

CRITICAL ITEMS LIST

PROJECT: RMS

SYSTEM: ELECTRICAL SUBSYSTEM

ASS'Y NOMENCLATURE: SIGNAL CONDITIONER UNIT

ASS'Y P/R: 51140FT170

SHEET: 1

FMEA REF.	FMEA REV.	NAME, QTY, DRAWING DESIGNATION	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	MDWR / FUNC. 2/1R CRITICALITY RATIONALE FOR ACCEPTANCE SCREENS: A-PASS, B-PASS, C-PASS
3220	1	SIGNAL CONDITIONER UNIT QTY-6 SCHEMATIC 1829763	<p>MODE: NO OR DEGRADED SCU OUTPUT.</p> <p>CAUSE(S): (1) TRANSFORMER FAILS OPEN OR SHORT. (2) FILTER FAILURE. (3) OPS AMPS FAILURE.</p>	<p>THERE WILL BE NO OR DEGRADED RATE FEEDBACK INFORMATION TO SPA MOTOR CONTROL LOOPS AND GPC. MOTOR CONTROL LOST. AUTO BRAKES WILL BE INITIATED. LOSS OF LIMPING DURING END EFFECTOR CAPTURE.</p> <p>WORST CASE ----- UNEXPECTED MOTION. JOINT RUNAWAY. AUTO BRAKES.</p> <p>REDUNDANT PATHS REMAINING ----- AUTOBRAKES</p>	<p>DESIGN FEATURES -----</p> <p>COMPARATORS AND OPERATIONAL AMPLIFIERS ARE STANDARD LINEAR INTEGRATED CIRCUITS WITH MATURE MANUFACTURING TECHNOLOGY. APPLICATION CONSTRAINTS ARE IN ACCORDANCE WITH SPAR-RMS-PA.003.</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>TRANSFORMERS AND INDUCTORS ARE DESIGNED SPECIFICALLY FOR THE APPLICATION. THESE ARE TOROID - WOUND AND UTILIZE A FERRITE CORE MATERIAL. CHOICE OF WIRE SIZE AND OF INSULATION MATERIALS ENSURE THAT THE DERATING REQUIREMENTS OF SPAR-RMS-PA.003 ARE MET.</p> <p>THE SCU DESIGN HAS BEEN OPTIMIZED FOR MINIMUM PARTS COUNT (LESS THAN 20) THE PARTS ARE MOUNTED ON TERMINALS, TO ELIMINATE POSSIBLE SHORTING BETWEEN TRACES. THE OP-AMP IS POTTED FOR HEAT DISSIPATION AND ALL COMPONENTS ARE STRIPPED FOR MECHANICAL INTEGRITY.</p>

RMS/ELEC - 911

PREPARED BY: MFWG

SUPERCEDING DATE: 06 OCT 87

DATE: 24 JUL 91

CIL REV: 2

CRITICAL ITEMS LIST

PROJECT: SRMS

ASS'Y NOMENCLATURE: SIGNAL CONDITIONER UNIT

SYSTEM: ELECTRICAL SUBSYSTEM

ASS'Y P/N: 51140F117B

SHEET: 2

FMEA REF.	FMEA REV.	NAME, QTY, & DRAWING REF. DESIGNATION	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	HOWR / FUNC. Z/IR CRITICALITY	RATIONALE FOR ACCEPTANCE SCREENS: A-PASS, B-PASS, C-PASS
3220	1	SIGNAL CONDITIONER UNIT Q1Y-6 SCHEMATIC 1829763	<p>MODE: NO OR DEGRADED SCU OUTPUT.</p> <p>CAUSE(S): (1) TRANSFORMER FAILS OPEN OR SHORT. (2) FILTER FAILURE. (3) OPS AMPS FAILURE.</p>	<p>THERE WILL BE NO OR DEGRADED RATE FEEDBACK INFORMATION TO SPA MOTOR CONTROL LOOPS AND GPC. MOTOR CONTROL LOST. AUTO BRAKES WILL BE INITIATED. LOSS OF LIMPING DURING END EFFECTOR CAPTURE.</p> <p>WORST CASE ----- UNEXPECTED MOTION. JOINT RUNAWAY. AUTO BRAKES.</p> <p>REDUNDANT PATHS REMAINING ----- AUTOBRAKES</p>	<p>ACCEPTANCE TESTS ----- THE SCU IS SUBJECTED TO THE FOLLOWING ACCEPTANCE ENVIRONMENTAL TESTING AS ON SRU.</p> <p>O VIBRATION: LEVEL AND DURATION - REFERENCE TABLE 4</p> <p>O THERMAL: +85 DEGREES TO -25 DEGREES C (1 1/2 CYCLES)</p> <p>THE SCU IS INTEGRATED ONTO THE MOTOR MODULE/JOINT ASSEMBLY AND TESTED WITHIN THE JOINT ACCEPTANCE ENVIRONMENTAL TESTING (VIBRATION AND THERMAL VACUUM).</p> <p>THE INTEGRATED JOINT ASSEMBLY IS TESTED DURING THE RMS SYSTEM TESTS (1P 510 RMS STRONGBACK AND 1P552 FLAT FLOOR TESTS) WHICH VERIFIES THE ABSENCE OF THE FAILURE MODE.</p> <p>QUALIFICATION TESTS ----- THE SCU HAS BEEN QUAL TESTED TO THE FOLLOWING ENVIRONMENTS AS AN SRU. IT WAS FURTHER TESTED IN THE JOINT ASSEMBLY DURING THE JOINT QUALIFICATION TESTING.</p> <p>O VIBRATION: LEVEL AND DURATION - REFERENCE TABLE 4</p> <p>O SHOCK: 20G/11MS - 3 AXES (6 DIRECTIONS)</p> <p>O THERMAL: +96 DEGREES C TO - 36 DEGREES C (6 CYCLES) 1 x 10⁶ TORN.</p> <p>O HUMIDITY: TESTED IN THE SHOULDER JOINT HUMIDITY TEST</p> <p>O EMC: MIL-STD-461 AS MODIFIED BY SL-E-0002 (TESTS CE01, CE03, CS01, CS02, CS06, RE01, RE02 (N/B) RS01).</p> <p>FLIGHT CHECKOUT ----- PDRS OPS CHECKLIST (ALL VEHICLES) JSC 16987</p>	

RMS/ELEC - 912

PREPARED BY:

MFNG

SUPERCEDING DATE: 06 OCT 87

APPROVED BY:

DATE: 24 JUL 91

CTL REV: 2

CRITICAL ITEM LIST

PROJECT: SPHS
 ASS'Y NOMENCLATURE: SIGNAL CONDITIONER UNIT

SYSTEM: ELECTRICAL SUBSYSTEM
 ASS'Y P/N: 5116DF1170

SHEET: 3

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
3220	1	SIGNAL CONDITIONER UNIT QTY-6 SCHEMATIC 1029763	<p>MODE: NO OR DEGRADED SCU OUTPUT.</p> <p>CAUSE(S): (1) TRANSFORMER FAILS OPEN OR SHORT. (2) FILTER FAILURE. (3) OPS AMPS FAILURE.</p>	<p>THERE WILL BE NO OR DEGRADED RATE FEEDBACK INFORMATION TO SPA MOTOR CONTROL LOOPS AND GPC. MOTOR CONTROL LOST. AUTO BRAKES WILL BE INITIATED. LOSS OF LIMPING DURING END EFFECTOR CAPTURE.</p> <p>WORST CASE ----- UNEXPECTED MOTION, JOINT RUNAWAY, AUTO BRAKES.</p> <p>REDUNDANT PATHS REMAINING ----- AUTOBRAKES</p>	<p>QA/INSPECTIONS -----</p> <p>UNITS ARE MANUFACTURED UNDER DOCUMENTED QUALITY CONTROLS. THESE CONTROLS ARE EXERCISED THROUGHOUT DESIGN PROCUREMENT, PLANNING, RECEIVING, PROCESSING, FABRICATION, ASSEMBLY, TESTING AND SHIPPING OF THE UNITS. MANDATORY INSPECTION POINTS ARE EMPLOYED AT VARIOUS STAGES OF FABRICATION ASSEMBLY AND TEST. GOVERNMENT SOURCE INSPECTION IS INVOKED AT VARIOUS CONTROL LEVELS.</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. OPA 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 JSCH8080 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, DAMAGE AND ADEQUACY OF PLATED THROUGH HOLES,</p> <p>COMPONENT MOUNTING INSPECTION FOR CORRECT SOLDERING, WIRE LOOPING, STRAPPING ETC. OPERATORS AND INSPECTORS ARE TRAINED AND CERTIFIED TO NASA HNB 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>POST P.C. BD. INSTALLATION INSPECTION, CLEANLINESS AND WORKMANSHIP (SPAR/GOVERNMENT REP. MANDATORY INSPECTION POINT)</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>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>	

RMS/ELEC - 913

PREPARED BY: MFLG

SUPERCEDING DATE: 06 OCT 87

APPROVED BY:

DATE: 26 JUL 91

CIL REV: 2

CRITICAL ITEMS LIST

PROJECT: SRMS
 ASS'Y NOMENCLATURE: SIGNAL CONDITIONER UNIT

SYSTEM: ELECTRICAL SUBSYSTEM
 ASS'Y P/N: 51140FT178

SHEET: 4

FMEA REF.	FMEA REV.	NAME, QTY, & DRAWING REF. DESIGNATION	FAILURE MODE AND CAUSE	FAILURE EFFECT ON END ITEM	HWR / FUNC. 2/1R CRITICALITY RATIONALE FOR ACCEPTANCE SCREENS: A-PASS, B-PASS, C-PASS
3220	1	SIGNAL CONDITIONER UNIT QTY-6 SCHEMATIC 1829763	MODE: NO OR DEGRADED SCU OUTPUT. CAUSE(S): (1) TRANSFORMER FAILS OPEN OR SHORT. (2) FILTER FAILURE. (3) OPS AMPS FAILURE.	THERE WILL BE NO OR DEGRADED RATE FEEDBACK INFORMATION TO SPA MOTOR CONTROL LOOPS AND GPC. MOTOR CONTROL LOST. AUTO BRAKES WILL BE INITIATED. LOSS OF LIMPING DURING END EFFECTOR CAPTURE. WORST CASE ----- UNEXPECTED MOTION. JOINT RUNAWAY. AUTO BRAKES. REDUNDANT PATHS REMAINING ----- AUTOBRAKES	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). ACCEPTANCE TESTING (ATP) INCLUDES AMBIENT PERFORMANCE, THERMAL AND VIBRATION TESTING, (SPAR/GOVERNMENT REP. - MANDATORY INSPECTION POINT). INTEGRATION OF UNIT TO MOTOR MODULE - INSPECTIONS INCLUDE GROUNDING CHECKS, CONNECTOR FOR BENT PINS, VISUAL, CLEANLINESS, INTERCONNECT WIRING ETC. PRE-ACCEPTANCE TEST INSPECTION, WHICH INCLUDES AN AUDIT OF LOWER TIER INSPECTION COMPLETION, AS BUILT CONFIGURATION VERIFICATION TO AS DESIGN ETC., (MANDATORY INSPECTION POINT). ACCEPTANCE TESTING (ATP) INCLUDES, AMBIENT, VIBRATION AND THERMAL-VAC TESTING, (SPAR/GOVERNMENT REP. - MANDATORY INSPECTION POINT) 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. JOINT LEVEL PRE-ACCEPTANCE TEST INSPECTION, INCLUDES AN AUDIT OF LOWER TIER INSPECTION COMPLETION, AS BUILT CONFIGURATION VERIFICATION TO AS DESIGN ETC. JOINT LEVEL ACCEPTANCE TESTING (ATP) INCLUDES AMBIENT, VIBRATION AND THERMAL-VAC TESTING. (SPAR/GOVERNMENT REP. - MANDATORY INSPECTION POINT). 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. SRMS SYSTEMS TESTING - STRONGBACK AND FLAT FLOOR AMBIENT PERFORMANCE TEST. (SPAR/GOVERNMENT REP. - MANDATORY INSPECTION POINT)

RMS/ELEC - 914

CRITICAL ITEMS LIST

PROJECT: SRMS

SYSTEM: ELECTRICAL SUBSYSTEM

ASS'Y NOMENCLATURE: SIGNAL CONDITIONER UNIT

ASS'Y P/N: 5114DF117B

SHEET: 5

PMEA REF.	PMEA 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
3220	1	SIGNAL CONDITIONER UNIT QTY-6 SCHEMATIC 1829763	<p>MODE: NO OR DEGRADED SCU OUTPUT.</p> <p>CAUSE(S): (1) TRANSFORMER FAILS OPEN OR SHORT. (2) FILTER FAILURE. (3) OPS AMPS FAILURE.</p>	<p>THERE WILL BE NO OR DEGRADED RATE FEEDBACK INFORMATION TO SPA MOTOR CONTROL LOOPS AND GPC. MOTOR CONTROL LOST. AUTO BRAKES WILL BE INITIATED. LOSS OF LIMPING DURING END EFFECTOR CAPTURE.</p> <p>WORST CASE</p> <p>UNEXPECTED MOTION. JOINT RUNAWAY. AUTO BRAKES.</p> <p>REDUNDANT PATHS REMAINING</p> <p>AUTOBRAKES</p>	<p>FAILURE HISTORY</p> <p>-----</p> <p>THE FOLLOWING FAILURE ANALYSIS REPORT(S) ARE RELEVANT:</p> <p>FAR 2059: S/N 202 APR 79</p> <p>DESCRIPTION</p> <p>-----</p> <p>SCU NOISE TOO HIGH DUE TO INADEQUATE SHIELDING</p> <p>CORRECTIVE ACTION</p> <p>-----</p> <p>REWORKED SHIELDING ON -3'S ECM 51140-1934</p> <p>FAR 2332: S/N 302-7 AUG 82</p> <p>DESCRIPTION</p> <p>-----</p> <p>SCU OUTPUT TOO LOW, CAUSE UNKNOWN, SUSPECT TEST CABLE, SCU O.K.</p> <p>CORRECTIVE ACTION</p> <p>-----</p> <p>REPLACED SCU</p> <p>FAR 3301: S/N 303 JUN 80</p> <p>DESCRIPTION</p> <p>-----</p> <p>CONTINUITY MEAS. TOO HIGH, RESULTED FROM GROUND TAB IMPROPERLY INSTALLED OVERCONFORMAL COATING.</p> <p>CORRECTIVE ACTION</p> <p>-----</p> <p>REWORK TO DRAWING.</p> <p>FAR 3302: S/N 307309 JUN 80</p> <p>DESCRIPTION</p> <p>-----</p> <p>OUTPUT VOLTAGE TOO LOW, CAUSED BY IMPROPERLY MANUFACTURING TRANSFORMER.</p> <p>CORRECTIVE ACTION</p> <p>-----</p> <p>REJECT TRANS. LOT PREPARE NEW LOT.</p> <p>FAR 3303: S/N 308 JUN 80</p> <p>DESCRIPTION</p> <p>-----</p>

RMS/ELEC - 915

PREPARED BY:

MFVG

SUPERCEDING DATE: 06 OCT 87

APPROVED BY:

DATE: 24 JUL 91

CIL REV: 2

CRITICAL ITEMS LIST

PROJECT: SRMS
 ASS'Y NOMENCLATURE: SIGNAL CONDITIONER UNIT

SYSTEM: ELECTRICAL SUBSYSTEM
 ASS'Y P/N: 51140FT178

SHEET: 6

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
3220	1	SIGNAL CONDITIONER UNIT 01Y-6 SCHEMATIC 1829763	MODE: NO OR DEGRADED SCU OUTPUT. CAUSE(S): (1) TRANSFORMER FAILS OPEN OR SHORT. (2) FILTER FAILURE. (3) OPS AMPS FAILURE.	THERE WILL BE NO OR DEGRADED RATE FEEDBACK INFORMATION TO SPA MOTOR CONTROL LOOPS AND GPC. MOTOR CONTROL LOST. AUTO BRAKES WILL BE INITIATED. LOSS OF LIMPING DURING END EFFECTOR CAPTURE. WORST CASE UNEXPECTED MOTION. JOINT RUNAWAY. AUTO BRAKES. REDUNDANT PATHS REMAINING AUTOBRAKES	OP. AMP UI OSCILLATING, CAUSED BY IMPROPER GROUNDING OF FILTER-COM. CORRECTIVE ACTION CONFORMAL COATING REMOVED FROM GROUND STUD. FAR 3304: S/N 312 AUG 80 DESCRIPTION OUTPUT OSCILLATED. REFER TO FAR-RMS-3303. (ALSO S/N 313, 314) CORRECTIVE ACTION REFER TO FAR-RMS-3303. FAR 3305: S/N 312 SEP 80 DESCRIPTION INPUT IMPEDANCE TOO HIGH, TRACED TO BROKEN LEAD ON TRANSFORMER DAMAGED ON REMARK OF FAR-RMS-3304. CORRECTIVE ACTION REMARKED TO DRAWING. FAR 3307: S/N 302 OCT 80 DESCRIPTION OUTPUT TOO LOW, OUTPUT TRANSFORMERS SUSPECTED. (ALSO S/N 309) CORRECTIVE ACTION REPLACED OUTPUT TRANSFORMER.

RMS/ELEC - 916

CRITICAL ITEMS LIST

PROJECT: SRMS

SYSTEM: ELECTRICAL SUBSYSTEM

ASS'Y NOMENCLATURE: SIGNAL CONDITIONER UNIT

ASS'Y P/N: 51100717B

SHEET: 7

FMEA REF.	FMEA REV.	NAME, QTY, & DRAWING REF. DESIGNATION	FAILURE MODE AND CAUSE	FAILURE EFFECT OR END ITEM	HDWR / FUNC. 2/1R CRITICALITY RATIONALE FOR ACCEPTANCE SCREENS: A-PASS, B-PASS, C-PASS
3220	1	SIGNAL CONDITIONER UNIT QTY-6 SCHEMATIC 1829763	<p>MODE: NO OR DEGRADED SCU OUTPUT.</p> <p>CAUSE(S): (1) TRANSFORMER FAILS OPEN OR SHORT. (2) FILTER FAILURE. (3) OPS AMPS FAILURE.</p>	<p>THERE WILL BE NO OR DEGRADED RATE FEEDBACK INFORMATION TO SPA MOTOR CONTROL LOOPS AND GPC. MOTOR CONTROL LOST. AUTO BRAKES WILL BE INITIATED. LOSS OF LIMPING DURING END EFFECTOR CAPTURE.</p> <p>WORST CASE</p> <p>UNEXPECTED MOTION, JOINT RUNAWAY. AUTO BRAKES.</p> <p>REDUNDANT PATHS REMAINING</p> <p>AUTOBRAKES</p>	<p>OPERATIONAL EFFECTS</p> <p>-----</p> <p>CANNOT USE COMPUTER SUPPORTED MODES OF OPERATION. ARM WILL NOT STOP AUTOMATICALLY IF AN UNDETECTED FAILURE OF THE AUTO BRAKES SYSTEM HAS PREVIOUSLY OCCURRED.</p> <p>CREW ACTION</p> <p>-----</p> <p>CREW CAN ATTEMPT TO COMPLETE THE MISSION IN DIRECT DRIVE. THIS CAN BE ACCOMPLISHED UNDER CERTAIN CONDITIONS WHICH MUST BE EVALUATED ON A CASE BY CASE BASIS. APPLY BRAKES TO STOP ARM IF AUTO BRAKES DOESN'T STOP THE RUNAWAY.</p> <p>CREW TRAINING</p> <p>-----</p> <p>THE CREW SHOULD BE TRAINED TO ALWAYS OBSERVE WHETHER THE ARM IS RESPONDING PROPERLY TO COMMANDS. IF IT ISN'T, THE COMMAND SHOULD BE REMOVED. IF REMOVAL OF THE COMMAND DOES NOT STOP THE ARM, THE BRAKES SHOULD BE APPLIED. IF THE BRAKES DON'T STOP THE ARM, THEN THE RMS POWER SWITCH SHOULD BE TURNED OFF.</p> <p>MISSION CONSTRAINT</p> <p>-----</p> <p>AUTO BRAKES FUNCTION IS CHECKED OUT DURING GROUND TURNAROUND AND JUST PRIOR TO ANY ARM OPERATIONS ON ORBIT. THE CREW SHOULD BE TRAINED TO OPERATE UNDER VERNIER RATES WITHIN 10 FT OF STRUCTURE. THE OPERATOR MUST BE ABLE TO DETECT THAT THE ARM/PAYLOAD IS RESPONDING PROPERLY TO COMMANDS VIA WINDOW AND/OR CCTV VIEWS DURING ALL ARM OPERATIONS.</p> <p>OMRSD OFFLINE</p> <p>-----</p> <p>VERIFY ABSENCE OF TACH FAILURE ON ABE DATA.</p> <p>OMRSD ONLINE INSTALLATION</p> <p>-----</p> <p>NONE</p> <p>OMRSD ONLINE TURNAROUND</p> <p>-----</p> <p>VERIFY ABSENCE OF ABE FAILURE WARNING</p>

RMS/ELEC - 917

PREPARED BY:

HWG

SUPERCEDING DATE: 06 OCT 87

APPROVED BY:

DATE: 24 JUL 91

CIL REV: 2