

CRITICAL ITEMS LIST

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REFERENCE DESIGNATOR: _____
 NAME/QUANTITY: PINCH CAM/2
 DRAWING REFERENCE: 10158-20499-01

PROJECT: _____
 LRU NAME/QUANTITY: EURECA CABLE CUTTER/2
 LRU PART NUMBER: 10158-10688-01

SUBSYSTEM: _____
 EFFECTIVITY: ALL ORBITERS

U.S. GOV.

FAILURE MODE NO. ECC-001	CRITICALITY IR/2	FAILURE EFFECT	RETENTION RATIONALE
FUNCTION Clamps cable in place for cutting operation. Withstands pre-load stress of up to 250 lb.		END ITEM 1st Failure: Clamp does not hold Unable to restrain 2nd Failure: Tether does not hold Possible loss of tool function MISSION 1st Failure: Clamp does not hold None 2nd Failure: Tether does not hold None CREW/VEHICLE 1st Failure: Clamp does not hold None 2nd Failure: Tether does not hold Loose Cable Cutter could whip causing injury or death to crew INTERFACE NONE	A. DESIGN FEATURES TO MINIMIZE FAILURE MODE Reference, Design and Performance Requirements, ILC Document Number 10158-70004. The Eureka Cable Cutter (ECC) clamping device is operated by turning a 7/16 hex screw with an EVA wrench. The screw threads provide the mechanical advantage to tighten the pinching surfaces on the cable. A series of teeth on one jaw of the clamp allows the clamp to cut through the Teflon coating and make metal to metal contact with the cable. The clamping force is sufficient to hold a 2.0 mm, Teflon coated, cable with 60 lb maximum tension and a 2.8 mm, Teflon coated, cable with 250 lb maximum tension. A tether point is provided on the end of the cable cutter handle to provide restraint during transport and use. B. TEST OR ANALYSIS TO DETECT FAILURE MODE 1. Acceptance Test a. Outer input EVA boltheads functionally operate to verify cable capture (ref PDA document no. 10158-70002) b. The tool is verified visually clean during final assembly and PDA acceptance testing (ref PDA document no. 10158-70002) 2. Certification Test a. Soft dock cable function verified at high thermal environments (ref TPS no. 21590066) b. At ambient conditions, both outer input EVA boltheads were torqued to 200 in-lbs with large cable loaded to 350 lbs and verified large cable restrained after being severed (ref TPS no. 21590066) c. 247 lb load applied to large cable perpendicular to arms at ambient conditions and verified the cable remained restrained by Pinch Cam and Hook (Items 15 and 18, respectively) (ref PDA document no. 10158-70002)
FAILURE MODE AND CAUSE Cable slips from clamp causing cable cutter to be pulled in the opposite direction with 250 lb of force. CAUSES: Mechanism Blinds Foreign Material EVA Bolt Thread Strips EVA Bolt Thread Galls			
REDUNDANCY SCREENS A - Pass B - Pass C - Pass	REMAINING PATHS Tether will restrain cable cutter		
MISSION PHASE EVA	TIME TO EFFECT Seconds		

PREPARED BY:

REVISION:

SUPERSEDING DATE:

DATE: 06/24/92

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U.S. GOV'T

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PROJECT: _____
 LRU NAME/QUANTITY: EURECA CABLE CUTTER/2
 LRU PART NUMBER: 10159-10088-01

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 EFFECTIVITY: ALL ORBITERS

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REDUNDANCY SCREENS A - Pass B - Pass C - Pass	REMAINING PATHS Tether will restrain cable cutter																																			
MISSION PHASE	TIME TO EFFECT	TIME TO CORRECT																																		
EVA	Seconds	Immediate																																		

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CRITICAL ITEMS LIST

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US Gov't

REFERENCE DESIGNATOR: _____
 NAME/QUANTITY: PINCH CAM/2
 DRAWING REFERENCE: 10150-20498-01

PROJECT: _____
 LRU NAME/QUANTITY: EURECA CABLE CUTTER/2
 LRU PART NUMBER: 10150-10688-01

SUBSYSTEM: _____
 EFFECTIVITY: ALL ORBITERS

FAILURE MODE NO. ECC-001	CRITICALITY IR/2	FAILURE EFFECT	RETENTION RATIONALE
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FAILURE MODE AND CAUSE Cable slips from clamp causing cable cutter to be pulled in the opposite direction with 250 lb of force. CAUSES: <ul style="list-style-type: none"> Mechanism Blinds Foreign Material EVA Bolt Thread Strips EVA Bolt Thread Galls 			
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