

CRITICAL ITEMS LIST

PROJECT: SRMS (-5 MCIU INSTALLED)
 ASS'Y NOMENCLATURE: SHOULDER

SYSTEM: MECHANICAL ARM SUBSYSTEM
 ASS'Y P/N: 51140J1219

SHEET: 1

FMEA REF.	FMEA REV.	NAME, QTY, & DRAWING REF. DESIGNATION	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	HOWR / FUNC. 2/YR CRITICALITY	RATIONALE FOR ACCEPTANCE SCREENS: A-PASS, B-PASS, C-PASS
4615	0	SHOULDER FUSING. 45 PRIME CHANNEL FUSES. 16 BACK-UP CHANNEL FUSES. WIRING SCHEMATIC 51140E316 REVISION C.	MODE: LOSS OF SHOULDER/ ELBOW JPC FUSE. CAUSE(S): (1) MECHANICAL SHOCK, VIBRATION MATERIALS (FUSE 15).	LOSS OF 28V TO JPC. ALL DATA COMMUNICATION AND PRIME CHANNEL FUNCTIONS WILL STOP. AUTOBRAKES ARE APPLIED. ARM COMES TO REST. LOSS OF COMPUTER SUPPORTED MODES. LOSS OF LIMPING DURING END EFFECTOR CAPTURE. IF WRIST JPC: END EFFECTOR AUTO DRIVE MODE MAY NOT FUNCTION CORRECTLY. WORST CASE ----- UNEXPECTED MOTION FREE JOINTS. AUTO BRAKES. REDUNDANT PATHS REMAINING ----- 1) AUTOBRAKES (TO SAFE THE SYSTEM). 2) BACK-UP DRIVE AND END EFFECTOR MANUAL DRIVE MODES (TO SECURE ORBITER).	DESIGN FEATURES ----- FUSES USED IN THE SHOULDER FUSE PLUG ASSEMBLIES ARE OF THE DESIGN DEFINED BY MSFC SPECIFICATION 40M38259. FOR SRMS APPLICATION, DESIGN AND PROCESS IMPROVEMENTS HAVE BEEN NEGOTIATED WITH, AND IMPLEMENTED BY, THE MANUFACTURER. THESE INCLUDE: - IMPROVED ATTACHMENT OF END CAPS. - CONTROL OF FUSE ELEMENT LENGTH AND DISPOSITION WITHIN THE FUSE BODY TUBE. - CONTROL SOLDERING BETWEEN FUSE ELEMENT AND THE END CAPS. PRIOR TO ASSEMBLY IN THE FUSE PLUG ASSEMBLY, A CONNECT PIN IS SOLDERED TO EACH OF THE FUSE LEAD WIRES. THIS PROCESS IS CONTROLLED BY ESTABLISHED PROCEDURES WHICH INCLUDE THE REQUIREMENT OF A "METERED" QUALITY OF SOLDER FOR EACH SOLDER JOINT. THE FUSE BODY AND LEAD WIRES ARE SLEEVED TO PRECLUDE SHORT CIRCUITS. EACH FUSE AND ALL SOLDERED JOINTS ARE SUBJECTED TO RADIOGRAPHIC INSPECTION. THE FUSE PLUG ASSEMBLY INCLUDES AN ALUMINUM POTTING SHELL. FOLLOWING INTEGRATION OF THE FUSES, THE CONNECTOR ASSEMBLY IS POTTED USING A SEMI-RESILIENT (RTV) COMPOUND. THE POTTING MEDIUM PROVIDES GOOD HEAT TRANSFER AND ENSURES MECHANICAL STABILITY OF THE INDIVIDUAL FUSES. NO REDUNDANCY IS PROVIDED FOR THE SHOULDER/ELBOW JPC FUSING.	

PREPARED BY: MFVG

SUPERCEDING DATE: NONE

RMS/MECH - 361

DATE: 11 JUL 91

CIL REV: 0

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SHEET: 2

FMEA REF.	FMEA REV.	NAME QTY. & DRAWING REF. DESIGNATION	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	HOWR / FUNC. 2/1R CRITICALITY	RATIONALE FOR ACCEPTANCE SCREENS: A-PASS, B-PASS, C-PASS
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PREPARED BY:

MFWG

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SHEET: 3

FMEA REF.	FMEA REV.	NAME, QTY, & DRAWING REF. DESIGNATION	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	HDWR / FUNC. 2/1R CRITICALITY	RATIONALE FOR ACCEPTANCE SCREENS: A-PASS, B-PASS, C-PASS
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 ASS'Y P/R: 51140J1219 SHEET: 4

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PREPARED BY: MFNG SUPERCEDING DATE: NONE DATE: 11 JUL 91 CIL REV: 0

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SHEET: 5

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PREPARED BY: MEWG

SUPERCEDING DATE: NONE

RMS/MECH - 365

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PROJECT: SRMS (-5 MC1U INSTALLED)
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FMEA REF.	FMEA REV.	NAME, QTY, & DRAWING REF. DESIGNATION	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	HOWR / FUNC. 2/1R CRITICALITY	RATIONALE FOR ACCEPTANCE SCREENS: A-PASS, B-PASS, C-PASS
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SUPERCEDING DATE: NONE

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