

JAN 21 1994

B/L: 287

SYS: A70-0668

**Critical Item:** Hydraulic Actuator (10 Items Total)  
**Find Number:** A126396, A126399, A126400, A126403, A126404 (1 ea HB1 and HB2)  
**Criticality Category:** 2

<b>SAA No:</b>	09FY093-007	<b>System/Area:</b>	Orbiter Main Access Platform HB1 and 2
<b>NASA Part No:</b>	None	<b>PMN/ Name:</b>	A70-0668 Orbiter Main Access Platform
<b>Mfg/ Part No:</b>	Parker Hannafin/Rotary Actuator Div. RDS46-14	<b>Drawing/ Sheet No:</b>	79K08118 EQ-9

**Function:** Raise and lower platforms 15-1, 17-1, 17-8, 18-3, 18-4

**Critical Failure Mode/Failure Mode No:** Internal leakage/09FY093-007.004

**Failure Cause:** Broken vane or worn components

**Failure Effect:** Platform free falls under its own weight down to the hard stops causing the hinges to fail allowing the platform to fall on the Orbiter. The failure would be visually detected and the time would be immediate.

### ACCEPTANCE RATIONALE

#### Design:

Pressure	
Rated	Actual
1200 psi	975 - 1000 psi

Torque Each Actuator	
Rated	Actual
@1200 psi 21,600 in-lb	@1000 psi 18,000 in-lb

Degree of Rotation	
Designed	Actual
100°	90°

*Attachment  
5050234B1  
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**Test:**

- Actuator was tested by the manufacturer at twice the working pressure at the rated load with no seal failure.
- Per OMI VBC46 tests are performed every 5 years to calibrate the regulator valves that supply pressure to the actuator.
- OMRSD File VI requires verification of annual platform descent rate check.

**Inspection:**

- Per OMI VBC46 visual inspections are performed annually on each hydraulic platform to check for leaking hydraulic fluid.

**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  
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