

Critical Item: Hoist Assembly (2 Items)

NOV 20 1995

Find Number: None

Criticality Category: 2

SAA No: 09FTR3-005

System/Area: SRB/ET Aft Attachment  
Strut Hoist/VAB HB-1

NASA  
Part No: None

PMN/ H77-1203/  
Name: SRB/ET Aft Attachment Strut  
Hoist

Mfg/ Dresser Industries Inc./  
Part No: Budget #260 SR

Drawing/ 79K17083/  
Sheet No: 1

Function: To remove the SRB/ET Aft Attachment Strut via raising, lowering, and holding motions.

Critical Failure Mode/Failure Mode No: A. Gear Disengages/09FTR3-005.001  
B. Automatic Mechanical Load Brake  
Fails to Engage/09FTR3-005.002

Failure Causes: A. Structural failure of planetary spur gearing component.  
B. Structural failure of automatic load brake component.

Failure Effect: Suspended load (strut and sling) drops uncontrolled resulting in possible loss (damage) of a vehicle system. Failure is detectable by:  
A. abnormal noises and movements up to and including dropping the load.  
B. load drops when operator releases hand chain. Time to effect: seconds.

#### Acceptance Rationale

#### Design:

- o The hoist is an off-the-shelf item manufactured by Dresser Industries, Incorporated. Its design complies with American Gear Manufacturers Association (AGMA).
- o Components include bronze load hook, stainless steel alloy load chain, steel gears, automatic load brake, splined shafts, aluminum hoist frame, bronze alloy hand chain, and a bronze alloy mounting hook.
- o The gears are splined to the shafts or integrally machined and are retained in place by shoulders within the confines of the hoist assembly.



Hoist Assembly (Continued)

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Failure History:

- o The PRACA database was queried and no failure data was retrieved against this component.
- o The GIDEP failure data interchange system has been researched and no failures of this component were found.

Operational Use:

- o Correcting Action:  
There is no action which can be taken to mitigate the failure effect.
- o Timeframe:  
Since no correcting action is available, timeframe does not apply.