

SAA09FY093-023
Rev. A

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

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 5050234 HP
 Attachment
 Sheet 10 of 12

SAA No: 09FY093-023

System/Area: Orbiter Antenna Hats and Cou-
plers Access Platform/OPF 1
and 2NASA
Part No: NonePMN/
Name: A70-0886-01
Orbiter Antenna Hats and Cou-
plers Access Platform/OPF 1
and 2Mfg/ Durst
Part No: A160 Style "A"Drawing/
Sheet No: 79K16117
142D

Function: Transmit power from motor gearbox to the style "E" gearboxes.

Critical Failure Mode/Failure Mode No: Gear disengagement/09FY093-023.005

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:

- The gearbox is rated for 1635 in-lbs. of torque. The torque required to drive the ball screw is 60 in-lb giving an operational safety factor of 27 to 1.
- The gearbox is an off the shelf item designed to AGMA specifications.

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.

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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 GIOEP 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.