

SAAD9FY02-013
 B/L: 323.80
 SYS: SIMON AERIAL
 WORK
 PLATFORM
 MPL-60

DEC 14 1993

Critical Item: Telescope Cylinder Holding Valve (2 items)

Find Number: 01-003600

Criticality Category: 2

SAA No: 09FY02-013

System/Area: Simon Aerial Work
 Platform/VAB

NASA
 Part No: None

PMN/ K60-1037
 Name: Platform, Aerial Work,
 Simon, 907-283, 285

Mfg/
 Part No: HEMCO-BEEBEE Inc.,
 NA

Drawing/
 Sheet No: SDS-208994-2
 1

Function: Prevents unintentional boom telescope movement.

Critical Failure Mode/Failure Mode No: Fails Open. FM No. 09FY02-013.004

Failure Causes: Mechanical failure or contamination of the check valve or relief valve.

Failure Effect: The boom will retract in a bleed down mode. The platform will be lowered and may impact flight hardware and/or GSE resulting in loss (damage) of a vehicle system.

Acceptance Rationale

Design:

- o The holding valve assembly is supplied with the telescope cylinder from HEMCO-BEEBEE Inc., Beebe, Arkansas.
- o The Telescope Cylinder Holding Valve is in accordance with ANSI A92.5 - "American National Standard for boom-supported elevating work platforms."
- o The Telescope Cylinder Holding Valve has a margin of safety of 5.45:1 with respect to the ratio of burst pressure to operating pressure.
- o Valve Features:
 - double check valve/ relief valve
 - each relief valve is pressure actuated, pilot operated, and adjustable

WORKSHEET 6122-012
 901220csM3-906

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*Attachment
 8050234EB
 Sheet 11 of 13*

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- The hydraulic system is a closed system with one filter installed in the main supply line.

Test:

- Pre-operational positioning, per OMI Q3512 (i.e., Platform entry and boom extension positioning for 5 minute static creepage test), verifies operation of the Hoist Cylinder Holding Valve.
- PMI No. L30 requires an annual load test to 100% of the rated capacity (750 lb.) of the platform.
- OMRSD File VI requires annual verification of the rated load test.

Inspection:

- Pre-operational visual inspection of the hydraulic system, per OMI Q3512, verifies proper operation of the Telescope Cylinder Holding Valve.
- PMI No. HBC requires:
 - Quarterly inspection of unit for hydraulic leaks
 - Semi-annual replacement of the hydraulic oil filter and add fluid as required

Failure History:

- The PRACA database was queried and no failure data was retrieved against this component failure mode.
- The GIDEP failure data interchange system has been researched and no failures of this component were found.

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Operational Use:

o Correcting Action:

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

o Timeframe:

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