

SAA09FY093-023
Rev. A

Critical Item: Gearbox
Total Quantity: 2
Find Number: None
Criticality Category: 2

NOV 14 1997
 5050234HP
 Attachment
 Sheet 4 of 12

SAA No: 09FY093-023

System/Area: Orbiter Antenna Hats and Cou-
 plers Access Platform/OPF 1
 and 2

**NASA
 Part No:** None

**PMN/
 Name:** A70-0886-01
 Orbiter Antenna Hats and Cou-
 plers Access Platform/OPF 1
 and 2

**Mfg/
 Part No:** Dodge Tigear
 M94744

**Drawing/
 Sheet No:** 79K16117
 142D

Function: Transmit power from motor to the Universal Joint.

Critical Failure Mode/Failure Mode No: Gear disengagement/09FY093-023.002

Failure Cause: Structural failure of gear teeth, gear misalignment or excessive wear.

Failure Effect: The failure would cause the platform to backdrive resulting in possible loss (damage) to a vehicle system. **Detection Method:** Visual. **Time to Effect:** Seconds.

ACCEPTANCE RATIONALE

Design:

- Designed to AGMA specifications.
- Sealed Gearbox to prevent oil leakage and keep contaminants out.
- Spring loaded wave-type lip seals reduce seal drag for longer seal life.
- The gearbox is rated for 300 in-lbs. The torque required to move the platform is 60 in-lbs. Operationally the gearbox is loaded to 20% of its capability.

Test:

- OMRS File VI requires annual performance of operational test, which includes raising, lowering, extending and retracting the platform per OMI V6E47.

Inspection:

- The gearcase is checked for damage or corrosion per OMI V6E47.

NOV 14 1997
S050234HP SAA09FY093-023
Attachment Rev. A
Sheet 5 of 12

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:**

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

- **Timeframe:**

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