USA Ground Operations CIL Sheet

Critical Item: Drive Motor
Criticality Category: 2
NASA Part No: None
Total Quantity: 4
Mfg/Part No: Gleason Reel / 03254801
System: 325 Ton Crane

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:

Provides torque to raise, hold, and lower Main and Auxiliary Hoist control cables.

Failure Mode No. Failure Mode	Failure Cause Failure Effect	Detection Method Time to Effect	Crit Cat
09FY120-001.013 Motor shaft failure	Catastrophic structual failure. 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:

• 7.5 HP Eaton-Adjusto speed motor with eddy current clutch.

• 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 reapplication of motor bearing lubrication.
- Annual inspection of the collector ring assemblies and electrical components for signs of instrumentation deterioration from heating, chafing, or aging and for dirt or debris build-up within electrical enclosures.

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.