REV - A			**IPR** 113V-0067	**PR** RMS-201-0077	281-483-1516
					Engineer: Glenn Jorgensen
					281-226-5214

Title: RMS Wrist Roll Sluggish Joint Response (RMS)

Summary: During the RMS checkout wrist-roll joint direct-drive test, tachometer data showed rate spikes of approximately 2 radians/second in the negative direction. At the start of the payload bay survey following the RMS checkout, the wrist roll joint stalled and a payload deployment retrieval system control point of resolution (PDRS CNTL POR) fault message was annunciated. A quick single drive test of the wrist roll joint was successfully performed and the survey was continued with no further occurrences of the fault message. A second direct drive test of the wrist roll joint was performed prior to cradling to confirm health of the joint. This is the first flight of RMS S/N 201after its refurbishment. The sluggish joint performance was thought to be caused by dry lube in the gear box or possible FOD. The RMS will be removed and the joint will be disassembled to determine the cause

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