

STS-108 POST LAUNCH PAD DEBRIS INSPECTION REPORT
KSC Debris Team
5 December 2001

The post launch inspection of the MLP-1, Pad B FSS and RSS was conducted on 5 December 2001 from Launch + 2.75 to 4.5 hours(2000 to 2230 EST).

No flight hardware was found.

Orbiter liftoff lateral acceleration data to predict stud hang-ups received from Boeing-Huntington Beach indicated that no SRB holddown stud hang-up had occurred, the reported value was 0.09G. Evaluation of the MLP 0-level was performed and the south holddown studs were visually assessed as having no indication of hang-up. Erosion was typical for the north posts with some evidence of missing RTV at the HDP haunch interface. North holddown post blast covers and T-0 umbilical exhibited minimal exhaust plume damage. Both SRB aft skirt GN2 purge lines were intact, protective tape layering was partially eroded on the RH side and the metal braid was partially eroded the LH purge line.

The LO2 and LH2 Tail Service Masts (TSM) appeared undamaged and the LO2 bonnet was observed to have closed properly. The MLP deck was in generally good shape. All MLP deck communication connector caps were found intact and secured.

The GH2 vent line did not latch on the FSS latching mechanism. It appears the vent line impacted the south side of the FSS structure preventing the latch back and cause substantial damage to the saddle structure. The south side bridle cable sheared from the southern tang on the yoke. Pieces of debris (bolts and clevis leg) were found on/in the grating and vent line structure. GUCP and 7-inch QD exhibited no damage, the poppet was observed to be intact. The deceleration cable was in nominal configuration, and the vent line blanket was sooted and torn. Film review should provide further data on the cause of the anomaly.

The OAA appeared to be intact with no evidence of plume impingement.

All slidewire baskets were secured with no evidence of damage.

The GOX vent arm, ducts and structure appeared to be in good shape with no indications of plume damage. The access door window on the north side of the hood was broken with loss of material. A major hydraulic leak was observed on the GOX vent arm/FSS structure hinge (255' Level).

Debris findings included:

- FSS 235' level loose cable tray cover latch.
- RSS 215' level broken light fixture.
- FSS 215' level electrical box shorted out burning through the box.
- FSS 175' level pressure gauge cover was found near gauge on grating.
- FSS 155' level pressure gauge cover was noted in cable tray (source not determined).

- MLP deck a piece of steel cable with swedge (kellum grip) was found on the east side.
- Pad surface a 7/8" facility nut was found near the MLP north west pedestal.
- Pad surface numerous pieces of fragmented metal were found (1/16" aluminum)

Overall damage to the pad appeared to be slightly greater than nominal. Walk down of pad apron and north flame trench was not completed due to lighting conditions, will be completed 12/6/01.

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