

CRITICAL ITEMS LIST

PROJECT: SRMS
 ASS'Y NOMENCLATURE: ROTOR MODULE

SYSTEM: MECHANICAL ARM SUBSYSTEM
 ASS'Y P/N: 51140E1216

SHEET: 1

FMEA REF.	FMEA REV.	NAME, QTY, & DRAWING REF. DESIGNATION	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	HOWR / FUNC. Z/IRA CRITICALITY	RATIONALE FOR ACCEPTANCE SCREENS: A-FAIL, B-PASS, C-PASS
4171	2	COMMUTATION SCANNER QTY-1 P/N 51140E1295	<p>MODE: FALSE OUTPUT FROM BACK-UP CSA.</p> <p>CAUSE(S): (1) LOSS OF ENABLE. (2) OPEN OR SHORTED LED. (3) DAMAGED FIBER OPTICS. (4) LOSS OF 10V, 5.1V SUPPLY. (5) FAILURE OF BUS FILTER. (6) BUFFER FAILURE. (7) PHOTOCELL FAILURE.</p>	<p>THE JOINT MOTOR WILL DRIVE AT A LOWER RATE OR STOP. LOSS OF LIMPING DURING END EFFECTOR CAPTURE.</p> <p>WORST CASE ----- BACK-UP MODE INOPERATIVE.</p> <p>REDUNDANT PATHS REMAINING ----- SINGLE AND DIRECT</p>	<p>DESIGN FEATURES -----</p> <p>DISCRETE SEMICONDUCTOR DEVICES SPECIFIED TO AT LEAST THE IX LEVEL OF MIL-8-19500. ALL DEVICES ARE SUBJECTED TO RE-SCREENING BY AN INDEPENDANT TEST HOUSE. SAMPLES OF ALL PROCURED LOTS/DATE CODES ARE SUBJECTED TO DESTRUCTIVE PHYSICAL ANALYSIS (DPA) TO VERIFY THE INTEGRITY OF THE MANUFACTURING PROCESSES. DEVICE STRESS LEVELS ARE DERATED IN ACCORDANCE WITH SPAR-RMS-PA.003 AND VERIFIED BY DESIGN REVIEW.</p> <p>ALL RESISTORS AND CAPACITORS USED IN THE DESIGN ARE SELECTED FROM ESTABLISHED RELIABILITY (ER) TYPES. LIFE EXPECTANCY IS INCREASED BY ENSURING THAT ALL ALLOWABLE STRESS LEVELS ARE DERATED IN ACCORDANCE WITH SPAR-RMS-PA.003. ALL CERAMIC AND ELECTROLYTIC CAPACITORS ARE ROUTINELY SUBJECTED TO RADIOGRAPHIC INSPECTION.</p> <p>THE JOINT COMMUTATION SCANNER ASSEMBLY (CSA) IS A MAJOR BOUGHT-OUT-PART WHICH IS SUPPLIED BY BEI MOTION SYSTEMS AND MEETS OR EXCEEDS THE REQUIREMENTS OF SPECIFICATION SPAR-SG.467.</p> <p>THE FIBER OPTICS USED ON THE RMS COMM SCANNERS ARE A CUSTOM DESIGN, MANUFACTURED BY GALILEO ELECTRO-OPTICS CORPORATION.</p> <p>THE FIBRE OPTIC BUNDLES ARE SECURED AT EACH END BY METAL RINGS AND EPOXY. THE BUNDLE LENGTHS ARE SUPPORTED BY A FLEXIBLE MOVEN GLASS TUBE AND A STAINLESS STEEL SPRING. STRESS RELIEF ARE USED AT THE ANCHOR POINTS.</p> <p>THE CURRENT CONFIGURATION PHOTOCELL IS ASSEMBLED AT BEI USING SPAR-APPROVED PROCEDURES. IT IS SCREENED AND QUALIFIED PER A BEI SCD (905-16816) TO STRESS LEVELS FAR IN EXCESS OF MISSION LIMITS.</p> <p>ALL EEE PARTS ARE PROCURED TO MILITARY SPECIFICATIONS OR EQUIVALENT. THE CIRCUITS EMBODY THE USE OF HWB5300.4 (3A) SOLDERING, WITH NO PLATED-THRU HOLES (2 WIRES ARE USED WHERE NECESSARY) AND ALL LAP SOLDER JOINTS. THE EMI FILTER IS PURCHASED TO AN SCD (905-15161), WHICH INCORPORATES RESCREENING INCLUDING THERMAL SHOCK, BURN-IN, AND HERMETICITY TESTING, AS WELL AS X-RAY OF ALL UNITS.</p> <p>CERAMIC CAPACITORS ARE USED THROUGHOUT. THE BUS CAPACITORS ARE S LEVEL M39814.</p> <p>THE CURRENT LIMIT RESISTOR (LED 50MA) IS A TWO WATT RATING RWRB05 TYPE DEVICE, OPERATING AT A STRESS LEVEL OF LESS THAN 0.1 TO GIVE A VERY LOW PROBABILITY OF FAILURE.</p>	

PREPARED BY: MFLG

SUPERCEDING DATE: 25 NOV 86

DATE: 24 JUL 91

CIL REV: 2

CRITICAL ITEMS LIST

PROJECT: SRMS

ASS'Y NOMENCLATURE: MOTOR MODULE

SYSTEM: MECHANICAL ARM SUBSYSTEM

ASS'Y P/N: 51140E1216

SHEET: 2

FMEA REF.	FMEA REV.	NAME, QTY, & DRAWING REF. DESIGNATION	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	HOWR / FUNC. 2/1RA CRITICALITY RATIONALE FOR ACCEPTANCE SCREENS: A-FAIL, B-PASS, C-PASS
4171	2	COMMUTATION SCANNER QTY-1 P/N 51140E1295	<p>MODE: FALSE OUTPUT FROM BACK-UP CSA.</p> <p>CAUSE(S):</p> <p>(1) LOSS OF ENABLE.</p> <p>(2) OPEN OR SHORTED LED.</p> <p>(3) DAMAGED FIBER OPTICS.</p> <p>(4) LOSS OF 10V, 5.1V SUPPLY.</p> <p>(5) FAILURE OF BUS FILTER.</p> <p>(6) BUFFER FAILURE.</p> <p>(7) PHOTOCCELL FAILURE.</p>	<p>THE JOINT MOTOR WILL DRIVE AT A LOWER RATE OR STOP. LOSS OF LIMPING DURING END EFFECTOR CAPTURE.</p> <p>WORST CASE</p> <p>BACK-UP MODE INOPERATIVE.</p> <p>REDUNDANT PATHS REMAINING</p> <p>SINGLE AND DIRECT</p>	<p>ACCEPTANCE TESTS</p> <p>-----</p> <p>THE JOINTS MOTOR MODULE ASSEMBLY CONSIST OF THE BRAKE ASSEMBLY, MOTOR ASSEMBLY, TACHOMETER, COMM. SCANNER AND SCU ALL OF WHICH ARE EXPOSED TO AN ACCEPTANCE TEST BY THE VENDOR PRIOR TO ACCEPTANCE BY SPAR. THE MOTOR MODULE ASSEMBLY IS SUBJECTED TO THE FOLLOWING ACCEPTANCE ENVIRONMENT:</p> <p>O VIBRATION: LEVEL AND DURATION - REFERENCE TABLE B</p> <p>O THERMAL VACUUM: +85 DEGREE C TO -25 DEGREE C (1.5 CYCLES) 1 X 10**5 TORR</p> <p>THE MOTOR MODULE IS INSTALLED IN THE JOINTS ASSEMBLY AND AGAIN IS EXPOSED TO ANOTHER ACCEPTANCE TEST, WHICH INCLUDES VIBRATION AND THERMAL VACUUM OF THE SAME APPROXIMATE LEVEL AND DURATION.</p> <p>QUALIFICATION TESTS</p> <p>-----</p> <p>A TYPICAL MOTOR MODULE ASSEMBLY WAS TOTALLY QUALIFIED BY SPAR FOR THE LISTED BELOW ENVIRONMENTS. FURTHER, THE BRAKE ASSEMBLY, MOTOR ASSEMBLY, TACHOMETER AND COMM. SCANNER, ARE SUBJECTED TO SOME DEGREE OF QUALIFICATION TESTING BY THE VENDOR. THE MOTOR MODULE TESTS:</p> <p>O VIBRATION: LEVEL AND DURATION - REFERENCE TABLE B</p> <p>O THERMAL VACUUM: +96 DEGREE C TO -36 DEGREE C (8 CYCLES) 1 X 10**6 TORR</p> <p>O SHOCK: 20G/11 MS - 3 AXES (6 DIRECTIONS)</p> <p>O HUMIDITY: TESTED IN SHOULDER JOINT HUMIDITY TEST</p> <p>O EMC: MIL-STD-461 AS MODIFIED BY SL-E-0002 (TESTS CS01, CS02, CS06, CE01, RE02(M/B), RS03, RS04)</p> <p>FLIGHT CHECKOUT</p> <p>-----</p> <p>PORS OPS CHECKLIST (ALL VEHICLES) JSC 16987</p>

PREPARED BY:

MFWG

SUPERCEDING DATE: 25 NOV 86

APPROVED BY: _____

DATE: 24 JUL 91

CIL REV: 2

CRITICAL ITEMS LIST

PROJECT: SRMS
ASS'Y NOMENCLATURE: MOTOR MODULE

SYSTEM: MECHANICAL ARM SUBSYSTEM
ASS'Y P/N: 51140E1214

SHEET: 3

FMEA REF.	FMEA REV.	NAME QTY & DRAWING REF. DESIGNATION	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	HDWR / FUNC. 2/1RA CRITICALITY	RATIONALE FOR ACCEPTANCE SCREENS: A-FAIL, B-PASS, C-PASS
4171	2	COMMUTATION SCANNER QTY-1 P/N 51140E1295	<p>MODE: FALSE OUTPUT FROM BACK-UP CSA.</p> <p>CAUSE(S): (1) LOSS OF ENABLE. (2) OPEN OR SHORTED LED. (3) DAMAGED FIBER OPTICS. (4) LOSS OF 10V, 5.1V SUPPLY. (5) FAILURE OF BUS FILTER. (6) BUFFER FAILURE. (7) PHOTOCCELL FAILURE.</p>	<p>THE JOINT MOTOR WILL DRIVE AT A LOWER RATE OR STOP. LOSS OF LIMPING DURING END EFFECTOR CAPTURE.</p> <p>WORST CASE ----- BACK-UP MODE INOPERATIVE.</p> <p>REDUNDANT PATHS REMAINING ----- SINGLE AND DIRECT</p>	<p>QA/INSPECTIONS -----</p> <p>UNITS ARE MAJOR BOUGHT OUT PARTS, MANUFACTURED, ASSEMBLED AND TESTED TO SPAR DRAWINGS AND SPECIFICATIONS UNDER DOCUMENTED QUALITY CONTROLS. THESE CONTROLS ARE EXERCISED THROUGHOUT DESIGN PROCUREMENT, PLANNING, PROCESSING, FABRICATION, ASSEMBLY QUALIFICATION AND ACCEPTANCE TESTING. MANDATORY INSPECTION POINTS ARE EMPLOYED AS APPROPRIATE AT VARIOUS LEVELS OF ASSEMBLY AND TEST. SPAR/GOVERNMENT SOURCE INSPECTION IS ENVOCKED ON THE SUPPLIER.</p> <p>EEE PARTS INSPECTION IS PERFORMED AS REQUIRED BY SPAR-RMS-PA.003. EACH EEE PART IS QUALIFIED AT THE PART LEVEL TO THE REQUIREMENTS OF THE APPLICABLE SPECIFICATION. ALL EEE PARTS ARE 100% SCREENED AND BURNED IN, AS A MINIMUM AS REQUIRED BY SPAR-RMS-PA.003, BY THE SUPPLIER. ADDITIONALLY, EEE PARTS ARE 100% RE-SCREENED IN ACCORDANCE WITH REQUIREMENTS, BY AN INDEPENDENT SPAR APPROVED TESTING FACILITY. DPA IS PERFORMED AS REQUIRED BY PA.003 ON A RANDOMLY SELECTED 5% OF PARTS, MAXIMUM 5 PIECES, MINIMUM 3 PIECES FOR EACH LOT NUMBER/DATE CODE OF PARTS RECEIVED.</p> <p>WIRE IS PROCURED TO SPECIFICATION MIL-W-22759 OR MIL-W-81381 AND INSPECTED AND TESTED TO NASA JSCM0080 STANDARD NUMBER 95A.</p> <p>RECEIVING INSPECTION VERIFIES THAT ALL PARTS RECEIVED ARE AS IDENTIFIED IN THE PROCUREMENT DOCUMENTS, THAT NO PHYSICAL DAMAGE HAS OCCURRED TO PARTS DURING SHIPMENT, THAT THE RECEIVING DOCUMENTS PROVIDE ADEQUATE TRACEABILITY INFORMATION AND SCREENING DATA CLEARLY IDENTIFIES ACCEPTABLE PARTS.</p> <p>PARTS ARE INSPECTED THROUGHOUT MANUFACTURE AND ASSEMBLY AS APPROPRIATE TO THE MANUFACTURING STAGE COMPLETED. THESE INSPECTIONS INCLUDE,</p> <p>PRINTED CIRCUIT BOARD INSPECTION FOR TRACK SEPARATION, DAMAGED OR LIFTING CIRCUIT PADS, CLEANLINESS ETC.</p> <p>COMPONENT MOUNTING INSPECTION FOR CORRECT SOLDERING, WIRE LOOPING, STRAPPING, ETC. OPERATORS AND INSPECTORS ARE TRAINED AND CERTIFIED TO NASA NHB 5300.4(3A) STANDARD, AS MODIFIED BY JSC 08800A.</p> <p>CONFORMAL COATING INSPECTION FOR ADEQUATE PROCESSING IS PERFORMED USING ULTRAVIOLET LIGHT TECHNIQUES.</p> <p>P.C. BD. INSTALLATION INSPECTION, CHECK FOR CORRECT BOARD INSTALLATION, ALIGNMENT OF BOARDS, PROPER CONNECTOR CONTACT MATING, WIRE ROUTING, STRAPPING OF WIRES ETC.,</p> <p>PRE-CLOSURE INSPECTION, WORKMANSHIP AND CLEANLINESS (SPAR/GOVERNMENT REP. : MANDATORY INSPECTION POINT)</p> <p>UNITS ARE INSPECTED TO THE APPLICABLE SPAR INSPECTION TEST PROCEDURE (ITP) PRIOR TO MOTOR MODULE INTEGRATION. INSPECTIONS INCLUDE WORKMANSHIP, CLEANLINESS, DIMENSIONAL ETC.</p>	

PREPARED BY: MFLG

SUPERCEDING DATE: 25 NOV 86

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CIL REV: 2

CRITICAL ITEMS LIST

PROJECT: SRMS

SYSTEM: MECHANICAL ARM SUBSYSTEM

ASS'Y NOMENCLATURE: MOTOR MODULE

ASS'Y P/N: 51140E1216

SHEET: 4

FMEA REF.	FMEA REV.	NAME, QTY, & DRAWING REF. DESIGNATION	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	HOWR / FUNC. 2/1RA CRITICALITY RATIONALE FOR ACCEPTANCE SCREENS: A-FAIL, B-PASS, C-PASS
4171	2	COMMUTATION SCANNER QTY-1 P/M 51140E1295	<p>MODE: FALSE OUTPUT FROM BACK-UP CSA.</p> <p>CAUSE(S): (1) LOSS OF ENABLE. (2) OPEN OR SHORTED LED. (3) DAMAGED FIBER OPTICS. (4) LOSS OF 10V, 5.1V SUPPLY. (5) FAILURE OF BUS FILTER. (6) BUFFER FAILURE. (7) PHOTOCCELL FAILURE.</p>	<p>THE JOINT MOTOR WILL DRIVE AT A LOWER RATE OR STOP. LOSS OF LIMPING DURING END EFFECTOR CAPTURE.</p> <p>WORST CASE ----- BACK-UP MODE INOPERATIVE.</p> <p>REDUNDANT PATHS REMAINING ----- SINGLE AND DIRECT</p>	<p>INTEGRATION OF UNIT TO MOTOR MODULE - INSPECTIONS INCLUDE GROUNDING CHECKS, CONNECTOR FOR BENT PINS, VISUAL, CLEANLINESS, INTERCONNECT WIRING ETC.</p> <p>PRE-ACCEPTANCE TEST INSPECTION, WHICH INCLUDES AN AUDIT OF LOWER TIER INSPECTION COMPLETION, AS BUILT CONFIGURATION VERIFICATION TO AS DESIGN ETC., (MANDATORY INSPECTION POINT).</p> <p>A TEST READINESS REVIEW (TRR) WHICH INCLUDES VERIFICATION OF TEST PERSONNEL, TEST DOCUMENTS, TEST EQUIPMENT CALIBRATION/ VALIDATION STATUS AND HARDWARE CONFIGURATION IS CONVENED BY QUALITY ASSURANCE IN CONJUNCTION WITH ENGINEERING RELIABILITY, CONFIGURATION CONTROL, SUPPLIER AS APPLICABLE, AND THE GOVERNMENT REPRESENTATIVE, PRIOR TO THE START OF ANY FORMAL TESTING (ACCEPTANCE OR QUALIFICATION).</p> <p>ACCEPTANCE TESTING (ATP) INCLUDES, AMBIENT, VIBRATION AND THERMAL-VAC TESTING, (SPAR/GOVERNMENT REP. - MANDATORY INSPECTION POINT)</p> <p>INTEGRATION OF UNIT TO JOINT SRU - INSPECTIONS INCLUDE GROUNDING CHECKS, CONNECTORS FOR BENT OR PUSHBACK CONTACTS, VISUAL, CLEANLINESS, INTERCONNECT WIRING AND POWER UP TEST TO THE APPROPRIATE JOINT INSPECTION TEST PROCEDURE (ITP) ETC.</p> <p>JOINT LEVEL PRE-ACCEPTANCE TEST INSPECTION, INCLUDES AN AUDIT OF LOWER TIER INSPECTION COMPLETION, AS BUILT CONFIGURATION VERIFICATION TO AS DESIGN ETC.</p> <p>JOINT LEVEL ACCEPTANCE TESTING (ATP) INCLUDES AMBIENT, VIBRATION AND THERMAL-VAC TESTING. (SPAR/GOVERNMENT REP. - MANDATORY INSPECTION POINT).</p> <p>SRMS SYSTEMS INTEGRATION, THE INTEGRATION OF MECHANICAL ARM SUBASSEMBLIES AND THE FLIGHT CABIN EQUIPMENT TO FORM THE SRMS. INSPECTIONS ARE PERFORMED AT EACH PHASE OF INTEGRATION WHICH INCLUDES GROUNDING CHECKS, THRU WIRING CHECKS, WIRING ROUTING, INTERFACE CONNECTORS FOR BENT OR PUSH BACK CONTACTS ETC.</p> <p>SRMS SYSTEMS TESTING - STRONGBACK AND FLAT FLOOR AMBIENT PERFORMANCE TEST. (SPAR/GOVERNMENT REP. - MANDATORY INSPECTION POINT)</p>

PREPARED BY:

MFVG

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CIL REV: 2

CRITICAL ITEMS LIST

PROJECT: SRMS
ASS'Y NOMENCLATURE: MOTOR H

SYSTEM: MECHANICAL APM SUBSYSTEM
ASS'Y P/N: 51140E1214

SHEET: 5

FMEA REF.	FMEA REV.	NAME, QTY, & DRAWING REF. DESIGNATION	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	HDWR / FUNC. 2/1RA CRITICALITY RATIONALE FOR ACCEPTANCE SCREENS: A-FAIL, B-PASS, C-PASS
4171	2	COMMUTATION SCANNER QTY: 1 P/N 51140E1295	<p>MODE: FALSE OUTPUT FROM BACK-UP CSA.</p> <p>CAUSE(S): (1) LOSS OF ENABLE. (2) OPEN OR SHORTED LED. (3) DAMAGED FIBER OPTICS. (4) LOSS OF 10V, 5.1V SUPPLY. (5) FAILURE OF BUS FILTER. (6) BUFFER FAILURE. (7) PHOTOCCELL FAILURE.</p>	<p>THE JOINT MOTOR WILL DRIVE AT A LOWER RATE OR STOP. LOSS OF LIMPING DURING END EFFECTOR CAPTURE.</p> <p>WORST CASE BACK-UP MODE INOPERATIVE.</p> <p>REDUNDANT PATHS REMAINING SINGLE AND DIRECT</p>	<p>FAILURE HISTORY</p> <p>THE FOLLOWING FAILURE ANALYSIS REPORT(S) ARE RELEVANT:</p> <p>FAR 2082: S/N 212 JUL 79</p> <p>DESCRIPTION CSA OUT-PUT WOULD NOT SWITCH ON BACK-UP CAUSE UNKNOWN.</p> <p>CORRECTIVE ACTION WAIVER 0026, INDICATED NON-FLIGHT USE</p> <p>FAR 2087: S/N 203-7 AUG 79</p> <p>DESCRIPTION BACK-UP CSA WOULD NOT SWITCH. EXACT CAUSE NOT DETERMINED. SUSPECT PHOTOCCELL BOND WIRES THRU HANDLING OR THERMAL STRESS.</p> <p>CORRECTIVE ACTION REPL. PHOTO CELL CORRECT ALL CSA ASSY</p> <p>FAR 2092:</p> <p>FAR 2108: S/N 202 MAY 80</p> <p>DESCRIPTION OUTPUT WOULD NOT SWITCH FOUND QUAD COMPARATOR DEFECTIVE. DETERMINED THAT INSULATION RESISTANCE TEST CAUSED SHORT CIRCUIT.</p> <p>CORRECTIVE ACTION REVISED TEST SET-UP REPLACED QUAD COMPARATORS TEST ALL CSA'A TO ECH 51140/388</p> <p>FAR 2112: S/N 202 JUL 80</p> <p>DESCRIPTION OUT/PUT DID NOT CHANGE, BROKEN FIBER OPTIC ASSY (REFER TO FAR 2083).</p> <p>CORRECTIVE ACTION REPLACED FIBER OPTIC ASSY</p>

PREPARED BY: NFMG

SUPERCEDING DATE: 25 NOV 86

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CIL REV: 2

CRITICAL ITEMS LIST

PROJECT: SRMS
ASS'Y NOMENCLATURE: MOTOR MODULE

SYSTEM: MECHANICAL ARM SUBSYSTEM
ASS'Y P/N: 51140E1214

SHEET: 6

FMEA REF.	FMEA REV.	NAME, QTY, & DRAWING REF. DESIGNATION	FAILURE MODE AND CAUSE	FAILURE EFFECT OR END ITEM	HDR / FUNC. 2/1RA CRITICALITY RATIONALE FOR ACCEPTANCE SCREENS: A-FAIL, B-PASS, C-PASS
4171	2	COMPUTATION SCANNER QTY-1 P/N 51140E1295	MODE: FALSE OUTPUT FROM BACK-UP CSA. CAUSE(S): (1) LOSS OF ENABLE. (2) OPEN OR SHORTED LED. (3) DAMAGED FIBER OPTICS. (4) LOSS OF 10V, 5.1V SUPPLY. (5) FAILURE OF BUS FILTER. (6) BUFFER FAILURE. (7) PHOTOCCELL FAILURE.	THE JOINT MOTOR WILL DRIVE AT A LOWER RATE OR STOP. LOSS OF LIMPING DURING END EFFECTOR CAPTURE. WORST CASE BACK-UP MODE INOPERATIVE. REDUNDANT PATHS REMAINING SINGLE AND DIRECT	FAR 2345: S/N 317 DEC 82 DESCRIPTION BACK-UP PHASE 1200 FAILED TO SWITCH, CAUSED BY COLD SOLDER JOINT. CORRECTIVE ACTION REMORKED UNIT.

PREPARED BY: HWG SUPERCEDING DATE: 25 NOV 86 APPROVED BY: _____ DATE: 24 JUL 91 CTL REV: 2

CRITICAL ITEMS LIST

PROJECT: SRMS
ASS'Y NOMENCLATURE: ARM CRADLE

SYSTEM: MECHANICAL ARM SUBSYSTEM
ASS'Y P/N: 51140E1214

SHEET: 7

FMEA REF.	FMEA REV.	NAME, QTY, & DRAWING REF. DESIGNATION	FAILURE MODE AND CAUSE	FAILURE (IN END III)	HOUR / FUNC. 2/1RA CRITICALITY	RATIONALE FOR ACCEPTANCE SCREENS: A-FAIL, B-PASS, C-PASS
4171	2	COMPUTATION SCANNER QTY-1 P/N 51140E1295	<p>MODE: FALSE OUTPUT FROM BACK-UP CSA.</p> <p>CAUSE(S): (1) LOSS OF ENABLE.</p> <p>(2) OPEN OR SHORTED LED.</p> <p>(3) DAMAGED FIBER OPTICS.</p> <p>(4) LOSS OF 10V, 5.1V SUPPLY.</p> <p>(5) FAILURE OF BUS FILTER.</p> <p>(6) BUFFER FAILURE.</p> <p>(7) PROTOCELL FAILURE.</p>	<p>THE JOINT MOTOR WILL DRIVE AT A LOWER RATE OR STOP. LOSS OF LIMPING DURING END EFFECTOR CAPTURE.</p> <p>WORST CASE ----- BACK-UP MODE INOPERATIVE.</p> <p>REDUNDANT PATHS REMAINING ----- SINGLE AND DIRECT</p>	<p>OPERATIONAL EFFECTS -----</p> <p>LOSS OF NEXT REDUNDANT PATH RESULTS IN BEING ONE FAILURE AWAY FROM INABILITY TO CRADLE ARM. JOINT WILL NOT DRIVE IN BACKUP ONCE PRIMARY MODES HAVE FAILED, THE BACKUP STANDBY SYSTEM WILL NOT PROVIDE THE CAPABILITY TO CRADLE THE ARM. ARM CAN BE JETTISONED.</p> <p>CREW ACTION ----- PERFORM AN EVA TO STOW THE ARM OR JETTISON.</p> <p>CREW TRAINING ----- NONE</p> <p>MISSION CONSTRAINT -----</p> <p>ARM SHOULD NOT BE MANEUVERED TO POSITION WHERE JETTISON CANNOT BE SAFELY PERFORMED.</p> <p>SCREEN FAILURES -----</p> <p>OMRSD OFFLINE -----</p> <p>IN BACKUP MODE WITH ELBOW DENATED DRIVE ALL JOINTS. VERIFY JOINT MOTION.</p> <p>OMRSD ONLINE INSTALLATION -----</p> <p>NONE</p> <p>OMRSD ONLINE TURNAROUND -----</p> <p>NONE</p>	

PREPARED BY: MFUG SUPERCEDING DATE: 25 NOV 86

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