

CII
Critical Items List

Assembly Name/Part Number: Torque Multiplier (01-9-20259-1)
 Reference: CIL 100011
 Prepared By: C. Hartman
 Superseding Date: 4/83
 Approved By: H. Wilkey
 Date: 1/89 Rev: A

MMT ID/N ID/Y	CRII	FAILURE MODE & CAUSES	FAILURE EFFECT	NATIONAL/FDA ACCEPTANCE
Can Arm 10259- 20906-04 0000 3.1 000	1/1	S. 11007 Physical locking in down position. CAUSE: Contamination or foreign material. Deformed or damaged shoulder screw or torsion spring.	END ITEM: Unable to interface torque Multiplier with latch, bolt. MFE INTERFACE: Unable to engage latch bolt. MISSION: Unable to Jettison Payload Terminate EVA. CREW/VEHICLE: Loss of crew and vehicle.	A. DESIGN: Tight tolerances and close fit between the Can Arm cover and the shoulder screw, Can Arm and Reaction Ring reduces the possibility of foreign material entering the Can Arm Assembly. The torque Multiplier has a VC level cleanliness requirement during both the assembly and acceptance operations which is further protection from contamination. The Can Arm shoulder screws are fabricated from 15-3 PH stainless, heat treated to H9050 condition, and passivated per M-P-35 specifi- cations. The torsion springs are made from 1-302 stainless steel and passivated per M-P-35 specifications. High strength material and heat treated condition of the shoulder screws preclude wear and breakage. The Torque Multiplier is slotted in a foam rushion in the Payload Bay PSR to protect it from the possibility of damage from impact. F. TEST: Component Acceptance test - None.

CH
Critical Items List

Assembly Name/Part Number: Torque Multiplier/10107-24259-01
 Reference: ILL T&DMLE
 Prepared by: C. Hartman Approved By: M. Mathew
 Superseding Date: 9/88 Date: 1/89 Rev: B

NAME P/N REV	QTY	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
Can Ase 10137- 24341-04 Item 5.4 000	1/1	5.4FND7 (Physical) jamming in down position.		<p>PBA Test - The following tests are conducted at the Torque Multiplier Assembly level in accordance with ILC Document 10107-24690:</p> <p>1. Functional test to verify proper operation of Can Ase.</p> <p>Certification Test - The Torque Multiplier was tested to S7AD requirements of eight cycles and exhibited no evidence of damage. It was certified for the worst case P&H Storage temperature range of -200 degrees F to +105 degrees F.</p> <p>C. INSPECTION: Components and material manufactured to ILC requirements at an approved supplier are documented from procurement through shipping by the supplier. ILC (incoming receiving inspection verifies that the materials received are as identified in the procurement documents, that no damage had occurred during shipment and that supplier certification has been received which provides traceability information.</p>

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EPL
Critical Items List

Assembly Name/Part Number: Torque Multiplier 10159 20259 01
 Reference: EIL 1A0H1
 Prepared By: E. Hartman Approved By: M. Mathes
 Superseding Date: 9/30 Date: 1/89 Rev: A

NAME P/N QTY	CNCT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
Gas Air 10159- 20259 01 11ea 5.4 0ea	1/4	5.4F007 Physical jamming in down position.		<p>The following DIF's are performed during the Torque Multiplier Assembly manufacturing process to assure the failure causes are precluded from the fabricated item:</p> <ol style="list-style-type: none"> 1. Inspection of all components for damage or material degradation. 2. Verification of cleanliness to VC level. <p>During PBA, the following inspection points are performed at the Torque Multiplier Assembly level in accordance with IIC Document 10107-70690.</p> <ol style="list-style-type: none"> 1. Verify conformance to drawing. 2. Inspection for damage or material degradation. 3. Verification of successful completion of functional test. 4. Verification of cleanliness to VC level. <p>B. FAILURE HISTORY None</p> <p>C. GROUND TURNAROUND During ground turnaround, in accordance with IIC Document 10107-70713, the Torque Multiplier Assembly is inspected for damage, functionally tested for proper operation, and cleaned to VC level.</p>

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Initial Steps List

Assembly Name/Part Number: Torque Multiplier (1457 24-52 44)
 Reference: EII TABB11
 Prepared by: L. Hartman
 Superseding Date: 7/83
 Authored By: M. Wilkes
 Date: 8/88 Rev: 8

INBR	CP70	CDU	CRF	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR RELEASING
1100	111	5.4	5.4	5.4 Not Physical loading in foot position.		<p>4. OPERATIONAL USE:</p> <ol style="list-style-type: none"> 1. Crew Response PrePost EVA - R/A EVA - Transport Torque Multiplier to crew compartment and attempt to repair. 2. Training Crew briefing. 3. Operational Considerations Catastrophic failure. Possible loss of crew/vehicle.

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