

SAA09FY121-002  
B/L: 389.00  
SYS: 10-TON  
BRIDGE CRANES  
VAB

Critical Item: Relay Contactor (2 Items)

Find Number: D

JAN 23 1995

Criticality Category: 2

SAA No: 09FY121-002

System/Area: 10-Ton Bridge Cranes/  
VAB - Low Bay Cells 2 & 4

NASA

Part No: None

PMN/ K60-0531/10-Ton Bridge  
Name: Cranes

Mfg/ Telemecanique(ITE)/  
Part No: 2200R-EBR230AA

Drawing/  
Sheet No: 79K16767/1-9

Function: Provides 480V AC power to hoist motor in down mode.

Critical Failure Mode/Failure Mode No: Fails Activated/09FY121-002.006

Failure Cause: Relay sticks/welded contacts (2 or 3)

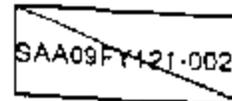
Failure Effect: Hoist will operate downward whenever start button is pressed or continue to operate at minimum speed when down button is released. Possible loss (damage) to a vehicle system (SSME or EDD cryo pallet) if close proximity to an obstruction does not allow sufficient time for the operator to take correcting action. Failure is detectable when motion fails to stop when commanded. Time to effect: seconds.

Design:

Acceptance Rationale

Three pole reversing contactor specifications:

		Rated	Actual
Coil:	Voltage:	120V AC	120V AC
	Contacts:		
	Voltage:	480V AC	480V AC
	Current:	25 amps	2.3 amps
	Material:	Weld Resistant	Silver Cadmium Oxide



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**Relay (Continued)**

**Test:**

- Pre-operational set up (attaching and positioning sling over the load) to support lifting operations in OMI V5087 verifies proper operation of crane components and all functions.
- A full operational check of the crane is performed monthly (no load) in accordance with OMI Q6166.
- An operational check of the crane is performed under full rated load as part of the annual load test in accordance with OMI Q6166.
- OMRSD File VI requires annual performance of an operational test at rated load.

**Inspection:**

- Relay contactors are inspected for wear and pitting monthly in accordance with OMI Q6166.

**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:

Use of stop button or E-stop is effective in mitigating these failures only if there is sufficient time/distance for the operator to react.

- Timeframe: Seconds