KSC OPERATIONS
APOLLO/SATURN TEST CATALOG

1. TEST TITLE

SATURN S-IVB/V PROPELLANT TANKS FULL PRESSURE TEST

2. KSC TEST NO.

V-24093-SIVB2

3. STAGE, VEHICLE OR GSE

S-IVB STAGE

4. TEST OBJECTIVES

THIS DOCUMENT ESTABLISHES THE PROCEDURES REQUIRED TO VERIFY THE STRUCTURAL INTEGRITY OF THE S-IVB/V STAGE PROPELLANT TANKS AT FLIGHT PRESSURES AND VERIFIES THE OPERATION OF THE TANK PRESSURE CONTROL SYSTEMS.

5. TEST DESCRIPTION/EQUIPMENT STATUS

PRESSURIZE CONTROL HELIUM AND REPRESS SYSTEMS AND PROPELLANT TANKS TO FLIGHT PRESSURES AND VERIFY PROPER OPERATION OF PRESSURE CONTROL SYSTEMS.

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

6. PREPARED BY	8. NASA-KSC APPROVAL	10. APPROVAL DATE
R. W. BOWMAN		
7. ORGANIZATION	**9. ORGANIZATION**	**11. VEHICLE EFFECTIVITY**
DOUGLAS AIRCRAFT COMPANY	LVO-33	AS- 502-515

APOLLO/SATURN TEST CATALOG (Continuation Sheet)	PAGE 2 OF 2

1. TEST TITLE	2. KSC TEST NO.
SATURN S-IVB/V PROPELLANT TANKS FULL PRESSURE TEST	V-24093-SIVB2
	11. VEHICLE EFFECTIVITY AS- 502-515

12. WHERE TEST PERFORMED	13. COMPUTER/ACE PROG. IDENT. (IF APPLICABLE)	14. EST. TEST TIME
PAD 39	N/A	

15. TEST CONFIGURATION

MATED

16. SUPPORT REQUIREMENTS CHECKLIST *(Check appropriate boxes and add any additional)*

[X] GROUND POWER	[X] LCC MEASURING (LVO)	[ ] ETR/KSC RADAR
[ ] S-IB OR S-IC STAGE PWR	[X] LCC MEASURING (INS)	[ ] ETR COMMAND XMITTER
[ ] S-II STAGE POWER	[X] GSE MEASURING (LVO)	[ ] LOCAL COMMAND (C.L.)
[X] S-IVB STAGE POWER	[X] GSE MEASURING (INS)	[ ] ALDS
[X] IU POWER	[ ] LCC DATA DISPLAY	[X] LCC TM STA. (MONITOR)
[ ] LEM POWER	[ ] CIF DATA DISPLAY	[X] LCC TM RECORDING
[ ] SM POWER	[X] DDAS	[ ] CIF TM STA. (MONITOR)
[ ] CM POWER	[X] DDAS TAPE RECORDING	[ ] CIF TM RECORDING
[X] BACK-UP BATTERIES	[ ] SERVICE STRUCTURE MEAS.	[ ] CIF COMPUTER
[X] TIMING	[X] RCA-110A COMPUTERS	[X] CIF DATA
[ ] COUNTDOWN CLOCK	[ ] ACE	[X] TM RECORDS
[ ] ETR SEQUENCER	[ ] L/V W-G ECS	[ ] REAL-TIME CIF COMPUT.
[ ] ETR COUNTDOWN CLOCK	[ ] CM W-G ECS	[ ] POST-TEST CIF COMPUT.
[ ] ETR S.R.O.	[ ] FACILITY ECS (GAS)	[ ] KSC TRACKING
[ ] ETR R.S.O.	[X] H.P. GAS	[ ] RFI MONITORING
[ ] ETR PAD SAFETY	[ ] CCF	[ ] RF READOUTS (ETR)
[X] KSC PAD SAFETY	[ ] FACILITY TV (OTV)	[ ] RF READOUTS (KSC)
[ ] SECURITY POLICE	[X] FACILITY COMM. (OIS)	[ ] WEATHER FORECAST
[ ] FIRE FIGHTING	[ ] FILM CAMERAS	[ ] MCC-C
[ ] MEDICAL	[ ] SEARCH LIGHTS	[ ] MCC-H
[ ]	[ ]	[ ] FOOD SERVICE
[ ]	[ ]	[ ]
[ ]	[ ]	[ ]
[ ]	[ ]	[ ]
[ ]	[ ]	[ ]

OTHERS:

598

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

17. OTHER APPLICABLE REFERENCE DOCUMENTATION

KSC OPERATIONS
APOLLO/SATURN TEST CATALOG

1. TEST TITLE

SIVB HYDRAULIC SYSTEM CHECKOUT - H & CO

2. KSC TEST NO.
V-24098-SIVB2

3. STAGE, VEHICLE OR GSE
SIVB STAGE

4. TEST OBJECTIVES

TO PREPARE AND TO VERIFY READINESS OF THE HYDRAULIC SYSTEM AND THE SIVB HYDRAULICS PANEL TO SUPPORT VEHICLE INTEGRATED TESTING.

5. TEST DESCRIPTION/EQUIPMENT STATUS

A. DESCRIPTION

THIS PROCEDURE INCLUDES INSTRUCTIONS TO PERFORM THE FOLLOWING:

1. PREOPERATIONAL CHECKS CONSISTING OF VISUAL INSPECTION OF SYSTEM AND COMPONENTS FOR DAMAGE AND LEAKAGE.

2. HYDRAULIC SYSTEM OPERATION FROM THE S-IVB HYDRAULICS PANEL INCLUDING OPERATION OF THE AUXILIARY HYDRAULIC PUMP AND THE SERVO ACTUATORS.

DURING VARIOUS PHASES OF SYSTEM PREPARATION AND OPERATION, S-IVB HYDRAULICS PANEL INDICATIONS WILL BE VERIFIED.

B. EQUIPMENT

THE FOLLOWING LISTED EQUIPMENT IS REQUIRED:

DSV-4B-479	(1B43998) HYDRAULIC PUMPING UNIT
DSV-4B-478	(1B44002) POWER CABLE REEL CART
DSV-4B-477	(1B44001) HOSE REEL CART
DSV-4B-474	(1B56669-1) FIXTURE, ENGINE ACTUATOR SUPPORT KIT
50M34775	PORTABLE SUBSTITUTE CONTROL COMPUTER (PSCC)
22A12004-107-12	REGULATION UNIT-PORTABLE PNEUMATIC, 0-4000 PSIG AND ASSOCIATED HOSES
22A12004-105-12	REGULATION UNIT-PORTABLE PNEUMATIC, 0-500 PSIG AND ASSOCIATED HOSES

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

6. PREPARED BY	8. NASA-KSC APPROVAL	10. APPROVAL DATE
BRYANT/TOWNSEND	R. Walker	
7. ORGANIZATION	9. ORGANIZATION	11. VEHICLE EFFECTIVITY
DAC		AS- 502-515

APOLLO/SATURN TEST CATALOG (Continuation Sheet)	PAGE 2 OF 2
1. TEST TITLE SIVB HYDRAULIC SYSTEM CHECKOUT - H & CO	2. KSC TEST NO. V-24098-SIVB2 11. VEHICLE EFFECTIVITY AS - 502-515

12. WHERE TEST PERFORMED	13. COMPUTER/ACE PROG. IDENT. (IF APPLICABLE)	14. EST. TEST TIME
VAB - HIGH BAY	------	-----

15. TEST CONFIGURATION

SIVB ERECTED - HYDRAULIC SYSTEM AND INSTRUMENTATION COMPLETE

16. SUPPORT REQUIREMENTS CHECKLIST *(Check appropriate boxes and add any additional)*

[X] GROUND POWER	[ ] LCC MEASURING (LVO)	[ ] ETR/KSC RADAR
[ ] S-IB OR S-IC STAGE PWR	[ ] LCC MEASURING (INS)	[ ] ETR COMMAND XMITTER
[ ] S-II STAGE POWER	[ ] GSE MEASURING (LVO)	[ ] LOCAL COMMAND (C.L.)
[X] S-IVB STAGE POWER	[ ] GSE MEASURING (INS)	[ ] ALDS
[X] IU POWER	[ ] LCC DATA DISPLAY	[ ] LCC TM STA. (MONITOR)
[ ] LEM POWER	[ ] CIF DATA DISPLAY	[ ] LCC TM RECORDING
[ ] SM POWER	[X] DDAS	[ ] CIF TM STA. (MONITOR)
[ ] CM POWER	[ ] DDAS TAPE RECORDING	[ ] CIF TM RECORDING
[ ] BACK-UP BATTERIES	[ ] SERVICE STRUCTURE MEAS.	[ ] CIF COMPUTER
[ ] TIMING	[ ] RCA-110A COMPUTERS	[ ] CIF DATA
[ ] COUNTDOWN CLOCK	[ ] ACE	[ ] TM RECORDS
[ ] ETR SEQUENCER	[ ] L/V W-G ECS	[ ] REAL-TIME CIF COMPUT.
[ ] ETR COUNTDOWN CLOCK	[ ] CM W-G ECS	[ ] POST-TEST CIF COMPUT.
[ ] ETR S.R.O.	[ ] FACILITY ECS (GAS)	[ ] KSC TRACKING
[ ] ETR R.S.O.	[X] H.P. GAS	[ ] RFI MONITORING
[ ] ETR PAD SAFETY	[ ] CCF	[ ] RF READOUTS (ETR)
[ ] KSC PAD SAFETY	[ ] FACILITY TV (OTV)	[ ] RF READOUTS (KSC)
[ ] SECURITY POLICE	[X] FACILITY COMM. (OIS)	[ ] WEATHER FORECAST
[ ] FIRE FIGHTING	[ ] FILM CAMERAS	[ ] MCC-C
[ ] MEDICAL	[ ] SEARCH LIGHTS	[ ] MCC-H
[ ]	[ ]	[ ] FOOD SERVICE
[ ]	[ ]	[ ]
[ ]	[ ]	[ ]
[ ]	[ ]	[ ]
[ ]	[ ]	[ ]

OTHERS:

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

17. OTHER APPLICABLE REFERENCE DOCUMENTATION

KSC OPERATIONS
APOLLO/SATURN TEST CATALOG

1. TEST TITLE

FLIGHT ELECTRICAL BOX LEAK CHECK

2. KSC TEST NO.
V-24102-SIVB2

3. STAGE, VEHICLE OR GSE
S-IVB Stage

4. TEST OBJECTIVES

This drawing describes the procedures to be used to leak check the S-IVB/V electrical components environmental cases to insure that they can maintain adequate pressure for propellant loading and flight.

5. TEST DESCRIPTION/EQUIPMENT STATUS

The following operations are included in this drawing:

1. Filling cases with proper gases at proper pressure.
2. Leak checking over required time period.
3. Identifying checked cases.

The following equipment status must exist:

1. Covers installed on electrical cases.
2. Access to cases.

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

6. PREPARED BY	8. NASA-KSC APPROVAL	10. APPROVAL DATE
J. S. Reinholdt		
7. ORGANIZATION	**9. ORGANIZATION**	**11. VEHICLE EFFECTIVITY**
DAC		AS- 502-513

APOLLO/SATURN TEST CATALOG (Continuation Sheet)	PAGE 2 OF 2
1. TEST TITLE FLIGHT ELECTRICAL BOX LEAK CHECK	2. KSC TEST NO. V-24102-SIVB2 11. VEHICLE EFFECTIVITY AS - 502-513

12. WHERE TEST PERFORMED	13. COMPUTER/ACE PROG. IDENT. (IF APPLICABLE)	14. EST. TEST TIME
Launch pad		

15. TEST CONFIGURATION
Prior to propellant loading.

16. SUPPORT REQUIREMENTS CHECKLIST *(Check appropriate boxes and add any additional)*

☐ GROUND POWER	☐ LCC MEASURING (LVO)	☐ ETR/KSC RADAR
☐ S-IB OR S-IC STAGE PWR	☐ LCC MEASURING (INS)	☐ ETR COMMAND XMITTER
☐ S-II STAGE POWER	☐ GSE MEASURING (LVO)	☐ LOCAL COMMAND (C.L.)
☐ S-IVB STAGE POWER	☐ GSE MEASURING (INS)	☐ ALDS
☐ IU POWER	☐ LCC DATA DISPLAY	☐ LCC TM STA. (MONITOR)
☐ LEM POWER	☐ CIF DATA DISPLAY	☐ LCC TM RECORDING
☐ SM POWER	☐ DDAS	☐ CIF TM STA. (MONITOR)
☐ CM POWER	☐ DDAS TAPE RECORDING	☐ CIF TM RECORDING
☐ BACK-UP BATTERIES	☐ SERVICE STRUCTURE MEAS.	☐ CIF COMPUTER
☐ TIMING	☐ RCA-110A COMPUTERS	☐ CIF DATA
☐ COUNTDOWN CLOCK	☐ ACE	☐ TM RECORDS
☐ ETR SEQUENCER	☐ L/V W-G ECS	☐ REAL-TIME CIF COMPUT.
☐ ETR COUNTDOWN CLOCK	☐ CM W-G ECS	☐ POST-TEST CIF COMPUT.
☐ ETR S.R.O.	☒ FACILITY ECS (GAS) (Nitorgen & Helium)	☐ KSC TRACKING
☐ ETR R.S.O.	☐ H.P. GAS	☐ RFI MONITORING
☐ ETR PAD SAFETY	☐ CCF	☐ RF READOUTS (ETR)
☐ KSC PAD SAFETY	☐ FACILITY TV (OTV)	☐ RF READOUTS (KSC)
☐ SECURITY POLICE	☐ FACILITY COMM. (OIS)	☐ WEATHER FORECAST
☐ FIRE FIGHTING	☐ FILM CAMERAS	☐ MCC-C
☐ MEDICAL	☐ SEARCH LIGHTS	☐ MCC-H
☐	☐	☐ FOOD SERVICE
☐	☐	☐
☐	☐	☐
☐	☐	☐
☐	☐	☐

OTHERS:

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

17. OTHER APPLICABLE REFERENCE DOCUMENTATION

KSC OPERATIONS APOLLO/SATURN TEST CATALOG	PAGE 1 OF 2
1. TEST TITLE S-IC PTCS INTEGRATED VAB CHECKOUT (LUT)	2. KSC TEST NO. V-25104-GSE-39A 3. STAGE, VEHICLE OR GSE GSE

4. TEST OBJECTIVES

Verify correct simulated operation of the integrated PTCS.

5. TEST DESCRIPTION/EQUIPMENT STATUS

Exercise the PTCS using the Interface Simulator.

Procedure Set-up and Conditions:

This test will be accomplished after the PTCS LUT Operational Tests have been completed.

GSE and Special Material Required:

Interface Simulator PTCR Simulator

Manpower Required: 4 Engineers and 2 Technicians

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(1G187)

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

6. PREPARED BY	8. NASA-KSC APPROVAL	10. APPROVAL DATE
J. A. Hempstead 6-1-66	J. H. Jollay	6/9/66
7. ORGANIZATION The Boeing Company 5-8553	9. ORGANIZATION LVO-226	11. VEHICLE EFFECTIVITY AS-502(Test)

KSC FORM 23-191A (2/66)

APOLLO/SATURN TEST CATALOG (Continuation Sheet)	PAGE 2 OF 2
1. TEST TITLE S-IC PTCS INTEGRATED VAB CHECKOUT (LUT)	2. KSC TEST NO. V-25104-GSE-39A 11. VEHICLE EFFECTIVITY AS- 502(Test)

12. WHERE TEST PERFORMED	13. COMPUTER/ACE PROG. IDENT. (IF APPLICABLE)	14. EST. TEST TIME
LUT #2	N/A	12 hrs.

15. TEST CONFIGURATION

N/A

16. SUPPORT REQUIREMENTS CHECKLIST *(Check appropriate boxes and add any additional)*

☐ GROUND POWER	☐ LCC MEASURING (LVO)	☐ ETR/KSC RADAR
☐ S-IB OR S-IC STAGE PWR	☐ LCC MEASURING (INS)	☐ ETR COMMAND XMITTER
☐ S-II STAGE POWER	☐ GSE MEASURING (LVO	☐ LOCAL COMMAND (C.L.)
☐ S-IVB STAGE POWER	☐ GSE MEASURING (INS)	☐ ALDS
☐ IU POWER	☐ LCC DATA DISPLAY	☐ LCC TM STA. (MONITOR)
☐ LEM POWER	☐ CIF DATA DISPLAY	☐ LCC TM RECORDING
☐ SM POWER	☐ DDAS	☐ CIF TM STA. (MONITOR)
☐ CM POWER	☐ DDAS TAPE RECORDING	☐ CIF TM RECORDING
☐ BACK-UP BATTERIES	☐ SERVICE STRUCTURE MEAS.	☐ CIF COMPUTER
☐ TIMING	☐ RCA-110A COMPUTERS	☐ CIF DATA
☐ COUNTDOWN CLOCK	☐ ACE	☐ TM RECORDS
☐ ETR SEQUENCER	☐ L/V W-G ECS	☐ REAL-TIME CIF COMPUT.
☐ ETR COUNTDOWN CLOCK	☐ CM W-G ECS	☐ POST-TEST CIF COMPUT.
☐ ETR S.R.O.	☐ FACILITY ECS (GAS)	☐ KSC TRACKING
☐ ETR R.S.O.	☐ H.P. GAS	☐ RFI MONITORING
☐ ETR PAD SAFETY	☐ CCF	☐ RF READOUTS (ETR)
☐ KSC PAD SAFETY	☐ FACILITY TV (OTV)	☐ RF READOUTS (KSC)
☐ SECURITY POLICE	☒ FACILITY COMM. (OIS)	☐ WEATHER FORECAST
☐ FIRE FIGHTING	☐ FILM CAMERAS	☐ MCC-C
☐ MEDICAL	☐ SEARCH LIGHTS	☐ MCC-H
☒ 750 PSI Pheumatics	☐	☐ FOOD SERVICE
☒ PROPELLANTS DC POWER	☐	☐
☐	☐	☐
☐	☐	☐
☐	☐	☐

OTHERS: PROPELLANT SYSTEM NETWORKS (PSN)

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(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

17. OTHER APPLICABLE REFERENCE DOCUMENTATION

KSC OPERATIONS
APOLLO/SATURN TEST CATALOG

1. TEST TITLE

S-IV B LH_2 PTCS INTEGRATED DYNAMIC CHECKOUT (LCC-PTCR-LUT)

2. KSC TEST NO.
V-25105-GSE-39A

3. STAGE, VEHICLE OR GSE
GSE

4. TEST OBJECTIVES

Verify correct simulated operation of the integrated PTCS.

5. TEST DESCRIPTION/EQUIPMENT STATUS

Exercise the PTCS using the Dynamic Simulator.

Procedure Set-up and Conditions:

This test will be accomplished after the PTCS, LCC, and LUT operational Tests have been completed, but before PTCS interconnection with the PSN for calibration testing.

GSE and Special Material Required:

Dynamic Simulator 28 VDC, 20 AMP Power Supply

Manpower Required: 2 Engineers and 2 Technicians

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(CONTINUE ON KSC FORM 23-192 IF REQUIRED) (1G188)

6. PREPARED BY	8. NASA-KSC APPROVAL	10. APPROVAL DATE
J. A. Hempstead 6-1-66	J. H. Jollay J. H. Jollay	6/9/66
7. ORGANIZATION	9. ORGANIZATION	11. VEHICLE EFFECTIVITY
The Boeing Company 5-8553	LVO-226	AS-502 (TEST)

KSC FORM 23-191A (2/66)

APOLLO/SATURN TEST CATALOG (Continuation Sheet)	PAGE 2 OF 2

1. TEST TITLE	2. KSC TEST NO.
S-IV B LH_2 PTCS INTEGRATED DYNAMIC CHECKOUT (LCC-PTCR-LUT)	V-25105-GSE-39A
	11. VEHICLE EFFECTIVITY AS- 502 (TEST)

12. WHERE TEST PERFORMED	13. COMPUTER/ACE PROG. IDENT. (IF APPLICABLE)	14. EST. TEST TIME
LCC/FR #2 - PTCR/PAD A - LUT #2	N/A	12 hrs.

15. TEST CONFIGURATION

N/A

16. SUPPORT REQUIREMENTS CHECKLIST *(Check appropriate boxes and add any additional)*

[ ] GROUND POWER	[ ] LCC MEASURING (LVO)	[ ] ETR/KSC RADAR
[ ] S-IB OR S-IC STAGE PWR	[ ] LCC MEASURING (INS)	[ ] ETR COMMAND XMITTER
[ ] S-II STAGE POWER	[ ] GSE MEASURING (LVO)	[ ] LOCAL COMMAND (C.L.)
[ ] S-IVB STAGE POWER	[ ] GSE MEASURING (INS)	[ ] ALDS
[ ] IU POWER	[ ] LCC DATA DISPLAY	[ ] LCC TM STA. (MONITOR)
[ ] LEM POWER	[ ] CIF DATA DISPLAY	[ ] LCC TM RECORDING
[ ] SM POWER	[ ] DDAS	[ ] CIF TM STA. (MONITOR)
[ ] CM POWER	[ ] DDAS TAPE RECORDING	[ ] CIF TM RECORDING
[ ] BACK-UP BATTERIES	[ ] SERVICE STRUCTURE MEAS.	[ ] CIF COMPUTER
[ ] TIMING	[ ] RCA-110A COMPUTERS	[ ] CIF DATA
[ ] COUNTDOWN CLOCK	[ ] ACE	[ ] TM RECORDS
[ ] ETR SEQUENCER	[ ] L/V W-G ECS	[ ] REAL-TIME CIF COMPUT.
[ ] ETR COUNTDOWN CLOCK	[ ] CM W-G ECS	[ ] POST-TEST CIF COMPUT.
[ ] ETR S.R.O.	[ ] FACILITY ECS (GAS)	[ ] KSC TRACKING
[ ] ETR R.S.O.	[ ] H.P. GAS	[ ] RFI MONITORING
[ ] ETR PAD SAFETY	[ ] CCF	[ ] RF READOUTS (ETR)
[ ] KSC PAD SAFETY	[ ] FACILITY TV (OTV)	[ ] RF READOUTS (KSC)
[ ] SECURITY POLICE	[x] FACILITY COMM. (OIS)	[ ] WEATHER FORECAST
[ ] FIRE FIGHTING	[ ] FILM CAMERAS	[ ] MCC-C
[ ] MEDICAL	[ ] SEARCH LIGHTS	[ ] MCC-H
[X] DTS	[ ]	[ ] FOOD SERVICE
[X] DEE	[ ]	[ ]
[X] PROPELLANTS DC POWER	[ ]	[ ]
[ ]	[ ]	[ ]
[ ]	[ ]	[ ]

658

OTHERS:

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

17. OTHER APPLICABLE REFERENCE DOCUMENTATION

NONE

KSC OPERATIONS
APOLLO/SATURN TEST CATALOG

1. TEST TITLE

S-IV B LOX PTCS INTEGRATED DYNAMIC CHECKOUT (LCC-PTCS-LUT)

2. KSC TEST NO.
V-25106-GSE-39A

3. STAGE, VEHICLE OR GSE
GSE

4. TEST OBJECTIVES

Verify correct simulated operation of the integrated PTCS.

5. TEST DESCRIPTION/EQUIPMENT STATUS

Exercise the PTCS using the Dynamic Simulator.

Procedure Set-up and Conditions:

This test will be accomplished after the PTCS, LCC and LUT Operational Tests have been completed, but before PTCS interconnection with the PSN for Calibration testing.

GSE and Special Material Required:

28 VDC, 20 AMP Power Supply Dynamic Simulator

Manpower Required: 2 Engineers and 2 Technicians

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(1G189)

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

6. PREPARED BY	8. NASA-KSC APPROVAL	10. APPROVAL DATE
J. A. Hempstead 6-1-66	J. H. Jollay J. H. Jollay	6/9/66
7. ORGANIZATION	9. ORGANIZATION	11. VEHICLE EFFECTIVITY
The Boeing Company 5-8553	LVO-226	AS- 502 (TEST)

KSC FORM 23-191A (2/66)

APOLLO/SATURN TEST CATALOG (Continuation Sheet)	PAGE 2 OF 2

1. TEST TITLE

S-IV B LOX PTCS INTEGRATED DYNAMIC CHECKOUT (LCC-PTCS-LUT)

2. KSC TEST NO.

V-25106-GSE-39A

11. VEHICLE EFFECTIVITY

AS- 502 (TEST)

12. WHERE TEST PERFORMED	13. COMPUTER/ACE PROG. IDENT. (IF APPLICABLE)	14. EST. TEST TIME
LCC/FR #2 - PTCR/PAD A - LUT #2	N/A	12 hrs.

15. TEST CONFIGURATION

N/A

16. SUPPORT REQUIREMENTS CHECKLIST *(Check appropriate boxes and add any additional)*

☐ GROUND POWER	☐ LCC MEASURING (LVO)	☐ ETR/KSC RADAR
☐ S-IB OR S-IC STAGE PWR	☐ LCC MEASURING (INS)	☐ ETR COMMAND XMITTER
☐ S-II STAGE POWER	☐ GSE MEASURING (LVO)	☐ LOCAL COMMAND (C.L.)
☐ S-IVB STAGE POWER	☐ GSE MEASURING (INS)	☐ ALDS
☐ IU POWER	☐ LCC DATA DISPLAY	☐ LCC TM STA. (MONITOR)
☐ LEM POWER	☐ CIF DATA DISPLAY	☐ LCC TM RECORDING
☐ SM POWER	☐ DDAS	☐ CIF TM STA. (MONITOR)
☐ CM POWER	☐ DDAS TAPE RECORDING	☐ CIF TM RECORDING
☐ BACK-UP BATTERIES	☐ SERVICE STRUCTURE MEAS.	☐ CIF COMPUTER
☐ TIMING	☐ RCA-110A COMPUTERS	☐ CIF DATA
☐ COUNTDOWN CLOCK	☐ ACE	☐ TM RECORDS
☐ ETR SEQUENCER	☐ L/V W-G ECS	☐ REAL-TIME CIF COMPUT.
☐ ETR COUNTDOWN CLOCK	☐ CM W-G ECS	☐ POST-TEST CIF COMPUT.
☐ ETR S.R.O.	☐ FACILITY ECS (GAS)	☐ KSC TRACKING
☐ ETR R.S.O.	☐ H.P. GAS	☐ RFI MONITORING
☐ ETR PAD SAFETY	☐ CCF	☐ RF READOUTS (ETR)
☐ KSC PAD SAFETY	☐ FACILITY TV (OTV)	☐ RF READOUTS (KSC)
☐ SECURITY POLICE	☒ FACILITY COMM. (OIS)	☐ WEATHER FORECAST
☐ FIRE FIGHTING	☐ FILM CAMERAS	☐ MCC-C
☐ MEDICAL	☐ SEARCH LIGHTS	☐ MCC-H
☒ PROPELLANTS DC POWER	☐	☐ FOOD SERVICE
☐	☐	☐
☐	☐	☐
☐	☐	☐
☐	☐	☐

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OTHERS:

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

17. OTHER APPLICABLE REFERENCE DOCUMENTATION

NONE

KSC OPERATIONS
APOLLO/SATURN TEST CATALOG

1. TEST TITLE

S-II LOX PTCS INTEGRATED DYNAMIC CHECKOUT (LCC-PTCR-LUT)

2. KSC TEST NO.

V-25107-GSE39A

3. STAGE, VEHICLE OR GSE

GSE

4. TEST OBJECTIVES

Verify correct simulated operation of the integrated PTCS

5. TEST DESCRIPTION/EQUIPMENT STATUS

Exercise the PTCS using the Dynamic Simulator.

Procedure Set-up and Conditions:

This test will be accomplished after the PTCS, LCC, and LUT Operational Tests have been completed, but before PTCS interconnection with the PSN for calibration testing.

GSE and Special Material Required:

Dynamic Simulator 28 VDC 20 AMP Power Supply

Manpower Required: 2 Engineers and 2 Technicians

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(1G190)

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

6. PREPARED BY	8. NASA-KSC APPROVAL	10. APPROVAL DATE
J. A. Hempstead 6-1-66	J. H. Jollay J. H. Jollay	6/9/66
7. ORGANIZATION	9. ORGANIZATION	11. VEHICLE EFFECTIVITY
The Boeing Company 5-8553	LVO-226	AS- 502 (TEST)

KSC FORM 23-191A (2/66)

APOLLO/SATURN TEST CATALOG (Continuation Sheet)	PAGE 2 OF 2

1. TEST TITLE

S-II LOX PTCS INTEGRATED DYNAMIC CHECKOUT (LCC-PTCR-LUT)

2. KSC TEST NO.
V-25107-GSE39A

11. VEHICLE EFFECTIVITY
AS- 502 (TEST)

12. WHERE TEST PERFORMED	13. COMPUTER/ACE PROG. IDENT. (IF APPLICABLE)	14. EST. TEST TIME
LCC/FR#2 - PTCR/PAD A - LUT #2	N/A	12 hrs.

15. TEST CONFIGURATION

N/A

16. SUPPORT REQUIREMENTS CHECKLIST *(Check appropriate boxes and add any additional)*

[ ] GROUND POWER	[ ] LCC MEASURING (LVO)	[ ] ETR/KSC RADAR
[ ] S-IB OR S-IC STAGE PWR	[ ] LCC MEASURING (INS)	[ ] ETR COMMAND XMITTER
[ ] S-II STAGE POWER	[ ] GSE MEASURING (LVO)	[ ] LOCAL COMMAND (C.L.)
[ ] S-IVB STAGE POWER	[ ] GSE MEASURING (INS)	[ ] ALDS
[ ] IU POWER	[ ] LCC DATA DISPLAY	[ ] LCC TM STA. (MONITOR)
[ ] LEM POWER	[ ] CIF DATA DISPLAY	[ ] LCC TM RECORDING
[ ] SM POWER	[ ] DDAS	[ ] CIF TM STA. (MONITOR)
[ ] CM POWER	[ ] DDAS TAPE RECORDING	[ ] CIF TM RECORDING
[ ] BACK-UP BATTERIES	[ ] SERVICE STRUCTURE MEAS.	[ ] CIF COMPUTER
[ ] TIMING	[ ] RCA-110A COMPUTERS	[ ] CIF DATA
[ ] COUNTDOWN CLOCK	[ ] ACE	[ ] TM RECORDS
[ ] ETR SEQUENCER	[ ] L/V W-G ECS	[ ] REAL-TIME CIF COMPUT.
[ ] ETR COUNTDOWN CLOCK	[ ] CM W-G ECS	[ ] POST-TEST CIF COMPUT.
[ ] ETR S.R.O.	[ ] FACILITY ECS (GAS)	[ ] KSC TRACKING
[ ] ETR R.S.O.	[ ] H.P. GAS	[ ] RFI MONITORING
[ ] ETR PAD SAFETY	[ ] CCF	[ ] RF READOUTS (ETR)
[ ] KSC PAD SAFETY	[ ] FACILITY TV (OTV)	[ ] RF READOUTS (KSC)
[ ] SECURITY POLICE	[X] FACILITY COMM. (OIS)	[ ] WEATHER FORECAST
[ ] FIRE FIGHTING	[ ] FILM CAMERAS	[ ] MCC-C
[ ] MEDICAL	[ ] SEARCH LIGHTS	[ ] MCC-H
[X] PROPELLANTS DC POWER	[ ]	[ ] FOOD SERVICE
[ ]	[ ]	[ ]
[ ]	[ ]	[ ]
[ ]	[ ]	[ ]
[ ]	[ ]	[ ]

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OTHERS:

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

17. OTHER APPLICABLE REFERENCE DOCUMENTATION

NONE

KSC OPERATIONS
APOLLO/SATURN TEST CATALOG

1. TEST TITLE

DYNAMIC SIMULATOR FUNCTIONAL TEST

2. KSC TEST NO.
V-25108-GSE39A

3. STAGE, VEHICLE OR GSE
GSE

4. TEST OBJECTIVES

To verify correct operation of the Dynamic Simulator.

5. TEST DESCRIPTION/EQUIPMENT STATUS

The test involves a complete functional checkout of the Dynamic Simulator using self-test circuitry.

Procedure Set-up and Conditions:

This test will be performed on the Dynamic Simulator prior to its use with the PTCS.

GSE and Special Material Required: None

Manpower Required: 1 Engineer
1 Technician

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(1G191)

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

6. PREPARED BY	8. NASA-KSC APPROVAL	10. APPROVAL DATE
L. C. Bristol 6/13/66	J. H. Jollay J. H. Jollay	6/13/66
7. ORGANIZATION	9. ORGANIZATION	11. VEHICLE EFFECTIVITY
The Boeing Company	LVO-226	AS- 502(TEST)

KSC FORM 23-191A (2/66)

APOLLO/SATURN TEST CATALOG (Continuation Sheet)	PAGE 2 OF 2

1. TEST TITLE	2. KSC TEST NO.
DYNAMIC SIMULATOR FUNCTIONAL TEST	V-25108-GSE39A
	11. VEHICLE EFFECTIVITY
	AS- 502(Test)

12. WHERE TEST PERFORMED	13. COMPUTER/ACE PROG. IDENT. (IF APPLICABLE)	14. EST. TEST TIME
VAB 5D9	N/A	16 Hours

15. TEST CONFIGURATION

N/A

16. SUPPORT REQUIREMENTS CHECKLIST *(Check appropriate boxes and add any additional)* NONE

☐ GROUND POWER	☐ LCC MEASURING (LVO)	☐ ETR/KSC RADAR
☐ S-IB OR S-IC STAGE PWR	☐ LCC MEASURING (INS)	☐ ETR COMMAND XMITTER
☐ S-II STAGE POWER	☐ GSE MEASURING (LVO)	☐ LOCAL COMMAND (C.L.)
☐ S-IVB STAGE POWER	☐ GSE MEASURING (INS)	☐ ALDS
☐ IU POWER	☐ LCC DATA DISPLAY	☐ LCC TM STA. (MONITOR)
☐ LEM POWER	☐ CIF DATA DISPLAY	☐ LCC TM RECORDING
☐ SM POWER	☐ DDAS	☐ CIF TM STA. (MONITOR)
☐ CM POWER	☐ DDAS TAPE RECORDING	☐ CIF TM RECORDING
☐ BACK-UP BATTERIES	☐ SERVICE STRUCTURE MEAS.	☐ CIF COMPUTER
☐ TIMING	☐ RCA-110A COMPUTERS	☐ CIF DATA
☐ COUNTDOWN CLOCK	☐ ACE	☐ TM RECORDS
☐ ETR SEQUENCER	☐ L/V W-G ECS	☐ REAL-TIME CIF COMPUT.
☐ ETR COUNTDOWN CLOCK	☐ CM W-G ECS	☐ POST-TEST CIF COMPUT.
☐ ETR S.R.O.	☐ FACILITY ECS (GAS)	☐ KSC TRACKING
☐ ETR R.S.O.	☐ H.P. GAS	☐ RFI MONITORING
☐ ETR PAD SAFETY	☐ CCF	☐ RF READOUTS (ETR)
☐ KSC PAD SAFETY	☐ FACILITY TV (OTV)	☐ RF READOUTS (KSC)
☐ SECURITY POLICE	☐ FACILITY COMM. (OIS)	☐ WEATHER FORECAST
☐ FIRE FIGHTING	☐ FILM CAMERAS	☐ MCC-C
☐ MEDICAL	☐ SEARCH LIGHTS	☐ MCC-H
☐	☐	☐ FOOD SERVICE
☐	☐	☐
☐	☐	☐
☐	☐	☐
☐	☐	☐

OTHERS:

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(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

17. OTHER APPLICABLE REFERENCE DOCUMENTATION

NONE

KSC OPERATIONS
APOLLO/SATURN TEST CATALOG

1. TEST TITLE

S-IC RP-1 PTCS INTEGRATED DYNAMIC CHECKOUT (LCC-PTCR-LUT)

2. KSC TEST NO.: V-25109-GSE39A

3. STAGE, VEHICLE OR GSE: GSE

4. TEST OBJECTIVES

Verify correct simulated operation of the integrated PTCS.

5. TEST DESCRIPTION/EQUIPMENT STATUS

Exercise the PTCS using the Dynamic Simulator.

Procedure Set-up and Conditions:

This test will be accomplished after the PTCS, LCC, and LUT Operational Tests have been completed, but before PTCS interconnection with the PSN for calibration testing.

GSE and Special Material Required:

Dynamic Simulator 28 VDC 20 AMP Power Supply

Manpower Required: 2 Engineers and 2 Technicians

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(1G192)

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

6. PREPARED BY	8. NASA-KSC APPROVAL	10. APPROVAL DATE
J. A. Hempstead 6-1-66	J. H. Jollay J. H. Jollay	6/9/66
7. ORGANIZATION	**9. ORGANIZATION**	**11. VEHICLE EFFECTIVITY**
The Boeing Company 5-8553	LVO-226	AS- 502(Test)

KSC FORM 23-191A (2/66)

APOLLO/SATURN TEST CATALOG (Continuation Sheet)	PAGE 2 OF 2

1. TEST TITLE

S-IC RP-I PTCS INTEGRATED DYNAMIC CHECKOUT (LCC-PTCR-LUT)

2. KSC TEST NO.

V-25109-GSE39A

11. VEHICLE EFFECTIVITY

AS- 502(Test)

12. WHERE TEST PERFORMED	13. COMPUTER/ACE PROG. IDENT. (IF APPLICABLE)	14. EST. TEST TIME
LCC/FR#2 - PTCR/PAD A -LUT#2	N/A	12 hrs

15. TEST CONFIGURATION

N/A

16. SUPPORT REQUIREMENTS CHECKLIST *(Check appropriate boxes and add any additional)*

[ ] GROUND POWER	[ ] LCC MEASURING (LVO)	[ ] ETR/KSC RADAR
[ ] S-IB OR S-IC STAGE PWR	[ ] LCC MEASURING (INS)	[ ] ETR COMMAND XMITTER
[ ] S-II STAGE POWER	[ ] GSE MEASURING (LVO)	[ ] LOCAL COMMAND (C.L.)
[ ] S-IVB STAGE POWER	[ ] GSE MEASURING (INS)	[ ] ALDS
[ ] IU POWER	[ ] LCC DATA DISPLAY	[ ] LCC TM STA. (MONITOR)
[ ] LEM POWER	[ ] CIF DATA DISPLAY	[ ] LCC TM RECORDING
[ ] SM POWER	[ ] DDAS	[ ] CIF TM STA. (MONITOR)
[ ] CM POWER	[ ] DDAS TAPE RECORDING	[ ] CIF TM RECORDING
[ ] BACK-UP BATTERIES	[ ] SERVICE STRUCTURE MEAS.	[ ] CIF COMPUTER
[ ] TIMING	[ ] RCA-110A COMPUTERS	[ ] CIF DATA
[ ] COUNTDOWN CLOCK	[ ] ACE	[ ] TM RECORDS
[ ] ETR SEQUENCER	[ ] L/V W-G ECS	[ ] REAL-TIME CIF COMPUT.
[ ] ETR COUNTDOWN CLOCK	[ ] CM W-G ECS	[ ] POST-TEST CIF COMPUT.
[ ] ETR S.R.O.	[ ] FACILITY ECS (GAS)	[ ] KSC TRACKING
[ ] ETR R.S.O.	[ ] H.P. GAS	[ ] RFI MONITORING
[ ] ETR PAD SAFETY	[ ] CCF	[ ] RF READOUTS (ETR)
[ ] KSC PAD SAFETY	[ ] FACILITY TV (OTV)	[ ] RF READOUTS (KSC)
[ ] SECURITY POLICE	[X] FACILITY COMM. (OIS)	[ ] WEATHER FORECAST
[ ] FIRE FIGHTING	[ ] FILM CAMERAS	[ ] MCC-C
[ ] MEDICAL	[ ] SEARCH LIGHTS	[ ] MCC-H
[X] DTS	[ ]	[ ] FOOD SERVICE
[X] DEE	[ ]	[ ]
[X] PROPELLANTS DC POWER	[ ]	[ ]
[ ]	[ ]	[ ]
[ ]	[ ]	[ ]

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OTHERS:

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

17. OTHER APPLICABLE REFERENCE DOCUMENTATION

NONE

KSC OPERATIONS
APOLLO/SATURN TEST CATALOG

1. TEST TITLE

S-11 LH_2 PTCS INTEGRATED DYNAMIC CHECKOUT (LCC-PTCR-LUT)

2. KSC TEST NO.

V-25110-GSE39A

3. STAGE, VEHICLE OR GSE

GSE

4. TEST OBJECTIVES

Verify correct simulated operation of the integrated PTCS.

5. TEST DESCRIPTION/EQUIPMENT STATUS

Exercise the PTCS using the Dynamic Simulator.

Procedure Set-up and Conditions:

This test will be accomplished after the PTCS, LCC, and LUT Operational Tests have been completed, but before PTCS interconnection with the PSN for calibration testing.

GSE and Special Material Required:

Dynamic Simulator 28VDC, 20 AMP, Power Supply

Manpower Required: 2 Engineers and 2 Technicians

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(1G193)

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

6. PREPARED BY	8. NASA-KSC APPROVAL	10. APPROVAL DATE
J. A. Hempstead 6-1-66	J. H. Jollay	6/9/66
7. ORGANIZATION	9. ORGANIZATION	11. VEHICLE EFFECTIVITY
The Boeing Company 5-8553	LVO-226	AS- 502 (Test)

KSC FORM 23-191A (2/66)

APOLLO/SATURN TEST CATALOG (Continuation Sheet)	PAGE 2 OF 2

1. TEST TITLE	2. KSC TEST NO.
S-11 LH_2 PTCS INTEGRATED DYNAMIC CHECKOUT (LCC-PTCR-LUT)	V-25110-GSE39A
	11. VEHICLE EFFECTIVITY: AS- 502 (TEST)

12. WHERE TEST PERFORMED	13. COMPUTER/ACE PROG. IDENT. (IF APPLICABLE)	14. EST. TEST TIME
LCC/FR#2 - PTCR/Pad A LUT #2	N/A	12 hrs

15. TEST CONFIGURATION

N/A

16. SUPPORT REQUIREMENTS CHECKLIST *(Check appropriate boxes and add any additional)*

[ ] GROUND POWER	[ ] LCC MEASURING (LVO)	[ ] ETR/KSC RADAR
[ ] S-IB OR S-IC STAGE PWR	[ ] LCC MEASURING (INS)	[ ] ETR COMMAND XMITTER
[ ] S-II STAGE POWER	[ ] GSE MEASURING (LVO)	[ ] LOCAL COMMAND (C.L.)
[ ] S-IVB STAGE POWER	[ ] GSE MEASURING (INS)	[ ] ALDS
[ ] IU POWER	[ ] LCC DATA DISPLAY	[ ] LCC TM STA. (MONITOR)
[ ] LEM POWER	[ ] CIF DATA DISPLAY	[ ] LCC TM RECORDING
[ ] SM POWER	[ ] DDAS	[ ] CIF TM STA. (MONITOR)
[ ] CM POWER	[ ] DDAS TAPE RECORDING	[ ] CIF TM RECORDING
[ ] BACK-UP BATTERIES	[ ] SERVICE STRUCTURE MEAS.	[ ] CIF COMPUTER
[ ] TIMING	[ ] RCA-110A COMPUTERS	[ ] CIF DATA
[ ] COUNTDOWN CLOCK	[ ] ACE	[ ] TM RECORDS
[ ] ETR SEQUENCER	[ ] L/V W-G ECS	[ ] REAL-TIME CIF COMPUT.
[ ] ETR COUNTDOWN CLOCK	[ ] CM W-G ECS	[ ] POST-TEST CIF COMPUT.
[ ] ETR S.R.O.	[ ] FACILITY ECS (GAS)	[ ] KSC TRACKING
[ ] ETR R.S.O.	[ ] H.P. GAS	[ ] RFI MONITORING
[ ] ETR PAD SAFETY	[ ] CCF	[ ] RF READOUTS (ETR)
[ ] KSC PAD SAFETY	[ ] FACILITY TV (OTV)	[ ] RF READOUTS (KSC)
[ ] SECURITY POLICE	[X] FACILITY COMM. (OIS)	[ ] WEATHER FORECAST
[ ] FIRE FIGHTING	[ ] FILM CAMERAS	[ ] MCC-C
[ ] MEDICAL	[ ] SEARCH LIGHTS	[ ] MCC-H
[X] DTS	[ ]	[ ] FOOD SERVICE
[X] DEE	[ ]	[ ]
[X] PROPELLANTS DC POWER	[ ]	[ ]
[ ]	[ ]	[ ]
[ ]	[ ]	[ ]

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OTHERS:

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

17. OTHER APPLICABLE REFERENCE DOCUMENTATION

NONE

KSC OPERATIONS
APOLLO/SATURN TEST CATALOG

1. TEST TITLE

S-IC, LOX PTCS INTEGRATED DYNAMIC CHECKOUT (LCC-PTCR-LUT)

2. KSC TEST NO.
V-25111-GSE39A

3. STAGE, VEHICLE OR GSE
GSE

4. TEST OBJECTIVES

Verify correct simmulated operation of the integrated PTCS.

5. TEST DESCRIPTION/EQUIPMENT STATUS

Exercise the PTCS using the Dynamic Simulator.

Procedure Set-up and Conditions:

This test will be accomplished after the PTCS, LCC and LUT Operational Tests have been completed, but before PTCS interconnection with the PSN for calibration testing.

GSE and Special Material Required:

Dynamic Simulator 28 VDC, 20 AMP Power Supply

Manpower Required: 2 Engineers and 2 Technicians

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(1G194)

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

6. PREPARED BY	8. NASA-KSC APPROVAL	10. APPROVAL DATE
J. A. Hempstead 6-9-66	J. H. Jollay J. H. Jollay	6/9/66
7. ORGANIZATION	9. ORGANIZATION	11. VEHICLE EFFECTIVITY
The Boeing Company 5-8553	LVO-226	AS-502 (TEST)

KSC FORM 23-191A (2/66)

APOLLO/SATURN TEST CATALOG (Continuation Sheet)	PAGE 2 OF 2

1. TEST TITLE

S-IC, LOX PTCS INTEGRATED DYNAMIC CHECKOUT (LCC-PTCR-LUT)

2. KSC TEST NO.

V-25111-GSE39A

11. VEHICLE EFFECTIVITY

AS - 502 (TEST)

12. WHERE TEST PERFORMED	13. COMPUTER/ACE PROG. IDENT. (IF APPLICABLE)	14. EST. TEST TIME
LCC/FR #2 - PTCR/PAD A - LUT #2	N/A	12 hrs.

15. TEST CONFIGURATION

N/A

16. SUPPORT REQUIREMENTS CHECKLIST *(Check appropriate boxes and add any additional)*

[ ] GROUND POWER	[ ] LCC MEASURING (LVO)	[ ] ETR/KSC RADAR
[ ] S-IB OR S-IC STAGE PWR	[ ] LCC MEASURING (INS)	[ ] ETR COMMAND XMITTER
[ ] S-II STAGE POWER	[ ] GSE MEASURING (LVO)	[ ] LOCAL COMMAND (C.L.)
[ ] S-IVB STAGE POWER	[ ] GSE MEASURING (INS)	[ ] ALDS
[ ] IU POWER	[ ] LCC DATA DISPLAY	[ ] LCC TM STA. (MONITOR)
[ ] LEM POWER	[ ] CIF DATA DISPLAY	[ ] LCC TM RECORDING
[ ] SM POWER	[ ] DDAS	[ ] CIF TM STA. (MONITOR)
[ ] CM POWER	[ ] DDAS TAPE RECORDING	[ ] CIF TM RECORDING
[ ] BACK-UP BATTERIES	[ ] SERVICE STRUCTURE MEAS.	[ ] CIF COMPUTER
[ ] TIMING	[ ] RCA-110A COMPUTERS	[ ] CIF DATA
[ ] COUNTDOWN CLOCK	[ ] ACE	[ ] TM RECORDS
[ ] ETR SEQUENCER	[ ] L/V W-G ECS	[ ] REAL-TIME CIF COMPUT.
[ ] ETR COUNTDOWN CLOCK	[ ] CM W-G ECS	[ ] POST-TEST CIF COMPUT.
[ ] ETR S.R.O.	[ ] FACILITY ECS (GAS)	[ ] KSC TRACKING
[ ] ETR R.S.O.	[ ] H.P. GAS	[ ] RFI MONITORING
[ ] ETR PAD SAFETY	[ ] CCF	[ ] RF READOUTS (ETR)
[ ] KSC PAD SAFETY	[ ] FACILITY TV (OTV)	[ ] RF READOUTS (KSC)
[ ] SECURITY POLICE	[X] FACILITY COMM. (OIS)	[ ] WEATHER FORECAST
[ ] FIRE FIGHTING	[ ] FILM CAMERAS	[ ] MCC-C
[ ] MEDICAL	[ ] SEARCH LIGHTS	[ ] MCC-H
[X] DTS	[ ]	[ ] FOOD SERVICE
[X] DEE	[ ]	[ ]
[X] PROPELLANTS DC POWER	[ ]	[ ]
[ ]	[ ]	[ ]
[ ]	[ ]	[ ]

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OTHERS:

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

17. OTHER APPLICABLE REFERENCE DOCUMENTATION

NONE

1. TEST TITLE

PROPELLANTS AND GASES DTS WIDEBAND VIDEO CABLES CHECKOUT-LC-39

2. KSC TEST NO.

V-25112-GSE 39A

3. STAGE, VEHICLE OR GSE

GSE-TEST

4. TEST OBJECTIVES

A. The primary objective of this test is to verify the continuity of the DTS Wideband Video Cables between the LCC and the PTCR.

B. The secondard objective of this test is to further verify the integrity of the cable system by means of a qualitative analysis of data transmitted through the system.

5. TEST DESCRIPTION/EQUIPMENT STATUS

Perform test preparation at the PTCR and at the LCC. Operate the Modem Tester in accordance with the procedures outlined in the Modem Tester Operation and Maintenance Manual. Monitor and compare the Modem transmitter output and the Modem Receiver input signals. Observe input/output waveforms and evaluate any distortion or degradation noted. At the completion of the checkout, disconnect the jumper cables at the PTCR and the test equipment at the LCC. Connect all the Wideband Video Cables in accordance with Drawing No. SK-SA-5-0058.

Procedure Set-up and Conditions:

The DTS No. 1 and No. 2 Wideband Video Cables must be installed and connected as shown in Drawing No. SK-SA-5-0058 (no requirement to be connected to DTS proper). This procedure is required prior to remote data transfer operations.

GSE and Special Materials Required:

Wideband Video Cables - PTCR/LCC
Textronix Oscilloscope Type 545 (or equivalent)
Modem Tester Drawing No. Sk-EDV-184-01
Modem Drawing No. 75M04682, Sheet 164

Manpower Required: 1 Engineer and 2 Equipment Specialists

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(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

(1G302)

6. PREPARED BY	8. NASA-KSC APPROVAL	10. APPROVAL DATE
A. L. Meadows 6/16/66	E. C. Branson 7/6/66	6/16/66
7. ORGANIZATION	9. ORGANIZATION	11. VEHICLE EFFECTIVITY
The Boeing Company E & CS Propellants	LVO-226	AS- 502 Activation

APOLLO/SATURN TEST CATALOG (Continuation Sheet)	PAGE 2 OF

1. TEST TITLE	2. KSC TEST NO.
PROPELLANTS AND GASES DTS WIDEBAND VIDEO CABLES CHECKOUT-LC-39	V-25112-GSE 39A
	11. VEHICLE EFFECTIVITY: AS- 502 Activation

12. WHERE TEST PERFORMED	13. COMPUTER/ACE PROG. IDENT. (IF APPLICABLE)	14. EST. TEST TIME
N/A	N/A	8 Hrs.

15. TEST CONFIGURATION

N/A

16. SUPPORT REQUIREMENTS CHECKLIST *(Check appropriate boxes and add any additional)*

☐ GROUND POWER	☐ LCC MEASURING (LVO)	☐ ETR/KSC RADAR
☐ S-IB OR S-IC STAGE PWR	☐ LCC MEASURING (INS)	☐ ETR COMMAND XMITTER
☐ S-II STAGE POWER	☐ GSE MEASURING (LVO)	☐ LOCAL COMMAND (C.L.)
☐ S-IVB STAGE POWER	☐ GSE MEASURING (INS)	☐ ALDS
☐ IU POWER	☐ LCC DATA DISPLAY	☐ LCC TM STA. (MONITOR)
☐ LEM POWER	☐ CIF DATA DISPLAY	☐ LCC TM RECORDING
☐ SM POWER	☐ DDAS	☐ CIF TM STA. (MONITOR)
☐ CM POWER	☐ DDAS TAPE RECORDING	☐ CIF TM RECORDING
☐ BACK-UP BATTERIES	☐ SERVICE STRUCTURE MEAS.	☐ CIF COMPUTER
☐ TIMING	☐ RCA-110A COMPUTERS	☐ CIF DATA
☐ COUNTDOWN CLOCK	☐ ACE	☐ TM RECORDS
☐ ETR SEQUENCER	☐ L/V W-G ECS	☐ REAL-TIME CIF COMPUT.
☐ ETR COUNTDOWN CLOCK	☐ CM W-G ECS	☐ POST-TEST CIF COMPUT.
☐ ETR S.R.O.	☐ FACILITY ECS (GAS)	☐ KSC TRACKING
☐ ETR R.S.O.	☐ H.P. GAS	☐ RFI MONITORING
☐ ETR PAD SAFETY	☐ CCF	☐ RF READOUTS (ETR)
☐ KSC PAD SAFETY	☐ FACILITY TV (OTV)	☐ RF READOUTS (KSC)
☐ SECURITY POLICE	☒ FACILITY COMM. (OIS)	☐ WEATHER FORECAST
☐ FIRE FIGHTING	☐ FILM CAMERAS	☐ MCC-C
☐ MEDICAL	☐ SEARCH LIGHTS	☐ MCC-H
☐	☐	☐ FOOD SERVICE
☐	☐	☐
☐	☐	☐
☐	☐	☐
☐	☐	☐

OTHERS:

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(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

17. OTHER APPLICABLE REFERENCE DOCUMENTATION

NASA DWG's SK-EDV-184-01
75M04682
SK-SA5-0058

KSC OPERATIONS APOLLO/SATURN TEST CATALOG	PAGE 1 OF 2
1. TEST TITLE PROPELLANTS INSTRUMENTATION CALIBRATION	2. KSC TEST NO. V-25113-GSE39A 3. STAGE, VEHICLE OR GSE GSE

4. TEST OBJECTIVES

To verify the operation and accuracy of Propellant Loading Systems Control and Monitor Instrumentation

5. TEST DESCRIPTION/EQUIPMENT STATUS

All Gauge Pressure and Differential Pressure Transmitters and Power Signal Conditioners will be calibrated end-to-end by applying pneumatic pressure to the transmitter through a calibration valve.

All Pressure Switch Monitor Circuits will be verified end-to-end by simulating the switch output.

All liquid censors will be calibrated when required by dipping in a dewar of liquid cryogenic.

Procedure Set-up and Conditions: This test will be performed prior to Launch Day Propellant Loading for every vehicle, with the exception of liquid censors, which will be calibrated as determined by prior component performance.

GSE and Special Material Required: Foxboro Calibrators (2), and Portable Pneumatic Pressure Source and Test gauge, and PTCR Simulator (for VAB processing only)

Manpower Required: 2 Engineers and 2 Equipment Specialists

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(6G140)

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

6. PREPARED BY	8. NASA-KSC APPROVAL	10. APPROVAL DATE
H. A. Osterkamp 6/9/66 H. A. Osterkamp	D. R. Jones	6/9/66
7. ORGANIZATION The Boeing Company 5-8553	9. ORGANIZATION LVO-226	11. VEHICLE EFFECTIVITY AS- 502 (TEST)

KSC FORM 23-191A (2/66)

APOLLO/SATURN TEST CATALOG (Continuation Sheet)	PAGE 2 OF 2

1. TEST TITLE

PROPELLANTS INSTRUMENTATION CALIBRATION

2. KSC TEST NO.
V-25113-GSE39A

11. VEHICLE EFFECTIVITY
AS- 502 (TEST)

12. WHERE TEST PERFORMED	13. COMPUTER/ACE PROG. IDENT. (IF APPLICABLE)	14. EST. TEST TIME
LCC/FR #2 - PAD A	N/A	10 Days

15. TEST CONFIGURATION

N/A

16. SUPPORT REQUIREMENTS CHECKLIST *(Check appropriate boxes and add any additional)*

[ ] GROUND POWER	[ ] LCC MEASURING (LVO)	[ ] ETR/KSC RADAR
[ ] S-IB OR S-IC STAGE PWR	[ ] LCC MEASURING (INS)	[ ] ETR COMMAND XMITTER
[ ] S-II STAGE POWER	[ ] GSE MEASURING (LVO)	[ ] LOCAL COMMAND (C.L.)
[ ] S-IVB STAGE POWER	[ ] GSE MEASURING (INS)	[ ] ALDS
[ ] IU POWER	[ ] LCC DATA DISPLAY	[ ] LCC TM STA. (MONITOR)
[ ] LEM POWER	[ ] CIF DATA DISPLAY	[ ] LCC TM RECORDING
[ ] SM POWER	[ ] DDAS	[ ] CIF TM STA. (MONITOR)
[ ] CM POWER	[ ] DDAS TAPE RECORDING	[ ] CIF TM RECORDING
[ ] BACK-UP BATTERIES	[ ] SERVICE STRUCTURE MEAS.	[ ] CIF COMPUTER
[ ] TIMING	[ ] RCA-110A COMPUTERS	[ ] CIF DATA
[ ] COUNTDOWN CLOCK	[ ] ACE	[ ] TM RECORDS
[ ] ETR SEQUENCER	[ ] L/V W-G ECS	[ ] REAL-TIME CIF COMPUT.
[ ] ETR COUNTDOWN CLOCK	[ ] CM W-G ECS	[ ] POST-TEST CIF COMPUT.
[ ] ETR S.R.O.	[ ] FACILITY ECS (GAS)	[ ] KSC TRACKING
[ ] ETR R.S.O.	[ ] H.P. GAS	[ ] RFI MONITORING
[ ] ETR PAD SAFETY	[ ] CCF	[ ] RF READOUTS (ETR)
[ ] KSC PAD SAFETY	[ ] FACILITY TV (OTV)	[ ] RF READOUTS (KSC)
[ ] SECURITY POLICE	[X] FACILITY COMM. (OIS)	[ ] WEATHER FORECAST
[ ] FIRE FIGHTING	[ ] FILM CAMERAS	[ ] MCC-C
[ ] MEDICAL	[ ] SEARCH LIGHTS	[ ] MCC-H
[X] DTS	[ ]	[ ] FOOD SERVICE
[X] DEE	[ ]	[ ]
[ ]	[ ]	[ ]
[ ]	[ ]	[ ]
[ ]	[ ]	[ ]

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OTHERS:

Propellants Mechanical Group
Dewar and Liquid Cryogenic (for liquid censors only)

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

17. OTHER APPLICABLE REFERENCE DOCUMENTATION

None

KSC OPERATIONS
APOLLO/SATURN TEST CATALOG

1. TEST TITLE

LOX SYSTEM LCC - PTCR INTEGRATION TEST

2. KSC TEST NO.
V-25114-GSE39A

3. STAGE, VEHICLE OR GSE
GSE

4. TEST OBJECTIVES

To verify LCC-PTCR LOX System equipment compatibility and operation.

5. TEST DESCRIPTION/EQUIPMENT STATUS

The LUT simulator is connected to Terminal Distributor 9502. The Pad/Storage Area Simulator is connected to Terminal Distributor 9501. These simulators verify receipt of commands initiated at the LCC and generate appropriate component status signals for transmittal to the LCC during GETS test.

Procedure Set-up and Conditions:

All LCC - PTCR System components must be operational.

GSE and Special Materials Required:

LUT and Pad/Storage Area Simulators.

Manpower Required: 2 Engineers, 2 Equipment Specialists

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(CONTINUE ON KSC FORM 23-192 IF REQUIRED) (6G145)

6. PREPARED BY	8. NASA-KSC APPROVAL	10. APPROVAL DATE
H. A. Osterkamp 6/14/66	D. R. Jones	6/14/66
7. ORGANIZATION	9. ORGANIZATION	11. VEHICLE EFFECTIVITY
The Boeing Company 5-8553	LVO-226	AS- 502(Test)

KSC FORM 28-191A (2/66)

APOLLO/SATURN TEST CATALOG (Continuation Sheet)	PAGE 2 OF 2

1. TEST TITLE

LOX SYSTEM LCC - PTCR INTEGRATION TEST

2. KSC TEST NO.

V-25114-GSE39A

11. VEHICLE EFFECTIVITY

AS- 502 (Test)

12. WHERE TEST PERFORMED	13. COMPUTER/ACE PROG. IDENT. (IF APPLICABLE)	14. EST. TEST TIME
LCC/FR#2 - PTCR/PAD A	N/A	5 Days

15. TEST CONFIGURATION

N/A

16. SUPPORT REQUIREMENTS CHECKLIST *(Check appropriate boxes and add any additional)*

☐ GROUND POWER	☐ LCC MEASURING (LVO)	☐ ETR/KSC RADAR
☐ S-IB OR S-IC STAGE PWR	☐ LCC MEASURING (INS)	☐ ETR COMMAND XMITTER
☐ S-II STAGE POWER	☐ GSE MEASURING (LVO)	☐ LOCAL COMMAND (C.L.)
☐ S-IVB STAGE POWER	☐ GSE MEASURING (INS)	☐ ALDS
☐ IU POWER	☐ LCC DATA DISPLAY	☐ LCC TM STA. (MONITOR)
☐ LEM POWER	☐ CIF DATA DISPLAY	☐ LCC TM RECORDING
☐ SM POWER	☐ DDAS	☐ CIF TM STA. (MONITOR)
☐ CM POWER	☐ DDAS TAPE RECORDING	☐ CIF TM RECORDING
☐ BACK-UP BATTERIES	☐ SERVICE STRUCTURE MEAS.	☐ CIF COMPUTER
☐ TIMING	☐ RCA-110A COMPUTERS	☐ CIF DATA
☐ COUNTDOWN CLOCK	☐ ACE	☐ TM RECORDS
☐ ETR SEQUENCER	☐ L/V W-G ECS	☐ REAL-TIME CIF COMPUT.
☐ ETR COUNTDOWN CLOCK	☐ CM W-G ECS	☐ POST-TEST CIF COMPUT.
☐ ETR S.R.O.	☐ FACILITY ECS (GAS)	☐ KSC TRACKING
☐ ETR R.S.O.	☐ H.P. GAS	☐ RFI MONITORING
☐ ETR PAD SAFETY	☐ CCF	☐ RF READOUTS (ETR)
☐ KSC PAD SAFETY	☐ FACILITY TV (OTV)	☐ RF READOUTS (KSC)
☐ SECURITY POLICE	☒ FACILITY COMM. (OIS)	☐ WEATHER FORECAST
☐ FIRE FIGHTING	☐ FILM CAMERAS	☐ MCC-C
☐ MEDICAL	☐ SEARCH LIGHTS	☐ MCC-H
☒ DTS	☐	☐ FOOD SERVICE
☒ DEE	☐	☐
☐	☐	☐
☐	☐	☐
☐	☐	☐

OTHERS:

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(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

17. OTHER APPLICABLE REFERENCE DOCUMENTATION

None

KSC OPERATIONS
APOLLO/SATURN TEST CATALOG

1. TEST TITLE

LOX SYSTEM MALFUNCTION TEST

2. KSC TEST NO.

V-25115-GSE39A

3. STAGE, VEHICLE OR GSE

GSE

4. TEST OBJECTIVES

To verify malfunction detection circuits and proper reaction to malfunctions by the LOX loading control circuits.

5. TEST DESCRIPTION/EQUIPMENT STATUS

Malfunctions are introduced during a Simulated Loading Test. Verification is made that the LOX Electrical System detects and responds properly to each malfunction introduced.

Procedure Set-up and Conditions:

This test is performed prior to the Simulated Loading Test (6G148) with the system in either manual or simulate mode utilizing the LUT and Storage Area Simulators.

GSE and Special Materials Required: None

Manpower Required: (2) Engineers, (1) Equipment Specialist, (1) Technician

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(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

(6G147)

6. PREPARED BY	8. NASA-KSC APPROVAL	10. APPROVAL DATE
H. A. Osterkamp 6/14/66	D. H. Jones	6/14/66
7. ORGANIZATION	9. ORGANIZATION	11. VEHICLE EFFECTIVITY
The Boeing Company 5-8553	LVO-226	AS- 502(Test)

KSC FORM 28-191A (2/66)

APOLLO/SATURN TEST CATALOG (Continuation Sheet)	PAGE 2 OF 2

1. TEST TITLE	2. KSC TEST NO.
LOX SYSTEM MALFUNCTION TEST	V-25115-GSE39A
	11. VEHICLE EFFECTIVITY: AS- 502(Test)

12. WHERE TEST PERFORMED	13. COMPUTER/ACE PROG. IDENT. (IF APPLICABLE)	14. EST. TEST TIME
LCC/FR#2 - PTCR/PAD A	N/A	1 Day

15. TEST CONFIGURATION: N/A

16. SUPPORT REQUIREMENTS CHECKLIST *(Check appropriate boxes and add any additional)*

☐ GROUND POWER	☐ LCC MEASURING (LVO)	☐ ETR/KSC RADAR
☐ S-IB OR S-IC STAGE PWR	☐ LCC MEASURING (INS)	☐ ETR COMMAND XMITTER
☐ S-II STAGE POWER	☐ GSE MEASURING (LVO)	☐ LOCAL COMMAND (C.L.)
☐ S-IVB STAGE POWER	☐ GSE MEASURING (INS)	☐ ALDS
☐ IU POWER	☐ LCC DATA DISPLAY	☐ LCC TM STA. (MONITOR)
☐ LEM POWER	☐ CIF DATA DISPLAY	☐ LCC TM RECORDING
☐ SM POWER	☐ DDAS	☐ CIF TM STA. (MONITOR)
☐ CM POWER	☐ DDAS TAPE RECORDING	☐ CIF TM RECORDING
☐ BACK-UP BATTERIES	☐ SERVICE STRUCTURE MEAS.	☐ CIF COMPUTER
☐ TIMING	☐ RCA-110A COMPUTERS	☐ CIF DATA
☐ COUNTDOWN CLOCK	☐ ACE	☐ TM RECORDS
☐ ETR SEQUENCER	☐ L/V W-G ECS	☐ REAL-TIME CIF COMPUT.
☐ ETR COUNTDOWN CLOCK	☐ CM W-G ECS	☐ POST-TEST CIF COMPUT.
☐ ETR S.R.O.	☐ FACILITY ECS (GAS)	☐ KSC TRACKING
☐ ETR R.S.O.	☐ H.P. GAS	☐ RFI MONITORING
☐ ETR PAD SAFETY	☐ CCF	☐ RF READOUTS (ETR)
☐ KSC PAD SAFETY	☐ FACILITY TV (OTV)	☐ RF READOUTS (KSC)
☐ SECURITY POLICE	☒ FACILITY COMM. (OIS)	☐ WEATHER FORECAST
☐ FIRE FIGHTING	☐ FILM CAMERAS	☐ MCC-C
☐ MEDICAL	☐ SEARCH LIGHTS	☐ MCC-H
☒ DTS	☐	☐ FOOD SERVICE
☒ DEE	☐	☐
☒ PTCS	☐	☐
☐	☐	☐
☐	☐	☐

OTHERS:

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(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

17. OTHER APPLICABLE REFERENCE DOCUMENTATION

None

KSC OPERATIONS
APOLLO/SATURN TEST CATALOG

1. TEST TITLE

LOX SIMULATED LOADING TEST

2. KSC TEST NO.

V-25116-GSE39A

3. STAGE, VEHICLE OR GSE

GSE

4. TEST OBJECTIVES

To verify the capability of the LOX control circuitry to control the automatic loading of LOX on board a S-5 Vehicle.

5. TEST DESCRIPTION/EQUIPMENT STATUS

This test will operate the system through all sequences, fill, replenish, and drain for all three stages without an actual transfer of LOX. The LOX PTCS will simulate LOX level for all stage tanks.

Procedure Set-up and Conditions:

This test is performed subsequent to a Systems Components Test. All components must be installed or simulated.

GSE and Special Materials Required:

Tower Vehicle Simulator or Mobile Launcher Simulator if all components are not installed.

Manpower Required: 2 Engineers, 2 Equipment Specialists

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(6G148)

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

6. PREPARED BY	8. NASA-KSC APPROVAL	10. APPROVAL DATE
H. A. Osterkamp 6/14/66	D. R. Jones	6/14/66
ORGANIZATION	9. ORGANIZATION	11. VEHICLE EFFECTIVITY
The Boeing Company 5-8553	LVO-226	AS- 502(Test)

APOLLO/SATURN TEST CATALOG (Continuation Sheet)	PAGE 2 OF 2
1. TEST TITLE LOX SIMULATED LOADING TEST	2. KSC TEST NO. 11. VEHICLE EFFECTIVITY AS- 502(Test)

12. WHERE TEST PERFORMED	13. COMPUTER/ACE PROG. IDENT. (IF APPLICABLE)	14. EST. TEST TIME
LCC/FR#2 - PTCR/PAD A	N/A	1 Day

15. TEST CONFIGURATION

N/A

16. SUPPORT REQUIREMENTS CHECKLIST *(Check appropriate boxes and add any additional)*

[X] GROUND POWER	[ ] LCC MEASURING (LVO)	[ ] ETR/KSC RADAR
[X] S-IB OR S-IC STAGE PWR	[ ] LCC MEASURING (INS)	[ ] ETR COMMAND XMITTER
[X] S-II STAGE POWER	[ ] GSE MEASURING (LVO)	[ ] LOCAL COMMAND (C.L.)
[X] S-IVB STAGE POWER	[ ] GSE MEASURING (INS)	[ ] ALDS
[ ] IU POWER	[ ] LCC DATA DISPLAY	[ ] LCC TM STA. (MONITOR)
[ ] LEM POWER	[ ] CIF DATA DISPLAY	[ ] LCC TM RECORDING
[ ] SM POWER	[ ] DDAS	[ ] CIF TM STA. (MONITOR)
[ ] CM POWER	[ ] DDAS TAPE RECORDING	[ ] CIF TM RECORDING
[ ] BACK-UP BATTERIES	[ ] SERVICE STRUCTURE MEAS.	[ ] CIF COMPUTER
[ ] TIMING	[X] RCA-110A COMPUTERS	[ ] CIF DATA
[ ] COUNTDOWN CLOCK	[ ] ACE	[ ] TM RECORDS
[ ] ETR SEQUENCER	[ ] L/V W-G ECS	[ ] REAL-TIME CIF COMPUT.
[ ] ETR COUNTDOWN CLOCK	[ ] CM W-G ECS	[ ] POST-TEST CIF COMPUT.
[ ] ETR S.R.O.	[ ] FACILITY ECS (GAS)	[ ] KSC TRACKING
[ ] ETR R.S.O.	[ ] H.P. GAS	[ ] RFI MONITORING
[ ] ETR PAD SAFETY	[ ] CCF	[ ] RF READOUTS (ETR)
[ ] KSC PAD SAFETY	[ ] FACILITY TV (OTV)	[ ] RF READOUTS (KSC)
[ ] SECURITY POLICE	[X] FACILITY COMM. (OIS)	[ ] WEATHER FORECAST
[ ] FIRE FIGHTING	[ ] FILM CAMERAS	[ ] MCC-C
[ ] MEDICAL	[ ] SEARCH LIGHTS	[ ] MCC-H
[X] DTS	[ ]	[ ] FOOD SERVICE
[X] DEE	[ ]	[ ]
[X] PTCS	[ ]	[ ]
[ ]	[ ]	[ ]
[ ]	[ ]	[ ]

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OTHERS:

Propellant Mechanical Group

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

17. OTHER APPLICABLE REFERENCE DOCUMENTATION

None

KSC OPERATIONS APOLLO/SATURN TEST CATALOG	PAGE 1 OF 2
1. TEST TITLE LOX MAIN AND REPLENISH PUMP AUTOMATIC FLOW CONTROL SYSTEM TEST	2. KSC TEST NO. V-25118-GSE39A 3. STAGE, VEHICLE OR GSE GSE

4. TEST OBJECTIVES

To calibrate the Foxboro Mass Flow Control System as individual units and end-to-end as a system.

5. TEST DESCRIPTION/EQUIPMENT STATUS

The Pressure Transmitters, Square Root Converters, Signal Selectors, Duplex Alarms, Signal Conditioners and Signal Programmers will be calibrated as individual units. The units will then be installed in the system and an end-to-end calibration run.

Procedure Set-up and Conditions: This test will be performed prior to Launch Day Propellant Loading for every vehicle.

GSE and Special Materials Required: Lab Bench Facilities (2) Foxboro Calibrators
Portable Pneumatic Pressure Source and Test Gauges

Manpower Required: 1 Engineer and 2 Equipment Specialists

(6G150)

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

6. PREPARED BY	8. NASA-KSC APPROVAL	10. APPROVAL DATE
H. A. Osterkamp 6/9/66	D. R. Jones	6/9/66
7. ORGANIZATION The Boeing Company 5-8553	9. ORGANIZATION LVO-226	11. VEHICLE EFFECTIVITY AS- 502 (TEST)

KSC FORM 23-191A (2/66)

APOLLO/SATURN TEST CATALOG (Continuation Sheet)	PAGE 2 OF 2

1. TEST TITLE

LOX MAIN AND REPLENISH PUMP AUTOMATIC FLOW CONTROL SYSTEM TEST

2. KSC TEST NO.: V-25118-GSE39A

11. VEHICLE EFFECTIVITY: AS- 502 (TEST)

12. WHERE TEST PERFORMED	13. COMPUTER/ACE PROG. IDENT. (IF APPLICABLE)	14. EST. TEST TIME
LCC/FR #2 - PTCR/PAD A	N/A	3 Days

15. TEST CONFIGURATION

N/A

16. SUPPORT REQUIREMENTS CHECKLIST *(Check appropriate boxes and add any additional)*

[ ] GROUND POWER	[ ] LCC MEASURING (LVO)	[ ] ETR/KSC RADAR
[ ] S-IB OR S-IC STAGE PWR	[ ] LCC MEASURING (INS)	[ ] ETR COMMAND XMITTER
[ ] S-II STAGE POWER	[ ] GSE MEASURING (LVO)	[ ] LOCAL COMMAND (C.L.)
[ ] S-IVB STAGE POWER	[ ] GSE MEASURING (INS)	[ ] ALDS
[ ] IU POWER	[•] LCC DATA DISPLAY	[ ] LCC TM STA. (MONITOR)
[ ] LEM POWER	[ ] CIF DATA DISPLAY	[ ] LCC TM RECORDING
[ ] SM POWER	[ ] DDAS	[ ] CIF TM STA. (MONITOR)
[ ] CM POWER	[ ] DDAS TAPE RECORDING	[ ] CIF TM RECORDING
[ ] BACK-UP BATTERIES	[ ] SERVICE STRUCTURE MEAS.	[ ] CIF COMPUTER
[ ] TIMING	[ ] RCA-110A COMPUTERS	[ ] CIF DATA
[ ] COUNTDOWN CLOCK	[ ] ACE	[ ] TM RECORDS
[ ] ETR SEQUENCER	[ ] L/V W-G ECS	[ ] REAL-TIME CIF COMPUT.
[ ] ETR COUNTDOWN CLOCK	[ ] CM W-G ECS	[ ] POST-TEST CIF COMPUT.
[ ] ETR S.R.O.	[ ] FACILITY ECS (GAS)	[ ] KSC TRACKING
[ ] ETR R.S.O.	[ ] H.P. GAS	[ ] RFI MONITORING
[ ] ETR PAD SAFETY	[ ] CCF	[ ] RF READOUTS (ETR)
[ ] KSC PAD SAFETY	[ ] FACILITY TV (OTV)	[ ] RF READOUTS (KSC)
[ ] SECURITY POLICE	[X] FACILITY COMM. (OIS)	[ ] WEATHER FORECAST
[ ] FIRE FIGHTING	[ ] FILM CAMERAS	[ ] MCC-C
[ ] MEDICAL	[ ] SEARCH LIGHTS	[ ] MCC-H
[X] DTS	[ ]	[ ] FOOD SERVICE
[X] DEE	[ ]	[ ]
[ ]	[ ]	[ ]
[ ]	[ ]	[ ]
[ ]	[ ]	[ ]

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OTHERS:

Propellants Mechanical Group

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

17. OTHER APPLICABLE REFERENCE DOCUMENTATION

None

KSC OPERATIONS
APOLLO/SATURN TEST CATALOG

1. TEST TITLE

LH_2 SYSTEM INTEGRATION LCC/PTCR

2. KSC TEST NO.

V-25121-GSE39A

3. STAGE, VEHICLE OR GSE

GSE

4. TEST OBJECTIVES

Verify operation and compatibility of LH_2 System and Components LCC/PTCR.

5. TEST DESCRIPTION/EQUIPMENT STATUS

In the Manual, Simulate and Operate Modes with the Storage Area and LUT Simulators connected, Manual and Automatic commands will be initiated from the Components and Control Panels respectively. Component and System status will be monitored via lamp indications on the Component and Control Panels.

Procedure Set-up and Conditions:

This test will be accomplished after LH_2 System Power On tests are completed in the LCC and PTCR.

GSE and Special Materials Required:

Storage Area Simulator
LUT Simulator

Manpower Required: 1 Engineer, 1 Equipment Specialist and 1 Technician

6G3

(6G163)

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

6. PREPARED BY	8. NASA-KSC APPROVAL	10. APPROVAL DATE
D E Pierce 6-14-6 D. E. Pierce	D. R. Jones	6/14/66
7. ORGANIZATION	9. ORGANIZATION	11. VEHICLE EFFECTIVITY
The Boeing Company 5-8553	LVO-226	AS- 502(Test)

KSC FORM 23-191A (2/66)

APOLLO/SATURN TEST CATALOG (Continuation Sheet)	PAGE 2 OF 2

1. TEST TITLE	2. KSC TEST NO.
LH_2 SYSTEM INTEGRATION LCC/PTCR	V-25121-GSE39A
	11. VEHICLE EFFECTIVITY: AS- 502(Test)

12. WHERE TEST PERFORMED	13. COMPUTER/ACE PROG. IDENT. (IF APPLICABLE)	14. EST. TEST TIME
LCC/FR#2 - PTCR/PAD A	N/A	10 days

15. TEST CONFIGURATION

N/A

16. SUPPORT REQUIREMENTS CHECKLIST *(Check appropriate boxes and add any additional)*

☐ GROUND POWER	☐ LCC MEASURING (LVO)	☐ ETR/KSC RADAR
☐ S-IB OR S-IC STAGE PWR	☐ LCC MEASURING (INS)	☐ ETR COMMAND XMITTER
☐ S-II STAGE POWER	☐ GSE MEASURING (LVO)	☐ LOCAL COMMAND (C.L.)
☐ S-IVB STAGE POWER	☐ GSE MEASURING (INS)	☐ ALDS
☐ IU POWER	☐ LCC DATA DISPLAY	☐ LCC TM STA. (MONITOR)
☐ LEM POWER	☐ CIF DATA DISPLAY	☐ LCC TM RECORDING
☐ SM POWER	☐ DDAS	☐ CIF TM STA. (MONITOR)
☐ CM POWER	☐ DDAS TAPE RECORDING	☐ CIF TM RECORDING
☐ BACK-UP BATTERIES	☐ SERVICE STRUCTURE MEAS.	☐ CIF COMPUTER
☐ TIMING	☐ RCA-110A COMPUTERS	☐ CIF DATA
☐ COUNTDOWN CLOCK	☐ ACE	☐ TM RECORDS
☐ ETR SEQUENCER	☐ L/V W-G ECS	☐ REAL-TIME CIF COMPUT.
☐ ETR COUNTDOWN CLOCK	☐ CM W-G ECS	☐ POST-TEST CIF COMPUT.
☐ ETR S.R.O.	☐ FACILITY ECS (GAS)	☐ KSC TRACKING
☐ ETR R.S.O.	☐ H.P. GAS	☐ RFI MONITORING
☐ ETR PAD SAFETY	☐ CCF	☐ RF READOUTS (ETR)
☐ KSC PAD SAFETY	☐ FACILITY TV (OTV)	☐ RF READOUTS (KSC)
☐ SECURITY POLICE	☒ FACILITY COMM. (OIS)	☐ WEATHER FORECAST
☐ FIRE FIGHTING	☐ FILM CAMERAS	☐ MCC-C
☐ MEDICAL	☐ SEARCH LIGHTS	☐ MCC-H
☒ DTS	☐	☐ FOOD SERVICE
☒ DEE-3	☐	☐
☒ PROPELLANTS DC POWER	☐	☐
☐	☐	☐
☐	☐	☐

OTHERS:

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

17. OTHER APPLICABLE REFERENCE DOCUMENTATION

DWG. NO. 75M-04685

KSC OPERATIONS
APOLLO/SATURN TEST CATALOG

1. TEST TITLE

LH_2 SYSTEM INTEGRATION LCC/PTCR/STORAGE AREA

2. KSC TEST NO.

V-25122-GSE39A

3. STAGE, VEHICLE OR GSE

GSE

4. TEST OBJECTIVES

Integrate the LH_2 Storage Area loading components - distribution racks, valves, limit switches, etc., with the LH_2 Loading control system.

5. TEST DESCRIPTION/EQUIPMENT STATUS

Components in the LH_2 Storage Area will be functionally tested in the Manual and Simulate Modes.

Procedure Set-up and Conditions:

This operation will be conducted after completion of the LH_2 LCC/PTCR Integration Tests.

GSE and Special Materials Required: Lut Simulator

Manpower Required: 1 Electrical Engineer, 2 Equipment Specialists, 2 Electrical Technicians

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(6G164)

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

6. PREPARED BY	8. NASA-KSC APPROVAL	10. APPROVAL DATE
D E Pierce 6-10-6 D. E. Pierce	D R Jones D. R. Jones	6/14/66
7. ORGANIZATION	**9. ORGANIZATION**	**11. VEHICLE EFFECTIVITY**
The Boeing Company 5-8553	LVO - 226	AS- 502(Test)

APOLLO/SATURN TEST CATALOG (Continuation Sheet)	PAGE 2 OF 2

1. TEST TITLE	2. KSC TEST NO.
LH_2 SYSTEM INTEGRATION LCC/PTCR/STORAGE AREA	V-25122-GSE39A
	11. VEHICLE EFFECTIVITY: AS- 502(Test)

12. WHERE TEST PERFORMED	13. COMPUTER/ACE PROG. IDENT. (IF APPLICABLE)	14. EST. TEST TIME
LCC/FR#2 - PTCR/PAD A - SA/PAD A	N/A	3 Days

15. TEST CONFIGURATION

N/A

16. SUPPORT REQUIREMENTS CHECKLIST *(Check appropriate boxes and add any additional)*

[ ] GROUND POWER	[ ] LCC MEASURING (LVO)	[ ] ETR/KSC RADAR
[ ] S-IB OR S-IC STAGE PWR	[ ] LCC MEASURING (INS)	[ ] ETR COMMAND XMITTER
[ ] S-II STAGE POWER	[ ] GSE MEASURING (LVO)	[ ] LOCAL COMMAND (C.L.)
[ ] S-IVB STAGE POWER	[ ] GSE MEASURING (INS)	[ ] ALDS
[ ] IU POWER	[ ] LCC DATA DISPLAY	[ ] LCC TM STA. (MONITOR)
[ ] LEM POWER	[ ] CIF DATA DISPLAY	[ ] LCC TM RECORDING
[ ] SM POWER	[ ] DDAS	[ ] CIF TM STA. (MONITOR)
[ ] CM POWER	[ ] DDAS TAPE RECORDING	[ ] CIF TM RECORDING
[ ] BACK-UP BATTERIES	[ ] SERVICE STRUCTURE MEAS.	[ ] CIF COMPUTER
[ ] TIMING	[ ] RCA-110A COMPUTERS	[ ] CIF DATA
[ ] COUNTDOWN CLOCK	[ ] ACE	[ ] TM RECORDS
[ ] ETR SEQUENCER	[ ] L/V W-G ECS	[ ] REAL-TIME CIF COMPUT.
[ ] ETR COUNTDOWN CLOCK	[ ] CM W-G ECS	[ ] POST-TEST CIF COMPUT.
[ ] ETR S.R.O.	[ ] FACILITY ECS (GAS)	[ ] KSC TRACKING
[ ] ETR R.S.O.	[ ] H.P. GAS	[ ] RFI MONITORING
[ ] ETR PAD SAFETY	[ ] CCF	[ ] RF READOUTS (ETR)
[ ] KSC PAD SAFETY	[ ] FACILITY TV (OTV)	[ ] RF READOUTS (KSC)
[ ] SECURITY POLICE	[X] FACILITY COMM. (OIS)	[ ] WEATHER FORECAST
[ ] FIRE FIGHTING	[ ] FILM CAMERAS	[ ] MCC-C
[ ] MEDICAL	[ ] SEARCH LIGHTS	[ ] MCC-H
[X] DTS	[ ]	[ ] FOOD SERVICE
[X] DEE-3	[ ]	[ ]
[X] PROPELLANTS DC POWER	[ ]	[ ]
[ ]	[ ]	[ ]
[ ]	[ ]	[ ]

OTHERS: MECHANICAL PROPELLANTS GROUP

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(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

17. OTHER APPLICABLE REFERENCE DOCUMENTATION

DWG. 75M04685

KSC OPERATIONS
APOLLO/SATURN TEST CATALOG

1. TEST TITLE

LH_2 SYSTEM MALFUNCTION TEST

2. KSC TEST NO.

V25123-GSE39A

3. STAGE, VEHICLE OR GSE

GSE

4. TEST OBJECTIVES

To verify malfunction detection circuits and proper reaction to malfunctions by the LH_2 Loading Control Circuits.

5. TEST DESCRIPTION/EQUIPMENT STATUS

Malfunctions are introduced during a Simulated Loading Test. Verification is made that the LH_2 Electrical System detects and responds properly to each malfunction introduced.

Procedure Set-up and Conditions: This test is performed after completing a Simulated Loading Test with the system in either Manual or Simulate Mode and all components installed or simulated.

GSE and Special Materials Required: Storage Area Simulator
LUT Simulator

Manpower Required: (1) Engineer, (2) Equipment Specialists, (2) Technicians

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(6G166)

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

6. PREPARED BY	8. NASA-KSC APPROVAL	10. APPROVAL DATE
DE Pierce 6-14-6 D. E. Pierce	D. R. Jones	6/14/66
7. ORGANIZATION	9. ORGANIZATION	11. VEHICLE EFFECTIVITY
The Boeing Company 5-8553	LVO-226	AS- 502(Test)

KSC FORM 23-191A (2/66)

APOLLO/SATURN TEST CATALOG (Continuation Sheet)	PAGE 2 OF 2

1. TEST TITLE

LH_2 SYSTEM MALFUNCTION TEST

2. KSC TEST NO.
V-25123-GSE39A

11. VEHICLE EFFECTIVITY
AS- 502(Test)

12. WHERE TEST PERFORMED	13. COMPUTER/ACE PROG. IDENT. (IF APPLICABLE)	14. EST. TEST TIME
LCC/FR#2 - PTCR/PAD A	N/A	1 Day

15. TEST CONFIGURATION

N/A

16. SUPPORT REQUIREMENTS CHECKLIST *(Check appropriate boxes and add any additional)*

[ ] GROUND POWER	[ ] LCC MEASURING (LVO)	[ ] ETR/KSC RADAR
[ ] S-IB OR S-IC STAGE PWR	[ ] LCC MEASURING (INS)	[ ] ETR COMMAND XMITTER
[ ] S-II STAGE POWER	[ ] GSE MEASURING (LVO)	[ ] LOCAL COMMAND (C.L.)
[ ] S-IVB STAGE POWER	[ ] GSE MEASURING (INS)	[ ] ALDS
[ ] IU POWER	[ ] LCC DATA DISPLAY	[ ] LCC TM STA. (MONITOR)
[ ] LEM POWER	[ ] CIF DATA DISPLAY	[ ] LCC TM RECORDING
[ ] SM POWER	[ ] DDAS	[ ] CIF TM STA. (MONITOR)
[ ] CM POWER	[ ] DDAS TAPE RECORDING	[ ] CIF TM RECORDING
[ ] BACK-UP BATTERIES	[ ] SERVICE STRUCTURE MEAS.	[ ] CIF COMPUTER
[ ] TIMING	[ ] RCA-110A COMPUTERS	[ ] CIF DATA
[ ] COUNTDOWN CLOCK	[ ] ACE	[ ] TM RECORDS
[ ] ETR SEQUENCER	[ ] L/V W-G ECS	[ ] REAL-TIME CIF COMPUT.
[ ] ETR COUNTDOWN CLOCK	[ ] CM W-G ECS	[ ] POST-TEST CIF COMPUT.
[ ] ETR S.R.O.	[ ] FACILITY ECS (GAS)	[ ] KSC TRACKING
[ ] ETR R.S.O.	[ ] H.P. GAS	[ ] RFI MONITORING
[ ] ETR PAD SAFETY	[ ] CCF	[ ] RF READOUTS (ETR)
[ ] KSC PAD SAFETY	[X] FACILITY TV (OTV)	[ ] RF READOUTS (KSC)
[ ] SECURITY POLICE	[ ] FACILITY COMM. (OIS)	[ ] WEATHER FORECAST
[ ] FIRE FIGHTING	[ ] FILM CAMERAS	[ ] MCC-C
[ ] MEDICAL	[ ] SEARCH LIGHTS	[ ] MCC-H
[X] DEE-3	[ ]	[ ] FOOD SERVICE
[X] DTS	[ ]	[ ]
[X] PTCS	[ ]	[ ]
[X] PROPELLANTS DC POWER	[ ]	[ ]
[ ]	[ ]	[ ]

OTHERS:

684

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

17. OTHER APPLICABLE REFERENCE DOCUMENTATION

Dwg. No. 75M-04685

KSC OPERATIONS
APOLLO/SATURN TEST CATALOG

1. TEST TITLE

LH_2 SIMULATED LOADING TEST

2. KSC TEST NO.

V-25126-GSE39A

3. STAGE, VEHICLE OR GSE

GSE

4. TEST OBJECTIVES

To verify the capability of the LH_2 Control Circuitry to control the automatic loading of LH_2 on board a Saturn V Vehicle.

5. TEST DESCRIPTION/EQUIPMENT STATUS

This test will operate the system through all sequences (Fill, Replenish and Drain) for the S-II and S-IVB stages without actual transfer of LH_2. The LH_2 PTCS will simulate LH_2 levels in each stage.

Procedure Set-up and Conditions: This test is performed subsequent to a Systems Components Test. All components must be installed or simulated.

GSE and Special Materials Required: None

Manpower Required: 2 Engineers and 2 Equipment Specialists

6-19

(6G169)

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

6. PREPARED BY	8. NASA-KSC APPROVAL	10. APPROVAL DATE
DE Pierce 6-14-6 D. E. Pierce	D. R. Jones	6/14/66
7. ORGANIZATION	9. ORGANIZATION	11. VEHICLE EFFECTIVITY
The Boeing Company 5-8553	LVO-226	AS- 502(Test)

KSC FORM 23-191A (2/66)

APOLLO/SATURN TEST CATALOG (Continuation Sheet)	PAGE 2 OF 2

1. TEST TITLE	2. KSC TEST NO.
LH_2 SIMULATED LOADING TEST	V-25126-GSE39A
	11. VEHICLE EFFECTIVITY: AS-502(Test)

12. WHERE TEST PERFORMED	13. COMPUTER/ACE PROG. IDENT. (IF APPLICABLE)	14. EST. TEST TIME
LCC/FR#2 - PTCR/PAD A	N/A	1 Day

15. TEST CONFIGURATION

N/A

16. SUPPORT REQUIREMENTS CHECKLIST *(Check appropriate boxes and add any additional)*

[ ] GROUND POWER	[ ] LCC MEASURING (LVO)	[ ] ETR/KSC RADAR
[ ] S-IB OR S-IC STAGE PWR	[ ] LCC MEASURING (INS)	[ ] ETR COMMAND XMITTER
[ ] S-II STAGE POWER	[ ] GSE MEASURING (LVO)	[ ] LOCAL COMMAND (C.L.)
[ ] S-IVB STAGE POWER	[ ] GSE MEASURING (INS)	[ ] ALDS
[ ] IU POWER	[ ] LCC DATA DISPLAY	[ ] LCC TM STA. (MONITOR)
[ ] LEM POWER	[ ] CIF DATA DISPLAY	[ ] LCC TM RECORDING
[ ] SM POWER	[ ] DDAS	[ ] CIF TM STA. (MONITOR)
[ ] CM POWER	[ ] DDAS TAPE RECORDING	[ ] CIF TM RECORDING
[ ] BACK-UP BATTERIES	[ ] SERVICE STRUCTURE MEAS.	[ ] CIF COMPUTER
[ ] TIMING	[ ] RCA-110A COMPUTERS	[ ] CIF DATA
[ ] COUNTDOWN CLOCK	[ ] ACE	[ ] TM RECORDS
[ ] ETR SEQUENCER	[ ] L/V W-G ECS	[ ] REAL-TIME CIF COMPUT.
[ ] ETR COUNTDOWN CLOCK	[ ] CM W-G ECS	[ ] POST-TEST CIF COMPUT.
[ ] ETR S.R.O.	[ ] FACILITY ECS (GAS)	[ ] KSC TRACKING
[ ] ETR R.S.O.	[ ] H.P. GAS	[ ] RFI MONITORING
[ ] ETR PAD SAFETY	[ ] CCF	[ ] RF READOUTS (ETR)
[ ] KSC PAD SAFETY	[ ] FACILITY TV (OTV)	[ ] RF READOUTS (KSC)
[ ] SECURITY POLICE	[X] FACILITY COMM. (OIS)	[ ] WEATHER FORECAST
[ ] FIRE FIGHTING	[ ] FILM CAMERAS	[ ] MCC-C
[ ] MEDICAL	[ ] SEARCH LIGHTS	[ ] MCC-H
[X] DEE-3	[ ]	[ ] FOOD SERVICE
[X] DTS	[ ]	[ ]
[X] PTCS	[ ]	[ ]
[X] PROPELLANTS DC POWER	[ ]	[ ]
[ ]	[ ]	[ ]

OTHERS: Propellant Mechanical Group

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

17. OTHER APPLICABLE REFERENCE DOCUMENTATION

Dwg. No. 75M-04685

KSC OPERATIONS
APOLLO/SATURN TEST CATALOG

1. TEST TITLE

RP-1 SYSTEM INTEGRATION LCC/PTCR

2. KSC TEST NO.

V-25127-GSE39A

3. STAGE, VEHICLE OR GSE

GSE

4. TEST OBJECTIVES

Verify operation and compatibility of RP-1 System and Components LCC/PTCR.

5. TEST DESCRIPTION/EQUIPMENT STATUS

In the Manual, Simulate, and Operate Modes with the Storage Area and Lut Simulators connected, Manual and Automatic commands will be initiated from the Components and Control Panels respectively. Component and System status will be monitored via lamp indications on the Component and Control Panels.

Procedure Set-up and Conditions:

This test will be accomplished after RP-1 Power On Tests are completed in the LCC and PTCR. The Storage Area and Lut Simulators will be connected.

GSE and Special Materials Required:

Storage Area Simulator
Lut Simulator

Manpower Required: 2 Engineers, 2 Equipment Specialists

(6G183)

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

6. PREPARED BY	8. NASA-KSC APPROVAL	10. APPROVAL DATE
W. G. Myers 6/14/6 W. G. Myers	D. R. Jones D. R. Jones	6/14/66
7. ORGANIZATION	9. ORGANIZATION	11. VEHICLE EFFECTIVITY
The Boeing Company 5-8553	LVO - 226	AS- 502(Test)

APOLLO/SATURN TEST CATALOG (Continuation Sheet)	PAGE 2 OF 2

1. TEST TITLE	2. KSC TEST NO.
RP-1 SYSTEM INTEGRATION LCC/PTCR	V25127-GSE39A
	11. VEHICLE EFFECTIVITY AS-502 (Test)

12. WHERE TEST PERFORMED	13. COMPUTER/ACE PROG. IDENT. (IF APPLICABLE)	14. EST. TEST TIME
LCC/FR#2 - PTCR/PAD A	N/A	5 Days

15. TEST CONFIGURATION

N/A

16. SUPPORT REQUIREMENTS CHECKLIST *(Check appropriate boxes and add any additional)*

☐ GROUND POWER	☐ LCC MEASURING (LVO)	☐ ETR/KSC RADAR
☐ S-IB OR S-IC STAGE PWR	☐ LCC MEASURING (INS)	☐ ETR COMMAND XMITTER
☐ S-II STAGE POWER	☐ GSE MEASURING (LVO)	☐ LOCAL COMMAND (C.L.)
☐ S-IVB STAGE POWER	☐ GSE MEASURING (INS)	☐ ALDS
☐ IU POWER	☐ LCC DATA DISPLAY	☐ LCC TM STA. (MONITOR)
☐ LEM POWER	☐ CIF DATA DISPLAY	☐ LCC TM RECORDING
☐ SM POWER	☐ DDAS	☐ CIF TM STA. (MONITOR)
☐ CM POWER	☐ DDAS TAPE RECORDING	☐ CIF TM RECORDING
☐ BACK-UP BATTERIES	☐ SERVICE STRUCTURE MEAS.	☐ CIF COMPUTER
☐ TIMING	☐ RCA-110A COMPUTERS	☐ CIF DATA
☐ COUNTDOWN CLOCK	☐ ACE	☐ TM RECORDS
☐ ETR SEQUENCER	☐ L/V W-G ECS	☐ REAL-TIME CIF COMPUT.
☐ ETR COUNTDOWN CLOCK	☐ CM W-G ECS	☐ POST-TEST CIF COMPUT.
☐ ETR S.R.O.	☐ FACILITY ECS (GAS)	☐ KSC TRACKING
☐ ETR R.S.O.	☐ H.P. GAS	☐ RFI MONITORING
☐ ETR PAD SAFETY	☐ CCF	☐ RF READOUTS (ETR)
☐ KSC PAD SAFETY	☐ FACILITY TV (OTV)	☐ RF READOUTS (KSC)
☐ SECURITY POLICE	☒ FACILITY COMM. (OIS)	☐ WEATHER FORECAST
☐ FIRE FIGHTING	☐ FILM CAMERAS	☐ MCC-C
☐ MEDICAL	☐ SEARCH LIGHTS	☐ MCC-H
☒ DTS	☐	☐ FOOD SERVICE
☒ DEE-3	☐	☐
☒ PROPELLANTS DC POWER	☐	☐
☐	☐	☐
☐	☐	☐

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OTHERS:

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

17. OTHER APPLICABLE REFERENCE DOCUMENTATION

DWG. 75M04686

KSC OPERATIONS
APOLLO/SATURN TEST CATALOG

1. TEST TITLE

RP-1 SYSTEM INTEGRATION LCC/PTCR/STORAGE AREA

2. KSC TEST NO.

V-25128-GSE39A

3. STAGE, VEHICLE OR GSE

GSE

4. TEST OBJECTIVES

Integrate the RP-1 Storage Area loading components - distribution racks, valves, limit switches, etc., with the RP-1 loading control system.

5. TEST DESCRIPTION/EQUIPMENT STATUS

Components in the RP-1 Storage Area will be functionally tested in the Manual and Simulate Modes.

Procedure Set-up and Conditions:

This operation will be conducted after completion of the RP-1 GETS Tests.

GSE and Special Material Required: Lut Simulator

Manpower Required: 2 Electrical Engineers, 1 Electrical Technician

(6G184)

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

6. PREPARED BY	8. NASA-KSC APPROVAL	10. APPROVAL DATE
W. G. Myers 6/14/6 W. G. Myers	D. R. Jones	6/14/66
7. ORGANIZATION	9. ORGANIZATION	11. VEHICLE EFFECTIVITY
The Boeing Company 5-8553	LVO - 226	AS- 502(Test)

APOLLO/SATURN TEST CATALOG (Continuation Sheet)	PAGE 2 OF 2

1. TEST TITLE	2. KSC TEST NO.
RP-1 SYSTEM INTEGRATION LCC/PTCR/STORAGE AREA	V-25128-GSE39A
	11. VEHICLE EFFECTIVITY AS- 502(Test)

12. WHERE TEST PERFORMED	13. COMPUTER/ACE PROG. IDENT. (IF APPLICABLE)	14. EST. TEST TIME
LCC/FR#2 - PAD A	N/A	3 Days

15. TEST CONFIGURATION

N/A

16. SUPPORT REQUIREMENTS CHECKLIST *(Check appropriate boxes and add any additional)*

☐ GROUND POWER	☐ LCC MEASURING (LVO)	☐ ETR/KSC RADAR
☐ S-IB OR S-IC STAGE PWR	☐ LCC MEASURING (INS)	☐ ETR COMMAND XMITTER
☐ S-II STAGE POWER	☐ GSE MEASURING (LVO)	☐ LOCAL COMMAND (C.L.)
☐ S-IVB STAGE POWER	☐ GSE MEASURING (INS)	☐ ALDS
☐ IU POWER	☐ LCC DATA DISPLAY	☐ LCC TM STA. (MONITOR)
☐ LEM POWER	☐ CIF DATA DISPLAY	☐ LCC TM RECORDING
☐ SM POWER	☐ DDAS	☐ CIF TM STA. (MONITOR)
☐ CM POWER	☐ DDAS TAPE RECORDING	☐ CIF TM RECORDING
☐ BACK-UP BATTERIES	☐ SERVICE STRUCTURE MEAS.	☐ CIF COMPUTER
☐ TIMING	☐ RCA-110A COMPUTERS	☐ CIF DATA
☐ COUNTDOWN CLOCK	☐ ACE	☐ TM RECORDS
☐ ETR SEQUENCER	☐ L/V W-G ECS	☐ REAL-TIME CIF COMPUT.
☐ ETR COUNTDOWN CLOCK	☐ CM W-G ECS	☐ POST-TEST CIF COMPUT.
☐ ETR S.R.O.	☐ FACILITY ECS (GAS)	☐ KSC TRACKING
☐ ETR R.S.O.	☐ H.P. GAS	☐ RFI MONITORING
☐ ETR PAD SAFETY	☐ CCF	☐ RF READOUTS (ETR)
☐ KSC PAD SAFETY	☐ FACILITY TV (OTV)	☐ RF READOUTS (KSC)
☐ SECURITY POLICE	☒ FACILITY COMM. (OIS)	☐ WEATHER FORECAST
☐ FIRE FIGHTING	☐ FILM CAMERAS	☐ MCC-C
☐ MEDICAL	☐ SEARCH LIGHTS	☐ MCC-H
☒ DTS	☐	☐ FOOD SERVICE
☒ DEE-3	☐	☐
☒ PROPELLANTS DC POWER	☐	☐
☐	☐	☐
☐	☐	☐

OTHERS:

6/4

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

17. OTHER APPLICABLE REFERENCE DOCUMENTATION

DWG. 75M04686

KSC OPERATIONS APOLLO/SATURN TEST CATALOG	PAGE 1 OF 2
TEST TITLE RP-1 SYSTEM MALFUNCTION TEST	2. KSC TEST NO. V-25130-GSE39A 3. STAGE, VEHICLE OR GSE GSE

4. TEST OBJECTIVES

To verify malfunction detection circuits and proper reaction to malfunctions by the RP-1 loading control circuits.

5. TEST DESCRIPTION/EQUIPMENT STATUS

Malfunctions are introduced during a Simulated Loading Test. Verification is made that the RP-1 Electrical System detects and responds properly to each malfunction introduced.

Procedure Set-up and Conditions: This is performed after completing a Simulated Loading Test with the system in either Manual or Simulate Mode and all components installed or simulated.

GSE and Special Materials Required: None

Manpower Required: 1 Engineer, 2 Equipment Specialists

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(6G187)

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

6. PREPARED BY	8. NASA-KSC APPROVAL	10. APPROVAL DATE
W. G. Myers 6/14/6 W. G. Myers	D. R. Jones D. R. Jones	6/14/66
7. ORGANIZATION	9. ORGANIZATION	11. VEHICLE EFFECTIVITY
The Boeing Company 5-8553	LVO-226	AS- 502(Test)

APOLLO/SATURN TEST CATALOG (Continuation Sheet)	PAGE 2 OF 2

1. TEST TITLE	2. KSC TEST NO.
RP-1 SYSTEM MALFUNCTION TEST	V-25130-GSE39A
	11. VEHICLE EFFECTIVITY: AS- 502(Test)

12. WHERE TEST PERFORMED	13. COMPUTER/ACE PROG. IDENT. (IF APPLICABLE)	14. EST. TEST TIME
LCC/FR#2 - PTCR/PAD A	N/A	1 Day

15. TEST CONFIGURATION

N/A

16. SUPPORT REQUIREMENTS CHECKLIST *(Check appropriate boxes and add any additional)*

☐ GROUND POWER	☐ LCC MEASURING (LVO)	☐ ETR/KSC RADAR
☐ S-IB OR S-IC STAGE PWR	☐ LCC MEASURING (INS)	☐ ETR COMMAND XMITTER
☐ S-II STAGE POWER	☐ GSE MEASURING (LVO)	☐ LOCAL COMMAND (C.L.)
☐ S-IVB STAGE POWER	☐ GSE MEASURING (INS)	☐ ALDS
☐ IU POWER	☐ LCC DATA DISPLAY	☐ LCC TM STA. (MONITOR)
☐ LEM POWER	☐ CIF DATA DISPLAY	☐ LCC TM RECORDING
☐ SM POWER	☐ DDAS	☐ CIF TM STA. (MONITOR)
☐ CM POWER	☐ DDAS TAPE RECORDING	☐ CIF TM RECORDING
☐ BACK-UP BATTERIES	☐ SERVICE STRUCTURE MEAS.	☐ CIF COMPUTER
☐ TIMING	☐ RCA-110A COMPUTERS	☐ CIF DATA
☐ COUNTDOWN CLOCK	☐ ACE	☐ TM RECORDS
☐ ETR SEQUENCER	☐ L/V W-G ECS	☐ REAL-TIME CIF COMPUT.
☐ ETR COUNTDOWN CLOCK	☐ CM W-G ECS	☐ POST-TEST CIF COMPUT.
☐ ETR S.R.O.	☐ FACILITY ECS (GAS)	☐ KSC TRACKING
☐ ETR R.S.O.	☐ H.P. GAS	☐ RFI MONITORING
☐ ETR PAD SAFETY	☐ CCF	☐ RF READOUTS (ETR)
☐ KSC PAD SAFETY	☐ FACILITY TV (OTV)	☐ RF READOUTS (KSC)
☐ SECURITY POLICE	☒ FACILITY COMM. (OIS)	☐ WEATHER FORECAST
☐ FIRE FIGHTING	☐ FILM CAMERAS	☐ MCC-C
☐ MEDICAL	☐ SEARCH LIGHTS	☐ MCC-H
☒ DEE-3	☐	☐ FOOD SERVICE
☒ DTS	☐	☐
☒ PTCS	☐	☐
☒ PROPELLANTS DC POWER	☐	☐
☐	☐	☐

OTHERS:

Propellants Mechanical Section

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

17. OTHER APPLICABLE REFERENCE DOCUMENTATION

Dwg. No. 75M-04686

KSC OPERATIONS
APOLLO/SATURN TEST CATALOG

1. TEST TITLE

RP-1 SIMULATED LOADING TEST

2. KSC TEST NO.

V-25132-GSE39A

3. STAGE, VEHICLE OR GSE

GSE

4. TEST OBJECTIVES

To verify capability of the RP-1 Control Circuitry to control the automatic loading of RP-1 on board a Saturn V Vehicle.

5. TEST DESCRIPTION/EQUIPMENT STATUS

This test will operate the system through all sequences (Fill, Replenish, Level Adjust and Drain) for the S-IC stage without actual transfer of RP-1. The RP-1 PTCS will simulate RP-1 levels.

Procedure Set-up and Conditions: This test is performed subsequent to a Systems Component Test. All components must be installed or simulated.

GSE and Special Materials Required: None

Manpower Required: 2 Engineers and 2 Equipment Specialists

607

(6G189)

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

6. PREPARED BY	8. NASA-KSC APPROVAL	10. APPROVAL DATE
W. G. Myers 6/14/6 W. G. Myers	D. R. Jones D. R. Jones	6/14/66
7. ORGANIZATION The Boeing Company 5-8553	9. ORGANIZATION LVO-226	11. VEHICLE EFFECTIVITY AS-502(Test)

APOLLO/SATURN TEST CATALOG (Continuation Sheet)	PAGE 2 OF 2

TEST TITLE

RP-1 SIMULATED LOADING TEST

2. KSC TEST NO.
V-25132-GSE39A

11. VEHICLE EFFECTIVITY
AS- 502(Test)

12. WHERE TEST PERFORMED	13. COMPUTER/ACE PROG. IDENT. (IF APPLICABLE)	14. EST. TEST TIME
LCC/FR#2 - PTCR/PAD A	N/A	1 Day

15. TEST CONFIGURATION
N/A

16. SUPPORT REQUIREMENTS CHECKLIST *(Check appropriate boxes and add any additional)*

☐ GROUND POWER	☐ LCC MEASURING (LVO)	☐ ETR/KSC RADAR
☐ S-IB OR S-IC STAGE PWR	☐ LCC MEASURING (INS)	☐ ETR COMMAND XMITTER
☐ S-II STAGE POWER	☐ GSE MEASURING (LVO)	☐ LOCAL COMMAND (C.L.)
☐ S-IVB STAGE POWER	☐ GSE MEASURING (INS)	☐ ALDS
☐ IU POWER	☐ LCC DATA DISPLAY	☐ LCC TM STA. (MONITOR)
☐ LEM POWER	☐ CIF DATA DISPLAY	☐ LCC TM RECORDING
☐ SM POWER	☐ DDAS	☐ CIF TM STA. (MONITOR)
☐ CM POWER	☐ DDAS TAPE RECORDING	☐ CIF TM RECORDING
☐ BACK-UP BATTERIES	☐ SERVICE STRUCTURE MEAS.	☐ CIF COMPUTER
☐ TIMING	☐ RCA-110A COMPUTERS	☐ CIF DATA
☐ COUNTDOWN CLOCK	☐ ACE	☐ TM RECORDS
☐ ETR SEQUENCER	☐ L/V W-G ECS	☐ REAL-TIME CIF COMPUT.
☐ ETR COUNTDOWN CLOCK	☐ CM W-G ECS	☐ POST-TEST CIF COMPUT.
☐ ETR S.R.O.	☐ FACILITY ECS (GAS)	☐ KSC TRACKING
☐ ETR R.S.O.	☐ H.P. GAS	☐ RFI MONITORING
☐ ETR PAD SAFETY	☐ CCF	☐ RF READOUTS (ETR)
☐ KSC PAD SAFETY	☐ FACILITY TV (OTV)	☐ RF READOUTS (KSC)
☐ SECURITY POLICE	☒ FACILITY COMM. (OIS)	☐ WEATHER FORECAST
☐ FIRE FIGHTING	☐ FILM CAMERAS	☐ MCC-C
☐ MEDICAL	☐ SEARCH LIGHTS	☐ MCC-H
☒ DEE-3	☐	☐ FOOD SERVICE
☒ DTS	☐	☐
☒ PTCS	☐	☐
☒ PROPELLANTS DC POWER	☐	☐
☐	☐	☐

OTHERS:

(CONTINUE ON KSC FORM 23-192 IF REQUIRED)

17. OTHER APPLICABLE REFERENCE DOCUMENTATION

Dwg. 75 M-04686