

SSVEO IFA List

Date:02/27/2003

STS - 103, OV - 103, Discovery (27)

Time:03:55:PM

<u>Tracking No</u>	<u>Time</u>	<u>Classification</u>	<u>Documentation</u>	<u>Subsystem</u>
MER - 1	MET: 000:19:46	Problem	FIAR	IFA STS-103-V-01 RMS
RMS-001	GMT: 354:20:36		SPR	UA Manager: George Glenn
			IPR 092V-0006	x31516 Engineer:

Title: RMS EE Backup Release Initial Failure to Fully Open (RMS)

Summary: During remote manipulator system (RMS) checkout, the end effector (EE) grapple fixture snares failed to fully open during the backup release test. During the test, power was applied for 19 seconds and downlink video showed that there were two periods of 3 to 4 seconds each where the snares tried to open. When power was removed, the snares did not appear to have opened enough to allow a grapple pin to be released from the EE. The crew repeated the test and release occurred in approximately 15 seconds. The manual and auto EE release modes worked properly and there was no mission impact. Following the release of the Hubble Space Telescope (HST), the backup release test was rerun 5 times. Each of the releases appeared nominal and the times were 17, 16, 16, 16 and 15 seconds.

KSC troubleshooting is in work.

<u>Tracking No</u>	<u>Time</u>	<u>Classification</u>	<u>Documentation</u>	<u>Subsystem</u>
MER - 22	MET: Post-Landing	Problem	FIAR	IFA STS-103-V-02 TPS
	GMT: Post-Landing		SPR	UA Manager: Karrie Hinkle
			IPR	PR RWNG-3-28-5671 714-372-5206 Engineer:

Title: Missing Righthand Inboard Elevon Tile (ORB)

Summary: The tile missing is the R/H inboard elevon drain hole tile (Part Number V070-193009-468) and was installed per WAD RSI-3-J2-295 on 06/08/96. This was the 6th flight of the tile since it was installed. This tile contains a two piece SIP to accommodate the drain hole and drain path. The forward piece of SIP is completely missing showing only remnants of SIP fibers in the bonding adhesive. RTV is dark red in color and appears to be bubbled. Perimeter of SIP area had dark outgassing deposits. Aft

SIP is mostly intact. There are a few areas where the tile dense layer is still adhered to the SIP. A large area of the SIP papers to be intact with some of the membrane still in place. Membrane and surface of SIP where membrane is missing is charred. Remainder of SIP (mostly along bottom and aft edges is charred and eroded. Filler bar around perimeter of tile cavity exhibits CAT II/III charring. FRSI edge member along top surface is degraded and bubbled. Gap filler along forward edge of cavity (adjacent to -373 tile) is in place with only minor damage. Gap filler along bottom edge (adjacent to lower surface tiles) is missing though there is residue gap filler material on filler bar in several locations along the bondline. Gap filler along aft edge of cavity (adjacent to the V070-193022-011 corner tile) is missing. Gap filler between the 193022-011 (corner tile) and the 193007-142 (upper surface trailing edge tile) is missing with no signs of charring at IML. The elevon trailing edge honeycomb section is under the aft piece of SIP so it was somewhat protected. There are two damages to the tiles aft of the missing tile. The 193007-142 has a small damage to the corner (approx. 0.7 x .4 x .2) and the silica is not glazed. The 193022-011 tile has a small damage along the forward edge near the top (approx. 0.5 x 0.2 x 0.2) and the silica is not glazed. The lower forward corner of the tile has a slumped area (approx. 1.5 x 1.0 x 2.0) with molten gap filler material evident on the surface. Interior of drain hole exhibits only minor outgassing deposits. The part number of the damaged tile on the aft fuselage sidewall at the lower surface interface is 195006-534. Damage is inline with missing tile and was most likely caused by the 193009-468 impacting this tile when it came off.

The structure will be ultrasounded and conductivity tested to ensure no delamination of the honeycomb to facesheet occurred. KSC will inspect and repair. This IFA was made a constraint to STS-99. An action was given to come back to the PRCB to provide the details of the problem and details of the corrective action implemented to prevent occurrence again.

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MER - 24	MET: Post-Landing GMT: Post-landing	Problem	FIAR SPR IPR	IFA STS-103-V-03 UA PR TES-3-28-0622 Engineer:	RCC Manager: Al Robertson 562-922-3832

Title: Damage Lefthand RCC panel 8 (ORB)

Summary: The Lefthand RCC panel #8 of OV-103 was found to be damaged. The damage was not reported on the initial runway inspection. The damage location is 2 inches below apex on leading edge of panel. Substrate is visible. The LH8 RCC was removed and was shipped to the vendor. There was no damage in the area behind the OML damage and coin tap inspection revealed no internal damage in this area. Detailed inspection of the panel interior revealed that the lower inboard lug that was previously repaired 4 times was cracked yet again. Previous repairs were performed in this precise area in 1/84, 10/93, 11/95, and 3/99. This defect will be examined at the vendor.

KSC will inspect and repair. This IFA was made a constraint to STS-99. An action was given to come back to the PRCB to provide the details of the problem and details of the corrective action implemented to prevent occurrence again.
