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Critical Item: Solenoid Valve
Total Quantity: 12
Find Number: 1st, 2nd
Criticality Category: 2

SAA No: 00KS01-014	System/Area: Tiger Adjustable Height Mobile Access Platform RPSF, VAB
NASA Part No: None	PMN Name: A77-1214/Mobile Access Adjustable Height Stand
Mfg/ Part No: UP-RIGHT 5122	Drawing/ Sheet No: 7-2A 1

Function: Closes to increase pressure to the drive motors for high speed.

Critical Failure Mode/Failure Mode No: Fails Closed/00KS01-014.001

Failure Cause: Mechanical failure, contamination on the seat.

Failure Effect: Machine would go from 1st (neutral) to 3rd speed possibly impacting flight hardware causing loss (damage) to a vehicle system. **Detection Method:** Visual. **Time to Effect:** Immediate.

ACCEPTANCE RATIONALE

Design:

- Maximum working pressure for the system is 2250 psi. The valve is rated at 3000 psi. with a 4:1 burst pressure.
- All operating parts are hardened, ground and lapped eliminating imperfections for precise fitting surfaces.
- New oil is introduced into the system using a 10 micron filter at the outlet of the pump nozzle.
- A 10 micron filter is used for filtration of contaminants at the outlet of the system to the reservoir.

Test:

- An operational check of all modes, including forward and reverse drive functions, are performed monthly per OMI B5231.
- OMRS File VI requires an operational check of all modes, including forward and reverse drive functions prior to use of the stand within 10 feet of flight hardware.

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Inspection:

- Inspection of the hydraulic system for cracks, leaks and corrosion, is performed monthly per OMI B6231.

Failure History:

- Current data on test failures, unexplained anomalies, and other failures experienced during ground processing activities can be found in the PRACA database. The PRACA database was researched and no failure data was found on this component in the critical failure mode.
- The GIDEP failure data interchange was researched and no failure data was found on this component in the critical failure mode.

Operational Use:

- **Correcting Action:**

Operator may mitigate the failure by releasing the deadman switch (joystick) stopping the pump.

- **Timeframe:**

Seconds.