FAILURE MODES AND EFFECTS ANALYSIS

REFERENCE DESIGNATOR:	GH-MFR-03	PROJECT:	Orbiter	SUBSYSTEM	GFE
NAME / QUANTITY:	Handhold Latches (2)	LRU NAME / QUANTITY:	MFR (1)	EFFECTIVITY:	All Orbiters
DRAWING REFERENCE	SED39129784-301	LRU PART NUMBER:	SED33187967-301		

FAILURE MODE NUMBER	CRITICALITY
MFR-03	1R/3

FUNCTION
The handhold latches are used to secure the handhold onto the MFR. The handhold latches allow the handholds to be installed or removed during EVA.

FAILURE MODE AND CAUSE

MODE
Handhold latches fail open, allowing an inadvertent release of handhold with attached tool boards.

CAUSE(S)

1. Contamination
2. Thermal distortion
3. Piece part defect

REDUNDANCY SCREENS	*REMAINING PATHS*
A - Pass B - Pass C - Pass	1. Both latches must fail open. 2. Tool boards are tethered.

MISSION PHASE	CORRECTIVE ACTION TIMES	
	TIME TO EFFECT	TIME TO CORRECT
EVA	Seconds	Immediately

FAILURE EFFECT

END ITEM
Latches fail to operate properly.

MISSION
Partial loss of EVA objectives.

CREW / VEHICLE
Loose Hardware in Payload bay could impact crew or Vehicle. Possible loss of crew or vehicle.

INTERFACE
None.

FAILURE DETECTION METHOD

FLIGHT
Tactile.

GROUND
Tactile.

CORRECTIVE ACTION
No effect because tool boards are tethered. For a second failure loose hardware (handhold with tool board) in the payload bay will result.

REMARKS
None.

PREPARED BY: Morgan Garner REVISION: D SUPERSEDING DATE: September 1998 DATE: 8/23/98

APP-MFRA - 3