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SAA09FTAB31-001

OCT 13 199

B/L: 252.00
SYS: PAYLOAD GROUND HANDLING MECHANISM

Critical Item: COUPLING (4 Items Total)

Find Number: 49, 50

SAA No:	09FTAB31-001	**System/Area:**	UPPER CROSSHEAD ASSEMBLY / PADS A & B
NASA Part No:	NONE	**PMN/ Name:**	H70-0534 PAYLOAD GROUND HANDLING MECHANISM
Mfg/ Part No:	Browning Manufacturing Division CHJS7, JS78	**Drawing/ Sheet No:**	79K22744 1 TO 5

Function:

Provides mechanical connection between one 50 Ton actuator and brake.

Critical Failure Mode/Failure Mode No:

Disengages/09FTAB31-001.006

Failure Cause:

Structural Failure of coupling/keys.

Failure Effect:

The affected actuator could backdrive resulting in a shift of the payload. This could cause loss (damage) to a vehicle system. Detection Method : Visual. Time to Effect : Seconds.

ACCEPTANCE RATIONALE

Design:

- Coupling is jaw type with inserts made from bronze material per ASTM B438 Grade 1 Type 2 specification.
- This type of coupling is recommended by the manufacturer for high torque low speed applications.

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- The coupling is an off-the-shelf item manufactured by Browning Manufacturing Co..
- With a 71,000 lb load on the front end consisting of a 65,000 lb. payload and 6,000 lbs of support equipment, the coupling safety factor based on the manufacturers maximum torque is greater than 3.3:1 (ultimate) and the key 25.8:1 (ultimate).

Test:

The couplings connecting the actuators in the Upper Crosshead Assembly are operationally checked (without a load) monthly per OMI V6F09 except during a payload flow.

Inspection:

OMRSD File VI requires the couplings to be inspected annually for corrosion, cracks, loose, or missing hardware.

Failure History:

- The PRACA database was researched and no failure data was found on this component in the critical failure mode.
- The GIDEP failure data interchange system was researched and no failure data was found on this component in the critical failure mode.

Operational Use:

- Correcting Action:

  There is no action which can be taken to mitigate the failure effect.

- Timeframe:

  Since no correcting action is available, timeframe does not apply.

Attachment
S050238BK
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