

SAAD9FT01-006  
B/L: 330.00  
SYS: LINK-BELT  
40-TON  
MOBILE CRANE  
HSP-8040

Critical Item: Winch Brake Ass'y. (1 Item)

JAN 23 1995

Find Number: 37805

Criticality Category: 1

SAA No: 09FT01-006

System/Area: Link-Belt 40-Ton Mobile  
Crane/Multiple Station  
Sets

NASA  
Part No: N/A

PMN/ H72-1394/  
Name: Link-Belt 40-Ton Mobile Crane

Mfg/ AUSCO  
Part No: 37805  
(FN: 5300098)

Drawing/ Link-Belt  
Sheet No: PM 5-12-124.0

Function: Prevents rotation of winch drum when winch drive motor is not operating and when load is suspended.

Critical Failure Mode: Brake slips or fails to engage. FM No. 09FT01-006.002.

Failure Cause: Structural failure of the brake mechanism.

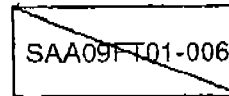
Failure Effect: Torque for holding load will be lost. Load suspended from hook may drop. Possible loss of life, vehicle or loss (damage) to a vehicle system could result if a load containing hazardous materials (e.g., the hydrazine cart at the launch pad) were dropped.

#### Acceptance Rationale

##### Design:

- o The Winch Brake Assembly is an off-the-shelf item manufactured by Auto Specialties Manufacturing Co. (AUSCO).
- o The rotating discs are splined to the output shaft, the stationary discs are grooved to fit into the piston and are retained in place by shoulders within the confines of the brake housing.

*Attachment  
5050234 EN  
sheet 4 of 8*



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Winch Brake Ass'y. 37805 (Continued)

- Vendor load charts are provided with the mobile crane specifying load, boom angle, and boom extension to prevent overloading the Winch Brake Assembly which would lead to damage or failure.

Test:

- In accordance with NASA safety standard for lifting devices and equipment, NSS/GO-1740.9, mobile cranes shall be load tested and operationally tested within 12 months prior to performing a critical lift. The mobile crane will be load tested with a load equal to the rated load at the minimum radius in accordance with the manufacturer's load chart. Being a part of the hoisting system, the Winch Brake Assembly is included in the load test.
- OMRSD File VI requires annual performance of an operational test at rated load to verify system integrity.

Inspection:

- PMI No. HDO requires quarterly inspections to:
  - examine unit for weld cracks and structural damage

Failure History:

- No failure history was found at the manufacturer, in the GIDEP data base, or the PRACA data base.

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.

*Attachment  
5050239.EN  
sheet 5 of 8*