

SAA09FY22-003
REV. B

MAY 18 1995

B/L: 393.00
SYS: ET C/O Cell
Platforms

Critical Item: Gear Box Assembly (4 Items Total)
Find Number: None
Criticality Category: 2

SAA No: 09FY22-003	System/Area: ET Checkout Cell Platforms, VAB High Bays 2 and 4
NASA Part No: None	PMN/ Name: K60-0550 30,000 lb Hoist System
Mfg/ Part No: Western Gear Corp. B-1295-34	Drawing/ Sheet No: 79K09165/79K05424 24-29/111-115

Function: Transmits power from motor to gear box.

Critical Failure Mode/Failure Mode No: Disengages. FM No. 09FY22-003.005

Failure Cause: Structural failure due to broken teeth, displacement of gear shaft or gear separating from shaft.

Failure Effect: Platform section could fall with sufficient force to break the hinges resulting in loss/damage to an ET.

ACCEPTANCE RATIONALE

Design:

- Design is in accordance with American Gear Manufacturers Association and Hoist Manufacturers Institute Standards with a minimum safety factor of 5 to 1.
- Gears and pinions are press-fitted, keyed, and locked on shafts.
- These hoists are subjected to an extremely limited annual duty cycle compared to commercial use.

Test:

- Hoists are proof tested to 125 percent of rated load prior to initial use and after load sustaining parts have been modified or replaced (OMRSD 79K20911).
- An annual operational check of hoists is performed in accordance with OMI Q6258.
- An operational test of controls is made before beginning an operation. If the controls do not operate properly, adjustments or repairs are made before operations begin (OMI T5144).

WORKSHEET 5312-013
940927bkPS0163

*Attachment
5000234DC
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- OMRSD File VI requires performance of an operational load test of the platform(s)/hoist annually.
- Preventive maintenance will be performed per OMI Q6258.

Inspection:

- A visual inspection of the hoist gearbox for signs of the following conditions is performed annually, OMI Q6258 requirement:
 - corrosion
 - loose fasteners
 - oil level/leakage

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.
- Timeframe:
Since no correcting action is available, timeframe does not apply.

Hoist Schedule**High Bay #2**

<u>Level</u>	<u>Panel</u>	<u>Hoist</u>	<u>Capacity (lbs)</u>	<u>Avg. Load (lbs)</u>
9	1	Western Gear Model 1295	30,000 (2)	27,491

High Bay #4

9	1	Western Gear Model 1295	30,000 (2)	24,542
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*Attachment
5050234 DC
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