

SAA09FY091-003  
B/L: 380.00  
SYS: LRU JIB CRANES  
(HOISTS)

NOV 20 1995

Critical Item: Hoist Assembly (2)  
Find Number: NA  
Criticality Category: 2

<u>SAA No:</u> 09FY091-003	<u>System/Area:</u> LRU Jib Cranes (Hoists) HB1 11 East & HB2 11 West
NASA <u>Part No:</u> NA	<u>PMN/</u> H70-1377 <u>Name:</u> LRU Jib Cranes (Hoists)
<u>Mfg/</u> Yale <u>Part No:</u> LTP, 2-Ton (825-07400)	<u>Drawing/</u> 79K16117/107,108,109,110 <u>Sheet No:</u> 79K06191/9,53,E085,E095

Function: The Yale Hoist is used to handle (raise or lower) GSE and flight hardware from platforms 11 East and 11 West.

Critical Failure Mode:

- o Gearbox fails as mechanical linkage between gearbox components is lost. [FM No. 09FY091-003.001]
- o Brake fails as mechanical linkage between handwheel and gearbox is lost. [FM No. 09FY091-003.002]

Failure Cause: Component structural failure.

Failure Effect:

- o The load will drop damaging flight hardware.

Acceptance Rationale

Design:

- o The hoist is an off-the-shelf item manufactured by Yale and is designed to handle a two-ton working load capacity with a minimum safety factor of 4:1. (Refer to operational use paragraph for a revised load rating and safety factor.)
- o The Yale hoist design is in accordance with Hoist Manufacturers Institute standards (HMI 200 Class II Hoist).

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Hoist Assembly (Continued)

Test:

- o OMRS File VI requires annual performance of a rated load test.
- o The Hoist is tested per KSC-STD-SF-0001, including:
  1. Annual and Initial Proof Load Tests (125%).
  2. Hook Throat Dimension and NDI if required.

Inspection:

- o The Hoist is inspected per KSC-STD-SF-0001D for the following:
  1. An Active Validation Tag.
  2. Current Load Test Tag.
  3. A Maintenance Inspection.
- o PMOMI V6C46 require hoist inspection (visual and magnetic particle or dye penetrant) following annual load test.

Failure History:

- o No Failure History for this Hoist.

Operational Use:

- o The LRU Jib Crane (Hoist) is used to support operations by lifting GSE and/or LRU items for flight hardware.
- o The load rating capacity of the Two-Ton Hoist is being downgraded to 3200 pounds (Safety Factor 5:1) and will be handled as a controlled hazard until the design requirements are updated for this Hoist.
- o LSOC Design Engineering is initiating design action in response to a request to derate Hoist rated load capacity to 3200 pounds (Reference ESR# K13779).