CRITICAL ITEMS LIST

PROJECT: SRMS
ASS'Y NOMENCLATURE: SHOULDER
SYSTEM: MECHANICAL ARM SUBSYSTEM
ASS'Y P/N: 51140J1219
SHEET 1

FMEA REF.	REV.	NAME, QTY, & DRAWING REF. DESIGNATION	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	HDWR / FUNC. 2/1R CRITICALITY	RATIONALE FOR ACCEPTANCE
4680	2	SHOULDER FUSING. 45 PRIME CHANNEL FUSES. 16 BACK-UP CHANNEL FUSES. WIRING SCHEMATIC 51140E316 REVISION C.	MODE: LOSS OF BACKUP ARM 28V FUSE. CAUSE(S): (1) MECHANICAL SHOCK, VIBRATION MATERIALS (FUSE 15)	CANNOT DRIVE ARM IN BACKUP. WORST CASE --- BACKUP INOPERATIVE. REDUNDANT PATHS REMAINING --- SINGLE AND DIRECT		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 BACK UP POWER FUSE.

PREPARED BY: MFWG SUPERCEDING DATE: 28 OCT 86 APPROVED BY: ___ DATE: ___