

STS88-0244

December 19, 2002

Superseded: None

**Critical Items List (CIL) Sheet**

**Critical Item:** Coupling

**Criticality Category:** 2

**NASA Part No:** G070-550513-001

**Total Quantity:** 2

**Mfg/ Part No:** Rockwell International Corp., G070-550513-001

**System:** Aft Fuselage Horizontal Equipment Installation Set

Find No.	Qty	Area	PMN	Baseline	Drawing/Sheet
G070-550513-001	2	OPF 1/2/3	H70-0588	700.19	G070-550523 / 1

**Function:**

Provides mechanical linkage between gear reducer 57D and cable drum spline assembly, part number 30879 of the Davit Crane and Tow Winch.

Failure Mode No. Failure Mode	Failure Cause Failure Effect	Detection Method Time to Effect	Crit Cal
0244.002  Fails structurally	Overstressed  Since there is not a secondary brake, the cable drum would free wheel and the load will drop possibly damaging flight hardware	Visual or noise from shearing or sudden movement  Immediate	2

**ACCEPTANCE RATIONALE**

**Design:**

- Material CRES bar, QQ-S-763 Class 304 Condition A.
- Finished per MA0608-302, item 1-60.
- The hoist was designed with a minimum safety factor of 4:1 and is in compliance with NSS/GO-1740.9 requirements.
- Hoist design is in accordance with ASME/ANSI B30.16 and the American Gear Manufacturers Association Standards.
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**Test:**

- Initial proof load was performed in accordance with ML0208-0052, Proof Load, Equipment Install/Remove Aft Fuselage, Horizontal. The crane and tow winch were originally load tested at 1000 lb. and 1200 lb. Respectively.
- OMRSD File VI requires periodic load testing be performed in accordance with NSS/GO 1740.9. Cranes, hoists, and winches used frequently for critical lifts are load tested annually. Cranes, hoists, and winches used infrequently for critical lifts are load tested before the critical lift if it has been more than a year since the last test.
- Operational testing of the hoist per OMI/TPS verifies proper operation of all hoist functions.

**Inspection:**

Periodic preventive maintenance is performed in accordance with OMI V6C03 and includes inspection for:

- Any signs of deformation
- Corrosion damage or missing parts
- Cracks on load bearing bores.

**Failure History:**

- The PRACA database was queried and there were no failures for this component.
- The GIDEP database was queried and there were no failures for this component.

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**Operational Use:**

Correcting Action	Time Frame
There is no action, which can be taken to mitigate the failure effect.	Since no correcting action is available, timeframe does not apply.