MAY 27 1994

B/L: 245.00
SYS: APS ROTATING MECHANISM

Critical Item: Gear Coupling (2 Items Total)
Find Number: None
Criticality Category: 2

SAA No:	01FS030-013	**System/Area:**	APS Rotating Mechanism/ HMF Bldg. M7-961
NASA Part No:	None	**PMN/ Name:**	H70-1262/Mechanism, APS Rotating, HMF
Mfg/ Part No:	Dodge Div. Reliance Elec. Co./Poweralign 3 1/2P	**Drawing/ Sheet No:**	79K07781/M-1

Function: Transfers torque from the Speed Reducer to the aft cradle rotation pin.

Critical Failure Mode/Failure Mode No: Disengages. /FM No. 01FS030-013.002

Failure Cause:

- Structural failure of the gear hubs or sleeve.
- Key shears.

Failure Effect: Loss of the drive/hold capability. The APS Pod/Cradle assembly may accelerate about the rotation axis, wrapping and stretching the GSE electrical cables around the APS Pod/Cradle assembly, causing damage to the TPS and/or the flight half electrical connectors. Detection method is visual and time to effect is immediate.

ACCEPTANCE RATIONALE

Design:

- The coupling is rated at 12,075 ft.- lbs. torque. The applied load is 4200 ft.- lbs.
- Gearing design complies with American Gear Manufacturers Association (AGMA) standards.

Test:

- None is performed.

Inspection:

- A visual inspection of the keys is performed annually per OMI V6C49. The keys are replaced if there are indications of deformation.

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.

- Time Frame:

  Since no correcting action is available, time frame does not apply.