

USA Ground Operations CIL Sheet

Critical Item: Gear Reducer
NASA Part No: None
Mfg/Part No: Gleason Reel / 02978604
System: 325 Ton Crane

Criticality Category: 2
Total Quantity: 4

Find No.	Qty	Area	PMN	Baseline	Drawing / Sheet
None	2	VAB HB-1,2	H72-1200-01	389.00	032656 / All
None	2	VAB HB-3,4	H72-1200-02	389.00	032656 / All

Function:

Transmits torque from the Cable Reel Drive Motor to the Electrical Control Cable Spool.

Failure Mode No. Failure Mode	Failure Cause Failure Effect	Detection Method Time to Effect	Crit Cat
09FY120-001.014 Gear reducer failure	Structural failure of gears, shafts, or case. Loss of torque to cable reel. Cable will unwind off cable reel onto load. Possible loss / damage to a vehicle system (TPS).	Visual 1 Second	2

ACCEPTANCE RATIONALE

Design:

- Nord worm gear reducer, 143.97 to 1 gear ratio.
- The design is based on industry standards.
- The maximum applied torque is 80% of the maximum allowable rated torque.

Test:

- OMRSD File VI requires annual performance of hoist operational test.
- OMI Q3521, operating instructions, requires all crane systems to be operated briefly in all speeds to verify satisfactory operation before lifting operations.

Inspection:

- OMI Q6339, maintenance instructions, requires the following:
 - Semi-annual inspection for general condition of the cable reels.
 - Annual oil sampling and analysis of the main and auxiliary cable reel gear reducers.

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 data was found on this component in the critical failure mode.

Operational Use:

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