INDEPENDENT ORBITER ASSESSMENT

ASSESSMENT OF THE HYDRAULICS/ WATER SPRAY BOILER SUBSYSTEM

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MCDONNELL DOUGLAS ASTRONAUTICS COMPANY
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INDEPENDENT ORBITER ASSESSMENT ASSESSMENT OF THE HYDRAULICS/WATER SPRAY BOILER SUBSYSTEM FMEA/CIL

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1.0 EXECUTIVE SUMMARY

The McDonnell Douglas Astronautics Company (MDAC) was selected in June 1986 to perform an Independent Orbiter Assessment (IOA) of the Failure Modes and Effects Analysis (FMEA) and Critical Items List (CIL). Direction was given by the STS Orbiter and GFE Projects Office to perform the hardware analysis using the instructions and ground rules defined in NSTS 22206, Instructions for Preparation of FMEA and CIL, 10 October 1986.

The IOA effort first completed an analysis of the Hydraulics/Water Spray Boiler (HYD/WSB) hardware, generating draft failure modes and potential critical items. To preserve independence, this analysis was accomplished without reliance upon the results contained within the NASA FMEA/CIL documentation. The IOA results were then compared to the NASA FMEA/CIL baseline with proposed Post 51-L updates included. A resolution of each discrepancy from the comparison is provided through additional analysis as required. This report documents the results of that comparison for the Orbiter HYD/WSB hardware.

The IOA product for the HYD/WSB analysis consisted of 447 failure mode "worksheets" that resulted in 183 potential critical items being identified. Comparison was made to the NASA baseline (as of 19 November 1986) which consisted of 364 FMEAs and 111 CIL items. The comparison determined if there were any results which hadbeen found by the IOA but were not in the NASA baseline. This comparison produced agreement on all but 68 FMEAs which caused differences in 23 CIL items. Figure 1 presents a comparison of the proposed Post 51-L NASA baseline, with the IOA recommended baseline, and any issues.

The issues arose due to differences between the NASA and IOA FMEA/CIL preparation instructions. NASA had used an older groundrules document which has since been superseded by the NSTS 22206 used by the IOA. After comparison, there were no discrepancies found that were not already identified by NASA, and the remaining issues may be attributed to differences in ground rules.

HYDRAULICS/WATER SPRAY BOILER ASSESSMENT OVERVIEW

HYD/WSB ASSESSMENT SUMMARY	IOA	NASA	ISSUES
FMEA	447	364	68
CIL	183	111	23

WATER SPRAY BOILER	IOA	NASA	ISSUES
FMEA	39	70	13
CIL	46	38	4

EPD&C - WATER SPRAY BOILER	IOA	NASA	ISSUES
FMEA	32	93	2
CIL	5	4	2

HYDRAULICS SUBSYSTEM	IOA	NASA	ISSUES
FMEA	179	84	33
CIL	107	48	11

EPD&C - HYDRAULICS	IOA	NASA	ISSUES
FMEA	147	117	20
CIL	25	21	6

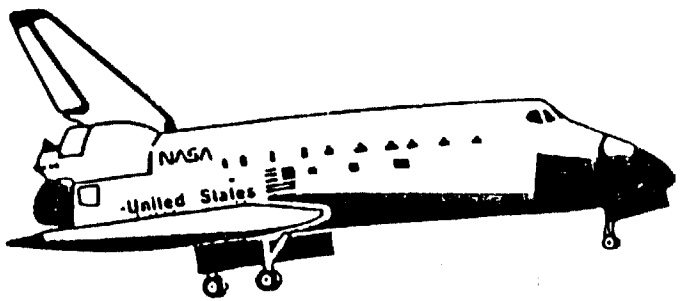

FIGURE 1 - HYDRAULICS/WATER SPRAY BOILER FMEA/CIL ASSESSMENT

2.0 INTRODUCTION

2.1 Purpose

The 51-L Challenger accident prompted the NASA to readdress safety policies, concepts, and rationale being used in the National Space Transportation System (NSTS). The NSTS Office has undertaken the task of reevaluating the FMEA/CIL for the Space Shuttle design. The MDAC is providing an independent assessment of the proposed Post 51-L Orbiter FMEA/CIL for completeness and technical accuracy.

2.2 Scope

The scope of the independent FMEA/CIL assessment activity encompasses those Shuttle Orbiter subsystems and GFE hardware identified in the Space Shuttle Independent FMEA/CIL Assessment Contractor Statement of Work. Each subsystem analysis addresses hardware, functions, internal and external interfaces, and operational requirements for all mission phases.

2.3 Analysis Approach

The independent analysis approach is a top-down analysis utilizing as-built drawings to breakdown the respective subsystem into components and low-level hardware items. Each hardware item is evaluated for failure mode, effects, and criticality. These data are documented in the respective subsystem analysis report, and are used to assess the proposed Post 51-L NASA and Prime Contractor FMEA/CIL. The IOA analysis approach is summarized in the following Steps 1.0 through 3.0. Step 4.0 summarizes the assessment of the NASA and Prime Contractor FMEA/CIL which is documented in this report.

Step 1.0 Subsystem Familiarization
- 1.1 Define subsystem functions
- 1.2 Define subsystem components
- 1.3 Define subsystem specific ground rules and assumptions

Step 2.0 Define subsystem analysis diagram
- 2.1 Define subsystem
- 2.2 Define major assemblies
- 2.3 Develop detailed subsystem representations

Step 3.0 Failure events definition
- 3.1 Construct matrix of failure modes
- 3.2 Document IOA analysis results

Step 4.0 Compare IOA analysis data to NASA FMEA/CIL
4.1 Resolve differences
4.2 Review in-house
4.3 Document assessment issues
4.4 Forward findings to Project Manager

2.4 Ground Rules and Assumptions

The HYD/WSB ground rules and assumptions used in the IOA are defined in Appendix B. The subsystem specific ground rules were defined to provide necessary additions and clarifications to the ground rules and assumptions contained in NSTS 22206.

3.0 SUBSYSTEM DESCRIPTION

3.1 Design and Function

The hydraulic subsystem is made up of three independent hydraulic systems, each with its own APU/pump, reservoir, water spray boiler for APU lube oil and hydraulic fluid cooling, and distribution systems. A typical system is shown in Figure 2.

Water Spray Boiler

The water spray boiler (WSB) system consists of three identical independent units, one for each APU/hydraulic system. Each WSB is used while its associated APU is active in order to cool the APU lubricating oil and the Orbiter hydraulic fluid. Each WSB consists of the following components:

- Water tank with gaseous nitrogen (GN_2) pressurization
- Internal boiler
- Electronic controllers (two per system)
- Heaters
- Temperature and pressure sensors

The WSB stores water in a bellows-type storage tank, which is pressurized by nitrogen to provide positive water expulsion to feed the boiler. The WSB system operates in either a pool or spray mode. The hydraulic fluid and APU lubricating oil pass through the boiler in a set of tubes which are either immersed in water (pool mode) or sprayed with water from three hydraulic fluid water spray bars and two APU lube oil water spray bars (spray mode).

During ascent and entry the boiler operates in the pool mode. As the vehicle ascends, the APU lube oil heats up. Eventually the boiler water precharge boils off, and the boiler goes into the spray mode (the hydraulic fluid usually does not heat up enough during ascent to require any spray cooling). During the lower part of entry, when the boiler temperature (i.e., the boiling point of water) reaches 188 degrees F, the WSB returns to the pool mode. The spray bars begin discharging water to fill the boiler. As the water reaches the liquid level sensors, the spray is turned off to prevent the boiler from overfilling. The water that is boiled off exits the Orbiter through a steam duct located to the right of the vertical stabilizer.

EPD&C - Water Spray Boiler

The EPD&C support for a typical Water Spray Boiler unit is illustrated in Figure 3. The EPD&C system provides AC and DC power to the WSB related transducers, signal conditioners and logic circuits. Remote power controllers (RPC) in the Aft Power

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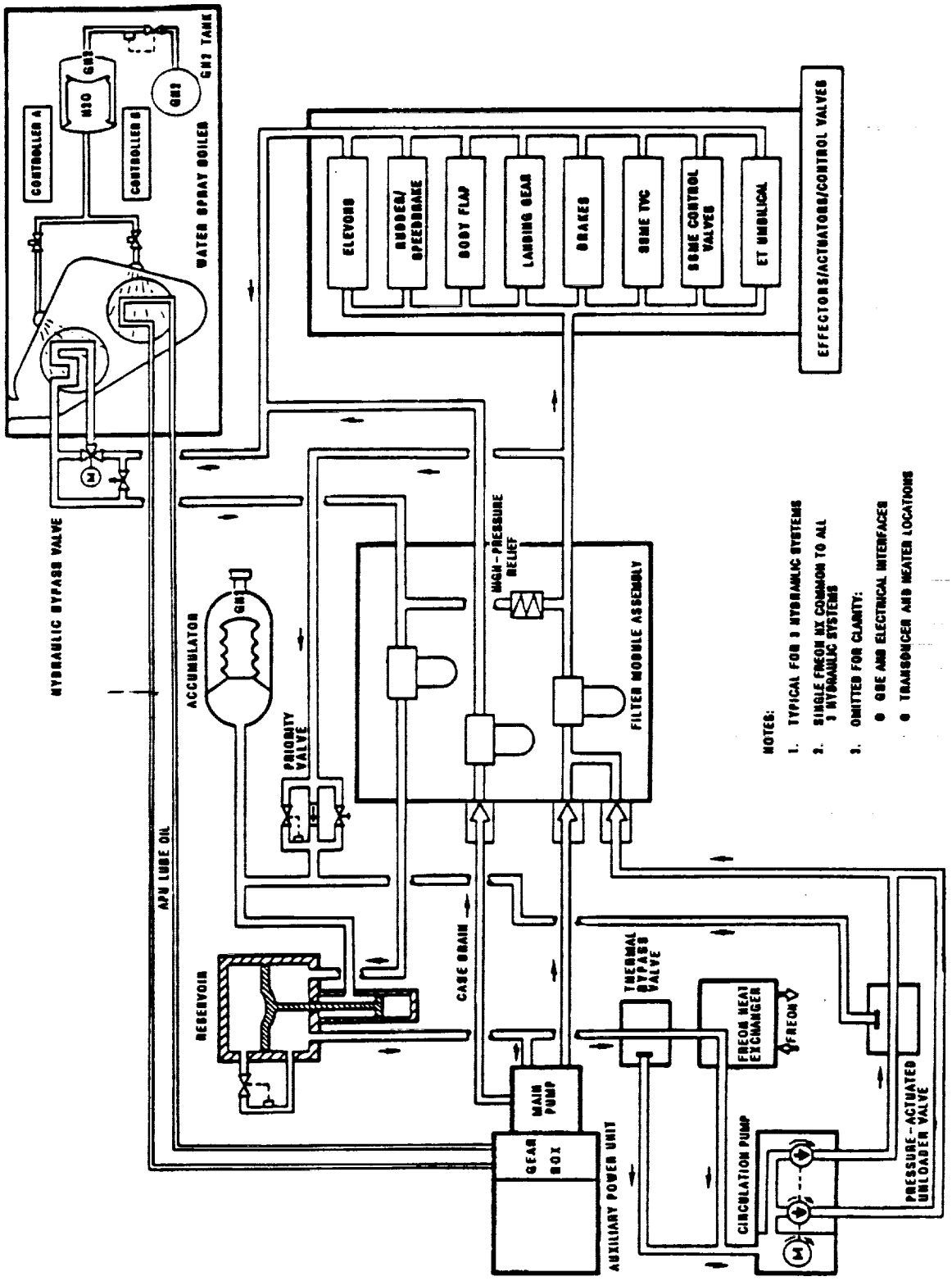


Figure 2 - HYDRAULICS/WATER SPRAY BOILER DIAGRAM

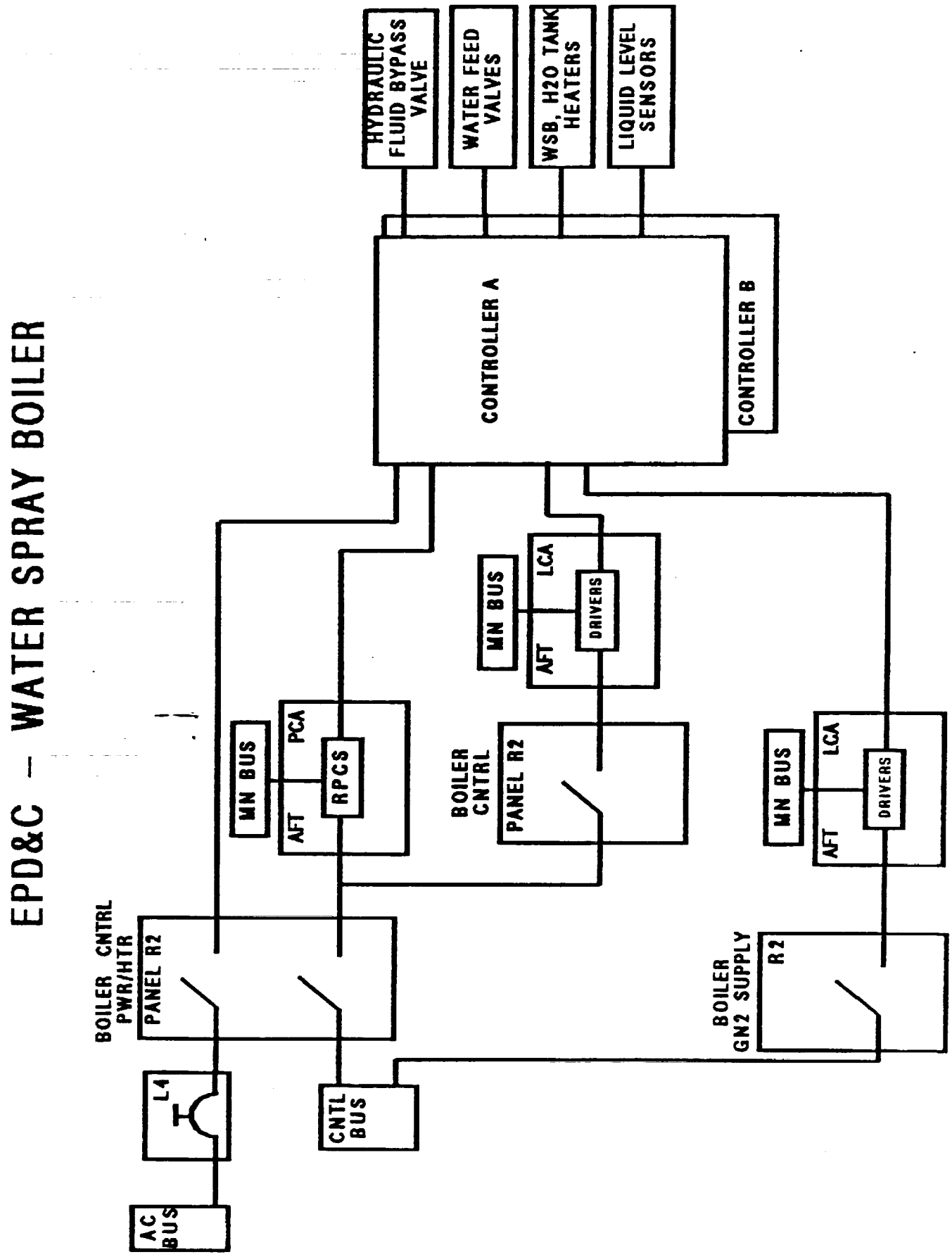


Figure 3 - EPD&C - WATER SPRAY BOILER DIAGRAM

Control Assembly (PCA) provide the 28 Vdc required to operate the WSB heaters and solenoid and motor operated valves. Hybrid circuit drivers in aft load control assemblies (LCA) supply power to the boiler control circuits and GN_2 supply control circuits respectively in the boiler controllers. Control voltage required to activate the drivers are supplied through boiler control switches located on Orbiter panel R2.

The WSB has two redundant controllers, A and B. Only one controller is used at a time. The controller regulates the water spray and the hydraulic fluid bypass valve (bypasses WSB at 190 degrees F; flows through WSB at 210 degrees F) based on fluid outlet temperature transducers. Controller A provides for computation of WSB water tank quantity by the SM GPC based on water tank temperature transducer and GN_2 line pressure readings. Controller B is identical to Controller A except that the following outputs are lost.

- H_2O quantity computation
- GN_2 tank temperature
- GN_2 regulator pressure
- H_2O tank pressure
- Hydraulic bypass valve position indicator

The water boiler, water tank, and steam vent are equipped with heaters to prevent freeze-up in orbit. The heaters are cycled automatically by the WSB controller. Each controller controls one set of redundant heaters.

Hydraulic System

The hydraulic system provides the hydraulic power to operate the aerosurface controls (elevons, rudder/speed brake, and body flap), ET umbilical retractors (LH2 and LO2), SSME thrust vector control actuators, SSME control valves, landing gear retract and deployment, main wheel brakes and antiskid control, and nosewheel steering. Hydraulic power is generated by APU driven pumps. Two operational systems are required to provide the maximum aerosurface rotational rates needed for worst-case descent conditions.

Each hydraulic system uses a hydraulic fluid reservoir, which stores and provides fluid to the inlet side of an APU-driven variable-displacement pump. Upon demand, the fluid is pumped through a check valve, a filter, and fluid lines which incorporate a precharged accumulator. The accumulator serves to absorb system pressure surges by means of a priority valve and provides pressurization to the reservoir. An electric motor driven constant displacement circulation pump provides low pressure hydraulic power for hydraulic system thermal conditioning and high pressure hydraulic power for accumulator recharging during the on-orbit flight phase.

EPD&C - Hydraulics

The EPD&C support to the hydraulics system is illustrated in Figure 4. The switches, PBIs and circuit breakers which allow the crew to configure and control the EPD&C, and the components of the hydraulic system are located on panels on the flight deck. The electrical power is controlled and distributed by use of power controller assemblies and load controller assemblies. These assemblies are comprised of buses, resistors, fuses, diodes, and remote switching devices (remote power controllers, hybrid circuit drivers, and relays). The power controller assemblies and load controller assemblies distribute dc power to all the system loads using remote switching devices.

The EPD&C provides power to the following hydraulic components.

- Heaters
- Circulation Pumps
- Main Pump Depress Solenoid
- Landing Gear Retract/Circ. Valve
- MPS/TVC Isolation Valve
- Landing Gear Isolation Valve
- Orbiter/ET Umbilical Actuators
- Temperature and Pressure Transducers

3.2 Interfaces and Locations

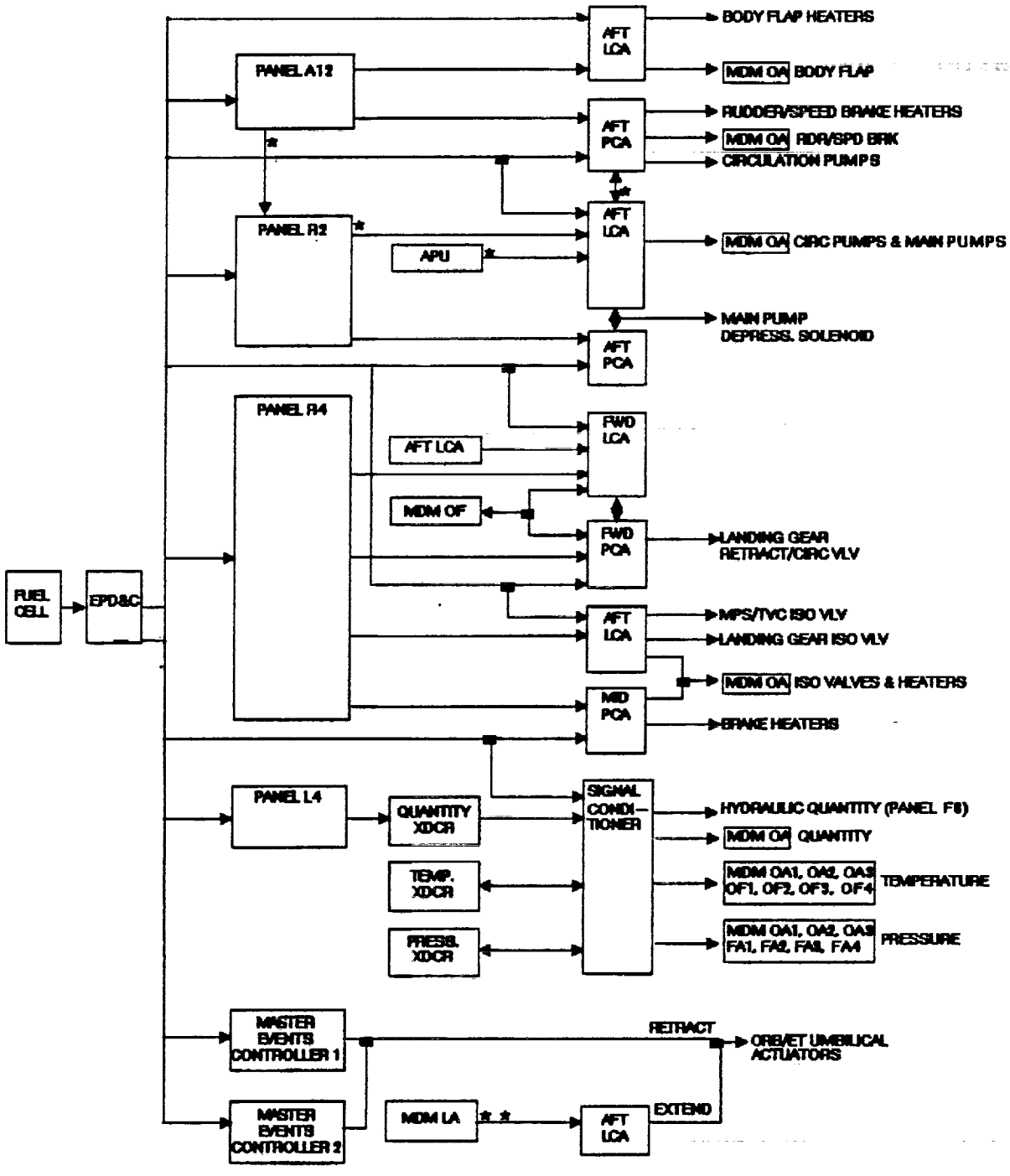
The locations of the hydraulics and water spray boiler components on the Orbiter are shown in Figure 5.

The hydraulics system interfaces with and provides power to the aerosurface controls (elevons, rudder/speedbrake, and body flap), ET umbilical actuators (LH2 and LO2), SSME thrust vector control actuators, SSME control valves, landing gear retract and deploy actuators, main wheel brakes and antiskid control, and nosewheel steering.

The water spray boiler interfaces with the hydraulics system and the APU to provide cooling for the hydraulic fluid and APU lube oil. In addition to this cooling interface, the hydraulics system interfaces with the environmental control and life support system to absorb heat from the Freon heat exchanger.

Both the hydraulics system and the water spray boiler interface with the EPD&C system, the Display and Control (D&C) system, the instrumentation system, and the GPC software. The EPD&C system provides the electric power and the control assemblies for motors and valves. The D&C system provides the capability for the crew to monitor, configure or manually control the systems where necessary. The instrumentation system processes the performance parameters required for system monitoring and control. The GPC software provides automatic control for hydraulic fluid thermal

EPD&C - HYDRAULICS DIAGRAM



* AFFECTS CIRCULATION PUMP.
** MDM LA IS USED FOR PRE-FLIGHT OPERATIONS.

Figure 4 - EPD&C - HYDRAULICS DIAGRAM

HYDRAULICS AND WATER SPRAY BOILER COMPONENT LOCATIONS

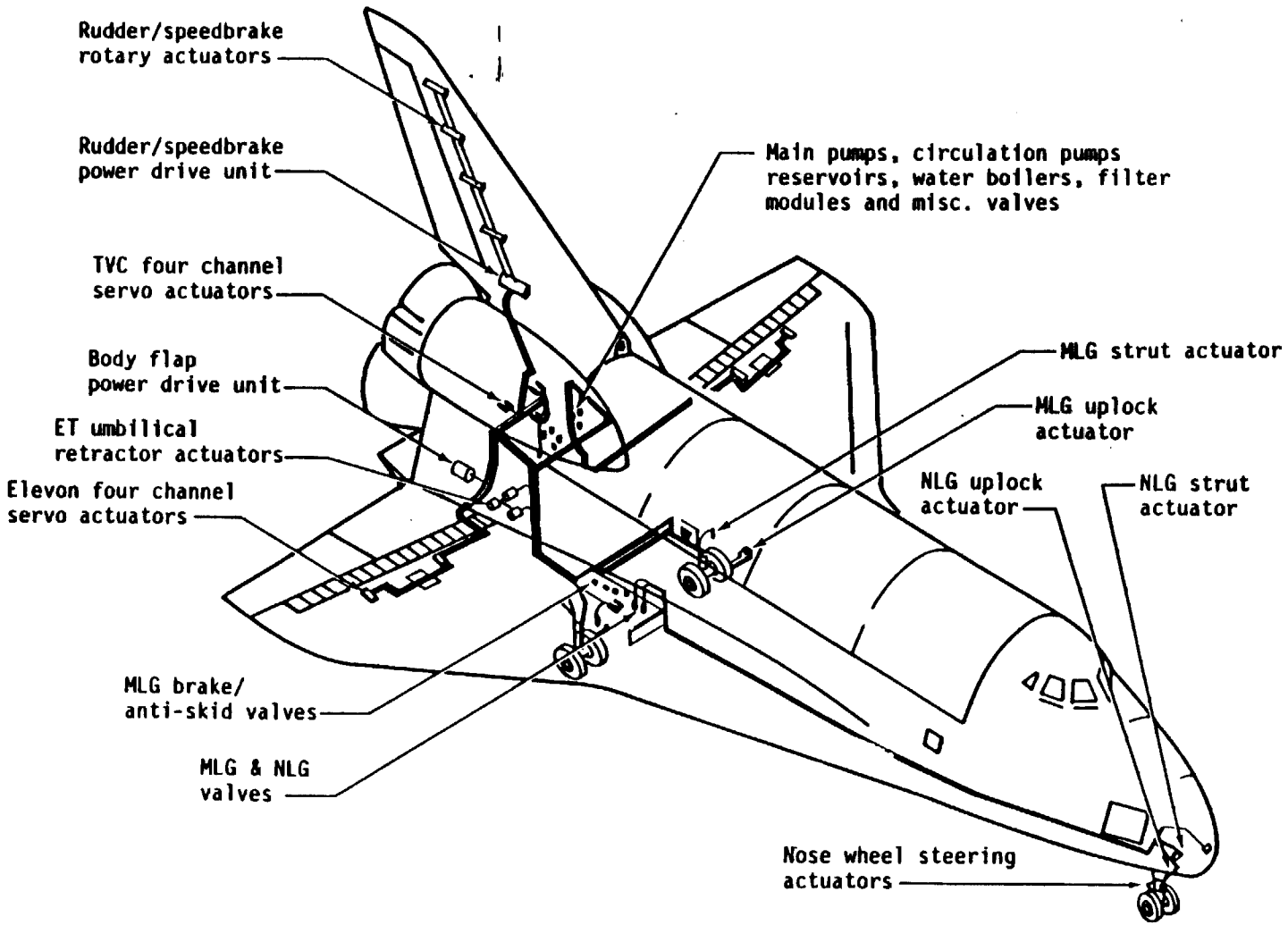


Figure 5 - HYDRAULICS AND WATER SPRAY BOILER COMPONENT LOCATIONS

conditioning, accumulator pressure maintenance and landing gear isolation valve positioning. It also provides priority rate limiting which automatically manages loads on the remaining hydraulic systems or system if one or two hydraulic systems are lost for ascent or entry.

3.3 Hierarchy

Figure 6 illustrates the hierarchy of the HYD/WSB hardware and the corresponding components used for purposes of analysis. Figures 7 through 25 comprise the detailed system representations.

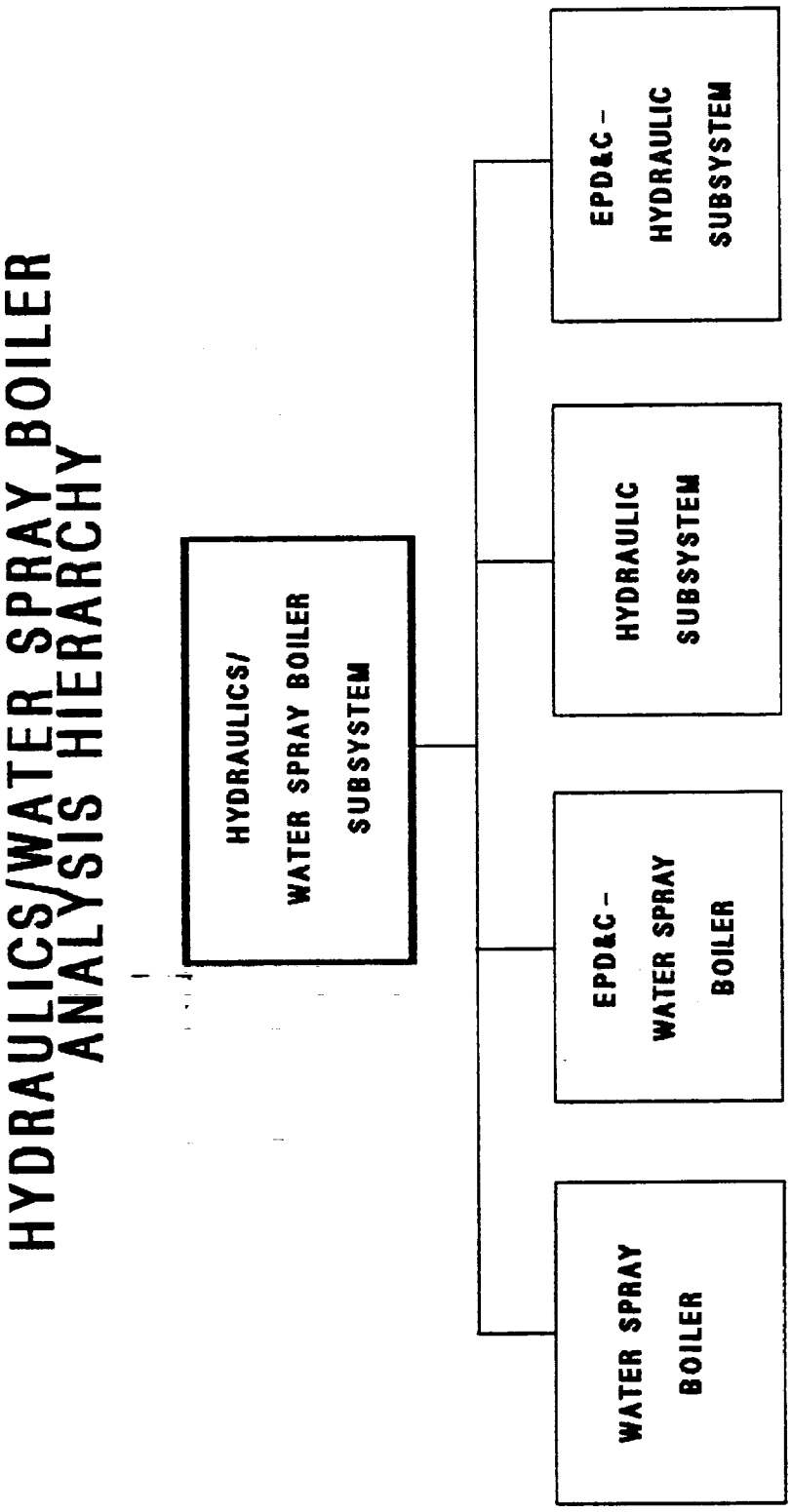


Figure 6 - HYDRAULICS/WATER SPRAY BOILER ANALYSIS HIERARCHY

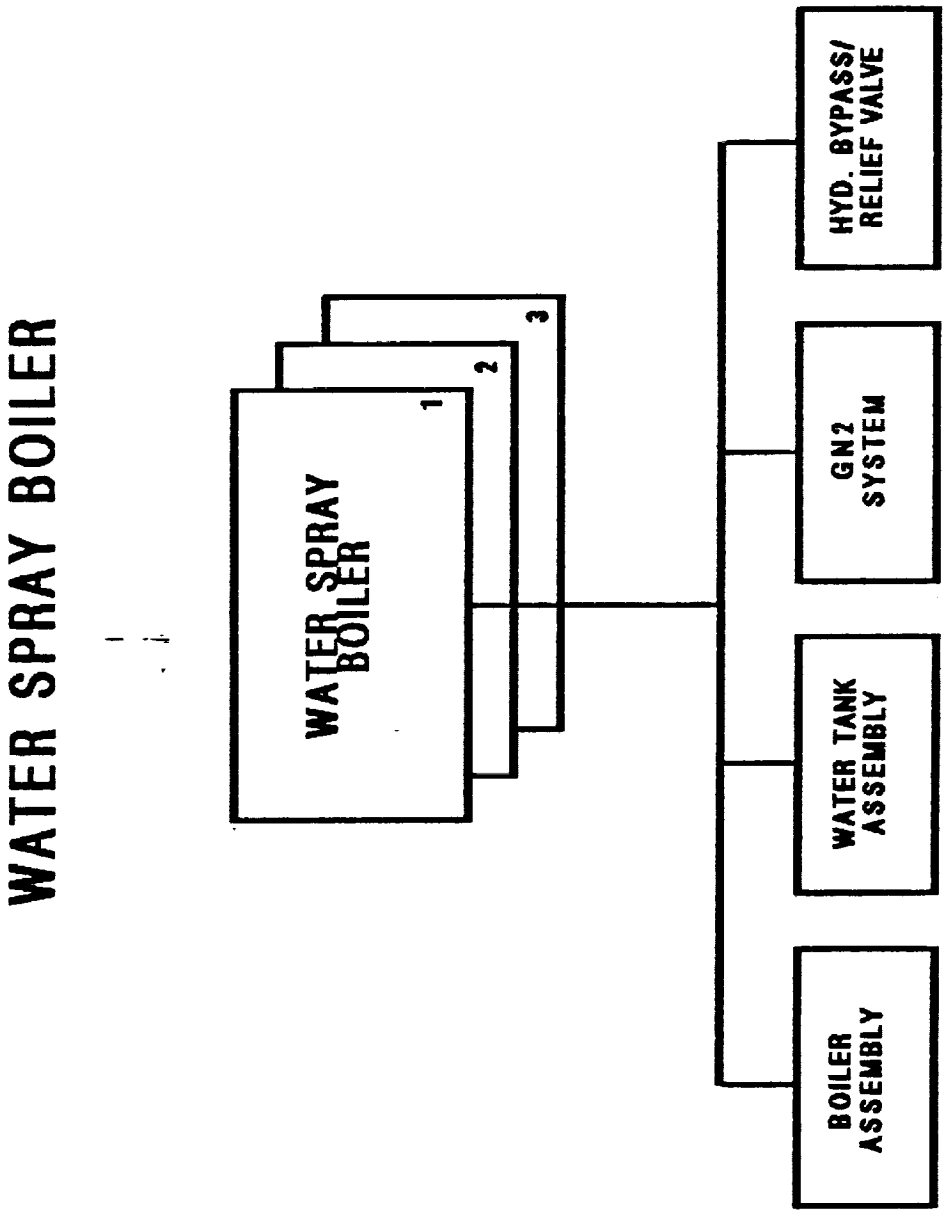


Figure 7 - WATER SPRAY BOILER

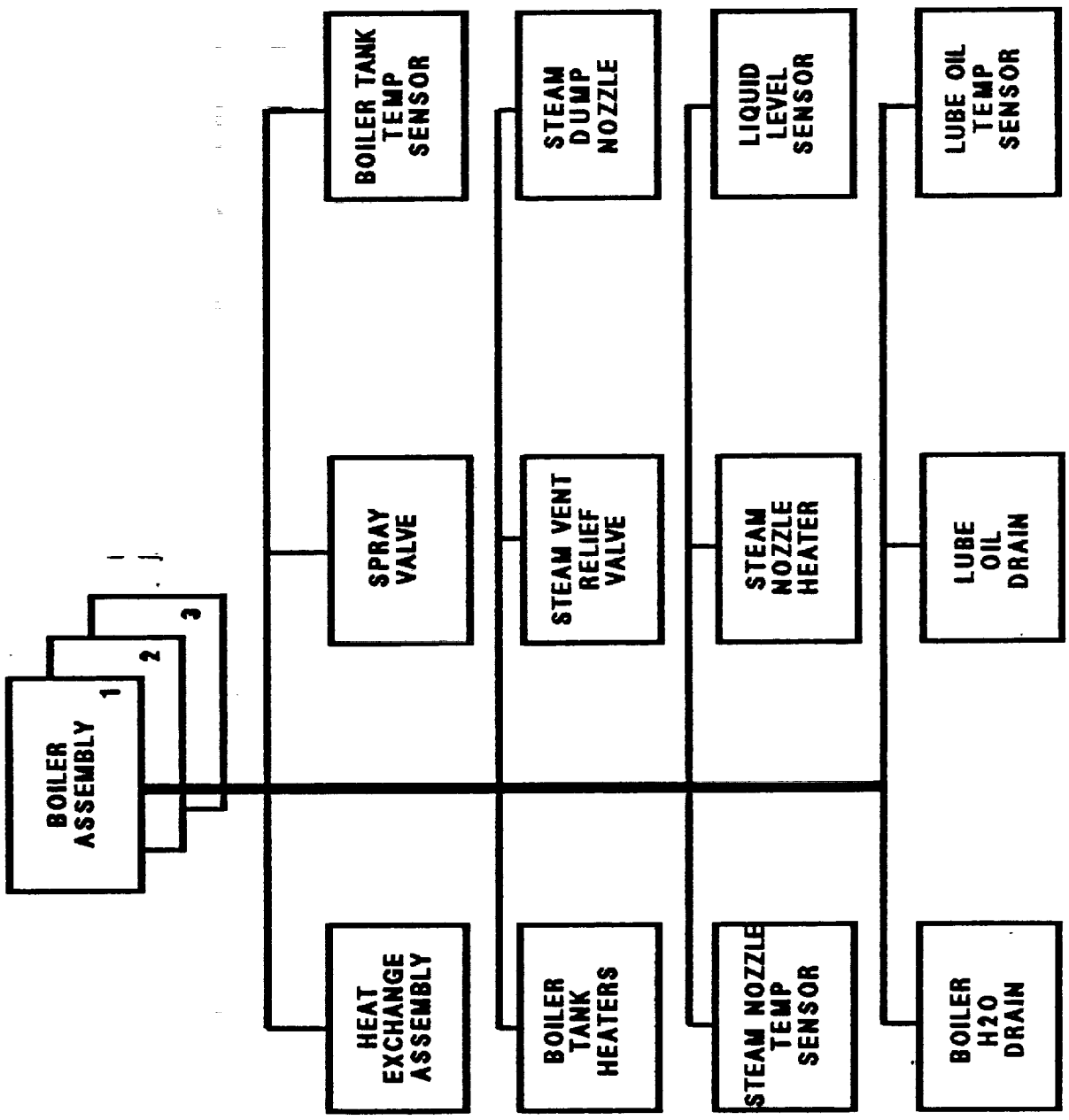


Figure 8 - BOILER ASSEMBLY

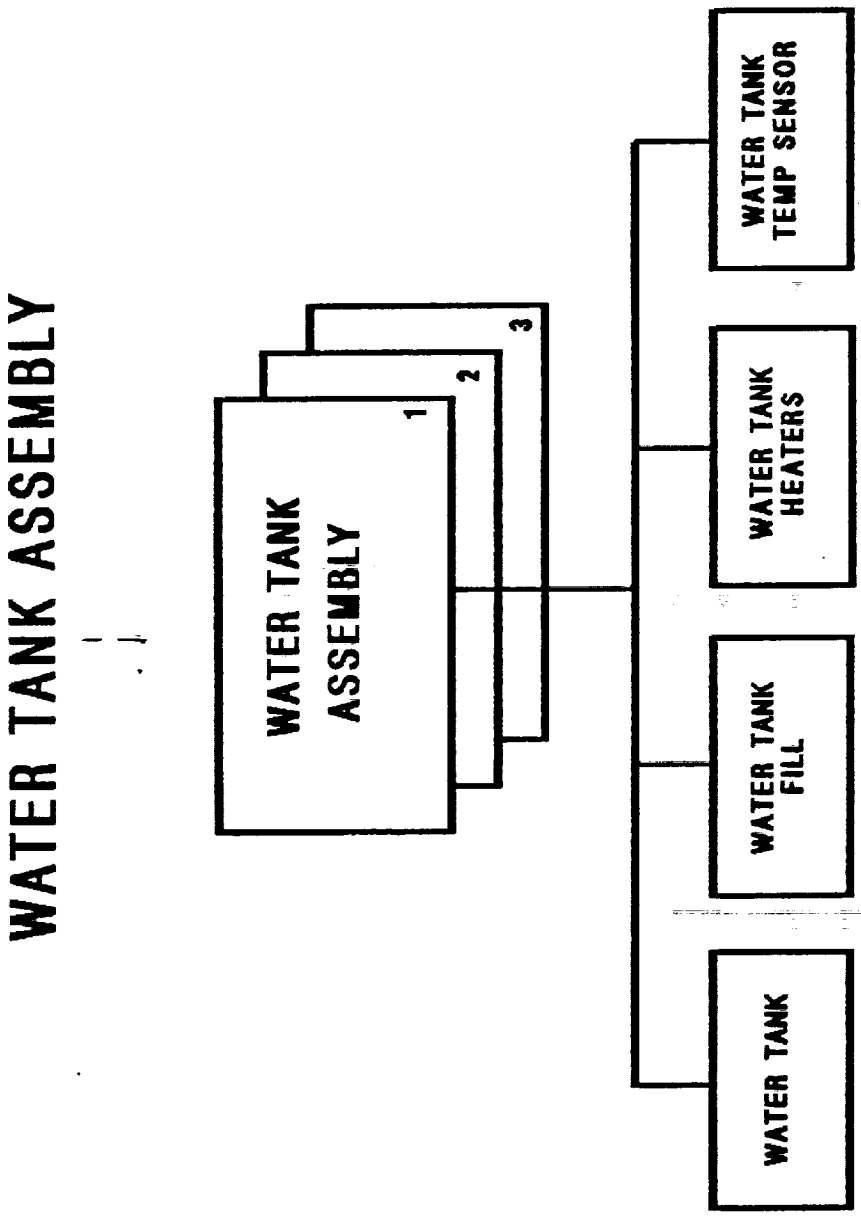


Figure 9 - WATER TANK ASSEMBLY

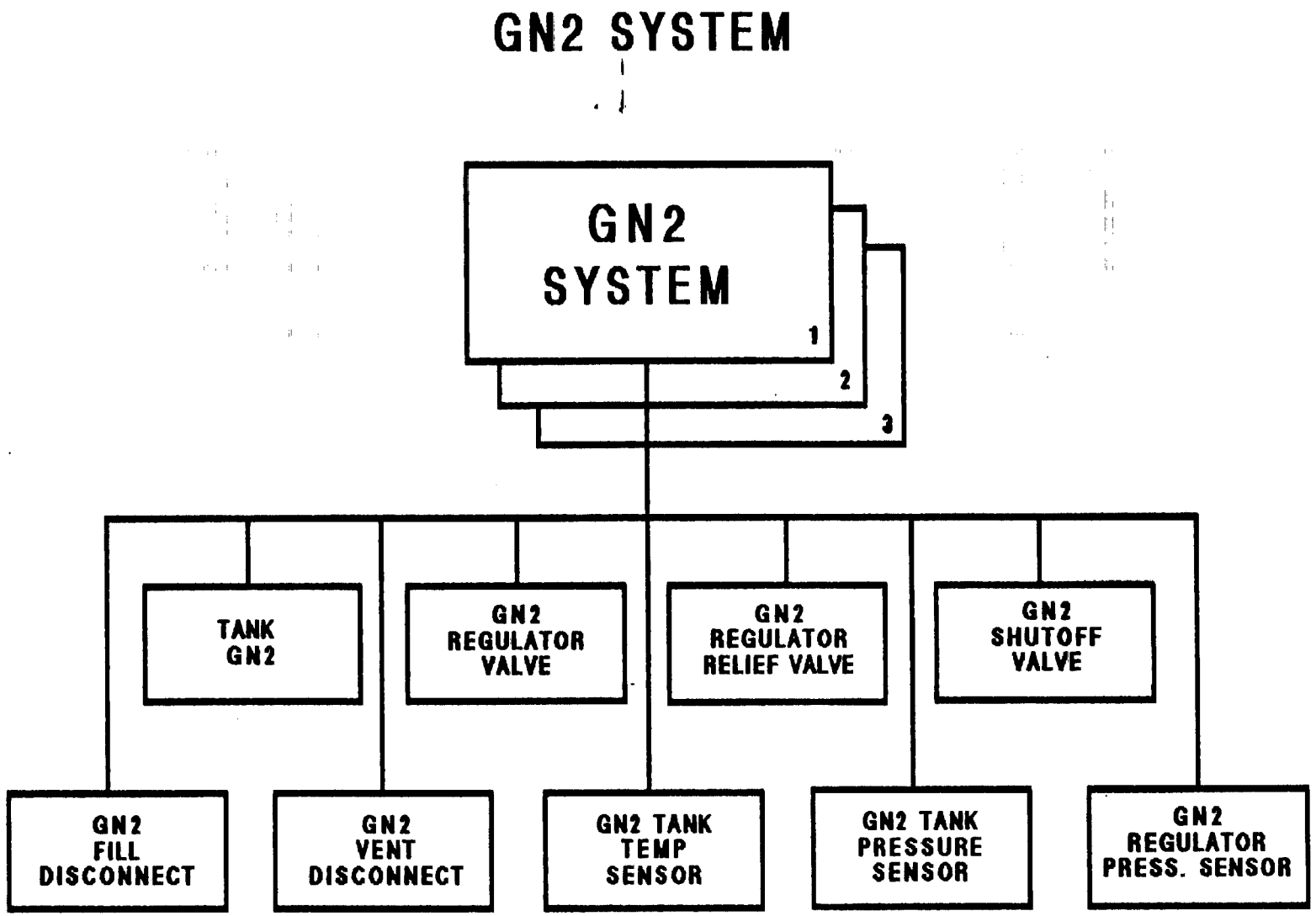


Figure 10 - GN2 SYSTEM

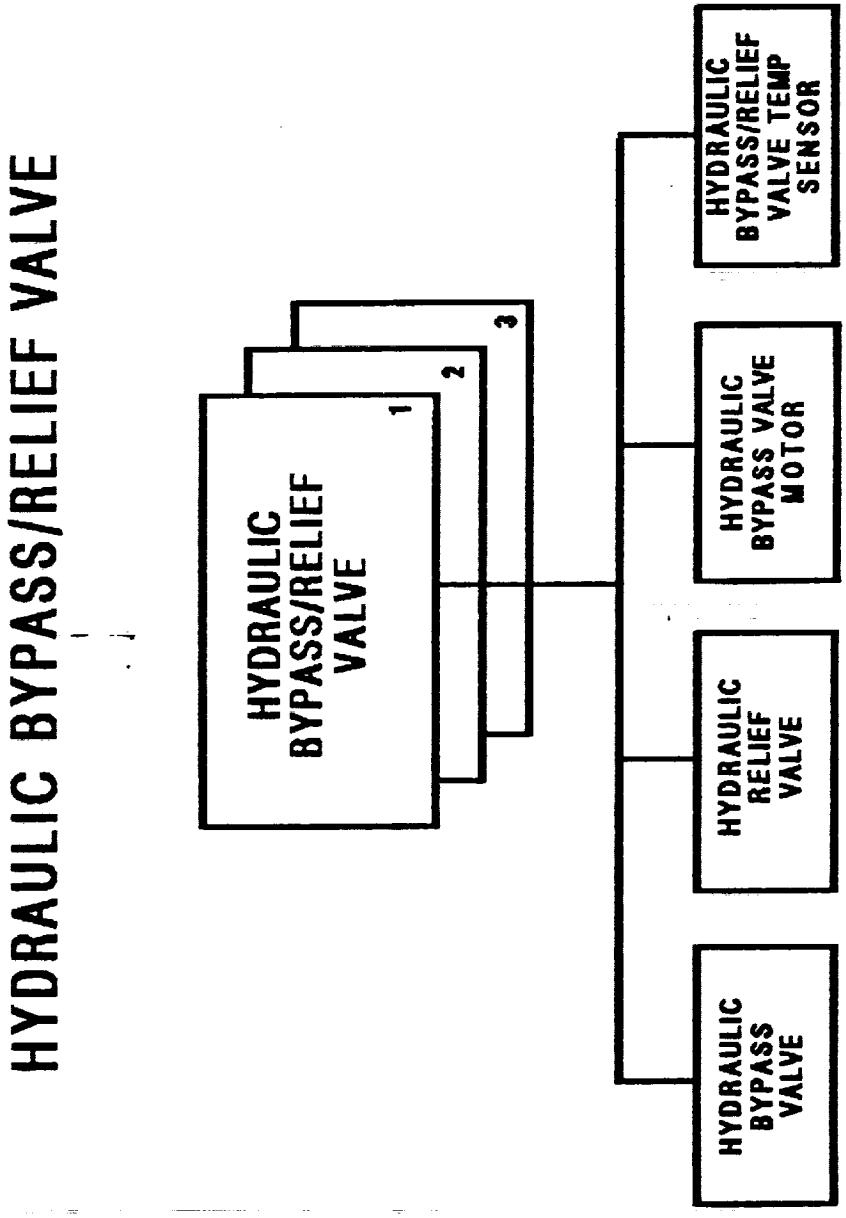


Figure 11 - HYDRAULIC BYPASS/RELIEF VALVE

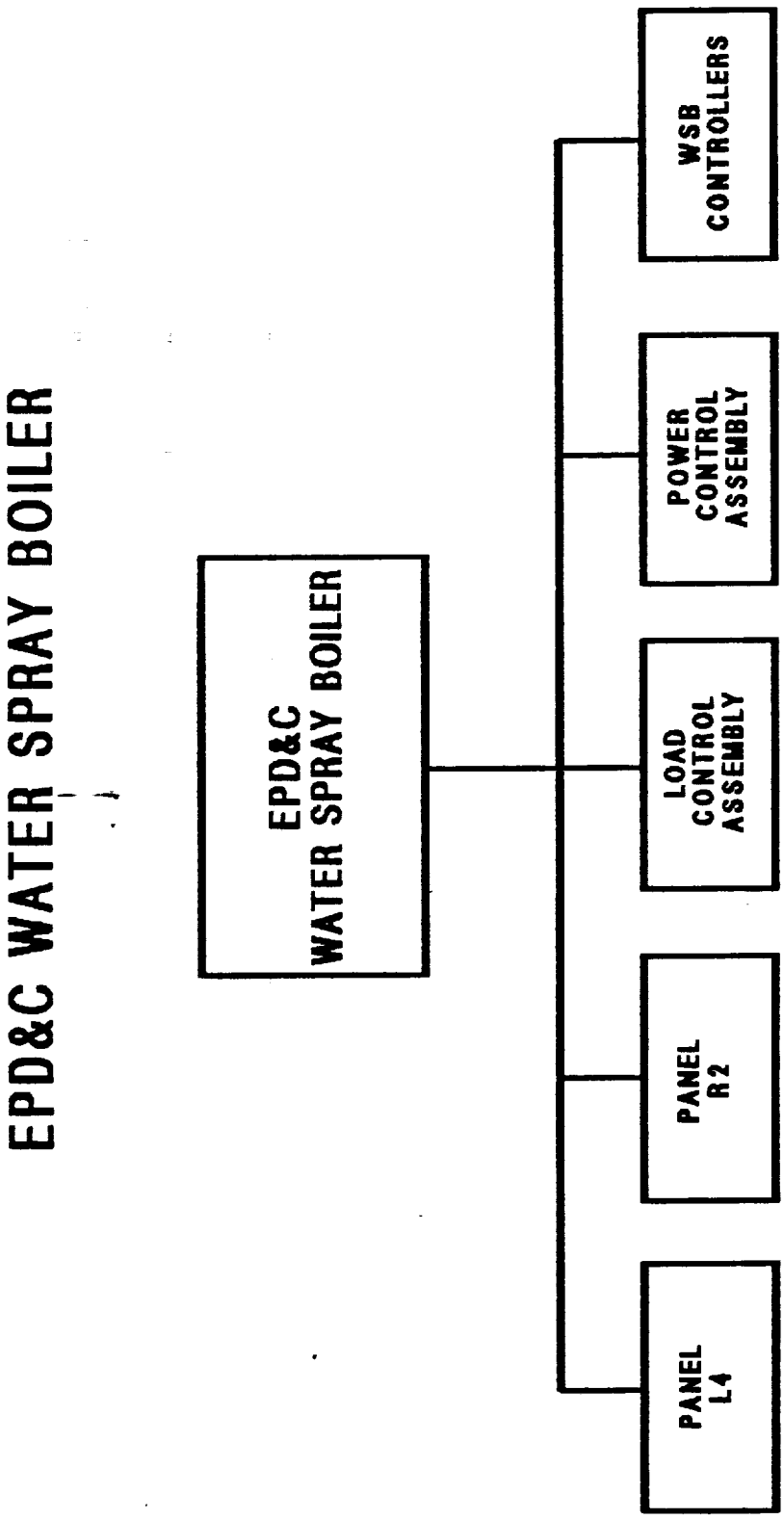


Figure 12 - EPD&C WATER SPRAY BOILER

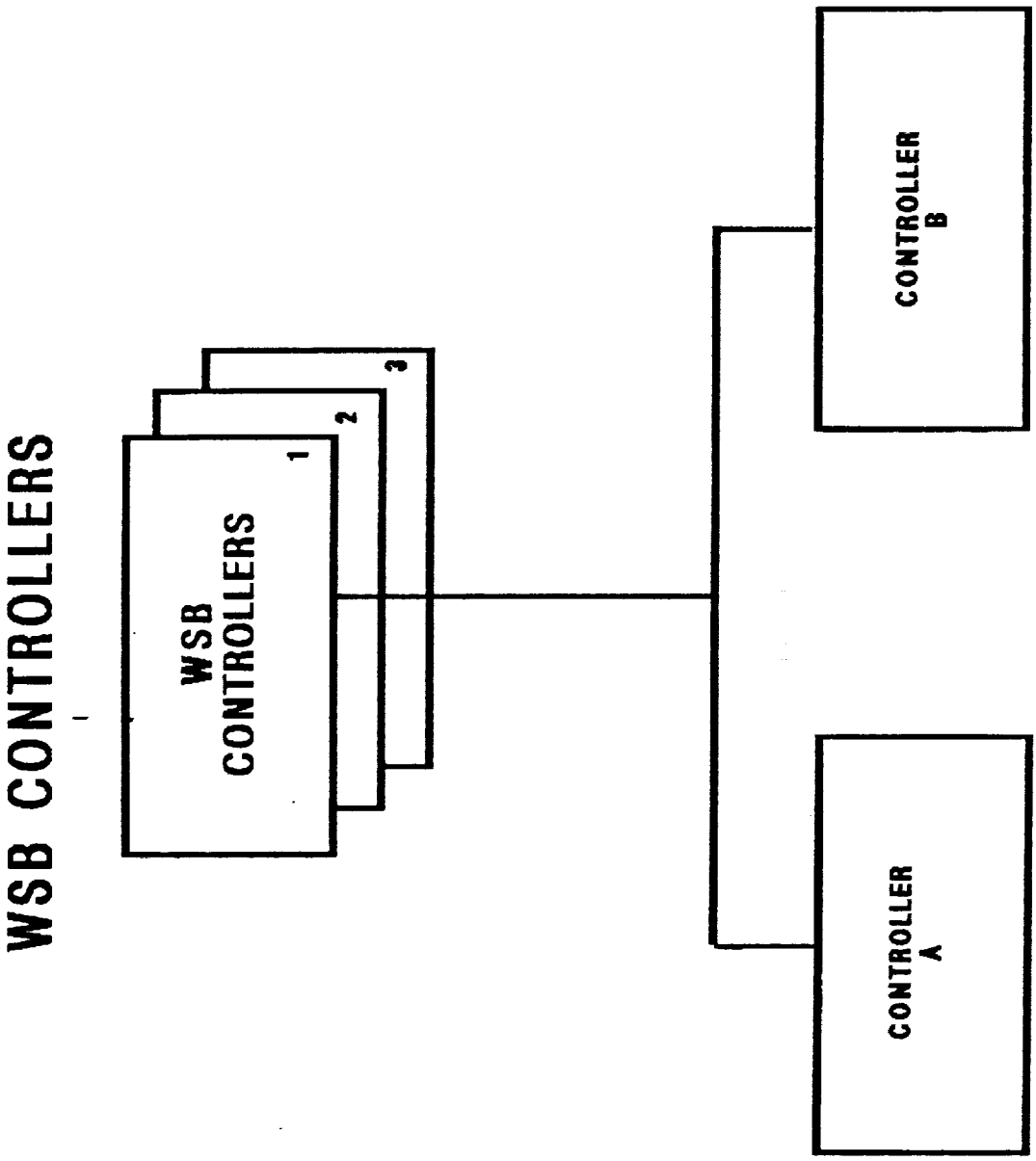


Figure 13 - WSB CONTROLLERS

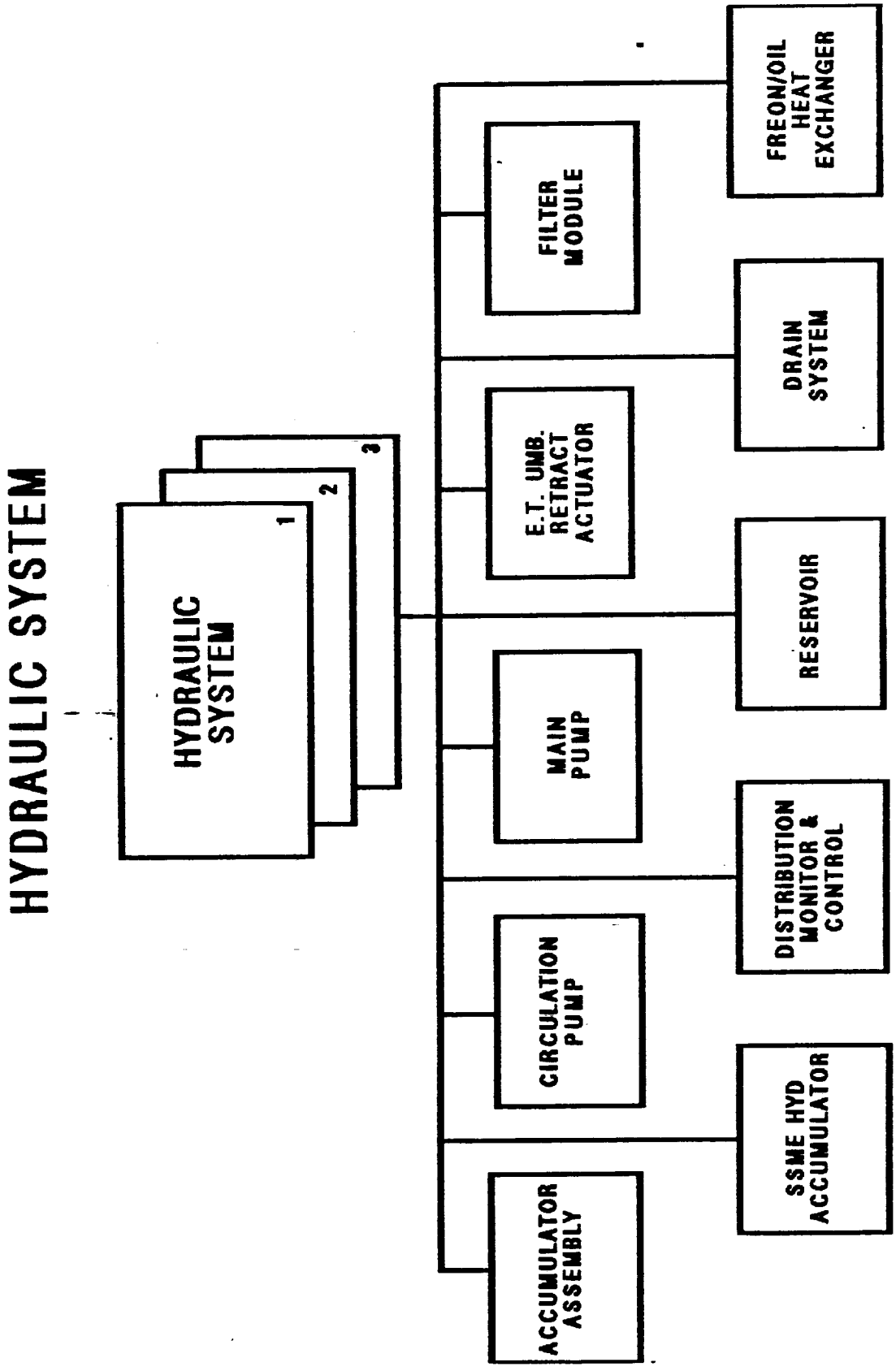


Figure 14 - HYDRAULIC SYSTEM

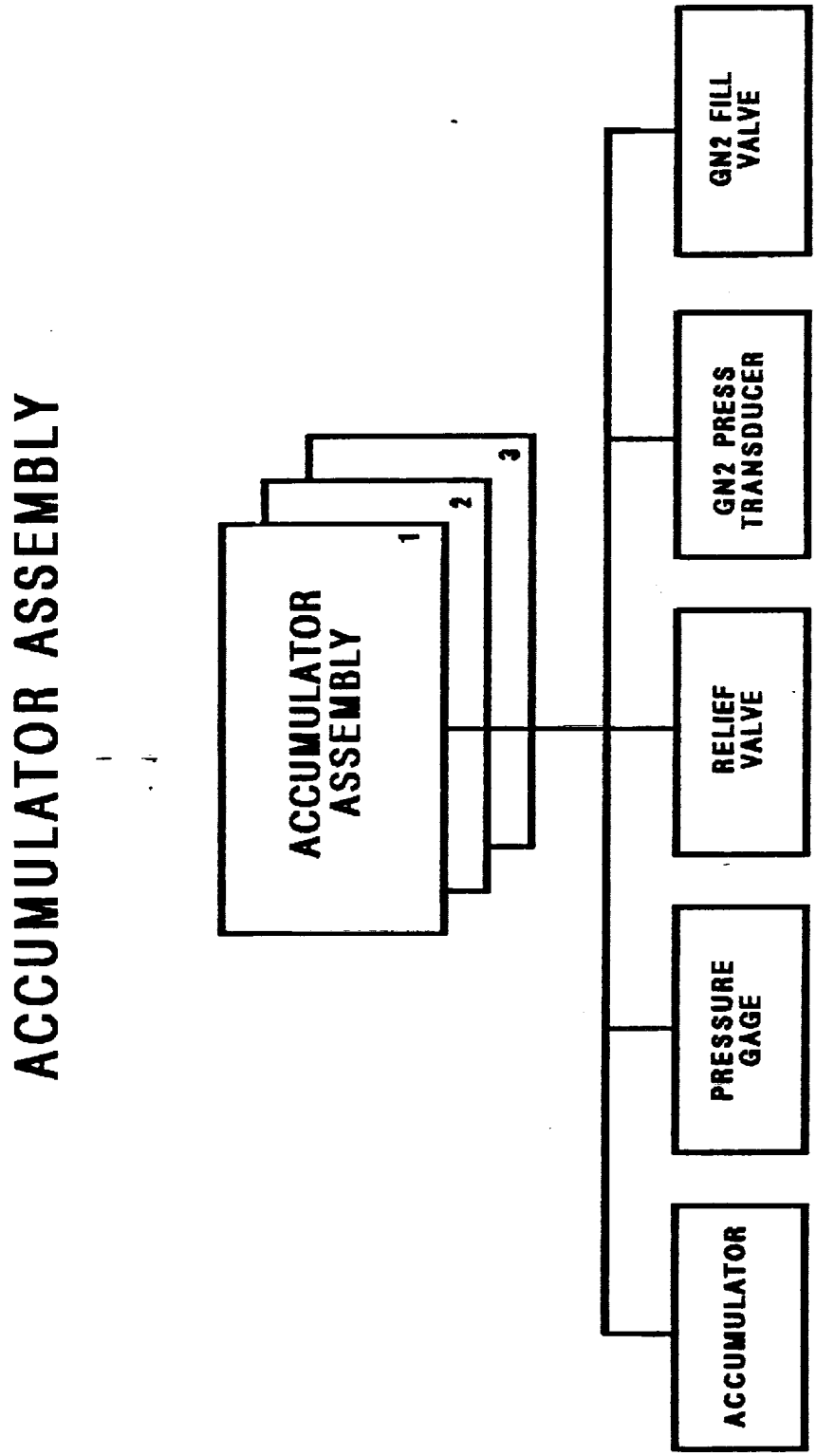


Figure 15 - ACCUMULATOR ASSEMBLY

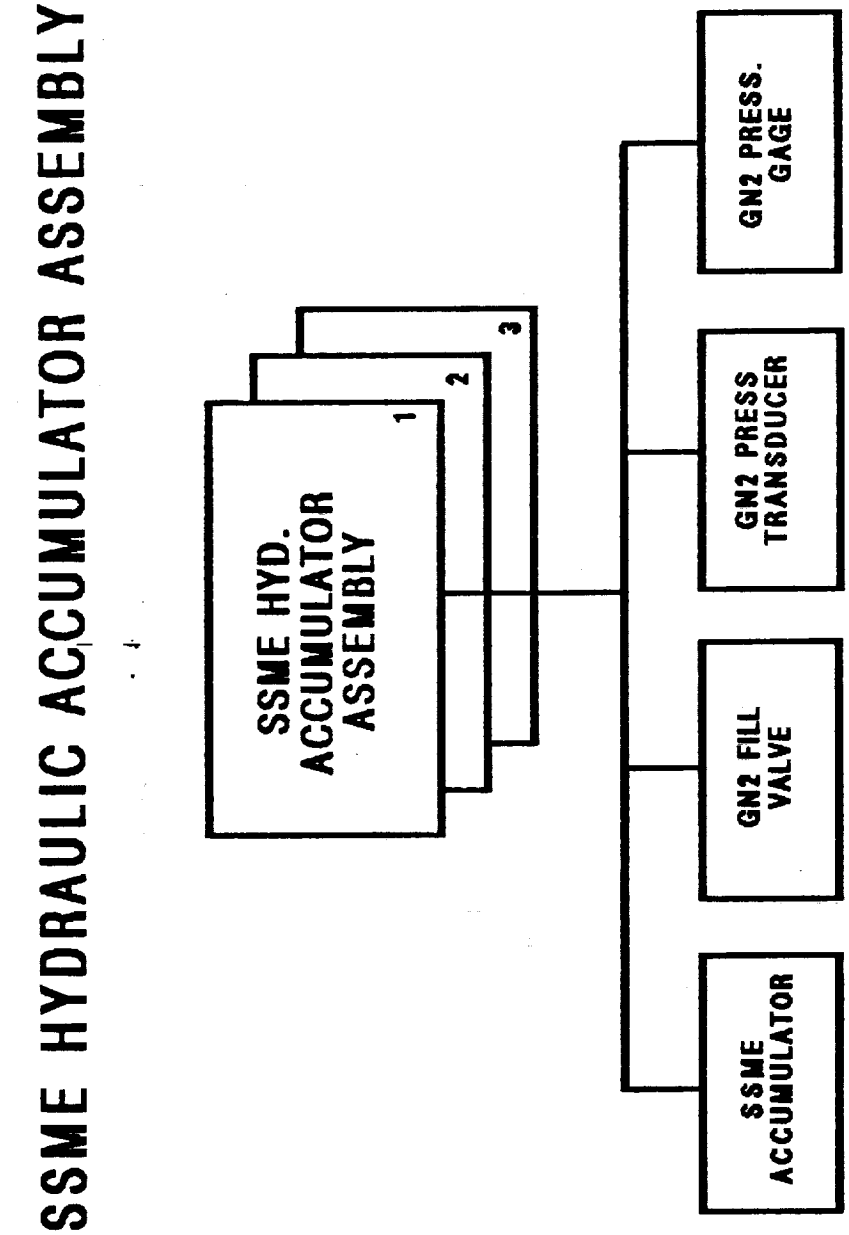


Figure 16 - SSME HYDRAULIC ACCUMULATOR ASSEMBLY

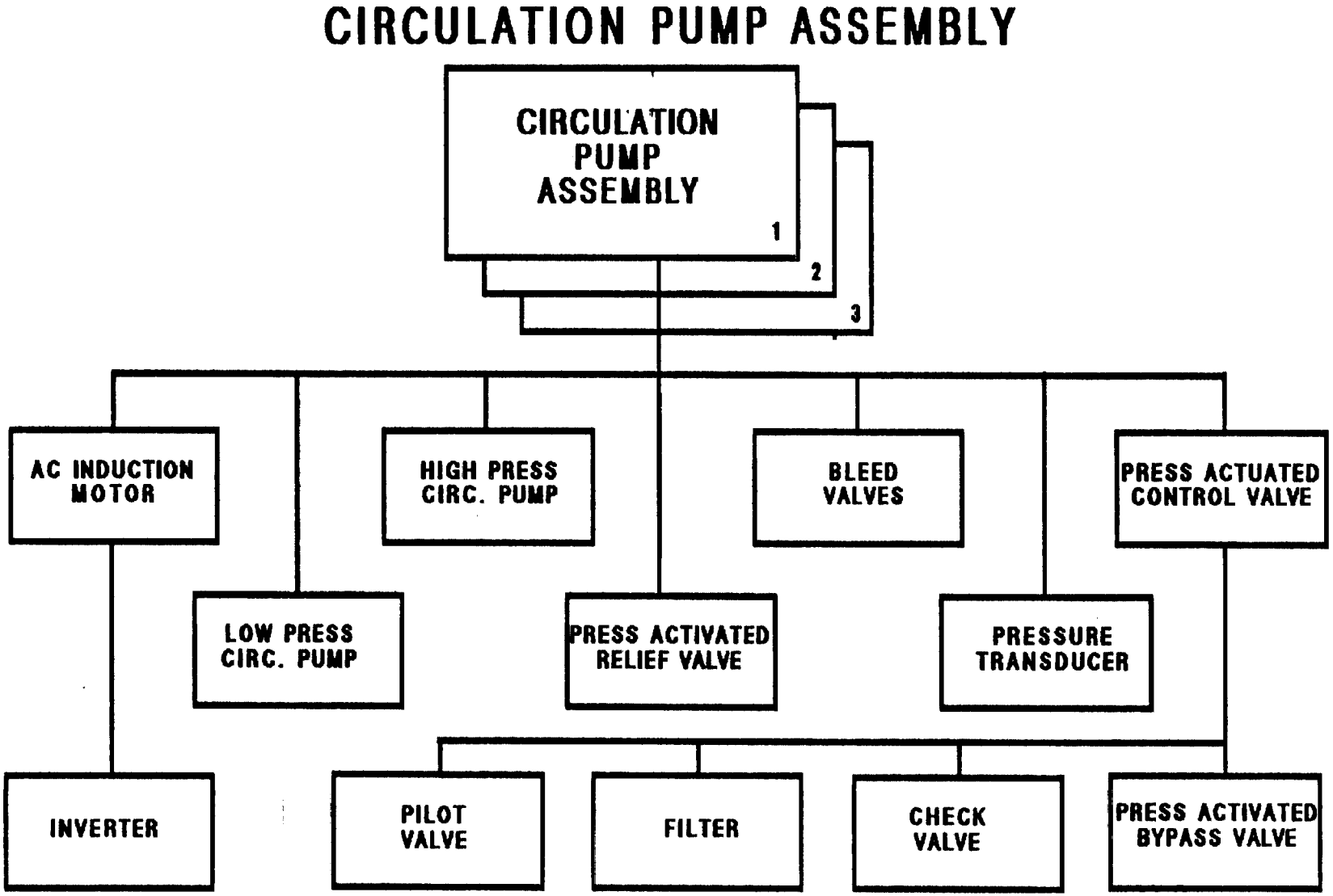


Figure 17 - CIRCULATION PUMP ASSEMBLY

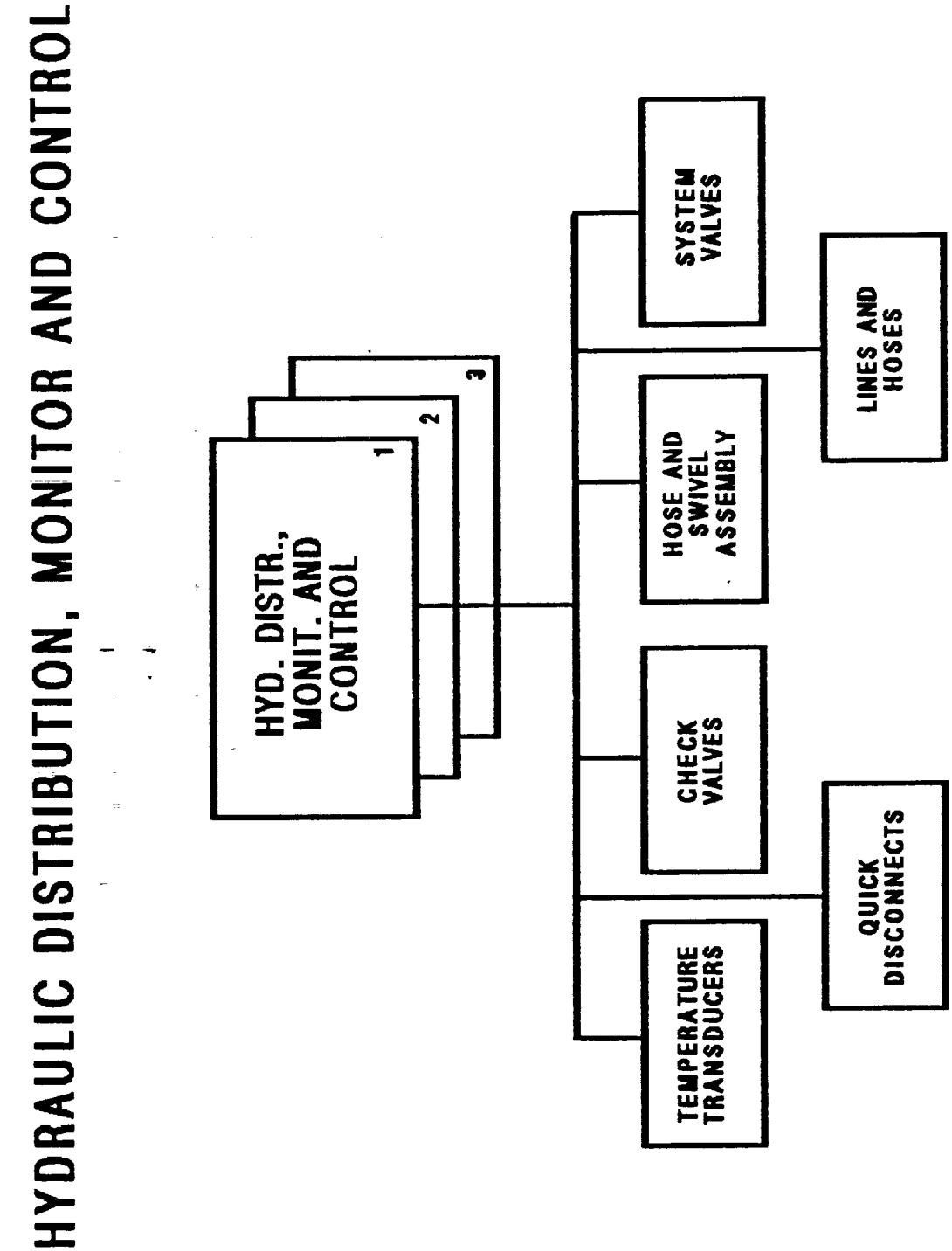


Figure 18 - HYDRAULIC DISTRIBUTION, MONITOR AND CONTROL

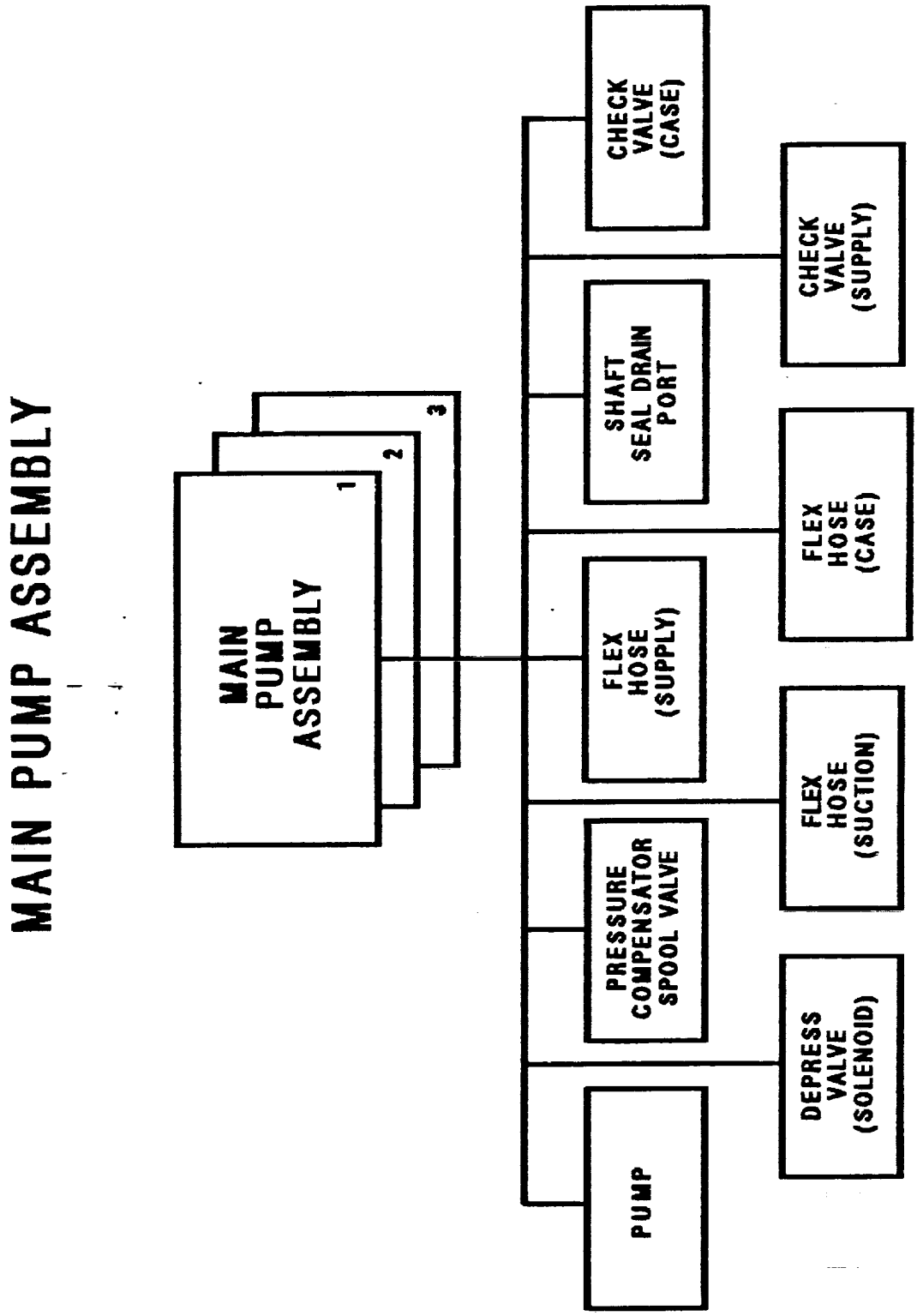


Figure 19 - MAIN PUMP ASSEMBLY

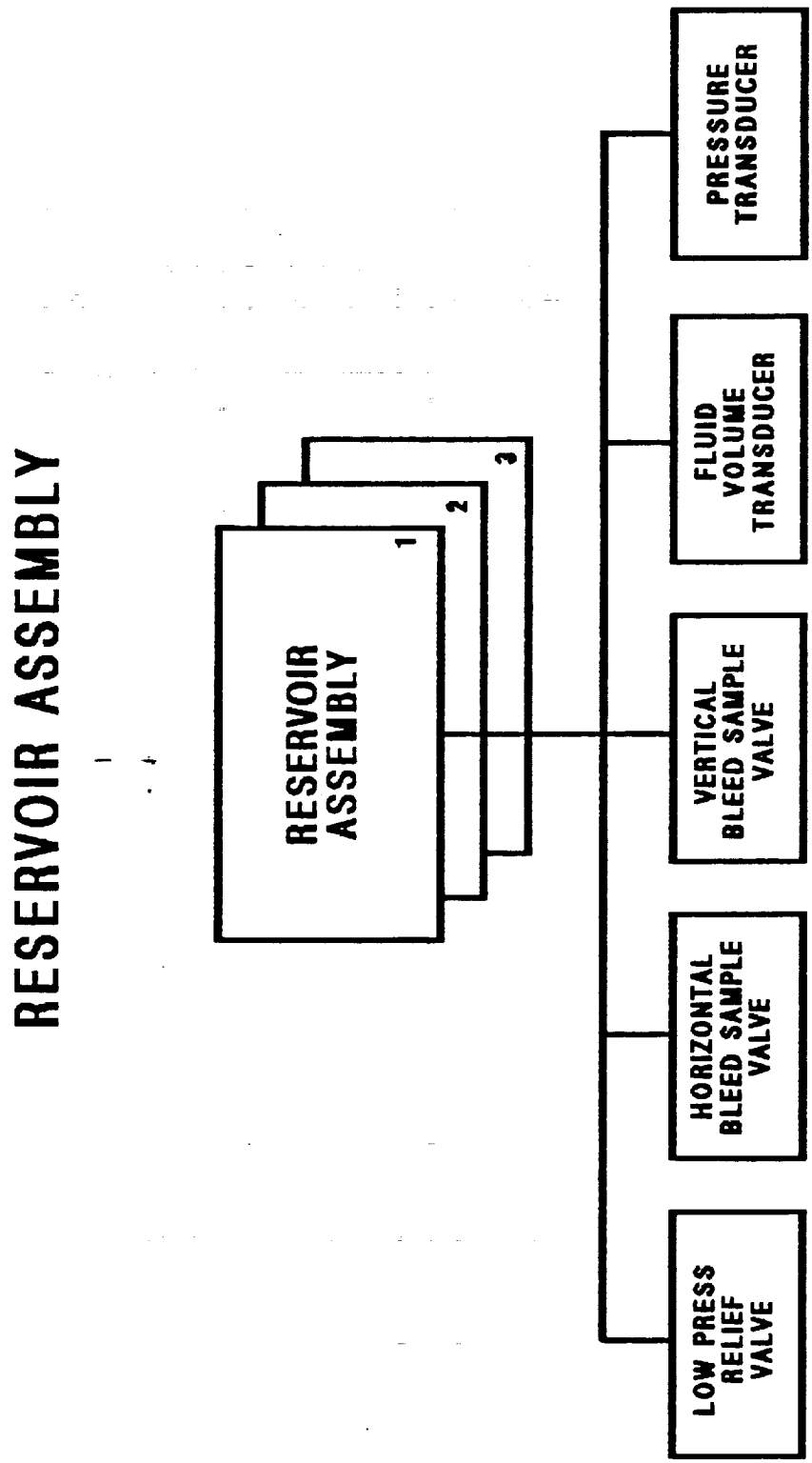


Figure 20 - RESERVOIR ASSEMBLY

E.T. UMBILICAL RETRACT ACTUATOR ASSEMBLY

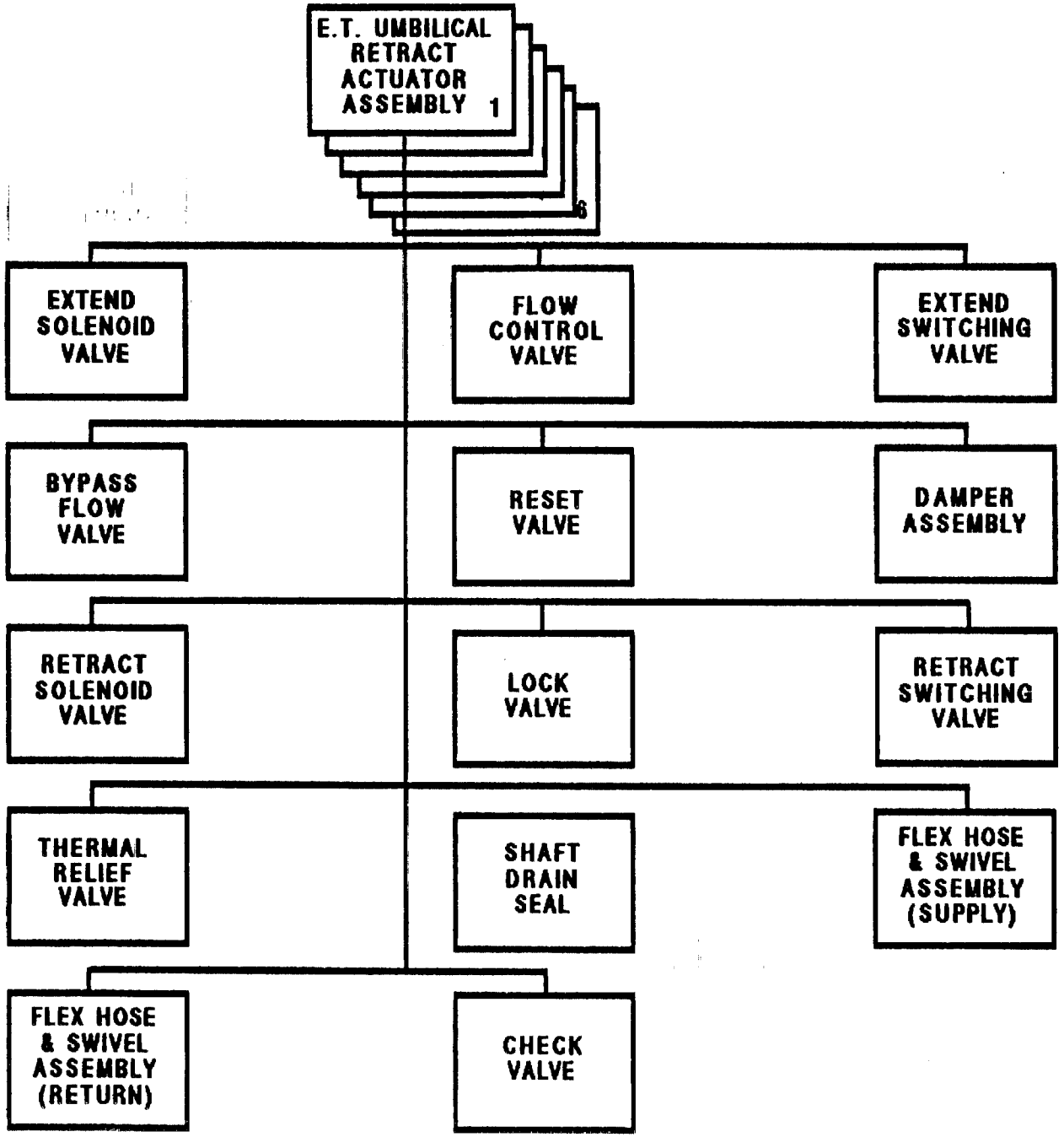


Figure 21 - ET. UMBILICAL RETRACT ACTUATOR ASSEMBLY

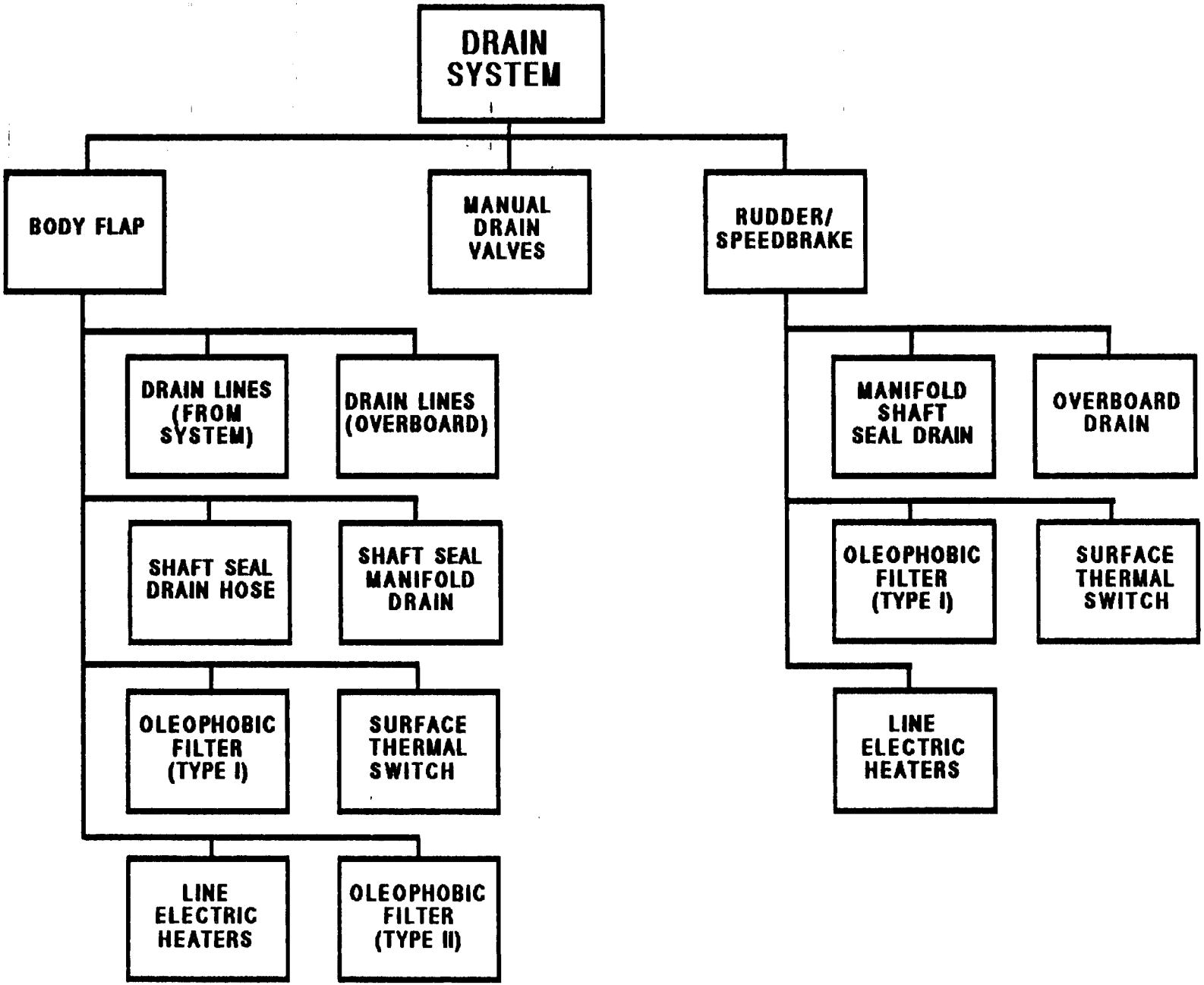


Figure 22 - DRAIN SYSTEM

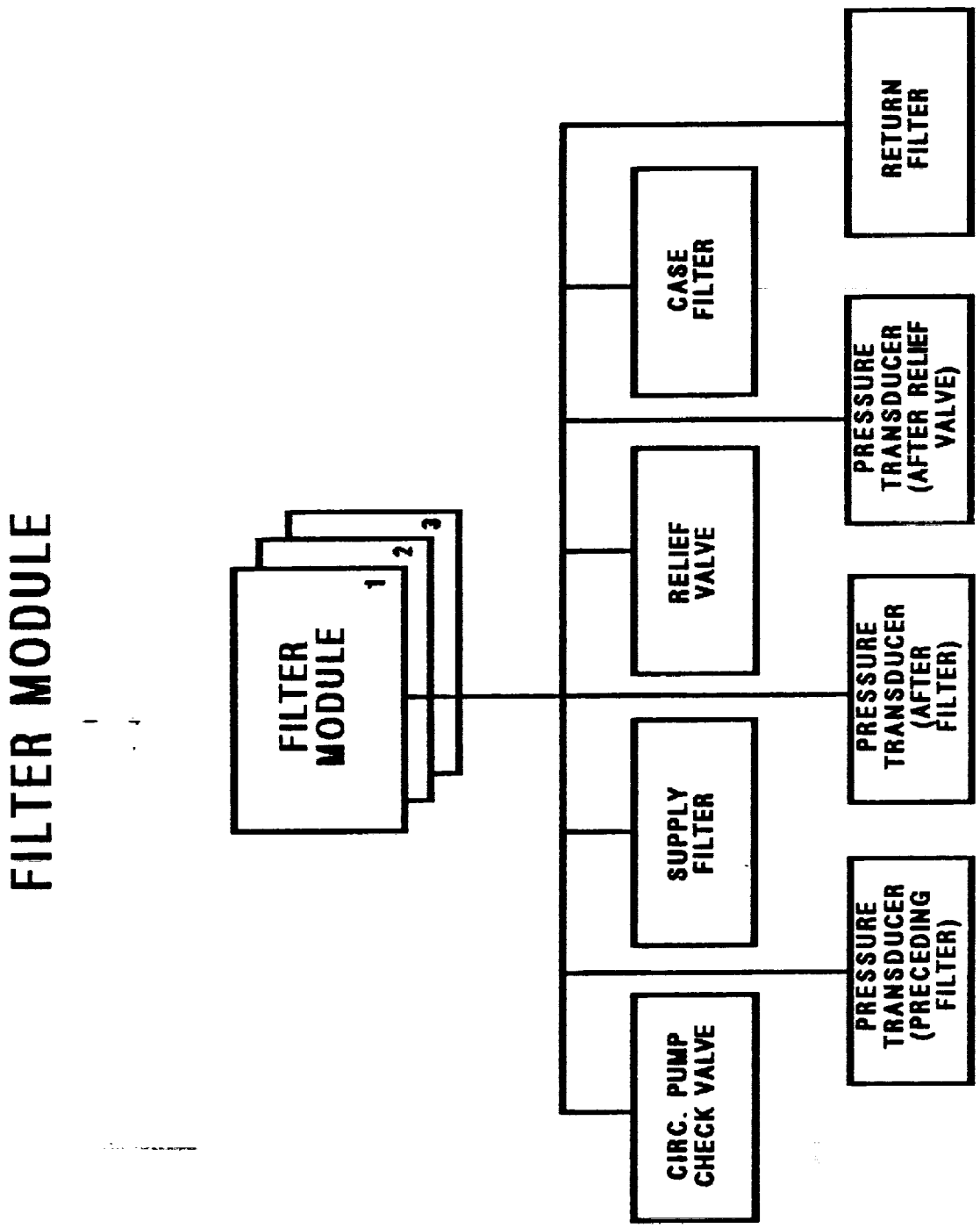


Figure 23 - FILTER MODULE

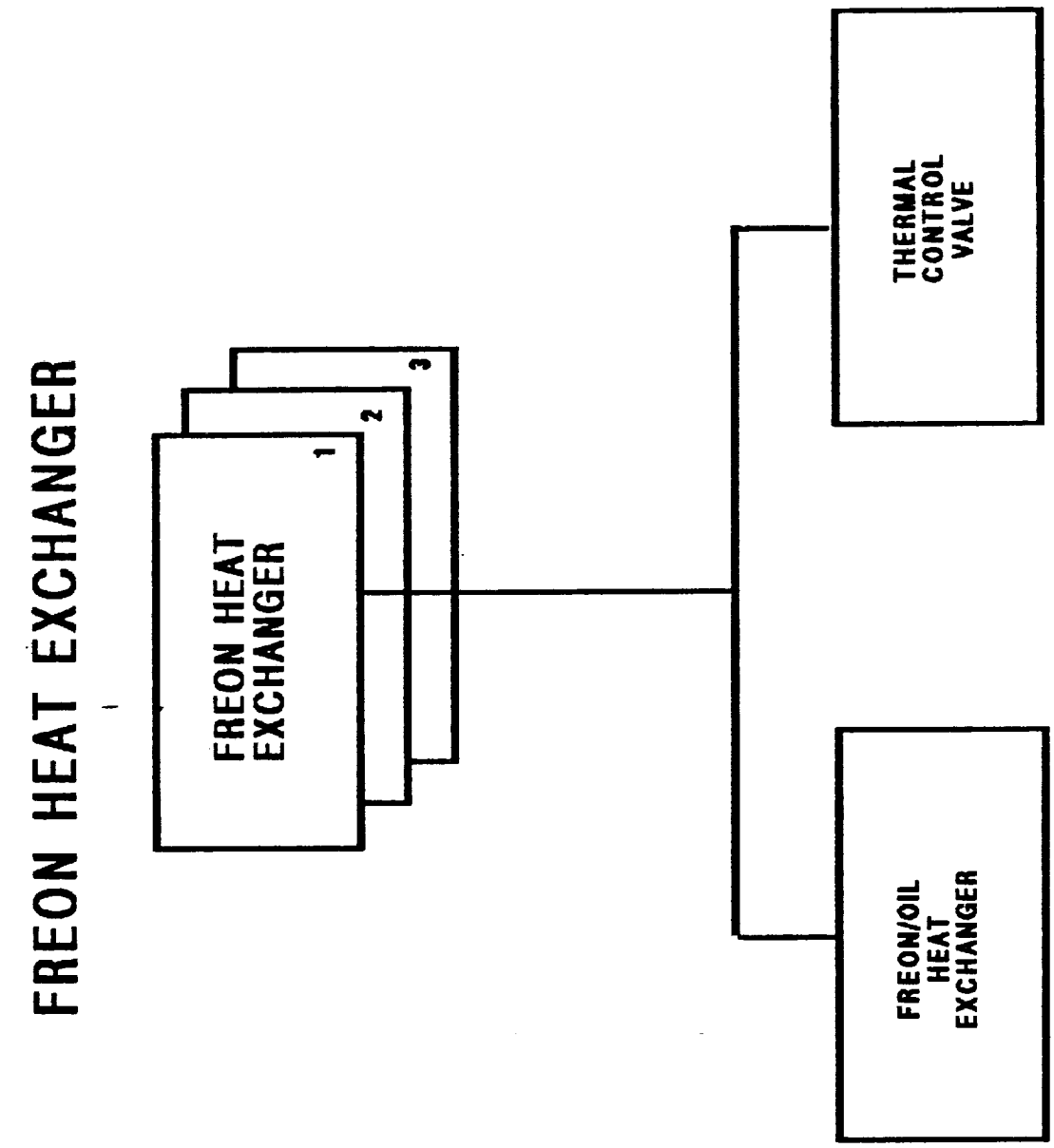


Figure 24 - FREON HEAT EXCHANGER

EPD&C HYDRAULICS

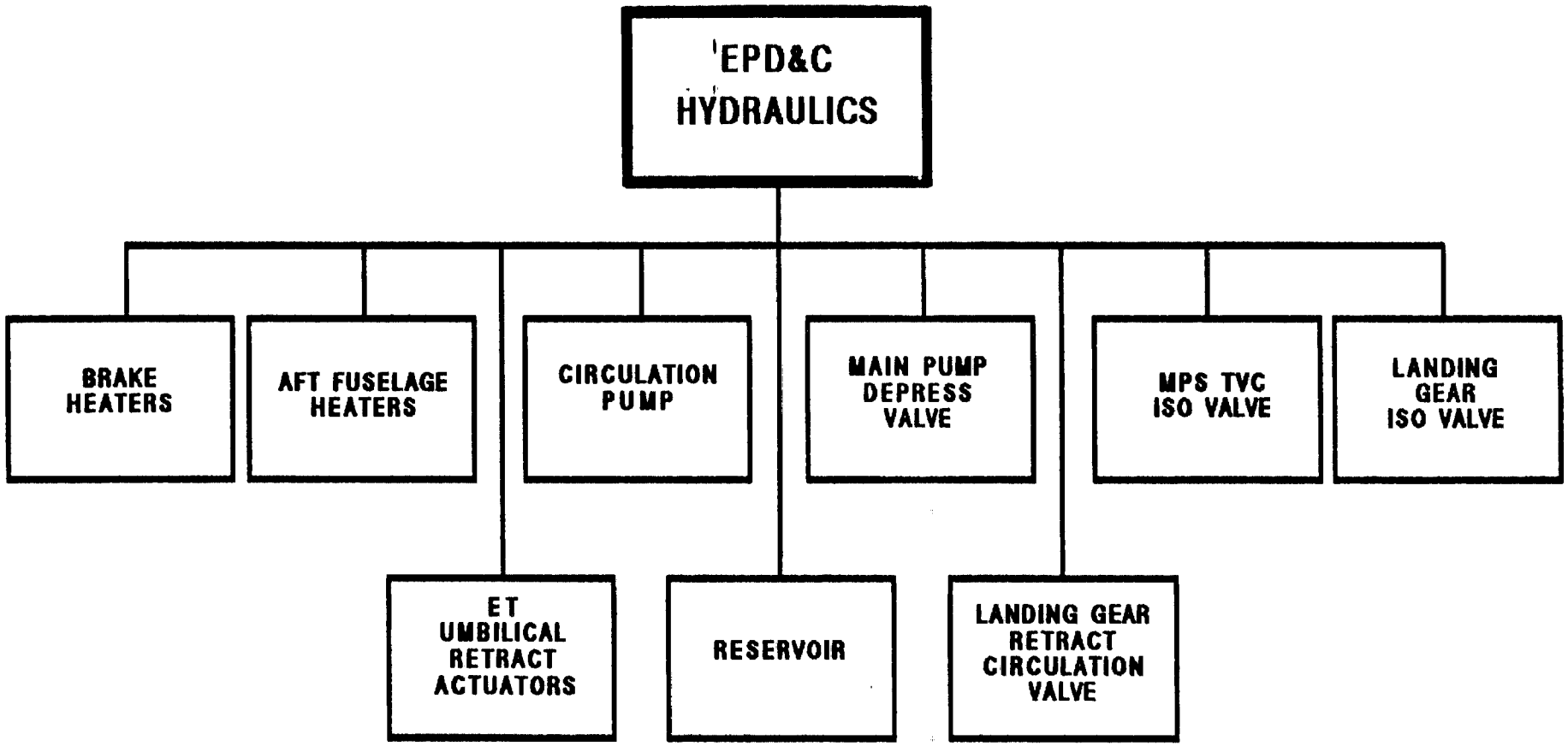


Figure 25 - EPD&C HYDRAULICS

4.0 ASSESSMENT RESULTS

The IOA analysis of the HYD/WSB hardware initially generated 430 failure mode worksheets and identified 166 Potential Critical Items (PCIs) before starting the assessment process. In order to facilitate comparison, 46 additional failure mode analysis worksheets were generated. These analysis results were compared to the proposed NASA Post 51-L baseline of 364 FMEAs (References 11, 12, and 13 as modified by References 14, 15, and 16) and 111 CIL items (References 17, 18, 19, and 20). Most of the discrepancy between the number of IOA and NASA FMEAs can be explained by the different approach used by NASA and IOA to group failure modes. Upon completion of the assessment, 320 of 447 FMEAs were in agreement. Of the 127 that remained, 59 had minor discrepancies that did not affect criticality.

A summary of the quantity of NASA FMEAs assessed, versus the recommended IOA baseline, and any issues identified is presented in Table I.

Table I Summary of IOA FMEA Assessment

Component	NASA	IOA	Issues
WSB	70	89	13
EPD&C - WSB	93	32	2
HYD	84	179	33
EPD&C - HYD	117	147	20
TOTAL	364	447	68

A summary of the quantity of NASA CIL items assessed, versus the recommended IOA baseline, and any issues identified is presented in Table II.

Table II Summary of IOA CIL Assessment

Component	NASA	IOA	Issues
WSB	38	46	4
EPD&C - WSB	4	5	2
HYD	48	107	11
EPD&C - HYD	21	25	6
TOTAL	111	183	23

Appendix C presents the detailed assessment worksheets for each failure mode identified and assessed. Appendix D highlights the NASA Critical Items and corresponding IOA worksheet ID. Appendix E contains IOA analysis worksheets supplementing previous analysis results reported in Space Transportation System Engineering and Operations Support (STSEOS) Working Paper No. 1.0-WP-VA86001-20, Analysis of the HYD/WSB, 15 December 1986. Appendix F provides a cross reference between the NASA FMEA and corresponding IOA worksheet(s). IOA recommendations are also summarized.

Table III presents a summary of the IOA recommended failure criticalities for the Post 51-L FMEA baseline. Further discussion of each of these subdivisions and the applicable issues is provided in subsequent paragraphs.

TABLE III Summary of IOA Recommended Failure Criticalities

Criticality:	1/1	2/1R	2/2	3/1R	3/2R	3/3	TOTAL
WSB	1	40	0	27	1	21	89
EPD&C - WSB	0	4	0	14	0	12	30
HYD	5	90	0	25	1	58	179
EPD&C - HYD	0	12	0	37	0	99	147
TOTAL	6	146	0	103	2	190	447

Of the failure modes analyzed, 183 were determined to be critical items. A summary of the IOA recommended critical items is presented in Table IV.

TABLE IV Summary of IOA Recommended Critical Items

Criticality:	1/1	2/1R	2/2	3/1R	3/2R	3/3	TOTAL
WSB	1	40	0	4	1	0	46
EPD&C - WSB	0	4	0	1	0	0	5
HYD	5	90	0	11	1	0	107
EPD&C - HYD	0	12	0	13	0	0	25
TOTAL	6	146	0	29	2	0	183

The scheme for assigning IOA assessment (Appendix C) and analysis (Appendix E) worksheet numbers is shown in Table V.

Table V IOA Worksheet Numbers	
Component	IOA ID Number (First Three Digits)
WSB	101 Through 174 (e.g., includes 1171)
EPD&C - WSB	175 Through 197
HYD	401 Through 731
EPD&C - HYD	800 Through 950

4.1 Assessment Results - Water Spray Boiler

The assessment between the IOA failure modes and the Post 51-L NASA FMEA baseline, as defined above, identified 13 WSB issues, of which four were CIL issues. Seven of these issues relate to the addition of new FMEAs, two of which would be CIL items. Two issues relate to lowering the criticality of a NASA FMEA, one of which would delete the FMEA from the CIL. Four issues relate to redundancy screen changes, one of which would delete the FMEA from the CIL.

4.2 Assessment Results - EPD&C - Water Spray Boiler

The assessment identified two EPD&C - WSB issues, both of which are CIL issues. One issue related to creating a new FMEA which would be a CIL item. The other relates to deleting a FMEA from the CIL.

4.3 Assessment Results - Hydraulic System

The assessment identified 33 HYD issues, 11 of which are CIL issues. Three of these issues relate to raising the criticality of NASA FMEAs. Twenty-six issues relate to creating new FMEAs, 9 of which would be CIL items. Four issues relate to lowering the criticality of NASA FMEAs, 2 of which would delete the FMEA from the CIL.

4.4 Assessment Results - EPD&C - Hydraulics

The assessment identified 21 EPD&C-HYD issues, 6 of which were CIL issues. Six of these issues relate to raising the criticality of NASA FMEAs. Two issues relate to creating new FMEAs. Ten issues relate to lowering the criticality of NASA FMEAs, 3 of which would delete the FMEA from the CIL. One issue relates to removing a NASA FMEA from the CIL because it does not meet the CIL criteria. One issue relates to changing a redundancy screen which would add the FMEA to the CIL. One issue relates to adding a new FMEA to the CIL.

5.0 REFERENCES

Reference documentation available from NASA and Rockwell was used in the analysis. The documentation used included the following:

1. JSC-18341, Mechanical Systems Console Handbook Volume II - Systems Briefs, Rev. A PCN-3, 2-7-86

2. VS70-958109, Integrated System Schematic Hydraulics, Rev. E

3. VS70-958099, Integrated System Schematic Hydraulics, Rev. A, 4-22-82

4. VS70-580996, Schematic-Hydraulic Subsystem, Rev. A, 5-30-85

5. VS70-580999, Schematic-Hydraulic Subsystem, Rev. B, 12-17-84

6. JSC-12770, Shuttle Flight Operations Manual, Volume 9, Auxiliary Power Unit/Hydraulics, Basic, 3-16-81

7. JSC 12820, STS Operational Flight Rules, Final PCN-3, 6-28-85

8. JSC 11174, Space Shuttle Systems Handbook, Rev. C PCN-5, 9-13-85

9. NSTS 22206, Instructions for Preparation of Failure Modes and Effects Analysis (FMEA) and Critical Items List (CIL), 10-10-86

10. V58 File III, Orbiter Operations and Maintenance Requirements and Specification Document - Hydraulic Subsystem, 12-16-85

11. STS-82-0021, Orbiter Vehicle Operational Configuration Failure Mode Effects Analysis-Hydraulic Subsyste, 1 March 1982.

12. STS-82-0037, Orbiter Vehicle Operational Configuration Failure Mode Effects Analysis-Active Thermal Control and Water Spray Boiler, Change #2, 28 January 1983.

13. STS-82-0033, Orbiter Vehicle Operational Configuration Failure Mode Effects Analysis-Electrical Power Distribution and Control, Change #2, 28 January 1983.

14. NASA-JSC FMEA and CIL Review Comments for the Hydraulics and Hydraulics EPD&C, 5 March 1986, as redlined.

15. NASA-JSC FMEA and CIL Review Comments for the Water Spray Boiler, 6 January 1986, as redlines.

16. NASA-JSC FMEA and CIL Review Comments for the Water Spray Boiler EPD&C, 2 March 1986, as redlined.

17. RI document 87MA4689, Revised Orbiter Critical Items List (Hydraulics EPD&C), 8 dECEMBER 1987.

18. RI document 87MA4944, Revised Orbiter critical Items List (Hydraulics), 22 December 1987.

19. RI document 88MA0161, Revised Orbiter Critical Items List (Water Spray Boiler), 9 January 1988.

20. RI document 87MA4731, Revised Orbiter Critical Items List (Water Spray Boiler EPD&C), 8 December 1987.

APPENDIX A
ACRONYMS

AC - Alternating Current
AOA - Abort Once Around
APU - Auxiliary Power Unit
ASSY - Assembly
ATO - Abort to Orbit
BFS - Backup Flight System
CIL - Critical Items List
CIRC - Circulation
CNTL - Control
CRIT - Criticality
CRT - Cathode Ray Tube
C&W - Caution and Warning System
DC - Direct Current
DISTR - Distribution
DPS - Data Processing System
DU - Display Unit
EPD&C - Electrical Power Distribution and Control
ET - External Tank
F - Functional
FA - Flight Aft
FF - Flight Forward
FM - Failure Mode
FMEA - Failure Mode and Effects Analysis
GFE - Government Furnished Equipment
GN2 - Gaseous Nitrogen
GPC - General Purpose Computer
GPM - Gallons Per Minute
GSE - Ground Support Equipment
HW - Hardware
HYD - Hydraulics
H2O - Water
IOA - Independent Orbiter Assessment
JSC - Johnson Space Center
LCA - Load Control Assembly
LH2 - Liquid Hydrogen
LO2 - Liquid Oxygen
MDAC - McDonnell Douglas Astronautics Company
MDM - Multiplexer/Demultiplexer
MEC - Main Engine Controler
MN - Main
MONIT - Monitoring
MPS - Main Propulsion System
NA - Not Applicable
NASA - National Aeronautics and Space Administration
NSTS - National Space Transportation System
OMRSD - Operational Maintenance Requirements and Specifications Document

ACRONYMS

PBI - Push Button Indicator
PCA - Power Control Assembly
PCI - Potential Critical Item
PSI - Pounds Per Square Inch
RI - Rockwell International
RM - Redundancy Management
RPC - Remote Power Controller
RTLS - Return to Launch Site
SM - Systems Management
SRB - Solid Rocket Booster
SSME - Space Shuttle Main Engine
STS - Space Transportation System
SW - Software
TAL - Transatlantic Abort Landing
TD - Touch Down
TVC - Thrust Vector Control
WSB - Water Spray Boiler

APPENDIX B

DEFINITIONS, GROUND RULES, AND ASSUMPTIONS

APPENDIX B
DEFINITIONS, GROUND RULES, AND ASSUMPTIONS

B.1 Definitions

Definitions contained in NSTS 22206, Instructions For Preparation of FMEA/CIL, 10 October 1986, were used with the following amplifications and additions.

INTACT ABORT DEFINITIONS:

RTLS - begins at transition to OPS 6 and ends at transition to OPS 9, post-flight

TAL - begins at declaration of the abort and ends at transition to OPS 9, post-flight

AOA - begins at declaration of the abort and ends at transition to OPS 9, post-flight

ATO - begins at declaration of the abort and ends at transition to OPS 9, post-flight

CREDIBLE (CAUSE) - an event that can be predicted or expected in anticipated operational environmental conditions. Excludes an event where multiple failures must first occur to result in environmental extremes

CONTINGENCY CREW PROCEDURES - procedures that are utilized beyond the standard malfunction procedures, pocket checklists, and cue cards

EARLY MISSION TERMINATION - termination of onorbit phase prior to planned end of mission

EFFECTS/RATIONALE - description of the case which generated the highest criticality

HIGHEST CRITICALITY - the highest functional criticality determined in the phase-by-phase analysis

MAJOR MODE (MM) - major sub-mode of software operational sequence (OPS)

MC - Memory Configuration of Primary Avionics Software System (PASS)

MISSION - assigned performance of a specific Orbiter flight with payload/objective accomplishments including orbit phasing and altitude (excludes secondary payloads such as GAS cans, middeck P/L, etc.)

MULTIPLE ORDER FAILURE - describes the failure due to a single cause or event of all units which perform a necessary (critical) function

OFF-NOMINAL CREW PROCEDURES - procedures that are utilized beyond the standard malfunction procedures, pocket checklists, and cue cards

OPS - software operational sequence

PRIMARY MISSION OBJECTIVES - worst case primary mission objectives are equal to mission objectives

PHASE DEFINITIONS:

PRELAUNCH PHASE - begins at launch count-down Orbiter power-up and ends at moding to OPS Major Mode 102 (liftoff)

LIFTOFF MISSION PHASE - begins at SRB ignition (MM 102) and ends at transition out of OPS 1 (Synonymous with ASCENT)

ONORBIT PHASE - begins at transition to OPS 2 or OPS 8 and ends at transition out of OPS 2 or OPS 8

DEORBIT PHASE - begins at transition to OPS Major Mode 301 and ends at first main landing gear touchdown

LANDING/SAFING PHASE - begins at first main gear touchdown and ends with the completion of post-landing safing operations

APPENDIX B
DEFINITIONS, GROUND RULES, AND ASSUMPTIONS

B.2 IOA Project Level Ground Rules and Assumptions

The philosophy embodied in NSTS 22206, Instructions for Preparation of FMEA/CIL, 10 October 1986, was employed with the following amplifications and additions.

1. The operational flight software is an accurate implementation of the Flight System Software Requirements (FSSRs).

   RATIONALE: Software verification is out-of-scope of this task.

2. After liftoff, any parameter which is monitored by system management (SM) or which drives any part of the Caution and Warning System (C&W) will support passage of Redundancy Screen B for its corresponding hardware item.

   RATIONALE: Analysis of on-board parameter availability and/or the actual monitoring by the crew is beyond the scope of this task.

3. Any data employed with flight software is assumed to be functional for the specific vehicle and specific mission being flown.

   RATIONALE: Mission data verification is out-of-scope of this task.

4. All hardware (including firmware) is manufactured and assembled to the design specifications/drawings.

   RATIONALE: Acceptance and verification testing is designed to detect and identify problems before the item is approved for use.

5. All Flight Data File crew procedures will be assumed performed as written, and will not include human error in their performance.

   RATIONALE: Failures caused by human operational error are out-of-scope of this task.

6. All hardware analyses will, as a minimum, be performed at the level of analysis existent within NASA/Prime Contractor Orbiter FMEA/CILs, and will be permitted to go to greater hardware detail levels but not lesser.

   RATIONALE: Comparison of IOA analysis results with other analyses requires that both analyses be performed to a comparable level of detail.

7. Verification that a telemetry parameter is actually monitored during AOS by ground-based personnel is not required.

   RATIONALE: Analysis of mission-dependent telemetry availability and/or the actual monitoring of applicable data by ground-based personnel is beyond the scope of this task.

8. The determination of criticalities per phase is based on the worst case effect of a failure for the phase being analyzed. The failure can occur in the phase being analyzed or in any previous phase, whichever produces the worst case effects for the phase of interest.

   RATIONALE: Assigning phase criticalities ensures a thorough and complete analysis.

9. Analysis of wire harnesses, cables, and electrical connectors to determine if FMEAs are warranted will not be performed nor FMEAs assessed.

   RATIONALE: Analysis was substantially complete prior to NSTS 22206 ground rule redirection.

10. Analysis of welds or brazed joints that cannot be inspected will not be performed nor FMEAs assessed.

    RATIONALE: Analysis was substantially complete prior to NSTS 22206 ground rule redirection.

11. Emergency system or hardware will include burst discs and will exclude the EMU Secondary Oxygen Pack (SOP), pressure relief valves and the landing gear pyrotechnics.

    RATIONALE: Clarify definition of emergency systems to ensure consistency throughout IOA project.

B.3 HYD/WSB-Specific Ground Rules and Assumptions

The IOA analysis was performed to the component or assembly level of the HYD/WSB subsystem. The analysis considered the worst case effects of the hardware or functional failure on the subsystem, mission, and crew and vehicle safety.

1. Where redundant systems perform non-identical functions (e.g. hydraulics systems 1 and 2), use worst case system.

   RATIONALE: Need to identify worst case effect.

2. Pyro's for lowering landing gears are "unlike redundant" to hydraulic system 1.

   RATIONALE: Pyro's are sufficient to lower the landing gear in absence of an interfering hydraulic system 1 failure.

3. In analysis cases where the meaning of hardware item redundancy seems ambiguous, redundancy is understood to mean that there is one or more systems that are redundant to the system in which the hardware item occurs.

   RATIONALE: This is the most conservative assumption for purposes of determining criticality.

4. Loss of redundancy means loss of all capability to perform function.

   RATIONALE: Maintain uniform usage within project.

5. Caps and fittings for quick disconnects are considered one component.

   RATIONALE: This is the most conservative assumption.

6. For purposes of criticality evaluations during aborts, assume SSME induced aborts.

   RATIONALE: This is the most conservative assumption.

7. Leaks (GN2, hydraulic fluid, water) are sufficiently prolonged in time to allow recognition and response.

   RATIONALE: This assumption allows for non-trivial case analysis.

8. Contamination of all three hydraulic systems during turnaround servicing is not considered a "single credible event" in evaluating Redundancy Screen C.

RATIONALE: This is considered a ground operations problem although the significant number of inflight hydraulic system anomalies attributed to contamination suggests that it should be analyzed independently as a potential cause of critical failure modes. Without this assumption, all hydraulic failure modes that list contamination as a cause would fail screen C.

APPENDIX C
DETAILED ASSESSMENT

This section contains the IOA assessment worksheets generated during the assessment of this subsystem. The information on these worksheets facilitates the comparison of the NASA FMEA/CIL (Pre and Post 51-L) to the IOA detailed analysis worksheets included in Appendix E. Each of these worksheets identifies the NASA FMEA being assessed, corresponding MDAC Analysis Worksheet ID (Appendix E), hardware item, criticality, redundancy screens, and recommendations. For each failure mode, the highest assessed hardware and functional criticality is compared and discrepancies noted as "N" in the compare row under the column where the discrepancy occurred.

LEGEND FOR IOA ASSESSMENT WORKSHEETS

Hardware Criticalities:
- 1 = Loss of life or vehicle
- 2 = Loss of mission or next failure of any redundant item (like or unlike) could cause loss of life/vehicle
- 3 = All others

Functional Criticalities:
- 1R = Redundant hardware items (like or unlike) all of which, if failed, could cause loss of life or vehicle
- 2R = Redundant hardware items (like or unlike) all of which, if failed, could cause loss of mission

Redundancy Screens A, B and C:
- P = Passed Screen
- F = Failed Screen
- NA = Not Applicable

NASA Data :
- Baseline = NASA FMEA/CIL
- New = Baseline with Proposed Post 51-L Changes

CIL Item :
- X = Included in CIL

Compare Row :
- N = Non compare for that column (deviation)

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-101
NASA FMEA #: 06-3A-0602-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 101
ITEM: WATER SPRAY BOILER ASSEMBLY

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-102
NASA FMEA #: 06-3A-0618-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 102
ITEM: WATER SPRAY BOILER ASSEMBLY

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-103
NASA FMEA #: 06-3A-0618-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 103
ITEM: LINES AND FITTINGS (GN2-WATER)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH NASA COMMENTS. TWO FMEAs ARE REQUIRED TO ADDRESS WATER LEAKAGE (06-3-0618-1) AND GN2 LEAKAGE (06-3-0619-1) INDEPENDENTLY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-103A
NASA FMEA #: 06-3A-0619-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 103
ITEM: LINES AND FITTINGS (GN2-WATER)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH NASA COMMENTS. TWO FMEAs ARE REQUIRED TO ADDRESS WATER LEAKAGE (06-3-0618-1) AND GN2 LEAKAGE (06-3-0619-1) INDEPENDENTLY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-104
NASA FMEA #: 06-3A-0603-4

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 104
ITEM: HEAT EXCHANGER ASSEMBLY

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH NASA. TWO FMEAs ARE REQUIRED TO ADDRESS LUBE OIL RESTRICTED FLOW (06-3A-0603-4) AND HYDRAULIC FLUID RESTRICTED FLOW (06-3A-0603-6).

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-104A
NASA FMEA #: 06-3A-0603-6

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 104
ITEM: HEAT EXCHANGER ASSEMBLY

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[F]	[F]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[N]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH NASA. TWO FMEAs ARE REQUIRED TO ADDRESS LUBE OIL RESTRICTED FLOW (06-3A-0603-4) AND HYDRAULIC FLUID RESTRICTED FLOW (06-3A-0603-6). IOA CONCURS WITH CIL REDUNDANCY SCREEN RATIONALE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-105
NASA FMEA #: 06-3A-0602-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 105
ITEM: HEAT EXCHANGER ASSY

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH NASA. TWO FMEAs ARE REQUIRED TO ADDRESS HYDRAULIC OIL LEAKAGE (06-3A-0602-3) AND LUBE OIL LEAKAGE (06-3A-0602-4).

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-105A
NASA FMEA #: 06-3A-0602-4

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 105
ITEM: HEAT EXCHANGER ASSY

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH NASA. TWO FMEAs ARE REQUIRED TO ADDRESS HYDRAULIC OIL LEAKAGE (06-3A-0602-3) AND LUBE OIL LEAKAGE (06-3A-0602-4).

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-106
NASA FMEA #: 06-3A-0603-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 106
ITEM: HEAT EXCHANGER ASSY

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH NASA. TWO FMEAs ARE REQUIRED TO ADDRESS LUBE OIL INTERNAL LEAKAGE (06-3A-0603-2) AND HYDRAULIC OIL INTERNAL LEAKAGE (06-3A-0603-5).

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-106A
NASA FMEA #: 06-3A-0603-5

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 106
ITEM: HEAT EXCHANGER ASSY

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH NASA. TWO FMEAs ARE REQUIRED TO ADDRESS LUBE OIL INTERNAL LEAKAGE (06-3A-0603-2) AND HYDRAULIC OIL INTERNAL LEAKAGE (06-3A-0603-5).

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-107
NASA FMEA #: 06-3A-0603-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 107
ITEM: HEAT EXCHANGER ASSY

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-108
NASA FMEA #: 06-3A-0605-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 108
ITEM: SPRAY VALVE (WATER SUPPLY)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-109
NASA FMEA #: 06-3A-0605-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 109
ITEM: SPRAY VALVE (WATER SUPPLY)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-109A
NASA FMEA #: 06-3A-0605-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 109
ITEM: SPRAY VALVE (WATER SUPPLY)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-110
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 110
ITEM: SPRAY VALVE (WATER SUPPLY)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[N /]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /1R]	[ ]	[NA]	[ ]	[D] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
THIS FAILURE IS INCORPORATED AS A "CAUSE" IN FMEA 06-3A-0605-2 BUT HAS DIFFERENT CRITICALITY BECAUSE SWITCHING TO REDUNDANT CONTROLLER RESTORES NORMAL OPERATION. IOA RECOMMENDS A FMEA TO RECOGNIZE THIS FAILURE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-111
NASA FMEA #: 06-3-0627-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 111
ITEM: BOILER TANK TEMP SENSORS

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [NA] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
#111 SAYS AN OPEN CAUSES A COLD READING. NASA SAYS OPEN CAUSES A HOT READING.

NASA FMEA 06-3-0627-1 OPEN OR SENSOR OUT OF TOLERANCE.

SWITCHING TO REDUNDANT CONTROLLER RESTORES NORMAL OPERATION.
SCREEN B IS NOT APPLICABLE TO STANDBY REDUNDANCY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-112
NASA FMEA #: 06-3-0627-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 112
ITEM: BOILER TANK TEMP SENSORS

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA FMEA 06-3-0627-1 & 06-3-0627-2 COMBINED.

WE DIFFER ON WHAT READING A SHORT WOULD CAUSE (HOT VS COLD).

SWITCHING TO REDUNDANT CONTROLLER RESTORES NORMAL OPERATION.
SCREEN B IS NOT APPLICABLE TO STANDBY REDUNDANCY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-113
NASA FMEA #: 06-3-0627-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 113
ITEM: BOILER TANK TEMP SENSORS

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA FMEA 06-3-0627-1 ERRONEOUS HOT CONDITION AND 06-3-0627-2 ERRONEOUS COLD CONDITION ARE COMBINED INTO ONE FMEA 06-3-0627-2 ELECTRICAL SHORT OR SENSOR OUT OF TOLERANCE.
SWITCHING TO REDUNDANT CONTROLLER RESTORES NORMAL OPERATION.
SCREEN B IS NOT APPLICABLE TO STANDBY REDUNDANCY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-114
NASA FMEA #: 06-3-0611-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 114
ITEM: BOILER TANK HEATERS

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA FMEA 06-3-0611-1 AND 06-3-0621-1 COVER THE OPEN & SHORT CONDITIONS - 0611-1 IS A PRIMARY CONTROLLER FMEA.

SWITCHING TO REDUNDANT CONTROLLER RESTORES NORMAL OPERATION. SCREEN B IS NOT APPLICABLE TO STANDBY REDUNDANCY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-114A
NASA FMEA #: 06-3-0621-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 114
ITEM: BOILER TANK HEATERS

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA FMEA 06-3-0611-1 AND 06-3-0621-1 COVER THE OPEN & SHORT CONDITIONS - 0611-1 IS A PRIMARY CONTROLLER FMEA.

SWITCHING TO REDUNDANT CONTROLLER RESTORES NORMAL OPERATION. SCREEN B IS NOT APPLICABLE TO STANDBY REDUNDANCY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-115
NASA FMEA #: 06-3-0611-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 115
ITEM: BOILER TANK HEATERS

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
CONCUR WITH NASA SCREEN B.

SHORT TO GROUND COVERED BY FMEA 06-3-0611-1 (PRIMARY CONTROLLER).

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-116
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 116
ITEM: STEAM VENT RELIEF VALVE

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[3 /3]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO NASA FMEA. THIS FAILURE SHOULD BE RECOGNIZED BY FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-117
NASA FMEA #: 06-3A-0604-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 117
ITEM: STEAM DUMP NOZZLE

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[N /]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /1R]	[ ]	[NA]	[ ]	[D] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
NASA CONSIDERS RAIN GETTING INTO ORIFICE AND SHORTING HTRS. #117 DOES NOT CONSIDER RAIN GETTING INTO THE ORFICE WHILE ON PAD. #117 CONSIDERS RESTRICTED FLOW TO BE CAUSED BY LOSS OF HEATERS. IOA RECOMMENDS THAT "CONTAMINATION" AND "STUCK OR INGESTED BLOW-OFF SETAM VENT PLUG" BE DELETED FROM CAUSES FOR 06-3A-0604-1 AND "STUCK OR INGESTED BLOW-OFF STEAM VENT PLUG" BE INCORPORATED INTO 06-3A-0633-1. THEN, SWITCHING TO REDUNDANT CONTROLLER RESTORES NORMAL OPERATIONS. SCREEN B IS NOT APPLICABLE TO STANDBY REDUNDANCY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-118
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 118
ITEM: HYDRAULIC/LUBE OIL WATER FILTERS

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R] [P] [P] [P] [A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO NASA FMEA. THIS FAILURE SHOULD BE RECOGNIZED BY A FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-119
NASA FMEA #: 06-3-0624-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 119
ITEM: STEAM DUMP NOZZLE TEMP SENSOR

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
06-3-0624-1 STATES "OPEN" CAUSES HOT SIGNAL - #119 STATES "SHORT CAUSES HOT SIGNAL - ERRONEOUS OUTPUT IS THE RESULT IN EITHER CASE.

SCREEN B IS NOT APPLICABLE TO STANDBY REDUNDANCY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-120
NASA FMEA #: 06-3-0624-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 120
ITEM: STEAM DUMP NOZZLE TEMP SENSOR

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
06-3-9624-2 AND #119 DIFFER ON WHAT CAUSES THE HOT AND COLD SENSOR OUTPUT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-121
NASA FMEA #: 06-3-0624-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 121
ITEM: STEAM DUMP NOZZLE TEMP SENSOR

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA COMBINED OPEN (ELECTRICAL) AND OUT OF TOLERANCE, ASSIGNED CRITICALITY 3/1R. A SHORT (ELECTRICAL) AND OUT OF TOLERANCE WERE COMBINED AND ASSIGNED A CRITICALITY OF 3/3. WORKSHEET 110 TREATS OUT OF TOLERANCE DUE TO CALIBRATION SHIFT. SCREEN B IS NOT APPLICABLE TO STANDBY REDUNDANCY. (*NOTE - #121 SCREENS SHOULD BE A-2, B-NA, C-P).

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-121A
NASA FMEA #: 06-3-0624-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 121
ITEM: STEAM DUMP NOZZLE TEMP SENSOR

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /1R]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/N]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH NASA ASSESSMENT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-122
NASA FMEA #: 06-3-0622-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 122
ITEM: STEAM NOZZLE HEATERS

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREEN B IS NOT APPLICABLE TO STANDBY REDUNDANCY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-123
NASA FMEA #: 06-3-0617-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 123
ITEM: BOILER WATER FILL AND DRAIN

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[F]	[F]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA FMEA 06-3-0617-3 AND 06-3-0617A-3 CONSIDER CAP & POPPET AS SEPARATE ITEMS - #123 CONSIDERS CAP & POPPET AS ONE ASSEMBLY. IOA CONCURS WITH NASA FMEA CRITICALITIES. HOWEVER, ALL SCREENS SHOULD BE "NA" PER NSTS 22206 DOCUMENT. FMEA 06-3-0617-3 SHOULD ADDRESS POPPET FAILURE. FMEA 06-3-0617A-3 SHOULD ADDRESS CAP FAILURE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-123A
NASA FMEA #: 06-3-0617A-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 123
ITEM: BOILER WATER FILL AND DRAIN

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[F]	[F]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA FMEA 06-3-0617-3 AND 06-3-0617A-3 CONSIDER CAP & POPPET AS SEPARATE ITEMS - #123 CONSIDERS CAP & POPPET AS ONE ASSEMBLY. IOA CONCURS WITH NASA FMEA CRITICALITIES. HOWEVER, ALL SCREENS SHOULD BE "NA" PER NSTS 22206 DOCUMENT. FMEA 06-3-0617-3 SHOULD ADDRESS POPPET FAILURE. FMEA 06-3-0617A-3 SHOULD ADDRESS CAP FAILURE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-124
NASA FMEA #: 06-3-0617-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 124
ITEM: BOILER H2O DRAIN

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-125
NASA FMEA #: 06-3-0616-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 125
ITEM: LUBE OIL DRAIN

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-126
NASA FMEA #: 06-3A-0616-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 126
ITEM: LUBE OIL DRAIN

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[F]	[F]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[N]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
NASA FMEA 06-3-0616-2 CONSIDERS POPPET LEAKAGE - INTERNAL TO CAP - CAP SEPARATE. IOA CONCURS WITH FMEA 0616-3.

#126 CONSIDERS POPPET & CAP AS AN ASS'Y.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-126A
NASA FMEA #: 06-3A-0616-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 126
ITEM: LUBE OIL DRAIN

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
NASA FMEA 06-3-0616-2 CONSIDERS POPPET LEAKAGE - INTERNAL TO CAP - CAP SEPARATE. IOA CONCURS WITH FMEA 0616-2.

#126 CONSIDERS POPPET & CAP AS AN ASS'Y.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-127
NASA FMEA #: 06-3-0632-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 127
ITEM: LIQUID LEVEL SENSOR

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREEN B IS NOT APPLICABLE TO STANDBY REDUNDANCY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-128
NASA FMEA #: 06-3-0632-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 128
ITEM: LIQUID LEVEL SENSOR

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[F]	[NA]	[P]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[ ]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [NA] [ ] [NA] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ALL SCREENS SHOULD BE "NA" FOR 3/3 CRITICALITY PER 22206 DOCUMENT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-129
NASA FMEA #: 06-3-0632-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 129
ITEM: LIQUID LEVEL SENSOR

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREEN B IS NOT APPLICABLE TO STANDBY REDUNDANCY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-129A
NASA FMEA #: 06-3-0632-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 129
ITEM: LIQUID LEVEL SENSOR

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/N]	[N]	[ ]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH NASA ASSESSMENT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-130
NASA FMEA #: 06-3-0629-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 130
ITEM: LUBE OIL TEMP SENSOR

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FMEA 06-3-0629-1 SAYS HOT SIGNAL CAUSED BY OPEN. 130 SAYS SHORT CAUSES HOT SIGNAL.

SCREEN B IS NOT APPLICABLE TO STANDBY REDUNDANCY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-131
NASA FMEA #: 06-3-0629-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 131
ITEM: LUBE OIL TEMP SENSOR

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[F]	[P]	[P]	[X] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[N]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [P] [NA] [ ] [D] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
FMEA 06-3-0629-2 STATES COLD CAUSED BY SHORT. #131 STATES COLD CAUSED BY OPEN. IOA EVALUATION IS BASED ON SHUTTLE SYSTEMS HANDBOOK, VOL 2, DWG 12.4, REV C5. TEMP SENSOR FAILURE WOULD BE RECOGNIZED PRIOR TO LIFTOFF.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-132
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 132
ITEM: WATER TANK

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[1 /1]	[NA]	[NA]	[NA]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
H20 TANK DOES NOT QUALIFY AS PRESSURE VESSEL PER NSTS 22206, PARA 2.1.r.3. MDAC ID #132 SHOULD BE DELETED.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-133
NASA FMEA #: 06-3A-0608-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 133
ITEM: WATER TANK

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-134
NASA FMEA #: 06-3A-0608-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 134
ITEM: WATER TANK

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-134A
NASA FMEA #: 06-3A-0608-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 134
ITEM: WATER TANK

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

	[/]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-135
NASA FMEA #: 06-3-0613-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 135
ITEM: WATER TANK FILL

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-136
NASA FMEA #: 06-3A-0613-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 136
ITEM: WATER TANK FILL

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
FMEA CONSIDERS POPPET & CAP AS TWO SEPARATE ASSEMBLIES. #136 CONSIDERS THEM AS ONE. IOA CONCURS WITH FMEA'S 06-3-0613-2 AND -3.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-136A
NASA FMEA #: 06-3A-0613-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 136
ITEM: WATER TANK FILL

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[F]	[F]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[N]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
FMEA CONSIDERS POPPET & CAP HAS TWO SEPARATE ASSEMBLIES. #136 CONSIDERS THEM AS ONE. IOA CONCURS WITH FMEA'S 06-3-0613-2 AND -3.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-137
NASA FMEA #: 06-3-0620-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 137
ITEM: WATER TANK HEATER

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FMEA 06-3-0611-1 ALSO COVERS THIS FAILURE (CONTROLLER).

SCREEN B IS NOT APPLICABLE TO STANDBY REDUNDANCY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-138
NASA FMEA #: 06-3-0620-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 138
ITEM: WATER TANK HEATER

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FMEA 06-3-0611-1 ALSO COVERS THIS FAILURE (CONTROLLER).

SCREEN B IS NOT APPLICABLE TO STANDBY REDUNDANCY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-139
NASA FMEA #: 06-3-0626-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 139
ITEM: WATER TANK TEMP SENSOR

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
WE DIFFER WITH NASA ON THE CAUSES OF THE HOT AND COLD READINGS (OPEN OR SHORT).

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-140
NASA FMEA #: 06-3-0626-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 140
ITEM: WATER TANK TEMP SENSOR

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
WE DIFFER ON THE OPEN OR SHORT CAUSING THE HOT AND COLD READINGS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-141
NASA FMEA #: 06-3-0626-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 141
ITEM: WATER TANK TEMP SENSOR

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-142
NASA FMEA #: 06-3A-0609-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 142
ITEM: GN2 TANK

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[1 /1]	[NA]	[NA]	[NA]	[X] *
IOA	[1 /1]	[NA]	[NA]	[NA]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-143
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 143
ITEM: GN2 TANK

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FMEA 06-3-0609-2 DELETED BY NASA. COMBINED WITH 06-3-0609-1. IOA RECOMMENDS THAT FMEA 06-3-0609-2 BE RETAINED. THE FAILURE MODE OF FMEA 06-3-0609-2 (EXTERNAL LEAK) IS DIFFERENT IN NATURE FROM THAT OF FMEA 06-3-0609-1 (RUPTURE).

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-144
NASA FMEA #: 06-3A-0607-4

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 144
ITEM: GN2 REGULATOR VALVE

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-145
NASA FMEA #: 06-3A-0607-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 145
ITEM: GN2 REGULATOR VALVE

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-146
NASA FMEA #: 06-3A-0607-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 146
ITEM: GN2 REGULATOR RELIEF VALVE

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-147
NASA FMEA #: 06-3-0607-5

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 147
ITEM: GN2 REGULATOR RELIEF VALVE

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH NASA ASSESSMENT. DAMAGE TO ADJACENT WATER TANK RAISES CRITICALITY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-148
NASA FMEA #: 06-3A-0606-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 148
ITEM: GN2 SHUTOFF VALVE

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-149
NASA FMEA #: 06-3A-0606-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 149
ITEM: GN2 SHUTOFF VALVE

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[/2R]	[P]	[F]	[P]	[X] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
GN2 REGULATOR VALVE IN SERIES WOULD REGULATE PRESSURE TO H2O TANK - REQUIRES SECOND FAILURE TO CAUSE POSSIBLE LOSS OF ONE HYDRAULIC SYSTEM. NSTS 22206 INDICATES FUNCTIONAL CRITICALITY OF 2R.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-150
NASA FMEA #: 06-3A-0606-4

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 150
ITEM: GN2 SHUTOFF VALVE

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-151
NASA FMEA #: 06-3-0615-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 151
ITEM: GN2 FILL DISCONNECT

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-152
NASA FMEA #: 06-3A-0615-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 152
ITEM: GN2 FILL DISCONNECT

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[F]	[F]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[N]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
FMEA CONSIDERS CAP & POPPET AS TWO ASSEMBLIES. #152 CONSIDERED THEM AS ONE. IOA CONCURS WITH NASA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-152A
NASA FMEA #: 06-3A-0615-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 152
ITEM: GN2 FILL DISCONNECT

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
FMEA CONSIDERS CAP & POPPET AS TWO ASSEMBLIES. IOA CONSIDERED THEM AS ONE. IOA CONCURS WITH FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-153
NASA FMEA #: 06-3-0614-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 153
ITEM: GN2 VENT DISCONNECT

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-154
NASA FMEA #: 06-3A-0614-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 154
ITEM: GN2 VENT DISCONNECT

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[F]	[F]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[N]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
FMEA CONSIDERS CAP AND POPPET AS TWO SEPARATE ITEMS. #154 CONSIDERS THEM AS ONE. IOA CONCURS WITH FMEAs 06-3A-0614-3 AND -2.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/28/88
ASSESSMENT ID: HYDWSB-154A
NASA FMEA #: 06-3A-0614-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 154
ITEM: GN2 VENT DISCONNECT

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[N /]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FMEA CONSIDERS CAP AND POPPET AS TWO SEPARATE LINES. #154 CONSIDERS THEM AS ONE. IOA CONCURS WITH FMEAs 06-3A-0614-3 AND -2.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB=155
NASA FMEA #: 06-3-0625-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 155
ITEM: GN2 TANK TEMP SENSOR

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-156
NASA FMEA #: 06-3-0625-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 156
ITEM: GN2 TANK TEMP SENSOR

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-157
NASA FMEA #: 06-3-0631-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 157
ITEM: GN2 TANK PRESSURE SENSOR

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-158
NASA FMEA #: 06-3-0631-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 158
ITEM: GN2 TANK PRESSURE SENSOR

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-159
NASA FMEA #: 06-3-0631-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 159
ITEM: GN2 TANK PRESSURE SENSOR

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-160
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 160
ITEM: GN2 REGULATOR OUT PRESSURE SENSOR

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[3 /3]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO NASA FMEA. THIS PRESSURE IS USED IN WATER QUANTITY CALCULATION AND THE FAILURE SHOULD BE RECOGNIZED BY A FMEA WHICH INCORPORATES MDAC ID'S 160, 161, 162, & 163.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-161
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 161
ITEM: GN2 REGULATOR PRESSURE SENSOR

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO NASA FMEA. SEE MDAC ID #160.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-162
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 162
ITEM: GN2 REGULATOR PRESSURE SENSOR

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO NASA FMEA. SEE MDAC ID #160.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-163
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 163
ITEM: GN2 REGULATOR PRESSURE SENSOR

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO NASA FMEA. SEE MDAC ID #160.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-164
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 164
ITEM: GN2 FILTER

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO NASA FMEA - THIS FAILURE SHOULD BE RECOGNIZED BY A FMEA. OMS SUBSYSTEM HAS FAILURE INCIDENTS THAT SUPPORT THIS AS A CREDIBLE FAILURE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-165
NASA FMEA #: 06-3-0610-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 165
ITEM: HYDRAULIC BYPASS VALVE

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-166
NASA FMEA #: 06-3A-0610-5

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 166
ITEM: HYDRAULIC BYPASS VALVE

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-167
NASA FMEA #: 06-3A-0610-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 167
ITEM: HYDRAULIC BYPASS VALVE

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-168
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 168
ITEM: HYRAULIC RELIEF VALVE

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-169
NASA FMEA #: 06-3A-0610-4

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 169
ITEM: HYDRAULIC RELIEF VALVE

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[F]	[P]	[P]	[X] *
IOA	[2 /1R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-170
NASA FMEA #: 06-3A-0610-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 170
ITEM: HYDRAULIC RELIEF VALVE

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[1 /1]	[NA]	[NA]	[NA]	[X] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA DID NOT CONSIDER EFFECTS OF HIGH DEMANDS DURING ENTRY.
AGREES WITH NASA ASSESSMENT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-171
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 171
ITEM: HYDRAULIC BYPASS VALVE MOTOR

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO NASA FMEA. FMEA 03-6-0610-1 AND -2 SHOULD BE EXPANDED SO "CAUSES" INCLUDES BYPASS VALVE MOTOR FAILURE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-172
NASA FMEA #: 06-3-0628-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 172
ITEM: HYDRAULIC BYPASS/RELIEF VALVE TEMP SENSOR

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[F]	[P]	[P]	[X] *
IOA	[3 /1R]	[F]	[NA]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
SCREEN B IS NOT APPLICABLE TO STANDBY REDUNDANCY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-173
NASA FMEA #: 06-3-0628-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 173
ITEM: HYDRAULIC BYPASS/RELIEF VALVE TEMP SENSOR

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[F]	[P]	[P]	[X] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[N]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
SCREEN B IS NOT APPLICABLE TO STANDBY REDUNDANCY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-174
NASA FMEA #: 06-3-0628-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 174
ITEM: HYDRAULIC BYPASS/RELIEF VALVE TEMP SENSOR

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREEN B IS NOT APPLICABLE TO STANDBY REDUNDANCY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-175
NASA FMEA #: 05-6W-2021-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 175
ITEM: CB

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREEN B NOT APPLICABLE FOR STANDBY REDUNDANCY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-176
NASA FMEA #: 05-6W-2129-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 176
ITEM: BY-PASS RELAY

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-177
NASA FMEA #: 05-6WA-2051-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 177
ITEM: BOILER CONTROL POWER/HEATER SW

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[N /]	[ ]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
SCREEN B NOT APPLICABLE FOR STANDBY REDUNDANCY. IOA ASSUMED CONTACTS FOR ONE SWITCH POSITON FAILED. NASA ASSUMED ALL CONTACTS IN SWITCH FAILED (I.E., CAN'T TOGGLE SWITCH TO CONTROLLER "A" OR "B". IOA CONCURS WITH NASA ASSESSMENT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-178
NASA FMEA #: 05-6WA-2051-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 178
ITEM: BOILER CONTROL POWER/HEATER SW

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[N /]	[ ]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [X]

REMARKS:
SCREEN B IS NOT APPLICABLE FOR STANDBY REDUNDANCY.
IOA ASSUMED CONTACTS FOR ONE SWITCH POSITION FAILED. NASA ASSUMED ALL CONTACTS IN SWITCH FAILED (I.E., CAN'T TOGGLE SWITCH TO CONTROLLER "A" OR "B"). IOA CONCURS WITH NASA ASSESSMENT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-179
NASA FMEA #: 05-6WA-2054-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 179
ITEM: BOILER CNTRL SW

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[NA]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FMEA 05-6W-2054-2 COMBINED WITH 2054-1 SINCE BOTH FAILURES HAD THE SAME EFFECT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-180
NASA FMEA #: 05-6WA-2054-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 180
ITEM: BOILER CNTRL SW

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[NA]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-181
NASA FMEA #: 05-6W-2088-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 181
ITEM: RESISTOR-CURRENT LIMITER (5.1K, 3/4W)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-182
NASA FMEA #: 05-6W-2089-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 182
ITEM: RESISTOR-VOLTAGE DIVIDER (12K, 1/4W)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREENS SHOULD BE "NA" PER 22206 DOCUMENT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-183
NASA FMEA #: 05-6W-2086-1A

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 183
ITEM: RESISTOR-CURRENT LIMITER

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/27/87
ASSESSMENT ID: HYDWSB-183A
NASA FMEA #: 05-6W-2086-1C

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 183
ITEM: RESISTOR-CURRENT LIMITER

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-184
NASA FMEA #: 05-6W-2055-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 184
ITEM: BOILER N2 SUPPLY SW

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-185
NASA FMEA #: 05-6W-2055-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 185
ITEM: BOILER N2 SUPPLY SW

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-186
NASA FMEA #: 05-6W-2208-1A

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 186
ITEM: HYBRID DRIVER CIRCUIT

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREEN B NOT APPLICABLE FOR STANDBY REDUNDANCY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-186A
NASA FMEA #: 05-6W-2208-1C

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 186
ITEM: HYBRID DRIVER CIRCUIT

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREEN B NOT APPLICABLE FOR STANDBY REDUNDANCY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-187
NASA FMEA #: 05-6W-2208-1D

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 187
ITEM: HYBRID DRIVER CIRCUIT

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREEN B NOT APPLICABLE FOR STANDBY REDUNDANCY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-188
NASA FMEA #: 05-6G-2179-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 188
ITEM: RPC

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [NA] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREEN B NOT APPLICABLE FOR STANDBY REDUNDANCY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-189
NASA FMEA #: 05-6W-2179-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 189
ITEM: RPC

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [X]

REMARKS:
THERMOSTATS ARE UNLIKE REDUNDANT TO RPC'S FOR THIS FAILURE. IOA CONCURS WITH NASA ASSESSMENT. WATER TANK BURNTHROUGH SEEMS NON-CREDIBLE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-190
NASA FMEA #: 05-6W-2259-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 190
ITEM: ISOLATION DIODE

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREEN B NOT APPLICABLE FOR STANDBY REDUNDANCY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-191
NASA FMEA #: 05-6W-2259-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 191
ITEM: ISOLATION DIODE

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-191A
NASA FMEA #: 05-6W-2259A-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 191
ITEM: ISOLATION DIODE

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-192
NASA FMEA #: 06-3-0611-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 192
ITEM: CONTROLLER A

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREEN B NOT APPLICABLE FOR STANDBY REDUNDANCY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-193
NASA FMEA #: 06-3-0611-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 193
ITEM: CONTROLLER A

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FMEA 06-3-0611-2 WAS COMBINED WITH 06-3-0611-1.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-194
NASA FMEA #: 06-3-0612-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 194
ITEM: CONTROLLER B

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREEN B NOT APPLICABLE FOR STANDBY REDUNDANCY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-195
NASA FMEA #: 06-3-0612-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 195
ITEM: CONTROLLER B

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FMEA 06-3-0612-2 WAS COMBINED WITH 06-3-0612-1.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-196
NASA FMEA #:

NASA DATA:
BASELINE [X]
NEW [ ]

SUBSYSTEM: HYD/WSB
MDAC ID: 196
ITEM: HYBRID DRIVER CIRCUIT (CONTROLLER)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /1R]	[P]	[NA]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
HYDWSB-196 IS A SUBSET OF 192 AND 194. IT SHOULD BE DELETED.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-197
NASA FMEA #:

NASA DATA:
BASELINE [X]
NEW [ ]

SUBSYSTEM: HYD/WSB
MDAC ID: 197
ITEM: HYBRID DRIVER CIRCUIT (CONTROLLER)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS FAILURE HAS THE SAME EFFECT AS FMEA 05-6WA-2055-2 AND SHOULD BE RECOGNIZED BY A FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-401
NASA FMEA #: 02-6-E24-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 401
ITEM: ACCUMULATOR

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[N /]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
FMEA 02-6-E24-1 INCORPORATES MDAC ID'S 401 AND 412. NASA CRITICALITY REFLECTS WORST CASE SCENARIO, I.E., INSTANTANEOUS LOSS OF GN2 PRESSURE.
CREW GETS SM ALERT IF ACCUM. GN2 PRESSURE DROPS BELOW 1900 PSIA - CIRC PUMP SWITCHES ARE PLACED IN "GPC" POSITION APPROXIMATELY 2 1/2 HOURS INTO MISSION. THIS ACTIVATES SOFTWARE THAT WILL AUTOMATICALLY TURN ON CIRC PUMP IF ACCUM. GN2 PRESSURE DROPS BELOW 1960 PSIA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-402
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 402
ITEM: ACCUMULATOR

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-403
NASA FMEA #: 02-6-E24-5

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 403
ITEM: ACCUMULATOR

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-404
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 404
ITEM: ACCUMULATOR

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /1R]	[P]	[F]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS FAILURE SHOULD BE DELETED. IT IS NOT A CREDIBLE FAILURE IN FLIGHT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-405
NASA FMEA #: 02-6-E24-4

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 405
ITEM: PRESSURE GAGE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FMEA 02-6-E24-4 INCORPORATES MDAC ID'S 405 AND 406.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-406
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 406
ITEM: PRESSURE GAGE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FMEA 02-6-E24-4 INCORPORATES MDAC ID'S 405 AND 406.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-407
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 407
ITEM: RELIEF VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /3]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS A FMEA BE PREPARED TO RECOGNIZE THIS FAILURE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-408
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 408
ITEM: RELIEF VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS FAILURE IS NOT SUFFICIENTLY SIGNIFICANT TO NEED A FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-409
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 409
ITEM: GN2 PRESSURE TRANSDUCER

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[3 /3]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THERE IS NO NASA FMEA ADDRESSING ACCUMULATOR GN2 PRESSURE TRANSDUCER FAILURES. A FMEA SHOULD BE PREPARED COVERING THESE TRANSDUCERS SIMILAR TO FMEA 02-6-A16-4 FOR SSME ACCUMULATORS. THIS NEW FMEA SHOULD INCORPORATE MDAC ID'S 409, 410 AND 411 IN THE SAME MANNER THAT FMEA 02-6-A16-4 INCORPORATES MDAC ID'S 421, 422, AND 423.
GN2 PRESSURES ARE MONITORED BY C&W SYSTEM AND ACCUM. PRESSURE CONTROL SOFTWARE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-410
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 410
ITEM: GN2 PRESSURE TRANSDUCER

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THERE IS NO NASA FMEA ADDRESSING ACCUMULATOR GN2 PRESSURE TRANSDUCER FAILURES. A FMEA SHOULD BE PREPARED COVERING THESE TRANSDUCERS SIMILAR TO FMEA 02-6-A16-4 FOR SSME ACCUMULATORS. THIS NEW FMEA SHOULD INCORPORATE MDAC ID'S 409, 410 AND 411 IN THE SAME MANNER THAT FMEA 02-6-A16-4 INCORPORATES MDAC ID'S 421, 422, AND 423.
GN2 PRESSURES ARE MONITORED BY C&W SYSTEM AND ACCUM. PRESSURE CONTROL SOFTWARE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-411
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 411
ITEM: GN2 PRESSURE TRANSDUCER

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THERE IS NO NASA FMEA ADDRESSING ACCUMULATOR GN2 PRESSURE TRANSDUCER FAILURES. A FMEA SHOULD BE PREPARED COVERING THESE TRANSDUCERS SIMILAR TO FMEA 02-6-A16-4 FOR SSME ACCUMULATORS. THIS NEW FMEA SHOULD INCORPORATE MDAC ID'S 409, 410 AND 411 IN THE SAME MANNER THAT FMEA 02-6-A16-4 INCORPORATES MDAC ID'S 421, 422, AND 423.
GN2 PRESSURES ARE MONITORED BY C&W SYSTEM AND ACCUM. PRESSURE CONTROL SOFTWARE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-412
NASA FMEA #: 02-6-E24-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 412
ITEM: GN2 FILL VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[N /]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
FMEA 02-6-E24-1 INCORPORATES MDAC ID'S 401 AND 412. NASA CRITICALITY REFLECTS WORST CASE SCENARIO, I.E, INSTANTANEOUS LOSS OF GN2 PRESSURE.
CREW GETS SM ALERT IF ACCUM. GN2 PRESSURE DROPS BELOW 1900 PSIA. CIRC PUMP SWITCHES ARE PLACED IN "GPC" POSITION APPROX. 2 1/2 HOURS INTO MISSION. THIS ACTIVATES SOFTWARE THAT WILL AUTOMATICALLY TURN ON CIRC PUMP IF ACCUM. GN2 PRESSURE DROPS BELOW
1960 PSIA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-413
NASA FMEA #: 02-6-A16-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 413
ITEM: SSME ACCUMULATOR

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FMEA 02-6-A16-1 INCORPORATES MDAC ID'S 413 AND 416.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-414
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 414
ITEM: SSME ACCUMULATOR

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-415
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 415
ITEM: SSME ACCUMULATOR

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS FAILURE (MDAC ID 415) BE DELETED. IT IS NOT A CREDIBLE FAILURE IN FLIGHT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-416
NASA FMEA #: 02-6-A16-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 416
ITEM: GN2 FILL VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FMEA 02-6-A16-1 INCORPORATES MDAC ID'S 413 AND 416.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-417
NASA FMEA #: 02-6-A16-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 417
ITEM: SSME ACCUMULATOR

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-421
NASA FMEA #: 02-6-A16-4

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 421
ITEM: PRESSURE TRANSDUCER

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FMEA -02-6-A16-4 INCORPORATES MDAC ID'S 421, 422, AND 423.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-422
NASA FMEA #: 02-6-A16-4

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 422
ITEM: PRESSURE TRANSDUCER

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FMEA -02-6-A16-4 INCORPORATES MDAC ID'S 421, 422, AND 423.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-423
NASA FMEA #: 02-6-A16-4

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 423
ITEM: PRESSURE TRANSDUCER

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FMEA -02-6-A16-4 INCORPORATES MDAC ID'S 421, 422, AND 423.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-424
NASA FMEA #: 02-6-A16-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 424
ITEM: GN2 PRESSURE GAGE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FMEA 02-6-A16-2 INCORPORATES MDAC ID'S 424 AND 425.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-425
NASA FMEA #: 02-6-A16-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 425
ITEM: GN2 PRESSURE GAGE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FMEA 02-6-A16-2 INCORPORATES MDAC ID'S 424 AND 425.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-426
NASA FMEA #: 02-6-E29-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 426
ITEM: AC INDUCTION MOTOR

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FMEA 02-6-E29-1 INCORPORATES THIS FAILURE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-427
NASA FMEA #: 02-6-E29-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 427
ITEM: INVERTER

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FMEA 02-6-E29-1 INCORPORATES THIS FAILURE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-428
NASA FMEA #: 02-6-E29-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 428
ITEM: LOW PRESS PUMP

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FMEA 02-6-E29-1 INCORPORATES THIS FAILURE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-429
NASA FMEA #: 02-6-E29-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 429
ITEM: HI PRESS PUMP

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FMEA 02-6-E29-1 INCORPORATES THIS FAILURE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-430
NASA FMEA #: 02-6-E29-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 430
ITEM: PRESS ACTIVATED RELIEF VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE "CAUSES" OF FMEA 02-6-E29-1 SHOULD BE EXPANDED TO INCORPORATE THIS FAILURE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-431
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 431
ITEM: PRESS ACTIVATED RELIEF VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /1R]	[F]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /1R] [F] [P] [P] [A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS THAT A FMEA BE WRITTEN TO COVER THIS FAILURE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-432
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 432
ITEM: BLEED VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-433
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 433
ITEM: PRESS ACTUATED CONTROL VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS FAILURE, MDAC ID #433, SHOULD BE DELETED. IT IS REDUNDANT TO FAILURES 440 AND 442.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-434
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 434
ITEM: PRESS ACTUATED CONTROL VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-435
NASA FMEA #: 02-6-E27-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 435
ITEM: PILOT VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FMEA 02-6-E27-1 INCORPORATES THIS FAILURE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-436
NASA FMEA #: 02-6-E27-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 436
ITEM: PILOT VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS FAILURE IS INCORPORATED IN FMEA 02-6-E27-3.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-437
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 437
ITEM: PILOT VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS FAILURE (MDAC ID #437) SHOULD BE DELETED. IT REQUIRES TWO FAILURES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-438
NASA FMEA #: 02-6-E27-4

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 438
ITEM: FILTER

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-439
NASA FMEA #: 02-6-E27

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 439
ITEM: FILTER

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /1R] [P] [F] [P] [A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS FMEA TO COVER THIS FAILURE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-440
NASA FMEA #: 02-6-E27-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 440
ITEM: PRESS. ACTIVATED BYPASS VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS FAILURE (MDAC ID #440) SHOULD BE COMBINED WITH MDAC ID #442. THE EFFECTS ARE THE SAME.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-441
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 441
ITEM: PRESS. ACTIVATED BYPASS VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS FAILURE, MDAC ID #441, SHOULD BE DELETED. IT IS HIGHLY IMPROBABLE AND HAS NEGLIGIBLE EFFECT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-442
NASA FMEA #: 02-6-E27-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 442
ITEM: PRESS. ACTIVATED BYPASS VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS FAILURE SHOULD BE COMBINED WITH MDAC ID #440. THE EFFECTS ARE THE SAME.
NASA REVIEW DELETED FMEA 02-6-E27-3. THIS FMEA SHOULD BE RETAINED AND "CAUSES" EXPANDED TO COVER ALL CAUSES OF LEAKAGE FROM CIRC. PUMP OUTPUT TO SYSTEM LINES WHEN FLOW IS REQUIRED TO PRESSURIZE ACCUMULATOR.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-443
NASA FMEA #: 02-6-E27-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 443
ITEM: CHECK VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-444
NASA FMEA #: 02-6-E26-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 444
ITEM: PRESSURE TRANSDUCER

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-445
NASA FMEA #: 02-6-E26-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 445
ITEM: PRESSURE TRANSDUCER

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-446
NASA FMEA #: 02-6-SYSTEM-4

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 446
ITEM: TEMPERATURE TRANSDUCERS NOT USED FOR CIRC PUMP TEMPERATURE CONTROL

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-447
NASA FMEA #: 02-6-SYSTEM-5

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 447
ITEM: TEMPERATURE TRANSDUCERS MONITORED BY FDA AND USED FOR CIRC PUMP TEMPERATURE CONTROL

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-448
NASA FMEA #: 02-6-E02-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 448
ITEM: QUICK DISCONNECTS-GROUND SERVICING (RETURN)

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[ ]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [X]

REMARKS:
IOA FOR HYDRAULICS/WATER SPRAY BOILER ASSUMED THAT QUICK DISCONNECTS AND CAPS WERE A SINGLE UNIT FOR ANALYSIS PURPOSES. THE NASA ASSUMPTION THAT THEY ARE REDUNDANT ITEMS IS MORE REALISTIC. MDAC ANALYSIS SHEETS 448 AND 449 SHOULD BE REWRITTEN TO ANALYZE BOTH THE QUICK DISCONNECT AND CAP. THE FLIGHT CRITICALITIES THEN BECOME 3/1R. THE SUPPLY AND RETURN LINE QD'S HAVE DIFFERENT LEVELS OF REDUNDANCY BECAUSE OF A CHECK VALVE IN THE SUPPLY LINE. NASA FMEA's SHOULD REFLECT THIS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-448A
NASA FMEA #: 02-6-E02-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 448
ITEM: QUICK DISCONNECTS-GROUND SERVICING (RETURN)

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[F]	[F]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[N]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [X]

REMARKS:
IOA FOR HYDRAULICS/WATER SPRAY BOILER ASSUMED THAT QUICK DISCONNECTS AND CAPS WERE A SINGLE UNIT FOR ANALYSIS PURPOSES. THE NASA ASSUMPTION THAT THEY ARE REDUNDANT ITEMS IS MORE REALISTIC. MDAC ANALYSIS SHEETS 448 AND 449 SHOULD BE REWRITTEN TO ANALYZE BOTH THE QUICK DISCONNECT AND CAP. THE FLIGHT CRITICALITIES THEN BECOME 3/1R. THE CAP SHOULD BE CONSIDERED "STANDBY REDUNDANT". THE SUPPLY AND RETURN LINE QD'S HAVE DIFFERENT LEVELS OF REDUNDANCY BECAUSE OF A CHECK VALVE IN THE SUPPLY LINE. NASA FMEA'S SHOULD REFLECT THIS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-449
NASA FMEA #: 02-6-E02-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 449
ITEM: QUICK DISCONNECT-GROUND SERVICING (SUPPLY)

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA FOR HYDRAULICS/WATER SPRAY BOILER ASSUMED THAT QUICK DISCONNECTS AND CAPS WERE A SINGLE UNIT FOR ANALYSIS PURPOSES. THE NASA ASSUMPTION THAT THEY ARE REDUNDANT ITEMS IS MORE REALISTIC. MDAC ANALYSIS SHEETS 448 AND 449 SHOULD BE REWRITTEN TO ANALYZE BOTH THE QUICK DISCONNECT AND CAP. THE SUPPLY AND RETURN LINE QD'S HAVE DIFFERENT LEVELS OF REDUNDANCY. NASA FMEA'S SHOULD REFLECT THIS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-449A
NASA FMEA #: 02-6-E02-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 449
ITEM: QUICK DISCONNECT-GROUND SERVICING (SUPPLY)

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[F]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[N]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA FOR HYDRAULICS/WATER SPRAY BOILER ASSUMED THAT QUICK DISCONNECTS AND CAPS WERE A SINGLE UNIT FOR ANALYSIS PURPOSES. THE NASA ASSUMPTION THAT THEY ARE REDUNDANT ITEMS IS MORE REALISTIC. MDAC ANALYSIS SHEETS 448 AND 449 SHOULD BE REWRITTEN TO ANALYZE BOTH THE QUICK DISCONNECT AND CAP. THE SUPPLY AND RETURN LINE QD'S HAVE DIFFERENT LEVELS OF REDUNDANCY. NASA FMEA'S SHOULD REFLECT THIS. THE CAP SHOULD BE CONSIDERED "STANDBY REDUNDANT".

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-450
NASA FMEA #: 02-6-C08-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 450
ITEM: QUICK DISCONNECT-HYD. GROUND POWER SUPPLY-LANDING GEAR STOW/DEPLOY

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[2 /1R]	[P]	[F]	[P]	[X]
COMPARE	[N /]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [X]

REMARKS:
IOA FOR HYDRAULICS/WATER SPRAY BOILER ASSUMED THAT QUICK DISCONNECTS AND CAPS WERE SINGLE UNIT FOR ANALYSIS PURPOSES. THE NASA ASSUMPTION THAT THEY ARE REDUNDANT ITEMS IS MORE REALISTIC. THE ANALYSIS SHEET (MDAC ID 450 SHOULD BE REWRITTEN TO ANALYZE BOTH QUICK DISCONNECT AND CAP. THE CRITICALITIES THEN BECOME 3/1R.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-450A
NASA FMEA #: 02-6-C08-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 450
ITEM: QUICK DISCONNECT-HYD. GROUND POWER SUPPLY-LANDING GEAR STOW/DEPLOY

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[F]	[F]	[P]	[X] *
IOA	[2 /1R]	[P]	[F]	[P]	[X]
COMPARE	[N /]	[N]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [X]

REMARKS:
IOA FOR HYDRAULICS/WATER SPRAY BOILER ASSUMED THAT QUICK DISCONNECTS AND CAPS WERE SINGLE UNIT FOR ANALYSIS PURPOSES. THE NASA ASSUMPTION THAT THEY ARE REDUNDANT ITEMS IS MORE REALISTIC. THE ANALYSIS SHEET (MDAC ID 450 SHOULD BE REWRITTEN TO ANALYZE BOTH QUICK DISCONNECT AND CAP. THE CRITICALITIES THEN BECOME 3/1R. THE CAP SHOULD BE CONSIDERED "STANDBY REDUNDANT".

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-451
NASA FMEA #: 02-6-A02-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 451
ITEM: QUICK DISCONNECT-HYD/SSME (SUPPLY)

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[2 /]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA CRITICALITY BASED ON SINGLE FAILURE TO DISCONNECT. IF NASA's POSITION THAT THIS FAILURE IS CRIT 3 IS VALID THEN FMEA 02-6-A02-1 CRITICALITY SHOULD BE DOWNGRADED TO 2/1R.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-451A
NASA FMEA #: 02-6-A02-12

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 451
ITEM: QUICK DISCONNECT-HYD/SSME (SUPPLY)

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-452
NASA FMEA #: 02-6-A02-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 452
ITEM: QUICK DISCONNECT-HYD/SSME (RETURN)

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[1 /1]	[NA]	[NA]	[NA]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
AGREE WITH NASA CRITICALITIES AND EFFECTS BASED ON DISCUSSION WITH JERRY BORRER/DF65.
IOA CRITICALITY BASED ON SINGLE FAILURE TO DISCONNECT. IF NASA's POSITION THAT FAILURE 02-6-A02-2 IS CRIT 3 IS VALID; THEN FMEA 02-6-A02-1 CRITICALITY SHOULD BE DOWNGRADED TO 2/1R.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-453
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 453
ITEM: QUICK DISCONNECT-HYD/SSME (SUPPLY)

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-454
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 454
ITEM: QUICK DISCONNECT-HYD/SSME (RETURN)

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-455
NASA FMEA #: 02-6-A07-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 455
ITEM: CHECK VALVE-RETURN LINE FROM ENG'S/ACT'S

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[F]	[NA]	[P]	[X] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/N]	[N]	[ ]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[3 /3]	[NA]	[NA]	[NA]	[D] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [X]

REMARKS:
IOA CONSIDERS A 3/3 CRITICALITY TO BE CONSISTENT WITH THE 22206 DOCUMENT. WE RECOMMEND DOWNGRADING THE CRITICALITY TO 3/3 THEREBY REMOVING THIS FMEA FROM THE CIL.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-456
NASA FMEA #: 02-6-A07-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 456
ITEM: CHECK VALVE-RETURN LINE FROM ENG'S/ACT'S

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[1 /1]	[NA]	[NA]	[NA]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH NASA EVALUATION BASED ON DISCUSSION WITH JERRY BORRER/DF65.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87 NASA DATA:
ASSESSMENT ID: HYDWSB-457 BASELINE [ ]
NASA FMEA #: 02-6-SYSTEM-2 NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 457
ITEM: HOSE AND SWIVEL ASSY:TVC ACTUATORS

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-457A
NASA FMEA #: 02-6-A11-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 457
ITEM: HOSE AND SWIVEL ASSY:TVC ACTUATORS

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87 NASA DATA:
ASSESSMENT ID: HYDWSB-458 BASELINE [ ]
NASA FMEA #: 02-6-SYSTEM-2 NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 458
ITEM: HOSE AND SWIVEL ASSY:TVC ACTUATORS/SSME HYD-SUPPLY LINES

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
458 & 459 CAN BE COMBINED IF THERE IS NO MEANINGFUL DIFFERENCE IN EFFECTS DUE TO DIFFERENT TIME DELAYS OF FAILURE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-458A
NASA FMEA #: 02-6-A15-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 458
ITEM: HOSE AND SWIVEL ASSY:TVC ACTUATORS/SSME HYD-SUPPLY LINES

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
458 & 459 CAN BE COMBINED IF THERE IS NO MEANINGFUL DIFFERENCE IN EFFECTS DUE TO DIFFERENT TIME DELAYS OF FAILURE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-459
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 459
ITEM: HOSE AND SWIVEL ASSY:TVC ACTUATORS/SSME HYD. RETURN LINES

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-459A
NASA FMEA #: 02-6-A15-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 459
ITEM: HOSE AND SWIVEL ASSY:TVC ACTUATORS/SSME HYD. RETURN LINES

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-460
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 460
ITEM: HOSE AND SWIVEL ASSY: WATER SPRAY BOILERS

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-460A
NASA FMEA #: 02-6-E28-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 460
ITEM: HOSE AND SWIVEL ASSY: WATER SPRAY BOILERS

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-461
NASA FMEA #: 02-6-H04-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 461
ITEM: NOSE WHEEL STEERING FLEX HOSE ASSEMBLY

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
SCREEN B SHOULD BE CHANGED TO "PASS".

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-462
NASA FMEA #: 02-6-G10-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 462
ITEM: MAIN LANDING GEAR FLEX HOSE (EXTEND)

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
SCREEN B SHOULD BE CHANGED TO NOT APPLICABLE. THE PYROS ARE UNLIKE REDUNDANT ITEMS AND ARE EXCLUDED BY 2.3.4.b.2.c OF NSTS 22206.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-463
NASA FMEA #: 02-6-G11-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 463
ITEM: MAIN LANDING GEAR FLEX HOSE (RETRACT)

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
SCREEN B SHOULD BE CHANGED TO NOT APPLICABLE. THE PYROS ARE UNLIKE REDUNDANT ITEMS AND ARE EXCLUDED BY 2.3.4.b.2.c OF NSTS 22206.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-464
NASA FMEA #: 02-6-SYSTEM-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 464
ITEM: HYDRAULIC LINE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
THE FMEA 02-6-SYSTEM-3 REPRESENTS WORST CASE HYDRAULIC LINE RUPTURE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-465
NASA FMEA #: 02-6-SYSTEM-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 465
ITEM: HYDRAULIC LINE (SUPPLY) SYSTEM 1

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[F]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
A SECOND FMEA SHOULD BE WRITTEN TO COVER RUPTURE OF HYDRAULIC LINE SEGMENTS THAT ARE NOT DETECTABLE DURING FLIGHT PER DOC. 22206 DEFINITION.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-466
NASA FMEA #: 02-6-SYSTEM-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 466
ITEM: HYDRAULIC LINE (RETURN) SYSTEM 1

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[N /]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[3 /]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
LANDING GEAR WILL BE UNLOCKED AND LOWERED BEFORE HYDRAULIC FLUID IS DEPLETED. A FMEA SHOULD BE WRITTEN TO COVER RUPTURE OF HYDRAULIC LINE SEGEMENTS THAT HAVE CRITICALITIES DIFFERENT THAN FMEA 02-6-SYSTEM-3. FMEA 02-6-SYSTEM REPRESENTS WORST CASE HYDRAULIC LINE RUPTURE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-467
NASA FMEA #: 02-6-SYSTEM-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 467
ITEM: HYDRAULIC LINE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
FMEA 02-6-SYSTEM-3 REPRESENTS WORST CASE HYDRAULIC LINE RUPTURE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-468
NASA FMEA #: 02-6-SYSTEM-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 468
ITEM: HYDRAULIC LINE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
FMEA 02-6-SYSTEM-3 REPRESENTS WORST CASE HYDRAULIC LINE RUPTURE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-469
NASA FMEA #: 02-6-G04-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 469
ITEM: REDUNDANT SHUTOFF VALVE (N.O.)

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[2 /1R]	[P]	[F]	[P]	[X]
COMPARE	[N /]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
THE IOA CRITICALITY IS BASED ON THE UNDERSTANDING THAT THE PYRO UNLOCK MECHANISM CANNOT OVERRIDE HYDRAULIC PRESSURE LOCKUP.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-470
NASA FMEA #: 02-6-G04-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 470
ITEM: REDUNDANT SHUTTOFF VALVE (N.O.)

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-471
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 471
ITEM: REDUNDANT SHUTOFF VALVE (N.O.)

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[F]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
A SECOND FMEA SHOULD BE WRITTEN TO COVER EXTERNAL LEAKS THAT ARE NOT DETECTABLE DURING FLIGHT PER DOC. NSTS 22206 DEFINITION.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-472
NASA FMEA #: 02-6-G05-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 472
ITEM: LANDING GEAR DUMP SOLENOID VALVE (N.C.)

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[2 /]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
FAILURE OF REDUNDANT ITEM (L.G. CONTROL/UPCIRC VALVE) WILL RESULT IN HYDRAULIC LOCKUP, WHICH CANNOT BE OVERRIDDEN BY PYRO.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-473
NASA FMEA #: 02-6-G05-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 473
ITEM: LANDING GEAR DUMP SOLENOID VALVE (N.C.)

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-474
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 474
ITEM: LANDING GEAR DUMP SOLENOID VALVE (N.C.)

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
FMEA CORRECT. SHOULD PASS SCREEN B.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-475
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 475
ITEM: PRIORITY VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DELETE THIS MDAC ID. BECAUSE OF VALVE DESIGN, IT IS IDENTICAL TO MDAC ID 476.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-476
NASA FMEA #: 02-6-E23-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 476
ITEM: PRIORITY VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-477
NASA FMEA #: 02-6-E23-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 477
ITEM: PRIORITY VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-478
NASA FMEA #: 02-6-E12-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 478
ITEM: ACCUMULATOR DUMP VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
AGREE WITH NASA EVALUATION. INADEQUATE INFORMATION AVAILABLE AT TIME OF IOA ANALYSIS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-479
NASA FMEA #: 02-6-C07-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 479
ITEM: LANDING GEAR ISOLATION VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
FMEA 02-6-C07-2 INCORPORATES MDAC ID'S 479 AND 480.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-480
NASA FMEA #: 02-6-C07-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 480
ITEM: LANDING GEAR ISOLATION VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
FMEA 02-6-C07-2 INCORPORATES MDAC ID'S 479 AND 480.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-481
NASA FMEA #: 02-6-C07-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 481
ITEM: LANDING GEAR ISOLATION VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
FMEA 02-6-C07-1 INCORPORATES MDAC ID'S 481 AND 482.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-482
NASA FMEA #: 02-6-C07-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 482
ITEM: LANDING GEAR ISOLATION VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
FMEA 02-6-C07-1 INCORPORATES MDAC ID'S 481 AND 482.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-483
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 483
ITEM: LANDING GEAR ISOLATION VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
RECOMMEND DELETING THIS FAILURE (MDAC ID 483). VALVE DESIGN MAKES IT NON-THREATENING.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-484
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 484
ITEM: LANDING GEAR ISOLATION VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-485
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 485
ITEM: LANDING GEAR ISOLATION VALVE POS. INDICATION

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS THAT FMEA BE WRITTEN TO COVER THIS FAILURE. LANDING GEAR ISO-VALVE "FAILS TO OPEN" (FMEA 02-6-C07-2) OR "PREMATURE OPEN" (FMEA 02-6-C07-1) ARE CRITICALITY 2/1R.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-486
NASA FMEA #: 02-6-G13-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 486
ITEM: LANDING GEAR CONTROL UP/CIRC. SOLENOID VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[2 /1R]	[P]	[F]	[P]	[X]
COMPARE	[N /]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[2 /1R]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
THE IOA CRITICALITY IS BASED ON THE UNDERSTANDING THAT THE PYRO UNLOCK MECHANISM CANNOT OVERRIDE HYDRAULIC PRESSURE LOCKUP.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-487
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 487
ITEM: LANDING GEAR CONTROL UP/CIRC. SOLENOID VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /1R]	[P]	[F]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[2 /1R] [P] [F] [P] [A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA DELETED FMEA 02-6-G13-3. THIS FMEA SHOULD BE RETAINED. IF THE VALVE FAILS TO CLOSE ON THE GOUND AND REMAINED IN THE OPEN POSITION, THIS FAILURE WOULD HAVE A FLIGHT CRITICALITY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-488
NASA FMEA #: 02-6-G13-4

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 488
ITEM: LANDING GEAR CONTROL UP/CIRC. SOLENOID VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-489
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 489
ITEM: LANDING GEAR CONTROL UP/CIRC SOLENOID VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[F]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
A SECOND FMEA SHOULD BE WRITTEN TO COVER EXTERNAL LEAKS THAT ARE NOT DETECTABLE DURING FLIGHT PER DOC. 22206 DEFINITION./

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-490
NASA FMEA #: 02-6-G14-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 490
ITEM: RESTRICTOR, HYDRAULIC, L.G. RETRACT LINE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[ER]	[F]	[P]	[X]
COMPARE	[/]	[N]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [X]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-491
NASA FMEA #: 02-6-G02-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 491
ITEM: LANDING GEAR CONTROL VALVE-2POS, 3WAY, SOLENOID OPERATED

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-492
NASA FMEA #: 02-6-G02-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 492
ITEM: LANDING GEAR CONTROL VALVE-2POS, 3WAY, SOLENOID OPERATED

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[1 /1]	[NA]	[NA]	[NA]	[X] *
IOA	[1 /1]	[NA]	[NA]	[NA]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-493
NASA FMEA #: 02-6-G02-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 493
ITEM: LANDING GEAR CONTROL VALVE-2POS, 3WAY, SOLENOID OPERATED

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-494
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 494
ITEM: LANDING GEAR CONTROL VALVE - 2 POS, 3 WAY, SOLENOID

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[F]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
A SECOND FMEA SHOULD BE WRITTEN TO COVER EXTERNAL LEAKS THAT ARE NOT DETECTABLE DURING FLIGHT PER DOC. 22206 DEFINITION.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-495
NASA FMEA #: 02-6-A06-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 495
ITEM: MPS/TVC SHUTOFF VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-496
NASA FMEA #: 02-6-A06-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 496
ITEM: MPS/TVC SHUTOFF VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-497
NASA FMEA #: 02-6-A06-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 497
ITEM: MPS/TVC SHUTOFF VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-498
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 498
ITEM: MPS/TVC SHUTOFF VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-600
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 600
ITEM: PUMP (MECHANICAL)

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-601
NASA FMEA #: 02-6-E06-5

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 601
ITEM: PUMP (MECHANICAL)

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[1 /1]	[NA]	[NA]	[NA]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA RESOURCES ARE INADEQUATE TO ADEQUATELY ASSESS THE NASA RATIONALE FOR A 1/1 CRITICALITY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-602
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 602
ITEM: PUMP (MECHANICAL)

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
RECOMMEND DELETING MDAC 602. RESTRICTED FLOWS WOULD REALISTICALLY OCCUR AT FILTERS AND ORIFICES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-603
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 603
ITEM: DEPRESSURIZATION VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-604
NASA FMEA #: 02-6-E06-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 604
ITEM: DEPRESSURIZATION VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-605
NASA FMEA #: 02-6-E06-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 605
ITEM: DEPRESSURIZATION VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-606
NASA FMEA #: 02-6-E06-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 606
ITEM: DEPRESSURIZATION VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-607
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 607
ITEM: DEPRESSURIZATION VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-608
NASA FMEA #: 02-6-E06-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 608
ITEM: DEPRESSURIZATION VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-609
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 609
ITEM: PRESSURE COMPENSATOR SPOOL VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-610
NASA FMEA #: 02-6-E06-5

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 610
ITEM: PRESSURE COMPENSATOR SPOOL VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-611
NASA FMEA #: 02-6-E06-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 611
ITEM: PRESSURE COMPENSATOR SPOOL VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-612
NASA FMEA #: 02-6-E30-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 612
ITEM: FLEX HOSE (SUCTION)

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-613
NASA FMEA #: 02-6-E30-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 613
ITEM: FLEX HOSE (SUPPLY)

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-614
NASA FMEA #: 02-6-E30-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 614
ITEM: FLEX HOSE (CASE)

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-615
NASA FMEA #: 02-6-E04-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 615
ITEM: SHAFT SEAL DRAIN PORT

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-619
NASA FMEA #: 02-6-E09-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 619
ITEM: CHECK VALVE (SUPPLY)

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[F]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH NASA SCREEN B RATIONALE. HAD NOT CONSIDERED TIME FACTOR.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-620
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 620
ITEM: CHECK VALVE (SUPPLY)

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-621
NASA FMEA #: 02-6-E07-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 621
ITEM: CHECK VALVE (CASE)

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[2 /1R]	[NA]	[NA]	[NA]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
AGREE WITH NASA CRITICALITIES. A CLOSED CHECK VALVE IS NOT CREDIBLE, SINCE THE VALVE HAS A LOW OPENING PRESSURE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-622
NASA FMEA #: 02-6-E07-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 622
ITEM: CHECK VALVE (CASE)

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-623
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 623
ITEM: CHECK VALVE (CASE)

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-624
NASA FMEA #: 02-6-E03-5

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 624
ITEM: HYDRAULIC RESERVOIR

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-625
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 625
ITEM: HYDRAULIC RESERVOIR

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DELETE THIS ASSESSMENT WORKSHEET. THE RESERVOIR PRESSURE SHOULD BE GREAT ENOUGH TO OVERCOME ANY BINDING.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-626
NASA FMEA #: 02-6-E03-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 626
ITEM: HYDRAULIC RESERVOIR

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-627
NASA FMEA #: 02-6-E03-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 627
ITEM: HYDRAULIC RESERVOIR

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-628
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 628
ITEM: LOW PRESSURE RELIEF VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /1R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS THAT A FMEA BE CREATED TO COVER THIS FAILURE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-629
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 629
ITEM: LOW PRESSURE RELIEF VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-630
NASA FMEA #: 02-6-E03-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 630
ITEM: LOW PRESSURE RELIEF VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-631
NASA FMEA #: 02-6-E03-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 631
ITEM: LOW PRESSURE RELIEF VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-632
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 632
ITEM: HORIZONTAL/BLEED SAMPLE VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-633
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 633
ITEM: VERTICAL/BLEED SAMPLE VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-634
NASA FMEA #: 02-6-E03-4

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 634
ITEM: FLUID VOLUME TRANSDUCER

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-635
NASA FMEA #: 02-6-E03-4

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 635
ITEM: FLUID VOLUME TRANSDUCER

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-636
NASA FMEA #: 02-6-E03-4

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 636
ITEM: FLUID VOLUME TRANSDUCER

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-637
NASA FMEA #: 02-6-SYSTEM-7

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 637
ITEM: PRESSURE TRANSDUCER

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-638
NASA FMEA #: 02-6-SYSTEM-7

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 638
ITEM: PRESSURE TRANSDUCER

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-639
NASA FMEA #: 02-6-SYSTEM-7

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 639
ITEM: PRESSURE TRANSDUCER

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-643
NASA FMEA #: 02-6-C05-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 643
ITEM: E.T. UMBILICAL RETRACT ACTUATOR

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-644
NASA FMEA #: 02-6-C05-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 644
ITEM: E.T. UMBILICAL RETRACT ACTUATOR

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-645
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 645
ITEM: E.T. UMBILICAL RETRACT ACTUATOR

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[3 /3]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS THAT A FMEA BE WRITTEN TO COVER AN INTERNAL LEAKAGE FAILURE FOR AN E.T. UMBILICAL ACTUATOR.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-646
NASA FMEA #: 02-6-C05-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 646
ITEM: E.T. UMBILICAL RETRACT ACTUATOR

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH NASA ASSESSMENT RATIONALE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-646A
NASA FMEA #: 02-6-C05-4

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 646
ITEM: E.T. UMBILICAL RETRACT ACTUATOR

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH NASA ASSESSMENT RATIONALE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-647
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 647
ITEM: EXTEND SOLENOID VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS FAILURE SHOULD BE COVERED BY THE RECOMMENDED FMEA COVERING INTERNAL LEAKAGE FAILURE OF AN E.T. UMBILICAL ACTUATOR. (REFERENCE MDAC ID #645)

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-648
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 648
ITEM: EXTEND SOLENOID VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THIS FAILURE, SINCE IT WOULD HAVE NO EFFECT IN FLIGHT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-649
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 649
ITEM: EXTEND SOLENOID VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DELETE THIS ASSESSMENT WORKSHEET. THIS FAILURE WOULD EFFECT GROUND OPERATIONS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-650
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 650
ITEM: FLOW CONTROL VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /3]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
A "RESTRICTED FLOW" OR "FAILS CLOSED" FAILURE MODE SHOULD BE CREATED FOR THE HYDRAULIC SYSTEM AND ITS COMPONENTS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-651
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 651
ITEM: FLOW CONTROL VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS FAILURE SHOULD BE COVERED BY THE RECOMMENDED FMEA COVERING INTERNAL LEAKAGE FAILURE OF AN E.T. UMBILICAL ACTUATOR. (REFERENCE MDAC ID #645)

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-652
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 652
ITEM: EXTEND SWITCHING VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS DELETING THIS FAILURE, SINCE IT WOULD HAVE NO EFFECT IN FLIGHT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-653
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 653
ITEM: EXTEND SWITCHING VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS FAILURE SHOULD BE COVERED BY THE RECOMMENDED FMEA COVERING INTERNAL LEAKAGE FAILURE OF AN E.T. UMBILICAL ACTUATOR.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-654
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 654
ITEM: BYPASS FLOW VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS FAILURE SHOULD BE COVERED BY THE RECOMMENDED FMEA COVERING INTERNAL LEAKAGE FAILURE OF AN E.T. UMBILICAL ACTUATOR.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-655
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 655
ITEM: BYPASS FLOW VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[3 /3]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
A "RESTRICTED FLOW" OR "FAILS CLOSED" FAILURE MODE SHOULD BE CREATED FOR THE HYDRAULIC SYSTEM AND ITS COMPONENTS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-656
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 656
ITEM: RESET VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[3 /3]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
A "RESTRICTED FLOW" OR "FAILS CLOSED" FAILURE MODE SHOULD BE CREATED FOR THE HYDRAULIC SYSTEM AND ITS COMPONENTS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-657
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 657
ITEM: RESET VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS ASSESSMENT SHOULD BE COVERED BY THE RECOMMENDED INTERNAL LEAKAGE FAILURE OF AN E.T. UMBILICAL ACTUATOR.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-658
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 658
ITEM: DAMPER ASSEMBLY

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[3 /3]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
A "RESTRICTED FLOW" OR "FAILS CLOSED" FAILURE MODE SHOULD BE CREATED FOR THE HYDRAULIC SYSTEM AND ITS COMPONENTS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-659
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 659
ITEM: RETRACT SOLENOID VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[3 /3]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
A "RESTRICTED FLOW" OR "FAILS CLOSED" FAILURE MODE SHOULD BE CREATED FOR THE HYDRAULIC SYSTEM AND ITS COMPONENTS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-660
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 660
ITEM: RETRACT SOLENOID VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS ASSESSMENT SHOULD BE COVERED BY THE RECOMMENDED INTERNAL LEAKAGE FAILURE OF AN E.T. UMBILICAL ACTUATOR.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-661
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 661
ITEM: RETRACT SOLENOID VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[3 /3]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
A NEW FMEA SHOULD BE CREATED TO COVER THIS FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-662
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 662
ITEM: LOCK VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /3]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
A "RESTRICTED FLOW" OR "FAILS CLOSED" FAILURE MODE SHOULD BE CREATED FOR THE HYDRAULIC SYSTEM AND ITS COMPONENTS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-663
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 663
ITEM: LOCK VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS ASSESSMENT SHOULD BE COVERED BY THE RECOMMENDED INTERNAL LEAKAGE FAILURE OF AN E.T. UMBILICAL ACTUATOR.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-664
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 664
ITEM: RETRACT SWITCHING VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[3 /3]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
A "RESTRICTED FLOW" OR "FAILS CLOSED" FAILURE MODE SHOULD BE CREATED FOR THE HYDRAULIC SYSTEM AND ITS COMPONENTS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-665
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 665
ITEM: RETRACT SWITCHING VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS ASSESSMENT SHOULD BE COVERED BY THE RECOMMENDED INTERNAL LEAKAGE FAILURE OF AN E.T. UMBILICAL ACTUATOR.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-666
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 666
ITEM: THERMAL RELIEF VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /3]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
A "RESTRICTED FLOW" OR "FAILS CLOSED" FAILURE MODE SHOULD BE CREATED FOR THE HYDRAULIC SYSTEM AND ITS COMPONENTS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-667
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 667
ITEM: THERMAL RELIEF VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS ASSESSMENT SHOULD BE COVERED BY THE RECOMMENDED INTERNAL LEAKAGE FAILURE OF AN E.T. UMBILICAL ACTUATOR.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-668
NASA FMEA #: 02-6-C05-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 668
ITEM: SHAFT DRAIN SEAL

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-669
NASA FMEA #: 02-6-C09-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 669
ITEM: FLEX HOSE & SWIVEL ASSEMBLY (SUPPLY)

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87 NASA DATA:
ASSESSMENT ID: HYDWSB-670 BASELINE [ ]
NASA FMEA #: 02-6-C09-1 NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 670
ITEM: FLEX HOSE & SWIVEL ASSEMBLY (RETURN)

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-671
NASA FMEA #: 02-6-C10-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 671
ITEM: CHECK VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[N /]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /1R]	[P]	[F]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
HARDWARE CRITICALITY FOR THE E.T. UMBILICAL ACTUATOR SHOULD BE A "3". TWO OF THE THREE ACTUATORS PER SIDE COULD FAIL WITHOUT DAMAGING THE ORBITER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-672
NASA FMEA #: 02-6-C10-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 672
ITEM: CHECK VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[F]	[NA]	[P]	[X] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[N]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[3 /3]	[NA]	[NA]	[NA]	[D] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [X]

REMARKS:
RECOMMEND FUNCTIONAL CRITICALITY BE CHANGED TO 3. THE "FAILS TO CLOSE" FAILURE COULD ONLY EFFECT THE HARDWARE AFTER ITS FUNCTION HAS BEEN COMPLETED.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-673
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 673
ITEM: CHECK VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-677
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 677
ITEM: MANUAL DRAIN VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-678
NASA FMEA #: 02-6-E13-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 678
ITEM: DRAIN (FROM RESERVOIRS, MAIN PUMPS, AND ACCUMULATORS)

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-679
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 679
ITEM: DRAIN (OVERBOARD)

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DELETE ASSESSMENT (MDAC #679). THIS FAILURE WOULD HAVE NO SIGNIFICANT EFFECT IN FLIGHT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-680
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 680
ITEM: SHAFT SEAL DRAIN HOSE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DELETE ASSESSMENT (MDAC #680). THIS FAILURE WOULD HAVE NO SIGNIFICANT EFFECT IN FLIGHT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-681
NASA FMEA #: 02-6-E13-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 681
ITEM: SHAFT SEAL DRAIN HOSE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-682
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 682
ITEM: SHAFT SEAL MANIFOLD DRAIN

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DELETE ASSESSMENT (MDAC #682). THIS FAILURE WOULD HAVE NO SIGNIFICANT EFFECT IN FLIGHT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-683
NASA FMEA #: 02-6-E13-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 683
ITEM: SHAFT SEAL MANIFOLD DRAIN

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-684
NASA FMEA #: 02-6-E04-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 684
ITEM: OLEOPHOBIC FILTER (TYPE I)

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-685
NASA FMEA #: 02-6-E05-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 685
ITEM: SURFACE THERMAL SWITCH

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-686
NASA FMEA #: 02-6-E05-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 686
ITEM: SURFACE THERMAL SWITCH

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-687
NASA FMEA #: 02-6-E05-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 687
ITEM: LINE ELECTRIC HEATERS

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH NASA CRITICALITY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-688
NASA FMEA #: 02-6-E05-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 688
ITEM: LINE ELECTRIC HEATERS

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH NASA CRITICALITY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-689
NASA FMEA #: 02-6-E04-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 689
ITEM: OLEOPHOBIC FILTER (TYPE II)

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-690
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 690
ITEM: MANIFOLD SHAFT SEAL DRAIN

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DELETE ASSESSMENT (MDAC #690). THIS FAILURE WOULD HAVE NO SIGNIFICANT EFFECT IN FLIGHT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-691
NASA FMEA #: 02-6-E13-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 691
ITEM: MANIFOLD SHAFT SEAL DRAIN

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-692
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 692
ITEM: OVERBOARD DRAIN

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DELETE ASSESSMENT (MDAC #692). THIS FAILURE WOULD HAVE NO SIGNIFICANT EFFECT IN FLIGHT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-693
NASA FMEA #: 02-6-E13-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 693
ITEM: OVERBOARD DRAIN

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87 NASA DATA:
ASSESSMENT ID: HYDWSB-694 BASELINE [ ]
NASA FMEA #: 02-6-E04-1 NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 694
ITEM: OLEPHOBIC FILTER (TYPE I)

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-695
NASA FMEA #: 02-6-E05

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 695
ITEM: SURFACE THERMAL SWITCH

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-696
NASA FMEA #: 02-6-E05-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 696
ITEM: SURFACE THERMAL SWITCH

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-697
NASA FMEA #: 02-6-E05-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 697
ITEM: LINE ELECTRIC HEATER

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH NASA CRITICALITY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-698
NASA FMEA #: 02-6-E05-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 698
ITEM: LINE ELECTRIC HEATER

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH NASA CRITICALITY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-699
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 699
ITEM: CIRCULATION PUMP CHECK VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-700
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 700
ITEM: CIRCULATION PUMP CHECK VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DELETE ASSESSMENT (MDAC #700). EFFECT OF FAILURE IS LOSS OF THERMAL CONTROL BY THE CIRCULATION PUMP FOR ONE SYSTEM. THIS FAILURE IS HIGHLY IMPROBABLE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-701
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 701
ITEM: GSE CHECK VALVE

LEAD ANALYST: W.E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DELETE THIS FAILURE ANALYSIS SHEET. RUPTURE OF CHECK VALVE INFLIGHT IS SIGNIFICANTLY LESS PROBABLE THAN RUPTURE OF HYDRAULIC LINES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-702
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 702
ITEM: GSE CHECK VALVE

LEAD ANALYST: W.E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DELETE THIS FAILURE ANALYSIS SHEET. THIS FAILURE WOULD BE RECOGNIZED ON THE GROUND AND WOULD NOT BECOME A FLIGHT PROBLEM.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-703
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 703
ITEM: GSE CHECK VALVE

LEAD ANALYST: W.E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DELETE THIS FAILURE ANALYSIS SHEET. THIS FAILURE WOULD BE RECOGNIZED ON THE GROUND AND WOULD NOT BECOME A FLIGHT PROBLEM.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-704
NASA FMEA #: 02-6-E10-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 704
ITEM: CIRCULATION PUMP CHECK VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-705
NASA FMEA #: 02-6-E11

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 705
ITEM: PRESSURE TRANSDUCER

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-706
NASA FMEA #: 02-6-E11

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 706
ITEM: PRESSURE TRANSDUCER

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-707
NASA FMEA #: 02-6-E11

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 707
ITEM: PRESSURE TRANSDUCER

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-708
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 708
ITEM: SUPPLY FILTER

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-709
NASA FMEA #: 02-6-E08-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 709
ITEM: SUPPLY FILTER

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-710
NASA FMEA #: 02-6-E11-A01

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 710
ITEM: PRESSURE TRANSDUCER

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-711
NASA FMEA #: 02-6-E11-A02

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 711
ITEM: PRESSURE TRANSDUCER

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-712
NASA FMEA #: 02-6-E11-A01

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 712
ITEM: PRESSURE TRANSDUCER

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-713
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 713
ITEM: RELIEF VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-714
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 714
ITEM: RELIEF VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /1R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS THAT A FMEA BE GENERATED TO RECOGNIZE THIS FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-715
NASA FMEA #: 02-6-E08-6

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 715
ITEM: RELIEF VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-716
NASA FMEA #: 02-6-E11-A01

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 716
ITEM: PRESSURE TRANSDUCER

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-717
NASA FMEA #: 02-6-E11-A02

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 717
ITEM: PRESSURE TRANSDUCER

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-718
NASA FMEA #: 02-6-E11-A01

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 718
ITEM: PRESSURE TRANSDUCER

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-719
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 719
ITEM: CASE FILTER

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-720
NASA FMEA #: 02-6-E08-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 720
ITEM: CASE FILTER

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-721
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 721
ITEM: RETURN FILTER

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-722
NASA FMEA #: 02-6-E08-4

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 722
ITEM: RETURN FILTER

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[F]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH NASA SCREEN B.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-723
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 723
ITEM: FREON/OIL HEAT EXCHANGER

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS FAILURE SHOULD BE IN THE ENVIRONMENTAL CONTROL SYSTEM FMEA PACKAGE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-724
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 724
ITEM: FREON/OIL HEAT EXCHANGER

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

	[2 /1R]	[P]	[P]	[P]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA RECOMMENDS THAT A FMEA BE GENERATED TO RECOGNIZE THIS FAILURE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-725
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 725
ITEM: FREON/OIL HEAT EXCHANGER

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-726
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 726
ITEM: FREON/OIL HEAT EXCHANGER

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DELETE THIS ASSESSMENT. THIS FAILURE WOULD PROBABLY OCCUR IN THE FILTER INSTEAD OF THE HEAT EXCHANGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-727
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 727
ITEM: FREON/OIL HEAT EXCHANGER

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DELETE THIS ASSESSMENT. RESTRICTED FLOW OF FREON IS NOT CREDIBLE.

C - 5

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-728
NASA FMEA #: 02-6-E39-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 728
ITEM: THERMAL CONTROL VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-729
NASA FMEA #: 02-6-E39-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 729
ITEM: THERMAL CONTROL VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-730
NASA FMEA #: 02-6-SYSTEM-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 730
ITEM: THERMAL CONTROL VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-731
NASA FMEA #: 02-6-E39-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 731
ITEM: THERMAL CONTROL VALVE

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
E39-3 WAS DELETED IN NASA REVIEW.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-800
NASA FMEA #: 05-6G-201200-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 800
ITEM: RESISTOR (SWITCH 28)

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/1R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
3/1R CRITICALITY IS BASED ON POSSIBILITY OF FLUID FREEZING LOCALLY AS A RESULT OF LOSS OF HEATERS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-801
NASA FMEA #: 05-6G-201200-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 801
ITEM: RESISTOR (SWITCH 28)

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-802
NASA FMEA #: 05-6G-201200-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 802
ITEM: SWITCH 28

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/1R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
3/1R CRITICALITY IS BASED ON POSSIBILITY OF FLUID FREEZING LOCALLY AS A RESULT OF LOSS OF HEATERS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-803
NASA FMEA #: 05-6G-201200-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 803
ITEM: REMOTE POWER CONTROLLER NO. 37

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/1R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
3/1R CRITICALITY IS BASED ON POSSIBILITY OF FLUID FREEZING LOCALLY AS A RESULT OF LOSS OF HEATERS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87 NASA DATA:
ASSESSMENT ID: HYDWSB-804 BASELINE [ ]
NASA FMEA #: 05-6G-201200-1 NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 804
ITEM: REMOTE POWER CONTROLLER NO. 37

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

RECOMMENDATIONS: (If different from NASA)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-805
NASA FMEA #: 05-6G-201100-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 805
ITEM: RESISTOR (SWITCH 19)

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/1R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
3/1R CRITICALITY IS BASED ON POSSIBILITY OF FLUID FREEZING LOCALLY AS A RESULT OF LOSS OF HEATERS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-806
NASA FMEA #: 05-6G-201100-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 806
ITEM: RESISTOR (SWITCH 19)

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-807
NASA FMEA #: 05-6G-201100-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 807
ITEM: SWITCH 19

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
3/1R CRITICALITY IS BASED ON POSSIBILITY OF FLUID FREEZING LOCALLY AS A RESULT OF LOSS OF HEATERS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-808
NASA FMEA #: 05-6G-201100-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 808
ITEM: SWITCH 19

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-809
NASA FMEA #: 05-6G-201100-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 809
ITEM: REMOTE POWER CONTROLLER NO. 40

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/1R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
3/1R CRITICALITY IS BASED ON POSSIBILITY OF FLUID FREEZING LOCALLY AS A RESULT OF LOSS OF HEATERS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87 NASA DATA:
ASSESSMENT ID: HYDWSB-810 BASELINE [ ]
NASA FMEA #: 05-6G-201100-1 NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 810
ITEM: REMOTE POWER CONTROLLER NO. 40

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-811
NASA FMEA #: 05-6G-201100-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 811
ITEM: FUSE 51, 52, 53

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
3/1R CRITICALITY IS BASED ON POSSIBILITY OF FLUID FREEZING LOCALLY AS A RESULT OF LOSS OF HEATERS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-812
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 812
ITEM: THERMOSTAT (S16, S17, S4)

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DELETE MDAC ID #812. THIS ITEM WAS COVERED IN THE HEATER HARDWARE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-813
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 813
ITEM: THERMOSTAT (S16, S17, S4)

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DELETE MDAC ID #813. THIS ITEM WAS COVERED IN THE HEATER HARDWARE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-814
NASA FMEA #: 05-6G-201000-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 814
ITEM: MASTER EVENTS CONTROLLER

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[N /]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA CRITICALITY IS MISPRINT SHOULD BE 2/1R.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-815
NASA FMEA #: 05-6G-201000-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 815
ITEM: MASTER EVENTS CONTROLLER

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87 NASA DATA:
ASSESSMENT ID: HYDWSB-816 BASELINE [ ]
NASA FMEA #: 05-6G-200400-1NC NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 816
ITEM: POWER CONTACTOR (K3, K4)

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/3]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FUNCTION OF THIS ITEM IS TO PROVIDE POWER TO ONE CIRC PUMP. LOSS OF ALL REDUNDANCY MEANS LOSS OF POWER TO ONE CIRC PUMP. LOSS OF ONE CIRC. PUMP WILL NOT RESULT IN LOSS OF LIFE OR VEHICLE NOR WILL IT RESULT IN LOSS OF MISSION. LOSS OF A CIRC. PUMP IS CRITICALITY 3/1R.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-817
NASA FMEA #: 05-6G-2114-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 817
ITEM: POWER CONTACTOR (K3, K4)

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[F]	[F]	[P]	[X] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[/3]	[NA]	[NA]	[NA]	[D] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FUNCTION OF THIS ITEM IS TO CONTROL POWER TO ONE CIRC PUMP. LOSS OF ALL REDUNDANCY MEANS POSSIBLE LOSS OF ONE CIRC PUMP AT APU START OR DURING APU OPERATION. LOSS OF ONE CIRC. PUMP WILL NOT RESULT IN LOSS OF LIFE OR VEHICLE NOR WILL IT RESULT IN LOSS OF MISSION. LOSS OF A CIRC. PUMP IS CRITICALITY 3/1R.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-818
NASA FMEA #: 05-6G-2110-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 818
ITEM: HYBRID DRIVER (K3), AR TYPE III

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/3]	[NA]	[NA]	[NA]	[D] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FUNCTION OF THIS ITEM IS TO PROVIDE POWER TO ONE CIRC PUMP. LOSS OF ALL REDUNDANCY MEANS POSSIBLE LOSS OF ONE CIRC PUMP AT APU START OR DURING APU OPERATION. LOSS OF ONE CIRC. PUMP WILL NOT RESULT IN LOSS OF LIFE OR VEHICLE NOR WILL IT RESULT IN LOSS OF MISSION. LOSS OF A CIRC. PUMP IS CRITICALITY 3/1R.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87 NASA DATA:
ASSESSMENT ID: HYDWSB-819 BASELINE [ ]
NASA FMEA #: 05-6G-200400-1L1 NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 819
ITEM: HYBRID DRIVER (K3), AR TYPE III

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/3]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FUNCTION OF THIS ITEM IS TO PROVIDE POWER TO ONE CIRC PUMP. LOSS OF ALL REDUNDANCY MEANS LOSS OF POWER TO ONE CIRC PUMP. LOSS OF ONE CIRC. PUMP WILL NOT RESULT IN LOSS OF LIFE OR VEHICLE NOR WILL IT RESULT IN LOSS OF MISSION. LOSS OF A CIRC. PUMP IS CRITICALITY 3/1R.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87 NASA DATA:
ASSESSMENT ID: HYDWSB-820 BASELINE [ ]
NASA FMEA #: 05-6G-200400-1L1 NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 820
ITEM: HYBRID DRIVER (K4), AR TYPE III

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/3] [NA] [NA] [NA] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FUNCTION OF THIS ITEM IS TO PROVIDE POWER TO ONE CIRC PUMP. LOSS OF ALL REDUNDANCY MEANS LOSS OF POWER TO ONE CIRC PUMP. LOSS OF ONE CIRC. PUMP WILL NOT RESULT IN LOSS OF LIFE OR VEHICLE NOR WILL IT RESULT IN LOSS OF MISSION. LOSS OF A CIRC. PUMP IS CRITICALITY 3/1R.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-821
NASA FMEA #: 05-6G-2110-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 821
ITEM: HYBRID DRIVER (K4), AR TYPE III

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[/3]	[NA]	[NA]	[NA]	[D] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FUNCTION OF THIS ITEM IS TO CONTROL POWER TO ONE CIRC PUMP. LOSS OF ALL REDUNDANCY MEANS POSSIBLE LOSS OF ONE CIRC PUMP AT APU START OR DURING APU OPERATION. LOSS OF ONE CIRC. PUMP WILL NOT RESULT IN LOSS OF LIFE OR VEHICLE NOR WILL IT RESULT IN LOSS OF MISSION. LOSS OF A CIRC. PUMP IS CRITICALITY 3/1R.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87 NASA DATA:
ASSESSMENT ID: HYDWSB-822 BASELINE [ ]
NASA FMEA #: 05-6G-200400-1M2 NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 822
ITEM: HYBRID DRIVER (K4), AR TYPE II

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /3] [NA] [NA] [NA] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FUNCTION OF THIS DRIVER IS TO PREVENT CIRC PUMP OPERATION DURING APU OPERATION. INADVERTENT OPERATION INHIBITS ONE REDUNDANT POWER SOURCE TO CIRC. PUMP.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-823
NASA FMEA #: 05-6G-200400-1M1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 823
ITEM: HYBRID DRIVER (K4), AR TYPE II

LEAD ANALYST: W. E. PARKMAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREENS SHOULD BE NAs PER NSTS 22206 DOCUMENT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-824
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 824
ITEM: RESISTOR, CURRENT LIMITER - 1.2K

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO NASA FMEA. NOT CONSIDERED A CREDIBLE FAILURE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-825
NASA FMEA #: 05-6G-200400-10

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 825
ITEM: RESISTOR, CURRENT LIMITER - 1.2K

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-826
NASA FMEA #: 05-6G-200400-1K

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 826
ITEM: BLOCKING DIODE - 3A

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-827
NASA FMEA #: 05-6G-200400-1K

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 827
ITEM: BLOCKING DIODE - 3A

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-828
NASA FMEA #: 05-6G-200400-1Q

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 828
ITEM: RESISTOR CURRENT LIMITER - 5.1K

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-829
NASA FMEA #: 05-6G-200400-1Q

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 829
ITEM: RESISTOR, CURRENT LIMITER - 5.1K

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87 NASA DATA:
ASSESSMENT ID: HYDWSB-830 BASELINE [ ]
NASA FMEA #: 05-6G-200400-1P NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 830
ITEM: RESISTORS - VOLTAGE DIVIDERS - 1.8K

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-831
NASA FMEA #: 05-6G-200400-1P

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 831
ITEM: RESISTORS - VOLTAGE DIVIDERS - 1.8K

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87 NASA DATA:
ASSESSMENT ID: HYDWSB-832 BASELINE [ ]
NASA FMEA #: 05-6G-200400-1Q NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 832
ITEM: CURRENT LIMITER RESISTORS 2.15K

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [NA] [NA] [NA] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-833
NASA FMEA #: 05-6G-200400-1Q

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 833
ITEM: CURRENT LIMITER RESISTORS 2.15K

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREEN SHOULD BE BLANK PER NSTS-22206.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-834
NASA FMEA #: 05-6G-200400-1I1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 834
ITEM: BLOCKING DIODE - 3A

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-835
NASA FMEA #: 05-6G-200400-1I2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 835
ITEM: BLOCKING DIODE - 3A

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/3]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FUNCTION OF THIS ITEM IS TO PROVIDE POWER TO ONE CIRC. PUMP. LOSS OF ALL REDUNDANCY MEANS LOSS OF POWER TO ONE CIRC. PUMP. LOSS OF ONE CIRC. PUMP WILL NOT RESULT IN LOSS OF LIFE OR VEHICLE NOR WILL IT RESULT IN LOSS OF MISSION. LOSS OF A CIRC. PUMP IS CRITICALITY 3/1R.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87 NASA DATA:
ASSESSMENT ID: HYDWSB-836 BASELINE [ ]
NASA FMEA #: 05-6G-200400-1J NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 836
ITEM: BLOCKING DIODE - MDM CIRCUIT 3A

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-837
NASA FMEA #: 05-6G-200400-1JA

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 837
ITEM: BLOCKING DIODE - MDM CIRCUIT 3A

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/3]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FUNCTION OF THIS ITEM IS TO ENABLE THE GPC TO PROVIDE POWER TO ONE CIRC PUMP. LOSS OF ALL REDUNDANCY MEANS LOSS OF POWER TO ONE CIRC. PUMP. LOSS OF ONE CIRC. PUMP WILL NOT RESULT IN LOSS OF LIFE OR VEHICLE NOR WILL IT RESULT IN LOSS OF MISSION. LOSS OF A CIRC. PUMP IS CRITICALITY 3/1R.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87 NASA DATA:
ASSESSMENT ID: HYDWSB-838 BASELINE [ ]
NASA FMEA #: 05-6G-200400-1I-1 NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 838
ITEM: BLOCKING DIODES SW "ON" CIRCUIT (3A)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-839
NASA FMEA #: 05-6G-200400-1I2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 839
ITEM: BLOCKING DIODES SW "ON" CIRCUIT (3A)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/3]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FUNCTION OF THIS ITEM IS TO PROVIDE POWER TO ONE CIRC. PUMP. LOSS OF ALL REDUNDANCY MEANS LOSS OF POWER TO ONE CIRC. PUMP. LOSS OF ONE CIRC. PUMP WILL NOT RESULT IN LOSS OF LIFE OR VEHICLE NOR WILL IT RESULT IN LOSS OF MISSION. LOSS OF A CIRC. PUMP IS CRITICALITY 3/1R.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87 NASA DATA:
ASSESSMENT ID: HYDWSB-840 BASELINE [ ]
NASA FMEA #: 05-6G-200400-1H NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 840
ITEM: CURRENT LIMITER RESISTOR, 1.21K

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/3]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FUNCTION OF THIS ITEM IS TO PROVIDE POWER TO ONE CIRC. PUMP. LOSS OF ALL REDUNDANCY MEANS LOSS OF POWER TO ONE CIRC. PUMP. LOSS OF ONE CIRC. PUMP WILL NOT RESULT IN LOSS OF LIFE OR VEHICLE NOR WILL IT RESULT IN LOSS OF MISSION. LOSS OF A CIRC. PUMP IS CRITICALITY 3/1R.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-841
NASA FMEA #: 05-6G-200400-1F

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 841
ITEM: HYD CIRC PUMP SW 29

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/3]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FUNCTION OF THIS SWITCH IS TO CONTROL THE CIRC. PUMP OPERATION. APU SWITCH TURNS OFF PUMP DURING APU OPERATION. THERE IS NOT REDUNDANT CAPABILITY TO TURN OFF THE CIRC. PUMP AFTER THIS FAILURE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-842
NASA FMEA #: 05-6G-200400-1D

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 842
ITEM: HYD CIRC PUMP SW 29

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [NA] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREEN B NOT APPLICABLE FOR STANDBY REDUNDANCY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-843
NASA FMEA #: 05-6G-200400-1E

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 843
ITEM: HYD CIRC PUMP SW 29

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/3]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FUNCTION OF THIS ITEM IS TO PROVIDE POWER TO ONE CIRC. PUMP. LOSS OF ALL REDUNDANCY MEANS LOSS OF POWER TO ONE CIRC. PUMP. LOSS OF ONE CIRC. PUMP WILL NOT RESULT IN LOSS OF LIFE OR VEHICLE NOR WILL IT RESULT IN LOSS OF MISSION. LOSS OF A CIRC. PUMP IS CRITICALITY 3/1R.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-844
NASA FMEA #: 05-6G-200400-1H

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 844
ITEM: CURRENT LIMITER RESISTOR, 1.21K

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/3]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FUNCTION OF THIS ITEM IS TO PROVDE POWER TO ONE CIRC. PUMP. LOSS OF ALL REDUNDANCY MEANS LOSS OF POWER TO ONE CIRC. PUMP. LOSS OF ONE CIRC. PUMP WILL NOT RESULT IN LOSS OF LIFE OR VEHICLE NOR WILL IT RESULT IN LOSS OF MISSION. LOSS OF A CIRC. PUMP IS CRITICALITY 3/1R.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-845
NASA FMEA #: 05-6G-200400-1G

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 845
ITEM: FUSE F7, F15

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/3]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FUNCTION OF THIS ITEM IS TO PROVDE POWER TO ONE CIRC. PUMP. LOSS OF ALL REDUNDANCY MEANS LOSS OF POWER TO ONE CIRC. PUMP. LOSS OF ONE CIRC. PUMP WILL NOT RESULT IN LOSS OF LIFE OR VEHICLE NOR WILL IT RESULT IN LOSS OF MISSION. LOSS OF A CIRC. PUMP IS CRITICALITY 3/1R.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-846
NASA FMEA #: 05-6G-200400-1A

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 846
ITEM: PWR SW S25

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/3]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FUNCTION OF THIS ITEM IS TO PROVDE POWER TO ONE CIRC. PUMP. LOSS OF ALL REDUNDANCY MEANS LOSS OF POWER TO ONE CIRC. PUMP. LOSS OF ONE CIRC. PUMP WILL NOT RESULT IN LOSS OF LIFE OR VEHICLE NOR WILL IT RESULT IN LOSS OF MISSION. LOSS OF A CIRC. PUMP IS CRITICALITY 3/1R.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-847
NASA FMEA #: 05-6G-200700-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 847
ITEM: HYDRAULIC FLUID QUANTITY METER, CB 57

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-848
NASA FMEA #: 05-6G-2080-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 848
ITEM: HYBRID DRIVER, TYPE IV

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
AFTER FURTHER REVIEW/ANALYSIS IOA CONCURS WITH THE NASA FMEA/CIL.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-849
NASA FMEA #: 05-6G-2080-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 849
ITEM: HYBRID DRIVER, TYPE IV

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-850
NASA FMEA #: 05-6G-200100-1E

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 850
ITEM: RPC

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[X] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[D] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH NASA ASSESSMENT. FAILURE DOES NOT MEET CIL CRITERIA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-851
NASA FMEA #: 05-6G-200100-1C

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 851
ITEM: RPC

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH NASA REDUNDANCY SCREEN B.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87 NASA DATA:
ASSESSMENT ID: HYDWSB-852 BASELINE [ ]
NASA FMEA #: 05-6G-200100-1JA NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 852
ITEM: BLOCKING DIODE, GROUND MDM (-1A,-3A)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREENS SHOULD BE BLANK PER NSTS-22206.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-853
NASA FMEA #: 05-6G-200100-1JA

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 853
ITEM: BLOCKING DIODE, GROUND MDM (-1A,-3A)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREENS SHOULD BE BLANK PER NSTS-22206.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87 NASA DATA:
ASSESSMENT ID: HYDWSB-854 BASELINE [ ]
NASA FMEA #: 05-6G-200100-1JB NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 854
ITEM: BLOCKING DIODES, GROUND MDM (-1A,-3A)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-854A
NASA FMEA #: 05-6G-200100-1JH

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 854
ITEM: BLOCKING DIODES, GROUND MDM (-1A,-3A)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87 NASA DATA:
ASSESSMENT ID: HYDWSB-855 BASELINE [ ]
NASA FMEA #: 05-6G-200100-1JC NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 855
ITEM: BLOCKING DIODES, (-1A,-3A)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREENS SHOULD BE BLANK PER NSTS-22206.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-855A
NASA FMEA #: 05-6G-200100-1JI

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 855
ITEM: BLOCKING DIODES, (-1A,-3A)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREENS SHOULD BE BLANK PER NSTS-22206.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-856
NASA FMEA #: 05-6G-200100-10B

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 856
ITEM: RESISTOR, CURRENT LIMITER (2.15K)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREENS SHOULD BE BLANK PER NSTS-22206.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-857
NASA FMEA #: 05-6G-200100-10B

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 857
ITEM: RESISTOR, CURRENT LIMITER (2.15K)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREENS SHOULD BE BLANK PER NSTS-22206.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-858
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 858
ITEM: RESISTOR, CURRENT LIMITER (5.1K)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /3]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO NASA FMEA. RECOMMEND FMEA FOR COMPLETENESS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-859
NASA FMEA #: 05-6G-200100-10B

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 859
ITEM: RESISTOR, CURRENT LIMITER (5.1K)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREEN SHOULD BE BLANK PER NSTS-22206.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-860
NASA FMEA #: 05-6G-2088-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 860
ITEM: SWITCH, HYD MAIN PUMP PRESS (S26,27,28)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-861
NASA FMEA #: 05-6G-2088-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 861
ITEM: SWITCH, HYD MAIN PUMP PRESS (S26,27,28)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-862
NASA FMEA #: 05-6G-200100-10A

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 862
ITEM: RESISTOR (1.8K)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREEN SHOULD BE BLANK PER NSTS-22206.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-863
NASA FMEA #: 05-6G-200100-10A

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 863
ITEM: RESISTOR, (1.8K)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREEN SHOULD BE BLANK PER NSTS-22206.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-864
NASA FMEA #: 05-6G-200100-10B

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 864
ITEM: RESISTOR, (2.2K)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREEN SHOULD BE BLANK PER NSTS-22206.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-865
NASA FMEA #: 05-6G-200100-10B

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 865
ITEM: RESISTOR, (2.2K)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREEN SHOULD BE BLANK PER NSTS-22206.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-866
NASA FMEA #: 05-6G-200100-1I

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 866
ITEM: FUSE (1A, F14)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH SCREEN B

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-867
NASA FMEA #: 05-6G-200100-1G

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 867
ITEM: CURRENT LIMITER RESISTOR (1.21K)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREEN SHOULD BE BLANK PER NSTS-22206.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-868
NASA FMEA #: 05-6G-200100-1H

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 868
ITEM: CURRENT LIMITER RESISTOR (1.21K)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH SCREEN B.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-869
NASA FMEA #: 05-6G-200100-1H

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 869
ITEM: CURRENT LIMITER RESISTOR (1.21K)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH SCREEN B

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-870
NASA FMEA #: 05-6G-200100-1G

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 870
ITEM: CURRENT LIMITER RESISTOR (1.21K)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREEN SHOULD BE BLANK PER NSTS-22206.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-871
NASA FMEA #: 05-6G-200100-1JG

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 871
ITEM: BLOCKING DIODE (15A)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /1R]	[F]	[F]	[P]	[X]
COMPARE	[/N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
CONCUR WITH NASA ASSESSMENT. DAMAGING TRANSIENTS FROM GROUND CIRCUIT NOT CREDIBLE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-872
NASA FMEA #: 05-6G-200100-1JF

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 872
ITEM: BLOCKING DIODE (15A)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-872A
NASA FMEA #: 05-6G-200100-1JFA

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 872
ITEM: BLOCKING DIODE (15A)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-873
NASA FMEA #: 05-6G-200100-1JE

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 873
ITEM: BLOCKING DIODE (12A)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-874
NASA FMEA #: 05-6G-2085-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 874
ITEM: BLOCKING DIODE (12A)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-875
NASA FMEA #: 05-6G-200300-1B

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 875
ITEM: LG RETRACT/CIRC VLV SW

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-876
NASA FMEA #: 05-6G-200300-1A

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 876
ITEM: LG RETRACT/CIRC VLV SW

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/3]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SPLIT INTO TWO FMEA'S. SWITCH FAILS IN "GPC" POSITION SHOULD BE SEPARATE FROM "OPEN" POSITION.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-877
NASA FMEA #: 05-6G-200300-1A

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 877
ITEM: LG RETRACT/CIRC VLV SW

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[F]	[P]	[X]
COMPARE	[N /]	[ ]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SPLIT INTO TWO FMEA'S. SWITCH FAILS IN "GPC" POSITION SHOULD BE SEPARATE FROM "OPEN" POSITION.
SWITCH IN "OPEN" POSITION REMOVES ONE LEVEL OF ISOLATION FROM "RETRACT" HYDRAULIC CIRCUIT. REDUNDANT S/O VALVE AND L.G. DUMP SOLENOID MUST ALSO FAIL. IOA CONCURS WITH NASA CRITICALITY AND SCREENS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-878
NASA FMEA #: 05-6G-2077-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 878
ITEM: INDICATOR

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-879
NASA FMEA #: 05-6G-2076-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 879
ITEM: RESISTOR, CURRENT LIMITER (1.21K)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-880
NASA FMEA #: 05-6G-2075-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 880
ITEM: RESISTOR, CURRENT LIMITER (5.1K)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-881
NASA FMEA #: 05-6G-2074-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 881
ITEM: BLOCKING DIODE, "CLOSE" GROUND COMMAND

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-882
NASA FMEA #: 05-6G-2073-1A

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 882
ITEM: BLOCKING DIODE (RETURN CIRCUIT)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREENS SHOULD BE BLANK PER NSTS-22206.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-883
NASA FMEA #: 05-6G-2073-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 883
ITEM: BLOCKING DIODE (RETURN CIRCUIT)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
2/1R CRITICALITY IS BASED ON INABILITY TO CENTER ENGINE FOR RE-ENTRY. REF. MDAC ID#497, FMEA-02-6-A06-3.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-884
NASA FMEA #: 05-6G-2072-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 884
ITEM: HYBRID DRIVER, TYPE IV, RETURN CIRCUIT

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[2 /1R]	[F]	[F]	[P]	[X]
COMPARE	[N /]	[N]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
AFTER FURTHER REVIEW/ANALYSIS IOA CONCURS WITH THE NASA FMEA/CIL EVALUATION.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87 NASA DATA:
ASSESSMENT ID: HYDWSB-885 BASELINE [ ]
NASA FMEA #: 05-6G-2072-1 NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 885
ITEM: HYBRID DRIVER, TYPE IV, RETURN CIRCUIT

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
2/1R CRITICALITY IS BASED ON INABILITY TO CENTER ENGINE FOR RE-ENTRY. REF. MDAC ID #497, FMEA-02-6-A06-3.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-886
NASA FMEA #: 05-6G-2071-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 886
ITEM: HYBRID DRIVER, TYPE III, VLV CLOSE CIRCUIT

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[2 /1R]	[P]	[F]	[P]	[X]
COMPARE	[N /]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
AFTER FURTHER REVIEW/ANALYSIS IOA CONCURS WITH THE NASA FMEA/CIL EVALUATION.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-887
NASA FMEA #: 05-6G-2071-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 887
ITEM: HYBRID DRIVER, TYPE III, VLV CLOSE CIRCUIT

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONCURS, SCREENS SHOULD BE BLANK PER NSTS-22206.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-888
NASA FMEA #: 05-6G-2070-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 888
ITEM: HYBRID DRIVER, TYPE III, VLV OPEN CIRCUIT

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONCURS, SCREENS SHOULD BE BLANK PER NSTS-22206.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-889
NASA FMEA #: 05-6G-2070-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 889
ITEM: HYBRID DRIVER, TYPE III, VLV OPEN CIRCUIT

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

C-6

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-890
NASA FMEA #: 05-6G-2069-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 890
ITEM: BLOCKING DIODE, 3A, CLOSE CIRCUIT

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONCURS, SCREEN SHOULD BE BLANK PER NSTS 22206.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-890A
NASA FMEA #: 05-6G-2069-1A

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 890
ITEM: BLOCKING DIODE, 3A, CLOSE CIRCUIT

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONCURS, SCREENS SHOULD BE BLANK PER NSTS-22206.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-891
NASA FMEA #: 05-6G-2068-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 891
ITEM: MPS/TVC ISO VLV CONTROL SW

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[NA]	[NA]	[NA]	[X]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH NASA REDUNDANCY SCREENS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-891A
NASA FMEA #: 05-6G-2068-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 891
ITEM: MPS/TVC ISO VLV CONTROL SW

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[NA]	[NA]	[NA]	[X]
COMPARE	[/]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH NASA REDUNDANCY SCREENS

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-892
NASA FMEA #: 05-6G-2068-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 892
ITEM: MPS/TVC ISO VLV CONTROL SW

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA SCREEN SHOULD BE BLANK PER NSTS 22206.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87 NASA DATA:
ASSESSMENT ID: HYDWSB-893 BASELINE [ ]
NASA FMEA #: 05-6G-2067-1A NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 893
ITEM: CURRENT LIMITER RESISTOR (1.21K) RETURN DRIVER POWER CONTROL

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-894
NASA FMEA #: 05-6G-2067-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 894
ITEM: CURRENT LIMITER RESISTOR (1.21K) RETURN POWER CONTROL

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA SCREEN SHOULD BE BLANK PER NSTS 22206.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-895
NASA FMEA #: 05-6G-2066-1A

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 895
ITEM: CURRENT LIMITER RESISTOR (1.21K) OPEN/CLOSE DRIVERS POWER CONTROL

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREENS SHOULD BE BLANK PER NSTS-22206.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-896
NASA FMEA #: 05-6G-2066-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 896
ITEM: CURRENT LIMITER RESISTOR (1.21K) POWER CONTROL

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
2/1R CRITICALITY IS BASED ON INABILITY TO CENTER ENGINE FOR RE-ENTRY. REF. MDAC ID #497, FMEA-02-6-A06-3. NASA SCREENS SHOULD BE BLANK PER NSTS-22206.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-897
NASA FMEA #: 05-6G-2065-1A

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 897
ITEM: ISOLATION DIODE

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-898
NASA FMEA #: 05-6G-2065-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 898
ITEM: ISOLATION DIODE (SYSTEM 1)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-899
NASA FMEA #: 05-6G-2064-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 899
ITEM: CONTROLLER, HYBRID DRIVER, TYPE III (CLOSE)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH THE NASA FMEA/CIL SCREEN B. REDUNDANCY IS ACTIVATED BY AUTOMATIC DETECTION AND SWITCHOVER, WHICH PASSES THE INFLIGHT DETECTABILITY SCREEN.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-900
NASA FMEA #: 05-6G-2064-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 900
ITEM: CONTROLLER, HYBRID DRIVER, TYPE III (CLOSE)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87 NASA DATA:
ASSESSMENT ID: HYDWSB-901 BASELINE [ ]
NASA FMEA #: 05-6G-2056-1 NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 901
ITEM: CONTROLLER, HYBRID DRIVER, TYPE III (OPEN)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-902
NASA FMEA #: 05-6G-2056-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 902
ITEM: CONTROLLER, HYBRID DRIVER, TYPE III (OPEN)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-903
NASA FMEA #: 05-6G-2063-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 903
ITEM: INDICATOR (DS1,2,3)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

RECOMMENDATIONS: (If different from NASA)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-904
NASA FMEA #: 05-6G-2063-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 904
ITEM: INDICATOR (DS1,2,3)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-905
NASA FMEA #: 05-6G-2062-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 905
ITEM: MDM INPUT CURRENT LIMITER RESISTOR (5.1K)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-906
NASA FMEA #: 05-6G-2061-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 906
ITEM: ISOLATION DIODE (MONITOR CIRCUIT)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87 NASA DATA:
ASSESSMENT ID: HYDWSB-906A BASELINE [ ]
NASA FMEA #: 05-6G-2061-1A NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 906
ITEM: ISOLATION DIODE (MONITOR CIRCUIT)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-907
NASA FMEA #: 05-6G-2060-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 907
ITEM: CURRENT LIMITER RESISTOR (1.2K)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-907A
NASA FMEA #: 05-6G-2060-1A

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 907
ITEM: CURRENT LIMITER RESISTOR (1.2K)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-908
NASA FMEA #: 05-6G-2059-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 908
ITEM: GSE ISOLATION DIODE

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-909
NASA FMEA #: 05-6G-2058-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 909
ITEM: MDM ISOLATION DIODE

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH NASA ASSESSMENT. PYROs (UNLIKE REDUNDANT) LOWERS CRITICALITY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-910
NASA FMEA #: 05-6G-2057-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 910
ITEM: VEHICLE ISOLATION DIODE

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87 NASA DATA:
ASSESSMENT ID: HYDWSB-911 BASELINE [ ]
NASA FMEA #: 05-6G-2055-3 NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 911
ITEM: LG HYDRAULIC ISOLATION VLV SW

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-912
NASA FMEA #: 05-6G-2055-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 912
ITEM: LG HYDRAULIC ISOLATION VLV SW

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[NA]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[NA]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
SCREEN B NOT APPLICABLE FOR STANDBY REDUNDANCY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-913
NASA FMEA #: 05-6G-2055-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 913
ITEM: LG HYDRAULIC ISOLATION VLV SW

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[NA]	[P]	[ ] *
IOA	[3 /3]	[P]	[NA]	[P]	[ ]
COMPARE	[/N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH NASA CRITICALITY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-914
NASA FMEA #: 05-6G-2054-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 914
ITEM: ISO VLV CTL CIRCUIT RESISTOR (1.21K)

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[NA]	[P]	[ ] *
IOA	[2 /1R]	[P]	[NA]	[P]	[X]
COMPARE	[N /]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH NASA CRITICALITY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/08/88
ASSESSMENT ID: HYDWSB-1171X
NASA FMEA #: 06-3A-0633-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 1171
ITEM: BLOW-OFF STEAM VENT PLUG

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[F]	[P]	[P]	[X] *
IOA	[2 /1R]	[F]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
CHANGE "FAILURE MODE" ON 06-3A-0633-1 TO "RESTRICTED FLOW THROUGH STEAM VENT NOZZLE". CHANGE "CAUSES" TO "STUCK OR INJESTED BLOW-OFF STEAM VENT PLUG."

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-1441X
NASA FMEA #: 06-3A-0607-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 1441
ITEM: GN2 REGULATOR VALVE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/26/88
ASSESSMENT ID: HYDWSB-1751X
NASA FMEA #: 05-6W-2021-1A

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 1751
ITEM: CB

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/27/88
ASSESSMENT ID: HYDWSB-1761X
NASA FMEA #: 05-6WA-2129-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 1761
ITEM: BY-PASS RELAY

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/26/88
ASSESSMENT ID: HYDWSB-1771X
NASA FMEA #: 05-6W-2051-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 1771
ITEM: BOILER CONTROL POWER/HEATER SWITCH

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[NA]	[P]	[X] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[NA]	[ ]	[D] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [X]

REMARKS:
SCREEN B NOT APPLICABLE FOR STANDBY REDUNDANCY. FAILURE DOES NOT MEET CIL CRITERIA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/27/88
ASSESSMENT ID: HYDWSB-1791X
NASA FMEA #: 05-6W-2054-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 1791
ITEM: BOILER CONTROL SW

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /1R]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/27/88 NASA DATA:
ASSESSMENT ID: HYDWSB-1832X BASELINE [ ]
NASA FMEA #: 05-6W-2086-1B NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 1832
ITEM: CONTROL BUS RESISTORS, WSB CNTRLR PWR HTR SW

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/27/88
ASSESSMENT ID: HYDWSB-1834X
NASA FMEA #: 05-6W-2086-1D

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 1834
ITEM: CONTROL BUS RESISTORS, WSB N2 SUPPLY SWITCH

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/26/88 NASA DATA:
ASSESSMENT ID: HYDWSB-1841X BASELINE [ ]
NASA FMEA #: 05-6WA-2055-2 NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 1841
ITEM: SWITCH, "APU/HYD BOILER N2 SUPPLY"

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/27/88
ASSESSMENT ID: HYDWSB-1862X
NASA FMEA #: 05-6W-2208-1B

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 1862
ITEM: HYBRID DRIVER CIRCUIT

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[NA]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/27/88 NASA DATA:
ASSESSMENT ID: HYDWSB-1865X BASELINE [ ]
NASA FMEA #: 05-6W-2208-1E NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 1865
ITEM: HDC TYPE 1, GRD BOILER ON CMD

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/27/88
ASSESSMENT ID: HYDWSB-1901X
NASA FMEA #: 05-6W-2259A-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 1901
ITEM: DIODE, GND CMD ISOL, 1A, WSB CNTRLR PWR CKTRY

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[P]	[ ]	[P]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: HYDWSB-5000X
NASA FMEA #: 02-6-C06-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 5000
ITEM: VALVE, CHECK, L.G. HYD. CKT. FUSELAGE RETURN LINE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[1 /1]	[NA]	[NA]	[NA]	[X] *
IOA	[1 /1]	[NA]	[NA]	[NA]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88 NASA DATA:
ASSESSMENT ID: HYDWSB-5001X BASELINE [ ]
NASA FMEA #: 02-6-C06-2 NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 5001
ITEM: VALVE, CHECK, L.G. HYD. CKT. FUSELAGE RETURN LINE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[F]	[NA]	[P]	[X] *
IOA	[3 /2R]	[F]	[NA]	[P]	[X]
COMPARE	[/N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
NSTS 22206 INDICATES 3/2R AS APPROPRIATE CRITICALITY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/28/88 NASA DATA:
ASSESSMENT ID: HYDWSB-8001X BASELINE [ ]
NASA FMEA #: 05-6G-2078-1 NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 8001
ITEM: DIODE, SURGE SUPPR. (3 AMP) HYD MN PUMP DEPRESS VLV SOL. CKT

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[F]	[F]	[P]	[X] *
IOA	[3 /1R]	[F]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/28/88
ASSESSMENT ID: HYDWSB-8002X
NASA FMEA #: 05-6G-2086-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 8002
ITEM: DIODE, ISOL, HYD MN PMP DEPRESS VALVE SOLENOID CKT

LEAD ANALYST: P. BYNUM

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/28/88
ASSESSMENT ID: HYDWSB-8003X
NASA FMEA #: 05-6G-2087-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 8003
ITEM: DIODE, ISOL (3A), HYD MN PMP DEPRESS VLV SOLENOID CKT

LEAD ANALYST: P. BYNUM

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/28/88
ASSESSMENT ID: HYDWSB-8004X
NASA FMEA #: 05-6G-2095-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 8004
ITEM: HYBRID DRIVER TYPE 4, HYD L.G. RETR/CIRC VLV SOL. CKT

LEAD ANALYST: P. BYNUM

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/10/88
ASSESSMENT ID: HYDWSB-8005X
NASA FMEA #: 05-6G-00100-1B

NASA DATA:
BASELINE [X]
NEW [ ]

SUBSYSTEM: HYD/WSB
MDAC ID: 8005
ITEM: DIODE, HYD MN PUMP DEPRESS VLV SOL CKT.

LEAD ANALYST: P. BYNUM

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[F]	[F]	[P]	[X] *
IOA	[2 /1R]	[F]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
THIS PRE 51-L FMEA/CIL. ITEM NOT REFLECTED AS POST 51-L CIL ITEM IN THE PRE CCB CIL WAIVER PACKAGE (8 DECEMBER 1987). IOA RECOMMENDS THIS AS A CIL ITEM.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/13/88
ASSESSMENT ID: HYDWSB-8161X
NASA FMEA #: 05-6G-200400-1NA

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 8161
ITEM: CONTROL FUSE (3A) HYD CIRC PUMP CNTRL

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/13/88 NASA DATA:
ASSESSMENT ID: HYDWSB-8162X BASELINE [ ]
NASA FMEA #: 05-6G-200400-1NB NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 8162
ITEM: POWER FUSE (150 AMP), H40 CIRC PUMP CNTL

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[3 /3]	[NA]	[NA]	[NA]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FUNCTION OF THIS ITEM IS TO PROVIDE POWER TO ONE CIRC PUMP. LOSS OF ALL REDUNDANCY MEANS LOSS OF POWER TO ONE CIRC PUMP. LOSS OF ONE CIRC PUMP WILL NOT RESULT IN LOSS OF LIFE OR VEHICLE, NOR WILL IT RESULT IN LOSS OF MISSION. LOSS OF A CIRC PUMP IS CRITICALITY 3/3.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-8461X
NASA FMEA #: 05-6G-200400-1B

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 8461
ITEM: PWR SW S25

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

	[/]	[ ]	[ ]	[ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-8462X
NASA FMEA #: 05-6G-200400-1C

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 8462
ITEM: PWR SW S25

LEAD ANALYST: J. DUVAL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/13/88
ASSESSMENT ID: HYDWSB-8751X
NASA FMEA #: 05-6G-200300-1C

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 8751
ITEM: FUSE, (1A) LG RETRACT/CIRC VLV SOLENOID

LEAD ANALYST: P. BYNUM

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/13/88 NASA DATA:
ASSESSMENT ID: HYDWSB-8752X BASELINE [ ]
NASA FMEA #: 05-6G-200300-1D NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 8752
ITEM: RESISTOR, (1.21K), LG RETRACT/CIRC VLV SOLENOID CKT

LEAD ANALYST: P. BYNUM

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/13/88
ASSESSMENT ID: HYDWSB-8753X
NASA FMEA #: 05-6G-200300-1E

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 8753
ITEM: RPC, LG RETRACT/CIRC VLV SOLENOID CKT

LEAD ANALYST: P. BYNUM

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/13/88 NASA DATA:
ASSESSMENT ID: HYDWSB-8754X BASELINE [ ]
NASA FMEA #: 05-6G-200300-1F NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 8754
ITEM: RPC, LG RETRACT/CIRC VLV SOLENOID CKT

LEAD ANALYST: P. BYNUM

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/13/88
ASSESSMENT ID: HYDWSB-8755X
NASA FMEA #: 05-6G-200300-1G

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 8755
ITEM: HYBRID DRIVER, TYPE 4, LG RETRACT/CIRC VLV SOLENOID CKT

LEAD ANALYST: P. BYNUM

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/13/88 NASA DATA:
ASSESSMENT ID: HYDWSB-8756X BASELINE [ ]
NASA FMEA #: 05-6G-200300-1I NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 8756
ITEM: HYBRID DRIVER, TYPE 1, LG RETRACT/CIRC VLV SOLENOID CKT

LEAD ANALYST: P. BYNUM

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/13/88
ASSESSMENT ID: HYDWSB-8757X
NASA FMEA #: 05-6G-200300-1J

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 8757
ITEM: HYBRID DRIVER, TYPE 1, LG RETRACT/CIRC VLV SOLENOID CKT

LEAD ANALYST: P. BYNUM

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/13/88 NASA DATA:
ASSESSMENT ID: HYDWSB-8758X BASELINE [ ]
NASA FMEA #: 05-6G-200300-1KA NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 8758
ITEM: DIODE, SURGE SUPP, (3A), LG RETRACT/CIRC VLV SOLENOID CKT

LEAD ANALYST: P. BYNUM

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
PER NSTS 22206 DOCUMENT

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-8759X
NASA FMEA #: 05-6G-200300-1KB

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 8759
ITEM: DIODE, BUS ISOLATION, (1A) (3A)

LEAD ANALYST: P. BYNUM

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA SCREEN CORRECT PER NSTS 22206 DOCUMENT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-8761X
NASA FMEA #: 05-6G-200300-1KC

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 8761
ITEM: DIODES, RPC PWR ISOLATION, (2A)(12A)

LEAD ANALYST: P. BYNUM

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA SCREENS CORRECT PER NSTS 22206 DOCUMENT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/08/87
ASSESSMENT ID: HYDWSB-8762X
NASA FMEA #: 05-6G-200300-1KD

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 8762
ITEM: DIODE, GROUND ISOLATION, RETRACT/CIR VLV, (2A)(15A)

LEAD ANALYST: P. BYNUM

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA SCREENS CORRECT PER NSTS 22206 DOCUMENT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/13/88 NASA DATA:
ASSESSMENT ID: HYDWSB-8763X BASELINE [ ]
NASA FMEA #: 05-6G-200300-1KE NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 8763
ITEM: DIODE, GROUND ISOLATION, (15A)

LEAD ANALYST: P. BYNUM

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [X]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/13/88 NASA DATA:
ASSESSMENT ID: HYDWSB-8764X BASELINE [ ]
NASA FMEA #: 05-6G-200300-1KF NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 8764
ITEM: RESISTOR, MONITOR ISOLATION, (1.8K)(2.2K)(5.1K)

LEAD ANALYST: P. BYNUM

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA SCREENS CORRECT PER NSTS 22206 DOCUMENT

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/13/88 NASA DATA:
ASSESSMENT ID: HYDWSB-8765X BASELINE [ ]
NASA FMEA #: 05-6G-2003000-1KG NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 8765
ITEM: RESISTOR, SHORT CKT PROTECTION

LEAD ANALYST: P. BYNUM

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[P]	[NA]	[P]	[ ] *
IOA	[3 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/N]	[ ]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[F]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
RESISTOR DOES NOT MEET NSTS 22206 DEFINITION OF STANDBY REDUNDANT

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/13/88
ASSESSMENT ID: HYDWSB-8766X
NASA FMEA #: 05-6G-2003000-1KH

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 8766
ITEM: LG RETRACT/CIRC VLV SW

LEAD ANALYST: P. BYNUM

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA SCREENS CORRECT PER NSTS 22206 DOCUMENT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: HYDWSB-9091X
NASA FMEA #: 05-6G-2058-1A

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 9091
ITEM: MDM ISOLATION DIODE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SCREENS SHOULD BE BLANK PER NSTS-22206.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: HYDWSB-9101X
NASA FMEA #: 05-6G-2057-1A

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 9101
ITEM: VEHICLE ISOLATION DIODE

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]

RECOMMENDATIONS: (If different from NASA)

[/] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/13/88 NASA DATA:
ASSESSMENT ID: HYDWSB-9141X BASELINE [ ]
NASA FMEA #: 05-6G-2054-1A NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 9141
ITEM: ISO VLV CTL CIRCUIT RESISTOR (1.21K)

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/13/88
ASSESSMENT ID: HYDWSB-9501X
NASA FMEA #: 05-6G-2053-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: HYD/WSB
MDAC ID: 9501
ITEM: HYDRAULIC PRESSURE METER

LEAD ANALYST: W. DAVIDSON

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX D

CRITICAL ITEMS

APPENDIX D
POTENTIAL CRITICAL ITEMS

NASA FMEA	MDAC-ID	ITEM	FAILURE MODE
06-3A-0602-1	101	WATER SPRAY BOILER	RESTRICTED FLOW
06-3A-0618-1	102	WATER SPRAY BOILER	EXTERNAL LEAKAGE
06-3A-0618-1	103	LINES AND FITTINGS	LEAKAGE
06-3A-0619-1	103	LINES AND FITTINGS	LEAKAGE
06-3A-0603-4	104	HEAT EXCHANGER ASSY	RESTRICTED FLOW
06-3A-0603-6	104	HEAT EXCHANGER ASSY	RESTRICTED FLOW
06-3A-0602-3	105	HEAT EXCHANGER ASSY	EXTERNAL LEAKAGE
06-3A-0602-4	105	HEAT EXCHANGER ASSY	EXTERNAL LEAKAGE
06-3A-0603-2	106	HEAT EXCHANGER ASSY	CORE LEAKAGE
06-3A-0603-5	106	HEAT EXCHANGER ASSY	CORE LEAKAGE
06-3A-0603-1	107	HEAT EXCHANGER ASSY	HEADER LEAKAGE
06-3A-0605-2	108	SPRAY VALVE	FAILS TO OPEN
06-3A-0605-1	109	SPRAY VALVE	FAILS TO CLOSE
06-3A-0605-3	109	SPRAY VALVE	FAILS TO CLOSE
	118	HYDRAULIC/LUBE OIL	LOSS OF FLOW
06-3A-0616-3	126	LUBE OIL DRAIN	EXTERNAL LEAKAGE
06-3A-0616-2	126	LUBE OIL DRAIN	EXTERNAL LEAKAGE
06-3A-0608-3	133	WATER TANK	LEAKAGE - H2O EXT
06-3A-0608-1	134	WATER TANK	LEAKAGE - GN2 INT
06-3A-0608-2	134	WATER TANK	LEAKAGE - GN2 INT
06-3A-0613-2	136	WATER TANK FILL	EXTERNAL LEAKAGE
06-3A-0613-3	136	WATER TANK FILL	EXTERNAL LEAKAGE
06-3A-0609-1	142	GN2 TANK	BURST
	143	GN2 TANK	LEAKAGE
06-3A-0607-4	144	GN2 REGULATOR VALVE	FAILS TO CLOSE
06-3A-0607-1	145	GN2 REGULATOR VALVE	FAILS TO OPEN
06-3A-0607-3	146	GN2 REGULATOR RELIEF	FAILS TO CLOSE
06-3-0607-5	147	GN2 REGULATOR RELIEF	FAILS TO OPEN
06-3A-0606-1	148	GN2 SHUTOFF VALVE	FAILS TO OPEN
06-3A-0606-4	150	GN2 SHUTOFF VALVE	EXTERNAL LEAKAGE
06-3A-0615-3	152	GN2 FILL DISCONNECT	EXTERNAL LEAKAGE
06-3A-0615-2	152	GN2 FILL DISCONNECT	EXTERNAL LEAKAGE
06-3A-0614-3	154	GN2 VENT DISCONNECT	LEAKAGE, EXTERNAL
06-3A-0614-2	154	GN2 VENT DISCONNECT	LEAKAGE, EXTERNAL
	164	GN2 FILTER	LOSS OF FLOW
06-3A-0610-5	166	HYDRAULIC BYPASS VALV	EXTERNAL LEAKAGE
06-3A-0610-1	167	HYDRAULIC BYPASS VALV	FAILS IN BYPASS
02-6-SYSTEM-2	168	HYRAULIC RELIEF VALVE	EXTERNAL LEAKAGE
06-3A-0610-4	169	HYDRAULIC RELIEF VALV	RELIEF VALVE FAIL
06-3A-0610-3	170	HYDRAULIC RELIEF VALV	RELIEF VALVE FAIL
06-3-0628-2	172	HYDRAULIC BYPASS/RELI	ERRONEOUS OUTPUT
06-3-0628-2	173	HYDRAULIC BYPASS/RELI	OUT OF TOLERANCE
05-6WA-2051-1	177	BOILER CONTROL POWER	LOSS OF OUTPUT
05-6WA-2051-1	178	BOILER CONTROL POWER	FAILS TO CLOSE
05-6WA-2054-1	179	BOILER CNTRL SW	LOSS OF OUTPUT

NASA FMEA	MDAC-ID	ITEM	FAILURE MODE
05-6WA-2054-1	180	BOILER CNTRL SW	FAILS TO CLOSE
05-6W-2179-2	189	RPC	FAILS ON
	197	HYBRID DRIVER CIRCUIT	CONTINUOUS OUTPUT
02-6-E24-1	401	ACCUMULATOR	EXTERNAL LEAKAGE
02-6-SYSTEM-2	402	ACCUMULATOR	EXTERNAL LEAKAGE
02-6-E24-5	403	ACCUMULATOR	STRUCTURAL FAILURE
02-6-E24-1	412	GN2 FILL VALVE	EXTERNAL LEAKAGE
02-6-SYSTEM-2	414	SSME ACCUMULATOR	EXTERNAL LEAKAGE
02-6-A16-3	417	SSME ACCUMULATOR	STRUCTURAL FAILURE
	431	PRESS ACTIVATED RELIEF	FAILS TO OPEN
02-6-SYSTEM-2	432	BLEED VALVE	FAILS TO REMAIN
02-6-SYSTEM-2	434	PRESS ACTUATED CNTRL	EXTERNAL LEAK
02-6-E27	439	FILTER	STRUCTURAL FAILURE
02-6-E02-1	448	QUICK DISCONNECTS	EXTERNAL LEAKAGE
02-6-E02-2	448	QUICK DISCONNECTS	EXTERNAL LEAKAGE
02-6-E02-1	449	QUICK DISCONNECT	EXTERNAL LEAKAGE
02-6-E02-2	449	QUICK DISCONNECT	EXTERNAL LEAKAGE
02-6-C08-1	450	QUICK DISCONNECT	EXTERNAL LEAKAGE
02-6-C08-2	450	QUICK DISCONNECT	EXTERNAL LEAKAGE
02-6-A02-2	451	QUICK DISCONNECT	INADVERTENT DISCO
02-6-A02-12	451	QUICK DISCONNECT	INADVERTENT DISCO
02-6-A02-1	452	QUICK DISCONNECT	INADVERTENT DISCO
02-6-SYSTEM-2	453	QUICK DISCONNECT	EXTERNAL LEAK
02-6-SYSTEM-2	454	QUICK DISCONNECT	EXTERNAL LEAK
02-6-A07-2	456	CHECK VALVE	FAILS TO OPEN
02-6-SYSTEM-2	457	HOSE AND SWIVEL ASSY	EXTERNAL LEAKAGE
02-6-A11-1	457	HOSE AND SWIVEL ASSY	EXTERNAL LEAKAGE
02-6-SYSTEM-2	458	HOSE AND SWIVEL ASSY	EXTERNAL LEAKAGE
02-6-A15-1	458	HOSE AND SWIVEL ASSY	EXTERNAL LEAKAGE
02-6-SYSTEM-2	459	HOSE AND SWIVEL ASSY	EXTERNAL LEAKAGE
02-6-A15-1	459	HOSE AND SWIVEL ASSY	EXTERNAL LEAKAGE
02-6-SYSTEM-2	460	HOSE AND SWIVEL ASSY	EXTERNAL LEAKAGE
02-6-E28-1	460	HOSE AND SWIVEL ASSY	EXTERNAL LEAKAGE
02-6-H04-1	461	NOSE WHEEL STEERING	STRUCTURAL FAILURE
02-6-G10-1	462	MAIN LANDING GEAR	STRUCTURAL FAILURE
02-6-G11-1	463	MAIN LANDING GEAR	STRUCTURAL FAILURE
02-6-SYSTEM-3	464	HYDRAULIC LINE	LINE RUPTURE
02-6-SYSTEM-3	465	HYDRAULIC LINE	LINE RUPTURE
02-6-SYSTEM-3	466	HYDRAULIC LINE	LINE RUPTURE
02-6-SYSTEM-3	467	HYDRAULIC LINE	LINE RUPTURE
02-6-SYSTEM-3	468	HYDRAULIC LINE	LINE RUPTURE
02-6-G04-1	469	REDUNDANT SHUTOFF VLV	FAILS TO CLOSE
02-6-SYSTEM-2	471	REDUNDANT SHUTOFF VLV	EXTERNAL LEAK
02-6-G05-1	472	LANDING GEAR DUMP SOL	FAILS TO OPEN
02-6-SYSTEM-2	474	LANDING GEAR DUMP SOL	EXTERNAL LEAK
02-6-E23-1	476	PRIORITY VALVE	LEAKAGE, INTERNAL
02-6-E23-2	477	PRIORITY VALVE	LEAKAGE, INTERNAL
02-6-C07-2	479	LANDING GEAR ISOLATION	FAILS TO OPEN
02-6-C07-2	480	LANDING GEAR ISOLATION	PREMATURE CLOSE
02-6-C07-1	481	LANDING GEAR ISOLATION	FAILS TO CLOSE

NASA FMEA	MDAC-ID	ITEM	FAILURE MODE
02-6-C07-1	482	LANDING GEAR ISOLATION	PREMATURE OPEN
02-6-SYSTEM-2	484	LANDING GEAR ISOLATION	EXTERNAL LEAK
02-6-G13-2	486	LANDING GEAR CONTROL	PREMATURE OPEN
	487	LANDING GEAR CONTROL	FAILS TO CLOSE
02-6-SYSTEM-2	489	LANDING GEAR CONTROL	EXTERNAL LEAK
02-6-G14-1	490	RESTRICTOR, HYDRAULIC	BLOCKED
02-6-G02-1	491	LANDING GEAR CONTROL	FAILS TO SWITCH
02-6-G02-2	492	LANDING GEAR CONTROL	PREMATURE SWITCH
02-6-SYSTEM-2	494	LANDING GEAR CONTROL	EXTERNAL LEAK
02-6-A06-1	495	MPS/TVC SHUTOFF VALVE	FAILS TO TRANSFER
02-6-A06-2	496	MPS/TVC SHUTOFF VALVE	PREMATURE TRANSFER
02-6-A06-3	497	MPS/TVC SHUTOFF VALVE	FAILS TO TRANSFER
02-6-SYSTEM-2	498	MPS/TVC SHUTOFF VALVE	EXTERNAL LEAK
02-6-SYSTEM-2	600	PUMP (MECHANICAL)	STRUCTURAL FAILURE
02-6-E06-5	601	PUMP (MECHANICAL)	PHYSICAL BINDING
02-6-SYSTEM-2	603	DEPRESSURIZATION VLV	STRUCTURAL FAILURE
02-6-E06-2	604	DEPRESSURIZATION VLV	FAILS TO OPEN
02-6-E06-1	605	DEPRESSURIZATION VLV	FAILS TO CLOSE
02-6-E06-1	606	DEPRESSURIZATION VLV	PHYSICAL BINDING
02-6-SYSTEM-2	607	DEPRESSURIZATION VLV	EXTERNAL LEAKAGE
02-6-E06-3	608	DEPRESSURIZATION VLV	SHORTED
02-6-SYSTEM-2	609	PRESSURE COMPENSATOR	STRUCTURAL FAILURE
02-6-E06-5	610	PRESSURE COMPENSATOR	FAILS TO MAXIMUM
02-6-E06-3	611	PRESSURE COMPENSATOR	FAILS TO MINIMUM
02-6-E30-2	612	FLEX HOSE (SUCTION)	STRUCTURAL FAILURE
02-6-E30-2	613	FLEX HOSE (SUPPLY)	STRUCTURAL FAILURE
02-6-E30-2	614	FLEX HOSE (CASE)	STRUCTURAL FAILURE
02-6-E09-2	619	CHECK VALVE (SUPPLY)	FAILS TO CLOSE
02-6-SYSTEM-2	620	CHECK VALVE (SUPPLY)	EXTERNAL LEAKAGE
02-6-SYSTEM-2	623	CHECK VALVE (CASE)	EXTERNAL LEAKAGE
02-6-E03-5	624	HYDRAULIC RESERVOIR	STRUCTURAL FAILURE
02-6-E03-1	626	HYDRAULIC RESERVOIR	INTERNAL LEAKAGE
02-6-E03-1	627	HYDRAULIC RESERVOIR	INTERNAL LEAKAGE
02-6-SYSTEM-2	629	LOW PRESSURE RELIEF	FAILS TO CLOSE
02-6-E03-1	630	LOW PRESSURE RELIEF	INTERNAL LEAKAGE
02-6-E03-1	631	LOW PRESSURE RELIEF	EXTERNAL LEAKAGE
02-6-SYSTEM-2	632	HORIZONTAL/BLEED SAMP	EXTERNAL LEAKAGE
02-6-SYSTEM-2	633	VERTICAL/BLEED SAMPLE	EXTERNAL LEAKAGE
02-6-C05-1	643	E.T. UMBILICAL RETRAC	RUPTURE
02-6-C05-1	644	E.T. UMBILICAL RETRAC	EXTERNAL LEAKAGE
02-6-C05-3	646	E.T. UMBILICAL RETRAC	PHYSICAL BINDING
02-6-C05-4	646	E.T. UMBILICAL RETRAC	PHYSICAL BINDING
02-6-C09-1	669	FLEX HOSE & SWIVEL	EXTERNAL LEAKAGE
02-6-C09-1	670	FLEX HOSE & SWIVEL	EXTERNAL LEAKAGE
02-6-C10-2	671	CHECK VALVE	FAILS TO OPEN
02-6-SYSTEM-2	673	CHECK VALVE	EXTERNAL LEAKAGE
02-6-SYSTEM-2	677	MANUAL DRAIN VALVE	EXTERNAL LEAKAGE
02-6-SYSTEM-2	699	CIRCULATION PUMP CHECK	STRUCTURAL FAILURE
02-6-E10-2	704	CIRCULATION PUMP CHECK	FAILS TO CLOSE
02-6-SYSTEM-2	708	SUPPLY FILTER	STRUCTURAL FAILURE

NASA FMEA	MDAC-ID	ITEM	FAILURE MODE
02-6-E08-2	709	SUPPLY FILTER	RESTRICTED FLOW
02-6-SYSTEM-2	713	RELIEF VALVE	STRUCTURAL FAILURE
02-6-E08-6	715	RELIEF VALVE	FAILS TO CLOSE
02-6-SYSTEM-2	719	CASE FILTER	EXTERNAL LEAKAGE
02-6-SYSTEM-2	721	RETURN FILTER	EXTERNAL LEAKAGE
02-6-E08-4	722	RETURN FILTER	RESTRICTED FLOW
	724	FREON/OIL HEAT EXCHANGE	INTERNAL LEAKAGE
02-6-SYSTEM-2	725	FREON/OIL HEAT EXCHANGE	EXTERNAL LEAKAGE
02-6-SYSTEM-2	730	THERMAL CONTROL VALVE	EXTERNAL LEAKAGE
05-6G-201000-1	814	MASTER EVENTS CONTROL	OPEN
05-6G-2080-2	848	HYBRID DRIVER	INADVERTENT OUTPUT
05-6G-2080-1	849	HYBRID DRIVER	LOSS OF OUTPUT
05-6G-2088-2	860	SWITCH, HYD MAIN PUMP	FAILS IN "NORM"
05-6G-2088-1	861	SWITCH, HYD MAIN PUMP	FAILS IN "LOW"
05-6G-200100-1J	872	BLOCKING DIODE (15A)	OPEN
05-6G-200100-1J	872	BLOCKING DIODE (15A)	OPEN
05-6G-2085-1	874	BLOCKING DIODE (12A)	OPEN
05-6G-200300-1A	877	LG RETRACT/CIRC VLV	FAILS IN "OPEN"
05-6G-2072-2	884	HYBRID DRIVER	CONTINUOUS OUTPUT
05-6G-2071-2	886	HYBRID DRIVER	CONTINUOUS OUTPUT
05-6G-2068-3	891	MPS/TVC ISO VLV CONTR	INADVERTENT/PREMA
05-6G-2068-2	891	MPS/TVC ISO VLV CONTR	INADVERTENT/PREMA
05-6G-2064-2	899	CONTROLLER, HYBRID DR	INADVERTENT OUTPUT
05-6G-2056-1	901	CONTROLLER, HYBRID DR	LOSS OF OUTPUT
05-6G-2056-3	902	CONTROLLER, HYBRID DR	INADVERTENT OUTPUT
05-6G-2057-1	910	VEHICLE ISOLATION DIO	OPEN
05-6G-2055-3	911	LG HYDRAULIC ISOLATION	INADVERTENTLY CON
05-6G-2055-2	912	LG HYDRAULIC ISOLATION	INADVERTENTLY CON
06-3A-0633-1	1171	BLOW-OFF STEAM VENT	RESTRICTED FLOW
06-3A-0607-2	1441	GN2 REGULATOR VALVE	EXTERNAL LEAKAGE
05-6WA-2129-2	1761	BY-PASS RELAY	FAILS OPEN
05-6WA-2055-2	1841	SWITCH, "APU/HYD BOIL	SWITCH FAILS CLOSE
02-6-C06-2	5000	VALVE, CHECK	FAILS CLOSED
02-6-C06-2	5001	VALVE, CHECK	FAILS OPEN
05-6G-2078-1	8001	DIODE, SURGE SUPPR.	INTERNAL SHORT
05-6G-2086-1	8002	DIODE, ISOL	FAILS OPEN
05-6G-2087-1	8003	DIODE, ISOL (3A)	FAILS OPEN
05-6G-2095-2	8004	HYBRID DRIVER TYPE 4	INADVERTENT OUTPUT
05-6G-00100-1B	8005	DIODE, HYD MN PUMP	OPEN (ELECTRICAL)
05-6G-200300-1K	8763	DIODE, GROUND ISOL	SHORT TO GROUND

APPENDIX E
DETAILED ANALYSIS

This appendix contains the IOA analysis worksheets supplementing previous results reported in STSEOS Working Paper 1.0-WP-VA86001-20, Analysis of the Hydraulics/Water Spray Boiler Subsystem, (20 December 1987). Prior results were obtained independently and documented before starting the FMEA/CIL assessment activity. Supplemental analysis was performed to address failure modes not previously considered by the IOA. Each sheet identifies the hardware item being analyzed, parent assembly and function performed. For each failure mode possible causes are identified, and hardware and functional criticality for each mission phase are determined as described in NSTS 22206, Instructions for Preparation of FMEA and CIL, 10 October 1986. Failure mode effects are described at the bottom of each sheet and worst case criticality is identified at the top.

LEGEND FOR IOA ANALYSIS WORKSHEETS

Hardware Criticalities:

- 1 = Loss of life or vehicle
- 2 = Loss of mission or next failure of any redundant item (like or unlike) could cause loss of life/vehicle
- 3 = All others

Functional Criticalities:

- 1R = Redundant hardware items (like or unlike) all of which, if failed, could cause loss of life or vehicle.
- 2R = Redundant hardware items (like or unlike) all of which, if failed, could cause loss of mission.

Redundancy Screen A:

- 1 = Is Checked Out PreFlight
- 2 = Is Capable of Check Out PreFlight
- 3 = Not Capable of Check Out PreFlight
- NA = Not Applicable

Redundancy Screens B and C:

- P = Passed Screen
- F = Failed Screen
- NA = Not Applicable

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE:	2/08/88	HIGHEST CRITICALITY	HDW/FUNC
SUBSYSTEM:	HYD/WSB	FLIGHT:	2/1R
MDAC ID:	1171	ABORT:	2/1R

ITEM: BLOW-OFF STEAM VENT PLUG
FAILURE MODE: RESTRICTED FLOW THROUGH STEAM DUMP NOZZLE

LEAD ANALYST: J. DUVAL SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) WATER SPRAY BOILER
2) WATER SPRAY BOILER ASSY
3) STEAM DUMP NOZZLE
4) BLOW-OFF STEAM VENT PLUG
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	2/1R
LIFTOFF:	2/1R	TAL:	2/1R
ONORBIT:	2/1R	AOA:	2/1R
DEORBIT:	2/1R	ATO:	2/1R
LANDING/SAFING:	2/1R		

REDUNDANCY SCREENS: A [3] B [P] C [P]

LOCATION: 50V58NZ1(VS70-580999B)
PART NUMBER:

CAUSES: VENT PLUG STUCK OR INJESTED BLOW-OFF STEAM

EFFECTS/RATIONALE:
DURING BOILER OPERATION THE STEAM WOULD HAVE NO ESCAPE ROUTE, ACTIVATING THE STEAM VENT RELIEF VALVE. LOSS OF SYSTEM.

REFERENCES: VS70-580999B, SPACE SHUTTLE SYSTEMS HANDBOOK, VOL II, SECT 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 2/09/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 2/1R
MDAC ID: 1441 ABORT: 2/1R

ITEM: GN2 REGULATOR VALVE
FAILURE MODE: EXTERNAL LEAKAGE

LEAD ANALYST: W. DAVIDSON SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) WATER SPRAY BOILER
2) GN2 SYSTEM
3) GN2 REGULATOR VALVE
4)
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	2/1R
LIFTOFF:	2/1R	TAL:	2/1R
ONORBIT:	2/1R	AOA:	2/1R
DEORBIT:	2/1R	ATO:	2/1R
LANDING/SAFING:	2/1R		

REDUNDANCY SCREENS: A [1] B [P] C [P]

LOCATION: 50V58HX4(VS70-580999B)
PART NUMBER:

CAUSES: VIBRATION, MECHANICAL SHOCK, PIECE-PART FAILURE

EFFECTS/RATIONALE:
LOSS OF GN2 PREVENTS EXPULSION OF H2O TO THE BOILER RESULTING IN THE LOSS OF COOLING AND THE SYSTEM.

REFERENCES: VS70-580999B, SPACE SHUTTLE SYSTEMS HANDBOOK, VOL II, SECT 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 1/26/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/3
MDAC ID: 1751 ABORT: 3/3

ITEM: CB
FAILURE MODE: CB FAILS CLOSED, CANNOT BE OPENED

LEAD ANALYST: W. DAVIDSON SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) WATER SPRAY BOILER - EPD&C
2) PANEL L4
3) CB (131, 135)
4)
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/3	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [NA] B [NA] C [NA]

LOCATION: 31V73A4 (VS70-580119E)
PART NUMBER:

CAUSES: JAMMING, PIECE-PART FAILURE

EFFECTS/RATIONALE:
CONSTANT POWER TO CONTROLLER A/B CONTACT ON APU/HYD BOILER CONTROLLER POWER/HEATER SWITCH.

REFERENCES: VS70-580119E, SPACE SHUTTLE SYSTEMS HANDBOOK, VOL II, SECT 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 1/27/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 2/1R
MDAC ID: 1761 ABORT: 2/1R

ITEM: BY-PASS RELAY
FAILURE MODE: FAILS OPEN OR SHORTED TO GROUND

LEAD ANALYST: W. DAVIDSON SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) WATER SPRAY BOILER - EPD&C
2) PANEL R2
3) BY-PASS RELAY
4)
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	2/1R
LIFTOFF:	2/1R	TAL:	2/1R
ONORBIT:	2/1R	AOA:	2/1R
DEORBIT:	2/1R	ATO:	2/1R
LANDING/SAFING:	2/1R		

REDUNDANCY SCREENS: A [2] B [P] C [P]

LOCATION: 32V73A2(VS70-580119E)
PART NUMBER:

CAUSES: CONTAMINATION, STRUCTURAL FAILURE

EFFECTS/RATIONALE:
LOSS OF 115VAC POWER TO BOILER CONTROLLER AND BYPASS VALVE. LOSS OF HYDRAULIC FLUID AND LUBE OIL COOLING. POSSIBLE LOSS OF SYSTEM ON ASCENT.

REFERENCES: VS70-580119E, SPACE SHUTTLE SYSTEMS HANDBOOK, VOL II, SECT 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 1/26/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/1R
MDAC ID: 1771 ABORT: 3/3

ITEM: BOILER CONTROL POWER/HEATER SWITCH
FAILURE MODE: INADVERTENT OPERATION (CLOSING) OF SWITCH

LEAD ANALYST: W. DAVIDSON SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) WATER SPRAY BOILER - EPD&C
2) PANEL R2
3) BOILER CONTROL POWER/HEATER SW (S41)
4)
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	3/1R	AOA:	/NA
DEORBIT:	3/1R	ATO:	3/3
LANDING/SAFING:	3/1R		

REDUNDANCY SCREENS: A [2] B [NA] C [P]

LOCATION: 32V73A2(VS70-580119E)
PART NUMBER:

CAUSES: STRUCTURAL FAILURE, MECHANICAL SHOCK

EFFECTS/RATIONALE:
POWER WOULD BE APPLIED TO HYBRID DRIVERS ANT TO BYPASS VALVE.
FAILURE DOES NOT MEET CIL CRITERIA.

REFERENCES: VS70-580119E, SPACE SHUTTLE SYSTEMS HANDBOOK, VOL II, SECT 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 1/26/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/1R
MDAC ID: 1791 ABORT: /NA

ITEM: BOILER CONTROL SW
FAILURE MODE: INADVERTENT OPERATION, PREMATURE TRANSFER TO "ON"

LEAD ANALYST: W. DAVIDSON SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) WATER SPRAY BOILER - EPD&C
2) PANEL R2
3) BOILER CNTRL SW (S38)
4)
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	3/3	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	/NA		

REDUNDANCY SCREENS: A [NA] B [NA] C [NA]

LOCATION: 32V73A2(VS70-580119E)
PART NUMBER:

CAUSES: CONTAMINATION, STRUCTURAL FAILURE, VIBRATION

EFFECTS/RATIONALE:
POWER TO SPRAY VALVE CONTROL CIRCUITS REMAINS ON.

REFERENCES: VS70-580119E, SPACE SHUTTLE SYSTEMS HANDBOOK, VOL II, SECT 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 1/27/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/3
MDAC ID: 1832 ABORT: 3/3

ITEM: CONTROL BUS RESISTORS, WSB CNTRLR PWR HTR SW
FAILURE MODE: SHORTS

LEAD ANALYST: W. DAVIDSON SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) WATER SPRAY BOILER
2) PANEL R2
3) RESISTOR - CURRENT LIMITER
4)
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/3	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [NA] B [NA] C [NA]

LOCATION: 32V73A2(VS70-580119E)
PART NUMBER:

CAUSES: THERMAL STRESS, VIBRATION, CONTAMINATION

EFFECTS/RATIONALE:
NONE.

REFERENCES: VS70-580119E, SPACE SHUTTLE SYSTEMS HANDBOOK, VOL II, SECT 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 1/27/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/3
MDAC ID: 1834 ABORT: 3/3

ITEM: CONTROL BUS RESISTORS, WSB N2 SUPPLY SWITCH
FAILURE MODE: SHORTS

LEAD ANALYST: W. DAVIDSON SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) WATER SPRAY BOILER - EPD&C
2) PANEL R2
3) RESISTOR - CURRENT LIMITER
4)
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/3	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [NA] B [NA] C [NA]

LOCATION: 32V73A2(VS70-580119E)
PART NUMBER:

CAUSES:

EFFECTS/RATIONALE:
NONE.

REFERENCES: VS70-580119E, SPACE SHUTTLE SYSTEMS HANDBOOK, VOL II, SECT 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 1/26/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 2/1R
MDAC ID: 1841 ABORT: 2/1R

ITEM: SWITCH, "APU/HYD BOILER N2 SUPPLY"
FAILURE MODE: SWITCH FAILS CLOSED (ALL CONTACTS)

LEAD ANALYST: W. DAVIDSON SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) WATER SPRAY BOILER - EPD&C
2) PANEL R2
3) BOILER N2 SUPPLY SW (S44)
4)
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	2/1R
ONORBIT:	2/1R	AOA:	2/1R
DEORBIT:	2/1R	ATO:	2/1R
LANDING/SAFING:	2/1R		

REDUNDANCY SCREENS: A [2] B [P] C [P]

LOCATION: 32V73A2(VS70-580119E)
PART NUMBER:

CAUSES: VIBRATION, MECHANICAL FAILURE, STRUCTURAL FAILURE

EFFECTS/RATIONALE:
LOSS OF ABILITY TO EXPELL WATER. LOSS OF SYSTEM DURING ENTRY. WSB IN POOL MODE FOR ASCENT.

REFERENCES: VS70-580119E, SPACE SHUTTLE SYSTEMS HANDBOOK, VOL II, SECT 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 1/27/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/1R
MDAC ID: 1862 ABORT: 3/1R

ITEM: HYBRID DRIVER CIRCUIT
FAILURE MODE: INADVERTENT OUTPUT

LEAD ANALYST: W. DAVIDSON SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) WATER SPRAY BOILER - EPD&C
2) LOAD CONTROL ASSY
3) HYBRID DRIVER CIRCUIT
4)
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	2/1R
LIFTOFF:	3/1R	TAL:	3/1R
ONORBIT:	3/1R	AOA:	3/1R
DEORBIT:	3/1R	ATO:	3/1R
LANDING/SAFING:	3/1R		

REDUNDANCY SCREENS: A [2] B [NA] C [P]

LOCATION: 32V73A2(V70-580119E)
PART NUMBER:

CAUSES: THERMAL STRESS, VIBRATION

EFFECTS/RATIONALE:
INADVERTENT OUTPUT CLOSES VALVE. REDUNDANT CONTROLLER RESTORES NORMAL OPERATION.

REFERENCES: V70-580119E, SPACE SHUTTLE SYSTEMS HANDBOOK, VOL II, SECT 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 1/27/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/3
MDAC ID: 1865 ABORT: /NA

ITEM: HDC TYPE 1, GRD BOILER ON CMD
FAILURE MODE: OPEN, SHORTED TO GROUND, INADVERTENT OUTPUT

LEAD ANALYST: W. DAVIDSON SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) WATER SPRAY BOILER - EPD&C
2) LOAD CONTROL ASSY
3) HYBRID DRIVER CIRCUIT
4)
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	/NA		

REDUNDANCY SCREENS: A [NA] B [NA] C [NA]

LOCATION: 32V73A2(V70-580119E)
PART NUMBER:

CAUSES: THERMAL STESS, STRUCTURAL FAILURES, VIBRATION

EFFECTS/RATIONALE:
NOT ACTIVE DURING FLIGHT.

REFERENCES: V70-580119E, SPACE SHUTTLE SYSTEMS HANDBOOK, VOL II, SECT 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 1/27/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/3
MDAC ID: 1901 ABORT: /NA

ITEM: DIODE, GND CMD ISOL, 1A, WSB CNTRLR PWR CKTRY
FAILURE MODE: OPEN

LEAD ANALYST: W. DAVIDSON SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) WATER SPRAY BOILER - EPD&C
2) AFT PCA
3) ISOLATION DIODE (AICR6, 8)
4)
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	/NA		

REDUNDANCY SCREENS: A [NA] B [NA] C [NA]

LOCATION: 55V76A135(VS70-580119E)
PART NUMBER:

CAUSES: THERMAL STRESS, VIBRATION, CONTAMINATION

EFFECTS/RATIONALE:
NONE

REFERENCES: VS70-580119E, SPACE SHUTTLE SYSTEMS HANDBOOK, VOL II, SECT 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 2/01/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 1/1
MDAC ID: 5000 ABORT: /NA

ITEM: VALVE, CHECK, L.G. HYD. CKT. FUSELAGE RETURN LINE
FAILURE MODE: FAILS CLOSED

LEAD ANALYST: W. DAVIDSON SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) HYDRAULIC DISTRIBUTION, MONITORING, AND CONTROL
2) CHECK VALVE, AFT FUS. HYD. RETURN LINE
3)
4)
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	1/1
LIFTOFF:	/NA	TAL:	1/1
ONORBIT:	/NA	AOA:	1/1
DEORBIT:	/NA	ATO:	1/1
LANDING/SAFING:	1/1		

REDUNDANCY SCREENS: A [NA] B [NA] C [NA]

LOCATION: 50V58CV19, 20, 21 (VS70-580999)
PART NUMBER: ME284-0434-1012, -1014

CAUSES: CONTAMINATION, BINDING

EFFECTS/RATIONALE:
INTERFERES WITH PROPER GEAR DEPLOY AND BREAKING.

REFERENCES: VS70-580119E, SPACE SHUTTLE SYSTEMS HANDBOOK, VOL II, SECT 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 2/11/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/2R
MDAC ID: 5001 ABORT: 2/1R

ITEM: VALVE, CHECK, L.G. HYD. CKT. FUSELAGE RETURN LINE
FAILURE MODE: FAILS OPEN

LEAD ANALYST: W. DAVIDSON SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) HYDRAULIC DISTRIBUTION, MONITORING, AND CONTROL
2) CHECK VALVE, AFT FUS. HYD. RETURN LINE
3)
4)
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	2/1R
LIFTOFF:	3/2R	TAL:	3/2R
ONORBIT:	3/2R	AOA:	3/2R
DEORBIT:	3/2R	ATO:	3/2R
LANDING/SAFING:	3/2R		

REDUNDANCY SCREENS: A [3] B [NA] C [P]

LOCATION: 50V58CV19, 20, 21 (VS70-580999)
PART NUMBER: ME284-0434-1012, -1014

CAUSES: CONTAMINATION, BROKEN SPRING, DAMAGED SEAT/POPPET

EFFECTS/RATIONALE:
FAILS TO PROTECT AGAINST LOSS OF ALL HYDRAULIC FLUID IN CASE OF LEAK UPSTREAM OF CHECK VALVE.

REFERENCES: VS70-580119E, SPACE SHUTTLE SYSTEMS HANDBOOK, VOL II, SECT 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 2/02/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/1R
MDAC ID: 8001 ABORT: 3/1R

ITEM: DIODE, SURGE SUPPR. (3 AMP) HYD MN PUMP DEPRESS VLV SOL. CKT
FAILURE MODE: INTERNAL SHORT

LEAD ANALYST: W. DAVIDSON SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) HYDRAULIC MAIN PUMP
2) DEPRESS VALVE SOLENOID CKT
3) AFT PCA
4) DIODE, SURGE SUPPRESSION (3 AMP)
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	3/1R
DEORBIT:	3/1R	ATO:	/NA
LANDING/SAFING:	/NA		

REDUNDANCY SCREENS: A [3] B [F] C [P]

LOCATION: 55V76A135 (VS70-580109E)
PART NUMBER:

CAUSES: VIBRATION, THERMAL STRESS, MECHANICAL SHOCK

EFFECTS/RATIONALE:
LOSS OF ARC SUPPRESSION FOR CIRCUITRY, LOSS OF REDUNDANCY, SECOND FAILURE WILL RESULT IN THE LOST CAPABILITY TO ENERGIZE DEPRESS SOLENOID.

REFERENCES: VS70-580109E, SPACE SHUTTLE SYSTEMS HANDBOOK, VOL. II SECT. 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 2/03/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/1R
MDAC ID: 8002 ABORT: 3/1R

ITEM: DIODE, ISOL, HYD MN PMP DEPRESS VALVE SOLENOID CKT
FAILURE MODE: FAILS OPEN

LEAD ANALYST: P. BYNUM SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) HYDRAULIC MAIN PUMP
2) DEPRESS VALVE SOLENOID CKT
3) AFT LCA
4) DIODE
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	3/1R
DEORBIT:	3/1R	ATO:	/NA
LANDING/SAFING:	/NA		

REDUNDANCY SCREENS: A [2] B [F] C [P]

LOCATION: 55V76A122 (VS70-580109E)
PART NUMBER:

CAUSES: VIBRATION, MECHANICAL SHOCK, THERMAL STRESS

EFFECTS/RATIONALE:
LOSS OF REDUNDANCY TO POWER RETURN TO MAIN PUMP DEPRESS SOLENOID. SECOND FAILURE POTENTIAL LOSS OF ONE HYDRAULIC SYSTEM.

REFERENCES: VS70-580109E, SPACE SHUTTLE SYSTEM HANDBOOK, VOL. II, SECT. 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 2/03/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/1R
MDAC ID: 8003 ABORT: 3/1R

ITEM: DIODE, ISOL (3A), HYD MN PMP DEPRESS VLV SOLENOID CKT
FAILURE MODE: FAILS OPEN

LEAD ANALYST: P. BYNUM SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) HYDRAULIC MAIN PUMP
2) DEPRESS VALVE SOLENOID CKT
3) AFT LCA
4) DIODE
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	3/1R
DEORBIT:	3/1R	ATO:	/NA
LANDING/SAFING:	/NA		

REDUNDANCY SCREENS: A [2] B [F] C [P]

LOCATION: 55V76A123 (VS70-580109E)
PART NUMBER:

CAUSES: VIBRATION, MECHANICAL SHOCK, THERMAL SHOCK

EFFECTS/RATIONALE:
LOSS OF REDUNDANCY FOR POWER RETURN TO MAIN PUMP DEPRESS SOLENOID, SECOND FAILURE POTENTIAL LOSS OF ONE HYDRAULIC SYSTEM.

REFERENCES: VS70-580109E, SPACE SHUTTLE SYSTEMS HANDBOOK, VOL. II SECT. 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 2/03/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/1R
MDAC ID: 8004 ABORT: 3/1R

ITEM: HYBRID DRIVER TYPE 4, HYD L.G. RETR/CIRC VLV SOL. CKT
FAILURE MODE: INADVERTENT OUTPUT, SHORTS TO GROUND

LEAD ANALYST: P. BYNUM SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) MAIN HYDRAULIC SYSTEM 1
2) RETRACT CIRC VALVE SOL CKT
3) FWD LCA
4) HYDBRID DRIVER, TYPE 4
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	3/1R
DEORBIT:	3/1R	ATO:	3/1R
LANDING/SAFING:	3/1R		

REDUNDANCY SCREENS: A [2] B [F] C [P]

LOCATION: 81V76A16 (VS70-580109E)
PART NUMBER:

CAUSES: THERMAL STRESS, VIBRATION, MECHANICAL SHOCK

EFFECTS/RATIONALE:
NO EFFECT, FIRST FAILURE, CLOSED DRIVER MUST BE ENERGIZED TO CLOSE VALVE. SECOND FAILURE RPC FAILS ON ACTUATING SOLENOID VALVE.

REFERENCES: VS70-580109E, SPACE SHUTTLE SYSTEMS HANDBOOK, VOL. II, SECT. 12.

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 2/10/88
SUBSYSTEM: HYD/WSB
MDAC ID: 8005

HIGHEST CRITICALITY HDW/FUNC
FLIGHT: 2/1R
ABORT: 2/1R

ITEM: DIODE, HYD MN PUMP DEPRESS VLV SOL CKT.
FAILURE MODE: OPEN (ELECTRICAL)

LEAD ANALYST: P. BYNUM SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) HYDRAULIC MAIN PUMP
2) DEPRESS VALVE SOLENOID CKT
3) AFT PCA
4) DIODE, SURGE SUPPRESSION
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	2/1R
DEORBIT:	2/1R	ATO:	/NA
LANDING/SAFING:	/NA		

REDUNDANCY SCREENS: A [3] B [F] C [P]

LOCATION: 55V76A135
PART NUMBER:

CAUSES: MECHANICAL SHOCK, THERMAL STRESS, VIBRATION

EFFECTS/RATIONALE:
DIODE OPEN WILL POSSIBLY CASE LOSS OF RPC AND/OR HYBRID DRIVER. LOST CAPABILITY TO ACTIVATE DEPRESS SOLENOID VALVE.

REFERENCES: VS70-580109E, SPACE SHUTTLE SYSTEMS HANDBOOK, VOL. II, SECT. 12.

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 2/13/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/1R
MDAC ID: 8161 ABORT: 3/1R

ITEM: CONTROL FUSE (3A) HYD CIRC PUMP CNTRL
FAILURE MODE: OPEN

LEAD ANALYST: W. DAVIDSON SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) HYDRAULIC CIRC PUMP
2) AFT AVIONICS BAY 4
3) AFT POWER CONTACTOR ASSEMBLY NO. 4
4) CONTROL FUSE (3A)
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	3/1R	AOA:	/NA
DEORBIT:	/NA	ATO:	3/1R
LANDING/SAFING:	/NA		

REDUNDANCY SCREENS: A [2] B [P] C [P]

LOCATION: 54V76A134 (VS70-580109)
PART NUMBER:

CAUSES: VIBRATION, MECHANICAL SHOCK, THERMAL STRESS

EFFECTS/RATIONALE:
POWER TO CIRC PUMP FROM TWO REDUNDANT CIRCUITS. POSSIBLE LOSS OF ONE CIRC PUMP.

REFERENCES: VS70-580109E, SPACE SHUTTLE SYSTEMS HANDBOOK, VOL II, SECT 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 2/13/88
SUBSYSTEM: HYD/WSB
MDAC ID: 8162

HIGHEST CRITICALITY HDW/FUNC
FLIGHT: 3/3
ABORT: /NA

ITEM: POWER FUSE (150 AMP), H40 CIRC PUMP CNTL
FAILURE MODE: OPEN

LEAD ANALYST: W. DAVIDSON SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) HYDRAULIC CIRC PUMP
2) AFT AVIONICS BAY 4
3) AFT POWER CONTACTOR ASSEMBLY NO. 4
4) POWER CONTACTOR (K3, K4)
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	3/3	AOA:	/NA
DEORBIT:	/NA	ATO:	3/3
LANDING/SAFING:	/NA		

REDUNDANCY SCREENS: A [NA] B [NA] C [NA]

LOCATION: 54V76A134 (VS70-580109)
PART NUMBER:

CAUSES: VIBRATION, MECHANICAL SHOCK

EFFECTS/RATIONALE:
LOSS OF REDUNDANCY POWER TO ONE CIRC PUMP.

REFERENCES: VS70-580109E, SPACE SHUTTLE SYSTEMS HANDBOOK, VOL II, SECT 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 2/11/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/1R
MDAC ID: 8461 ABORT: /NA

ITEM: PWR SW S25
FAILURE MODE: FAILS OPEN, SHORTS TO GROUND

LEAD ANALYST: J. DUVAL SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) HYDRAULIC CIRC PUMP
2) PANEL A12
3) PWR SW S25
4)
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	3/1R	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	/NA		

REDUNDANCY SCREENS: A [2] B [P] C [P]

LOCATION: 36V73A12 (VS70-580109E)
PART NUMBER:

CAUSES: VIBRATION, MECHANICAL SHOCK, CONTAMINATION

EFFECTS/RATIONALE:
LOSS OF FUNCTION. LOSS OF POWER TO CIRC PUMP ACTIVATION CIRCUITS.

REFERENCES: VS70-580109E, SPACE SHUTTLE SYSTEMS HANDBOOK, VOL II, SECT 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 12/04/86
SUBSYSTEM: HYD/WSB
MDAC ID: 8462

HIGHEST CRITICALITY HDW/FUNC
FLIGHT: 3/1R
ABORT: /NA

ITEM: PWR SW S25
FAILURE MODE: INTERNAL SHORT ALL CONTACTS

LEAD ANALYST: J. DUVAL SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) HYDRAULIC CIRC PUMP
2) PANEL A12
3) PWR SW S25
4)
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	3/1R	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	/NA		

REDUNDANCY SCREENS: A [2] B [P] C [P]

LOCATION: 36V73A12 (VS70-580109E)
PART NUMBER:

CAUSES: VIBRATION, MECHANICAL SHOCK, CONTAMINATION

EFFECTS/RATIONALE:
POSSIBLE LOSS OF ONE CIRC. PUMP BECAUSE OFF INDETERMINATE CIRCUIT BEHAVIOR (RELAY RACE).

REFERENCES: VS70-580109E, SPACE SHUTTLE SYSTEMS HANDBOOK, VOL II, SECT 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 12/13/86 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/3
MDAC ID: 8751 ABORT: /NA

ITEM: FUSE, (1A) LG RETRACT/CIRC VLV SOLENOID
FAILURE MODE: OPEN (ELECTRICAL)

LEAD ANALYST: P. BYNUM SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) MAIN HYDRAULIC SYSTEM 1
2) RETRACT CIRC VALVE
3) PANEL R4
4) LG RETRACT/CIRC VLV SOLENOID
5) FUSE (1A)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [NA] B [NA] C [NA]

LOCATION: 32V73A4 (VS70-580190E)
PART NUMBER:

CAUSES: MECHANICAL SHOCK, THERMAL SHOCK, VIBRATION

EFFECTS/RATIONALE:
PROVIDES CURRENT LIMITING/PROTECTION OF POWER TO N/C SOLENOID VALVE FOR LG RETRACT/CIRC HYDRAULIC OPERATIONS DURING GROUND TURNAROUND ONLY.

REFERENCES: VS70-580109E, VOL. II, SECT. 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 2/13/88
SUBSYSTEM: HYD/WSB
MDAC ID: 8752

HIGHEST CRITICALITY HDW/FUNC
FLIGHT: 3/3
ABORT: /NA

ITEM: RESISTOR, (1.21K), LG RETRACT/CIRC VLV SOLENOID CKT
FAILURE MODE: OPEN (ELECTRICAL) SHORTED

LEAD ANALYST: P. BYNUM SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) MAIN HYDRAULIC SYSTEM 1
2) RETRACT CIRC VALVE
3) PANEL R4
4) LG RETRACT/CIRC VLV SOLENOID CKT
5) RESISTOR (1.21K)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [NA] B [NA] C [NA]

LOCATION: 32V73A4 (VS70-580190E)
PART NUMBER:

CAUSES: MECHANICAL SHOCK, THERMAL SHOCK, VIBRATION

EFFECTS/RATIONALE:
SHORT, NO EFFECT. OPEN, LOSS OF REDUNDANT POWER SOURCE TO ENERGIZE SOLENOID. RESISTOR PROVIDES CURRENT LIMITING OF POWER TO NORMALLY CLOSE SOLENOID VALVE FOR LANDING GEAR RETRACT/CIRC HYDRAULIC OPERATION DURING GROUND TURNAROUND ONLY.

REFERENCES: VS70-580109E, VOL. II, SECT. 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 2/13/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/3
MDAC ID: 8753 ABORT: /NA

ITEM: RPC, LG RETRACT/CIRC VLV SOLENOID CKT
FAILURE MODE: OPEN (ELECTRICAL) LOSS OF OUTPUT

LEAD ANALYST: P. BYNUM SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) MAIN HYDRAULIC SYSTEM 1
2) RETRACT CIRC VALVE
3) FPCA 1,2
4) LG RETRACT/CIRC VLV SOLENOID CKT
5) RPC
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [NA] B [NA] C [NA]

LOCATION: 81V76A22 (VS70-580109E)
PART NUMBER:

CAUSES: CONTAMINATION, MECHANICAL SHOCK, PIECE-PART FAILURE, THERMAL SHOCK, VIBRATION

EFFECTS/RATIONALE:
LOSS OF REDUNDANT POWER TO ENERGIZE SOLENOID. FAILURE EFFECTS APPLICABLE ONLY DURING GROUND TURNAROUND/CHECKOUT.

REFERENCES: VS70-580109E, VOL. II, SECT. 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 2/13/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/1R
MDAC ID: 8754 ABORT: /NA

ITEM: RPC, LG RETRACT/CIRC VLV SOLENOID CKT
FAILURE MODE: INADVERTANT OPERATION

LEAD ANALYST: P. BYNUM SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) MAIN HYDRAULIC SYSTEM 1
2) RETRACT CIRC VALVE
3) FPCA 1,2
4) LG RETRACT VLV SOLENOID CKT
5) RPC
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	3/1R		

REDUNDANCY SCREENS: A [2] B [P] C [P]

LOCATION: 81V76A22 (VS70-580109E)
PART NUMBER:

CAUSES: CONTAMINATION, MECHANICAL SHOCK, PIECE-PART FAILURE, THERMAL SHOCK, VIBRATION

EFFECTS/RATIONALE:

REFERENCES: VS70-580109E, VOL. II, SECT. 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 2/13/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/3
MDAC ID: 8755 ABORT: /NA

ITEM: HYBRID DRIVER, TYPE 4, LG RETRACT/CIRC VLV SOLENOID CKT
FAILURE MODE: OPEN (ELECTRICAL) LOSS OF OUTPUT

LEAD ANALYST: P. BYNUM SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) MAIN HYDRAULIC SYSTEM 1
2) RETRACT CIRC VALVE SOLENOID CKT
3) FLCA 1,2
4) HYBRID DRIVER, TYPE 4
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [NA] B [NA] C [NA]

LOCATION: 81V76A16 (VS70-580109E)
PART NUMBER:

CAUSES: CONTAMINATION, MECHANICAL SHOCK, PIECE-PART FAILURE, THERMAL SHOCK, VIBRATION

EFFECTS/RATIONALE:

REFERENCES: VS70-580109E, VOL. II, SECT. 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 2/13/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/3
MDAC ID: 8756 ABORT: /NA

ITEM: HYBRID DRIVER, TYPE 1, LG RETRACT/CIRC VLV SOLENOID CKT
FAILURE MODE: OPEN (ELECTRICAL), LOSS OF OUTPUT, SHORT TO GROUND

LEAD ANALYST: P. BYNUM SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) MAIN HYDRAULIC SYSTEM 1
2) RETRACT/CIRC VALVE SOLENOID CKT
3) FLCA 1,2
4) HYBRID DRIVER, TYPE 1
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [NA] B [NA] C [NA]

LOCATION: 81V76A17 (VS70-580109E)
PART NUMBER:

CAUSES: CONTAMINATION, MECHANICAL SHOCK, PIECE-PART FAILURE, THERMAL SHOCK, VIBRATION

EFFECTS/RATIONALE:

REFERENCES: VS70-580109E, VOL. II, SECT. 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 2/13/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/1R
MDAC ID: 8757 ABORT: /NA

ITEM: HYBRID DRIVER, TYPE 1, LG RETRACT/CIRC VLV SOLENOID CKT
FAILURE MODE: INADVERTENT OUTPUT

LEAD ANALYST: P. BYNUM SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) MAIN HYDRAULIC SYSTEM 1
2) RETRACT CIRC VALVE
3) FLCA 1,2
4) LG RETRACT/CIRC VLV SOLENOID
5) HYBRID DRIVER, TYPE 1
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	3/1R		

REDUNDANCY SCREENS: A [2] B [P] C [P]

LOCATION: 81V76A17 (VS70-580109E)
PART NUMBER:

CAUSES: CONTAMINATION, MECHANICAL SHOCK, PIECE-PART FAILURE, THERMAL SHOCK, VIBRATION

EFFECTS/RATIONALE:

REFERENCES: VS70-580109E, VOL. II, SECT. 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 2/13/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/3
MDAC ID: 8758 ABORT: /NA

ITEM: DIODE, SURGE SUPP, (3A), LG RETRACT/CIRC VLV SOLENOID CKT
FAILURE MODE: OPEN (ELECTRICAL), SHORTED

LEAD ANALYST: P. BYNUM SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) MAIN HYDRAULIC SYSTEM 1
2) RETRACT CIRC VALVE
3) FPCA 2
4) LG RETRACT/CIRC VLV SOLENOID CKT
5) DIODE, SURGE SUPPRESSION, (3A)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [NA] B [NA] C [NA]

LOCATION: 82V76A23 (VS70-580109E)
PART NUMBER:

CAUSES: CONTAMINATION, MECHANICAL SHOCK, VIBRATION, THERMAL SHOCK

EFFECTS/RATIONALE:

REFERENCES: VS70-580109E, VOL. II, SECT. 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 2/13/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/3
MDAC ID: 8759 ABORT: /NA

ITEM: DIODE, BUS ISOLATION, (1A) (3A)
FAILURE MODE: OPEN (ELECTRICAL), SHORTED

LEAD ANALYST: P. BYNUM SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) MAIN HYDRAULIC SYSTEM 1
2) RETRACT CIRC VALVE
3) FLCA/FPCA 1, 2
4) LG RETRACT/CIRC VLV SOLENOID VLVE CKT
5) DIODE, BUS ISOLATION, (1A) (3A)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [NA] B [NA] C [NA]

LOCATION: 82V76A23, (1A), 82V76A17, (3A) (VS70-580109E)
PART NUMBER:

CAUSES: CONTAMINATION, MECHANICAL SHOCK, THERMAL SHOCK, VIBRATION

EFFECTS/RATIONALE:

REFERENCES: VS70-580109E, VOL. II, SECT. 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 2/13/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/3
MDAC ID: 8761 ABORT: /NA

ITEM: DIODES, RPC PWR ISOLATION, (2A)(12A)
FAILURE MODE: OPEN (ELECTRICAL), SHORTED

LEAD ANALYST: P. BYNUM SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) MAIN HYDRAULIC SYSTEM 1
2) RETRACT CIRC VALVE
3) FPCA 1,2
4) LG RETRACT/CIRC VLV SOLENOID VALVE CK
5) DIODE, RPC PWR ISOLATION (2A) (12A)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [NA] B [NA] C [NA]

LOCATION: 82V76A23, A22 (VS70-580109E)
PART NUMBER:

CAUSES: CONTAMINATION, MECHANICAL SHOCK, THERMAL SHOCK, VIBRATION

EFFECTS/RATIONALE:

REFERENCES: VS70-580109E, VOL. II, SECT. 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 2/13/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/3
MDAC ID: 8762 ABORT: /NA

ITEM: DIODE, GROUND ISOLATION, RETRACT/CIR VLV, (2A)(15A)
FAILURE MODE: OPEN (ELECTRICAL), SHORTED

LEAD ANALYST: P. BYNUM SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) MAIN HYDRAULIC SYSTEM 1
2) RETRACT CIRC VALVE
3) FLCA 1,2
4) LG RETRACT/CIRC VLV SOLENOID VALVE CKT
5) DIODE, GROUND ISOLATION, (2A) (15A)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [NA] B [NA] C [NA]

LOCATION: 82V76A23, A16, A17 (VS70-580109E)
PART NUMBER:

CAUSES: CONTAMINATION, MECHANICAL SHOCK, THERMAL SHOCK, VIBRATION

EFFECTS/RATIONALE:

REFERENCES: VS70-580109E, VOL. II, SECT. 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 2/13/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/1R
MDAC ID: 8763 ABORT: 3/1R

ITEM: DIODE, GROUND ISOLATION, (15A)
FAILURE MODE: SHORT TO GROUND

LEAD ANALYST: P. BYNUM SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) MAIN HYDRAULIC SYSTEM 1
2) RETRACT CIRC VALVE
3) FLCA 1,2
4) LG RETRACT/CIRC VLV SOLENOID VALVE CKT
5) DIODE, GROUND ISOLATION, (15A)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	3/1R		

REDUNDANCY SCREENS: A [2] B [F] C [P]

LOCATION: 82V76A17,A16 (VS70-580109E)
PART NUMBER:

CAUSES: CONTAMINATION, MECHANICAL SHOCK, THERMAL SHOCK, VIBRATION

EFFECTS/RATIONALE:

REFERENCES: VS70-580109E, VOL. II, SECT. 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 2/13/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/3
MDAC ID: 8764 ABORT: /NA

ITEM: RESISTOR, MONITOR ISOLATION, (1.8K)(2.2K)(5.1K)
FAILURE MODE: OPEN (ELECTRICAL)

LEAD ANALYST: P. BYNUM SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) MAIN HYDRAULIC SYSTEM 1
2) RETRACT CIRC VALVE SOLENOID CKT
3) FPCA/FLCA 1,2
4) RESISTOR, MONITOR ISOLATION (1.8K)(2.2K)(5.1K)
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [NA] B [NA] C [NA]

LOCATION: 82V76A23,A16, A17 (VS70-580109E)
PART NUMBER:

CAUSES: CONTAMINATION, MECHANICAL SHOCK, THERMAL SHOCK, VIBRATION

EFFECTS/RATIONALE:

REFERENCES: VS70-580109E, VOL. II, SECT. 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 2/13/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/1R
MDAC ID: 8765 ABORT: /NA

ITEM: RESISTOR, SHORT CKT PROTECTION
FAILURE MODE: OPEN (ELECTRICAL)

LEAD ANALYST: P. BYNUM SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) MAIN HYDRAULIC SYSTEM 1
2) RETRACT CIRC VALVE
3) FPCA-1
4) LG RETRACT/CIRC SOLENOID VALVE CKT
5) RESISTOR, SHORT CKT PROTECTION
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	3/1R		

REDUNDANCY SCREENS: A [2] B [F] C [P]

LOCATION: 81V76A22 (VS70-580109E)
PART NUMBER:

CAUSES: CONTAMINATION, MECHANICAL SHOCK, THERMAL SHOCK, VIBRATION

EFFECTS/RATIONALE:

REFERENCES: VS70-580109E, VOL. II, SECT. 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 2/13/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/3
MDAC ID: 8766 ABORT: /NA

ITEM: LG RETRACT/CIRC VLV SW
FAILURE MODE: OPEN (ELECTRICAL)

LEAD ANALYST: P. BYNUM SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) MAIN HYDRAULIC SYSTEM 1
2) RETRACT CIRC VALVE
3) PANEL R4
4) LG RETRACT/CIRC VLV SW
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [NA] B [NA] C [NA]

LOCATION: 32V73A4 (VS70-580109E)
PART NUMBER:

CAUSES: VIBRATION, MECHANICAL SHOCK, STRUCTURAL FAILURE

EFFECTS/RATIONALE:
RETRACT/CIRC VALVE STAYS ENERGIZED WHEN CIRC PUMP IS ON.

REFERENCES: VS70-580109E, SPACE SHUTTLE SYSTEMS HANDBOOK, VOL. II, SECT. 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 2/11/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/3
MDAC ID: 9091 ABORT: /

ITEM: MDM ISOLATION DIODE
FAILURE MODE: SHORTED

LEAD ANALYST: W. DAVIDSON SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) HYDRAULIC SYSTEM 1
2) LANDING GEAR ISOLATION VALVE
3) AFT LCA
4) MDM ISOLATION DIODE
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [NA] B [NA] C [NA]

LOCATION:
PART NUMBER:

CAUSES: THERMAL STRESS, VIBRATION, MECHANICAL SHOCK

EFFECTS/RATIONALE:
NO EFFECT IN FLIGHT.

REFERENCES: VS70-580109E, SPACE SHUTTLE SYSTEMS HANDBOOK, VOL II, SECT 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 2/11/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/3
MDAC ID: 9101 ABORT: /NA

ITEM: VEHICLE ISOLATION DIODE
FAILURE MODE: SHORTED

LEAD ANALYST: W. DAVIDSON SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) HYDRAULIC SYSTEM 1
2) LANDING GEAR ISOLATION VALVE
3) AFT LCA
4) VEHICLE ISOLATION DIODE
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [NA] B [NA] C [NA]

LOCATION:
PART NUMBER:

CAUSES: THERMAL STRESS, VIBRATION, MECHANICAL SHOCK

EFFECTS/RATIONALE:
NO EFFECT IN FLIGHT.

REFERENCES: VS70-580109E, SPACE SHUTTLE SYSTEMS HANDBOOK, VOL II, SECT 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 2/13/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/3
MDAC ID: 9141 ABORT: 3/3

ITEM: ISO VLV CTL CIRCUIT RESISTOR (1.21K)
FAILURE MODE: SHORT

LEAD ANALYST: W. DAVIDSON SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) HYDRAULIC SYSTEM 1
2) LANDING GEAR ISOLATION VALVE
3) PANEL R4
4) ISO VLV CTL CIRCUIT RESISTOR (1.21K)
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	3/3
LIFTOFF:	/NA	TAL:	3/3
ONORBIT:	/NA	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [NA] B [NA] C [NA]

LOCATION:
PART NUMBER:

CAUSES: VIBRATION, CORROSION, THERMAL STRESS

EFFECTS/RATIONALE:
LOSS OF OVERCURRENT PROTECTION. NO EFFECT ON FLIGHT.

REFERENCES: VS70-580109E, SPACE SHUTTLE SYSTEMS HANDBOOK, VOL II, SECT 12

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 2/13/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: HYD/WSB FLIGHT: 3/3
MDAC ID: 9501 ABORT: 3/3

ITEM: HYDRAULIC PRESSURE METER
FAILURE MODE: OPEN, SHORT, OUT OF TOLERANCE

LEAD ANALYST: W. DAVIDSON SUBSYS LEAD: W. DAVIDSON

BREAKDOWN HIERARCHY:
1) HYDRAULIC DISTRIBUTION, MONITORING, AND CONTROL
2) HYDRAULIC PRESSURE METER
3)
4)
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/3	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [NA] B [NA] C [NA]

LOCATION:
PART NUMBER:

CAUSES: CORROSION, VIBRATION, PIECE PART FAILURE

EFFECTS/RATIONALE:
LOSE DIRECT ONBOARD HYDRAULIC PRESSURE READING

REFERENCES:

APPENDIX F

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE/RECOMMENDATIONS

This section provides a cross reference between the NASA FMEA and corresponding IOA analysis worksheet(s) included in Appendix E. The Appendix F identifies: NASA FMEA Number, IOA Assessment Number, NASA criticality and redundancy screen data, and IOA recommendations.

APPENDIX F LEGEND

Code	Definition
1	IOA Recommends a Higher Criticality
2	IOA Recommends Additional Failure Mode
3	IOA Recommends A Lower Criticality
4	IOA Recommends Change to a Redundancy Screen
5	IOA Concurs With NASA Analysis
6	Delete IOA Failure Mode
7	Delete FMEA From CIL
8	Add FMEA To CIL

APPENDIX F

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE / RECOMMENDATIONS

IDENTIFIERS		NASA				IOA RECOMMENDATIONS *				
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B	C	CRIT HW/F	SCREENS A	B	C	OTHER (SEE LEGEND CODE)	ISSUE
	HYDWSB-110	2/1R	P	P	P	3/1R	NA			2	X
	HYDWSB-116	/				3/3	NA	NA	NA	2	X
	HYDWSB-118	/				2/1R	P	P	P	2,8	X
	HYDWSB-132	/				/					
	HYDWSB-143	/				2/1R	P	P	P	2	X
	HYDWSB-160	/				3/3	NA	NA	NA	2	X
	HYDWSB-161	/				/				6	
	HYDWSB-162	/				/				6	
	HYDWSB-163	/				/				6	
	HYDWSB-164	/				2/1R	P	P	P	2,8	X
	HYDWSB-171	/				/				2	X
	HYDWSB-196	/				/				6	
	HYDWSB-197	/				2/1R	P	P	P	2,8	X
	HYDWSB-404	/				/				6	
	HYDWSB-406	3/3	NA	NA	NA	/					
	HYDWSB-407	/				3/3	NA	NA	NA	2	X
	HYDWSB-408	/				/				6	
	HYDWSB-409	/				3/3	NA	NA	NA	2	X
	HYDWSB-410	/				/				6	
	HYDWSB-411	/				/				6	
	HYDWSB-415	/				/				6	
	HYDWSB-431	/				3/1R	F	P	P	2,8	X
	HYDWSB-433	/				/				6	
	HYDWSB-437	/				/				6	
	HYDWSB-441	/				/				6	
	HYDWSB-475	/				/				6	
	HYDWSB-483	/				/				6	
	HYDWSB-485	/				/				2	X
	HYDWSB-487	/				2/1R	P	F	P	2,8	X
	HYDWSB-602	/				/				6	
	HYDWSB-625	/				/				6	
	HYDWSB-628	/				3/1R	P	P	P	2	X
	HYDWSB-645	/				3/3	NA	NA	NA	2	X
	HYDWSB-647	/				/				6	
	HYDWSB-648	/				/				6	
	HYDWSB-649	/				/				6	
	HYDWSB-650	/				3/3	NA	NA	NA	2	X
	HYDWSB-651	/				/				6	
	HYDWSB-652	/				/				6	
	HYDWSB-653	/				/				6	
	HYDWSB-654	/				/				6	
	HYDWSB-655	/				3/3	NA	NA	NA	2	X
	HYDWSB-656	/				3/3	NA	NA	NA	2	X
	HYDWSB-657	/				/				6	
	HYDWSB-658	/				3/3	NA	NA	NA	2	X

IDENTIFIERS		NASA				IOA RECOMMENDATIONS *				
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B	C	CRIT HW/F	SCREENS A	B	C	OTHER (SEE LEGEND CODE)	ISSUE
	HYDWSB-659	/				3/3	NA	NA	NA	2	X
	HYDWSB-660	/				/				6	
	HYDWSB-661	/				3/3	NA	NA	NA	2	X
	HYDWSB-662	/				3/3	NA	NA	NA	2	X
	HYDWSB-663	/				/				6	
	HYDWSB-664	/				3/3	NA	NA	NA	2	X
	HYDWSB-665	/				/				6	
	HYDWSB-666	/				3/3	NA	NA	NA	2	X
	HYDWSB-667	/				/				6	
	HYDWSB-679	/				/				6	
	HYDWSB-680	/				/				6	
	HYDWSB-682	/				/				6	
	HYDWSB-690	/				/				6	
	HYDWSB-692	/				/				6	
	HYDWSB-700	/				/				6	
	HYDWSB-701	/				/				6	
	HYDWSB-702	/				/				6	
	HYDWSB-703	/				/				6	
	HYDWSB-714	/				3/1R	P	P	P	2	X
	HYDWSB-723	/				/				6	
	HYDWSB-724	/				2/1R	P	P	P	2,8	X
	HYDWSB-726	/				/				6	
	HYDWSB-727	/				/				6	
	HYDWSB-812	/				/				6	
	HYDWSB-813	/				/				6	
	HYDWSB-824	/				/				6	
	HYDWSB-858	/				3/3	NA	NA	NA	2	X
02-6-A02-1	HYDWSB-452	1/1	NA	NA	NA	/				5	
02-6-A02-12	HYDWSB-451A	3/1R	P	P	P	/					
02-6-A02-2	HYDWSB-451	3/1R	P	P	P	2/				1	X
02-6-A06-1	HYDWSB-495	2/1R	P	P	P	/					
02-6-A06-2	HYDWSB-496	2/1R	P	P	P	/					
02-6-A06-3	HYDWSB-497	2/1R	P	P	P	/					
02-6-A07-1	HYDWSB-455	3/1R	F	NA	P	3/3	NA	NA	NA	3,7	X
02-6-A07-2	HYDWSB-456	1/1	NA	NA	NA	/				5	
02-6-A11-1	HYDWSB-457A	2/1R	P	P	P	/					
02-6-A15-1	HYDWSB-458A	2/1R	P	P	P	/					
	HYDWSB-459A	2/1R	P	P	P	/					
02-6-A16-1	HYDWSB-413	3/3	P	P	P	/	NA	NA	NA		
	HYDWSB-416	3/3	P	P	P	/	NA	NA	NA		
02-6-A16-2	HYDWSB-424	3/3	NA	NA	NA	/					
	HYDWSB-425	3/3	NA	NA	NA	/					
02-6-A16-3	HYDWSB-417	2/1R	P	P	P	/					
02-6-A16-4	HYDWSB-421	3/3				/	NA	NA	NA		
	HYDWSB-422	3/3				/	NA	NA	NA		
	HYDWSB-423	3/3				/	NA	NA	NA		
02-6-C05-1	HYDWSB-643	2/1R	P	P	P	/					
	HYDWSB-644	2/1R	P	P	P	/					
02-6-C05-2	HYDWSB-668	3/3	NA	NA	NA	/					
02-6-C05-3	HYDWSB-646	2/1R	P	F	P	/				5	

IDENTIFIERS		NASA				IOA RECOMMENDATIONS *				
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B	C	CRIT HW/F	SCREENS A	B	C	OTHER (SEE LEGEND CODE)	ISSUE
02-6-C05-4	HYDWSB-646A	2/1R	P	F	P	/				5	
02-6-C06-2	HYDWSB-5000X	1/1	NA	NA	NA	/					
	HYDWSB-5001X	3/1R	F	NA	P	/				3	X
02-6-C07-1	HYDWSB-481	2/1R	P	P	P	/					
	HYDWSB-482	2/1R	P	P	P	/					
02-6-C07-2	HYDWSB-479	2/1R	P	P	P	/					
	HYDWSB-480	2/1R	P	P	P	/					
02-6-C08-1	HYDWSB-450	3/1R	P	F	P	/				5	
02-6-C08-2	HYDWSB-450A	3/1R	F	F	P	/		NA		5	
02-6-C09-1	HYDWSB-669	2/1R	P	P	P	/					
	HYDWSB-670	2/1R	P	P	P	/					
02-6-C10-1	HYDWSB-672	3/1R	F	NA	P	3/3	NA	NA	NA	3.7	X
02-6-C10-2	HYDWSB-671	2/1R	P	F	P	3/1R	P	F	P	3	X
02-6-E02-1	HYDWSB-448	3/1R	P	F	P	/				5	
	HYDWSB-449	3/1R	P	F	P	/				5	
02-6-E02-2	HYDWSB-448A	3/1R	F	F	P	/		NA		5	
	HYDWSB-449A	3/1R	F	F	P	/		NA		5	
02-6-E03-1	HYDWSB-626	2/1R	P	P	P	/					
	HYDWSB-627	2/1R	P	P	P	/					
	HYDWSB-630	2/1R	P	P	P	/					
	HYDWSB-631	2/1R	P	P	P	/					
02-6-E03-4	HYDWSB-634	3/3	NA	NA	NA	/					
	HYDWSB-635	3/3	NA	NA	NA	/					
	HYDWSB-636	3/3	NA	NA	NA	/					
02-6-E03-5	HYDWSB-624	2/1R	P	P	P	/					
02-6-E04-1	HYDWSB-615	3/3	NA	NA	NA	/					
	HYDWSB-684	3/3	NA	NA	NA	/					
	HYDWSB-689	3/3	NA	NA	NA	/					
	HYDWSB-694	3/3	NA	NA	NA	/					
02-6-E05	HYDWSB-695	3/3	NA	NA	NA	/					
02-6-E05-1	HYDWSB-685	3/3	NA	NA	NA	/					
	HYDWSB-687	3/3	NA	NA	NA	/				5	
	HYDWSB-697	3/3	NA	NA	NA	/				5	
02-6-E05-2	HYDWSB-686	3/3	NA	NA	NA	/					
	HYDWSB-688	3/3	NA	NA	NA	/				5	
	HYDWSB-696	3/3	NA	NA	NA	/					
	HYDWSB-698	3/3	NA	NA	NA	/				5	
02-6-E06-1	HYDWSB-605	2/1R	P	P	P	/					
	HYDWSB-606	2/1R	P	P	P	/					
02-6-E06-2	HYDWSB-604	2/1R	P	P	P	/					
02-6-E06-3	HYDWSB-608	2/1R	P	P	P	/					
	HYDWSB-611	2/1R	P	P	P	/					
02-6-E06-5	HYDWSB-601	1/1	NA	NA	NA	/				5	
	HYDWSB-610	2/1R	P	P	P	/					
02-6-E07-1	HYDWSB-622	3/3	NA	NA	NA	/					
02-6-E07-2	HYDWSB-621	3/3	NA	NA	NA	/				5	
02-6-E08-1	HYDWSB-720	3/3	NA	NA	NA	/					
02-6-E08-2	HYDWSB-709	2/1R	P	P	P	/					
02-6-E08-4	HYDWSB-722	2/1R	P	F	P	/				5	
02-6-E08-6	HYDWSB-715	2/1R	P	P	P	/					

IDENTIFIERS		NASA				IOA RECOMMENDATIONS *				
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B	C	CRIT HW/F	SCREENS A	B	C	OTHER (SEE LEGEND CODE)	ISSUE
02-6-E09-2	HYDWSB-619	2/1R	P	F	P	/				5	
02-6-E10-2	HYDWSB-704	2/1R	P	P	P	/					
02-6-E11	HYDWSB-705	3/3	NA	NA	NA	/					
	HYDWSB-706	3/3	NA	NA	NA	/					
	HYDWSB-707	3/3	NA	NA	NA	/					
02-6-E11-A01	HYDWSB-710	3/3	NA	NA	NA	/					
	HYDWSB-712	3/3	NA	NA	NA	/					
	HYDWSB-716	3/3	NA	NA	NA	/					
	HYDWSB-718	3/3	NA	NA	NA	/					
02-6-E11-A02	HYDWSB-711	3/3	NA	NA	NA	/					
	HYDWSB-717	3/3	NA	NA	NA	/					
02-6-E12-1	HYDWSB-478	3/3	NA	NA	NA	/				5	
02-6-E13-1	HYDWSB-678	3/3	NA	NA	NA	/					
	HYDWSB-681	3/3	NA	NA	NA	/					
	HYDWSB-683	3/3	NA	NA	NA	/					
	HYDWSB-691	3/3	NA	NA	NA	/					
	HYDWSB-693	3/3	NA	NA	NA	/					
02-6-E23-1	HYDWSB-476	2/1R	P	P	P	/					
02-6-E23-2	HYDWSB-477	2/1R	P	P	P	/					
02-6-E24-1	HYDWSB-401	2/1R	P	P	P	/				5	
	HYDWSB-412	2/1R	P	P	P	/				5	
02-6-E24-4	HYDWSB-405	3/3	NA	NA	NA	/					
02-6-E24-5	HYDWSB-403	2/1R	P	P	P	/					
02-6-E26-1	HYDWSB-444	3/3	NA	NA	NA	/					
	HYDWSB-445	3/3	NA	NA	NA	/					
02-6-E27	HYDWSB-439	/				3/1R	P	F	P	2,8	X
02-6-E27-1	HYDWSB-435	3/1R	P	P	P	/					
	HYDWSB-443	3/1R	P	P	P	/					
02-6-E27-3	HYDWSB-436	3/1R	P	P	P	/					
	HYDWSB-440	3/1R	P	P	P	/					
	HYDWSB-442	3/1R	P	P	P	/					
02-6-E27-4	HYDWSB-438	3/1R	P	P	P	/					
02-6-E28-1	HYDWSB-460A	2/1R	P	P	P	/					
02-6-E29-1	HYDWSB-426	3/1R	P	P	P	/					
	HYDWSB-427	3/1R	P	P	P	/					
	HYDWSB-428	3/1R	P	P	P	/					
	HYDWSB-429	3/1R	P	P	P	/					
	HYDWSB-430	/				/				2	X
02-6-E30-2	HYDWSB-612	2/1R	P	P	P	/					
	HYDWSB-613	2/1R	P	P	P	/					
	HYDWSB-614	2/1R	P	P	P	/					
02-6-E39-1	HYDWSB-728	3/3	NA	NA	NA	/					
02-6-E39-2	HYDWSB-729	3/3	NA	NA	NA	/					
	HYDWSB-731	3/3	NA	NA	NA	/					
02-6-G02-1	HYDWSB-491	2/1R	P	P	P	/					
02-6-G02-2	HYDWSB-492	1/1	NA	NA	NA	/					
02-6-G02-3	HYDWSB-493	3/3	NA	NA	NA	/					
02-6-G04-1	HYDWSB-469	3/1R	P	F	P	2/1R				1	X
02-6-G04-2	HYDWSB-470	3/3	NA	NA	NA	/					
02-6-G05-1	HYDWSB-472	3/1R	P	F	P	2/					

IDENTIFIERS		NASA				IDA RECOMMENDATIONS *				
NASA FMEA NUMBER	IDA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B	C	CRIT HW/F	SCREENS A	B	C	OTHER (SEE LEGEND CODE)	ISSUE
02-6-605-2	HYDWSB-473	3/3	NA	NA	NA	/					
02-6-610-1	HYDWSB-462	2/1R	P	P	P	/	NA			5	
02-6-611-1	HYDWSB-463	2/1R	P	P	P	/	NA			5	
02-6-613-2	HYDWSB-486	3/1R	P	F	P	2/1R				1	X
02-6-613-4	HYDWSB-488	3/3	NA	NA	NA	/					
02-6-614-1	HYDWSB-490	3/1R	P	F	P	/					
02-6-H04-1	HYDWSB-461	2/1R	P	P	P	/				5	
02-6-SYSTEM-2	HYDWSB-168	2/1R	P	P	P	/					
	HYDWSB-402	2/1R	P	P	P	/					
	HYDWSB-414	2/1R	P	P	P	/					
	HYDWSB-432	2/1R	P	P	P	/					
	HYDWSB-434	2/1R	P	P	P	/					
	HYDWSB-453	2/1R	P	P	P	/					
	HYDWSB-454	2/1R	P	P	P	/					
	HYDWSB-457	2/1R	P	P	P	/					
	HYDWSB-458	2/1R	P	P	P	/					
	HYDWSB-459	2/1R	P	P	P	/					
	HYDWSB-460	2/1R	P	P	P	/					
	HYDWSB-471	2/1R	P	P	P	/	F			2	X
	HYDWSB-474	2/1R	P	P	P	/				5	
	HYDWSB-484	2/1R	P	P	P	/					
	HYDWSB-489	2/1R	P	P	P	/	F			2	X
	HYDWSB-494	2/1R	P	P	P	/	F			2	X
	HYDWSB-498	2/1R	P	P	P	/					
	HYDWSB-600	2/1R	P	P	P	/					
	HYDWSB-603	2/1R	P	P	P	/					
	HYDWSB-607	2/1R	P	P	P	/					
	HYDWSB-609	2/1R	P	P	P	/					
	HYDWSB-620	2/1R	P	P	P	/					
	HYDWSB-623	2/1R	P	P	P	/					
	HYDWSB-629	2/1R	P	P	P	/					
	HYDWSB-632	2/1R	P	P	P	/					
	HYDWSB-633	2/1R	P	P	P	/					
	HYDWSB-673	2/1R	P	P	P	/					
	HYDWSB-677	2/1R	P	P	P	/					
	HYDWSB-699	2/1R	P	P	P	/					
	HYDWSB-708	2/1R	P	P	P	/					
	HYDWSB-713	2/1R	P	P	P	/					
	HYDWSB-719	2/1R	P	P	P	/					
	HYDWSB-721	2/1R	P	P	P	/					
	HYDWSB-725	2/1R	P	P	P	/					
	HYDWSB-730	2/1R	P	P	P	/					
02-6-SYSTEM-3	HYDWSB-464	2/1R	P	P	P	/					
	HYDWSB-465	2/1R	P	P	P	/	F			2	X
	HYDWSB-466	2/1R	P	P	P	3/				2	X
	HYDWSB-467	2/1R	P	P	P	/					
	HYDWSB-468	2/1R	P	P	P	/					
02-6-SYSTEM-4	HYDWSB-446	3/3	NA	NA	NA	/					
02-6-SYSTEM-5	HYDWSB-447	3/3	NA	NA	NA	/					
02-6-SYSTEM-7	HYDWSB-637	3/3	NA	NA	NA	/					

IDENTIFIERS		NASA				IDA RECOMMENDATIONS *				
NASA FMEA NUMBER	IDA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B	C	CRIT HW/F	SCREENS A	B	C	OTHER (SEE LEGEND CODE)	ISSUE
02-6-SYSTEM-7	HYDWSB-638	3/3	NA	NA	NA	/					
	HYDWSB-639	3/3	NA	NA	NA	/					
05-66-00100-1B	HYDWSB-8005X	2/1R	F	F	P	/				8	X
05-66-200100-10A	HYDWSB-862	3/3				/					
	HYDWSB-863	3/3				/					
05-66-200100-10B	HYDWSB-856	3/3				/					
	HYDWSB-857	3/3				/					
	HYDWSB-859	3/3				/					
	HYDWSB-864	3/3				/					
	HYDWSB-865	3/3				/					
05-66-200100-1C	HYDWSB-851	3/1R	P	P	P	/				5	
05-66-200100-1E	HYDWSB-850	3/1R	P	P	P	/				5,7	X
05-66-200100-1G	HYDWSB-867	3/3				/					
	HYDWSB-870	3/3				/					
05-66-200100-1H	HYDWSB-868	3/1R	P	P	P	/				5	
	HYDWSB-869	3/1R	P	P	P	/				5	
05-66-200100-1I	HYDWSB-866	3/1R	P	P	P	/				5	
05-66-200100-1JA	HYDWSB-852	3/3				/					
	HYDWSB-853	3/3				/					
05-66-200100-1JB	HYDWSB-854	3/1R	P	P	P	/					
05-66-200100-1JC	HYDWSB-855	3/3				/					
05-66-200100-1JE	HYDWSB-873	3/3	NA	NA	NA	/					
05-66-200100-1JF	HYDWSB-872	3/1R	P	F	P	/					
05-66-200100-1JFA	HYDWSB-872A	3/1R	P	F	P	/					
05-66-200100-1JG	HYDWSB-871	3/3				/				5	
05-66-200100-1JH	HYDWSB-854A	3/1R	P	P	P	/					
05-66-200100-1JI	HYDWSB-855A	3/3				/					
05-66-200300-1A	HYDWSB-876	3/1R	P	P	P	/3				2,3	X
	HYDWSB-877	3/1R	P	P	P	/				2,5	X
05-66-200300-1B	HYDWSB-875	3/3	NA	NA	NA	/					
05-66-200300-1C	HYDWSB-8751X	3/3	NA	NA	NA	/					
05-66-200300-1D	HYDWSB-8752X	3/3	NA	NA	NA	/					
05-66-200300-1E	HYDWSB-8753X	3/3	NA	NA	NA	/					
05-66-200300-1F	HYDWSB-8754X	3/1R	P	P	P	/					
05-66-200300-1G	HYDWSB-8755X	3/3	NA	NA	NA	/					
05-66-200300-1I	HYDWSB-8756X	3/3	NA	NA	NA	/					
05-66-200300-1J	HYDWSB-8757X	3/1R	P	P	P	/					
05-66-200300-1KA	HYDWSB-8758X	3/3				/					
05-66-200300-1KB	HYDWSB-8759X	3/3				/					
05-66-200300-1KC	HYDWSB-8761X	3/3				/				2, 3	X
05-66-200300-1KD	HYDWSB-8762X	3/3				/				2, 3	X
05-66-200300-1KE	HYDWSB-8763X	3/1R	P	F	P	/					
05-66-200300-1KF	HYDWSB-8764X	3/3				/				2, 3	X
05-66-2003000-1KG	HYDWSB-8765X	3/3	P	NA	P	/		F			
05-66-2003000-1KH	HYDWSB-8766X	3/3				/				5	
05-66-200400-10	HYDWSB-825	3/3	NA	NA	NA	/					
05-66-200400-1A	HYDWSB-846	3/1R	P	P	P	/3	NA	NA	NA	3	X
05-66-200400-1B	HYDWSB-8461X	3/1R	P	P	P	/					
05-66-200400-1C	HYDWSB-8462X	3/1R	P	P	P	/					
05-66-200400-1D	HYDWSB-842	3/1R	P	P	P	/		NA			

IDENTIFIERS		NASA				IOA RECOMMENDATIONS *					
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05-6G-200400-1E	HYDWSB-843	3/1R	P	P	P	/3	NA	NA	NA	3	X
05-6G-200400-1F	HYDWSB-841	3/1R	P	P	P	/3	NA	NA	NA	3	X
05-6G-200400-1G	HYDWSB-845	3/1R	P	P	P	/3	NA	NA	NA	3	X
05-6G-200400-1H	HYDWSB-840	3/1R	P	P	P	/3	NA	NA	NA	3	X
	HYDWSB-844	3/1R	P	P	P	/3	NA	NA	NA	3	X
05-6G-200400-1I-1	HYDWSB-838	3/3	NA	NA	NA	/					
05-6G-200400-1I1	HYDWSB-834	3/3	NA	NA	NA	/					
05-6G-200400-1I2	HYDWSB-835	3/1R	P	P	P	/3	NA	NA	NA	3	X
	HYDWSB-839	3/1R	P	P	P	/3	NA	NA	NA	3	X
05-6G-200400-1J	HYDWSB-836	3/3	NA	NA	NA	/					
05-6G-200400-1JA	HYDWSB-837	3/1R	P	P	P	/3	NA	NA	NA	3	X
05-6G-200400-1K	HYDWSB-826	3/3	NA	NA	NA	/					
	HYDWSB-827	3/3	NA	NA	NA	/					
05-6G-200400-1L1	HYDWSB-819	3/1R	P	P	P	/3	NA	NA	NA	3	X
	HYDWSB-820	3/1R	P	P	P	/3	NA	NA	NA	3	X
05-6G-200400-1M1	HYDWSB-823	3/3	P	P	P	/	NA	NA	NA		
05-6G-200400-1M2	HYDWSB-822	3/1R	P	P	P	3/3	NA	NA	NA	3	X
05-6G-200400-1NA	HYDWSB-8161X	3/1R	P	P	P	/					
05-6G-200400-1NB	HYDWSB-8162X	3/1R	P	P	P	3/3	NA	NA	NA	3	X
05-6G-200400-1NC	HYDWSB-816	3/1R	P	P	P	/3	NA	NA	NA	3	X
05-6G-200400-1P	HYDWSB-830	3/3	NA	NA	NA	/					
	HYDWSB-831	3/3	NA	NA	NA	/					
05-6G-200400-1Q	HYDWSB-828	3/3				/	NA	NA	NA		
	HYDWSB-829	3/3				/	NA	NA	NA		
	HYDWSB-832	3/3				/	NA	NA	NA		
	HYDWSB-833	3/3				/					
05-6G-200700-1	HYDWSB-847	3/3	NA	NA	NA	/					
05-6G-201000-1	HYDWSB-814	2/1R	P	F	P	/				5	
05-6G-201000-2	HYDWSB-815	3/3	NA	NA	NA	/					
05-6G-201100-1	HYDWSB-805	3/3	NA	NA	NA	/1R	P	P	P	1	X
	HYDWSB-806	3/3	NA	NA	NA	/					
	HYDWSB-807	3/3	NA	NA	NA	/				5	
	HYDWSB-808	3/3	NA	NA	NA	/					
	HYDWSB-809	3/3	NA	NA	NA	/1R	P	P	P	1	X
	HYDWSB-810	3/3	NA	NA	NA	/					
	HYDWSB-811	3/3	NA	NA	NA	/				5	
05-6G-201200-1	HYDWSB-800	3/3	NA	NA	NA	/1R	P	P	P	1	X
	HYDWSB-801	3/3	NA	NA	NA	/					
	HYDWSB-802	3/3	NA	NA	NA	/1R	P	P	P	1	X
	HYDWSB-803	3/3	NA	NA	NA	/1R	P	P	P	1	X
	HYDWSB-804	3/3	NA	NA	NA	/					
05-6G-2053-1	HYDWSB-9501X	3/3	NA	NA	NA	/					
05-6G-2054-1	HYDWSB-914	3/1R	P	NA	P	/				5	
05-6G-2054-1A	HYDWSB-9141X	3/3	NA	NA	NA	/					
05-6G-2055-1	HYDWSB-913	3/1R	P	NA	P	/				5	
05-6G-2055-2	HYDWSB-912	2/1R	P	P	P	/		NA			
05-6G-2055-3	HYDWSB-911	2/1R	P	P	P	/					
05-6G-2056-1	HYDWSB-901	2/1R	P	P	P	/					
05-6G-2056-3	HYDWSB-902	2/1R	P	P	P	/					
05-6G-2057-1	HYDWSB-910	2/1R	P	P	P	/					

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05-6G-2057-1A	HYDWSB-9101X	3/3	NA	NA	NA	/					
05-6G-2058-1	HYDWSB-909	3/1R	P	P	P	/				5	
05-6G-2058-1A	HYDWSB-9091X	3/3	NA	NA	NA	/					
05-6G-2059-1	HYDWSB-908	3/3	NA	NA	NA	/					
05-6G-2060-1	HYDWSB-907	3/3	NA	NA	NA	/					
05-6G-2060-1A	HYDWSB-907A	3/3	NA	NA	NA	/					
05-6G-2061-1	HYDWSB-906	3/3	NA	NA	NA	/					
05-6G-2061-1A	HYDWSB-906A	3/3	NA	NA	NA	/					
05-6G-2062-1	HYDWSB-905	3/3	NA	NA	NA	/					
05-6G-2063-1	HYDWSB-903	3/3	NA	NA	NA	/					
	HYDWSB-904	3/3	NA	NA	NA	/					
05-6G-2064-1	HYDWSB-900	3/3	NA	NA	NA	/					
05-6G-2064-2	HYDWSB-899	2/1R	P	P	P	/				5	
05-6G-2065-1	HYDWSB-898	3/3	NA	NA	NA	/					
05-6G-2065-1A	HYDWSB-897	3/3	NA	NA	NA	/					
05-6G-2066-1	HYDWSB-896	3/3	NA	NA	NA	/				5	
05-6G-2066-1A	HYDWSB-895	3/3	NA	NA	NA	/					
05-6G-2067-1	HYDWSB-894	3/3	NA	NA	NA	/				5	
05-6G-2067-1A	HYDWSB-893	3/3	NA	NA	NA	/					
05-6G-2068-1	HYDWSB-892	3/3	NA	NA	NA	/				5	
05-6G-2068-2	HYDWSB-891A	2/1R	P	P	P	/				5	
05-6G-2068-3	HYDWSB-891	2/1R	P	P	P	/				5	
05-6G-2069-1	HYDWSB-890	3/3	NA	NA	NA	/				5	
05-6G-2069-1A	HYDWSB-890A	3/3	NA	NA	NA	/				5	
05-6G-2070-1	HYDWSB-889	3/3	NA	NA	NA	/					
05-6G-2070-2	HYDWSB-888	3/3	NA	NA	NA	/				5	
05-6G-2071-1	HYDWSB-887	3/3	NA	NA	NA	/				5	
05-6G-2071-2	HYDWSB-886	3/1R	P	F	P	/				5	
05-6G-2072-1	HYDWSB-885	3/3	NA	NA	NA	/				5	
05-6G-2072-2	HYDWSB-884	3/1R	P	F	F	/				5	
05-6G-2073-1	HYDWSB-883	3/3	NA	NA	NA	/				5	
05-6G-2073-1A	HYDWSB-882	3/3				/					
05-6G-2074-1	HYDWSB-881	3/3	NA	NA	NA	/					
05-6G-2075-1	HYDWSB-880	3/3	NA	NA	NA	/					
05-6G-2076-1	HYDWSB-879	3/3	NA	NA	NA	/					
05-6G-2077-1	HYDWSB-878	3/3	NA	NA	NA	/					
05-6G-2078-1	HYDWSB-8001X	3/1R	F	F	P	/					
05-6G-2080-1	HYDWSB-849	3/1R	P	F	P	/					
05-6G-2080-2	HYDWSB-848	3/1R	P	F	P	/				5	
05-6G-2085-1	HYDWSB-874	3/1R	P	F	P	/					
05-6G-2086-1	HYDWSB-8002X	3/1R	P	F	P	/					
05-6G-2087-1	HYDWSB-8003X	3/1R	P	F	P	/					
05-6G-2088-1	HYDWSB-861	2/1R	P	P	P	/					
05-6G-2088-2	HYDWSB-860	2/1R	P	P	P	/					
05-6G-2095-2	HYDWSB-8004X	3/1R	P	F	P	/					
05-6G-2110-2	HYDWSB-818	3/1R	P	F	P	/3	NA	NA	NA	3,7	X
	HYDWSB-821	3/1R	P	F	P	/3	NA	NA	NA	3,7	X
05-6G-2114-2	HYDWSB-817	3/1R	F	F	P	/3	NA	NA	NA	3,7	X
05-6G-2179-1	HYDWSB-188	3/1R	P	P	P	/		NA			
05-6W-2021-1	HYDWSB-175	3/1R	P	P	P	/		NA			

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05-6W-2021-1A	HYDWSB-1751X	3/3				/					
05-6W-2051-2	HYDWSB-1771X	3/1R	P	NA	P	/		NA		7	X
05-6W-2054-3	HYDWSB-1791X	3/3	NA	NA	NA	/					
05-6W-2055-1	HYDWSB-184	3/1R	P	P	P	/					
	HYDWSB-185	3/1R	P	P	P	/					
05-6W-2086-1A	HYDWSB-183	3/1R	P	P	P	/		NA			
05-6W-2086-1B	HYDWSB-1832X	3/3				/					
05-6W-2086-1C	HYDWSB-183A	3/1R	P	P	P	/					
05-6W-2086-1D	HYDWSB-1834X	3/3				/					
05-6W-2088-1	HYDWSB-181	3/3	NA	NA	NA	/					
05-6W-2089-1	HYDWSB-182	3/3	NA	NA	NA	/					
05-6W-2129-1	HYDWSB-176	3/3	NA	NA	NA	/					
05-6W-2179-2	HYDWSB-189	3/1R	P	F	P	/				5	
05-6W-2208-1A	HYDWSB-186	3/1R	P	P	P	/		NA			
05-6W-2208-1B	HYDWSB-1862X	3/1R	P	P	P	/					
05-6W-2208-1C	HYDWSB-186A	3/1R	P	P	P	/		NA			
05-6W-2208-1D	HYDWSB-187	3/3	NA	NA	NA	/		NA			
05-6W-2208-1E	HYDWSB-1865X	3/3				/	NA	NA	NA		
05-6W-2259-1	HYDWSB-190	3/1R	P	P	P	/		NA			
05-6W-2259-2	HYDWSB-191	3/3	NA	NA	NA	/					
05-6W-2259A-1	HYDWSB-1901X	3/3	P		P	/	NA	NA	NA		
05-6W-2259A-2	HYDWSB-191A	3/3	NA	NA	NA	/					
05-6WA-2051-1	HYDWSB-177	2/1R	P	P	P	/				5	
	HYDWSB-178	2/1R	P	P	P	/		NA		5	
05-6WA-2054-1	HYDWSB-179	2/1R	P	P	P	/					
	HYDWSB-180	2/1R	P	P	P	/					
05-6WA-2055-2	HYDWSB-1841X	2/1R	P	P	P	/					
05-6WA-2129-2	HYDWSB-1761X	2/1R	P	P	P	/				5	
06-3-0607-5	HYDWSB-147	2/1R	P	F	P	/				5	
06-3-0610-2	HYDWSB-165	3/3	NA	NA	NA	/					
06-3-0611-1	HYDWSB-114	3/1R	P	P	P	/		NA			
	HYDWSB-115	3/1R	P	P	P	/				5	
	HYDWSB-192	3/1R	P	P	P	/		NA			
	HYDWSB-193	3/1R	P	P	P	/		NA			
06-3-0612-1	HYDWSB-194	3/1R	P	P	P	/		NA			
	HYDWSB-195	3/1R	P	P	P	/		NA			
06-3-0613-1	HYDWSB-135	3/3	NA	NA	NA	/					
06-3-0614-1	HYDWSB-153	3/3	NA	NA	NA	/					
06-3-0615-1	HYDWSB-151	3/3	NA	NA	NA	/					
06-3-0616-1	HYDWSB-125	3/3	NA	NA	NA	/					
06-3-0617-1	HYDWSB-124	3/3	NA	NA	NA	/					
06-3-0617-3	HYDWSB-123	3/3	F	F	P	/	NA	NA	NA	5,4	
06-3-0617A-3	HYDWSB-123A	3/3	F	F	P	/	NA	NA	NA	5,4	
06-3-0620-1	HYDWSB-137	3/1R	P	P	P	/		NA			
	HYDWSB-138	3/1R	P	P	P	/		NA			
06-3-0621-1	HYDWSB-114A	3/1R	P	P	P	/		NA			
06-3-0622-1	HYDWSB-122	3/1R	P	P	P	/		NA			
06-3-0624-1	HYDWSB-119	3/1R	P	P	P	/		NA			
	HYDWSB-121	3/1R	P	P	P	/		NA		5	
06-3-0624-2	HYDWSB-120	3/3	NA	NA	NA	/					

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06-3-0624-2	HYDWSB-121A	3/3	NA	NA	NA	/		NA		5	
06-3-0625-1	HYDWSB-155	3/3	NA	NA	NA	/					
	HYDWSB-156	3/3	NA	NA	NA	/					
06-3-0626-1	HYDWSB-139	3/3	NA	NA	NA	/					
	HYDWSB-140	3/3	NA	NA	NA	/					
	HYDWSB-141	3/3	NA	NA	NA	/					
06-3-0627-1	HYDWSB-111	3/1R	P	P	P	/		NA			
	HYDWSB-112	3/1R	P	P	P	/		NA			
06-3-0627-2	HYDWSB-113	3/1R	P	P	P	/		NA			
06-3-0628-1	HYDWSB-174	3/1R	P	P	P	/		NA			
06-3-0628-2	HYDWSB-172	3/1R	F	P	P	/		NA			
	HYDWSB-173	3/1R	F	P	P	/		NA			
06-3-0629-1	HYDWSB-130	3/1R	P	P	P	/		NA			
06-3-0629-2	HYDWSB-131	3/1R	F	P	P	/	P	NA		4	X
06-3-0631-1	HYDWSB-157	3/3	NA	NA	NA	/					
	HYDWSB-158	3/3	NA	NA	NA	/					
	HYDWSB-159	3/3	NA	NA	NA	/					
06-3-0632-1	HYDWSB-127	3/1R	P	P	P	/		NA			
	HYDWSB-129	3/1R	P	P	P	/		NA			
06-3-0632-2	HYDWSB-128	3/3	F	NA	P	/	NA		NA	4	X
	HYDWSB-129A	3/3	NA	NA	NA	/				5	
06-3A-0602-1	HYDWSB-101	2/1R	P	P	P	/					
06-3A-0602-3	HYDWSB-105	2/1R	P	P	P	/					
06-3A-0602-4	HYDWSB-105A	2/1R	P	P	P	/					
06-3A-0603-1	HYDWSB-107	2/1R	P	P	P	/					
06-3A-0603-2	HYDWSB-106	2/1R	P	P	P	/					
06-3A-0603-4	HYDWSB-104	2/1R	P	P	P	/				5	
06-3A-0603-5	HYDWSB-106A	2/1R	P	P	P	/					
06-3A-0603-6	HYDWSB-104A	2/1R	F	F	P	/				5	
06-3A-0604-1	HYDWSB-117	2/1R	P	P	P	3/1R		NA		3,7	X
06-3A-0605-1	HYDWSB-109	2/1R	P	P	P	/					
06-3A-0605-2	HYDWSB-108	2/1R	P	P	P	/					
06-3A-0605-3	HYDWSB-109A	2/1R	P	P	P	/					
06-3A-0606-1	HYDWSB-148	2/1R	P	P	P	/					
06-3A-0606-2	HYDWSB-149	3/1R	P	F	P	/2R	P	F	P	3	X
06-3A-0606-4	HYDWSB-150	2/1R	P	P	P	/					
06-3A-0607-1	HYDWSB-145	2/1R	P	P	P	/					
06-3A-0607-2	HYDWSB-1441X	2/1R	P	P	P	/					
06-3A-0607-3	HYDWSB-146	2/1R	P	P	P	/					
06-3A-0607-4	HYDWSB-144	2/1R	P	P	P	/					
06-3A-0608-1	HYDWSB-134	2/1R	P	P	P	/					
06-3A-0608-2	HYDWSB-134A	2/1R	P	P	P	/					
06-3A-0608-3	HYDWSB-133	2/1R	P	P	P	/					
06-3A-0609-1	HYDWSB-142	1/1	NA	NA	NA	/					
06-3A-0610-1	HYDWSB-167	2/1R	P	P	P	/					
06-3A-0610-3	HYDWSB-170	1/1	NA	NA	NA	/				5	
06-3A-0610-4	HYDWSB-169	2/1R	F	P	P	/					
06-3A-0610-5	HYDWSB-166	2/1R	P	P	P	/					
06-3A-0613-2	HYDWSB-136	3/1R	P	F	P	/				5	
06-3A-0613-3	HYDWSB-136A	3/1R	F	F	P	/				5	

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NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B	C	CRIT HW/F	SCREENS A	B	C	OTHER (SEE LEGEND CODE)	ISSUE
06-3A-0614-2	HYDWSB-154A	3/1R	P	F	P	/				5	
06-3A-0614-3	HYDWSB-154	3/1R	F	F	P	/				5	
06-3A-0615-2	HYDWSB-152A	3/1R	P	F	P	/				5	
06-3A-0615-3	HYDWSB-152	3/1R	F	F	P	/				5	
06-3A-0616-2	HYDWSB-126A	3/1R	P	F	P	/				5	
06-3A-0616-3	HYDWSB-126	3/1R	F	F	P	/				5	
06-3A-0618-1	HYDWSB-102	2/1R	P	P	P	/					
	HYDWSB-103	2/1R	P	P	P	/					
06-3A-0619-1	HYDWSB-103A	2/1R	P	P	P	/					
06-3A-0633-1	HYDWSB-1171X	2/1R	F	P	P	/					