DEVELOPMENT TEST PLAN - QUALIFICATION DYNA-SOAR (STEP I)

R. K. Rasmussen, et al

Boeing Company
Seattle, Washington

18 September 1961

DOCUMENT NO. D2-5697-16, VOL IV

UNCLASSIFIED TITLE DEVELOPMENT TEST PLAN - QUALIFICATION

DYNA-SOAR (STEP I)

MODEL NO. DYNA-SOAR CONTRACT NO. AF33(657)-7192

ISSUE NO. 13 (including Ltr 2) ISSUED TO

CLASSIFIED TITLE
(STATE CLASSIFICATION)

5-76223-5891-03103-4-2-61/61 B
WORK ORDER NO. UNIT NO. ITEM NO.

GROUP 4
DOWNGRADED AT 3 YEAR INTERVALS; DECLASSIFIED AFTER 12 YEARS.

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1-15-62

[redacted]
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BOEING AIRPLANE COMPANY

D2-5691-16, Vol. IV

P NO. 4

REVISED

Jan. 15, 1962 — Docu ent revised to reflect current status of qualification testing.

Prepared By: R. H. Rasmussen
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L. A. Binegar

UI-6871-1000
1-15-62

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SECONDARY POWER

1.1.3.3 (Continued)

R

FOREWARD

The development test plan for Dyna-Soar (Step I) Program is composed of the following three volumes:

Vol. II	Development Test Plan - Design
Vol. IV	Development Test Plan - Qualification
Vol. VI	Development Test Plan - Design Integration

This document, Volume IV is prepared for purposes of summarizing the total qualification test plans and monitoring their implementation.

This document will be revised only when significant changes in the scope of qualification testing occur. The schedule and reference data included in the schedule summary of the test plan is included for reference purposes only.

Dyna-Soar qualification will be limited to ensuring that the equipment will safely, adequately and efficiently perform its intended functions. Generally, Dyna-Soar equipment is not required to be qualified to the extent the Air Force would specify for an operational weapon system.

Test Brief Numbering

Test briefs are numbered in sequence within numbered sections which are basically consistent with the Dyna-Soar program element breakdown. The sections are listed in the index.

1.1.1.6	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested

Dyna-Soar Nose Cap Assembly

Spec. & Dwg. No. (s) D2-7302-1
Used-On Dwg. No. *
Supplier Chance Vought Corporation
Supplier's Address Box 5907, Dallas, Texas
Supplier's Part Number *

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		9-14-62			
Test Requirements	* Final	9-14-62			
Test Procedures	Doc	9-14-62			
Start Test		11-26-62			
Complete Test		12-21-62			
First Status Report*		12-17-62			
Final Report		1-29-63			

3. Summary of Tests Required

Qualification tests will be performed on two preproduction nose caps and will include the following:

(a) Thermal gradient and load test - Max. thermal gradient conditions in combination with design condition dynamic pressures or loads (approx. 40 min. run)
(b) Dynamic Tests - Simulating dynamic conditions, including acoustical and mechanical vibration (approx. 30 min. run)
(c) Extreme Temperature Tests - Highest and lowest temperature expected, conducted in an oxidizing atmosphere.
(d) Functional Checkout of installed temperature sensing and pressure transmitting systems.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

No special facilities or test equipment required.

5. Test Conducted by:

Organization	Location
Chance Vought	Dallas, Texas

6. Required Test Witnesses

Organization 2-5526 Dyna-Soar Support Unit - Struct. Tech.
2-6132 Dyna-Soar Airframe Design Unit

7. Remarks

* To be determined at later date.

Date 1-15-62

FUSELAGE

1.1.1.7	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested

Windshield Glass-Laminated Assemblies

Spec. & Dwg. No. (s) 10-81001
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	10-81001	3-22-62			
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

To Be Performed by Vendor:

1. Optical Inspection
2. Thermal Shock
3. Visible Degradation of Interlayer

By Boeing

1. Emittance Test

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

None

5. Test Conducted by: Organization: Vendor & Boeing 2-5000 Location: Vendors Plant and Boeing

6. Required Test Witnesses
Organization: Engr. 2-6000

7. Remarks

Emittance Test Specimens shall be supplied to Boeing by 7-20-62. These samples will be tested by Boeing and the results furnished to Vendor for incorporation into final report.

Date 12-27-61

1-15-62 *submitted monthly thereafter 2-6181-0-5	15	D2-5697-16 Vol. IV	Page 14

1.1.1.7	QUALIFICATION TEST PLAN	
Program Element No.		Brief No.

1. Item Tested: Windshield Glass-Fused Silica

Spec. & Dwg. No. (s) 10-81001
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	10-81001	9-28-62			
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

To Be Performed by Vendor

1. Optical Inspection
2. Degredation of Glass Coating
3. Thermal Shock

By Boeing

1. Emittance Test

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

None

5. Test Conducted by: Vendor & Boeing 2-5000 Location Vendors Plant & Boeing

6. Required Test Witnesses
Organization Engr. 2-6000

7. Remarks

Emittance Test Specimens shall be supplied to Boeing 9-21-62. These samples will be tested by Boeing and the results furnished to Vendor for incorporation into final Report.

Date 10-27-62

Program Element No.

1.1.1.8

Detail No.

1

Item Tested: Equipment Compartment

The design requirements of the equipment compartment will be proven by Structural verification tests covered by ED-5097-13, Vol. VI, Development Test Plan - Design Integration.

Program Element No.	Brief No.
1.1.1.8	2

Item Tested: Pilot's Compartment

The design requirements of pilot's compartment will be proven by structural verification tests covered by D2-5607-16, Vol. VI, Development Test Plan - Design Verification.

Program Element No.	Data No.
1.1.1.9	1

Item Tested: Pilot's Tube

The design requirements of [illegible] will be proven by structural verification tests covered by [illegible], Vol. VI, Development Test Plan - Design Integration.

1.1.1.11	QUALIFICATION TEST PLAN	
Program Element No.		Brief No.

1. Item Tested Main Landing Gear Assembly **

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier Boeing
Supplier's Address Seattle, Washington
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates: Schedule	Actual	Approval: Date	By
Test Plan	D2-5697-16, Vol. IV		1-5-62		
Test Requirements		3-1-62			
Test Procedures		6-1-62			
Start Test		4-1-63			
Complete Test		6-1-63			
First Status Report*		4-1-63			
Final Report		7-1-63			

3. Summary of Tests Required

*** (1) Drop Test - To verify the structural adequacy of the main landing gear under simulated operating loads.

(2) Life Cycling - Run the gear assembly through a number of simulated heading, loading, and operating cycles.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

*** This test will be conducted on Edwards Air Force Base test sled.

5. Test Conducted by:

Organization: Boeing Engineering Laboratories Location : Seattle

6. Required Test Witnesses

Organization: Mechanism and Pneumatics Group and Structures Technology

7. Remarks

** The Main Landing Gear Assembly will include the Gear Assembly, Main Gear Door operating mechanism, and Gear Extension system. Fatigue and Static tests will be the responsibility of Structures Technology with support from the Mechanisms and Pneumatics Group.

Date 1-5-62

1-15-62
*submitted monthly thereafter
2-8101-0-5

1.1.1.11	QUALIFICATION TEST PLAN	2
Program Element No.		Brief No.

1. Item Tested
   Main Landing Gear Bungee Strap
   Spec. & Dwg. No. (s)
   Used-On Dwg. No.
   Supplier The Boeing Company
   Supplier's Address Seattle, Washington
   Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan	D2-5697-16, Vol. IV		1-5-62		
Test Requirements		8-30-62			
Test Procedures		11-15-62			
Start Test		1-15-63			
Complete Test		2-15-63			
First Status Report*		2-15-63			
Final Report		3-15-63			

3. Summary of Tests Required
   Energy absorption tests at various strain rates and temperatures to qualify the bungee.

4. Special Facilities and/or Test Equipment (include Estimated Lead Time)
   High strain rate tensile test machine.

5. Test Conducted by:

Organization	Location
Boeing Engineering Laboratories	Seattle

6. Required Test Witnesses
   Organization
   Mechanisms and Pneumatics Group and Structures Technology

7. Remarks

Date 1-5-62

1.1.1.11 Program Element No.	QUALIFICATION TEST PLAN	3 Brief No.

1. Item Tested

Main Landing Gear Energy Strap
Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier The Boeing Company
Supplier's Address Seattle, Washington
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan	D2-5697-16, Vol. IV		1-5-62		
Test Requirements		7-15-62			
Test Procedures		11-15-62			
Start Test		1-15-63			
Complete Test		2-15-63			
First Status Report*		2-15-63			
Final Report		3-15-63			

3. Summary of Tests Required

Energy absorption tests at various strain rates and temperatures to qualify the energy strap as a landing shock absorber.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

High strain rate tensile test machine with heating facilities. The same equipment used for energy strap development, with modifications, may be used for qualification.

5. Test Conducted by:

Organization: Boeing Engineering Laboratories
Location: Seattle

6. Required Test Witnesses

Organization: Mechanisms and Pneumatics Group and Structures Technology

7. Remarks

Date 1-5-62

*submitted monthly thereafter

1.1.1.11	QUALIFICATION TEST PLAN	
Program Element No.		Brief No.

1. Item Tested

Main Landing Gear Skid

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements		7-23-62			
Test Procedures		8-23-62			
Start Test		10-23-62			
Complete Test		11-23-62			
First Status Report*		11-23-62			
Final Report		12-26-62			

3. Summary of Tests Required

Vendor qualification tests to verify that the skid meets specifications. Some of the tests will be impact, wear resistance, shear, coefficient of friction and environmental.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Vendor facilities and test equipment.

5. Test Conducted by:
Organization Location

6. Required Test Witnesses
Organization
Mechanisms and Pneumatics Group and Structures Technology

7. Remarks

Date 1-5-62

1.1.1.11	QUALIFICATION TEST PLAN	
Program Element No.		Brief No.

1. Item Tested

Nose Landing Gear Assembly **

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier [illegible] Company
Supplier's Address [illegible], Washington
Supplier's Part Number
[illegible] Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan	D2-5697-16, Vol. IV		1-5-62		
Test Requirements		3-1-62			
Test Procedures		6-1-62			
Start Test		4-1-63			
Complete Test		6-1-63			
First Status Report*		5-1-63			
Final Report		7-1-63			

3. Summary of Tests Required

** (1) Drop Test - To verify the structural adequacy of the landing gear under simulated operating loads.

(2) Life Cycling - Run the nose gear assembly through a number of simulated heating, loading, and operating cycles.

4. Special Facilities and/or Test Equipment (include Estimated Lead Time)

** This test will be conducted on the Holloman Air Force Base test sled.

5. Test Conducted by:

Organization	Location
Boeing Engineering Laboratories	Seattle

6. Required Test Witnesses

Organization

Mechanisms and Pneumatics Group and Structures Technology

7. Remarks

** Nose Landing Gear Assembly will include the gear assembly, nose gear door operating mechanism, and the nose gear extension system. Fatigue and Static tests will be the responsibility of Structures Technology with support from the Mechanisms and Pneumatics Group.

Date 1-5-62

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1.1.1.11 Program Element No.	QUALIFICATION TEST PLAN	Brief No.

1. Item Tested

Nose Landing Gear Bungee Strap

Spec. & Dwg. No. (s)

Used-On Dwg. No.

Supplier The Boeing Company

Supplier's Address Seattle, Washington

Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan	D2-5697-16, Vol. IV		1-5-62		
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Test Procedures		12-20-62			
Start Test		2-20-63			
Complete Test		3-20-63			
First Status Report*		3-20-63			
Final Report		4-20-63			

3. Summary of Tests Required

Energy absorption tests at various strain rates and temperatures to qualify the bungee.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

High strain rate tensile test machine.

5. Test Conducted by:

Organization	Location
Boeing Engineering Laboratories	Seattle

6. Required Test Witnesses

Organization

Mechanisms and Pneumatics Group and Structures Technology

7. Remarks

Date 1-5-62

1.1.1.11	QUALIFICATION TEST PLAN	
Program Element No.		Brief No:

1. Item Tested

Nose Landing Gear Energy Strap

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier The Boeing Company
Supplier's Address Seattle, Washington
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan	D2-5697-16, Vol. IV		1-5-62		
Test Requirements		7-15-62			
Test Procedures		12-31-62			
Start Test		2-11-63			
Complete Test		3-21-63			
First Status Report*		3-21-63			
Final Report		6-21-63			

3. Summary of Tests Required

Energy absorption tests at various strain rates and temperatures to qualify the energy strap as a landing shock absorber.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

High strain rate tensile test machine with heating facilities. The same equipment used for energy strap development, with modifications, may be used for qualification.

5. Test Conducted by:

Organization	Location
Boeing Engineering Laboratories	Seattle

6. Required Test Witnesses

Organization
Mechanisms and Pneumatics Group and Structures Technology

7. Remarks

Date 1-5-62

1.1.1.11	QUALIFICATION TEST PLAN	
Program Element No.		Brief No.

1. Item Tested

Nose Landing Gear Skid

Spec. & Dwg. No. (s)

Used-On Dwg. No.

Supplier

Supplier's Address

Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements		9-11-62			
Test Procedures		10-11-62			
Start Test		12-11-62			
Complete Test		1-11-63			
First Status Report*		1-11-63			
Final Report		2-11-63			

3. Summary of Tests Required

Vendor qualification tests to verify that the skid meets specifications. Some of the tests will be impact, wear resistance, shear, coefficient of friction, and environmental.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Vendor facilities and test equipment

5. Test Conducted by:

Organization Location

6. Required Test Witnesses

Organization

Mechanisms and Pneumatics Group and Structures Technology

7. Remarks

Date 1-5-62

1-15-62

*submitted monthly thereafter

1.1.1.11 Program Element No.	QUALIFICATION TEST PLAN	Brief No.

1. Item Tested

Umbilical Door Mechanisms - Electrical and Cryogenic

Spec. & Dwg. No. (s)

Used-On Dwg. No.

Supplier Boeing

Supplier's Address Seattle, Washington

Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
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Test Plan					
Test Requirements					
Test Procedures					
Start Test		1-15-62			
Complete Test		2-1-62			
First Status Report*					
Final Report					

3. Summary of Tests Required

Qualify the latching and locking mechanisms in the electrical and cryogenic umbilical doors on the glider by the following tests:

(1) Life cycling tests under simulated environmental conditions.
(2) Static Tests (load to failure).

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

None

5. Test Conducted by:

Organization: Engineering Labs — Location: Seattle

6. Required Test Witnesses

Organization: Mechanisms Group

7. Remarks

Date 12-15-61

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*submitted monthly thereafter
2-6181-0-5

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MECHANISMS AND LANDING GEAR

1.1.2.1	QUALIFICATION TEST PLAN*	1
Program Element No.		Brief No.

PROPULSION & ORDNANCE

1. Item Tested: ACCELERATION ROCKET MOTOR (XLR-62)

Spec. & Dwg. No. (s)	25-80291
Used-On Dwg. No.	D2-8157-0, and -1
Supplier	25-80249
Supplier's Address	Elkton Division, Thiokol Chemical Corporation
Supplier's Part Number	Elkton, Maryland
	TE-460

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan	D2-626, Vol. I (Thiokol)	8-20-62	8-30-62		
Test Requirements		5-20-62			
Test Procedures		6-20-62			
Start Test		10-15-62			
Complete Test		4-15-63			
First Status Report*		11-15-62			
Final Report		6-1-63			

3. Summary of Tests Required

(See Page 28.1)

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

(Rocket subcontractor furnished)

5. Test Conducted by: Elkton Division
Organization: Thiokol Chemical Corp. Location: Elkton, Maryland

6. Required Test Witnesses: The Boeing Company
Organization: (Q.C. and possibly Propulsion and Ordnance Group 2-6134-4)

7. Remarks

*In accordance with the Dyna-Soar R&D policies, the above "Qualification Test" is conducted as a "Preliminary Flight Rating Test (PFRT),". These tests are generally in accordance with MIL-R-25536A, as modified by Boeing Document D2-8157-1, "Design Procurement Specification-Acceleration Rocket Motor."

Date 12-20-61

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3. Summary of Tests Required

ACCELERATION ROCKET MOTOR (XM-92)

No. of Motors	Pre-Test Env. Conditioning (1)	Test Firing Environment: Motor Temp. High	Motor Temp. Low	Motor Temp. Normal	Alt. Simulation (3)	Grain Temp. Gradient Control (2)	Test Objectives
3	None	x					Determine Ballistic Performance
3	None		x				Determine Ballistic Performance
3	None			x			Determine Ballistic Performance
3	x	x					Evaluate Thrust Vector Perf.
1	x			x			" " " "
3	x		x				" " " "
1	x	x					Determine Ballistic Performance
[illegible]	x		x				Determine Ballistic Performance
1	x			x			Determine Ballistic Performance
2	None					x	Evaluate effects of temp. gradients on performance and on propellant and insulation bonds.
2	None	x					Evaluate thrust vector control system performance
2	None		x				Evaluate thrust vector control system performance
2	None		x		x		Evaluate altitude performance, base heating insulation effectiveness, altitude ignition characteristics, and exhaust gas recirculations characteristics.
1	None	x			x		Evaluate altitude performance, base heating insulation effectiveness, altitude ignition characteristics, and exhaust gas recirculations characteristics.

(1) Includes Temperature Cycling, Vibration, Drop, Humidity and Altitude Conditioning prior to firing. Components only will be subjected to Salt Spray, Sand and Dust.

(2) Propellant grain temperature-controlled to obtain maximum temp. gradient across the grain.

(3) These firings to be conducted in an altitude chamber (Arnold Center, Tullahoma, Tenn.).

1.1.2.2	QUALIFICATION TEST PLAN	
Program Element No.		Brief No.

1. Item Tested HATCH EJECTION SUBSYSTEM

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		6-15-62	5-31-61		
Test Requirements		6-15-62			
Test Procedures		6-15-62			
Start Test		10-15-62			
Complete Test		[illegible]			
First Status Report*		2-15-63			
Final Report		5-22-63			

3. Summary of Tests Required

To qualify the components of the hatch ejection subsystem (release device, thrusters, initiators, ejection system controls etc.) as a subsystem in conjunction with the hatch assembly and ejection seat subsystem.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization Boeing Location EAF B - (Sled Tests)

6. Required Test Witnesses
Organization Propulsion and Ordnance Group 2-6134-4

7. Remarks

The complete escape system (ejection seat, hatch, initiators, thrusters, release devices, ejection system, (controls, except pilot's control and external control, etc.) will be qualified as a system during the Dyna-Soar escape system sled tests which are slated to begin at EAFB approximately December 15, 1962 and will terminate approximately May 23, 1963.

Date 12-21-61

PROPULSION AND ORDNANCE

1-15-62
*submitted monthly thereafter
2-6181-3-5

1.1.2.2	QUALIFICATION TEST PLAN	
Program Element No.		Brief No.

1. Item Tested HATCH EJECTION SUBSYSTEM (ZERO SPEED)

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates Schedule	Submittal Dates Actual	Approval Date	Approval By
Test Plan		3-15-62			
Test Requirements		4-15-62			
Test Procedures		6-15-62			
Start Test		11-15-62			
Complete Test		11-30-62			
First Status Report*		11-30-62			
Final Report		12-30-62			

3. Summary of Tests Required

Zero speed hatch jettison tests using each of the (3) three jettison modes (pilot's, emergency and crewmal). Operational suitability type testing. Trajectory data to be obtained.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

None Required

5. Test Conducted by:
Organization Boeing Location Seattle (Van Nutt)

6. Required Test Witnesses
Organization Engineering

7. Remarks

Date 12-21-61

1-15-62
*submitted monthly thereafter
2-6161-6-5

PROPULSION AND ORDNANCE

1.1.2.2	QUALIFICATION TEST PLAN	
Program Element No.		Brief No.

1. Item Tested: Pilot's Hatch Fastener Assembly

Spec. & Dwg. No. (s): 10-81040-5
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		6-5-62			
Test Requirements	10-81040-5	3-21-62	*		
Test Procedures		7-21-62			
Start Test		8-21-62			
Complete Test		11-21-62			
First Status Report*		10-21-62			
Final Report		12-21-62			

3. Summary of Tests Required

Performance Tests
Environmental Tests

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Vendor facilities

5. Test Conducted by:
Organization: Vendor — Location

6. Required Test Witnesses
Organization: Engineering

7. Remarks

*Source control drawing release date.

Date 12-21-61

1-15-62
*submitted monthly thereafter
2-6101-0-5

1.1.2.2	QUALIFICATION TEST PLAN	4
Program Element No.		Brief No.

1. Item Tested: Pilot's Hatch Ejection Thruster

Spec. & Dwg. No. (s) 10- -1
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		6-5-62			
Test Requirements		3-21-62*			
Test Procedures		7-21-62			
Start Test		9-21-62			
Complete Test		11-21-62			
First Status Report*		10-21-62			
Final Report		12-21-62			

3. Summary of Tests Required

Performance Tests
Environmental Tests

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Vendor facilities

5. Test Conducted by:
Organization Vendor Location

6. Required Test Witnesses
Organization Engineering

7. Remarks

* Source control drawing release dates

Date 12-21-61

1-15-62
*submitted monthly thereafter
2-6181-0-5

PROPULSION & ORDNANCE

1.1.2.2	QUALIFICATION TEST PLAN	
Program Element No.		Brief No.

1. Item Tested

Propellant Actuated Device - Controls

Spec. & Dwg. No. (s) 10-

Used-On Dwg. No.

Supplier

Supplier's Address

Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		2-1-62			
Test Requirements	10-	10-1-61?			
Test Procedures		3-1-62			
Start Test		5-1-62			
Complete Test		7-1-62			
First Status Report*		6-1-62			
Final Report		8-1-62			

3. Summary of Tests Required

Performance Tests
Environmental Tests

[illegible]ED - Controls for propellant actuated devices will be qualified (as required) with the systems they control such as in the Window Heat Shield Jettison and Hatch Ejection Subsystems. There will be no qualification of these controls as subsystems in themselves (per Mechanics and Propulsion and Ordnance Design Groups).

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Vendor facilities

5. Test Conducted by: Vendor
Organization Location

6. Required Test Witnesses
Organization Engineering

7. Remarks This item includes the internal controls for both the Window Heat Shield Jettison and Hatch Ejection Subsystems
* Source control drawing release date

Date 1-[illegible]

Pneumatics

1.1.2.5	QUALIFICATION TEST PLAN	
Program Element No.		Brief No.

1. Item Tested — Glider Destruct System

Spec. & Rev. No. (if any)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Date: Schedule	Submittal Date: Actual	Approval: Date	Approval: By
Test Plan		3-3-62			
Test Requirements	No.	6-15-62			
Test Procedures		11-21-62			
Start Test		1-21-63			
Complete Test		3-21-63			
First Status Report*		2-21-63			
Final Report		4-21-63			

3. Summary of Tests Required

Performance Tests
Environmental Tests

Total system will be qualified by vendor but components (safe/arm device, detonators, explosive charges) will also be qualified.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Vendor facilities

5. Test Conducted by:
Organization Vendor Location

6. Required Test Witness:
Organization Engineering

7. Remarks

* Source Control Drawing Release Date

Date

PROPULSION & ORDNANCE

1.1.3.1	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested: Accessory Power Unit

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier: Sundstrand Aviation - Denver, Division of Sundstrand Corp.
Supplier's Address: Denver, Colorado
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	10-20912, Rev. E	2-7-62			
Test Procedures		9-1-62			
Start Test		11-1-62			
Complete Test		7-1-63			
First Status Report*					
Final Report					

3. Summary of Tests Required

The accessory power unit shall be tested to demonstrate its capability to operate throughout the flight mission while subjected to the environmental conditions encountered during the Dyna-Soar flight mission, and to maintain performance within specification limits.

The following Qualification Tests will be performed in accordance with the requirements of Source Control Drawing 10-20912: Functional, Attitude, Acceleration, Vibration, Speed Regulation, Horsepower Rating, High Temperature, Low Temperature, Humidity, Safety Limits, Life, Shock, Self-Containment.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Vendor's Test Facilities

5. Test Conducted by: Sundstrand Aviation
Organization — Location: Denver, Colorado

6. Required Test Witnesses
Organization
The Boeing Company 2-6135-1

7. Remarks

Date 1-8-62

1-15-62 *submitted monthly thereafter 2-6101-0-5	37	D2-5697-16 Vol. IV	Page 35

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ACCESSORY POWER

1.1.3.1	QUALIFICATION TEST PLAN	2
Program Element No.		Brief No.

1. Item Tested

Exhaust Duct - Accessory Power Unit

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	by
Test Plan					
Test Requirements		6-1-62			
Test Procedures		6-1-62			
Start Test		11-1-62			
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

The exhaust duct shall be mounted on the accessory power unit while qualification tests are performed on the accessory power unit per Source Control Drawing 10-20912, plus supplemental tests conducted at Boeing.

Vibration testing on the exhaust duct shall be done in two parts. One part shall be done by the APU vendor and shall consist of inducing vibrations on the exhaust duct as seen by the APU. The other test shall be done by Boeing and shall consist of inducing vibrations on the exhaust duct as seen by the glider basic structure which are different from the APU vibration environment.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Vendor's Test Facilities

5. Test Conducted by:
Organization Sundstrand Aviation Location Denver, Colorado

6. Required Test Witnesses
Organization 2-6135-1

7. Remarks

Date 1-8-62

1-15-62
*submitted monthly thereafter
2-6181-0-5

ACCESSORY PWER

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1.1.3.2	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested

Electrical System

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier Boeing
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates: Schedule	Actual	Approval: Date	By
Test Plan	This sheet				
Test Requirements		2-1-62			
Test Procedures					
Start Test		9-1-62			
Complete Test		6-1-63			
First Status Report*		10-1-62			
Final Report		7-1-63			

3. Summary of Tests Required

The electrical system will be tested for functional compatibility, sequential operation and protective coordination for normal and abnormal operating conditions. The mockup will be tested under laboratory ambient environmental conditions.

Where applicable data resulting from the tests described in Section 1.1.3.2 of the design development test document D2-5697-16, Vol. II may be used to prove qualification of the electrical system will also be performed in the environmental simulator as part of the integrated environmental control/secondary power subsystem. (Reference document D2-7924 Section 1.1.10.6)

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by: Boeing
Organization Location Seattle, Washington

6. Required Test Witnesses
Organization Electrical Systems Unit 2-6136

7. Remarks

The electrical system will be simulated as closely as possible to the actual glider distribution component using actual wire length and size, qualified component parts and qualified protective devices where possible. The simulated distribution component (mockup) will be built at Boeing laboratories and maintained (updated) to the latest level of component part design changes.

(Reference only) Date 12-1-61

1-1 [illegible] 2

*Submitted monthly thereafter

2-6101-0-5

Program Element No.	QUALIFICATION TEST PLAN	2 Brief No.

1. Item Tested: AC Generator and Controls

Spec. & Dwg. No. (s) 10-20902-1 through -6
Used-On Dwg. No.
Supplier Westinghouse
Supplier's Address Lima, Ohio
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	10-20902			6-12-62	W. Thompson
Test Procedures		7-2-62			
Start Test		7-1-62			
Complete Test		3-1-63			
First Status Report*		6-1-63			
Final Report		4-1-63			

3. Summary of Tests Required: The Generator and Control Unit consists of the following:
10-20902-1 Generator Assembly
10-20902-2 Voltage Regulator Assembly
10-20902-3 Control Panel Assembly
10-20902-4 Deleted
10-20902-5 Current Transformer Assembly
10-20902-6 Circuit Breaker Assembly

The generator and controls unit will be qualification tested for the following:
Dielectric
Performance
Environment
Parameter constants
Cooling
Life

Where applicable, data resulting from the tests described in section 1.1.3.2 of the Design Development Test Document D2-5697-16 Vol. II and section 1.1.10.6 of the Design Integration Test Requirements Document D2-7924 may be used to prove [illegible] of the generator and controls unit.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Unknown at this date

5. Test Conducted by: Westinghouse
Organization
Location Lima, Ohio & Denver, Colorado

6. Required Test Witnesses:
Organization A qualified Boeing engineer for specific tests, but not all tests. Other witnesses may be required.

7. Remarks:

Selected portions of the qualification of this hardware will be performed jointly with the APU at Sundstrand plant in Denver, Colorado.

Date 12-29-61

1-15-62 Submitted monthly thereafter 2-6181-6-5	40	D2-5697-16 Vol. IV	Page 38

ELEC. MR.

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1.1.3.2	QUALIFICATION TEST PLAN	
Program Element No.		Brief No.

1. Item Tested

Subsystem Electrical Relay Panel

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier Boeing
Supplier's Address Seattle
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements		6-1-62			
Test Procedures					
Start Test		8-1-62			
Complete Test		11-1-62			
First Status Report*		9-1-62			
Final Report		12-1-62			

3. Summary of Tests Required

Subsystem Electrical Relay Panel will be qualification tested per the requirements of (to be determined)

A summary of the tests is as follows:

Environmental

Performance

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Unknown at this date

5. Test Conducted by: Boeing
Organization

Location Seattle, Wash.

6. Required Test Witnesses
Organization

7. Remarks

Date 12-28-61

1-15-62
*submitted monthly thereafter
2-6.81-6-5

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1.1.3.2 Program Element No.	QUALIFICATION TEST PLAN	4 Brief No.

1. Item Tested Main Power Box

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier Boeing
Supplier's Address Seattle
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements		6-1-62			
Test Procedures					
Start Test		8-1-62			
Complete Test		11-1-62			
First Status Report*		9-1-62			
Final Report		12-1-62			

3. Summary of Tests Required

Main Power Box will be qualification tested per the requirements of (to be determined.)

A summary of the tests is as follows:

Environment

Performance

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Unknown at this time

5. Test Conducted by: Boeing
Organization Location Seattle, Wash.

6. Required Test Witnesses
Organization

7. Remarks

Date 12-23-61

1-15-62
*submitted monthly thereafter

WIRING DEV. & DIAG.

1.1.3.2	QUALIFICATION TEST PLAN	5
Program Element No.		Brief No.

1. Item Tested: Forward Load Panels

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements		6-1-62			
Test Procedures					
Start Test		8-1-62			
Complete Test		11-1-62			
First Status Report*		9-1-62			
Fi Report		12-1-62			

3. Summary of Tests Required

Forward Load Panels will be qualification tested per the requirements of (to be determined)

A summary of the tests is as follows:

Environmental
Performance

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Unknown at this date

5. Test Conducted by:
Organization Boeing Location Seattle, Wash.

6. Required Test Witnesses
Organization

7. Remarks

Date 12-28-61

1-15-62
*submitted monthly thereafter
2-6181-0-5

WIRING DEV. & DIAG.

41

1.1.3.2	QUALIFICATION TEST PLAN	6
Program Element No.		Brief No.

1. Item Tested

Spec. & Dwg. No. (s) Transformer-rectifier unit
Used-On Dwg. No. 10-20908
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	10-20908	9-1-61	9-1-61		
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

The transformer-rectifier unit will be qualification tested per the requirements of the source control drawing 10-20908. A summary of the tests is as follows:

Performance (regulation, ripple, efficiency, power factor, overload, — etc.)
Environment (Vibration, temperature, acceleration, drop, — etc.)
Dielectric
Parallel operation
Parameter constants
Cooling
Life

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Unknown at this date

5. Test Conducted by:

Organization — Location

Supplier

6. Required Test Witnesses

Organization

7. Remarks

1 Vendor selection anticipated by 2-1-62.

Date 12-28-61

1-15-62
*Submitted monthly thereafter

2.1.3.2	QUALIFICATION TEST PLAN	
Program Element No.		Brief No.

1. Item Tested: Umbilical Disconnect Relay Panel Motor Oper. Sw.

Spec. & Dwg. No. (s) 10-81116
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	10-81116	4-15-62			
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

Umbilical Disconnect Relay Panel will be qualification tested per the requirements of (To be Determined)

A summary of the tests is as follows:

Environmental

Performance

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Unknown at this date

5. Test Conducted by:
Organization Location
Supplier

6. Required Test Witnesses
Organization

7. Remarks

Vendor selection anticipated by 5-15-62.

Date 12-28-61

*submitted monthly thereafter

WIRING D.V. & DIAG.

1.1.3.2	QUALIFICATION TEST PLAN	
Program Element No.		Brief No.

1. Item Tested Circuit Protective Devices

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

DSSR 10 - To be qualified to standards and included in DSS Standards Book 31 by Physics Technology Data Record Sheet DL-P-102, dated Dec. 8, 1961.

2. Schedule Summary

Task	Reference Doc. No.	Submittal Date: Schedule	Actual	Approval Date	By
Test Plan					
Test Requirements					
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

Circuit Protective Devices will be qualification tested per the requirements of (To be determined)
A summary of the test is as follows:

Performance (time-current characteristic, overload, interrupting capacity, etc.)

Environment (vibration, temperature, shock, pressure, acceleration, etc.)

Dielectric

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization — Location
Supplier

6. Required Test Witnesses
Organization

7. Remarks

Date 8-11-61

*Submitted monthly thereafter

WIRING DEV. & DIAG.

1.1.3.2	QUALIFICATION TEST PLAN	
Program Element No.		Brief No.

1. Item Tested: Compartment Penetrations

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier: Boeing
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements					
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

Compartment Penetrations will be qualification tested per the requirements of (To be determined)

A summary of the tests is as follows:

Environment

Performance

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Unknown at this date

5. Test Conducted by: Boeing
Organization

Location Seattle, Washington

6. Required Test Witnesses
Organization

7. Remarks

Date 12-29-61

1-15-62
*Submitted monthly thereafter
2 [illegible]-5

1.1.3.2	QUALIFICATION TEST PLAN	10
Program Element No.		Brief No.

1. Item Tested: Blocking Diode Assembly

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier: Boeing
Supplier's Address: Seattle
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements		7-1-63			
Test Procedures		9-1-63			
Start Test		9-1-63			
Complete Test		11-1-63			
First Status Report*					
Final Report		12-1-63			

3. Summary of Tests Required

Will be inserted when available

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Unknown at this date

5. Test Conducted by:
Organization: Supplier
Location:

6. Required Test Witnesses:
Organization

7. Remarks

1

Date: 12-20-62

1-13-63
*Submitted monthly thereafter
2-8-63-S

MARINE DEV. & DIAG.

1.1.3.2	QUALIFICATION TEST PLAN	11
Program Element No.		Brief No.

WIRING DEV. & DIAG.

1. Item Tested

High Temperature wire

Spec. & Dwg. No. (s) 10-01005

Used-On Dwg. No.

Supplier

Supplier's Address

Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submitted Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	10-01005	10-1-61	11-1-61		
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

Samples of high temperature wire will be exposed to the following tests:

Temperature
Thermocouple Response
Vibration
Hardness of Sheath
Check Internal Defects
Mechanical Strength of Insulation
X-Ray Inspection
Insulation Resistance
Dielectric Withstanding Voltage
Conductor Resistance
Conductor Continuity
Bend Tests
Metallurgical Structure
Surface Defects

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Unknown at this date

5. Test Conducted by:

Organization: Supplier

Location

6. Required Test Witnesses

Organization

7. Remarks

1 Vendor selection anticipated by 3-1-62.

Date 12-[illegible]-61

1-15-62

*submitted monthly thereafter

2-61i-3-5

1.1.3.2 Program Element No.	QUALIFICATION TEST PLAN	22 Brief No.

1. Item Tested Relays

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

DELETED - To be qualified on standards and included in DAC Standards Book 31 by Physics Technology (Ref. Coord Sheet SL-M-[illegible], dated December 8, 1961).

2. Schedule Summary

Task	Reference Doc. No.	Submittal Date: Schedule	Submittal Date: Actual	Approval: Date	Approval: By
Test Plan					
Test Requirements					
Test Procedures					
Start Test					
Complete Test					
First Status Report					
Final Report					

3. Summary of Tests Required

Tests required for relays will be qualification tested per the requirements of (To be determined)
A summary of the tests is as follows:

Performance (Pickup and dropout voltage, contact bounce, operating and release time, corona, etc.)

Environment (Vibration, temperature, acceleration, altitude, shock, etc.)

Life

Dielectric

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization Location
Supplier

6. Required Test Witnesses:
Organization

7. Remarks:

Date 8-11-61

1-1 [illegible]
2-[illegible] submitted monthly thereafter

Wright Div. & DICO.

1.1.3.2	QUALIFICATION TEST PLAN	13
Program Element No.		Brief No.

1. Item Tested Umbilical and test plug connectors

Spec. & Dwg. No. (s) 10-61010
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	10-61010	9-1-61	9-21-61		
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

Umbilical and test plug connectors shall be qualification tested per the requirements of 10-61010

A summary of the tests is as follows:

Performance

Environment

Contact Voltage drop

Insulation resistance and dielectric

Coupling and uncoupling force

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Unknown at this date

5. Test Conducted by:
Organization Location

Supplier

6. Required Test Witnesses
Organization

7. Remarks

1 Vendor selection anticipated by 3-15-62.

Date 12-29-61

1- 3-62
2-[illegible] monthly thereafter

ENGRG DEV. & DIAG.

1.1.3.2	QUALIFICATION TEST PLAN	14
Program Element No.		Brief No.

1. Item Tested

Spec. & Dwg. No. (s) High Temperature connectors
Used-On Dwg. No. 10-81003
Supplier
Supplier's Address 1
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	10-81003	7-31-61	7-31-61		
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

High temperature connectors will be qualification tested per the requirements of the source control drawing 10-81003. A summary of the tests is as follows:

1. Visual and dimensional inspection
2. Environmental
3. Coupling and uncoupling force
4. Contact voltage drop
5. Insulation resistance and dielectric
6. Corona onset voltage
7. Gas leakage

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Unknown at this date.

5. Test Conducted by:
Organization Location
Supplier

6. Required Test Witnesses
Organization

7. Remarks
1 Vendor selection anticipated by 2-1-62.

Date 12-23-61

WIRING DEV. & DIAG.

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*submitted monthly thereafter
2-6181-0-5

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1.1.3.2	QUALIFICATION TEST PLAN	15
Program Element No.		Brief No.

1. Item Tested: Batteries - Hatch Jettison

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier [1]
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements		2-15-62			
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

Batteries will be qualification tested per the requirements of (To be determined)

The summary of the test is as follows:

Performance (Electrical - voltage droop)

Environment

Dielectric

Explosion proof

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization: Supplier
Location

6. Required Test Witnesses
Organization

7. Remarks
[1] Vendor selection anticipated by 5-1-62.

Date 12-28-61

1-15-62
* Updated monthly thereafter

WIRING DEV. & DIAG.

1.1.3.2	QUALIFICATION TEST PLAN	25
Program Element No.		Brief No.

1. Item Tested: Transformers

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

DELETED - Transformers are no longer used on the Dyna-Soar glider per Coord Sheet ML-M-102, dated Dec. 6, 1961.

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements					
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

The Transformers will be qualification tested per the requirements of (To be determined)
A summary of the tests are as follows:

Performance (regulation, efficiency, insulation, etc.)

Environment (vibration, temperature, shock, etc.)

Dielectric

Explosion proof

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization — Location
Supplier

6. Required Test Witnesses
Organization

7. Remarks

Date 8-11-61

1-15-62
2-6181-6-5 *Revised monthly thereafter

WIRING DEV. & DIAG.

1.1.3.3	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested: Glider Hydraulic System

Spec. & Dwg. No. (s) [1]
Used-On Dwg. No.
Supplier: The Boeing Company
Supplier's Address: Seattle, Wash.
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan			1-8-62		
Test Requirements	[1]				
Test Procedures	[1]				
Start Test		[1]			
Complete Test		[2]			
First Status Report*		[1]			
Final Report	[3]	[3]			

3. Summary of Tests Required

The Hydraulic system qualification will be accomplished by a series of independent tests according to briefs given below on parts, assemblies, and the complete system.

System Tests - Briefs 22 and 23
Assembly Tests - Briefs 7, 10, 13 and 17
Part Tests - Briefs 8, 9, 11, 12, 14, 15, 16, 18, 19, 20, 21, 24, 25, 26, 27, 28, 29, 30 and 31

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

[1]

5. Test Conducted by:
Organization [1] Location [1]

6. Required Test Witnesses:
Organization [1]

7. Remarks:

[1] See applicable Qualification Test Plan

[2] The completion of all tests before first glider flight.

[3] Two months after first glider flight. Date 1-10-62

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1-15-62
*Submitted monthly thereafter
2-4-62-0-1

1.3.3 Program Element No.	QUALIFICATION TEST PLAN	2 Brief No.

1. Item Tested

Acceleration Rocket Hydraulic System [1]

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		10-31-61			
Test Requirements					
Test Procedures					
Start Test		3- -62			
Complete Test		12-31-			
First Status Report*					
Final Report					

3. Summary of Tests Required

a. Performance tests of complete system in the laboratory to determine compliance with performance requirements under simulated load and environment.
b. Performance tests of complete system on the rocket to determine compliance with performance requirements during static firing.
c. Endurance tests under ground checkout conditions.
d. To be performed in conjunction with the Flight Control Operational Mockup Tests.

4. Special Facilities and/or Test Equipment (include Estimated Lead Time)

5. Test Conducted by: 2-5334
Organization Mechanical-Propulsion Integration Annex A
Acceleration Rocket Vendor (Thiokol)

6. Required Test Witnesses 2-6134-1
Organization Dyna-Soar Hydraulics

7. Remarks

[1] This plan is being revised and will be available February 15, 1962.

Date 8-14-61

1-15-62
*submitted monthly thereafter
2-6101-0-3

HYDRAULICS

1.1.3.3	QUALIFICATION TEST PLAN	3
Program Element No.		Brief No.

1. Item Tested: Accelerator Rocker Hydraulic Power Unit (1)

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	[illegible]	8-31-61			
Test Procedures					
Start Test		3- 1-62			
Complete Test		5- 1-62			
First Status Report*					
Final Report					

HYDRAULICS

3. Summary of Tests Required

a. Performance tests to determine compliance with system requirements.
b. Filter efficiency and particle size tests.
c. Proof and Burst Pressure Tests.
d. Endurance tests under ground and airborne conditions.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization: Vendor — Location

6. Required Test Witnesses: 2-6134-1
Organization: Dyna-Soar Hydraulics

7. Remarks:

(1) This plan is being revised and will be available February 15, 1962.

Date 8-24-61

1-1-3-12

*Submitted monthly thereafter

1.1.3.3	QUALIFICATION TEST PLAN	4
Program Element No.		Brief No.

1. Item Tested: Acceleration Rocket Servo Actuator Package (1)

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Date: Schedule	Submittal Date: Actual	Approval: Date	Approval: By
Test Plan					
Test Requirements	10-[illegible]	8-31-61			
Test Procedures					
Start Test		4-1-62			
Complete Test		[illegible]-62			
First Status Report*					
Final Report					

3. Summary of Tests Required

a. Functional tests to determine compliance with actuating performance requirements.
b. Proof and burst pressure tests
c. Endurance tests under simulated conditions of load, temperature and vibration for the acceleration rocket.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by: Vendor
Organization Location

6. Required Test Witnesses: 2-6136-1
Organization Dyna-Soar Hydraulics

7. Remarks

(1) This plan is being revised and will be available February 15, 1962.

Date 8-14-61

1-15-62
*Submitted monthly thereafter
2-6181-0-5

HYDRAULICS

1.2.3.3

Program Element No.

QUALIFICATION TEST PLAN

Brief No.

1. Item Tested

ACCELERATION ROCKET SERVO ACTUATOR [1]

Spec. & Dwg. No. (s) 10-01014

Used-On Dwg. No.

Supplier

Supplier's Address

Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	10-01014	9-11-61			
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report		[illegible]			

3. Summary of Tests Required

The supplier will be required to accomplish the following tests:

1. Performance 2. Vibration 3. Temperature 5. MIL-E-5272C only as applicable

Reliability (No test as such. Time and failure records will be made during development and qualification testing.)

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:

Organization

Location

6. Required Test Witnesses

Organization

7. Remarks

Preliminary Information

[1] This plan is being revised and will be available February 15, 1962.

[illegible]

* [illegible] monthly thereafter

2-[illegible]

Date [illegible]

MANUAL FLIGHT CONTROL

R.

R.

1.1.3.2	QUALIFICATION TEST PLAN	[illegible]
Program Element No.		Brief No.

1. Item Tested

Glider Speed Brake Actuator Subsystem

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

The Speed brake [illegible] has been [illegible]. Studies have [illegible] the rudders [illegible] used to [illegible] Control [illegible]. Ref - Design Bulletin 22-[illegible]-132, dated Dec. 4, 19[illegible]

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		1-31-62			
Test Requirements					
Test Procedures					
Start Test		[illegible]-11-62			
Complete Test		[illegible]			
First Status Report*					
Final Report					

3. Summary of Tests Required
   a. Performance tests to determine compliance with actuating requirements and capability of maintaining fluid within design temperatures.
   b. Overtemperature tests
   c. Proof and burst pressure tests
   d. Endurance test under simulated conditions of load, temperature, and vibration for glider.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Protected test cell with radiant heating and vibration testing equipment. Cell to be capable of being atmospherically controlled to 200,000 feet. 12[illegible]

5. Test Conducted by:
   Organization 2-5354 Mechanical-Propulsion Laboratory   Location

6. Required Test Witnesses
   Organization 2-5134-1 Dyna-Soar [illegible]raulics

7. Remarks

Date 8-1[illegible]-61

1-15-62

*Submitted monthly thereafter

2-6181-0-5

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1.1.3.3 Program Element No.	QUALIFICATION TEST PLAN	7 Brief No.

1. Item Tested: Glider Rudder Servo Actuator Subsystem

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan	This Sheet	1-22-62	1-10-62		
Test Requirements					
Test Procedures					
Start Test					
Complete Test		7-23-62			
First Status Report*		8-31-62			
Final Report					

3. Summary of Tests Required
   a. Performance tests to determine compliance with actuating requirements and capability of maintaining fluid within design temperatures.
   b. Overtemperature tests
   c. Proof and burst pressure tests
   d. Endurance test under simulated conditions of load temperature, and vibration for glider.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Protected test cell with radiant heating and vibration testing equipment. Cell to be capable of being atmospherically controlled to 200,000 feet. 12 m.

5. Test Conducted by: 2-5334
   Organization: Mechanical-Propulsion Laboratory Location

6. Required Test Witnesses: 2-5134-1
   Organization: Dyna-Soar Hydraulics

7. Remarks

Date 1-10-62

1-15-62 submitted monthly thereafter
2-1181-0-5

HYDRAULICS

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1.1.3.3	QUAL[illegible]ON TEST PLAN	
Program Element No.		Brief No.

1. Item Tested [illegible] SERVO [illegible]

Spec. & Dwg. No. (s) 10-81036
Used-On Dwg. No. - - - - - Rudder Actuator Assy - Hydraulic
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	10-81036	Rel-62			
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

Before being accepted by Boeing for use on the higher assembly the supplier will be required to accomplish the following tests:

1. Performance 2. Vibration 3. Temperature 5. MIL-E-5272C only as applicable

To be qualified in conjunction with Rudder Servo Actuator Subsystem 1.1.3.3' Brief 7, page 59.

Reliability (no tests as such. Time and failure records will be made during development and qualification testing.)

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization Location

6. Required Test Witnesses
Organization

7. Remark:

Preliminary information

Date 1-10-62

1-15-62
*Submitted monthly thereafter

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1.1.3.3	QUALIFICATION TEST PLAN	9
Program Element No.		Brief No.

1. Item Tested: RUDDER HYDRAULIC VALVE ASSEMBLY

Spec. & Dwg. No. (s): 10-31007
Used-On Dwg. No.: - - - - - Glider Actuator Assy - Hydraulic
Supplier:
Supplier's Address:
Supplier's Part Number:

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	10-31007	5-2-62	7-1-63		
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

Before being accepted by Boeing for use on the higher assembly the supplier will be required to accomplish the following tests:

1. Performance 2- Vibration 3. Temperature 5. MIL-E-5272C only as applicable

To be qualified in conjunction with Rudder Servo Actuator Subsystem 1.1.3.3 Brief 7, page 59.

Reliability: (No tests as such. Time and failure records will be made during development and qualification testing.)

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization Location

6. Required Test Witnesses:
Organization

7. Remarks:
Preliminary Information

Date 1-10-62

1-15-62
*submitted monthly thereafter

1.1.3.3	QUALIFICATION TEST PLAN	10
Program Element No.		Brief No.

1. Item Tested: Glider Elevon Servo Actuator Subsystem

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan	This Sheet	1-12-62	1-10-62		
Test Requirements					
Test Procedures					
Start Test		7-1-62			
Complete Test		5-31-63			
First Status Report*					
Final Report					

3. Summary of Tests Required

a. Performance tests to determine compliance with actuating requirements and capability of maintaining fluid within design temperatures.
b. Overtemperature tests
c. Proof and burst pressure tests
d. Endurance test under simulated conditions of load, temperature, and vibration for glider.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)
Protected test cell with radiant heating and vibration testing equipment. Cell to be capable of being atmospherically controlled to 200,000 ft. 12M.

5. Test Conducted by: 2-5354
Organization Mechanical-Propulsion Laboratory Location

6. Required Test Witnesses 2-6134-1
Organization Dyna-Soar Hydraulics

7. Remarks

Date 1-10-62

1-15-62
*submitted monthly thereafter
2-6101-0-5

HYDRAULICS

1.1.3.3 Program Element No.	QUALIFICATION TEST PLAN	11 Brief No.

1. Item Tested — ELEVON SERVO FEEDBACK TRANSDUCER

Spec. & Dwg. No. (s) 10- 81036
Used-On Dwg. No. - - - - - Elevon Actuator Assy - Hydraulic
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates Schedule	Actual	Approval Date	By
Test Plan					
Test Requirements	10-81036	2-1-62			
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report		5-4-62			

3. Summary of Tests Required

Before being accepted by Boeing for use on the higher assembly the supplier will be required to accomplish the following tests:

1. Performance 2. Vibration 3. Temperature 5. MIL-E-5272C only as applicable.

To be qualified in conjunction with Elevon Servo Actuator Subsystem 1.1.3.3 Brief 10, page 62

Reliability (No test as such. Time and failure records will be made during development and qualification testing.)

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization Location

6. Required Test Witnesses
Organization

7. Remarks
Preliminary information

Date 1-10-62

1-15-62
*submitted monthly thereafter
2-6181-0-5

MANUAL FLIGHT CONTROL

1.1.3.3	QUALIFICATION TEST PLAN	12
Program Element No.		Brief No.

1. Item Tested

ELEVON HYDRAULIC VALVE ASSEMBLY

Spec. & Dwg. No. (s) 10-81007
Used-On Dwg. No. - - - - - - - - Elevon Actuator Assy - Hydraulic
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	80-81007	9-2-61	9/3/61		
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report		[illegible]			

3. Summary of Tests Required

Before being accepted by Boeing for use on the higher assembly the supplier will be required to accomplish the following tests:

1. Performance 2. Vibration 3. Temperature 5. MIL-E-5272C only as applicable

To be qualified in conjunction with Elevon Servo Actuator Subsystem 1.1.3.3 Brief 10, page 62 and Rudder Servo Act. Subsystem 1.1.3.3, Brief 7, page 59. Reliability (No test as such. Time and failure records will be made during development and qualification testing.)

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization Location

6. Required Test Witnesses
Organization

7. Remarks

Preliminary information

Date 1-10-62

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MANUAL FLIGHT CONTROL

1.1.3.3	QUALIFICATION TEST PLAN	13
Program Element No.		Brief No.

1. Item Tested: Glider Hydraulic Accessory Package

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan	This Sheet	1-12-62	1-10-62		
Test Requirements					
Test Procedures					
Start Test					
Complete Test		7-16-62			
First Status Report*		3-31-63			
Final Report					

3. Summary of Tests Required

a. Pressure drop tests
b. Filtration tests - Efficiency, particle size, and capacity
c. Relief valve operating pressure tests
d. Pressure switch performance tests
e. Check valve back leakage tests
f. Pressure transducer performance tests
g. Vibration tests
h. Proof and burst pressure tests
i. Endurance cycling tests of:
   (1) Accumulator
   (2) Relief Valve

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization: Assembly by Mechanical-Propulsion Lab. & Components by Vendors
Location: Annex A

6. Required Test Witnesses: 2-6134-1
Organization: Dyna-Soar Hydraulics

7. Remarks

Date: 1-10-62

HYDRAULICS

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*submitted monthly thereafter
2-6181-0-5

1.1.3.3	QUALIFICATION TEST PLAN	14
Program Element No.		Brief No.

1. Item Tested: Glider Hydraulic Flexible Lines (Typical Critical Assemblies)

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan	This Sheet	1-12-62	1-10-62		
Test Requirements					
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

a. Proof and burst pressure tests
b. Endurance tests under high temperature, maximum flexure, pressure impulse, and vibration conditions.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

a. Protected test cell with radiant heating and vibration testing equipment.
b. Small altitude chamber with radiant heat source. 12M.

5. Test Conducted by: Vendor and Boeing
Organization Mechanical-Propulsion Laboratory Location Annex A

6. Required Test Witnesses 2-6134-1
Organization Dyna-Soar Hydraulics

7. Remarks

Date 1-10-62

1-15-62
*submitted monthly thereafter
2-6181-0-5

HYDRAULICS

1.1.3.3	QUALIFICATION TEST PLAN	15
Program Element No.		Brief No.

1. Item Tested: Glider Hydraulic System Heat Exchanger

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	10-20917		Rev. 5-9-61		
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

a. Pressure Drop Tests
b. Heat Extraction Tests
c. Vibration Tests
d. Proof and Burst Pressure Tests

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by: Environmental Control System
Organization Vendor (AiResearch) Location Los Angeles, California

6. Required Test Witnesses 2-6134-1
Organization Dyna-Soar Hydraulics

7. Remarks

Date 8-14-61

*submitted monthly thereafter

HYDRAULICS

1.1.3.3	QUALIFICATION TEST PLAN	16
Program Element No.		Brief No.

1. Item Tested Glider Hydraulic Pump

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	D2-7616	Rev. 4-12-61			
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

The pump is to be qualified as a component to the Preproduction Tests specified in D2-7616 which includes various performance and endurance tests. In addition, it will be qualified as a component of the Accessory Power Unit in accordance with 10-20912.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by: Pump Vendor (Bendix Products Div.) South Bend, Indiana
Organization APU Vendor (Sundstrand Aviation) Location Denver, Colorado

6. Required Test Witnesses 2-0134-1
Organization Dyna-Soar Hydraulics

7. Remarks

Date 8-14-61

*submitted monthly thereafter

2-6181-0-5

1.1.3.3	QUALIFICATION TEST PLAN	17
Program Element No.		Brief No.

1. Item Tested

Glider Hydraulic Reservoir

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan	This Sheet	1-12-62	1-10-62		
Test Requirements					
Test Procedures					
Start Test		7-16-62			
Complete Test		9-31-63			
First Status Report*					
Final Report					

3. Summary of Tests Required

a. Fill and Overflow Tests
b. Vibration Tests
c. Proof and Burst Pressure Tests
d. Endurance Cycling Tests

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by: 2-5354
Organization Mechanical-Propulsion Laboratory Location Annex D

6. Required Test Witnesses 2-6134-1
Organization Dyna-Soar Hydraulics

7. Remarks

Date 1-10-61

1-15-62
*submitted monthly thereafter
2-6181-0-5

HYDRAULICS

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1.1.3.3	QUALIFICATION TEST PLAN	18
Program Element No.		Brief No.

1. Item Tested: Glider Hydraulic Reservoir Relief Valve

Spec. & Dwg. No. (s): 10-81117

Used-On Dwg. No.: - - - - - - - - Reservoir Assy — Hydraulic

Supplier

Supplier's Address

Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates: Schedule	Submittal Dates: Actual	Approval: Date	Approval: By
Test Plan					
Test Requirements	10-81117	3-13-62			
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

a. Operating Pressure Tests
b. Vibration Tests
c. Proof and Burst Pressure Tests

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by: Organization: Vendor — Location:

6. Required Test Witnesses: Organization: ~~2-6181-1~~ Dyna-Soar Hydraulics

7. Remarks

Date: 1-10-62

1-15-62

*submitted monthly thereafter

2-6181-0-5

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HYDRAULICS

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1.1.3.3	QUALIFICATION TEST PLAN	10
Program Element No.		Brief No.

1. Item Tested

Glider Hydraulic Return Line Filter

Spec. & Dwg. No. (s) 10-81039
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	10-81039	9-1-61	10-17-61		
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

a. Pressure Drop Tests
b. Filtration Efficiency Tests
c. Vibration Tests
d. Proof and Burst Pressure Tests

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization Vendor Location

6. Required Test Witnesses 2-6134-1
Organization Dyna-Soar Hydraulics

7. Remarks

Date 1-10-62

1-15-62
*submitted monthly thereafter

HYDRAULICS

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1.1.3.3	QUALIFICATION TEST PLAN	20
Program Element No.		Brief No.

1. Item Tested

Glider Self-Sealing Hydraulic Couplings

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements		OPEN			
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

a. Pressure drop tests through flow and temperature range
b. Disconnect tests
c. Proof and burst pressure tests
d. Endurance tests under conditions of temperature pressure impulse, and vibration.

4. Special Facilities and/or Test Equipment (include Estimated Lead Time)

5. Test Conducted by:
Organization Vendor Location

6. Required Test Witnesses 2-6134-1
Organization Dyna-Soar Hydraulics

7. Remarks

The present BAC standard coupling may be used and if so this test plan will be deleted.

Date 1-10-62

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HYDRAULICS

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1.1.3.3	QUALIFICATION TEST PLAN	21
Program Element No.		Brief No.

1. Item Tested: Glider Hydraulic Tubing Runs (Typical Critical Assemblies)

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements					
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

a. Proof and burst pressure tests
b. Vibration tests of assemblies mounted to simulated glider structure at temperature.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

a. Protected test cell with radiant heating and vibration testing equipment.
b. Small altitutde chamber with radiant heat source.

5. Test Conducted by: Organization 2-5354 Mechanical-Propulsion Laboratory Location Annex A

6. Required Test Witnesses Organization 2-6184-1 Dyna-Soar Hydraulics

7. Remarks

Date 1-10-62

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1.1.3.3	QUALIFICATION TEST PLAN	22
Program Element No.		Brief No.

1. Item Tested: Glider Hydraulic System (Operational Mock-up)

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan	This Sheet		1-2-62		
Test Requirements	SS-7529 (1)	(1)			
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

a) Performance tests to determine compliance with Flight Control System performance requirements under simulated aerodynamic and inertial load conditions at approximately 75°F ambient room temperature and fluid temperatures ranging from 100 to 400°F.

b) Performance tests to determine compliance with minimum Flight Control System performance requirements under partial Hydraulic System failure conditions.

4. Special Facilities and/or Test Equipment (include Estimated Lead Time)

5. Test Conducted by: 2-5354
Organization: Mechanical-Propulsion Laboratory Location: Seattle

6. Required Test Witnesses: 2-6134-1
Organization: Dyna-Soar Hydraulics

7. Remarks

(1) See integration test operational mock-up schedule.

(2) Memo 2-6130-0-470, dated 12-27-61

Date 1-10-62

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1.1.3.3	QUALIFICATION TEST PLAN	23
Program Element No.		Brief No.

1. Item Tested: Glider Hydraulic System (Environmental Control & Secondary Power Integration Tests)

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan	[illegible]	———	1-2-62		
Test Requirements	[illegible]	▷			
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

a) Performance tests to determine compliance with Hydraulic System performance requirements under inertia load conditions at simulated altitude and temperature environment and nominal fluid temperatures.

b) Performance tests to determine compliance with minimum Hydraulic System performance requirements under conditions of partial failure of the Hydraulic and Fluid Cooling Systems.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by: 2-5354
Organization Mechanical-Propulsion Lab Location Tulalip

6. Required Test Witnesses 2-5134-1
Organization Dyna-Soar Hydraulics

7. Remarks

▷1 See integration test environmental simulator test schedule.

▷2 General information in Design Bulletin 23-4588-121

▷3 D2-30304

Date 1-10-62

1-15-62
*submitted monthly thereafter
2-5131-0-5

1.1.3.3	QUALIFICATION TEST PLAN	24
Program Element No.		Brief No.

1. Item Tested: Fluid Level Indicator

Spec. & Dwg. No. (s) 10-81109
Used-On Dwg. No. - - - - - Reservoir Assy Hydraulic
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	10-81109	1-20-62			
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

a) Pressure
b) Stroke and Linearity
c) Vibration
d) Life
e) Shock
f) Overpressure
g) Electrical Insulation
h) Visual Inspection for Workmanship and Drawing Compliance

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization: Vendor
Location

6. Required Test Witnesses
Organization

7. Remarks

Date 1-10-62

1-15-62
*submitted monthly thereafter

1.1.3.3	QUALIFICATION TEST PLAN	25
Program Element No.		Brief No.

1. Item Tested H_2 Pressure Transducer

Spec. & Dwg. No. (s) 10-81110
Used-On Dwg. No. - - - - - Reservoir Assy - Hydraulic
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	10-81110	2-10-62			
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

a) Hermetic Seal
b) Pressure
c) Sand and Dust
d) Humidity
e) Linearity
f) Vibration
g) Life
h) Shock
i) Overpressure
j) Electrical Insulation
k) Visual inspection for workmanship and Dwg compliance

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization Vendor Location

6. Required Test Witnesses
Organization

7. Remarks

Date 1-10-62

1-15-62
*submitted monthly thereafter

1.1.3.3	QUALIFICATION TEST PLAN	25
Program Element No.		Brief No.

1. Item Tested: Pressure Switch, Hydraulic

Spec. & Dwg. No. (s): 10-81033
Used-On Dwg. No.: - - - - Accessory Package Assy - Hydraulic
Supplier:
Supplier's Address:
Supplier's Part Number:

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	10-81033				
Test Procedures			10-21-61		
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

a) Ignition proof
b) Pulse pressure
c) Burst pressure
d) Proof pressure
e) Hermetic seal
f) Contact drop
g) Dielectric
h) Insulation resistance
i) Low temperature
j) High temperature
k) Sand and Dust
l) Humidity
m) Over temperature
n) Vibration
o) Shock

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization: Vendor Location

6. Required Test Witnesses
Organization

7. Remarks

Date 1-10-62

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1-15-62
*submitted monthly thereafter

1.1.3.3 Program Element No.	QUALIFICATION TEST PLAN	27 Brief No.

1. Item Tested

Pressure Transmitter and Indicator

Spec. & Dwg. No. (s) 10-81066

Used-On Dwg. No. - - - - - - - - Accessory Package Assy - Hydraulic

Supplier

Supplier's Address

Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	10-81066	—	12/3/61		
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

Transmitter and Indicator

a) Dielectric
b) Hermetic seal
c) Insulation Resistance
d) Low Temp.
e) High Temp.
f) Sand and Dust
g) Humidity
h) Ignition
i) Overtemp.
j) Vibration
k) Drop (shipping configuration)

Transmitter only

a) Burst pressure
b) Proof pressure
c) Pulse Pressure

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:

Organization Vendor Location

6. Required Test Witnesses

Organization

7. Remarks

Date 1-10-62

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*submitted monthly thereafter

1.1.3.3	QUALIFICATION TEST PLAN	23
Program Element No.		Ref No.

1. Item Tested

Pressure Relief Valve Hydraulic

Spec. & Dwg. No. (s) 10-81067

Used-On Dwg. No. - - - - - - - Accessory Package Assy - Hydraulic

Supplier

Supplier's Address

Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	10-81067	4-25-62			
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

a) Proof pressure
b) Humidity
c) Low temperature
d) High temperature
e) over temperature
f) Vibration
g) Shock
h) Endurance
i) Visual examination for workmanship and drawing compliance

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:

Organization Vendor Location

6. Required Test Witnesses

Organization

7. Remarks

Date 1-10-62

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*submitted monthly thereafter

2-6181-0-5

1.1.3.3 Program Element No.	QUALIFICATION TEST PLAN	29 Brief No.

1. Item Tested

Filter - Hydraulic Accessory Unit

Spec. & Dwg. No. (s) 10-81070

Used-On Dwg. No. - - - - - - Accessory Package Assy - Hydraulic

Supplier

Supplier's Address

Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	10-81070	4-25-62			
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

a) Visual Inspection for workmanship and drawing compliance
b) Proof pressure
c) Pressure drop
d) Air inclusion
e) High temperature
f) Pressure pulse
g) Vibration
h) Sand and Dust
i) Humidity
j) Shock
k) Drop
l) Over temperature m) Burst

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization Vendor Location

6. Required Test Witnesses
Organization

7. Remarks

Date 1-10-62

1-15-62
*submitted monthly thereafter
2-6181-0-5

1.1.3.3	QUALIFICATION TEST PLAN	30
Program Element No.		Brief No.

1. Item Tested: Swival Joint - Hydraulic

Spec. & Dwg. No. (s): 10-81111
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan	This Sheet		1-12-62		
Test Requirements	10-81111	1-10-62			
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

a) Visual examination for workmanship and drawing compliance
b) Oil immersion
c) Proof pressure
d) Low pressure
e) Reverse Leakage
f) Pressure drop
g) Low temperature
h) Transient Temperature
i) High temperature
j) Over temperature
k) Sand and dust
L) Humidity
m) Acceleration
n) Vibration
o) Shock
p) Endurance
q) Burst pressure

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization: Vendor Location:

6. Required Test Witnesses
Organization:

7. Remarks

Date 1-10-62

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1.1.3.3 Program Element No.	QUALIFICATION TEST PLAN	21 Brief No.

1. Item Tested: Temperature Transmitter and Indicator

Spec. & Dwg. No. (s) 10-81118
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	10-81118	6-4-62			
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

a) Temperature
b) Pressure
c) Environment

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization Vendor Location

6. Required Test Witnesses
Organization

7. Remarks

Preliminary information details will be provided after spec 10-81118 is released.

Date 1-10-62

1-15-62
*submitted monthly thereafter

1.1.3.4	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested Reaction Control Power Component (in entirity)

Spec. & Dwg. No. (s) D2-7638-1
Used-On Dwg. No.
Supplier Thompson Ramo Wooldridge (TAPCO Group)
Supplier's Address Cleveland, Ohio
Supplier's Part Number None

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements					
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report		2-1-63			

3. Summary of Tests Required

1. Non-environmental performance test of one Reaction Control Power Component including hot-gas distribution lines and fitting.
   (Note: Hot-gas distribution line and fittings will be supplied by Boeing who will manufacture and qualification test them at Boeing.)

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Cryogenic storage, supply and laboratory equipment for hydrogen and oxygen.

5. Test Conducted by:

Organization: TAPCO
Location: Cleveland, Ohio

6. Required Test Witnesses

Organization: Boeing project personnel as necessary

7. Remarks

D2-7638-1 "Design Procurement Specification - Reaction Control Power Component-Integrated Hydrogen Cooling and Secondary Power Subsystem." Some of the testing required is given in this document. Detailed test plan, test requirements and test procedures will be submitted for Boeing approval by TAPCO. Extent of testing will be determined by TAPCO with Boeing approval.

Date 8-14-61

*submitted monthly thereafter

2-6181-0-2

1.1.3.4	QUALIFICATION TEST PLAN	2
Program Element No.		Brief No.

1. Item Tested: Reaction Control Power Component Electronic Package

Spec. & Dwg. No. (s): Same as Supplier Part Number
Used-On Dwg. No.
Supplier: Thompson Ramo Wooldridge (TAPCO Group)
Supplier's Address: Cleveland, Ohio
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements					
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report		2-1-63			

3. Summary of Tests Required

1. Vibration test
2. Shock test

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

None

5. Test Conducted by:

Organization	Location
TAPCO	Cleveland, Ohio

6. Required Test Witnesses

Organization: Boeing project personnel as necessary

7. Remarks D2-7638-1 "Design Procurement Specification-Reaction Control Power Component-Integrated Hydrogen Cooling and Secondary Power Subsystem." Some of the testing required is given in this document. Detailed test plan, test requirements and test procedures will be submitted for Boeing approval by TAPCO. Extent of testing will be determined by TAPCO with Boeing approval.

Date 8-14-61

*submitted monthly thereafter

2-6181-0-5

1.1.3.4	QUALIFICATION TEST PLAN	3
Program Element No.		Brief No.

1. Item Tested: Reaction Control Power Component Gas Generator

Spec. & Dwg. No. (s) Same as Supplier's Part No.
Used-On Dwg. No.
Supplier: Thompson Ramo Wooldridge (TAPCO Group)
Supplier's Address: Cleveland, Ohio
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements					
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report		2-1-63			

3. Summary of Tests Required

1. Combined environmental temperature-altitude and performance testing
2. Vibration testing
3. Strength testing (proof pressure, burst pressure and structural strength)
4. MIL-E-5272 testing as necessary 1
5. Extended limits testing (life testing, extended temperature limit testing)
6. Shock testing

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Cryogenic storage supply and laboratory equipment for hydrogen and oxygen.

5. Test Conducted by:

Organization	Location
TAPCO	Cleveland, Ohio

6. Required Test Witnesses

Organization: Boeing project personnel as necessary

7. Remarks: D2-7638-1 "Design Procurement Specification-Reaction Control Power Compnent-Integrated Hydrogen Cooling and Secondary Power Subsystem." Some of the testing required is given in this document. Detailed test plan, test requirements and test procedures will be submitted for Boeing approval by TAPCO. Extent of testing will be determined by TAPCO with Boeing approval.

Date 8-14-61

*submitted monthly thereafter

1.1.3.4	QUALIFICATION TEST PLAN	4
Program Element No.		Brief No.

1. Item Tested
   Reaction Control Power Component Hot-Gas Distribution Line and Fittings
   Spec. & Dwg. No. (s)
   Used-On Dwg. No.
   Supplier Boeing
   Supplier's Address Seattle
   Supplier's Part Number Same as Associate Contractor Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan	This Sheet				
Test Requirements	D2-8130 (Tab D)				
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report		2-1-63			

3. Summary of Tests Required
   1. Pressure drop
   2. Pressure cycling and temperature cycling at simulated operating conditions
   3. Vibration testing of representative tubing and fitting assemblies
   4. Proof and burst pressure tests at operating temperature

   (NOTE: Detailed test plans will be added at a later date.)

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
   Organization
   Location
   To be determined

6. Required Test Witnesses
   Organization
   Boeing project personnel as necessary

7. Remarks
   D2-8130- (Tab D) "Performance Specification, Reaction Control Power Component of Secondary Power Subsystem SectionV." More detailed requirements will be added to this document when they are available.

Date 8-14-61

*submitted monthly thereafter

1.1.3.4	QUALIFICATION TEST PLAN	5
Program Element No.		Brief No.

1. Item Tested

Reaction Control Power Component Thrust Control Valves and Nozzles
Spec. & Dwg. No. (s) Number same as Supplier's number
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements					
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report		2-1-63			

3. Summary of Tests Required

1. Combined environmental temperature-altitude and performance test
2. Vibration testing
3. Strength testing (proof pressure, burst pressure and structural strength)
4. MIL-E-5272 testing as necessary 1
5. Extended limits testing (life testing, extended temperature limits testing)
6. Shock testing

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

None

5. Test Conducted by:

Organization	Location
TAPCO	Cleveland, Ohio

6. Required Test Witnesses

Organization

Boeing project personnel as necessary

7. Remarks D2-7638-1 "Design Procurement Specification-Reaction Control Power Component-Integrated Hydrogen Cooling and Secondary Power Subsystem." Some of the testing required is given in this document. Detailed test plan, test requirements and procedures will be submitted for Boeing approval by TAPCO. Extent of testing will be determined by TAPCO with Boeing approval.

Date 8-14-61

*submitted monthly thereafter

2.1.3.5	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested

Landing Gear System

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		12-27-61	12-27-61		
Test Requirements		11-15-62			
Test Procedures		1-15-63			
Start Test		2-15-63			
Complete Test		3-15-63			
First Status Report*		3-15-63			
Final Report		4-15-63			

3. Summary of Tests Required

To qualify the landing gear system (includes landing gear extension system) operation by subjecting it to the following test and environmental conditions.

1. One extension - While equipment is stabilized at -65°F.
2. One extension - While equipment is being submitted to thermal conditions simulating normal re-entry.
3. One extension - At room temperature after "2" above.
4. Repeat "1 and 2" above until 10 consecutive successful extensions have been accomplished.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

The glider structure forward of the pilots compartment that supports the nose landing gear and landing gear doors will be required. The nose gear doors and surrounding skin panels will be installed. The landing gear extension system will be installed such that the nose gear system operates the gear and doors.* The main gear system will operate against Dummy Loads.

5. Test Conducted by:

Organization Boeing Location Tulalip

6. Required Test Witnesses (1)

Organization Mechanism and Pneumatics 2-6134-3

7. Remarks

*Due to similarity between the main gear system and the nose gear system main gear and doors will not be operated for qualification of the landing gear system.

Date 12-26-61

1-15-62
*submitted monthly thereafter

2-6131-0-5

1.1.3.5	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested

Landing Gear Extension Subsystem

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		12-27-61	12-27-61		
Test Requirements		8-13-62			
Test Procedures		9-12-62			
Start Test		11-12-62			
Complete Test		12-12-62			
First Status Report*		12-12-62			
Final Report		1-12-63			

3. Summary of Tests Required

To qualify all the components of the landing gear extension subsystem (pilot's control, gas pressure source, actuators and distribution system) as a complete subsystem.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Vendor Facilities

5. Test Conducted by:
Organization Vendor Location

6. Required Test Witnesses (1)
Organization Mechanisms and Pneumatic

7. Remarks

Design Procurement Specification

Date 12-26-61

1-18-62
*submitted monthly thereafter
2-6181-C-5

1.1.3.5	QUALIFICATION TEST PLAN	2
Program Element No.		Brief No.

1. Item Tested: Landing Gear Extension - Actuators

Spec. & Dwg. No. (s) 10-
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

Deleted - this component will be qualified at the subsystem level.

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		1-25-62			
Test Requirements	10-	9-25-61			
Test Procedures		2-26-62			
Start Test		4-25-62			
Complete Test		6-25-62			
First Status Report*		5-25-62			
Final Report		7-25-62			

3. Summary of Tests Required

Performance Tests
Environmental Tests

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Vendor facilities

5. Test Conducted by:
Organization: Vendor
Location:

6. Required Test Witnesses
Organization: Engineering

7. Remarks

This includes nose and main landing gear extension, and nose and main landing gear door actuators.

*Source control drawing release date.

Date 1-11-62

1-15-62 *submitted monthly thereafter 2-6181-0-5	93	D2-5697-16 Vol. IV	Page 20

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1.1.3.5	QUALIFICATION TEST PLAN	3
Program Element No.		Brief No.

1. Item Tested — Landing Gear Extension - N_2 Bottle

Spec. & Dwg. No. (s) 10-
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

Deleted - this component will be qualified at the subsystem level.

R

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		3-1-62			
Test Requirements	-10-	11-13-61*			
Test Procedures		4-2-62			
Start Test		6-1-62			
Complete Test		8-1-62			
First Status Report*		7-2-62			
Final Report		9-3-62			

3. Summary of Tests Required

Proof Pressure Tests
Burst Pressure Tests

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Vendor facilities

5. Test Conducted by: Organization — Vendor — Location

6. Required Test Witnesses — Organization — Engineering

7. Remarks

*Source control drawing release date.

Date 1-11-62

1-15-62
*submitted monthly thereafter

PNEUMATICS

1.1.3.5	QUALIFICATION TEST PLAN	4
Program Element No.		Brief No.

1. Item Tested

Landing Gear Extension - N_2 Valve - (Pilot's Control Valve)

Spec. & Dwg. No. (s) 10-

Used-On Dwg. No.

Supplier

Supplier's Address

Supplier's Part Number

Deleted - this component will be qualified at the subsystem level.

R

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		3-1-62			
Test Requirements	10-	11-13-61			
Test Procedures		4-2-62			
Start Test		5-1-62			
Complete Test		7-1-62			
First Status Report*		7-2-62			
Final Report		8-3-62			

3. Summary of Tests Required

Performance Tests
Environmental Tests

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Vendor facilities

5. Test Conducted by: Organization Vendor Location

6. Required Test Witnesses Organization Engineering

7. Remarks

*Source control drawing release date.

Date 1-11-62.

PNEUMATICS

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1-15-62 *submitted monthly thereafter 2-6181-0-5	95	D2-5697-16 Vol. IV	Page 82

1.1.3.5 Program Element No.	QUALIFICATION TEST PLAN	5 Brief No.

1. Item Tested: Window Heat Shield Jettison Subsystem

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		12-27-61	12-27-61		
Test Requirements		8-13-62			
Test Procedures		9-12-62			
Start Test		11-12-62			
Complete Test		12-12-62			
First Status Report*		12-12-62			
Final Report		1-12-63			

3. Summary of Tests Required

To qualify all the components of the window heat shield subsystem (pilot's control, gas pressure source, actuator and distribution system) as a complete subsystem.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Vendor Facilities

5. Test Conducted by:
Organization: Vendor
Location:

6. Required Test Witnesses (1)
Organization: Mechanisms and Pneumatic

7. Remarks

Design Procurement Specification

Date 12-26-61

1-15-62
*submitted monthly thereafter
2-6181-0-5

1.1.3.5	QUALIFICATION TEST PLAN	6
Program Element No.		Brief No.

1. Item Tested

Window Heat Shield Jettison - Actuator

Spec. & Dwg. No. (s) 10-

Used-On Dwg. No.

Supplier

Supplier's Address

Supplier's Part Number

Deleted - this component will be qualified at the subsyste.. level.

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		2-1-62			
Test Requirements	10-	10-1-61*			
Test Procedures		3-1-62			
Start Test		5-1-62			
Complete Test		5-2-62			
First Status Report*		6-1-62			
Final Report		8-1-62			

3. Summary of Tests Required

Performance Tests
Environmental Tests

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Vendor facilities

5. Test Conducted by: Vendor
Organization Location

6. Required Test Witnesses
Organization Engineering

7. Remarks

* Source Control drawing release data

Date 1-11-62

1-15-62
*submitted monthly thereafter

Pneumatics

1.1.3.5	QUALIFICATION TEST PLAN	7
Program Element No.		Brief No.

1. Item Tested

Window Heat Shield Jettison - Gas Generator

Spec. & Dwg. No. (s) 10-[redacted]

Used-On Dwg. No.

Supplier Deleted - this component will be qualified at the subsystem level.

Supplier's Address [redacted]

Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		2-1-62			
Test Requirements	10-	10-1-61*			
Test Procedures		3-1-62			
Start Test		5-1-62			
Complete Test		7-2-62			
First Status Report*		6-1-62			
Final Report		8-1-62			

3. Summary of Tests Required

Performance Tests
Environmental Tests

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Vendor facilities

5. Test Conducted by: Vendor
Organization Location

6. Required Test Witnesses
Organization Engineering

7. Remarks

* Source control drawing release date.

Date 1-11-62

Pneumatics

89 1-15-62

1.1.3.5	QUALIFICATION TEST PLAN	8
Program Element No.		Brief No.

1. Item Tested
   PITOT EXTENSION SUBSYSTEM
   Spec. & Dwg. No. (s)
   Used-On Dwg. No.
   Supplier
   Supplier's Address
   Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		12-28-1	12-28-1		
Test Requirements		8-15-62			
Test Procedures		9-12-62			
Start Test		11-12-62			
Complete Test		12-12-62			
First Status Report*		12-12-62			
Final Report		1-12-63			

3. Summary of Tests Required

To qualify all the components of the pitot extension subsystem (pilot's control, gas pressure source, actuator and distribution system) as a complete subsystem.

4. Special Facilities and/or Test Equipment (include Estimated Lead Time)

Vendor Facilities

5. Test Conducted by:
   Organization — Location
   Vendor

6. Required Test Witnesses (1)
   Organization Mechanisms and Pneumatic

7. Remarks

Design Procurement Specification

Date 12-28-61

ENVIRONMENTAL CONTROL

1.1.4	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested: Environmental Control Subsystem

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier: Boeing Company
Supplier's Address: Seattle
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements					
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

Performance tests to demonstrate integration with other subsystems such as Secondary Power, Hydraulics, etc. and to verify interface with electronics, pilot, ground service equipment, auxiliary air launch equipment. Performance testing will include:

Environmental Simulation
Flight Tests, Ground Launch

4. Special Facilities and/or Test Equipment (include Estimated Lead Time)

5. Test Conducted by:
Organization: Boeing Company Location

6. Required Test Witnesses
Organization

7. Remarks

1 PROVIDED 3-1-62

Date 6-14-61

1-15-62
*submitted monthly thereafter
2-6181-0-5

1.1.4	QUALIFICATION TEST PLAN	2
Program Element No.		Brief No.

ENVIRONMENTAL CONTROL

1. Item Tested: Special Tubing

Spec. & Dwg. No. (s): 10-81034 (1)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number (2)

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		3-62			
Test Requirements	10-81034	1-25-62			
Test Procedures		4-62			
Start Test		5-15-62			
Complete Test		7-15-62			
First Status Report*		6-15-62			
Final Report		8-15-62			

3. Summary of Tests Required

Vibration
Acceleration
Shock
Internal Pressure: Working, Proof, Burst
Bend
Pressure Drop
Performance

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization Location

6. Required Test Witnesses
Organization

7. Remarks

(1) SCD 10-81034 to be released 1-25-62.

(2) Vendor to be selected approx. 3-62.

Date 1-3-62

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1-15-62
*submitted monthly thereafter

1.2.4	QUALIFICATION TEST PLAN	3
Program Element No.		Brief No.

1. Item Tested

Compartment Pressure Control

Spec. & Dwg. No. (s) 10-81025
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

1

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		2-62			
Test Requirements	10-81025	9-25-61	9-26-61	9-25-61	E.H. Dorran
Test Procedures		3-62			
Start Test		5-15-62			
Complete Test		7-15-62			
First Status Report*		6-15-62			
Final Report		8-15-62			

3. Summary of Tests Required

Performance Test to demonstrate compliance with requirements.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Altitude Chamber

5. Test Conducted by:
Organization Location

6. Required Test Witnesses
Organization
Boeing

7. Remarks

1 Vendor to be selected, approx. 2-62.

Date 1-3-62

1-15-62
*submitted monthly thereafter
2-6181-0-5

ENVIRONMENTAL CONTROL

1.1.4.1	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested Cabin Selector Valve

Spec. & Dwg. No. (s) 10-81024
Used-On Dwg. No.
Supplier
Supplier's Address [1]
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		2-62			
Test Requirements	10-81024	9-15-61	8-29-61	8-29-61	B. M. Dorman
Test Procedures		2-15-62			
Start Test					
Complete Test					
First Status Report*					
Final Report		6-15-62			

3. Summary of Tests Required
Leakage
Pressure Drop
Internal Pressure: Working, Proof, Burst
Cycling
Performance
Vibration
Shock
Acceleration

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization Vendor Location

6. Required Test Witnesses
Organization Boeing

7. Remarks

[1] Vendor to be selected approx. 2-62.

Date 1-3-62

1-15-62
*submitted monthly thereafter

ENVIRONMENTAL CONTROL

1.1.4.2	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested: Tank-Liquid Nitrogen Storage

Spec. & Dwg. No. (s): Boeing
Used-On Dwg. No.:
Supplier: Boeing
Supplier's Address:
Supplier's Part Number:

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan	Data sheet				
Test Requirements	[illegible]		8-3-61		
Test Procedures					
Start Test		1-2-62			
Complete Test		10-15-62			
First Status Report*		3-1-62			
Final Report		12-1-63			

3. Summary of Tests Required

a) Cycle two tanks, 0 to working pressure to 0, with LN_2 - one to failure and one to 150 cycles.
b) Vibrate tank sonically and mechanically thru the flight range with varying amounts of LN_2.
c) Run boil-off tests on above (b) tank in simulated environment of flight using normal LN_2 consumption and operation pressure.
d) Subject LN_2 filled tank to crash loads.
e) Pressurize LN_2 filled tanks to burst. (Three req'd)

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Unknown at this time.

5. Test Conducted by:

Organization	Location
Boeing Engr. Labs.	Seattle

6. Required Test Witnesses

Organization
Boeing Engr. (Tank & Transition Group)

7. Remarks

Preliminary Information

Date 1-11-62

1-15-62
*submitted monthly thereafter
2-6[illegible]-0-5

TANK DESIGN

TANK DESIGN

1.1.4.2 Program Element No.	QUALIFICATION TEST PLAN	2 Brief No.

1. Item Tested: Tank-Liquid Hydrogen Storage

Spec. & Dwg. No. (s): Boeing
Used-On Dwg. No.:
Supplier: Boeing
Supplier's Address:
Supplier's Part Number:

2. Schedule Summary

Task	Reference Doc. No.	Submittal Date: Schedule	Submittal Date: Actual	Approval: Date	Approval: By
Test Plan	This sheet				
Test Requirements	D2-5057		11-60		
Test Procedures		11-62			
Start Test		1-2-63			
Complete Test		11-27-63			
First Status Report*		3-1-63			
Final Report		1-15-64			

3. Summary of Tests Required

a) Cycle two tanks, 0 to working pressure to 0, with LH_2, one to failure and one to 150 cycles.
b) Vibrate tank sonically and mechanically thru the flight range with varying amounts of LH_2.
c) Run boil-off tests in simulated environment of flight using normal hydrogen consumption and operating pressures.
d) Subject LH_2 filled tank to [illegible] loads.
e) Pressurize LH_2 filled tanks to burst [illegible] (Three req'd.)

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Unknown at this time.

5. Test Conducted by:

Organization	Location
Boeing Engr. Labs.	Seattle

6. Required Test Witnesses

Organization
Boeing Engr. (Tank & Transition Group)

7. Remarks

1 Preliminary Information

Date 1-11-62

1-15-62
*submitted monthly thereafter

1.1.4.2	QUALIFICATION TEST PLAN	3
Program Element No.		Brief No.

1. Item Tested

Tank-Liquid Oxygen Storage

Spec. & Dwg. No. (s) Boeing
Used-On Dwg. No.
Supplier Boeing
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan	This sheet				
Test Requirements	D2-5697		11-60		
Test Procedures		11-62			
Start Test		1-2-63			
Complete Test		9-19-63			
First Status Report*		3-1-63			
Final Report		11-1-63			

3. Summary of Tests Required

a) Cycle two tanks 0 to working pressure to .0, with LH_2, one to failure and one to 150 cycles.
b) Vibrate tank sonically and mechanically thru the flight range with varying amounts of LO_2.
c) Run boil-off tests in simulated environment of flight using normal LO_2 consumption and operating pressure.
d) Subject LH_2 filled tank to [illegible] loads.
e) Pressurize LH_2 filled tanks to burst. [illegible] (Three req'd)

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Unknown at this time.

5. Test Conducted by:

Organization	Location
Boeing Engr. Labs.	Seattle

6. Required Test Witnesses

Organization

Boeing Engr. (Tank & Transition Group)

7. Remarks

Preliminary Information

Date 1-11-62

1-15-62
*submitted monthly thereafter
2-6181-0-5

1.1.4.3	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested: Water Temperature Control Secondary Subsystem

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier: Boeing
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		10-31-62			
Test Requirements	D2-8126	11-1-62			
Test Procedures		12-31-62			
Start Test		3-1-63			
Complete Test		4-1-[illegible]			
First Status Report*		7-1-63			
Final Report		7-1-64			

3. Summary of Tests Required

- 3.1 Thermal Environment Flight
  - 3.1.1 Thermal-Altitude
  - 3.1.2 Orbit Capability
- 3.2 Mechanical Environment Flight
  - 3.2.1 Vibration Mechanical
  - 3.2.2 Vibration Acoustical
  - 3.2.3 Simulated Accel. & Altitude
- 3.3 Non Flight Environment
  - 3.3.1 Freezing Effect
  - 3.3.2 Storage Life
  - 3.3.3 Fungus Resistance
  - 3.3.4 Humidity Effects

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

- 4.1 Temperature - Altitude Chamber with Cold Trap
- 4.2 Temperature - Humidity Controlled Chamber
- 4.3 Simulated Accel. & Altitude Centrifuge

5. Test Conducted by:
   Organization: Location:

6. Required Test Witnesses
   Organization: Water Wall Group
   2-6135-4

7. Remarks

Date: 1-10-62

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1-15-62
*submitted monthly thereafter
2-6181-0-5

1.1.4.3	QUALIFICATION TEST PLAN	2
Program Element No.		Brief No.

1. Item Tested: Water Absorber

Spec. & Dwg. No. (s) 10-20016
Used-On Dwg. No.
Supplier
Supplier's Address (1)
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		[illegible]			
Test Requirements	10-20016	[illegible]	10-13-61	10-13-61	E. V. Damon
Test Procedures		[illegible]			
Start Test		5-15-62			
Complete Test		7-15-62			
First Status Report*		6-15-62			
Final Report		8-15-62			

3. Summary of Tests Required

Performance, Vibration, Shock, Acceleration

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization Location

6. Required Test Witnesses
Organization

7. Remarks

(1) Vendor to be selected approx. 2-62

Date 1-3-62

1-15-62
*submitted monthly thereafter

ENVIRONMENTAL CONTROL

1.1.4.4	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested: Hydrogen Cooling Equipment - Integrated Hydrogen Cooling and Secondary Power Subsystem
Spec. & Dwg. No. (s): 10-20917
Used-On Dwg. No.
Supplier: Airesearch Division of the Garrett Corporation
Supplier's Address: Los Angeles, California
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		6-1-62			
Test Requirements	10-20917		4-14-61	4-14-61	E.H. Donnen
Test Procedures		7-1-62			
Start Test		8-1-62			
Complete Test		10-1-62			
First Status Report*		9-1-62			
Final Report		11-1-62			

3. Summary of Tests Required

A simulated flight test of one hour duration shall be conducted on the assembled equipment for each of the following conditions:

Normal operation
Malfunction of one pump
Failed pilot's compartment
Failed equipment compartment
Failed APU cooler unit
Failed hydraulic cooler unit

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Liquid Hydrogen Facilities

Hazardous Test Area

5. Test Conducted by: Organization: AiResearch Div.of Garrett Corp. Location: Los Angeles, California

6. Required Test Witnesses Organization: One Boeing representative, if desired by BAC

7. Remarks

Date 8-14-61

*submitted monthly thereafter

ENVIRONMENTAL CONTROL

1.1.4.4	QUALIFICATION TEST PLAN	2
Program Element No.		Brief No.

1. Item Tested Check Valve, Glycol-Water

Spec. & Dwg. No. (s) 10-81062
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates: Scheduled	Submittal Dates: Actual	Approval: Date	Approval: By
Test Plan					
Test Requirements	10-81062				
Test Procedures					
Start Test		5-15-62			
Complete Test		7-15-62			
First Status Report*		6-15-62			
Final Report		8-15-62			

3. Summary of Tests Required

Leakage
Internal Pressure: Working , Proof, Burst
Opening Pressure
Pressure Drop
Endurance
Vibration
Shock
Acceleration
Performance

CANCELLED - Incorporated into Test Brief No. 3, page 101

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4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization Location

6. Required Test Witnesses
Organization

7. Remarks

Date 1-3-62

ENVIRONMENTAL CONTROL

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1.1.4.4	QUALIFICATION TEST PLAN	3
Program Element No.		Brief No.

1. Item Tested Shut-Off Valve - Glycol-Water Mixture

Spec. & Dwg. No. (s) 10-81021
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

CANCELLED

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2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	10-81021	2-[illegible]-62			
Test Procedures					
Start Test		6-15-62			
Complete Test		7-15-62			
First Status Report*		6-15-62			
Final Report		8-15-62			

3. Summary of Tests Required
Internal Leakage
Internal-to-External Leakage
Internal Pressure: Working, Proof, Burst
Vibration
Shock
Acceleration
Performance

Superseded by 10-81023, Service Panel Test Brief 7, page 93.1

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4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization Location

6. Required Test Witnesses
Organization

7. Remarks

Date 8-14-61

ENVIRONMENTAL CNTRL.

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*submitted monthly thereafter
2-6181-0-5

1.1.4.4	QUALIFICATION TEST PLAN	6
Program Element No.		Brief No.

1. Item Tested: Hydrogen Tankage Controls

Spec. & Dwg. No. (s): 10-81018
Used-On Dwg. No.
Supplier: AiResearch Div., Garret Corp
Supplier's Address: Los Angeles
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates: Schedule	Actual	Approval: Date	by
Test Plan		6-1-62			
Test Requirements	10-81018	9-15-61	8-31-61		
Test Procedures		7-1-62			
Start Test		5-15-62			
Complete Test		7-15-62			
First Status Report*		6-15-62			
Final Report		8-15-62			

3. Summary of Tests Required

Performance tests to demonstrate compliance with requirements.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Liquid Hydrogen

Hazardous Test Area

5. Test Conducted by: AiResearch
Organization — Location: Los Angeles

6. Required Test Witnesses
Organization: Boeing

7. Remarks

Date: 1-3-62

1-15-62
*submitted monthly thereafter
2-6181-0-5

1.1.4.4 Program Element No.	QUALIFICATION TEST PLAN	7 Brief No.

1. Item Tested

SERVICE PANEL

Spec. & Dwg. No. (s) 10-81028
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	10-81028 [1]				
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

Internal Leakage
Internal-To-External Leakage
Internal Pressure: Working, Proof, Burst
Vibration
Shock
Acceleration
Performance

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by: Vendor
Organization Location

6. Required Test Witnesses
Organization
Environmental Control

7. Remarks

[1] Expected release date January 19, 1962.

Date 1-5-62

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1-15-62
*submitted monthly thereafter
2-6181-0-3

1.1.4.3	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested: Cryogenic Tubing (Flex and Super Insulated)

Spec. & Dwg. No. (s) 10-01022
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	10-01022	2-62			
Test Procedures					
Start Test		5-15-62			
Complete Test		7-15-62			
First Status Report*		6-15-62			
Final Report		8-15-62			

3. Summary of Tests Required

Leakage

Internal Pressure: Working, Proof, Burst

Bend

Vibration

Shock

Acceleration

Pressure Drop, Insulation Test

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Liquid Hydrogen
Liquid Oxygen
Liquid Nitrogen

5. Test Conducted by:
Organization Location

6. Required Test Witnesses
Organization

7. Remarks

Date 1-3-62

ENVIRONMENTAL CONTROL

R

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1-15-62
*submitted monthly thereafter
2-6181-0-5

Program Element No.	QUALIFICATION TEST PLAN	Brief No. 2

1. Item Tested: Quick Disconnect Couplings-Cryogenic

Spec. & Dwg. No. (s): 10-20015
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

(1)

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		2-62			
Test Requirements	10-20015	9-22-62	10-13-61	10-13-61	E. W. Doman
Test Procedures		3-62			
Start Test		5-15-62			
Complete Test		7-15-62			
First Status Report*		6-15-62			
Final Report		8-15-62			

3. Summary of Tests Required
Leakage
Internal Pressure: Working, Proof, Burst
Pressure Drop
Vibration
Acceleration
Shock
Performance

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)
Liquid Hydrogen - Hazardous Test Area
Liquid Oxygen
Liquid Nitrogen

5. Test Conducted by:
Organization Location

6. Required Test Witnesses
Organization

7. Remarks

(1) Vendor to be selected approx. 2-62

Date 1-3-62

1-15-62
*submitted monthly thereafter
2-6181-0-5

ENVIRONMENTAL CONTROL

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ENVIRONMENTAL CONTROL

1.1.4.8 Program Element No.	QUALIFICATION TEST PLAN	3 Brief No.

1. Item Tested: Valves, Safety, Relief, Check, Shut-off, Cryogenic

Spec. & Dwg. No. (s): 10-81020

Used-On Dwg. No.

Supplier

Supplier's Address: [1]

Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		2-62			
Test Requirements	10-81020		10-16-61	10-16-61	R. H. Parman
Test Procedures		3-62			
Start Test		5-15-62			
Complete Test		7-15-62			
First Status Report*		6-15-62			
Final Report		8-15-62			

3. Summary of Tests Required

Leakage
Internal Pressure: Working, Proof, Burst
Opening Pressure
Reseat Pressure
Vibration
Shock
Acceleration

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Liquid Hydrogen
Liquid Oxygen
Liquid Nitrogen

5. Test Conducted by:

Organization: Location:

6. Required Test Witnesses

Organization:

7. Remarks

[1] Vendor to be selected approx. 2-62

Date: 1-3-62

1-15-62

*submitted monthly thereafter

2-6181-0-5

1.1.4.8	QUALIFICATION TEST PLAN	4
Program Element No.		Brief No.

1. Item Tested: Injector Unit - Nitrogen

Spec. & Dwg. No. (s):

Used-On Dwg. No.: 10-31030

Supplier:

Supplier's Address: (1)

Supplier's Part Number:

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		8-[illegible]			
Test Requirements	10-31030	9-25-61	9-25-61	9-25-61	[illegible]*
Test Procedures		3-62			
Start Test		3-15-62			
Complete Test		7-15-62			
First Status Report*		6-15-62			
Final Report		8-15-62			

3. Summary of Tests Required

Leakage
Internal Pressure: Working, Proof, Burst
Cycling
Performance
Vibration
Acceleration
Shock

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization Location

6. Required Test Witnesses
Organization

7. Remarks

(1) Vendor to be selected approx. 2-62

Date - 1-3-62

1-15-62
*Submitted monthly thereafter

ENVIRONMENTAL CONTROL

1.1.4.8 Program Element No.	QUALIFICATION TEST PLAN	5 Brief No.

1. Item Tested: Tankage Instrumentation

Spec. & Dwg. No. (s) 10-81019
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		[illegible]			
Test Requirements	10-81019	[illegible]	11-9-61	11-9-61	E. N. Dorman
Test Procedures		3-62			
Start Test		3-15-62			
Complete Test		7-15-62			
First Status Report*		6-15-62			
Final Report		8-15-62			

3. Summary of Tests Required

Performance
Vibration
Shock
Acceleration
Pressure (External)

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Liquid Hydrogen
Liquid Oxygen
Liquid Nitrogen

5. Test Conducted by:
Organization Location

6. Required Test Witnesses
Organization

7. Remarks

Vendor to be selected approx 2-62

Date 1-3-62

1-15-62
*submitted monthly thereafter

ENVIRONMENTAL CONTROL

1.1.4.8	QUALIFICATION TEST PLAN	6
Program Element No.		Brief No.

1. Item Tested: Valves, Cryogenic, Shut-Off

Spec. & Dwg. No. (s): 10-81021
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates: Schedule	Actual	Approval: Date	By
Test Plan					
Test Requirements	10-81021				
Test Procedures					
Start Test					
Complete Test					
First Status Report*		5-15-62			
Final Report		8-15-62			

3. Summary of Tests Required

Internal & Internal to External Leakage
Internal Pressure: Working, Proof, Burst
Vibration
Shock
Acceleration
Performance

CANCELLED - Incorporated into 10-81020, Test Brief #3, Page 101.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)
Liquid Hydrogen
Liquid Oxygen
Liquid Nitrogen

5. Test Conducted by:
Organization Location

6. Required Test Witnesses
Organization

7. Remarks

Date 1-3-62

ENVIRONMENTAL CONTROL

R

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1.1.5.2	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested: Secondary Power Bay Inflight Nitrogen Purge Secondary Subsystem

Spec. & Dwg. No. (s): D2-0093- Tab. D
Used-On Dwg. No.
Supplier: Boeing and [1]
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan	[2]	10-15-[illegible]			
Test Requirements	D2-0093 Tab. D	3-15-62			
Test Procedures	[2]	9-15-[illegible]			
Start Test		11-15-[illegible]			
Complete Test		4-15-[illegible]			
First Status Report*					
Final Report					

3. Summary of Tests Required

Tests required to assure adequacy of system to function properly under all possible conditions from sea level to 100,000 feet. Tests to be performed will include vibration, accoustical noise, altitude and equipment performance tests. The vibration and noise tests will be performed in conjunction with Integration Tests per D2-7924, Section 1.1.10.4, 1.6.2.2.2. and 3.7.

The altitude and equipment performance tests will be performed in conjunction with integration tests per D2-7924, Section 1.1.10.6.

The components will be qualified and therefore the above tests will qualify the supports, tubing and demonstrate the ability of the subsystem to function properly in the secondary power bay environment.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Gliders provided for Integration Tests shall be used.
Altitude Chamber

5. Test Conducted by: Organization: The Boeing Company Location: Seattle

6. Required Test Witnesses Organization: Glider Configuration

7. Remarks

These tests will be performed in conjunction with Integration Tests.

[1] To be determined for components
[2] To be determined.

Date 1-11-62

1-15-62
*submitted monthly thereafter
2-6181-0-5

CONFIGURATIONS

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1.1.5.2	QUALIFICATION TEST PLAN	2
Program Element No.		Brief No.

1. Item Tested: Nitrogen By-Pass Valve for Inflight Nitrogen Purge Secondary Subsystem
Spec. & Dwg. No. (s): D2-5098 Tab.D
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		2-62			
Test Requirements		12-27-61	12-22-61		
Test Procedures		4-62			
Start Test		5-62			
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

Proof pressure test

Environmental Conditions operating tests
Environmental conditions non-operating tests

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

NONE

5. Test Conducted by: Vendor (or Boeing Co.)
Organization Location

6. Required Test Witnesses: Glider Configurations Unit
Organization

7. Remarks

Vendor to be selected approx. 3-62

Date 1-3-62

CONFIGURATIONS

1-15-62
*submitted monthly thereafter
2-6181-0-5

1.1.6.2	QUALIFICATION TEST PLAN	3
Program Element No.		Brief No.

1. Item Tested Nitrogen Heat Exchanger - Inflight Nitrogen Purge Secondary Subsystem.

Spec. & Dwg. No. (s) D2-8096 Tab.D
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		3-62			
Test Requirements	10-01063	10-27-61	12-22-61		
Test Procedures		4-62			
Start Test		6-62			
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

Proof pressure test

Environmental conditions operating test

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

NONE

5. Test Conducted by: The Boeing Co.
Organization Location

6. Required Test Witnesses Glider Configurations Unit
Organization

7. Remarks

Vendor to be selected approx. 3-62

Date 1-3-62

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CONFIGURATIONS

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1.1.5.2	QUALIFICATION TEST PLAN	4
Program Element No.		Brief No.

1. Item Tested: Nitrogen Modulating Valve for Inflight Nitrogen Purge Secondary Subsystem

Spec. & Dwg. No. (s): D2-3093 Tab.D

Used-On Dwg. No.

Supplier

Supplier's Address

Supplier's Part Number

(1) R

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		3-62			
Test Requirements	D2-5653	10-27-61	12-22-61		
Test Procedures		4-62			R
Start Test		6-62			
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

Proof pressure test

Environmental Conditions operating test

Environmental conditions non-operating tests

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

NONE

5. Test Conducted by: Vendor (or Boeing Co.)
Organization Location

6. Required Test Witnesses: Glider Configurations Unit
Organization

7. Remarks

(1) Vendor to be selected approx. 3-62 R

Date 1-3-62

CONFIGURATIONS

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1-15-62
*submitted monthly thereafter
2-6181-0-5

1.1.5.2	QUALIFICATION TEST PLAN	5
Program Element No.		Brief No.

1. Item Tested: Nitrogen Shut-Off Valve for Inflight Nitrogen Purge Secondary Subsystem

Spec. & Dwg. No. (s): D2-8098 Tab.D

Used-On Dwg. No.

Supplier

Supplier's Address

Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates: Schedule	Actual	Approval: Date	By
Test Plan		3-62			
Test Requirements	D2-[illegible]	[illegible]	[illegible]		
Test Procedures		[illegible]			
Start Test		6-62			
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

Proof pressure test

Environmental conditions operating tests

Environmental conditions non-operating tests

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

NONE

5. Test Conducted by: Vendor (or Boeing Co.)
Organization Location

6. Required Test Witnesses: Glider Configurations Unit
Organization

7. Remarks

Vendor to be selected approx. 3-62

Date 1-3-62

1-15-62
*submitted monthly thereafter
2-6131-0-5

CONFIGURATIONS

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1.1.5.2	QUALIFICATION TEST PLAN	
Program Element No.		Brief No.

1. Item Tested

Ground Nitrogen Purge Secondary Subsystem

Spec. & Dwg. No. (s) D2-8098 tab A
Used-On Dwg. No.
Supplier Boeing
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Date: Schedule	Submittal Date: Actual	Approval: Date	Approval: By
Test Plan	1	10-15-62			
Test Requirements	D2-8098 Tab A	5-15-62			
Test Procedures	1	9-15-62			
Start Test		11-17-62			
Complete Test		2-15-63			
First Status Report*		12-15-62			
Final Report		7-15-63			

3. Summary of Tests Required

The subsystem will be subjected to Integration Vibration and noise tests per D2-7924, Section 1.1.10.4, 1.6.2.2.2 and 3.7. The subsystem will be operated during these tests.

The subsystem will be subjected to an operations test in conjunction with Integration test per D2-7924, Section 1.1.10.5 and 2.3.

The subsystem will be supplied with nitrogen from a ground source. The efficiency of the subsystem to inert the glider interior shall be tested, by means of oxygen detectors, and pressure sensors.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Ground Supply Gaseous Nitrogen

5. Test Conducted by: Boeing
Organization Location

6. Required Test Witnesses
Organization Glider Configuration

7. Remarks

1 To be determined later.

Date 1-11-62

CONFIGURATIONS

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1.1.5.3	QUALIFICATION TEST PLAN	3
Program Element No.		Brief No.

1. Item Tested: Glider Air Purge Inlet

Spec. & Dwg. No. (s): D2-8098 Tab. B
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates Schedule	Submittal Dates Actual	Approval Date	Approval By
Test Plan		10-15-62			
Test Requirements	D2-8098 Tab. B	7-15-62			
Test Procedures		9-15-62			
Start Test		11-15-62			
Complete Test		6-15-63			
First Status Report*					
Final Report		7-15-63			

3. Summary of Tests Required

Environmental conditions operating tests.

Environmental conditions non-operating tests.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

None

5. Test Conducted by: Boeing
Organization Location

6. Required Test Witnesses
Organization

7. Remarks

Date 1-11-62

1-15-62
*submitted monthly thereafter

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1.1.5.4	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested: Overheat Detecting System

Spec. & Dwg. No. (s) 10-81112

Used-On Dwg. No.

Supplier [1]

Supplier's Address

Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	10-81112	4-3-62			
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

The Overheat Detecting System will be qualification tested per the requirements of SCD 10-81112.

A summary of the test is as follows:

Performance - calibration

Environment

Dielectric

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization — Location
Supplier

6. Required Test Witnesses
Organization

7. Remarks

[1] Vendor selection anticipated by 3-1-62.

Date 12-28-61

1-15-62
*submitted monthly thereafter

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WIRING DEV. & DIAG.

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1.1.6.2	QUALIFICATION TEST PLAN	
Program Element No.		Brief No.

1. Item Tested Cockpit Lighting Assembly

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

Deleted - To be qualified as a standard and included in DAC Standards Book 31 by Physics Technology. Ref. - Coord Sheet ML-M-102, dated Dec. 8, 1961.

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates**		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements					
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

Cockpit Lighting Assembly will be qualification tested per the requirements of
A summary of the test is as follows:

Performance
Environment
Life
Explosion Proof

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization Location
Supplier

6. Required Test Witnesses
Organization

7. Remarks

Date 8-11-61

1-15-62
*submitted monthly thereafter

2-6181-0-5

WIRING DEV. & DIAG.

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1/2

1.1.6.5	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested

Air Speed and Mach Number Indicator

Spec. & Dwg. No. (s) Anticipated to be off-the-shelf item
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	m2-60055 [1]				
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report		3-11-63			

3. Summary of Tests Required

It is anticipated that this item will be a fully qualified off-the-shelf part, with no additional testing required.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

None

5. Test Conducted by:
Organization Location

6. Required Test Witnesses
Organization

7. Remarks

[1] General requirements spec.

Date 1-11-63

1-15-62
*submitted monthly thereafter

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Program Element No.	QUALIFICATION TEST PLAN	Brief No.

1. Item Tested

Barometric Altimeter

Spec. & Dwg. No. (s) Anticipated to be off-the-shelf item.

Used-On Dwg. No.

Supplier

Supplier's Address

Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates: Schedule	Actual	Approval: Date	By
Test Plan					
Test Requirements	TP-[illegible] 1				
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report		[illegible]			

3. Summary of Tests Required

It is anticipated that this item will be a fully qualified off-the-shelf part, with no additional testing required.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

None

5. Test Conducted by:
Organization Location

6. Required Test Witnesses
Organization

7. Remarks

1 General requirements spec.

Date 1-11-62

*Submitted monthly thereafter

1.1.6.5	QUALIFICATION TEST PLAN	3
Program Element No.		Brief No.

1. Item Tested: Eleven Position Indicator

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	TR-8055				
Test Procedures					
Start Test		5-1-62			
Complete Test		8-30-62			
First Status Report*					
Final Report					

3. Summary of Tests Required

The following tests, either singularly, or in logical combination will be required:

1. Vibration
2. Explosion Proofing
3. Life
4. Performance
5. Shock
6. Thermal Environment
7. Dielectric
8. Acceleration
9. Zero Gravity
10. Humidity
11. Acoustic Environment
12. Pressure
13. Explosive Decomp.
14. Radiation

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

None

5. Test Conducted by:
Organization Location

6. Required Test Witnesses
Organization

7. Remarks

Date 1-11-62

CONTROLS & DISPLAYS

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1-15-62
*submitted monthly thereafter
2-6-62

CONTROLS & DISPLAYS

1.1.6.5	QUALIFICATION TEST PLAN	3.1
Program Element No.		Brief No.

1. Item Tested: Rudder Position Indicator

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	D2-80055				
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

The following tests, either singularly, or in logical combination will be required:

1. Vibration
2. Explosion Proofing
3. Life
4. Performance
5. Shock
6. Thermal Environment
7. Dielectric
8. Acceleration
9. Zero Gravity
10. Humidity
11. Acoustic Environment
12. Pressure
13. Explosive Decomp.
14. Radiation

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

None

5. Test Conducted by:
Organization Location

6. Required Test Witnesses
Organization

7. Remarks

Date 1-11-62

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1-15-62
*submitted monthly thereafter
2-1181-2-5

CONTROLS & DISPLAYS

1.1.6.5 Program Element No.	QUALIFICATION TEST PLAN	Brief No.

1. Item Tested: Elapsed Time Indicator

Spec. & Dwg. No. (s): Anticipated to be off-the-shelf item
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	D2-50055 [1]				
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report		[illegible]			

3. Summary of Tests Required

It is anticipated that this item will be a fully qualified off-the-shelf part, with no additional testing required.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

None

5. Test Conducted by:
Organization Location

6. Required Test Witnesses
Organization

7. Remarks

[1] General requirements spec.

Date 1-11-62

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1-15-62
*submitted monthly thereafter
2-61 I-C-5

1.1.6.5 Program Element No.	QUALIFICATION TEST PLAN	5 Brief No.

1. Item Tested — Position Indicators

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

Deleted - to be qualified as standards and included in B/C Standards Book 31 by Hughes Technology. Ref - Coord Sheet EL-W-102, dated Dec. 8, 1961.

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates Schedule	Submittal Dates Actual	Approval Date	Approval By
Test Plan					
Test Requirements					
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

The Position Indicators will be qualification tested per the requirements of
A summary of the tests is as follows:

Performance

Environment

Life

Dielectric

Explosion proof

4. Special Facilities and/or Test Equipment (include Estimated Lead Time)

5. Test Conducted by:
Organization — Location
Supplier

6. Required Test Witnesses
Organization

7. Remarks

Date 8-11-61

1-15-62

*submitted monthly thereafter

WIRING DEV. & DIAG.

1.1.6.5	QUALIFICATION TEST PLAN	6
Program Element No.		Brief No.

1. Item Tested: Normal Accelerometer

Spec. & Dwg. No. (s): Anticipated to be off-the-shelf item
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements	MA-80055 [1]				
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report		2-27-62			

3. Summary of Tests Required

It is anticipated that this will be a fully qualified off-the-shelf part, with no additional testing required.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

None

5. Test Conducted by:
Organization Location

6. Required Test Witnesses
Organization

7. Remarks

[1] General requirements spec.

Date 1-11-62

1-15-62
*submitted monthly thereafter
2-6181-0-5

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CONTROLS & DISPLAYS

1.1.6.5	QUALIFICATION TEST PLAN	7
Program Element No.		Brief No.

CONTROLS & DISPLAYS

1. Item Tested — LAND SKIDS EXTEND CONTROL

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements					
Test Procedures					
Start Test		2-22-62			
Complete Test		3-30-62			
First Status Report*					
Final Report					

3. Summary of Tests Required

All tests required are specified in the landing skids extend switch source control drawing (TO BE DETERMINED)

No qualification required. Functional test after installation only.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

NONE

5. Test Conducted by:
Organization — Location

6. Required Test Witnesses
Organization

7. Remarks

Date 1-8-62

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1-15-62
*submitted monthly thereafter
2-6181-0-5

1.1.6.5	QUALIFICATION TEST PLAN	
Program Element No.		Brief No.

1. Item Tested: Cabin Pressure Gauge

Spec. & Dwg. No. (s): Anticipated to be off-the-shelf item
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	by
Test Plan					
Test Requirements	D2-50055 [1]				
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report		2-20-62			

3. Summary of Tests Required

It is anticipated that this will be a fully qualified off-the-shelf part, with no additional testing required.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

None

5. Test Conducted by:
Organization Location

6. Required Test Witnesses
Organization

7. Remarks

[1] General requirements spec.

Date 1-11-62

1-15-62
*submitted monthly thereafter
2-6131-0-5

1.1.6.5	QUALIFICATION TEST PLAN	
Program Element No.		Brief No.

1. Item Tested: Control switches

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

Deleted - to be qualified as standards and included in BAC Standards Book 31 by Physics Technology. Ref - Coord Sheet EL-M-102, dated Dec. 8, 1961.

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates **		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements					
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

The control switches will be qualification tested per the requirements of (TO BE DETERMINED).
A summary of the tests is as follows:

Performance

Environment

Life

Dielectric

Explosion proof

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization — Location
Supplier

6. Required Test Witnesses
Organization

7. Remarks

Date 8-11-61

1-15-62
*submitted monthly thereafter
2-6181-0-5

WIRING DEV. & DIAG.

1.1.6.5	QUALIFICATION TEST PLAN	
Program Element No.		Brief No.

1. Item Tested Warning lights

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

Deleted - to be qualified as standards and included in B/C Standards Book 31 by Physics Technology. Ref - Coord Sheet BL-M-102, dated Dec. 8, 1961.

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates**		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements					
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

The Warning Lights will be qualification tested per the requirements of (TO BE DETERMINED)
A summary of the tests is as follows:

Performance

Environment

Life

Dielectric

Explosion proof

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization Location
Supplier

6. Required Test Witnesses
Organization

7. Remarks

Date 8-11-61

1-15-62
*submitted monthly thereafter
2-6181-0-5

WIRING DEV. & DIAG.

1.1.6.5	QUALIFICATION TEST PLAN	11
Program Element No.		Brief No.

1. Item Tested

Annunciator Panel

Spec. & Dwg. No. (s)

Used-On Dwg. No.

Supplier

Supplier's Address

Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements		3-27-62			
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

The Annunciator Panel will be qualification tested per the requirements of (TO BE DETERMINED)

A summary of the tests is as follows:

Performance

Environment

Dielectric

Explosion Proof

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:

Organization — Location

Supplier

6. Required Test Witnesses

Organization

7. Remarks

1 Vendor selection anticipated by 5-1-62.

Date 12-28-61

1-15-62

*submitted monthly thereafter

2-6181-0-7

WIRING DEV. & DIAG.

1.1.6.6	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested

Pilot's Sidearm Control

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan	This Sheet				
Test Requirements	D2-8130				
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report		3-1-63			

3. Summary of Tests Required

No. Test articles

1. Performance tests
2. Vibration tests D-S requirements
3. MIL-E-5272C - only as applicable
4. Reliability tests (no tests as such, records of time and failures are to be kept during development and qualification tests.)

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization Location

6. Required Test Witnesses
Organization

7. Remarks

Preliminary Information only

Date 8-14-61

*submitted monthly thereafter

1.1.6.6 Program Element No.	QUALIFICATION TEST PLAN	2 Brief No.

1. Item Tested

Rudder Pedals

Spec. & Dwg. No. (s)

Used-On Dwg. No.

Supplier

Supplier's Address

Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan	This Sheet				
Test Requirements	D2-8130				
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report		3-1-63			

3. Summary of Tests Required

No. Test Articles

1. Performance Tests
2. Vibration Tests D-S requirements
3. MIL-E-5272C - only as applicable
4. Reliability Tests (No tests as such, records of time and failures are to be kept during development and qualification tests).

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:

Organization Location

6. Required Test Witnesses

Organization

7. Remarks

Preliminary information only

Date 8/14/61

*submitted monthly thereafter

1.1.6.6	QUALIFICATION TEST PLAN	3
Program Element No.		Brief No.

1. Item Tested

Pilot Operated Glider Abort Initiation Control

Spec. & Dwg. No. (s)

Used-On Dwg. No.

Supplier

Supplier's Address

Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements					
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

Pilot Station Integration tests will provide qualification of the physical aspects of the control (D2-5697-16, Volume VI, Section 1.1.10.7). All other qualification will be by similarity.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization Location

6. Required Test Witnesses
Organization

7. Remarks

Date 8-31-61

*submitted monthly thereafter

CREW ACCOMMO & ESCAPE

CREW ACCOMMO & ESCAPE

1.1.6.6	QUALIFICATION TEST PLAN	4
Program Element No.		Brief No.

1. Item Tested

SPEED BRAKE CONTROL SWITCH

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements					
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

Pilot Station Integration tests will provide qualification of the physical aspects of the control switch (D2-5697-16, Volume VI, Section 1.1.10.7). All other qualification will be by similarity.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization Location

6. Required Test Witnesses
Organization

7. Remarks

Date 8-31-61

*submitted monthly thereafter

1.1.6.6	QUALIFICATION TEST PLAN	5
Program Element No.		Brief No.

1. Item Tested — Transducers - Pilot's Controls

Spec. & Dwg. No. (s) 10- 81035
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates ** Schedule	Actual	Approval Date	By
Test Plan					
Test Requirements	10-81035				
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report		8-1-62			

3. Summary of Tests Required

1. Performance
2. Acceleration (linear)
3. MIL-E-5272C - only as applicable
4. Vibration test D-S requirements

Reliability (no test as such. Time and failure records will be made during development and qualification testing.)

To be qualified in conjunction with sidearm control and the rudder pedals.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization — Location

6. Required Test Witnesses
Organization

7. Remarks
Preliminary information

Date 8-14-61

** At Boeing
*submitted monthly thereafter

MANUAL FLIGHT CONTROL

1.1.7.2	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested

EJECTION SEAT AND SURVIVAL SYSTEM

Spec. & Dwg. No. (s) 10-81000 (Source Control Drawing)
Used-On Dwg. No.
Supplier Weber Aircraft Corp.
Supplier's Address Burbank, California
Supplier's Part Number 00WW01, 2, 3, 4 - 600 R

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		5-24-61	5-24-61		
Test Requirements	10-81000	6-5-61	6-5-61		
Test Procedures		2-1-62			
Start Test	//////	[illegible]		//////	//////
Complete Test	//////	[illegible]		//////	//////
First Status Report*		7-15-62		//////	//////
Final Report		6-30-63			

R

3. Summary of Tests Required

1. Structural test to design loads.
2. Functional qualification will result from special functional tests and integration tests (outline in D2-5697-16, Vol. VI, Section 1.1.10.2.2).
3. Environmental qualification will be limited to a few components as will be reflected in the seat vendor test procedures

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization Weber Aircraft
Location Burbank, California

6. Required Test Witnesses
Organization Boeing Engineering

7. Remarks

Date 1-5-62

1.1.8.2	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested: PERSONNEL PROTECTION SYSTEM (PILOT SUIT) (Qualification is A.F. Flight Safety.

Spec. & Dwg. No. (s)
Usod-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements					
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

This suit is an off-the-shelf item furnished by the AF. It has been qualified in the X-15 Program. The suit will be required as part of the test setup in the following Design Integration Tests: (Reference document D2-5697-16, Vol.VI) (1) Crew Station Simulator Tests, para. I.1.2, (2) Escape System (Sled) Tests, para. I.1.5.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization Location

6. Required Test Witnesses
Organization

7. Remarks

Date 1-3-62

1-15-62
*submitted monthly thereafter
2-61-I-0-5

CREW ACCOMMOD & ESCAPE

R

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1.1.9	QUALIFICATION TEST PLAN	
Program Element No.		Brief No.

1. Item Tested GLIDER/BOOSTER TRANSITION SECTION

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier The Boeing Company
Supplier's Address Seattle, Washington
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan	D2-5697-16, Vol. VI				
Test Requirements	D2-7024				
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

1) Qualification of the Transition Section will be achieved by the Acceleration Rocket Staging Test in accordance with [redacted] document D2-5697-16, Vol. VI, "Design Integration Test Plan."

2) Structural Qualification of the Transition Section will be achieved by Structural Verification Tests in accordance with Document D2-5697-16, Vol. VI.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Special facility requirements will be provided for in conjunction with the test referred to in Item 3 above.

5. Test Conducted by:
Organization The Boeing Company Location (Not yet determined)

6. Required Test Witnesses
Organization The Boeing Company

7. Remarks

Date 12-20-61

1-15-62
*submitted monthly thereafter
2-6181-0-5

133

1.1.9.1	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested: Blast Port Cover Latching and Tension Regulation Mechanism

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address: The Boeing Company, Seattle, Washington
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan	D2-5697-16				
Test Requirements	D2-7924				
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

Transition

3. Summary of Tests Required

1) Qualification of the functional capability of these items is intended to be accomplished in the course of the Acceleration Rocket Staging Tests per paragraph 1.1.10.3 of Document D2-5697-16, Vol. VI.

2) Qualification under the following environmental conditions:

Heating (Full range of operating temperatures)
Vibration and Shock

These tests are intended to be accomplished in the course of the Blast Port Cover Tests (Design Development Tests) ref. document D2-5697-16, Vol. II, paragraph (to be inserted when available).

4. Special Facilities and/or Test Equipment (include Estimated Lead Time)

Special facility requirements will be provided for in conjunction with the Acceleration Rocket Staging Test referred to in 1) above.

5. Test Conducted by:
Organization: The Boeing Company — Location: 1) Renton, Wash. 2) Seattle, Wash.

6. Required Test Witnesses
Organization: The Boeing Company

7. Remarks

Changes to this test brief are anticipated as a result of Titan III redirection.

R

Date: 12-21-61

1-15-62
*submitted monthly thereafter
2-6181-C-5

1.1.9.1	QUALIFICATION TEST PLAN	2
Program Element No.		Brief No.

PROPULSION & ORDNANCE

1. Item Tested BLAST PORT COVER FASTENER ASSEMBLY

Spec. & Dwg. No. (s) 10-81040-2
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		8-18-62			
Test Requirements	10-81040-2	5-18-62	*		
Test Procedures		11-1-62			
Start Test		1-1-63			
Complete Test		3-1-63			
First Status Report*		2-1-63			
Final Report		4-1-63			

3. Summary of Tests Required

The following tests are required:

Functional
Electrical Resistance and Dielectric Tests
All Fire/No Fire Limits
Sensitivity
Firing Times
Environmental, (Temperature, Altitude)

Additional information toward this tabulation will be indicated as it becomes available.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization Vendor Location

6. Required Test Witnesses
Organization Engineering

7. Remarks

* Source Control Drawing Release Date

Date

1-15-62
*submitted monthly thereafter
2-6181-0-5

1.1.9.2 Program Element No.	QUALIFICATION TEST PLAN	1. Brief No.

1. Item Tested

Transition/Booster Separation Subsystem

Spec. & Dwg. No. (s)

Used-On Dwg. No.

Supplier

Supplier's Address

Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan	D2-5697-16, Vol. VI				
Test Requirements	D2-7924				
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

The components involved in separating the booster from the glider-booster transition section, when operating together in a staging sequence, will be qualified by virtue of the "Flight Quality" Integration Tests outlined in document D2-7924 under title "Acceleration Rocket Staging Tests".

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Special facility requirements will be provided for in conjunction with test referred to in Item 3 above.

5. Test Conducted by: Boeing

Organization

Location Tulalip

6. Required Test Witnesses

Organization

Boeing

7. Remarks

Date: 8/14/61

*submitted monthly thereafter

TRANSITION

1.1.9.2	QUALIFICATION TEST PLAN	2
Program Element No.		Brief No.

1. Item Tested — ARM - DISARM DEVICE (TRANSITION/BOOSTER AND GLIDER/TRANSITION SEPARATION)

Spec. & Dwg. No. (s) 10-81108

Used-On Dwg. No.

Supplier

Supplier's Address

Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		9-17-62			
Test Requirements	10-81108	7-3-62 *			
Test Procedures		11-2-62			
Start Test		1-2-63			
Complete Test		2-2-63			
First Status Report*		3-2-63			
Final Report		4-2-63			

3. Summary of Tests Required

Resistance
Dielectric strength
Insulation resistance
Vibration
Temperature-Altitude-Humidity
Mechanical Strength
Impact Tests

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Vendor Facilities

5. Test Conducted by:
Organization Vendor Location

6. Required Test Witnesses
Organization The Boeing Company

7. Remarks

* Source Control Drawing Release Date

Date 12-21-61

PROPULSION & ORDNANCE

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1-15-62
*submitted monthly thereafter
2-6181-0-5

1.1.0.2	QUALIFICATION TEST PLAN	3
Program Element No.		Brief No.

1. Item Tested ELECTRICAL SEALING CONNECTOR

Spec. & Dwg. No. (s) 10-81060
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		1			
Test Requirements	10-81060				
Test Procedures					
Start Test		1 Jun 62			
Complete Test		1 Sep 62			
First Status Report*					
Final Report					

3. Summary of Tests Required

Resistance (Contact)
Dielectric strength
Insulation resistance
Vibration
Temperature-Altitude-Humdity
Mechanical strength and operation
Moisture and fluid resistance
Engagement and disengagement forces

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by: Organization Subcontractor Location

6. Required Test Witnesses Organization The Boeing Company

7. Remarks

1 Vendor proposal review scheduled for 2-15-62.

Date 12-21-61

1-15-62
*submitted monthly thereafter
2-6181-0-5

TRANSITION

1.1.9.2	QUALIFICATION TEST PLAN	4
Program Element No.		Brief No.

1. Item Tested

STRUCTURAL SEPARATION FASTENER (TRANSITION)

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

The qualification of this item is now included in Test Brief 7, page 141.

R

2. Schedule Summary

Transition

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements					
Test Procedures					
Start Test					
Complete Test		1 May 62			
First Status Report*		1 Aug 62			
Final Report					

3. Summary of Tests Required

Resistance
Dielectric strength
Insulation resistance
Electrostatic discharge
Sensitivity
No-fire
All-fire
Firing Time
Hazard impact
Vibration
Temperature-Altitude-Humidity

4. Special Facilities and/or Test Equipment (include Estimated Lead Time)

5. Test Conducted by:
Organization Subcontractor Location

6. Required Test Witnesses
Organization The Boeing Company

7. Remarks

Date 8-10-61

138 1-15-62

*submitted monthly thereafter

1.1.9.2	QUALIFICATION TEST PLAN	5
Program Element No.		Brief No.

PROPULSION & ORDNANCE

1. Item Tested — Glider/Transition Separation Subsystem

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates: Schedule	Actual	Approval: Date	By
Test Plan		4-15-62	5-31-61		
Test Requirements		3-1-62			
Test Procedures		3-1-62			
Start Test		5-1-62			
Complete Test		8-1-62			
First Status Report*		7-1-62			
Final Report		9-1-62			

3. Summary of Tests Required

The testing of this subsystem (thrusters, release devices, initiators and separation controls) will be in conjunction with the acceleration rocket motor tests. Test separation of transition section under varying simulated conditions including full and empty acceleration rocket and unsymmetrical aerodynamic loads.

4. Special Facilities and/or Test Equipment (include Estimated Lead Time)

The facilities being provided will be used for testing the glider/transition separation subsystem.

5. Test Conducted by:
Organization Boeing Location

6. Required Test Witnesses
Organization Propulsion and Ordnance Group 2-6134-4

7. Remarks

Date 12-26-61

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1-15-62
*submitted monthly thereafter
2-6181-0-5

	QUALIFICATION TEST PLAN	
...ment No.		Brief No.

...sition Separation - Arm/Disarm Device
(s) 10-

The qualification of this item is now included in Test Brief No. 2, page 136.

...ress
...art Number
...ule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		4-2-62			
Test Requirements	10-	12-1-61			
Test Procedures		5-1-62			
Start Test		7-2-62			
Complete Test		8-1-62			
First Status Report*		8-1-62			
Final Report		10-1-62			

PNEUMATICS

3. Summary of Tests Required

Performance Tests
Environmental Tests

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Vendor facilities

5. Test Conducted by: Organization Vendor Location

6. Required Test Witnesses Organization Engineering

7. Remarks

*Source control drawing release date.

Date 8-14-61

1-15-62
*submitted monthly thereafter

1.1.9.2	QUALIFICATION TEST PLAN	7
Program Element No.		Brief No.

1. Item Tested STAGING FASTENER ASSEMBLY (1)

Spec. & Dwg. No. (s) 10-81040-1
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		6-6-62			
Test Requirements	10-81040	3-22-62			
Test Procedures		7-22-62			
Start Test		9-22-62			
Complete Test		11-22-62			
First Status Report*		10-22-62			
Final Report		12-22-62			

3. Summary of Tests Required

Performance Tests
Environmental Tests

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Vendor facilities

5. Test Conducted by:
Organization Vendor Location

6. Required Test Witnesses
Organization Engineering

7. Remarks (1) Includes Booster/Transition and Glider/Transition

* Source control drawing release date

Date 12-21-61

1-16-62
*submitted monthly thereafter
2-6[illegible]-65

PROPULSION AND ORDNANCE

1.1.9.2	QUALIFICATION TEST PLAN	8
Program Element No.		Brief No.

1. Item Tested: Glider/Transition Thruster Assembly

Spec. & Dwg. No. (s) 10- -2
Used-On Dwg. No.
Supplier
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		9-17-62			
Test Requirements	10- -2	7-2-62			
Test Procedures		11-2-62			
Start Test		1-2-63			
Complete Test		3-2-63			
First Status Report*		2-2-63			
Final Report		4-2-63			

3. Summary of Tests Required

Performance Tests
Environmental Tests

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Vendor facilities

5. Test Conducted by:
Organization Vendor Location

6. Required Test Witnesses
Organization Engineering

7. Remarks * Source control drawing release date.

Date 12-21-61

1-15-62
*submitted monthly thereafter
2-6161-0-5

1.1.9.3	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested — Transition Section External Insulation

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier — The Boeing Company
Supplier's Address — Seattle, Washington
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates Schedule	Submittal Dates Actual	Approval Date	Approval By
Test Plan					
Test Requirements					
Test Procedures					
Start Test		7-1-62			
Complete Test		11-7-62			
First Status Report*		9-1-62			
Final Report		12-1-62			

3. Summary of Tests Required

Skin Panel Vibration Test of Insulation Adhesion
Skin Panel Shear and Compression Wrinkle Test of Insulation
Environmental Compatibility Tests
Moisture
Solar Radiation
Corrosive Gasses and Liquids from Glider and Booster

Part or all of the above tests may be accomplished in the course of Design Development Tests. Additional information to be inserted when available.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization — The Boeing Company — Location — Seattle, Washington

6. Required Test Witnesses
Organization — The Boeing Company

7. Remarks

Changes to this test brief are anticipated as a result of Titan III re-direction.

Date 12/27/61

1-15-62
*submitted monthly thereafter
2-6181-0-5

TRANSITION

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1.2.0	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested

BOOSTER

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier The Martin Company 1
Supplier's Address Baltimore, Maryland
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements					
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
Organization Location

6. Required Test Witnesses
Organization

7. Remarks 1

The associate contractor, The Martin Company, is conducting [illegible] qualification tests in this area. Test planning will not be added.

Date 12-26-61

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1-15-62
*submitted monthly thereafter
2-6181-0-5

1.3.1.2 Program Element No.	QUALIFICATION TEST PLAN	1 Brief No.

1. Item Tested

Flight Control Subsystem Electronics (FCSE)

Spec. & Dwg. No. (s) D2-7483-0, D2-7483-1, D2-7483-2

Used-On Dwg. No. 25-80221

Supplier Minneapolis-Honeywell Regulator Co.

Supplier's Address 2600 Ridgway Road, Minneapolis 40, Minnesota

Supplier's Part Number YG 368 A1 FCSE

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan	M-H Aero Report(**)	7-13-61	7-15-61	7-15-61	R. W. Cunyus
Test Requirements	M-H Aero Report(**)	2-1-62			
Test Procedures	M-H Aero Report(**)	2-1-62			
Start Test		5-1-62			
Complete Test		11-15-62			
First Status Report*		6-5-62			
Final Report		4-1-63			

R

R

3. Summary of Tests Required

A. Environmental - (Temp., Explosion, Pressure, Vibration, Acceleration, Shock, etc.)

B. Functional -
   (1) Open Loop Tests
      (a) Sensors
      (b) Computer
      (c) Model Selector
   (2) Closed Loop Test - System (Simulate the airplane)

C. Radio Interference (RFI)

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

FCSE Bench Level Test Equipment or Equivalent, Special purpose (adapted to FCSE Bench Tester) Electronic Test Equipment, Environmental Test Facilities, Screen Room.

5. Test Conducted by:

Organization: Minneapolis-Honeywell Reg. Co.

Location: Minneapolis, Minnesota

6. Required Test Witnesses

Organization

Boeing - Engineering (2-6163) and Material (2-4452) Quality Control (2-402)

7. Remarks

The Qualification Test Plans submitted by the subcontractor will be analyzed and approved by the Guidance and Flight Control Unit. The operational capability of the [illegible] will be verified on the operational mockup.

R

Date 12-19-61

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1-15-62
*submitted monthly thereafter
2-6181-0-5

	QUALIFICATION TEST PLAN	
Program Element No.		Brief No. 1

1. Item Tested

Inertial Guidance Subsystem

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier Minneapolis-Honeywell (M-H) Military Products Group
Supplier's Address U.S. Highway #19, St. Petersburg, Florida
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	by
Test Plan	1	1-15-62			
Test Requirements					
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

R

3. Summary of Tests Required

GFE Equipment - Associate Contractor will perform tests;
System Contractor witnesses

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:

Organization	Location
Minneapolis-Honeywell	St. Petersburg, Florida

6. Required Test Witnesses

Organization

The Boeing Company - Seattle

7. Remarks

1 The Associate Contractor, Minneapolis-Honeywell, will conduct qualification tests in this area. Test planning will not be added in this document.

R

Date 12-19-61

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3.1.3.2	QUALIFICATION TEST PLAN	2
Program Element No.		Brief No.

1. Item Tested

Secondary Attitude Reference Subsystem

Spec. & Dwg. No. (s)

Used-On Dwg. No.

Supplier Minneapolis-Honeywell Regulator Company

Supplier's Address U.S. Highway No. 19, St. Petersburg, Florida

Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan	1	3-25-62			
Test Requirements					
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

GFAE Type - Associate contractor will perform; system contractor witness

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by: Minneapolis-Honeywell

Organization Location St. Petersburg, Florida

6. Required Test Witnesses

Organization The Boeing Company - Seattle

7. Remarks

1 The Associate Contractor, Minneapolis-Honeywell, will conduct qualification tests in this area. Test planning will not be added in this document.

Date 12-20-

1-15-62 *submitted monthly thereafter 2-6181-0-5	163	D2-5697-16 Vol. IV	Page

GUIDANCE & CONTROL

1.3.5.1 Program Element No.	QUALIFICATION TEST PLAN	1 Brief No.

1. Item Tested: Energy Mangement Display

Spec. & Dwg. No. (s): 10-20925
Used-On Dwg. No.
Supplier: General Precision Incorporated (GPL Division)
Supplier's Address: Pleasantville, New York
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan (Final)	D2-5697-1, Vol. IV	6-14-61	6-14-61	8-14-61	T. D. Tarpley
Test Requirements	10-20925	6-14-61	6-14-61	6-14-61	T. D. Tarpley
Test Procedures		1			
Start Test		2-15-62			
Complete Test		8-1-62	1		
First Status Report*		3-15-62			
Final Report		10-1-62			

3. Summary of Tests Required

1. Non-environmental tests (standard room conditions), including Temp, Barometric Pressure, Relative Humidity, and Cleanliness.
2. Environmental-operational tests including, Vibration, Shock, Acceleration, Zero Gravity, High and Low Temp. and Temp Shock.
3. Environmental tests, including Temp, Relative Humidity and Vibration.

Note: Detailed test requirements are included in document. D2-0140, "Flight Instruments General Specification."

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

None.

5. Test Conducted by: General Precision Inc. (GPL Division)
Organization Location Pleasantville, New York

6. Required Test Witnesses
Organization 2-6167 (Boeing Design Group)

7. Remarks 1 Being negotiated per D2-00396.

Date 12-20-61

1-15-62 *submitted monthly thereafter 2-6181-6-5	164	D2-5697-16 Vol. IV	Page 148

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AIRBORNE INST

1.3.5.2	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested: Attitude-Director Indicator

Spec. & Dwg. No. (s): 10-20926
Used-On Dwg. No.:
Supplier: Lear
Supplier's Address: Grand Rapids, Michigan
Supplier's Part Number:

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan (Prel.)	D2-5697-16, Vol. IV	2-14-61	2-14-61	2-14-61	W. D. Reynolds
Test Requirements	10-20926	7-20-61	7-20-61	7-20-61	W. D. Reynolds
Test Procedures		1			
Start Test		3-15-62			
Complete Test		9- 1-62	1		
First Status Report*		4-15-62			
Final Report		10-1-62			

3. Summary of Tests Required

1. Non-environmental tests (standard room conditions) including Temp, Barometric Pressure, Relative Humidity, and Cleanliness.

2. Environmental tests including Temp, Relative Humidity, and Vibration.

3. Environmental-operational tests including, Vibration, Shock, Acceleration, Zero Gravity, High and Low Temp. and Temp Shock.

Note: Detailed test requirements are included in document D2-8140, "Flight Instruments General Specification".

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

None

5. Test Conducted by:
Organization: Lear
Location: Grand Rapids, Michigan

6. Required Test Witnesses
Organization: 2-6167 (Boeing Design Group)

7. Remarks
1 Being negotiated per D2-80396

Date: 12-20-61

1-15-62
*submitted monthly thereafter
2-6181-0-5

AIRBORNE INST

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1.3.5.3	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested: Indicator, Rate of Climb
Spec. & Dwg. No. (s): 10-20931
Used-On Dwg. No.:
Supplier: Kollsman
Supplier's Address: Long Island, New York
Supplier's Part Number:

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan (Prel.)	D2-5697-16, Vol. IV	8/14/61	8/14/61	8/14/61	P. D. Reynolds
Test Requirements	10-20931	6/30/61	6/30/61	6/30/61	P. D. Reynolds
Test Procedures		1			
Start Test		3-1-62			
Complete Test		9-1-62	1		
First Status Report*		4-1-62			
Final Report		10-1-62			

3. Summary of Tests Required
1. Non-environmental tests (standard room conditions) including Temp, Barametric Pressure, Relative Humidity, and Cleanliness.
2. Environmental tests including Temp, Relative Humidity, and Vibration.
3. Environmental-operational tests including, Vibration, Shock, Acceleration, Zero Gravity, High and Low Temp. and Temp. Shock.

Note: Detailed test requirements are included in document D2-8140, "Flight Instruments General Specification".

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)
None

5. Test Conducted by:
Organization: Kollsman
Location: Long Island, New York

6. Required Test Witnesses
Organization: 2-6167 (Boeing Design Group)

7. Remarks: 1 Being negotiated per D2-80396

Date: 12-20-61

1-15-62
*submitted monthly thereafter
2-6181-0-5

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AIRBORNE INST

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1.3.5.4 Program Element No.	QUALIFICATION TEST PLAN	1 Brief No.

1. Item Tested: Side Slip Indicator

Spec. & Dwg. No. (s): 10-81015
Used-On Dwg. No.:
Supplier: Kollsman
Supplier's Address: Long Island, New York
Supplier's Part Number:

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan (Prel.)	D2-5697-16, Vol. IV	8/14/61	8/14/61	8/14/61	J. D. Reynolds
Test Requirements	10-81015	7/20/61	7/20/61	7/20/61	J. D. Reynolds
Test Procedures		1			
Start Test		3-15-62			
Complete Test		9-1-62	1		
First Status Report*		4-15-62			
Final Report		10-1-62			

3. Summary of Tests Required

1. Non-environmental tests (standard room conditions) including Temp, Barametric Pressure, Relative Humidity, and Cleanliness.

2. Environmental tests including Temp, Relative Humidity, and Vibration.

3. Environmental-operational tests including, Vibration, Shock, Acceleration, Zero Gravity, High and Low Temp. and Temp Shock.

Note: Detailed test requirements are included in document D2-8140, "Flight Instruments General Specification".

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

None

5. Test Conducted by:
Organization: Vendor Tested — Location: Kollsman, Long Island, New York

6. Required Test Witnesses
Organization: 2-6167 (Boeing Design Group)

7. Remarks: 1 Being negotiated per D2-80396

Date: 12-20-61

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AIRBORNE INST

1.3.5.5.	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested: Angle of Attack Indicator

Spec. & Dwg. No. (s): 10-20930
Used-On Dwg. No.:
Supplier: Kollsman
Supplier's Address: Long Island, New York
Supplier's Part Number:

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan (Draft)	D2-5697-16, Vol. IV	8/14/61	8/14/61	8/14/61	R.D. Hemphill
Test Requirements	10-20930	7/20/61	7/20/61	7/20/61	[illegible]
Test Procedures		1			
Start Test		3-15-62			
Complete Test		9-1-62			
First Status Report*		1-15-62			
Final Report		10-1-62			

3. Summary of Tests Required

1. Non-environmental tests (standard room conditions) including Temp, Barometric Pressure, Relative Humidity, and Cleanliness.

2. Environmental tests including Temp, Relative Humidity, and Vibration.

3. Environmental-operational tests including, Vibration, Shock, Acceleration, Zero Gravity, High and Low Temp. and Temp Shock.

Note: Detailed test requirements are included in document D2-8140, "Flight Instruments General Specification".

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

None

5. Test Conducted by:

Organization: Vendor Tested (Kollsman)
Location: Long Island, New York

6. Required Test Witnesses

Organization: 2-5167 (Boeing Design Group)

7. Remarks

1 Being Negotiated per D2-80396.

Date: 12-20-61

1-15-62
*submitted monthly thereafter

AIRBORNE TEST

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1.3.5.6 Program Element No.	QUALIFICATION TEST PLAN	1 Brief No.

1. Item Tested: Altitude Indicator

Spec. & Dwg. No. (s): 10-20923
Used-On Dwg. No.:
Supplier: Huyck
Supplier's Address: Huntington Station, New York
Supplier's Part Number:

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan (Prel)	D2-5697-16, Vol. IV	3/14/61	3/14/61	3/14/61	J. D. Maynard
Test Requirements	10-20923	6/14/61	6/14/61	6/14/61	J. D. Maynard
Test Procedures		1			
Start Test		2-15-62			
Complete Test		6-1-62	1		
First Status Report*		3-15-62			
Final Report		10-1-62			

3. Summary of Tests Required

1. Non-environmental tests (standard room conditions) including Temp, Barametric Pressure, Relative Humidity, and Cleanliness.

2. Environmental tests including Temp, Relative Humidity, and Vibration.

3. Environmental-operational tests including, Vibration, Shock, Acceleration, Zero Gravity, High and Low Temp. and Temp Shock.

Note: Detailed test requirements are included in document D2-8140, "Flight Instruments General Specification".

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

None

5. Test Conducted by:
Organization: Vendor Tested Huyck
Location: Huntington Station, N. Y.

6. Required Test Witnesses
Organization: 2-6167 (Boeing Design Group)

7. Remarks
1 Being negotiated per D2-80396.

Date: 12-20-61

1-15-62 *submitted monthly thereafter 2-6181-0-5	169	D2-5697-16 Vol. IV	Page 153

AIRBORNE DIST

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AIRBORNE LIST

1.3.5.7	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested: Velocity Indicator

Spec. & Dwg. No. (s): 10-20029
Used-On Dwg. No.:
Supplier: Huyck
Supplier's Address: Huntington Station, New York
Supplier's Part Number:

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan (D-1)	D2-5697-16, Vol. IV	3/15/61	3/1?/61	3/1?/61	E. D. Reynolds
Test Requirements	10-20029	7/14/61	7/14/61	7/14/61	E. D. Reynolds
Test Procedures		1			
Start Test		3-1-62			
Complete Test		6-1-62	1		
First Status Report*		1-1-62			
Final Report		10-1-62			

3. Summary of Tests Required

1. Non-environmental tests (standard room conditions) including Temp, Barometric Pressure, Relative Humidity, and Cleanliness.

2. Environmental tests including Temp, Relative Humidity, and Vibration.

3. Environmental-operational test including, Vibration, Shock, Acceleration, Zero Gravity, High and Low Temp. and Temp Shock.

Note: Detailed test requirements are included in document D2-8140, "Flight Instruments General Specification".

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

None

5. Test Conducted by:

Organization: Vendor Tested — Location: Huyck, Huntington Station, New York

6. Required Test Witnesses

Organization: 2-6167 (Boeing Design Group)

7. Remarks

1 Being negotiated per D2-80396.

Date: 12-20-61

1-15-62 *submitted monthly thereafter 2-6161-0-5	170	D2-5697-16 Vol. IV	Page 154

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1.3.5.3	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested: Velocity Error Indicator

Spec. & Dwg. No. (s): 10-81012
Used-On Dwg. No.:
Supplier: Huyck
Supplier's Address: Huntington Station, New York
Supplier's Part Number:

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan (final)	D2-5697-16, Vol IV	8/14/61	8/14/61	8/14/61	F. D. Reynolds
Test Requirements	10-81012	6/30/61	6/30/61	6/30/61	F. D. Reynolds
Test Procedures		11-1-62			
Start Test		5-1-62			
Complete Test		9-1-62			
First Status Report*		4-1-62			
Final Report		10-1-62			

3. Summary of Tests Required

1. Non-environmental tests (standard room conditions) including Temp, Barometric Pressure, Relative Humidity, and Cleanliness.

2. Environmental Tests including Temp, Relative Humidity, and Vibration.

3. Environmental-operational tests including, Vibration, Shock, Acceleration, Zero Gravity, High and Low Temp. and Temp, Shock.

Note: Detailed test requirements are included in document D2-8140, "Flight Instruments General Specification".

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

None

5. Test Conducted by:
Organization: Vendor Tested (Huyck) Location: Huntington Station, New York

6. Required Test Witnesses
Organization: 2-6167 (Boeing Design Group)

7. Remarks
1 Being negotiated per D2-80396.

Date: 12-20-61

1-15-62 *submitted monthly thereafter 2-6181-0-5	171	D2-5697-16 Vol. IV	Page 155

AIRBORNE INST

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1.3.5.9	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested: Thermal Monitor Display (Requirements Not Firm)

Spec. & Dwg. No. (s): 10-20927
Used-On Dwg. No.
Supplier: Unknown
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan (Gen.)	D2-5697-16, Vol. IV	6/14/61	6/14/61	6/14/61	[illegible]
Test Requirements	10-20927	7/31/61	7/31/61	7/31/61	T. D. Arnold
Test Procedures		1			
Start Test		4-1-62			
Complete Test		6-1-62			
First Status Report*		5-1-62			
Final Report		10-1-62			

3. Summary of Tests Required

1. Non-environmental tests (standard room conditions) including Temp, Barometric Pressure, Relative Humidity, and Cleanliness.

2. Environmental tests including Temp, Relative Humidity, and Vibration.

3. Environmental-operational tests including, Vibration, Shock, Acceleration, Zero Gravity, High and Low Temp. and Temp. Shock.

Note: Detailed test requirements are included in document D2-8140, "Flight Instruments General Specification".

4. Special Facilities and/or Test Equipment (include Estimated Lead Time)

None

5. Test Conducted by:
Organization: Vendor Tested Location

6. Required Test Witnesses
Organization: 2-5167 (Boeing Design Group)

7. Remarks: 1 Will be negotiated per D2-30396 with supplier.

Date: 12-20-61

AIRBORNE DSY

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2.3.5	QUALIFICATION TEST PLAN	-
Program Element No.		Brief No.

1. Item Tested: Communications and Tracking Subsystems

Spec. & Dwg. No. (s): Boeing Dwg. No. 25-00220
Used-On Dwg. No.
Supplier: RCA - Associate Contractor
Supplier's Address: Front and Cooper Streets, Camden, New Jersey
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		1-15-62			
Test Requirements					
Test Procedures					
Start Test					
Complete Test		[illegible]			
First Status Report*					
Final Report		2-15-62			

3. Summary of Tests Required

GFAE Type - Associate Contractor will perform; system contractor will witness.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by: RCA
Organization — Location: Camden, New Jersey

6. Required Test Witnesses
Organization

7. Remarks

1. The Associate Contractor, RCA, will conduct qualification tests in this area. Test Planning will not be added to this document.

Date 12-15-61

1-15-62
*submitted monthly thereafter
2-6181-0-5

1.3.7.1	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested

Test Data/Voice Communication Antenna & Transmission Line System

Spec. & Dwg. No. (s) D2-5136, Antennas, Windows & Feed Lines Spec.

Used-On Dwg. No.

Supplier Boeing Co. (plus various subcontractors)

Supplier's Address Seattle, Washington

Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan	D2-5697-16, Vol. IV	5-30-63	5-30-63	5-31-63	[illegible]
Test Requirements	D2-5697-9	5-30-63			
Test Procedures	D2-5697-9	5-30-63			
Start Test		11-1-63			
Complete Test		2-3-64			
First Status Report*		12-2-63			
Final Report	D2-5697-9	3-16-64			

3. Summary of Tests Required

Temperature Tests - From 140°F to (min. to be determined)
Humidity Tests - From 55°F to 100°F at 100% relative humidity
Vibration Tests - Random vibration in 3 mutually perpendicular axes
Shock Tests - 015g acceleration impact, shocks from 55 to 100 cps
Acceleration Tests - 1.5 to 10 g's if specified in individual equip. spec.
Temperature Shock Tests + 165°F to -40°F
Sand and Dust Tests - 0.1 to 0.5 grams/ft^3, 77°F to 160°F, velocity to 500 ft/min
Temperature-Altitude Tests + 80°F to 165°F, atmos. to 50,000 ft.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Some temperature, shock and vibration tests will require simulated Dyna-Soar installations such as antennas mounted in wing panels and waveguide attached to structure.

5. Test Conducted by: Boeing Eng. Labs.
Organization Location Seattle, Wash.

6. Required Test Witnesses
Organization 2-5166

7. Remarks

There are a great many components in an antenna system. As they are released via source control drawings, MIS sheets, and manufacturing drawings, individual test plans will be incorporated in this document.

Date 12-15-62

1-15-62 *submitted monthly thereafter 2-6181-0-5	174	D2-5697-16 Vol. IV	Page 150

1.3.7.1	QUALIFICATION TEST PLAN	2
Program Element No.		Brief No.

1. Item Tested: Command Data/Voice Receiver Antenna & Transmission Line System

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier: Boeing Co. (plus various subcontractors)
Supplier's Address: Seattle, Washington
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan	D2-5697-16, Vol. IV	9-20-61	9-15-61	9-18-61	R. T. [illegible]
Test Requirements	D2-[illegible]-0	4-30-62			
Test Procedures	D2-[illegible]-1	5-30-62			
Start Test		11-15-62			
Complete Test		2-2-63			
First Status Report*		10-2-62			
Final Report	D2-[illegible]-2	3-15-63			

3. Summary of Tests Required

Temperature Tests - From 140°F (max. to be determined)
Humidity Tests - From 55°F to 100°F at 100% relative humidity
Vibration Tests - Random vibration in 3 mutually perpendicular axes
Shock Tests - 015g acceleration impact shocks from 5 to 100 cps
Acceleration Tests - 1.5 to 10 g's if specified in individual equip. spec.
Temperature Shock Tests + 135°F to -40°F
Sand and Dust Tests - 0.1 to 0.5 grams/FT^3, 77°F to 160°F, velocity to 500 ft/min
Temperature-Altitude Tests + 80°F to 135°F, atmos. to 50,000 ft.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Some temperature, shock and vibration tests will require simulated Dyna-Soar installation such as antennas mounted in wing panels and waveguide attached to structure.

5. Test Conducted by: Boeing Eng. Labs
Organization — Location: Seattle, Wash.

6. Required Test Witnesses
Organization: 2-6166

7. Remarks

There are a great many components in an antenna system. As they are released via source control drawings, BAC sheets, and manufacturing drawing, individual test plans will be incorporated in this document.

Date 12-15-61

1-15-62
*submitted monthly thereafter
2-6181-0-5

1.3.7.1 Program Element No.	QUALIFICATION TEST PLAN	3 Brief No.

1. Item Tested: High Temperature Nickel Flexible Waveguide - X-Band, K-Band
Spec. & Dwg. No. (s): 10-81121, High Temperature Waveguide - Flexible
Used-On Dwg. No.: Not Known
Supplier: Not Known
Supplier's Address:
Supplier's Part Number:

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan (prel.)	D2-5697-16 Vol. IV	1-12-62	1-12-62	1-12-62	R. I. McCaffrey
Test Requirements	10-81121	2-2-62			"
Test Procedures	Supplier Document	6-1[illegible]-62			"
Start Test		9-17-62			
Complete Test		10-17-62			
First Status Report*		10-17-62			
Final Report		11-17-62			

3. Summary of Tests Required

Electrical Characteristics - Measure attenuation stability of attenuation, VSWR, power handling capability.

Shock - Mil Spec. drop tests and transportation vibration envelope.

Vibration - Random vibration in three mutually perpindicular axes.

Time-Temperature - Following typical flight temperature duty cycle: cycled four times.

Pressure - pressure leakage and expansion tests

Structural Integrity - Extension, flexure, bend angle tests.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)
High temperature and random vibration test facilities may not be available at the suppliers plant.

5. Test Conducted by: Not known
Organization: Location: Not known

6. Required Test Witnesses
Organization: 2-6166 (Boeing Design Orgn.)

7. Remarks

[1] Tentative dates only. To be negotiated with supplier who is to be selected on or about 5-18-62

Date 1-19-62

1.3.7.5	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested: C-Band Transponder Antenna & Transmission Line System

Spec. & Dwg. No. (s): D2-8136, Antennas, Windows & Feed Lines Spec.
Used-On Dwg. No.
Supplier: Boeing Co. (plus various subcontractors)
Supplier's Address: Seattle, Washington
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan	D2-5697-16, Vol. IV	6-30-61	8-15-61	9/61	[illegible]
Test Requirements	D2-8136-0	4-30-62			
Test Procedures	D2-8136-1	5-30-62			
Start Test		11-15-62			
Complete Test		2-2-63			
First Status Report*		12-2-62			
Final Report	D2-8136-2	3-15-63			

3. Summary of Tests Required

Temperature Tests - From 140°F to (max. to be determined)
Humidity Tests - From 55°F to 100°F at 100% relative humidity
Vibration Tests - Random vibration in 3 mutually perpendicular axes
Shock Tests - 15g acceleration impact shocks from 5 to 100 cps
Acceleration Tests - 1.5 to 10 g's if specified in individual equip. spec.
Temperature Shock Tests + 185°F to -40°F
Sand and Dust Tests - 0.1 to 0.5 grams/FT^3, 77°F to 160°F, velocity to 500 ft/min
Temperature-Altitude Tests + 80°F to 185°F, atmos. to 50,000 ft.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Some temperature, shock and vibration tests will require simulated Dyna-Soar installations such as antennas mounted in wing panels and waveguide attached to structure.

5. Test Conducted by: Boeing Eng. Labs
Organization
Location: Seattle, Wash.

6. Required Test Witnesses
Organization: 2-6166

7. Remarks

There are a great many components in an antenna system. As they are released via source control drawings, BAC sheets, and manufacturing drawing, individual test plans will beincorporated in this document.

Date 12-15-61

1-15-62 *submitted monthly thereafter 2-6181-0-5	177	D2-5697-16 Vol. IV	Page 160

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1.3.7.5	QUALIFICATION TEST PLAN	2
Program Element No.		Brief No.

1. Item Tested: High Temperature Metal Flexible Waveguide - C-Band

Spec. & Dwg. No. (s) Used-C.. D.. No.: 10-81121, High Temperature Waveguide - Flexible; Not Known

Supplier: Not Known

Supplier's Address

Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan (Prel.)	D2-5697-16 Vol. IV	1-12-62	1-12-62	1-12-62	B. I. McCaffrey
Test Requirements	10-81121	2-2-62			
Test Procedures	Supplier Document	5-18-62			
Start Test		9-17-62			
Complete Test		10-16-62			
First Status Report*		10-17-62			
Final Report		11-17-62			

3. Summary of Tests Required

Electrical Characteristics- Measure attenuation stability of attentuation, VSWR, power handling capability.

Shock- MIL Spec drop tests and transportation vibration envelope.

Vibration-Random vibration in three mutually perpindicular axes.

Time-Temperature - Following typical flight temperature duty cycle; cycled four times.

Pressure - pressure leakage and expansion tests

Structural Integrity - Extension, flexure, bend angle tests.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

High temperature and random vibration test facilities may not be available at the suppliers plant.

5. Test Conducted by: Not known

Organization: Not known Location: Not known

6. Required Test Witnesses

Organization: 2-6166 (Boeing Design Orgn)

7. Remarks

[1] Tentative dates only. To be negotiated with supplier who is to be selected on or about 5-18-62

Date 1-19-62

1-15-62
*submitted monthly thereafter
2-6181-0-5

1.3.3.2 Program Element No.	QUALIFICATION TEST PLAN	Brief No.

1. Item Tested: Computer, Coun... ...tion

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier: Northronics
Supplier's Address: Hawthorne, California
Supplier's Part Number: 5153700-501

2. Schedule Summary

Task	Reference Doc. No.	Submittal Schedule	Approval Date	Approval By
Test Plan (Prel.)	D2-5697-16, Vol. IV	3-14-61	3-14-61	R. Dawood
Test Requirements		1-5-62		
Test Procedures				
Start Test		[1]		
Complete Test				
First Status Report*				
Final Report				

3. Summary of Tests Required

Environmental Tests
a. Vibration
b. Shock
c. Acceleration [2]
d. Temperature
e. Humidity

Functional and Performance Tests
a. During environmental tests
b. Following environmental tests

Radio Frequency Interference Tests
a. Susceptibility to Radio Interference
b. Radiated Interference

4. Special Facilities and/or Test Equipment (include Estimated Lead Time)

Test Facilities of the supplier will be utilized.

5. Test Conducted by:

Organization	Location
Northronics Div., Northrop Corp.	Hawthorne, California

6. Required Test Witnesses

Organization
The Boeing Company

7. Remarks

[1] Dates are subject to negotiation with supplier.

[2] Requirement for this test will depend upon the design.

Date 1-10-62

1-15-62
*submitted monthly thereafter
2-6181-0-5

...8.2	QUALIFICATION TEST PLAN	
Program Element No.		Brief No.

1. Item Tested

Progra... Separation Sequence

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier — The Boeing Company
Supplier's Address — Seattle, Wash.
Supplier's Part Number — 102-600-401-00

2. Schedule Summary

Task	Reference Doc. No.	Submittal Date: Schedule	Submittal Date: Actual	Approval: Date	Approval: By
Test Plan	D2-5697-16, Vol. IV	6-30-62	6-14-62	6-14-62	T. Tennet
Test Requirements		7-02-62			
Test Procedures		7-23-62			
Start Test		7-30-62			
Complete Test		9-30-62			
First Status Report*		8-15-62			
Final Report		10-30-62			

3. Summary of Tests Required

Environmental Tests
a. Vibration
b. Shock
c. Acceleration [1]
d. Temperature
e. Humidity

Functional and Performance Tests
a. During environmental tests
b. Following environmental tests

Radio Frequency Interference Tests
a. Susceptibility to Radio Interference
b. Radiated Interference

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Existing environmental facilities will be adequate for the anticipated testing. Test fixtures will be required; however, these will be available from the development test program.

5. Test Conducted by:

Organization	Location
The Boeing Company	2-01 Bldg. Seattle, Wash.

6. Required Test Witnesses

Organization — Avionics Integration Group - Boeing
Electronics Packaging Group - Boeing

7. Remarks

[1] — ...equirement for this test will depend upon the design.

Date 1-10-62

1-15-62
*submitted monthly thereafter
2-6181-0-5

Program Element No.	QUALIFICATION TEST PLAN	Brief No.

1. Item Tested: Converter, Signal Data

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier: The Boeing Company
Supplier's Address: Seattle, Wash.
Supplier's Part Number: 102-621-305-00

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan		[illegible]			
Test Requirements					
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

Environmental Tests
a. Vibration
b. Shock
c. Acceleration ▷1
d. Temperature
e. Humidity

Functional and Performance Tests
a. During environmental tests
b. Following environmental tests

Radio Frequency Interference Tests
a. Susceptibility to Radio Interference
b. Radiated Interference

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)
Existing environmental facilities will be adequate for the anticipated testing. Test fixtures will be required; however, these will be available from the development test program.

5. Test Conducted by:
Organization: The Boeing Company Location: 2.01 Bldg. Seattle, Wash.

6. Required Test Witnesses
Organization: Avionics Integration Group - Boeing
Electronics Packaging Group - Boeing

7. Remarks
▷1 Requirement for this test will depend upon the design.

Date 1-15-62

1-15-62
*submitted monthly thereafter
2-6181-0-5

D2-5697-16 Vol. IV

1.4.1	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested: Conversion and Storage Equipment

Spec. & Dwg. No. (s): 10-81003
Used-On Dwg. No.:
Supplier: Electro-Mechanical Research Corp.
Supplier's Address: Sarasota, Florida
Supplier's Part Number:

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan	D2-80121*				
Test Requirements	10-81003	8-25-61	[illegible]		
Test Procedures	D2-80121*				
Start Test		[illegible]			
Complete Test		[illegible]			
First Status Report*					
Final Report		9-7-62			

3. Summary of Tests Required: Qualification Testing is required in the following areas:

1. ENVIRONMENT — GENERAL CONDITIONS
   - 1.1 Vibration — Complex, 6.5 (RMS), 30 min. per direction ▷1
   - 1.2 Shock ▷1
   - 1.3 Acceleration — Anticipated extremes for both flight and storage
   - 1.4 Temperature — " " " " " " "
   - 1.5 Humdiity
2. Signal Outputs ▷2
3. Power Input Variation — Requirements and procedures per D2-7391

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
   Organization: EMR
   Location: Sarasota, Florida

6. Required Test Witnesses
   Organization: 2-5636-0 Dyna-Soar Test Data Systems Unit

7. Remarks: *EMR WILL PREPARE D2-80121. Schedule dates are being negotiated.
   ▷1 Requirements and Procedures per D2-7481
   ▷2 Under environmental conditions. Performance with simulated inputs will be measured.

Date: 12-21-61

64 1-15-62
*submitted monthly thereafter
2-6181-0-2

[illegible]	QUALIFICATION TEST PLAN	
Program Element No.		Brief No. 2

1. Item Tested: Surface Temperature Transducer (3000°F)

Spec. & Dwg. No. (s): D2-[illegible], 10-20924 [1]
Used-On Dwg. No.
Supplier: To be determined [2]
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Date: Schedule	Submittal Date: Actual	Approval: Date	Approval: by
Test Plan (Final)	D2-[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Test Requirements	[illegible]	[3]			
Test Procedures		[illegible]			
Start Test		[illegible]			
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required [3]

a. Shock; 30 g's for 11±1 milliseconds along 2 axis
b. Vibration; Dyna-Soar re-entry environment simulation
c. Vibration; Dyna-Soar boost environment simulation
d. Static Acceleration; 10 g's sustained along 3 axis
e. Temperature; Dyna-Soar non-operational (-65 to 170°F) environment
f. Temperature; low (-200°F) environment
g. Humidity; 95% C. H. @ 85°F environment
h. Temperature Cycles; Dyna-Soar operational (3000°F Max.)
i. Thermal Shock; 200°F per sec from 1000°F to 2000°F

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

None anticipated

5. Test Conducted by: Supplier
Organization Location

6. Required Test Witnesses
Organization: Communications and Transducers Unit 2-6166

7. Remarks

[1] SCD, Scheduled release date 26 March 1962
[2] Boeing preliminary planning
[3] To be negotiated with supplier. (Approx May 1, 1962)

Note: M2-0015 Dev. Proc Spec Only (MIL Subcontract)
See Vol. II of D2-[illegible]

Date [illegible]

Program Element No.	QUALIFICATION TEST PLAN	Brief No. 2

1. Item Tested: High Temperature Flutter Transducers

Spec. & Dwg. No. (s): 10-31095 [2]
Used-On Dwg. No.:
Supplier:
Supplier's Address: To be determined [1]
Supplier's Part Number:

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates: Schedule	Submittal Dates: Actual	Approval: Date	Approval: By
Test Plan (Prel.)	[illegible] Vol. I	12-15-61	12-15-61	12-15-61	W. Tyson
Test Requirements	10-01095	[1]			
Test Procedures					
Start Test					
Complete Test					
First Status Report*		[2]			
Final Report					

3. Summary of Tests Required

Test Requirements being negotiated - will be established in time to support release of SCD. [1]

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Unknown

5. Test Conducted by:
Organization: Supplier Location:

6. Required Test Witnesses
Organization: Communication and Transducers Unit 2-6166

7. Remarks

[1] [2] SCD, scheduled release date February 15, 1962
To be negotiated with supplier (Approx May 1, 1962)

Date 12-15-61

1-15-62
*submitted monthly thereafter

1.1.1.1	QUALIFICATION TEST PLAN	
Program Element No.		Brief No.

1. Item Tested

Hi-Temperature Acceleration Transducers

Spec. & Dwg. No. (s) 10-31094 [1]

Used-On Dwg. No.

Supplier

Supplier's Address To be determined [1]

Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements		[2]			
Test Procedures					
Start Test					
Complete Test		[2]			
First Status Report*					
Final Report					

3. Summary of Tests Required

Test requirements being negotiated - will be established in time to support released of SCD. [2]

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Unknown

5. Test Conducted by: Supplier
Organization Location

6. Required Test Witnesses
Organization Communication and Transducers Unit 2-6166

7. Remarks

[1] SCD, Scheduled release date February 15, 1962
[2] To be negotiated with supplier (Approx May 1, 1962)

Date 12-15-61

1-15-62
*submitted monthly thereafter
2-6181-0-5

1.3.1.1	QUALIFICATION TEST PLAN	
Program Element No.		Brief No. 3

1. Item Tested Disconnect, Aero-Pressure Tubing - Aero-Pressure Extruded Tube

Spec. & Dwg. No. (s) 10-81119 [1]
Used-On Dwg. No.
Supplier
Supplier's Address To be determined [1]
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates Schedule	Actual	Approval Date	By
Test Plan					
Test Requirements					
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

Test requirements being negotiated - will be established in time to support release of SCD. [1]

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Unknown

5. Test Conducted by: Supplier
Organization Location

6. Required Test Witnesses
Organization Communications and Transducers Unit 2-6166

7. Remarks

[1] SCD, scheduled release date, June 1,1962
[2] To be negotiated with supplier (Approx July 1, 1962)

Date 12-15-61

1-15-62
*submitted monthly thereafter
2-6181-0-5

1.1.1.1	QUALIFICATION TEST PLAN	
Program Element No.		Brief No. 5

1. Item Tested: Nose Cap Surface Temperature Instrumentation

Spec. & Dwg. No. (s): D1-[illegible]2-0, -1 [1]
Used-On Dwg. No.
Supplier: Boeing or Chance-Vought Corp.
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates: Schedule	Actual	Approval: Date	By
Test Plan (Draft)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Test Requirements					
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

Test requirements are being determined.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Unknown

5. Test Conducted by: Boeing or Chance-Vought
Organization Location

6. Required Test Witnesses: Communications and Transducers Unit
Organization: 2-6166

7. Remarks

[1] These documents form the Design Procurement Specification issued to the Chance-Vought Corp.

Note: Decision has not been made as to which Nose Cap configuration will be implemented on B-2, Boeing's or Chance-Vought. Date [illegible]

1-15-62 *submitted monthly thereafter 2-6181-0-5	187	D2-5697-16 Vol. IV	Page 1044.5

1.2.1.1 Program Element No.	QUALIFICATION TEST PLAN	Brief No.

1. Item Tested

Nose Cap Aero Pressure Transducer

Spec. & Dwg. No. (s) D2-7302-0, -1 [1]

Used-On Dwg. No.

Supplier

Supplier's Address Boeing or Chance-Vought Corp.

Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan (Ltr.)	[illegible]	12-10-62	12-10-62	13-10-62	[illegible]
Test Requirements					
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

Test requirements being determined.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

Unknown

5. Test Conducted by: Boeing or Chance-Vought
Organization Location

6. Required Test Witnesses Co[illegible]plications and Transducers Unit
Organization 2-61[illegible]

7. Remarks

[1] These documents form the Design Procurement Specification issued to Chance-Vought Corp.

Note: Decision has not been made as to w[illegible]. Nose Cap configuration will be implemented on B-3, Boeing's or Chance-Vought.

Date

110

1-15-62 *submitted monthly thereafter 2-6181-0-5	188	D2-5697-16 Vol. IV	Page 164.6

TEST DATA SYSTEM 3

1.1.1.2	QUALIFICATION TEST PLAN	2
Program Element No.		Brief No.

1. Item Tested: SIGNAL CONDITIONING CIRCUITRY PACKAGES

Spec. & Dwg. No. (s)
Used-On Dwg. No.
Supplier: The Boeing Company
Supplier's Address
Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates: Schedule	Actual	Approval: Date	By
Test Plan	D2-5697-16 Vol IV	6-18-61	[illegible]	[illegible]	[illegible]
Test Requirements		4- 1-62			
Test Procedures		6- 1-62			
Start Test		[illegible]			
Complete Test		[illegible]			
First Status Report*		8-31-62			
Final Report		7-30-62			
		2-21-63			

3. Summary of Tests Required I Qualification testing is anticipated in the following environmental areas:

ENVIRONMENT	GENERAL CONDITIONS
1. Vibration	Complex shaped spectrum; 7.5G(RMS) 5 to 2000 cps, 30 min each in three directions
2. Shock	See D2-7481 Appendix "A" for procedures and requests
3. Temperature & Cooling	Requirements & Procedures not yet documented
4. Humidity	Requirements & Procedures not yet documented
5. Acceleration	Requirement will depend upon design

II Qualification testing to determine electrical characteristics under the environmental conditions of I will be required.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)
Existing environmental and electrical facilities will be adequate for anticipated testing. Test fixtures will be required; however, these will be available from the development test program.

5. Test Conducted by:

Organization	Location
The Boeing Company	Seattle

6. Required Test Witnesses
Organization: 2-5636-0 Dyna-Soar Test Data Systems Unit
2-6162-1 Structure and Installation Group

7. Remarks

Date - 12-19-61

1-15-62
*submitted monthly thereafter
2-6181-0-5

Program Element No.

1.4.1.3

Brief No.

1

Item Tested: 3000°F Surface Temperature Transducer

Reclassified - see Program Element No. 1.4.1.1, Brief 1. Page 164.1

2.0.0	QUALIFICATION TEST PLAN	1
Program Element No.		Brief No.

1. Item Tested
   AGE and Facilities
   Spec. & Dwg. No. (s)
   Used-On Dwg. No.
   Supplier
   Supplier's Address
   Supplier's Part Number

2. Schedule Summary

Task	Reference Doc. No.	Submittal Dates		Approval	
		Schedule	Actual	Date	By
Test Plan					
Test Requirements					
Test Procedures					
Start Test					
Complete Test					
First Status Report*					
Final Report					

3. Summary of Tests Required

AGE will generally not be subject to separate formal qualification tests. Suitability of items of AGE for use on the Dyna-Soar Program will be on the basis of prior usage or testing, or upon the system compatibility, integration or functional testing accomplished in conjunction with the program operational and developmental testing.

4. Special Facilities and/or Test Equipment (Include Estimated Lead Time)

5. Test Conducted by:
   Organization Location

6. Required Test Witnesses
   Organization

7. Remarks

Individual test plan sheets will be included herein for those items which may require limited qualification testing as test requirements are determined consistent with program schedules.

Date 7-24-61