

REVISION 11
JULY 1, 1965
FINAL ISSUE



HUNTSVILLE, ALABAMA

SATURN I MISSION PLAN AND TECHNICAL INFORMATION CHECKLIST

National Aeronautics and Space Administration



GEORGE C. MARSHALL SPACE FLIGHT CENTER
HUNTSVILLE, ALABAMA

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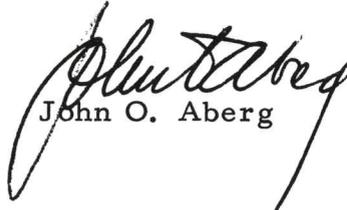
SUBJECT Saturn I Mission Plan and Technical Information Checklist,
Revision 11

Mr. Moon, 876-1277
DATE
R-P&VE-VAS-65-89

1. The enclosed Revision 11 of Saturn I Mission Plan and Technical Information Checklist supersedes the issue dated April 1, 1965. This document is the Marshall Space Flight Center Mission Planning and Implementation Guide for the Saturn I launch vehicle.

2. This document contains Saturn I launch vehicle configuration, test objective, and measuring program information.

3. Due to the phasing out of the Saturn I Program, this revision is the final issue of the Saturn I Mission Plan and Technical Information Checklist.


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ABSTRACT

This document presents a brief and accurate definition of the Saturn I configuration, test objectives and measurements. This material has wide significance as an engineering guide to the Saturn I Program. The document is divided into six major sections. Section I gives a brief introduction, Section II contains the Vehicle Data Summary, Section III defines the test objectives, Section IV presents the vehicle systems configuration, Section V covers the measuring program, and Section VI presents illustrations such as vehicle configurations and operational sequences. In Sections IV and V, the configuration and measurements are broken down into systems and are categorized by a numbering system.

Due to the phasing out of the Saturn I Program, this revision is the final issue of the Saturn I Mission Plan and Technical Information Checklist.

SATURN I MISSION PLAN AND
TECHNICAL INFORMATION CHECKLIST

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SECTION I

INTRODUCTION

The Saturn I Mission Plan and Technical Information Checklist provides the various branches of Marshall Space Flight Center and its prime contractors with pertinent, descriptive information on the vehicle configuration. A concise systems breakdown is presented as an aid in keeping abreast of changes. The Flight measurements are integrated with both the configuration and test objectives to give a comprehensive view of the flight program. This document, presented here in the eleventh and final revision, was published every three months to provide an up-to-date reference to the Saturn I configuration, measurements and test objectives.

Section II consists of descriptive vehicle data divided into six areas of coverage; S-I Stage, S-IV Stage, S-V Stage, Instrument Unit, Payload, and Flight Plan. Information on major components and systems is listed in checklist form.

In Section III the test objective items peculiar to a specific launch vehicle mission are indicated with an "X" in the column under the appropriate vehicle number.

Sections IV and V containing the configuration and measurements respectively, are divided numerically for more effective coverage. The areas under 1.0, 2.0 and 3.0 cover, in checklist form, the configuration and measurements of the S-I Stage, the S-IV Stage, and the Instrument Unit, respectively.

Section VI contains illustrations of interest to recipients of this document.

SECTION II

II. SATURN I VEHICLE DATA, S-1 STAGE	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1. S-I STAGE										
1.1 Nomenclature S-I	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10
1.2 Manufacturer										
Marshall Space Flight Center	X	X	X	X	X	X	X		X	
Chrysler Corp. Space Division								X		X
1.3 Function	Live									
1.4 Overall Dimensions										
Length - 81.6 ft (24.9 m)	X	X	X	X						
80.2 ft (24.4 m)					X	X	X	X	X	X
Diameter	21.4 ft (6.6 m)									
Span across main fins	None				40.8 ft (12.4 m)					
Projected area - main fins	None				121 ft ² (11.2 m ²) each (4 fins)					
stub fins	None				52 ft ² (4.8 m ²) each (4 fins)					
1.5 Main Propulsion System										
Engines	Eight (8) Rocketdyne H-1									
Nominal thrust each - 165,000 lbf (734,000 N)	X	X	X	X						
188,000 lbf (836,000 N)					X	X	X	X	X	X

Legend: X - Applicable to Vehicle
-1, etc. - Applicable Dash Number

II. SATURN I VEHICLE DATA, S-1 STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.5 Main Propulsion System (continued)										
Thrust Buildup Rate - 80,000 lbf (356,000 N)/10 ms	X	X	X	X						
110,000 lbf (489,000 N)/10 ms					X	X	X	X	X	X
Propellants: Oxidizer (LOX) 71.4 lb/ft ³ (1143.4 kg/m ³)										
@ -297.4°F (90.2°K) & 1 Atmos	X	X	X	X	X	X	X	X	X	X
Fuel (RP-1) 50.5 lb/ft ³ (808.1 kg/m ³)										
@ +60°F (288.7°K) & 1 Atmos	X	X	X	X	X	X	X	X	X	X
Nominal Mixture Ratio	2.26:1 LOX to RP-1									
Expansion Ratio	8:1									
Turbine Propellants	LOX and RP-1									
Turbine Exhaust	Inboard (thru tail shroud); Outboard (aspirator)									
Engine Mounting - Inboard	4 fixed engines equally spaced; radius 32.0 in. (81.3 cm); cant angle 3° (outboard of stage C/L.)									
- Outboard	4 gimbal mounted engines equally spaced; radius 95 in. (241.3 cm); cant angle 6° (outboard of stage C/L.)									
Engine Gimbal - Actuators	2 hydraulic actuators per engine									
Gimbal Angle	±7° square pattern				±8° square pattern					
Gimbal Rate	15°/sec each plane									
Gimbal Acceleration	31 radians/sec ²									
NPSH Requirements - ft (m) of LOX -40 ft (12.2 m)	X	X	X	X						
-60 ft (18.3)					X	X	X			

II. SATURN I VEHICLE DATA, S-I STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.5 Main Propulsion System (continued)										
NPSH Requirements - ft (m) of LOX - 35 ft (10.7 m)								X	X	X
-ft (m) of RP-1 - 26 ft (7.9 m)	X	X	X	X						
- 35 ft (10.7 m)					X	X	X	X	X	X
1.6 Propellant System										
Container Capacity - Outboard (70 in. Diam.)	(4 LOX and 4 RP-1) 11,000 gal. (41.6 m ³) each									
Center (105 in. Diam.)	LOX-24,000 gal. (90.9 m ³)									
Total Mainstage Loading - 600,000 lbm (272,000 kg)	X	X		X						
- 750,000 lbm (340,000 kg)			X							
- 850,000 lbm (386,000 kg)					X	X	X			
- 880,000 lbm (399,000 kg)								X	X	X
Pressurization: LOX Container - Initial (He)										
60 psia (41.4 N/cm ² abs)	X	X	X	X	X	X	X	X	X	X
- Inflight (GOX)										
60 psia (41.4 N/cm ² abs)	X	X	X	X	X	X				
50 psia (34.5 N/cm ² abs)							X	X	X	X
RP-1 Container - GN ₂	17 psig (11.7 N/cm ² gage)									
*Ullage Volume - LOX %	22.9	23.8	5.8	24.2	4.5			2.2		
- RP-1%	25.1	24.1	5.1	23.0	2.0					

Legend: X - Applicable to Vehicle
* Block I - Actual Value

II. SATURN I VEHICLE DATA, S-I STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.7 Separation System	None				Active					
Retromotors			P	P	4 Aerojet 2KS 36, 250					
Nominal thrust each			37,000 lbf (164,500 N)							
Cant angle			11.0 ± 0.1°							
Method of firing			EBW System							
1.8 Nitrogen System										
Control Pressure System			750 psig (517 N/cm ² gage)							
Fuel Container Pressurization System			17 psig (11.7 N/cm ² gage)							
Fuel Bubbling System			132 psig (91.0 N/cm ² gage)							
Preflight Conditioning - Engine Compartment			140 lb/ min @ 32 in. of H ₂ O							
Fwd Instrument Compartments			45 lb/ min @ 12 in. of H ₂ O							
Engine Purge System - LOX Container Dome			250 psig (172 N/cm ² gage)							
Gas Generator LOX Container Injector			450 psig (310 N/cm ² gage)							
Fuel Injector			550 psig (379 N/cm ² gage)							
Gear Box Press, and LOX Seal Purge			750 psig (517 N/cm ² gage)							
Calorimeter Purge			750 psig (517 N/cm ² gage)							
TV Camera Purge No. 2 Engine Compartment										
750 psig (517.1 N/cm ² gage)					X					
LOX Container Camera Lens Purge			None							
45 psig (31.0 N/cm ² gage)					X	X	X			
LOX-SOX Disposal System Plenum Chamber			170 - 250 psi (117 - 172 N/cm ²)							

Legend: X - Applicable to Vehicle
P - Passenger

II. SATURN I VEHICLE DATA, S-I STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.8 Nitrogen System (continued)										
Camera Jettison System 3000 psig (2068 N/cm ² gage)					X	X	X			
1.9 Helium System										
Slosh Measurement	450 psig (310 N/cm ² gage)									
Preflight LOX Container Pressurization -										
60 psia (41.4 N/cm ² abs)	X	X	X	X	X	X	X	X	X	X
LOX Bubbling	225 psig (155 N/cm ² gage)									
Fuel Density Sensor Filling Computer	35 psig (24.1 N/cm ² gage)									
Fuel Density Sensor	20 psig (13.8 N/cm ² gage)									
Fuel Density Computer	20 psig (13.8 N/cm ² gage)									
1.10 Electrical System										
Batteries (28 vdc, 2650 amp min. @ 10 min. rate)	X	X	X	X	X	X	X	X	X	X
Inverters (28 vdc input; 115v, 400 cps, 3 phase outputs)										
1800 VA, Rotary	X									
400 VA, Static (for ST-124P)			P							
450 VA, Static (for ST-124P)				P						
450 VA, Static Mod 0					X	X	X	X	X	X
Control Voltage Supply (115 V, 400 cps, 3 phase input;										
60 vdc output)	X	X	X	X						

Legend: X - Applicable to Vehicle
P - Passenger

II. SATURN I VEHICLE DATA, S-I STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.10 Electrical System (continued)										
Measuring Voltage Supply (28 vdc input; 5 vdc 100 ma output)	X	X	X	X	X	X	X	X	X	X
Master Measuring Voltage Supply (28 vdc input; 5 vdc 1 amp output)	X	X	X	X	X	X	X	X	X	X
Flight Sequencer and Slave Distributors	X	X	X	X	X	X	X	X	X	X
Measuring (Aft)	X	X	X	X	X	X	X	X	X	X
Heat Power (Aft)	X	X	X	X						
Propulsion System (Aft)	X	X	X	X	X	X	X	X	X	X
Main (Fwd)	X	X	X	X	X	X	X	X	X	X
Power System (Fwd)	X	X	X	X	X	X	X	X	X	X
Measuring (Fwd)	X	X	X	X	X	X	X	X	X	X
Control System (Fwd)	X	X	X	X						
EBW Firing Units										
Retromotors			X	X	X	X	X	X	X	X
Destruct System	X	X	X	X	X	X	X	X	X	X
Project High Water			X	X						
1.11 Instrumentation										
Telemetry Systems										
XO-4 PAM/FM/FM	X	X	X	X						

II. SATURN I VEHICLE DATA, S-I STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.11 Instrumentation (continued)										
XO-4B PAM/FM/FM	X	X	X	X						
XO-6B PAM/FM/FM	X	X								
XO-6C PAM/FM/FM			X	X	X					
XO-6D PAM/FM/FM						X				
XO-6D1 PAM/FM/FM							X	X	X	X
XO-7 SS/FM		X	X	X	X	X	X	X	X	X
XO-10 PAM/FM/FM					X	X				
XO-10B PAM/FM/FM					X	X				
X1 (DDAS) PCM					X	X				
P2 (DDAS) PCM							X	X	X	X
PCM			P	P						
Tape Recorder				P	X	X	X	X	X	X
Telemetry Antennas										
TM No. 1, 3, 5, 7	X	X	X							
TM No. 2, 4, 6, 8	X	X	X							
TM No. 9			X	X						
TM No. 10			X							
TM No. 1, 3, 5, 7, 8				X						
TM No. 2, 4, 6, 10				X						
TM Group 1					X	X	X	X	X	X
TM Group 2					X	X	X	X	X	X

Legend: X - Applicable to Vehicle
P - Passenger

II. SATURN I VEHICLE DATA, S-I STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.11 Instrumentation (continued)										
Measuring Systems										
Fire Detection Monitor							X		X	
Flow Meters	X	X	X	X						
Discrete Level Sensing			X	X	X	X	X	X	X	X
Delta P SLOSH Measuring	X	X	X	X	X	X	X		X	
Measuring Racks (Fwd)	X	X	X	X	X	X	X	X	X	X
Measuring Racks (Aft)	X	X	X	X	X	X	X	X	X	X
TV System	None									
S-I/S-IV Separation					X	X	X	X	X	X
S-I Stage Engine No. 2 Operation						X				
Motion Picture Camera System	None									
Observe ullage and retromotors, separation, S-IV engine ignition, and booster tumbling rate.					X	X	X			
Observe physical separation and S-IV engine ignition.					X	X	X			
Observe LOX motion in center container.					X	X	X			
Observe LOX motion in outer container.					X	X	X			
Observe S-IV chilldown and LOX-SOX disposal system.					X	X	X			

Legend: X - Applicable to Vehicle

II. SATURN I VEHICLE DATA, S-I STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.12 Control										
ST-90 Stabilized Platform	X	X	X	X						
AB-4 Accelerometer	P	P								
AB-3 Accelerometer			P	P						
AB-7 Accelerometer	X	X	X	X						
Servo Loop Amplifier Box	X	X	X	X						
Ramp Type Pitch Program	X									
Cam Type Pitch Program		X	X	X						
Guidance Signal Processor - Analog	P									
- Repeater		P	P	P						
ST-124P Stabilized Platform			P	P						
AB-3 Accelerometer			P	P						
AB-5 Accelerometer			P	P						
Electronics Box			P	P						
Guidance Signal Processor - Repeater			P	P						
Control Computer	X	X	X	X						
Control Rate Gyro	P	P	P	P						
Control Rate Gyro (tail package)						P	P	P	P	P
Control Rate Gyro with Processor					P	P	P	P	P	P
Control Accelerometer (angle-of-attack information)	P	P	P			P	P	P	P	P
Control Accelerometer with Processor				X						
Angle-of-Attack Meters (mounted on fins I and II)							P		P	P

For Block II Control equipment see Instrument Unit.

Legend: X - Applicable to Vehicle
P - Passenger

II. SATURN I VEHICLE DATA, S-I STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.12 Control (continued)										
Actuators - Model 17-121C	X	X								
- Model 17-121F			X	X						
- Model 17-150D					X	X	X	X	X	X
1.13 Tracking					For Block II Tracking equipment see Instrument Unit.					
S-Band Radar	X	X								
C-Band Radar	X	X	X	X						
AZUSA	X	X	X	X						
UDOP	X	X	X	X						
Continuous lights	X	X	X	X						
MISTRAM				P						
Horizon Sensor			P	P						
Radar Altimeter				P						
1.14 Range Safety										
Range Safety Command Set and Destruct Package										
DRW-13	X	X	X	X	X	X	X	X	X	X

Legend: X - Applicable to Vehicle

P - Passenger

II. SATURN I VEHICLE DATA, S-IV STAGE	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1. S-IV STAGE										
1.1 Nomenclature S-IV	-1D	-2D	-3D	-4D	-5	-6	-7	-8	-9	-10
1.2 Manufacturer	MSFC				Douglas Aircraft Company					
1.3 Function	Dummy				Live					
1.4 Overall Dimensions										
Length	43.9 ft (13.4 m)				41.4 ft (12.6 m)					
Diameter	18.3 ft (5.6 m)									
1.5 Main Propulsion System	None									
Engines					6 Pratt & Whitney RL10A-3					
Nominal thrust each					15,000 lbf (66,700 N)					
Thrust Buildup Rate (max.)					250 lbf (1112 N)/msec					
Propellants: Oxidizer (LOX) 71.4 lb/ft ³ @ -297°F & 1 Atmos (1143.4 kg/m ³ @ 90.2° K & 1 Atmos)					X	X	X	X	X	X
Fuel (LH ₂) 4.4 lb/ft ³ @ -422.9°F & 1 Atmos (70.5 kg/m ³ @ 20.4° K & 1 Atmos)					X	X	X	X	X	X
Nominal Mixture Ratio - 5:1 LOX to LH ₂					Varied ±10% by P. U. System					
Expansion Ratio					40:1					

Legend: X - Applicable to Vehicle

D - Dummy

-1, etc. - Applicable Dash Number

II. SATURN I VEHICLE DATA, S-IV STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.5 Main Propulsion System (continued)										
Turbine Propellant					LH ₂					
Engine Mounting - 6 gimbal mounted engines					46 in. (117 cm) radius, cant					
					angle 6° (outboard of stage C/L)					
Engine Gimbal - Actuators					2 hydraulic actuators per engine					
- Gimbal Angle					±4° square pattern**					
- Gimbal Rate					13 deg/sec	9 deg/sec				
- Gimbal Acceleration					8 radians/sec ²					
NPSH Requirements - LOX					15 psig (10.3 N/cm ²)					
- LH ₂					8 psig (5.5 N/cm ²)					
1.6 Propellant System	None									
Container Capacity - LOX					1263 ft ³ (35.8 m ³)					
- LH ₂					4197 ft ³ (118.9 m ³)					
Total Mainstage Loading					100,000 lbm (45,400 kg)					
Pressurization - LOX Container - Helium					45-48 psia (31 - 33 N/cm ² abs)					
- LH ₂ Container - He/LH ₂					35-38 psia (21 - 22 N/cm ² abs)					
Ullage Volume - LOX					4%					
- LH ₂					4%					
Non-propulsive Venting							X	X	X	X

Legend: **Includes ±1 degree for snubbing, overtravel misalignment, and etc.

X - Applicable to Vehicle

II. SATURN I VEHICLE DATA, S-IV STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.7 Separation System	None				Active					
Ullage Motors					Thiokol TX-280					
Nominal Thrust (Each)					3390 lbf (15,100 N)					
Cant Angle					35°					
Method of Firing					EBW System					
Separation Plane					MSFC Station 1146.7					
Separation Method					4 explosive nuts					
1.8 Helium System	None									
Control Pressure (ambient He system)					475 psig (328 N/cm ² gage)					
LOX Container Pressurization (cold He system)					46.5 psia (32.1 N/cm ² abs)					
LH ₂ Container Pressurization (initial)					31-32 psia (21.4-22.1 N/cm ² abs)					
He Heater Backup Spheres, Fwd Interstage					X	X				
1.9 Electrical	None									
Batteries Zn-AgO, 28 vdc										
5 amp hr (for constant loads)					X	X	X	X	X	X
15 amp hr (for transient loads and telemetry)					X	X	X	X	X	X
Inverter 28 vdc input; 115v, 440 cps, 1 phase output					X	X	X	X	X	X
1.10 Instrumentation	None									
Telemetry PDM/FM/FM					X	X	X	X	X	X

Legend: X - Applicable to Vehicle

II. SATURN I VEHICLE DATA, INSTRUMENT UNIT	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1. INSTRUMENT UNIT	None				Block II only					
1.1 Nomenclature					-5	-6	-7	-8	-9	-10
1.2 Manufacturer					MSFC					
1.3 Function - R and D (pressurized cross tubes)					Live					
Prototype (unpressurized)								Live		
1.4 Overall Dimensions										
Length					4.8 ft (1.5 m)		2.8 ft (0.9 m)			
Diameter					12.8 ft (3.9 m)					
1.5 Electrical										
Batteries Zn-AgO, 28 vdc										
1850 amp min. @ 10 min. rate					X	X				
2650 amp min. @ 10 min. rate					X	X				
1850 amp min. @ 10 min. rate							X	X	X	X
Inverters (28 vdc input; 115 v, 400 cps, 3 phase output)										
450 VA Static, Mod O					X	X	X	X	X	X
450 VA Static, Mod 1					P	P	X	X	X	X

Legend: X - Applicable to Vehicle

P - Passenger

-1, etc. - Applicable Dash Number

II. SATURN I VEHICLE DATA, INSTRUMENT UNIT (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.5 Electrical (continued)										
Control Voltage Supply (115v, 400 cps, 3 phase input; 60 vdc output)					X	X	X			
Master Measuring Voltage Supply (28 vdc input; 5 vdc/1 amp output)					X	X	X	X	X	X
Power Supply (56 vdc)					P	P	X	X	X	X
Program Device J Mod. 2					X	X				
Distributors										
Power System					X	X	X	X	X	X
Control System					X	X	X	X	X	X
Measuring System					X	X	X	X	X	X
Emergency Detection System						X	X			
1.6 Instrumentation										
Telemetry Systems										
XO-4B PAM/FM/FM						X				
XO-65 PAM/FM/FM							X	X	X	X
XO-7 SS/FM						X	X	X	X	X
XO-11C PAM/FM/FM							X	X	X	X
P1 (DDAS) PCM						X	X	X	X	X
Antennas (for all telemetry systems)						X	X	X	X	X

For Block I
Instrumentation
equipment see
S-I Stage.

Legend: X - Applicable to Vehicle
P - Passenger

II. SATURN I VEHICLE DATA, INSTRUMENT UNIT (Continued)	BLOCK I				BLOCK II								
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10			
1.7 Control	For Block I Control equip- ment see S-I Stage.												
ST-90S Stabilized Platform					X	X	X						
AB-3 Accelerometer					P	P	X						
AB-7 Gyros					X	X	X						
Servo Loop Amplifier Box, Cam Type Pitch Program					X	X	X						
Guidance Signal Processor - Repeater					P	P	P						
ST-124 Stabilized Platform					P	P	X	X	X	X			
AB-3 Accelerometers					P	P	X	X	X	X			
AB-5 Gyros					P	P	X	X	X	X			
Guidance Signal Processor - 24; Digital													
Guidance Computer ASC-15					P	P	X	X	X	X			
Flight Control Computer					X	X	X	X	X	X			
Control Rate Gyros with Processor					P	X	X	X	X	X			
Control Accelerometers					X	X	X	X	X	X			
1.8 Tracking	For Block I Tracking equip- ment see S-I Stage.												
Horizon Sensor Assembly					P	P	P						
MISTRAM					P	P	P	X	X	X			
Radar Altimeter					P	P	P	X	X	X			
UDOP					X	X	X						
ODOP						P	P	X	X	X			
C-Band Transponder					X	X	X	X	X	X			

Legend: X - Applicable to Vehicle
P - Passenger

II. SATURN I VEHICLE DATA, PAYLOAD	BLOCK I					BLOCK II				
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1. PAYLOAD										
1.1 Nomenclature										
Jupiter Nose Cone and Adapter	X	X	X	X	X					
Apollo Payload - Boilerplate No. (B.P.)						13	15	26	16	9
1.2 Manufacturer	MSFC					North American Aviation				
1.3 Function	Dummy					Boilerplate				
1.4 Overall Dimensions										
Length - 21.0 ft (6.4 m)	X	X	X	X						
37.5 ft (11.4 m)					X					
34.3 ft (10.5 m) - without LES						X	X	X	X	X
Diameter	10.0 ft (3.1 m)					12.8 ft (3.9 m)				
LES - Length						33.3 ft (10.2 m)				
Base (rectangular tower structure)						3.8 ft (1.2 m) x 4.2 ft (1.3m)				
1.5 Propulsion, Launch Escape System (LES)										
Tower Jettison Motor	None					Live				
Nominal Thrust						33,000 lbf (146,700 N)				
Planned Activation						X		X	X	X

Legend: X - Applicable to Vehicle

II. SATURN I VEHICLE DATA, PAYLOAD (Continued)	BLOCK I					BLOCK II				
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.5 Propulsion, Launch Escape System (LES) (Continued)										
Pitch Control Motor						D	X	D	D	D
Nominal Thrust						3400 lbf (15,100 N)				
Planned Activation							X			
Launch Escape Motor						D	X	D	D	D
Nominal Thrust						155,000 lbf (689,400 N)				
Planned Activation							X			
1.6 Micrometeoroid Capsule (Pegasus)								X	X	X
Wing Span - 96 Ft. (29.3 m)										
Wing Width - 13.6 Ft. (4.1 m)										
Dimensions Center Section:										
1.4 ft. (0.4 m) x 3.3 ft. (1.0 m)x										
15.7 ft. (4.8 m)										
1.7 Separation System	None									
LES from spacecraft						X	X	X	X	X
Command and Service Modules (CSM) from Adapter								X	X	X
1.8 Electrical	None									
Command Module										

Legend: X - Applicable to Vehicle
D - Dummy

II. SATURN I VEHICLE DATA, PAYLOAD (Continued)	BLOCK I					BLOCK II				
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.8 Electrical (Continued)										
Batteries - AgO/Zn 3300 watt-hr (Instrumentation)						X				
AgO/Zn 140 watt-hr (LES separation and jettison)						X	X	X	X	X
Sequencer						X				
Inverter (static)						X				
1.9 Instrumentation										
Telemetry System (Jupiter Payload)			P	P						
Command Module						X				
Signal Conditioner Package (CM)						X				
C-Band Transponder (CM)						X				
Antennas Telemetry - VHF OMNI (CM)						X				
C-Band (SM)						X				
1.10 Control										
Reaction Control System (Service Module)							D	D		
4 modules; 4 engines per module										
Local angle-of-attack transducers	X	X	X	P	P					
Q-Ball Transducer - Jupiter Nose Cone	P	P	P	P	P					
- LES						P	P	P	P	P

Legend: X - Applicable to Vehicle
P - Passenger

D - Dummy

II. SATURN I VEHICLE DATA, FLIGHT PLAN	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1. FLIGHT PLAN										
1.1 Scheduled Launch Date (Quarter - Year)					1-64	2-64	3-64	2-65	1-65	3-65
Actual Launch Date (Month - Year)	10-61	4-62	11-62	3-63	1-64	5-64	9-64	5-65	2-65	***
1.2 Launch Complex	34	34	34	34	37B	37B	37B	37B	37B	37B
Launch Azimuth - degrees	100	100	100	100	90	90	90	90	90	***
Flight Azimuth - degrees	100	100	100	100	105	105	105	105	105	95.2
Tracking Network - AMR	X	X	X	X	X	X	X	X	X	X
1.3 Launch Vehicle Trajectory - Ballistic	X	X	X	X						
- Orbital					X	X	X	X	X	X
Orbital - Apogee - Nautical Miles	N/A				335	115	115	407	404	
- Perigee - Nautical Miles					140	100	100	275	268	
Orbital-Circular-Nautical Miles										332
Minimum Stay Time (O - Orbits, D-Day, Y-Year)					I D	3 O	3 O	1 Y	1 Y	1 Y

Legend: X - Applicable to Vehicle
 *** To be Determined

SECTION III

III. SATURN I TEST OBJECTIVES	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1. LAUNCH VEHICLE										
Development	X	X	X	X	X	X	X	X	X	X
Simulation of Block II Aerodynamic Protuberances				X						
2. STRUCTURE										
S-I Propulsion and Control Flight Test with Dummy Upper Stages and Dummy Payload	X	X	X	X						
S-I & S-IV Propulsion and Control Flight Test with Jupiter Nose Cone Payload					X					
S-I & S-IV Propulsion and Control Flight Test with Boilerplate Apollo Payload						X	X	X	X	X
Block II Heat Shield Insulation-One Panel			X							
Block II Heat Shield Insulation-Three Panels				X						
3. S-I PROPULSION										
Control Flight Test with Dummy Upper Stages and Dummy Payload	X	X	X	X						

Legend: X - Applicable to Vehicle

III. SATURN I TEST OBJECTIVES	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
3. S-I PROPULSION (Continued)										
Control Flight Test with Jupiter Nose Cone Payload					X					
Control Flight Test with Boilerplate Apollo Payload						X	X	X	X	X
Full S-I Propellant Loading			X							
LOX Depletion Cutoff of Outboard Engines			X	X						
Inboard Engine No. 5 Cutoff Prior to Normal Cutoff (100 Seconds after Ignition)				X						
4. S-IV PROPULSION										
Control Flight Test with Jupiter Nose Cone Payload					X					
Control Flight Test with Boilerplate Apollo Payload						X	X	X	X	X
5. S-I/S-IV SEPARATION										
Physical Separation					X	X	X	X	X	X
Retromotor Firing			X	X	X	X	X	X	X	X

Legend: X - Applicable to Vehicle

III. SATURN I TEST OBJECTIVES	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
6. GUIDANCE, CONTROL, INSTRUMENTATION, AND TRACKING										
Control Flight Test - S-I Propulsion with Dummy Upper Stages and Dummy Payload	X	X	X	X						
Control Flight Test - S-I and S-IV Propulsion with Jupiter Nose Cone Payload					X					
Control Flight Test with Boilerplate Apollo Payload						X	X	X	X	X
Evaluate Closed-Loop Guidance during S-IV Burn						X	X	X	X	X
Closed Loop Accelerometer Control				X						
ST-124 Platform with Guidance Signal Processor/ Repeater				X	X					
ST-124 Guidance System with Iterative Guidance Mode								X	X	X
400 VA Static Inverter			X							

Legend: X - Applicable to Vehicle

III. SATURN I TEST OBJECTIVES	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
6. GUIDANCE, CONTROL, INSTRUMENTATION, AND TRACKING (Continued)										
450 VA Static Inverter				X						
Control Rate Gyros				X						
MISTRAM Tracking System				X	X					
Horizon Sensor				X	X					
Radar Altimeter				X	X	X				
Block II Antenna Panels				X						
Q-Ball Angle-of-Attack Meter (Measuring Type)		X	X							
Q-Ball Angle-of-Attack Meter (Control Type)				X	X					
PCM and UHF Telemetry			X	X						

Legend: X - Applicable to Vehicle

III. SATURN I TEST OBJECTIVES	BLOCK I					BLOCK II				
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
7. PAYLOAD										
Apollo Boilerplate						X	X	X	X	X
Micrometeoroid Capsule - Acquire Data on Meteoroid Density and Momentum								X	X	X
Demonstrate Launch Escape System (LES under Flight Conditions						X	X			
Demonstrate Physical Compatibility of Launch Vehicle & Spacecraft under Preflight and Flight Conditions						X				
Jettison LES at S-IV Ignition +10 Seconds						X	X	X	X	X
Spacecraft Separation								X	X	X
Verify Spacecraft Inflight Environmental Parameters						X				
8. GROUND SUPPORT EQUIPMENT										
Replace Long Cable Mast with Block II Design Swing Arms			X	X						

Legend: X - Applicable to Vehicle

III. SATURN I TEST OBJECTIVES	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
8. GROUND SUPPORT EQUIPMENT (Continued)										
Prove GSE/Launch Vehicle Compatibility	X	X								
Launch Environment						X	X	X	X	X
9. MISCELLANEOUS										
Project Highwater		X	X							
Thermal Coating and Sensors				X						
Micrometeoroid Detector on S-IVB Surface				X						
Centaur Dynamic Pressure Study			X							

Legend: X - Applicable to Vehicle

SECTION IV

IV. SATURN I CONFIGURATION, S-I STAGE	Dwg. No.	Next Assy. Qty.	BLOCK I				BLOCK II					
			SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.0 S-I STAGE	10410001	1	X	X	X	X						
	10M10002	1					-1	-1	-1		-1	
	10C10002	1								-1		-1
1.1 STRUCTURES												
1.1.1 Spider Beam Assembly	10416122	1	X	X	X	X						
	10M10015	1					X	X	X		X	
	10C10015	1								X		X
1.1.2 Propellant Container Assembly	10410003	1	X	X	X	X						
	10M10003	1					X	X	X		X	
	10C10003	1								X		X
LOX Center Container Unit Ass'y	10410004	1	X	X	X	X						
	10M10004	1					X	X	X		X	
	10C10004	1								X		X
105" LOX Container Ass'y	10416107	1	X	X	X	X						
	10M10014	1					X	X	X		X	
	10C10014	1								X		X
LOX Container Unit Ass'y No. 1	10410005	1	X	X	X	X						
	10M10005	1					X	X	X		X	
	10C10005	1								X		X

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-I STAGE (Continued)	Dwg. No.	Next Assy. Qty.	BLOCK I				BLOCK II					
			SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.1.2 Propellant Container Ass'y(Cont'd)												
LOX Container Unit Ass'y No. 2	10410006	1	X	X	X	X						
	10M10006	1					X	X	X		X	
	10C10006	1								X		X
LOX Container Unit Ass'y No. 3	10410007	1	X	X	X	X						
	10M10007	1					X	X	X		X	
	10C10007	1								X		X
LOX Container Unit Ass'y No. 4	10410008	1	X	X	X	X						
	10M10008	1					X	X	X		X	
	10C10008	1								X		X
Fuel Container Unit Ass'y No. 1	10410009	1	X	X	X	X						
	10M10009	1					X	X	X		X	
	10C10009	1								X		X
Fuel Container Unit Ass'y No. 2	10410010	1	X	X	X	X						
	10M10010	1					X	X	X		X	
	10C10010	1								X		X
Fuel Container Unit Ass'y No. 3	10410011	1	X	X	X	X						
	10M10011	1					X	X	X		X	
	10C10011	1								X		X
Fuel Container Unit Ass'y No. 4	10410012	1	X	X	X	X						
	10M10012	1					X	X	X		X	
	10C10012	1								X		X

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-I STAGE (Continued)	Dwg. No.	Next Assy. Qty.	BLOCK I				BLOCK II						
			SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10	
1.1.2 Propellant Container Ass'y (Cont'd)													
Instrument Assembly No. 1	10M20003	1					X	X	X		X		
	10C20003	1								X		X	
Instrument Assembly No. 2	10M20004	1					X	X	X		X		
	10C20004	1								X		X	
1.1.3 Tail Unit Assembly	10416500	1	X	X	X	X							
	10M10013	1					X	X	X		X		
	10C10013	1								X		X	
Heat Shield Assembly	10417741	4	X	X	X	X							
	10419119	4	X	X	X	X							
	30M03197	2					-1	-1	-1		-1		
	30M03197	2					-3	-3	-3		-3		
	30M03198	4					X	X	X		X		
	30C03197	2									-1		-1
	30C03197	2									-3		-3
	30C03198	4								X		X	
Flame Shield	10418169	1	X	X	X	X							
	30M03300	1					X	X	X		X		
	30C03300	1								X		X	

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-I STAGE (Continued)	Dwg. No.	Next Assy. Qty.	BLOCK I					BLOCK II				
			SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.1.4 Fin Assemblies												
Large Fin Assembly	30M03010	2					-1	-1	-1		-1	
	30M03010	1					-3	-3	-3		-3	
	30M03010	1					-5	-5	-5		-5	
	30C03010	2								-1		-1
	30C03010	1								-3		-3
	30C03010	1								-5		-5
Stub Fin Assembly	30M03011	2					-1	-1	-1		-1	
	30M03011	1					-3	-3				
	30M03011	1							-5		-5	
	30C03011	2								-1		-1
	30C03011	1										-1
	30C03011	1								-5		
	30M03012	1					X	X	X		X	
	30C03012	1								X		X
1.2 PROPULSION SYSTEM												
1.2.1 Fuel System												
Fuel Prevalve	20M30043	8					X	X	X		X	
	20C30043	8								X		X
Turbopump (See Section 1.2.7)												

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-I STAGE (Continued)	Dwg. No.	Next Assy. Qty.	BLOCK I				BLOCK II					
			SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.2.1 Fuel System (Continued)												
Main Fuel Valve	^r 405444	8					X	X	X	X	X	X
Ignition Monitor Valve	^r 554838	8					X	X	X	X	X	X
Fuel Igniter Valve	^r 403520	8					X	X	X	X	X	X
Conax Valve	^r NA5-26594	8					X	X	X	X	X	X
Fuel Additive Blender Unit	^r 454075	8					-11	-11	-11	-11	-11	-11
1.2.2 Fuel Pressurization System												
GN ₂ Spheres	20M00414	2					X	X	X		X	
Pressure Control Valve	20M30171	3					X	X	X		X	
Vent and Relief Valve	20M30000	2					X	X	X		X	
Pressure Switch	20M30184	1					X	X	X		X	
Overpressure Relief Valve	20M30020	2					X	X	X		X	
	20C30020	2									X	X
GN ₂ Spheres	20C00414	2									X	X
Pressure Control Valve	20C30171	3									X	X
Vent and Relief Valve	20C30000	2									X	X
Pressure Switch	60C20056										X	X

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

r - Rocketdyne Part Number

IV. SATURN I CONFIGURATION, S-I STAGE (Continued)	Dwg. No.	Next Assy. Qty.	BLOCK I				BLOCK II					
			SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1. 2. 3 Oxidizer System												
LOX Prevalve	20M30042	8					X	X	X			
Turbopump (See Section 1. 2. 7)												
Main LOX Valve	^r 405967	8					X	X	X	X		X
LOX Sump Manifold Assembly	30M00305	1					X	X	X		X	
LOX Prevalve	20C30042	8								X		X
Main LOX Valve	^r 405967	7									X	
Main LOX Valve	^r 405405	1									X	
LOX Sump Manifold Assembly	30M00305	1					X	X	X		X	
LOX Sump Manifold Assembly	30C00305	1								X		X
1. 2. 4 Oxidizer Pressurization System												
GOX Flow Control Valve	60C27835	1									X	
Pressure Switch	60C27760	1									X	
Overpressure Switch	60C27761	1									X	
Manifold Assembly	30M00310	1					X	X	X		X	
GOX Manifold Assembly	20M40003	1					X	X	X	X	X	
	20C40003	1										X
GOX Flow Control Valve	60C20129	1								X		X
Pressure Switch	60C20057	1								X		X
Overpressure Switch	60C20058	1								X		X
Manifold Assembly	30C00310	1								X		X

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-I STAGE	Dwg. No.	Next Assy. Qty.	BLOCK I				BLOCK II					
			SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.2.5 LOX-SOX Vaporization System												
GN ₂ Spheres (See Sect. 1.2.2)												
GN ₂ Triplex Spheres	20M00935	1					X	X	X		X	
	20M00937	1					X	X	X		X	
	20M00936	2					X	X	X		X	
	10438020	4								X		X
Distributor Manifold	20M00906	1					X	X	X		X	
	20C00906	1								X		X
Pressure Control Valve	20M30171	2					X	X	X		X	
	20C30171	2								X		X
Plenum Control Valve	20M30171	7					X	X	X		X	
	20C30171	7								X		X
Plenum Sphere	20M00905	1					-1	-1	-1		-1	
	20C00905	1								-1		-1
1.2.6 Control Pressure System												
GN ₂ Sphere (1.5 cu. ft.)	20M00877	1					X	X	X		X	
GN ₂ Sphere (1.0 cu. ft.)	20M00837	1					X	X	X		X	
GN ₂ Sphere (1.5 cu. ft.)	10438153	1								X		X
GN ₂ Sphere (1.0 cu. ft.)	10438152	1								X		X
Distribution Manifold	20M00878	1					X	X	X		X	
Distribution Manifold	20C00878	1								X		X

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-I STAGE (Continued)	Dwg. No.	Next Assy. Qty.	BLOCK I				BLOCK II					
			SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.2.6 Control Pressure System (Cont'd)												
Pressure Regulator	20M30134	1					X	X	X		X	
	20C30134	1								X		X
Vent Valve	20M30131	1					X	X	X		X	
	20C30131	1								X		X
Pressure Relief Valve	20M30137	1					X	X	X		X	
	20C30137	1								X		X
He Slosh Probe Purge Bottle	20M00445	1								X		X
	20M00449	1					X	X	X		X	
He Triplex Spheres	10438020	1					X	X	X	X	X	X
1.2.7 H-1 Engine												
Outboard Engine Module No. 1	10415181	1	X									
	10415621	1		X								
	20M50011	1			X							
	20M50021	1				X						
	20M50721	1					X					
	20M50901	1						X				
	20M50951	1								-1		
	20M51051	1									-1	
	20M51221	1										-1
	60C20011	1										-1

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-I STAGE (Continued)	Dwg. No.	Next Assy. Qty.	BLOCK I				BLOCK II					
			SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.2.7 H-1 Engine (Continued)												
Outboard Engine Module No. 2	10415182	1	X									
	10415621	1		X								
	20M50012	1			X							
	20M50022	1				X						
	20M50722	1					X					
	20M50902	1						X				
	20M50952	1							-1			
	20M51052	1								-1		
	20M51222	1									-1	
	60C20012	1										-1
Outboard Engine Module No. 3	10415183	1	X									
	10415623	1		X								
	20M50013	1			X							
	20M50023	1				X						
	20M50723	1					X					
	20M50903	1						X				
	20M50953	1							-1			
	20M51053	1								-1		
	20M51223	1									-1	
	60C20013	1										-1

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-I STAGE (Continued)	Dwg. No.	Next Assy. Qty.	BLOCK I				BLOCK II					
			SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.2.7 H-1 Engine (Continued)												
Outboard Engine Module No. 4	10415184	1	X									
	10415624	1		X								
	20M50014	1			X							
	20M50024	1				X						
	20M50724	1					X					
	20M50904	1						X				
	20M50954	1							-1			
	20M51054	1								-1		
	20M51224	1									-1	
	60C20014	1										-1
Inboard Engine Module No. 5	10415185	1	X									
	10415625	1		X								
	20M50015	1			X							
	20M50025	1				X						
	20M50725	1					X					
	20M50905	1						X				
	20M50955	1							-1			
	20M51055	1								-1		
	20M51225	1									-1	
	60C20015	1										-1

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-I STAGE (Continued)	Dwg. No.	Next Assy. Qty.	BLOCK I				BLOCK II						
			SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10	
1.2.7 H-1 Engine (Continued)													
Inboard Engine Module No. 6	10415186	1	X										
	10415626	1		X									
	20M50016	1			X								
	20M50026	1				X							
	20M50726	1					X						
	20M50906	1						X					
	20M50956	1							-1				
	20M51056	1								-1			
	20M51226	1									-1		
	60C20016	1										-1	
Inboard Engine Module No. 7	10415187	1	X										
	10415627	1		X									
	20M50017	1			X								
	20M50027	1				X							
	20M50727	1					X						
	20M50907	1						X					
	20M50957	1							-1				
	20M51057	1								-1			
	20M51227	1									-1		
	60C20017	1										-1	

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-I STAGE (Continued)	Dwg. No.	Next Assy. Qty.	BLOCK I					BLOCK II				
			SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.2.7 H-1 Engine (Continued)												
Inboard Engine Module No. 8	10415188	1	X									
	10415628	1		X								
	20M50018	1			X							
	20M50028	1				X						
	20M50728	1					X					
	20M50908	1						X				
	20M50958	1							-1			
	20M51058	1								-1		
	20M51228	1									-1	
	60C20018	1										-1
1.2.8 Hydraulic System												
Pump, Main	20M85035	4					X	X	X		X	
Pump, Main	20C85035	4								X		X
Pump, Auxiliary	20M85064	4					X	X	X		X	
Pump, Auxiliary	20C85064	4								X		X
Accumulator - Reservoir	20M85062	4					X	X	X		X	
Accumulator- Reservoir	20C85062	4								X		X
Servoactuator Assembly	50M01609	8					X	X	X		X	
Servoactuator Assembly	50C01609	8								X		X

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-I STAGE (Continued)	Dwg. No.	Next Assy. Qty.	BLOCK I				BLOCK II					
			SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.2.8 Hydraulic System (Continued)												
Hydraulic System Installation	10415191	1	X									
	10415192	1	X									
	10415193	1	X									
	10415194	1	X									
	10415800	4		X								
	20M85000	4			X							
	20M85020	4				X						
	20M85060	4					X					
	20M85090	4						X	-1		-1	
	20C85091	4								-1		-1
1.2.9 Engine Electrical Installation	10415641	4		X								
	10415645	4		X								
	20M50031	4			X							
	20M50035	4			X							
	20M50041	4				X						
	20M50045	4				X						
	20M50761	4					X					
	20M50765	4					X					
	20M50931	4						X				
	20M50935	4						X				

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-I STAGE (Continued)	Dwg. No.	Next Assy. Qty.	BLOCK I				BLOCK II					
			SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.2.9 Engine Electrical Ins't (Cont'd)												
	20M50981	4							-1			
	20M50985	4							-1			
	20C51081	4								-1		
	20C51085	4								-1		
	20M51241	4									-1	
	20M51245	4									-1	
	60C20031	4										-1
	60C20035	4										-1
1.2.10 Retromotor Assembly	20M29899	4					X	X	X		X	
	20M29906	4								X		X
Retromotor Igniter	20M29904	4					X	X	X		X	
	20C29904	4								-1		-1
Retromotor Initiator	20M29905	8					X	X	X		X	
	20M29907	8								X		X
1.3 ELECTRONIC SYSTEMS												
1.3.1 Range Safety System												
Command Antenna Assembly	08968400	4	X	X	X							
	10M10482	4				X						

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-I STAGE (Continued)	Dwg. No.	Next Assy. Qty.	BLOCK I				BLOCK II					
			SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.3.1 Range Safety System (Continued)												
Command Antenna Assembly	10M10844	1					-1	-1	-1		-1	
	10M10844	1					-3	-3	-3		-3	
	10M10844	1					-5	-5	-5		-5	
	10M10844	1					-7	-7	-7		-7	
	10C10844	1									-1	-1
	10C10844	1									-3	-3
	10C10844	1									-5	-5
	10C10844	1									-7	-7
R. F. Power Divider	08968401	2	X	X	X							
R. F. Power Divider	50M10185	2				X	-1	-1	-1		-1	
	50C10185	2								X		X
Command Receiver and Decoder	08968388	2	X	X	X	X						
	50M10418	2									X	
	50M10185	2					X	X	X			
Voltage Regulator	08968389	2	X	X	X	X						
Voltage Regulator	50M10419	2					X	X	X		X	
	50C10419	2								X		X
Destruct System Controller	50M01076	2					X	X	X	X	X	
	50C01076	2										-5
E. B. W. Firing Unit	50M00902	2					X	X	X	X	X	X

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-I STAGE (Continued)	Dwg. No.	Next Assy. Qty.	BLOCK I				BLOCK II					
			SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.3.1 Range Safety System (Continued)												
Safe and Arm Device	10410600	1	X	X	X	X						
	10M11027	1					X	X	X		X	
	10C11027	1								X		X
Destruct System Inst. (Inert)	10M11318	1					-1	-1	-1		-1	
	10C11318	1								-1		-1
1.3.2 Guidance and Control												
Flight Sequencer	10600441	1	X		X							
Flight Sequencer	40M20001	1		X		X						
Flight Sequencer	40M20070	1					X	X				
	40M20654	1							-1		-1	
	40C20654	1								-1		-1
Flight Sequencer Slave Unit	10600463	1	X									
	40M20005	1		X	X	X						
	40M20071	1					-3	-3				
	40M20653	1							-3	-3	-3	-3
Rate Gyro Assembly	10410267	1	X	X	X	X						
	10420221	1	X									
Gyro Stab. Assembly	08970195	1	X	X	X	X						
Control Accelerometer (Pitch)	10410735	1	X	X	X	X						
Control Accelerometer (Yaw)	10410735	1	X	X	X	X						

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-I STAGE (Continued)	Dwg. No.	Next Assy. Qty.	BLOCK I				BLOCK II						
			SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10	
1.3.2 Guidance and Control (Continued)													
Control Rate Gyro (3 axis Pkg)	10422022	1					X	X	X				
Control Rate Gyro (3 axis Pkg)	50M31125	1									-1		
	50C31125	1								X		X	
Control Accelerometer (Pitch)	50M31126	1					X	X	X	X	X	X	
Control Accelerometer (Yaw)	50M31127	1					X	X	X	X	X	X	
1.3.3 Telemetry Systems													
Instrument Container Ass'y #13	10410700	1	X	X	X	X							
Cannister Assembly No. 13	10417500	1	X	X	X	X							
Instrument Container Ass'y #14	10410701	1	X	X	X	X							
Cannister Assembly No. 14	10417501	1	X	X	X	X							
Instrument Container Ass'y #15	10410702	1	X	X	X	X							
Cannister Assembly No. 15	10417502	1	X	X	X	X							
Instrument Container Ass'y #16	10410703	1	X	X	X	X							
Cannister Assembly No. 16	10417503	1	X	X	X	X							
Instrument Container Ass'y #12	10410950	1			X	X							
Cannister Assembly No. 12	10417600	1			X	X							
Telemetry Assembly	08968336	1	X										
	08968337	1	X										
	08968403	1	X	X									
	08968404	1	X	X									

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-I STAGE (Continued)	Dwg. No.	Next Assy. Qty.	BLOCK I				BLOCK II							
			SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10		
1.3.3 Telemetry Systems (Continued)														
	08968405	1	X	X										
	08968406	1	X	X										
	08968407	1	X	X										
Telemetry Assembly No. 7	08968457	1		X	X	X								
Telemetry Assembly No. 8	08968458	1		X	X	X								
Telemetry Assembly	50M10004	1	X	X										
Telemetry Assembly No. 1	50M10028	1			X	X								
Telemetry Assembly No. 2	50M10029	1			X	X								
Telemetry Assembly No. 3	50M10030	1			X	X								
Telemetry Assembly No. 4	50M10031	1			X	X								
Telemetry Assembly No. 5	50M10032	1			X	X								
Telemetry Assembly No. 10	50M10033	1			X	X								
Telemetry Assembly No. 6	10420613	1			X	X								
Telemetry Multicoupler	08968360	1	X	X	X									
	08968444	1	X	X	X									
	50M10172	1				X								
	50M10173	1				X								
R. F. Power Divider	08968362	2	X	X	X									
	50M10186	2				X								

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-I STAGE (Continued)	Dwg. No.	Next Assy. Qty.	BLOCK I				BLOCK II						
			SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10	
1.3.3 Telemetry Systems (Continued)													
TM Antenna Assembly	50M10036	4				X							
	10410667	4	X	X									
	10491485	3			-1								
	10491485	1			-3								
Telemetry Assembly, F-1	50M10152	1					X						
Telemetry Assembly, F-2	50M10154	1					X						
Telemetry Assembly, F-3	50M10156	1					X	X					
Telemetry Assembly, P-2	50M10158	1					X	X					
SS/FM Assembly, S-1	50M10160	1					X	X	X	X	X		
	50C10160	1											X
SS/FM Assembly, S-2	50M10162	1					X	X	X	X	X	X	
PAM/FM/FM Assembly, F-1	50M10660	1							X		X		
	50C10660	1									-1		
PAM/FM/FM Assembly, F-2	50M10662	1							X		X		
	50C10662	1									-1		
PAM/FM/FM Assembly, F-3	50M10380	1							X		X		
	50C10380	1									-1		-1
PCM/DDAS Assembly, P-2	50M12188	1								-1		-5	
	50C12188	1									-3		-7
PAM/FM/FM Assembly, F-1	50M12078	1											X
PAM/FM/FM Assembly, F-2	50M12079	1											X

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-I STAGE (Continued)	Dwg. No.	Next Assy. Qty.	BLOCK I				BLOCK II						
			SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10	
1.3.3 Telemetry Systems (Continued)													
R. F. Power Amplifier	08968338	1	X	X	X	X							
	08968339	1	X	X	X	X							
	08968368	1	X	X	X	X							
	08968408	1	X	X	X	X							
	08968409	1	X	X	X	X							
	08968410	1	X	X	X	X							
	08968411	1	X	X	X	X							
	08968412	1	X	X									
	50M10035	1			X	X							
R. F. Power Amplifier, F-2	50M10155	1					X	X	X		X		
R. F. Power Amplifier, F-3	50M10157	1					X	X	X	X	X	X	
R. F. Power Amplifier	50M10159	1					X	X					
R. F. Power Amplifier, S-1	50M10161	1					X	X	X	X	X	X	
R. F. Power Amplifier, S-2	50M10163	1					X	X	X	X	X		
	50C10163	1											X
R. F. Power Amplifier, F-1	50M10155	1									X		X
R. F. Power Amplifier, F-1	50M10153	1					X						
R. F. Power Amplifier, F-1	50M10470	1							X		X		
R. F. Power Amplifier, F-2	50M10163	1								X			X
PCM/RF Assembly, P-2	50M10422	1							-1	-1	-1	-1	-1

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-I STAGE (Continued)	Dwg. No.	Next Assy. Qty.	BLOCK I				BLOCK II					
			SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.3.3 Telemetry System (Continued)												
Telemetry Multicoupler	50M10178	1					X					
	50M10478	1							X	X	X	
	50M10179	1							X	X	X	
	50M10447	2										X
Multiplexer Assembly, S-1, S-2	50M10270	2					X	X	X	X	X	X
Multiplexer Assembly, P-2	50M12189	1							-1		-5	
	50C12189	1								-3		-7
Multiplexer Assembly, P-2	50C12188	1								-3		-7
Multiplexer Assembly, P-2	50M10278	1					X	X				
Submultiplexer, P-2	50M12088	1							X		X	
Submultiplexer, P-2	50M12089	1							X	X	X	X
	50C12089	1								-1		-1
R. F. Power Divider	50M10186	2					X	X	X		X	
	50C10186	2								X		-1
TM Antenna Pair Assembly	50M10342	2					-1	-1	-1		-1	
	50C10342	2								X		X
Tape Recorder	50M10182	1				X						
Tape Recorder	50M10338	1					X	X	X	X	X	X

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-I STAGE	Dwg. No.	Next Assy. Qty.	BLOCK I				BLOCK II						
			SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10	
1.3.4 Tracking Systems													
Radar Beacon	08960040	1	X	X									
Radar Assembly	08911079	1	X										
Radar Receiver	08960443	1	X	X									
Radar Coupler	10410394	1	X	X	X	X							
C-Band Radar Assembly	08961064	1	X	X	X	X							
Radar Antenna	08961007	1	X	X	X	X							
Altimeter Assembly	50M10139	1				X							
Altimeter Antenna	10M10733	1				X							
Mistran Transponder	50M10123	1				X							
Mistran Antenna	50M10137	2				X							
UDOP Antenna Assy	08968398	2	X	X	X	X							
UDOP Transponder	08960300	1	X	X	X								
UDOP Transmitter	50M10174	2				X							
UDOP Receiver	50M10175	1				X							

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-I STAGE (Continued)	Dwg. No.	Next Assy. Qty.	BLOCK I				BLOCK II						
			SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10	
1.4 ELECTRICAL SYSTEMS													
1.4.1 Electrical Supply Systems													
Battery Assembly	40M20000	2	X	X									
	40M20038	2			X	X	-1	-1	-1			-1	
	40C20038	2									X		X
Measuring Voltage Supply	40M20002	1	X	X	X	X	X	X	X	X	X	X	X
	40M20045	1			X	X							
	40M20045	2					X	X	X			X	
	40C20045	2									X		X
Static Inverter	50M00906	1			X								
Static Inverter	50M01075	1					X	X	X	-1	X		-1
1.4.2 Electrical Distribution System													
Main Distributor	50M00901	1			X	X							
Main Distributor	10420292	1	X	X									
Power Distributor	10420002	1	X	X	X	X							
Measuring Distributor	10420007	1	X	X	X	X							
	10420008	1	X	X	X	X							
	10420009	1	X	X	X	X							
	10420013	1	X	X	X	X							

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-I STAGE (Continued)	Dwg. No.	Next Assy. Qty.	BLOCK I				BLOCK II						
			SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10	
1.4.2 Electrical Distribution (Cont'd)													
Measuring Distributor	10420003	1	X	X	X	X							
Control Distributor	10420001	1	X	X	X	X							
Propulsion Distributor	10420011	1	X	X	X	X							
Power Transfer Switch	10417247	1	X	X	X	X							
Main Distributor	50M01466	1					-1	-1	-1	X	-1		
	50C01466	1										-1	
Power Distributor	50M01138	1					-1	-1	-1	-1	-1	-1	
Measuring Distributor	50M01198	1					-1	-1	-1		-1		
	50C01198	1								-1		-1	
	50M01199	1					-1	-1	-1		-1		
	50C01199	1								-1		-1	
	50M01200	1					-1	-1	-1		-1		
	50C01200	1								-1		-1	
	50M01201	1					-1	-1	-1	-1	-1	-1	
	50M01139	1					-1	-1	-1	X	-1		
	50C01139	1										-1	
Control Distributor	50M01073	1					X	X	X	X	X	X	
Propulsion Distributor	50M01196	1					-1	-1	-1		-1		
	50C01196	1								-1		-1	
Power Transfer Switch	50M01477	2					X	X	X	X	X	X	

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-I STAGE (Continued)	Dwg. No.	Next Assy. Qty.	BLOCK I				BLOCK II					
			SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.5 ORDNANCE												
Engine Pyrotechnic Installation	20M50607	8			X							
	20M50608	8				X						
	20M50852	8					X					
	20M50920	8						X				
	20M51047	8							-1		-1	
	20C51047	8								-1		
	60C20020	8										-1
Destruct Ordnance Installation	10410000	1	X									
	10M10251	1		X	X	X						
	10M11319	1					X	X	X		X	
	10C11319	1								-1		-1
	10M11318	1					X	X	X		X	
	10C11318	1								-1		-1
1.6 OPTICAL SYSTEMS												
1.6.1 TV Camera System												
TV Camera Control Unit	50M10455	1							X			
TV Camera Control Unit	50M10254	1					X	X				
TV Camera Assembly	50M10253	1					X	X	X			
TV Transmitter Assembly	50M10441	1						X	X			

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-I STAGE (Continued)	Dwg. No.	Next Assy. Qty.	BLOCK I				BLOCK II						
			SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10	
1.6.1 TV Camera System (Cont'd)													
TV Transmitter Assembly	50M10250	1					X						
TV Antenna Assembly	50M10271	1					X	X	X				
1.6.2 Film Camera System													
Film Camera Assembly	50M10221	8					X	X	X				
Fiber Optic Bundle	50M10223	3					X	X	X				
Fiber Optic Bundle	50M10213	1					X	X	X				
Camera Light Assembly	50M10310	2					X	X	X				
Recovery Pod Assembly	50M10209	4					X	X	X				
Recovery Pod Assembly	50M10210	4					X	X	X				
Ejection Mechanism Ass'y	10M20240	4					X	X	X				
Ejection Mechanism Ass'y	10M20268	4					X	X	X				

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-IV STAGE	Dwg. No.	Next Assy. Qty.	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
2.0 S-IV STAGE								
DUMMY ASSEMBLY	10410014	1						
FLIGHT ASSEMBLY	5866000	1	-501	-505	-507	-509	-511	-513
2.1 STRUCTURES								
DUMMY ASSEMBLY	10419200	1						
FLIGHT ASSEMBLY	5863800		-1	-515	-513	-505	-517	-511
2.1.1 Forward Interstage Assembly	5863843	1	-501	-513	-509	-511	-511	-511
2.1.2 Propellant Container Assembly	5863801	1	-1	-1	-509	-509	-509	-507
Fwd. LH ₂ Container Dome	5851533	1	-1	-1	-507	-507	-507	-507
Cylindrical Container Assembly	5863802	1	-1	-1	-1	-1	-1	-1
Aft Container Assembly	5863804	1	-1	-1	-507	-507	-507	-505
Thrust Structure Installation	5871668	1	-1	-1	-501	-501	-501	-501
2.1.3 Aft Skirt Assembly	5863842	1	-501	-501	-509	-509	-509	-509
Heat Shield Installation	5864264	1	-1	-505	-507	-503	-509	-511
Heat Shield Assembly	5866433	1	X	X	X	X	X	X
Flame Shield Installation	1A65747	1	X	X	X	X	X	X
Flame Curtain Assembly	1A21059	6	-1	-1	-1	-1	-1	-1

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-IV STAGE (Continued)	Dwg. No.	Next Assy. Qty.	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
2.1.4 Aft Interstage Assembly	5863844	1	-509	-509	-509	-503	-503	-503
Blowout Panels	1A21460	7	X	X	X	X	X	X
	1A21461	1	X	X	X	X	X	X
2.2 PROPULSION SYSTEM	7851750	1	-517	-515	-1	-513	-523	-501
2.2.1 Fuel System								
LH ₂ Prevalve	^P 2053427	6	X	X	X	X	X	X
Turbopump (See Sect. 2.2.6)								
Fuel Container Components Installation	5851790	1	-503	-511	-507	-507	-507	-507
Fuel Container Equipment Installation	5871887	1	-1	-1	-501	-501	-501	-501
2.2.2 Fuel Pressurization System								
Helium Sphere (1.5 cu. ft.)	5693830	1	-1	-1	-1	-1	-1	-1
Step Pressure Control Valve	7851858	2	-1	-1	-1	-1	-1	-1
GH ₂ Poppet Valve	^P 2073292	6	X	X	X	X	X	X
2.2.3 Oxidizer System								
LOX Prevalve	^P 2053426	6	X	X	X	X	X	X
Turbopump (See Sect. 2.2.6)								
LOX Container Components Installation	5851772	1	-1	-505	-505	-509	-511	-509
LOX Container Equipment Installation	5871886	1	-1	-1	-1	-1	-1	-1

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-IV STAGE (Continued)	Dwg. No.	Next Assy. Qty.	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
2.2.4 Oxidizer Pressurization System								
Helium Sphere (3.5 cu. ft.)	7851834	3				-501	-501	-501
Helium Control Valve	7851845	1	X	X	X	-515	-515	-515
Helium Heater	5851759	1	X	X	X	-503	-503	-503
Plenum Chamber	1A21522	1	-1	-1	-1	-1	-1	-1
2.2.5 Control Pressure System	5851812	1	-505	-513	-509	-509	-511	-511
Fuel Pressure Pneumatic System	1A01950	1	-1	-1	-1	-503	-503	-501
LOX Pressure Pneumatic System	5851832	1	-507	-511	-505	-505	-505	-505
Helium Sphere (3.5 cu. ft.)	7851820	1	-1	-1	-1	-1	-1	-1
Plenum Chamber	1A22469	1	-1	-1	-1	-1	-1	-1
Pressure Regulator	7851825	1	X	X	X	-501	-501	-501
Pressure Switch	7851830	2	-1	-1	-1	-1	-1	-1
2.2.6 RL10A-3 Engine								
Cluster Engine Installation	5851752	1	-505	-505	-507	-507	-507	-507
Engine Assembly, Complete	1A23681	6	-1	-1	-1	-1	-1	-1
Engine Assembly, Single	5851753	1	-1	-1	-501	-501	-501	-501
Engine Equipment Installation	5866956	1	-1	-1	-1	-1	-1	-1

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-IV STAGE (Continued)	Dwg. No.	Next Assy. Qty.	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
2.2.7 Hydraulic System	5865941	1	-501	-501				
	1A38401	1			-1	-1	-1	-1
Electrical Equipment	1A59587	1	-503	-503	-501	-501	-501	-501
Servoactuator Assembly	5863925	6	-501	-501	-501	-501	-501	-501
Servoactuator Assembly	1A37517	6	-501	-503	-503	-503	-503	-503
Auxiliary Pump Manifold	1A19510	1	X	X	X	X	X	X
Main Pump Manifold	3871663	1	X	X	X	X	X	X
Main Hydraulic Pump	7865733	1	X	X	X	X	X	X
Auxiliary Hydraulic Pump	7865752	1	X	X	X	X	X	X
Servo Valve	7865889	1	X	X	X	X	X	X
Servo Valve	1A36660	1	X	X	X	X	X	X
2.2.8 Propellant Utilization System	5871914	1	-501	-501	-503	-503	-503	-503
Propellant Utilization Electronics	1A00475	1	-1	-1	-1	-1	-1	-1
2.2.9 Ullage Motors	5871929	4	X	X	X	X	X	X
Ullage Motor Electronics	1A22764	4	-1	-1	-1	-1	-1	-1
Ullage Motor Ordnance (See Section 2.5)								

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-IV STAGE (Continued)	Dwg. No.	Next Assy. Qty.	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
2.3 ELECTRONIC SYSTEMS								
2.3.1 Range Safety System								
Command Antenna Assembly	5883595	2	-1	-1	-501	-501	-501	-501
	5883596	2	-1	-1	-501	-501	-501	-501
R. F. Power Divider	50M10185	2	X	X	X		X	
	50C10185	2				X		X
Command Destruct Receiver	50M10418	2	X	X	X		X	
	50C10418	2				X		X
Destruct System Controller	50M01076	2	X	X	X	X	X	
	50C01076	2						-5
EBW Firing Unit	7865719	2	-533	-533	-537	-537	-537	-537
Safe and Arm Device	1A24390	1	-1					
Safe and Arm Device	1A97221	1		X				
Safe and Arm Device	1A97206	1			X			
Safe and Arm Device	1B29562	1				-1		
Safe and Arm Device	1B29537	1					-1	
Safe and Arm Device	1B29569	1						-1
Destruct System Installation	5883464	1	-1	-1	-1	-1	-1	-1

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-IV STAGE (Continued)	Dwg. No.	Next Assy. Qty.	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
2.3.2 Guidance and Control								
Flight Control Switch	7866039	1	-501	-501	-501	-501	-501	-501
Flight Sequencer	5873792	1	-501	-501	-501	-501	-501	-501
Control Actuators (See Sect. 2.2.7)								
2.3.3 Telemetry Systems								
Telemetry Antenna Assembly	5883605	2	-1	-1	-1	-1	-1	-1
	5883606	2	-1	-1	-1	-1	-1	-1
Power Divider	1A19061	1	-1	-1	-1	-1	-1	-1
TM Multicoupler	7883543	1	-1	-1	-1	-1	-1	-1
Directional Coupler	7883956	1	X	X	X	X	X	X
Tape Recorder	^P 937411	1	X	X	X	X	X	X
PDM/FM/FM Assembly, D-1	7869831	1	-507	-507	-507	-507	-507	-507
PDM/FM/FM Assembly, D-2	7869831	1	-509	-509	-509	-509	-509	-509
PDM/FM/FM Assembly, D-3	7869831	1	-511	-511	-511	-511	-511	-511
R. F. Power Amplifier	7869830	3	-1	-1	-1	-1	-1	-1
Subcarrier Oscillator	7869834	3	X	X	X	X	X	X
Commutator, Four Channel	1A38095	4	X	X	X	X	X	X
Multiplexer, Low Level	7869833	3	-503	-503	-503	-503	-503	-503
Multiplexer, High Level	7869832	1	-501	-501	-501	-501	-501	-501
Multiplexer, High Level	7869832	1	-505	-505	-505	-505	-505	-505
5 v. Excitation Module	5881176	1	-1	-1	-1	-1	-1	-1

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, S-IV STAGE (Continued)	Dwg. No.	Next Assy. Qty.	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
2.4 ELECTRICAL SYSTEMS								
Electrical Equipment Installation	1A57594	1	-1	-1	-1	-1	-1	-1
2.4.1 Electrical Supply System								
Battery, Primary Control	1A65820	1	-1	-1	-1	-1	-1	-1
Battery, Primary Engine	1A65819	1	-1	-1	-1	-1	-1	-1
Battery, Instrument No. 1 - 2	1A65819	2	-1	-1	-1	-1	-1	-1
Inverter Converter, 115 vac.	5866455	1	-501	-501	-501	-501	-501	-501
2.4.2 Electrical Distribution System								
Power Transfer Switch	1A01826	2	-505	-505	-505	-505	-505	-505
Power Distribution Assembly	1A18881	1	-1	-1	-1	-1	-1	-1
Power Distribution Assembly	1A77701	1	-501	-501	-501	-501	-501	-501
2.5 ORDNANCE								
EBW Detonator Explosives	2883311	1	-501	-501	-1	-1	-1	-1
Stage Separation Explosives	2883308	1	-1	-503	-505	-505	-505	-505
Vent Panel Explosives	2883312	1	-1	-501	-501	-501	-501	-501
Ullage Motor Explosives	2883313	1	-1	-503	-505	-505	-505	-505
Vehicle Destruct Explosives	2883314	1	-501	-503	-503	-503	-503	-503

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, INSTRUMENT UNIT	Dwg. No.	Next Assy. Qty.	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
3.0 INSTRUMENT UNIT ASSEMBLY	10M20000	1	-1	-1	-1			
	10M20008	1				-1		
	10M20009	1					-1	
	10M20010	1						-1
3.1 STRUCTURE ASSEMBLY	30M05000	1	X	X	X	X	X	X
3.2 FLUID SYSTEMS								
3.2.1 Air Bearing Supply								
GN ₂ Sphere (1.0 cu. ft.)	20M00976	1	X	X	X			
High Pressure Switch	20M01036					-1	-1	-1
Low Pressure Switch	20M30130	1	X	X	X	X	X	X
Control Valve	20M30436	1	-1	-1	-1	-1	-1	-1
Regulator and Heater	20M00875	1	X	X	X			
Regulator and Heater	20M30435	1				X	X	X
Manifold Assembly	20M00879	1	X	X	X			
Manifold Assembly	20M00871	1				X	X	X
ST-90S Assembly	50M21173	1	X	X				
Inertial Platform, (See Section 3.3.1)								

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, INSTRUMENT UNIT (Continued)	Dwg. No.	Next Assy. Qty.	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
3.2.2 Thermal Conditioning System	20M40010	1	X	X	X			
3.3 ELECTRONIC SYSTEMS								
3.3.1 Guidance and Control								
Command Antenna	50M10484	2		X	X	X	X	-1
Command Receiver	50M10482	1		X	X		X	X
Command Receiver	50M10697	1				X		
Command Decoder	50M10483	1		X	X		X	
Command Decoder	50M10696	1				X		X
Command Power Divider	50M10485	1		X	X	-1	X	-1
Q-Ball Transducer	50M30645	1	X	X	X	X	X	X
Flight Control Computer (ST-90S)	50M30802	1	X	X				
Flight Control Computer (ST-124)	50M33301	1			X	X	X	X
Guidance Digital Computer	50M30580	1	X	X	X	X	X	X
Guidance Signal Processor (ST-90S)	10422001	1	X	X				
Guidance Signal Processor (ST-124)	50M32000	1	X	X	X	X	X	X
Inertial Platform, ST-124-M-3		1	X	X	X	X	X	X
Flight Sequencer	40M20652	1	-1	-1	-1	-1	-1	-1
Flight Sequencer Slave Unit	40M20653	1	-3	-3	-3			
Flight Sequencer Slave Unit	40M20653	2				-3	-3	-3
Local Angle of Attack Meters	10442010	4	X					

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

P - Passenger on Vehicle Indicated

IV. SATURN I CONFIGURATION, INSTRUMENT UNIT (Continued)	Dwg. No.	Next Assy. Qty.	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
3.3.1 Guidance and Control (Continued)								
Gyro Stabilizer Servo (ST-90S)	50M21624	1	X	X				
Program Device (ST-90S)	50M00800	1	X	X				
Horizon Sensor Assembly	50M01204	4	X	X				
Horizon Sensor Power Supply	50M01203	1	X	X				
Control Signal Processor	50M31251	1	X	X	-1			
Control Signal Processor	50M32800	1				X	X	X
Control Rate Gyro (3 Axis Package)	10422022	1	X	X	X	X	X	X
Rate Gyro Package (Pitch, Yaw, Roll)	50M10359	1			X	X	X	X
Control Accelerometer, Pitch	50M31126	1	X	X	X	X	X	X
Control Accelerometer, Yaw	50M31127	1	X	X	X	X	X	X
Programmer	50M10283	1	X					
3.3.2 Telemetry Systems								
Telemetry Assembly	50M10189	1	X					
	50M10192	1	X					
	50M10281	1	X					
PAM/FM/FM Assembly (F-5)	50M10471	1		X	X			
PAM/FM/FM Assembly (F-5)	50M10678	1				X	X	X
PAM/FM/FM Assembly (F-6)	50M10474	1		X				
PAM/FM/FM Assembly (F-6)	50M10489	1			X			
PAM/FM/FM Assembly (F-6)	50M10679	1				X	X	X

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, INSTRUMENT UNIT (Continued)	Dwg. No.	Next Assy. Qty.	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
3.3.2 Telemetry Systems (Continued)								
SS/FM Assembly (S-3)	50M10194	1	X	X	X			
SS/FM Assembly (S-3)	50M10680	1				-1	X	-1
PCM/RF Assembly (P-1)	50M10488	1	X	X	X	X	X	X
PCM/DDAS Assembly (P-1)	50M10487	1	X	X	X	X	X	X
Remote Digital Submultiplexer (P-1)	50M10316	1	X					
Remote Digital Submultiplexer (P-1)	50M10458			X	X			
Telemetry Multiplexer (P-1)	50M10486	1		X	X	X	X	X
Vibration Multiplexer (S-3)	50M10270	1	-1	-1	-1			
Vibration Multiplexer (S-3)	50M12021	1				X	X	X
R. F. Power Amplifier (S-3)	50M10195	1	X	X	X			
R. F. Assembly (S-3)	50M10673	1				X	X	X
R. F. Power Amplifier (F-5)	50M10190	1	X	X	X			
R. F. Assembly (F-5)	50M10671	1				X	X	X
R. F. Power Amplifier (F-6)	50M10193	1	X	X	X			
R. F. Assembly (F-6)	50M10672	1				X	X	X
Tape Recorder Assembly	50M10338	1	X	X	X	X	X	X
R. F. Multicoupler	50M10269	1	X	X	X	X	X	X
Telemetry Power Divider	50M10186	1	-1	-1	-1	-1	-1	-1
Telemetry Antenna	50M10342	2	-1	-1	-1			
Telemetry Antenna	50M12284	2				X	X	X

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, INSTRUMENT UNIT (Continued)	Dwg. No.	Next Assy. Qty.	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
3.3.3 Tracking Systems								
UDOP Antenna (Transmit)	50M10174	2	-1					
UDOP Antenna (Transmit)	50M10174	1		-1				
UDOP Antenna (Receive)	50M10175	1	-1	-1	-1			
UDOP Power Divider	50M10176	1	X					
UDOP Assembly	50M10317	1	-1	-1	-1			
ODOP Antenna (Transmit)	50M10349	1		-1	-1	-1	-1	-1
ODOP Antenna (Receive)	50M10626	1		-1	-1	-1	-1	-1
ODOP Transponder	50M12009	1		X	X		X	
ODOP Transponder	50M12181	1				X		X
Minitrack Transmitter	50M12280	1	-1					
Minitrack Transmitter	50M12049	1		X	X			
Minitrack Power Divider	50M12050	1	X	X	X			
Minitrack Antenna	50M12294	2	X	X	X			
Mistram Transponder	50M10123	1	-1	X	X			
Mistram Transponder	50M12268	1				-3	-1	-3
Mistram Antenna	50M10343	2	-1	-1				
Mistram Antenna	50M12087	2			X	X	X	X
Azusa Transponder	50M10448	1	X	-1	-1			
Azusa Transponder	50M12266	1				X	X	-1
Azusa R.I. Filter Assembly	50M10449	1	X	X	X			
Azusa R.I. Filter Assembly	50M12267	1				X	X	-1

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, INSTRUMENT UNIT (Continued)	Dwg. No.	Next Assy. Qty.	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
3.3.3 Tracking Systems (Continued)								
Azusa Antenna	08961064	1	X	X	X			
Azusa Antenna	50M10677	1				-1	X	-1
Radar Transponder (C-Band)	50M10187	1	X	X	-1			
Radar Transponder (C-Band)	50M10682	1				-1	-1	-1
Radar Antenna (C-Band)	50M10347	1	-1	-1	-1	-1	-1	-1
C-Band Duplexer	50M12033	1				X	X	X
Radar Altimeter	50M10138	1	X	X				
Radar Altimeter	50M12076	1			X	X	X	X
Radar Altimeter Antenna	50M10344	1	-1	-1				
Radar Altimeter Antenna	50M12052	1			X	X	X	X
3.4 ELECTRICAL SYSTEMS								
3.4.1 Electrical Supply System								
Minitrack Battery	40M20773	1		X	X			
Primary Battery, 28 vdc	40M20030	1	-1	-1	-1			
Primary Battery, 28 vdc	40M20038	1	X	X	-1			
Primary Battery, 28 vdc	40M20523	2				X	-1	-1
450 V. A. Static Inverter	50M03398	3	-1	-1				
450 V. A. Static Inverter	50M03398	1				-1	-1	-1
450 V. A. Static Inverter	50M01075	1				-1	-1	-1

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

IV. SATURN I CONFIGURATION, INSTRUMENT UNIT (Continued)	Dwg. No.	Next Assy. Qty.	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
3.4.1 Electrical Supply System (Continued)								
Master Measuring Voltage Supply	40M20002	1	X	X	X			
Master Measuring Voltage Supply	40M20881	1				X	-1	X
3.4.2 Electrical Distribution System								
Power Distributor	50M01071	1	X	X	X			
Power Distributor	50M03999	1				-1	-1	-1
Control Distributor	50M01073	1	-1	-1	-1			
Control Distributor	50M11758	1				-1	-1	-1
Measuring Distributor	50M01072	1	-1	-1	-1			
Measuring Distributor	50M11757	1				-1	X	-1
Measuring Distributor	50M11759	1				-1	X	-1
Measuring Distributor	50M00909	1		X	X			
56 vdc Power Supply	40M20066	1	X	X	X			
56 vdc Power Supply	40M20807	1				X	X	-1
Control Voltage Supply (60 vdc)	10421910	1	X	X	X			
EDS Distributor	50M01074	1		X	X			

Note: The part configuration effective for a particular vehicle consists of the drawing number combined with the number under the applicable vehicle.

SECTION V

V. SATURN I MEASURING PROGRAM, S-I STAGE	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.0 S-I STAGE FLIGHT MEASUREMENTS										
-Total	504	527	605	609	616	634	656	521	643	374
-Percent Usable	96.2	98.5	96.5	96.1						
1.1 STRUCTURES -Total	71	86	136	138	228	232	197	200	209	96
Temperature -Total	42	42	61	65	102	101	102	100	114	23
Tail Section Base	3	3	3	3	3	3	3	7	3	3
Base Plate Support	1	1	1	1						
Thrust Frame Area	1	1	1	1	3	3	1	1	1	
Thrust Ring	1	1	1	1						
Outrigger Thrust Assembly	2	2	2	2						
Radiation Shield	15 (1)	15	15 (1)	15 (1)	8	7		6	7	
Flame Shield					2	2	4	4	3	3
Heat Shield	2	2	2	2 (1)	11	11	15	11	13	6
Fire Wall	1	1	1	1						
Fins, Skin					47	47	40	40	44	
Fins, Stub							6	2	3	
Container Fairings					3	3	3	3	3	
F-1 Skirt Skin							1		6	
Container Skirts/Shrouds	2	2	2	2	2	2	2	1	2	
Shroud	4	4	4	4	3	3	4	3	3	3

Legend: Number in parenthesis indicates the number of measurements that were completely or partially unusable

V. SATURN I MEASURING PROGRAM, S-I STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.1 STRUCTURES (Continued)										
Temperature (Continued)										
Tail Skin					3	3	3	3	3	3
Escape Chute	1	1			1	1	1	1	1	1
Propellant Container, Ambient					3	4	4		6	
LOX Container Skirt							1	1	1	
LOX Container Skin	7	7	7	7	7	6	6	7	6	
RP-1 Container Skin	1	1	1	1				1	1	
Spider Beam Fairing							1	1	1	
Seal Plate	1	1	1	1			1		1	
S-I External Structure			6	5						
 S-IV External Structure			12	12						
 S-IV Thermal Coating				4						
 S-V Stage			2	2						
 Nose Cap (Payload)				1						
 S-I/S-IV Interstage					6	6	6	8	6	4



V. SATURN I MEASURING PROGRAM, S-I STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.1 STRUCTURES (Continued)										
Pressure -Total	7	15	34	30	27	27	29	32	30	28
LOX Container					1	1	1			
Tail Section	2	2	2 (1)	2	3	2	3	3	3	3
Tail Base	4	4	3 (3)	4	4	5	4	4	4	4
Shear Panel Compartment					1	1	1	1	1	1
Flame Shield					1	1	1	1	1	1
Heat Shield			1	1	4	4	4	4	4	4
Firewall					1	1	1	1	1	1
Fins					8	8	8	8	8	8
Container Fairings					1	1	1	1	1	1
Container Skirts					3	2	3	3	5	
Spider Beam Fairing							2	2	2	1
S-1 External Structure		8	12	12						
 S-I/S-IV Interstage						1		4		4
 S-IV Stage			4	10						
 S-V Stage	1	1	12	1						

Legend: Number in parenthesis indicates the number of measurements that were completely or partially unusable
 - These measurements are taken on structure above the S-I Stage but are telemetered by the S-I Stage telemetry.

V. SATURN I MEASURING PROGRAM, S-I STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.1 STRUCTURES (Continued)										
Vibration -Total	11	13	14	17	31	34	35	38	41	15
Center LOX Container	2	2			2	2	2	2	2	
LOX Containers	2	2 (1)			2	2	2	2	2	
LOX Container Support							2		2	
RP-1 Containers	2	2	2	4	5	6	6	6	6	
Rear Spar Flange					1	1	1	1	1	
Shear Beam					3	3	2	2	2	2
Shear Panel					2	2	2	2	3	1
Shroud Panel					1	1	1	1	1	
Thrust Beam							1	1	1	1
Thrust Ring	2	3	2	2	3	3	4	3	6	4
Radiation Shield		1	1							
Fins					7	6	6	6	6	
Upper Structure	3	3	1	3 (1)		3	1	3	3	
Spider Beam			2	2	5	5	5	6	5	5
 S-IV Stage			4	4 (1)						
 Nose Cone			2	2						
Mounting Brackets								2	1	1
 S-I/S-IV Interstage								1		1

Legend: Number in parenthesis indicates the number of measurements that were completely or partially unusable

 - The measurements are taken on structure above the S-I Stage but are telemetered by the S-I Stage telemetry

V. SATURN I MEASURING PROGRAM, S-I STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.1 STRUCTURES (Continued)										
Strain -Total	11	16	27	26	68	70	27	30	24	30
Mounting Studs, Engine Compartment	3	8	3 (1)	2	8	8	8	8	8	8
Spar Flange					21	22				
Spar Web					12	12				
Fins Skin					12	12				
Tension Ties, Forward			16	16	15	16	16	16	16	16
Truss, Forward	8	8	8	8						
Thrust Ring							3			
 S-I/S-IV Interstage								6		6
1.2 PROPULSION SYSTEM -Total	360	367	362	349	336	351	315	270	298	237
Propulsion -Total	84	76	67	67	51	51	26	17	30	26
Main RP-1 Valve Position	8	8	8 (1)	8	8	8				
Main LOX Valve Position	8	8	8 (1)	8	8	8				
Turbine Speed	8	8	8	8	8	8	8	8	8	8
RP-1 Level, Continuous							4		4	4
RP-1 Level, Discrete	8 (1)	8	4	4 (1)	12	12	4	4	4	4
LOX Level, Continuous							4		5	5
LOX Level, Discrete	10 (1)	10 (4)	5 (3)	5 (3)	15	5	2	5	5	5

Legend: Number in parenthesis indicates the number of measurements that were completely or partially unusable
 - The measurements are taken on structure above the S-I Stage but are telemetered by the S-I Stage telemetry

V. SATURN I MEASURING PROGRAM, S-I STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.2 PROPULSION SYSTEM (Continued)										
Propulsion (Continued)										
Main RP-1 Flowrate	16	16	16	16	12		4		4	
Main LOX Flowrate	16 (1)	16	16	16						
LOX Flowrate (to heat exchanger)	8									
Propellant Utilization Computer	2	2	2	2						
Temperature -Total	100	102	102	104	93	96	94	98	107	90
Engine Nozzle				4					7	7
LOX Pump Bearings	8	8	8	8	8	8	8	8	8	8
Gear Box Bearing	24 (1)	24	24	24	24	24	24	24	24	24
Turbine Shaft Bearings	16 (1)	16	16	16 (2)	16	16	16	16	16	16
Turbine Exhaust	8 (1)	8	8	8			4	4	4	
LOX Pump Inlet	8	8	8	8 (1)	8	8	8	8	8	8
Fuel Pump Inlet	1	1	1	1	1	1	1	1	1	1
Heat Exchange - GOX	4	4	4	4						2
Gas Generator Chamber	8	8	8	8	8	8	8	8	8	8
Hydraulic Oil	4	4	4	4	4	4	4	4	4	4
Hydraulic Activator Support	2	2	2	2						
Fuel Container Ullage - Gas	1	1	1	1	3	3		1	2	
LOX Container Ullage - Gas	2 (1)	3	3	3		2	1	2	3	1
LOX	3 (1)	3	3	3	3	3	3	3	3	

Legend: Number in parenthesis indicates the number of measurements that were completely or partially unusable

V. SATURN I MEASURING PROGRAM, S-I STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.2 PROPULSION SYSTEM (Continued)										
Temperature (Continued)										
GOX Control Valve					1	1	1	1	1	1
GOX Manifold	1	1	1	1	2	2	1	1	1	
GOX Vent						1	1	1	1	
Hydrogen Vent Pipe					2	2	2	3	2	
GN ₂ Manifold		1	1	1	1	1	1	1	1	
GN ₂ Plenum Chamber					1	1	1	1	1	
GN ₂ Spheres	2	2	2	2	2	2	2	2	2	2
Helium Spheres					1	1	1	1	3	
Engine Compartment	8	8	8	8	8	8	7	8	7	8
Pressure -Total	105	107	119	117	101	101	95	86	98	71
Combustion Chamber	8	8	12 (1)	12 (8)	16	16	8	8	14	8
Fuel Pump Inlet	8	8 (1)	8 (1)	8	8	8	8	8	8	8
LOX Pump Inlet	8	8	8 (1)	8	8	8	8	8	8	8
Turbine Inlet	15	15 (1)	15 (1)	13	8	8	8	8	8	8
Gear Case Ullage	8	8	8 (2)	8	8	8	8	8	8	8
Gear Case Lubricant	16	16	16 (2)	16	8	8	8	8	8	8
Ignition Monitor Valve	8	8	8	8						
Hydraulic Source	4	4	4	4	4	4	4	4	4	4
Hydraulic Actuators	8	8	8	8	8	8	8	8	8	8

Legend: Number in parenthesis indicates the number of measurements that were completely or partially unusable

V. SATURN I MEASURING PROGRAM, S-I STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.2 PROPULSION SYSTEM (Continued)										
Pressure (Continued)										
Hydraulic Oil Return	4	4	4	4						
RP-1 Ullage Gas	1	1	1	1	2	2	2	2	2	1
LOX Ullage Gas	3	5	5 (1)	5	3	3	3	3	3	2
LOX Heat Exchanger					2	2	2	2	2	
LOX Suction Line					1	1	1	1	1	
LOX Manifold					1	1	1	1	1	
LOX Drain			2	2						
LOX Sloshing							4		4	
Fuel Drain			2	2						
Propellant Utilization Computer	4	4	4	4 (1)			1			
DEHAP GOX							2		2	
GOX Manifold	1	1	1	1	3	3	1	3	2	
GOX Control Valve					3	3	3	3	2	2
Propellant Sloshing	6 (6)	6 (1)	6	6	6	6	2		2	
Engine Compartment					2	2	2	2	2	2
GN ₂ Spheres	1	1	1	1	1	1	1	1	1	1
GN ₂ Plenum Chamber					1	1	1	1	1	1
Helium Spheres					1	1	1	1	1	
Control Equipment Supply	2	2	2	2	2	2	2	2	2	2
Camera Purge System					1	1	2			

Legend: Number in parenthesis indicates the number of measurements that were completely or partially unusable

V. SATURN I MEASURING PROGRAM, S-I STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.2 PROPULSION SYSTEM (Continued)										
Pressure (Continued)										
Retromotors			4	4	4	4	4	4	4	
Vibration -Total	37	43	26	15	39	40	35	36	30	18
Thrust Chamber Dome	8 (3)	8	4	5 (1)	8	8	8	8	8	8
Turbine Gear Box	4	4	6	7 (1)	4	4	4	4	5	8
Turbine Starter Flange		1								
Fuel Pump Inlet Flange		1								
Hydraulic Package		1	1	1						
Hydraulic Actuators	25 (1)	24	8		6	6	6			
Gimbal Point Support		2	2							
Heat Exchanger					3	3	3	3	3	
GOX Line					6	6	6	6	6	
RP-1 Suction Lines		1	1	1	6	7	6	6	6	
RP-1 Wrap Around Lines					2	2	2	2	2	
RP-1 Cracking Valve		1	1							
Retromotors			3	1 (1)	4	4	2	4	4	
Engine Thrust Pad								2		2
Engine Thrust Ring								1		

Legend: Number in parenthesis indicates the number of measurements that were completely or partially unusable.

V. SATURN I MEASURING PROGRAM, S-I STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.2 PROPULSION SYSTEM (Continued)										
Flight Mechanics -Total	0	2	2	0	0	0	0	0	0	0
Propellant Density		2	2							
Strain -Total	0	0	0	0	16	32	32	0	0	0
Engine Skirt					16	32	32			
Steering Control -Total	20	20	20	20	4	4	4	4	4	4
Hydraulic Oil Level	4	4	4	4	4	4	4	4	4	4
Actuator Position	8	8	8	8						
Actuator, Delta I	8	8	8	8						
Event Signal -Total	14	17	26	26	30	27	29	29	29	28
First Motion	1	1	1	1	2	1	1	1	1	1
GOX Flow Control Valve					1	1	1	1	1	1
LOX Container Pressure Switch		2	2	2	2	2	1	1	1	1
LOX Emergency Pressure Switch							1	1	1	
RP-1 Level Cutoff	2	2	2	2	2	2	2	2	2	2
LOX Level Cutoff	2	2	2	2	2	2	2	2	2	2
Cutoff Signal	1	2	2	2	2	2	2	2	2	2
Engines Cutoff	8	8	8	8	8	8	8	8	8	8
Retromotor Ignition			1	1	1	1	1	1	1	1

V. SATURN I MEASURING PROGRAM, S-I STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.2 PROPULSION SYSTEM (Continued)										
Event Signal (Continued)										
EBW Retromotors			8	8	10	8	8	8	8	8
Fuel Depletion Cutoff							2	2	2	2
1.3 ELECTRONIC SYSTEMS -Total	58	54	76	87	23	22	115	30	115	26
Temperature -Total	15	4	6	3	0	0	88	6	89	8
Fire Detection							80		82	
Calibration Flange							2		1	
Amplifier Modules	15									
Gas Bearing Supply			1	1						
Station Ambient			1	1			6	6		2
Aspirator Surface									6	6
Azusa		1	1	1						
Q-Ball (Payload)		1	1							
Air Density Gauge		2	2							
Pressure -Total	8	8	9	11	0	0	0	0	0	0
Instrument Compartment	2	2	3	3						
ST-90S Gas Bearing Supply	2	2	1	1						
ST-124 Gas Bearing Supply			1	1						

V. SATURN I MEASURING PROGRAM, S-I STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.3 ELECTRONIC SYSTEMS (Continued)										
Pressure (Continued)										
Q-Ball (Payload)	4	4	4	6						
Vibration -Total	6	7	9	12	6	6	6	6	6	0
Instrument Panel, F-1/F-2		1	2	5	6	6	6	6	6	
ST-90S	2	2	1	1						
ST-124			3	3						
ST-124 Mounting Frame			3	3						
Pitch and Yaw Vibration	4	4								
Flight Mechanics -Total	17	19	19	17	11	9	13	9	9	10
Angular Velocity	8	8	8	8	8	6	6	6	6	3
Acceleration	5	5	5	5	3	3	3	3	3	3
Angle of Attack	4	6	6	4			4			4
Steering Control -Total	1	1	2	2	0	0	0	0	0	0
Platform Tilting Program, ST-90S	1	1	1	1						
Pitch Program, ST-124			1	1						

V. SATURN I MEASURING PROGRAM, S-I STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.3 ELECTRONIC SYSTEMS (Continued)										
Guidance and Control -Total	8	8	23	24	0	0	0	0	0	0
ST-90S Platform Position	3	3	3	3						
Servo Signal	2	2	3	3						
Velocity	3	3	5	5						
ST-124 Gyro Pickup			3	3						
Servo Signal			1	1						
Accelerometer			2	2						
Attitude			4	5						
Pressure Switch			1	1						
Temperature Monitor			1	1						
RF and Telemetry -Total	0	0	0	5	0	0	0	0	0	0
Altimeter				5						
Event Signals -Total	1	4	3	3	3	4	4	6	4	6
Flight Sequencer Steps	1	1	1	1		1	1	1	1	1
Separation Prestart, S-I to S-IV					1	1	1	1	1	1
Cutoff and Destruct Indication					2	2	2	2	2	2
Time Base Selector		2	2	2						
Telemetry Test Signal		1								
 S-I/S-IV Interstage								2		2

 - The measurements are taken on structure above the S-I Stage but are telemetered by the S-I Stage telemetry

V. SATURN I MEASURING PROGRAM, S-I STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.3 ELECTRONIC SYSTEMS (Continued)										
Miscellaneous -Total	0	1	2	7	3	3	4	3	7	2
Sound Intensity		1	1	3 (1)	3	3	4	3	7	1
Radiation Sensor			1	1						
Micrometeoroid Detection				1						
MISTRAM				2						
 Acoustic-S-I/S-IV Interstage										1
Voltage, Current and Frequency -Total	2	2	3	3	0	0	0	0	0	0
Beta Reference Voltage	1	1	1	1						
Inverter Frequency	1	1	2 (1)	2						
1.4 ELECTRICAL SYSTEMS -Total	15	20	23	27	18	16	16	14	16	8
Vibration -Total	1	1	1	1	2	2	2	0	2	0
Distributor		1	1	1						
Distributor Mounting Bracket	1				2	2	2		2	
Voltage, Current, and Frequency -Total	14	19	22	26	16	14	14	14	14	8
Measuring Voltage	8	8	8	8	8	8	8	8	8	2
Bus Voltage	3	3	3	3	3	2	2	2	2	2
Battery Current		2	2	2	2	2	2	2	2	2

Legend: Number in parenthesis indicates the number of measurements that were completely or partially unusable
 - The measurements are taken on structure above the S-I Stage but are telemetered by the S-I Stage telemetry

V. SATURN I MEASURING PROGRAM, S-I STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
1.4 ELECTRICAL SYSTEMS (Continued)										
Voltage, Current, and Frequency (Cont'd)										
AGC Voltage, Command	1	1	1	1	1	1	1	1	1	1
AGC Voltage, UDOP	1	1	1	1						
AGC Voltage, Azusa		1	1	1						
AGC Voltage, MISTRAM				2						
Thrust Commit Voltage		1	1	1	1	1	1	1	1	1
Command Voltage	1	1	1	1						
ST-124 Voltage			3	3						
Inverter Voltage					1					
Power Output, MISTRAM				2						
Power Output, Azusa		1	1	1						
1.5 ORDNANCE -Total	0	0	8	8	3	5	5	7	5	7
Event Signals -Total	0	0	8	8	3	5	5	7	5	7
Vent Panel Release, Ignition					1		1	1	1	1
EBW Vent Port Release						3	2	2	2	2
EBW Destruct			2	2	2	2	2	2	2	2
Experimental EBW Voltage			6	6						
EBW Voltage Separation								2		2

V. SATURN I MEASURING PROGRAM, S-IV STAGE	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
2.0 S-IV STAGE FLIGHT MEASUREMENTS	For Dummy S-IV Stage Measurements, See S-I Stage									
-Total					342	358	397	407	406	407
-Percent Usable										
2.1 STRUCTURES -Total					40	40	35	28	51	28
Temperature -Total					21	21	20	15	20	15
Skin, Aft							4	2	4	2
Cloth Closure							2		2	
Base Heat Shield					10	10	2	4	2	4
Base Thrust Structure					4	4	4	4	4	4
LH ₂ Container, Outer Skin					2	2	3	3	3	3
Systems Tunnel					1	1	1	1	1	1
Skin, Forward					4	4	4		4	
S-I/S-IV Interstage								1		1
Pressure -Total					2	2	3	8	15	8
Container Common Bulkhead					1	1	1	1	1	1
Base Heat Shield								4	1	4
S-I/S-IV Interstage					1	1	1		1	
Skin, External							1	1	12	1
Interstage Forward								2		2

V. SATURN I MEASURING PROGRAM, S-IV STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
2.1 STRUCTURES (Continued)										
Vibration -Total					6	6	6	5	7	5
Base Forward							1		2	
Interstage Forward								2		2
Thrust Structure					4	4	3		3	
Container Dome, Forward					2	2	2		2	
Heat Shield								3		3
Strain -Total					11	11	6	0	9	0
Engine Mounts					6	6			6	
Container Dome, Aft					3	3			3	
Thrust Structure, Beam					2	2				
LH ₂ Container							6			
2.2 PROPULSION SYSTEM -Total					231	240	281	294	273	293
Propulsion -Total					12	12	12	12	12	12
LOX Pump Speed					6	6	6	6	6	6
P. U. Valve Position					6	6	6	6	6	6

V. SATURN I MEASURING PROGRAM, S-IV STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
2.2 PROPULSION SYSTEM (Continued)										
Temperature -Total					67	68	79	84	81	84
Turbine Inlet					6	6	6	6	6	6
LH ₂ Pump Inlet					6	6	6	6	6	6
LOX Pump Inlet					6	6	6	6	6	6
LH ₂ Pump Housing					4	4	6	6	6	6
Thrust Chamber Outer Skin					6	6	6	6	6	6
Hydraulic Pump Inlet, Oil					6	6	6	6	6	6
Actuator Reservoir					4	4	6	6	6	6
LH ₂ Container Ullage					4	4	4	4	4	4
LH ₂ Probe					3	3	3	3	3	3
LH ₂ Suction Line Inlet					1	1	1	1	2	1
LOX Container Ullage					1	1	2	3	3	3
LOX Probe					3	3	3	3	3	3
LOX Pump Housing							6	6	6	6
LOX Suction Manifold					1	1	1	1		1
LH ₂ Container Gas Supply					2	2	2	2	2	2
LOX Container Diffuser Gas						1	1			
LOX Container Makeup Inlet					1	1	1			
Hydrogen Vents					9	9	9	10	9	10
Helium Spheres and Control					3	3	3	3	3	3
Helium Heater					1	1	1	6	4	6

V. SATURN I MEASURING PROGRAM, S-IV STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
2.2 PROPULSION SYSTEM (Continued)										
Pressure -Total					102	102	114	120	109	120
Thrust Chamber					12	12	12	12	12	12
LH ₂ Venturi, Inlet					6	6	6	6	6	6
LH ₂ Injector, Differential					6	6	6	6	6	6
LOX Injector, Differential					6	6	6	6	6	6
Turbine Inlet					5	5	6	6	6	6
LH ₂ Pump					12	12	12	12	12	12
LOX Pump					12	12	12	12	12	12
Hydraulic Accumulator, GN ₂					6	6	6	6	6	6
Hydraulic Reservoir, Oil					6	6	6	6	6	6
Hydraulic Pump Outlet, Oil					6	6	6	6	6	6
LH ₂ Ullage					2	2	1	1	1	1
LOX Ullage					1	1	1	1	1	1
LH ₂ Container Gas Supply					1	1	1	1	1	1
LOX Vent							6	2	2	2
LOX Container Makeup, Inlet					1	1				
RP-1 Vent							6	1	1	1
Helium Sphere					3	3	3	3	4	3
Control Helium Regulator					1	1	2	1	1	1
Helium Heater					2	2	2	6	6	6
Hydrogen Vents					9	9	9	9	9	9

V. SATURN I MEASURING PROGRAM, S-IV STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
2.2 PROPULSION SYSTEM (Continued)										
Pressure (Continued)										
Ullage Motor Chamber					4	4	4	4	4	4
LH ₂ Container Makeup Pressure					1	1	1	1	1	1
Actuators								12		12
Vibration -Total					4	5	22	23	18	23
Engine Turbopump					1	1				
Hydraulic Actuator					1	1	1			
LH ₂ Suction Line					1	1	1	2		2
Gear Case							6	6	6	6
P. U. System Computer							1	1	1	1
Helium Spheres							2	2	2	2
Helium Heater							1	1	1	1
LOX Suction Line					1	1	1	2	1	2
Container Vents								4		4
Helium Regulator						1	1	1	1	1
Engine P. U. Valve							2	2		2
Thrust Chamber Dome							6		6	
LOX P. U. Probe								1		1
LOX Dome								1		1

V. SATURN I MEASURING PROGRAM, S-IV STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
2.2 PROPULSION SYSTEM (Continued)										
Event Signals -Total					24	30	31	32	30	31
LH ₂ Pressure					6	6	6	6	6	6
LOX Pressure					6	6	6	6	6	6
Hydraulic Piston Position						6	6	6	6	6
Propellant Utilization System					2	2	2	2	2	2
LH ₂ Pressurization System					1	1	2		5	
Helium Heater					5	5	5	5	1	5
LOX Container Vent					2	2	2	3	2	2
LH ₂ Container Vent					2	2	2	4	2	4
Miscellaneous -Total					11	11	11	11	11	11
LOX and LH ₂ Container Mass					4	4	4	4	4	4
LOX and LH ₂ Level Sensors					6	6	6	6	6	6
P. U. Error Signal					1	1	1	1	1	1
Voltage, Current, & Frequency - Total					11	12	12	12	12	12
Engine Exciter Box Voltage					6	6	6	6	6	6
Helium Heater Exciter Voltage					1	1	1	1	1	1
Ullage Motor Monitor					4	5	5	5	5	5

V. SATURN I MEASURING PROGRAM, S-IV STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
2.3 ELECTRONIC SYSTEMS -Total					55	61	59	62	60	63
Temperature -Total					8	8	1	6	0	6
Transmitter Rack							1			
Base Calorimeter					8	8		6		6
Vibration -Total					2	2	2	1	2	1
Electrical Package, Sequencer					2	2	2		2	
Inverter								1		1
Flight Mechanics -Total					4	9	11	9	11	9
Acceleration					2	7	9	7	9	7
S-I/S-IV Extensiometer					2	2	2	2	2	2
RF and Telemetry -Total					2	2	2	3	3	3
Telemeter Power Monitor					2	2	2	3	3	3
Event Signals -Total					22	23	25	25	27	26
Engine Start Signal					1	1	1	1	1	1
Engine Start					6	6	6	6	6	6
LH ₂ - Command					1	1	1	1	1	1
LOX - Command					1	1	1	1	1	1

V. SATURN I MEASURING PROGRAM, S-IV STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
2.3 ELECTRONIC SYSTEMS (Continued)										
Event Signals (Continued)										
Control to S-IV - Command					1	1	1	1	1	1
Arm All Engine Cutoff					1	1	2	2		2
Enable Engine Out					1	1	1	1	6	1
Engine Cutoff - Command					1	1	2	1	1	1
Engine Out Signal					6	6	6	6	6	6
Hydraulic Valve - Command					1	1	1	1	1	1
Ullage Motor Jettison					2	2	2	1	2	1
Ullage Motor Ignition								1		1
LH ₂ Prestart Command						1	1	1	1	1
LOX Prestart Command										1
Step Pressure Command								1		1
Miscellaneous -Total					4	4	5	6	5	6
Detonation Pressure Switch					4	4	4	4	3	4
Tape Recorder							1	2	2	2
Voltage, Current & Frequency -Total					13	13	13	12	12	12
Reference Voltage					13	13	13	12	12	12

V. SATURN I MEASURING PROGRAM, S-IV STAGE (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
2.4 ELECTRICAL SYSTEMS -Total					10	11	16	16	16	16
Temperature -Total					2	2	7	6	6	6
Power Distribution Box							1			
Forward Distribution							1			
Static Inverter					1	1	1	1	1	1
P. U. Electrical					1	1	1	1	1	1
Battery							3	4	4	4
Voltage, Current & Frequency -Total					8	9	9	10	10	10
Battery Voltage					5	5	5	5	5	5
Static Inverter, 115 Volts					1	1	1	1	1	1
Battery Current					2	3	3	4	4	4
2.5 ORDNANCE -Total					6	6	6	7	6	7
Vibration -Total								1		1
EBW Unit								1		1

V. SATURN I MEASURING PROGRAM, INSTRUMENT UNIT	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
3.0 INSTRUMENT UNIT MEASUREMENTS										
-Total					201	199	187	239	217	241
-Percent Usable										
3.1 STRUCTURES -Total					31	32	31	50	42	48
Temperature -Total					2	2	1	18	6	18
Instrument Unit Ambient					1	1	1	5	5	5
ST-124 Mounting Frame								1	1	1
Nose Cap, (Payload)					1	1				
Reaction Control System (Payload)								12		12
Vibration -Total					26	27	27	30	34	28
Skin					1	1				
Bending					2	2	2	2	2	2
I. U. Mounting Ring					5	5	7	4	7	4
Apollo Mounting Ring					5	5	6	4	6	4
Apollo Structure (Payload)						2				
Instrument Panels					3	3	3			
Aft Ring Frame					1					
ST-124 Mounting Frame					3	3	3	3	3	3
ST-124 Support					3	3	3	5	6	3

V. SATURN I MEASURING PROGRAM, INSTRUMENT UNIT (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
3.1 STRUCTURES (Continued)										
Vibration (Continued)										
Guidance Computer Support					3	3	3	3	3	3
M. M. C. Mounting								7	7	7
Service Module & Adapter (Payload)								2		2
Miscellaneous -Total					3	3	3	2	2	2
Sound Intensity - I. U.					3	2	2	1	1	1
Sound Intensity - Apollo						1	1	1	1	1
3.2 FLUID SYSTEMS -Total					4	5	5	7	5	7
Temperature -Total					0	1	1	2	2	2
ST-124 Gas Bearing Supply						1	1	1	1	1
Inlet ABRHA								1	1	1
Pressure -Total					2	2	2	2	2	2
Gas Bearing Supply, ST-90S & ST-124					2	2	2	2	2	2
Vibration -Total					1	1	1	2	0	2
LN ₂ Cooler Bracket					1	1	1			
Air Bearing Supply Panel								2		2

V. SATURN I MEASURING PROGRAM, INSTRUMENT UNIT (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
3.2 FLUID SYSTEMS (Continued)										
Guidance and Control -Total					1	1	1	1	1	1
Gas Bearing Switch, ST-124					1	1	1	1	1	1
3.3 ELECTRONIC SYSTEMS -Total					153	150	139	169	158	173
Temperature -Total					15	11	11	12	11	12
Horizon Sensor					4	4	4			
Guidance Computer					1	1	1	2	2	2
Guidance Signal Processor					1	1	1	2	2	2
MISTRAM Internal					1					
Azusa Internal					1	1	1	1	1	1
Q Ball							1	1	1	1
Telemetry Assembly Surface					1	1	1	2	2	2
C-Band Internal					1	1	1	1		1
ST-90S Ambient					1	1				
ST-124 Ambient					1	1	1	1	1	1
Minitrack Beacon and Battery					3					
RF Assembly								1	1	1
PCM/RF Assembly								1	1	1

V. SATURN I MEASURING PROGRAM, INSTRUMENT UNIT (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
3.3 ELECTRONIC SYSTEMS (Continued)										
Pressure -Total					8	8	8	10	9	10
Instrument Compartment Guidance					2	2	2	2	2	2
Q Ball (Payload)					6	6	6	7	6	7
ST-124								1	1	1
Vibration -Total					11	11	8	5	3	5
Telemetry Rack							2	2		2
Instrument Racks					2	2				
ST-90S Moving Cradle					3	3				
ST-124 Inertial Gimbal					3	3	3	3	3	3
Horizon Sensor					2	2	2			
MISTRAM Transponder					1	1	1			
Flight Mechanics -Total					8	8	9	11	11	11
Angular Velocity					3	3	3	3	3	3
Acceleration					5	5	5	5	5	5
Control Acceleration Switch							1	1	1	1
Air Density								2	2	2

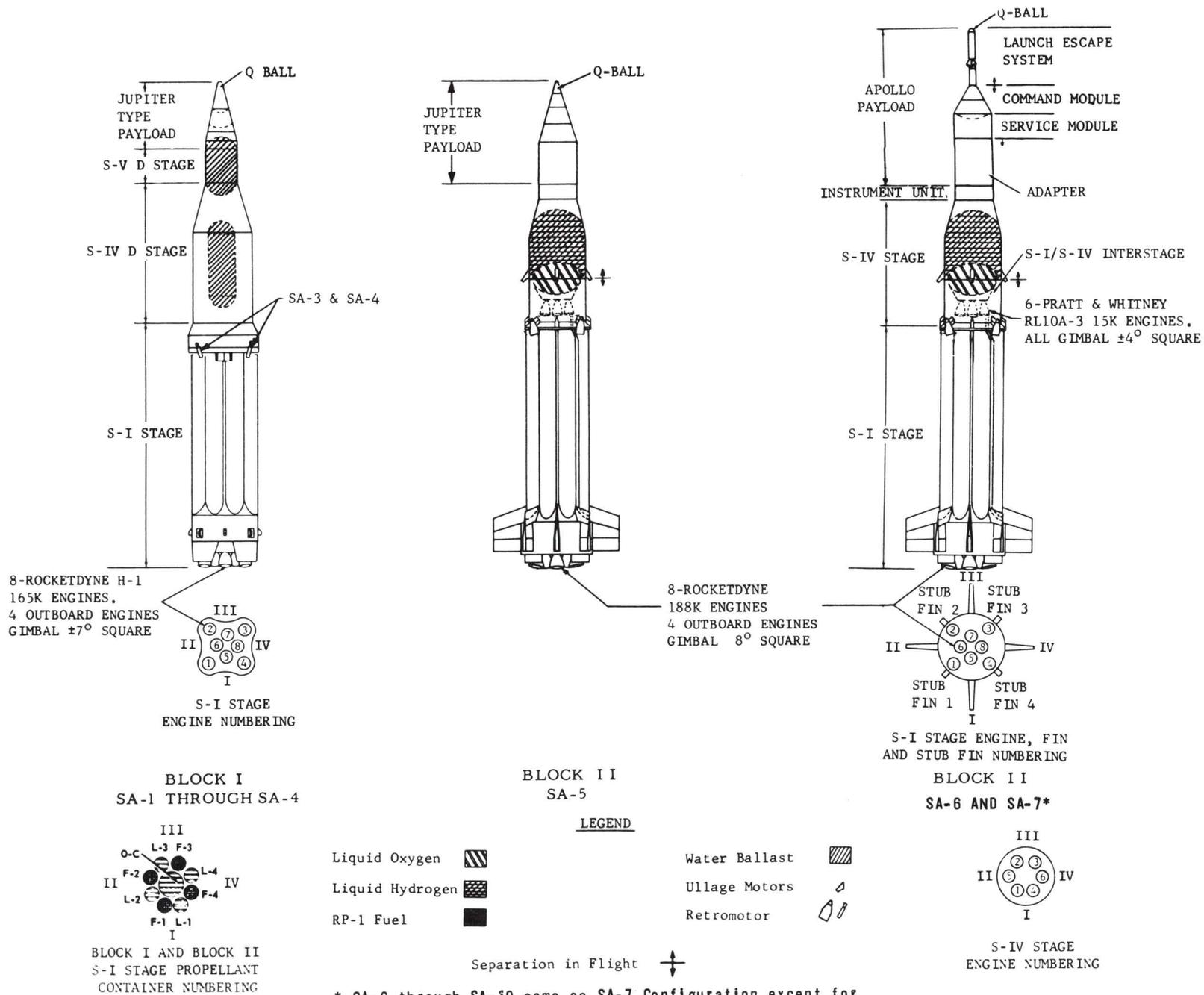
V. SATURN I MEASURING PROGRAM, INSTRUMENT UNIT (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
3.3 ELECTRONIC SYSTEMS (Continued)										
Steering Control -Total					41	41	40	40	40	40
Hydraulic Actuators					40	40	40	40	40	40
Tilting Program, ST-90S					1	1				
Guidance and Control -Total					40	39	32	28	30	28
Voltage 1.5 kc and 1.8 kc GSP					2	2	2	2	2	2
Velocity					9	9	6	6	6	6
Accelerometer Pickups, ST-124					3	3	3	3	3	3
Gyro Pickups, ST-124					3	3	3	3	3	3
Redundant Servo Signal, ST-124					1	1	1	1	1	1
Attitude, ST-124					6	6	6	6	5	6
Gimbal Temperature Monitor					1	1	1			
Gyro Servo Signal, ST-90S					3	3				
Azimuth Position, ST-90S					1	1				
Pitch, Yaw, Roll Position ST-90S					3	3				
Guidance Computer Operation					5	1	1	1	1	1
Guidance Command					3	3	3	3	3	3
Digital Command						2	2		1	
Command Systems Decoder						1	1		1	
Encoder Shaper							3	3	3	3
Digital Command Reset									1	

V. SATURN I MEASURING PROGRAM, INSTRUMENT UNIT (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
3.3 ELECTRONIC SYSTEMS (Continued)										
RF and Telemetry -Total					11	10	9	12	9	13
Radar Altimeter					11	6	6	6	6	6
ODOP						2	2	2	2	2
Receiver Limiter Test Voltage						1	1	1	1	2
Subcarrier Detector						1				
Range Safety Telemetry								3		3
Event Signals -Total					3	5	5	27	25	30
First Motion					2	1	1	1	1	1
Flight Sequencer Steps					1	1	1	1	1	1
Decoder Relay						2	2			
Computer Idle-Load						1	1			
Range Safety Decoder								5	5	5
Firing M. M. C. Deployment								11	13	11
Separation M. M. C. Cover								7	5	7
L. E. T. Jettison								2		5
Miscellaneous -Total					8	8	8	0	0	0
Horizon Sensor					8	8	8			

V. SATURN I MEASURING PROGRAM, INSTRUMENT UNIT (Continued)	BLOCK I				BLOCK II					
	SA-1	SA-2	SA-3	SA-4	SA-5	SA-6	SA-7	SA-8	SA-9	SA-10
3.3 ELECTRONIC SYSTEMS (Continued)										
Voltage, Current and Frequency -Total					8	9	9	24	20	24
AGC Voltage, Tracking					3	4	4	4	3	4
Measuring Voltage					1	1	1	1	1	1
UDOP and Command Voltage					1	1	1			
Power Output, Tracking					3	3	3	3	3	3
R.F. Power Output								4	5	4
R.F. Reflective Power								4	5	4
M.M.C. Capsule Deployment Voltage								2	2	2
Control Voltage								1	1	1
C-Band Power								5		5
3.4 ELECTRICAL SYSTEMS -Total					13	12	12	13	12	13
Temperature -Total					1	1	1	2	2	2
Battery, Ambient					1	1	1	2	2	2
Voltage, Current, and Frequency -Total					12	11	11	11	10	11
Bus Voltages					3	3	3	3	3	3
Inverter Voltage					3	3	3	3	3	3
Inverter Frequency					2	2	2	2	1	2

SECTION VI.
ILLUSTRATIONS

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* SA-8 through SA-10 same as SA-7 Configuration except for IU change from R & D to Prototype.

Figure 1. Saturn I Vehicle Configurations

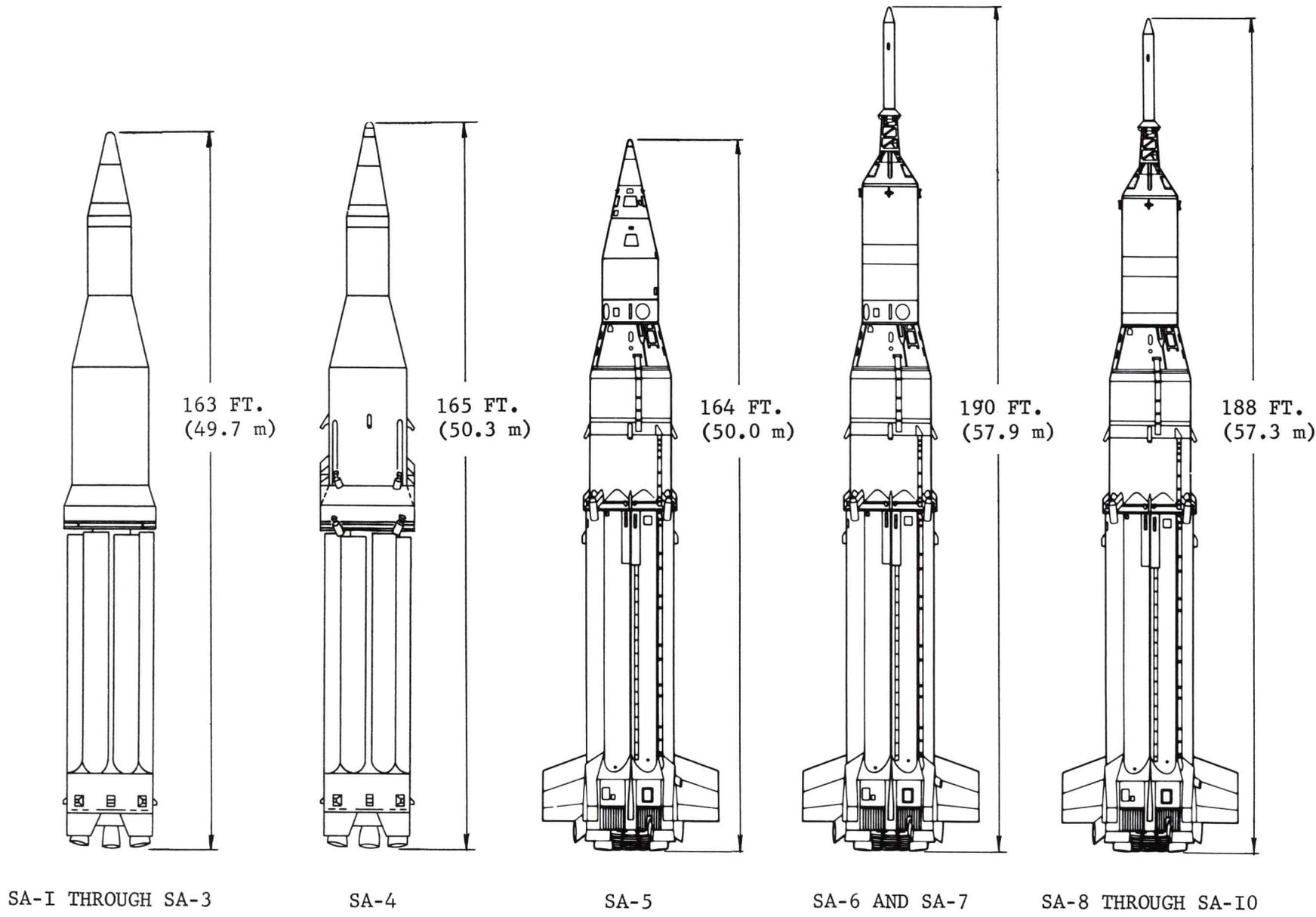
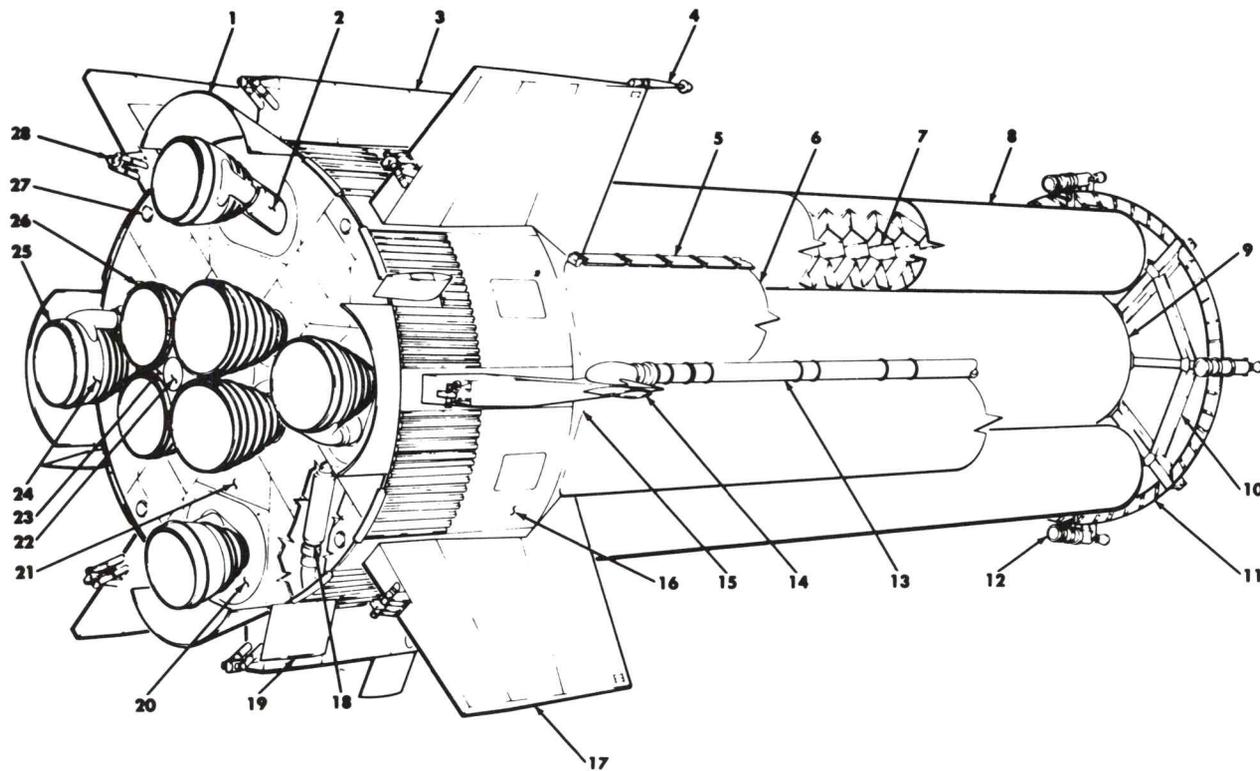


Figure 2. Comparison of Saturn I Vehicles



ITEM	NOMENCLATURE
1	ENGINE SKIRT (4)
2	OUTBOARD ENGINE HEAT EXCHANGER (4)
3	STUB FIN (4)
4	ANGLE OF ATTACK INDICATOR (2;SA-7,9&10)
5	CABLE ROUTING DUCT (4)
6	FUEL CONTAINER (4)
7	ANTISLOSH BAFFLES (IN EACH CONTAINER)
8	70-IN. DIAMETER LOX CONTAINER (4)
9	105-IN. DIAMETER LOX CONTAINER
10	SPIDER BEAM
11	45° SHROUD ASSEMBLY
12	RETROMOTOR (4)
13	HYDROGEN VENT LINE (3)
14	HYDROGEN EXHAUST DUCT ASSEMBLY (3)

ITEM	NOMENCLATURE
15	CONICAL FAIRING (8)
16	TAIL SECTION ASSEMBLY SHROUD
17	FIN (4)
18	INBOARD ENGINE HEAT EXCHANGER (4)
19	INBOARD ENGINE TURBINE EXHAUST DUCT (4)
20	FLAME CURTAIN (4)
21	HEAT SHIELD PANEL ASSEMBLY (4)
22	ACCESS CHUTE
23	FLAME SHIELD ASSEMBLY
24	ASPIRATOR (4)
25	OUTBOARD ENGINE (4)
26	INBOARD ENGINE (4)
27	WATER QUENCH DISCONNECT (4)
28	SUPPORT AND HOLDDOWN POINT (8)

Figure 3. S-I Stage, Block II

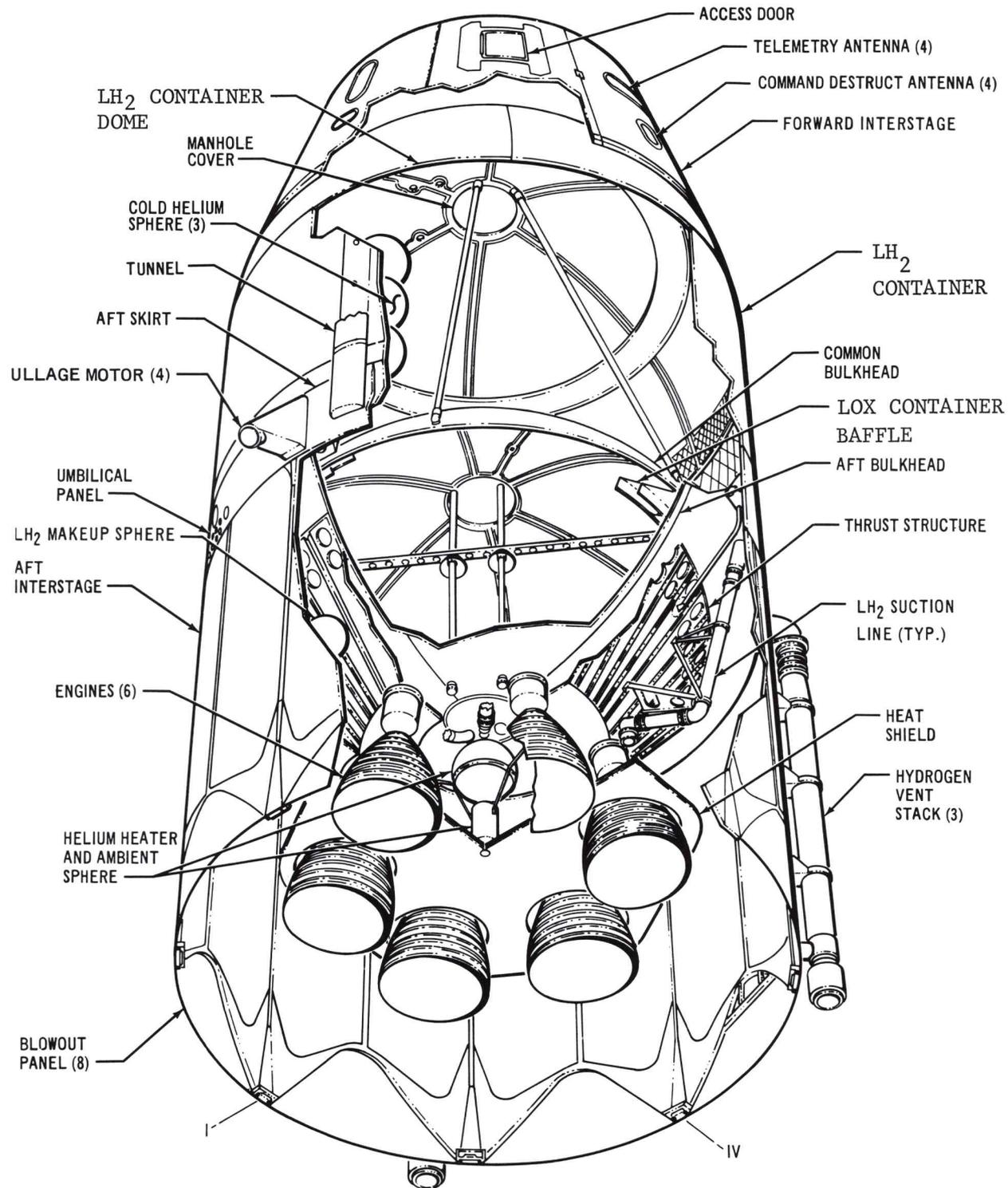


Figure 4. S-IV Stage, Block II

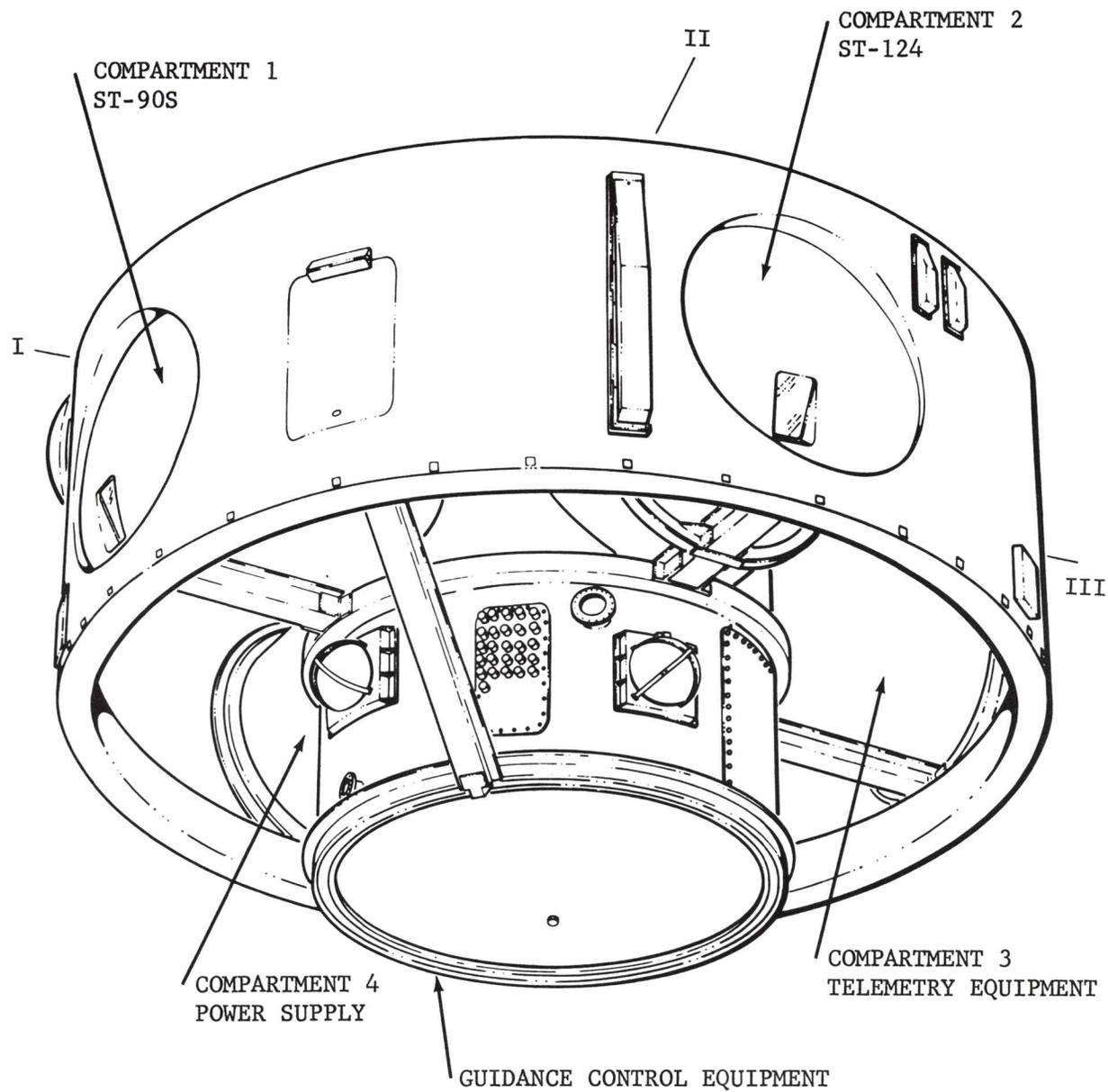


Figure 5. R&D Instrument Unit, SA-5 through SA-7

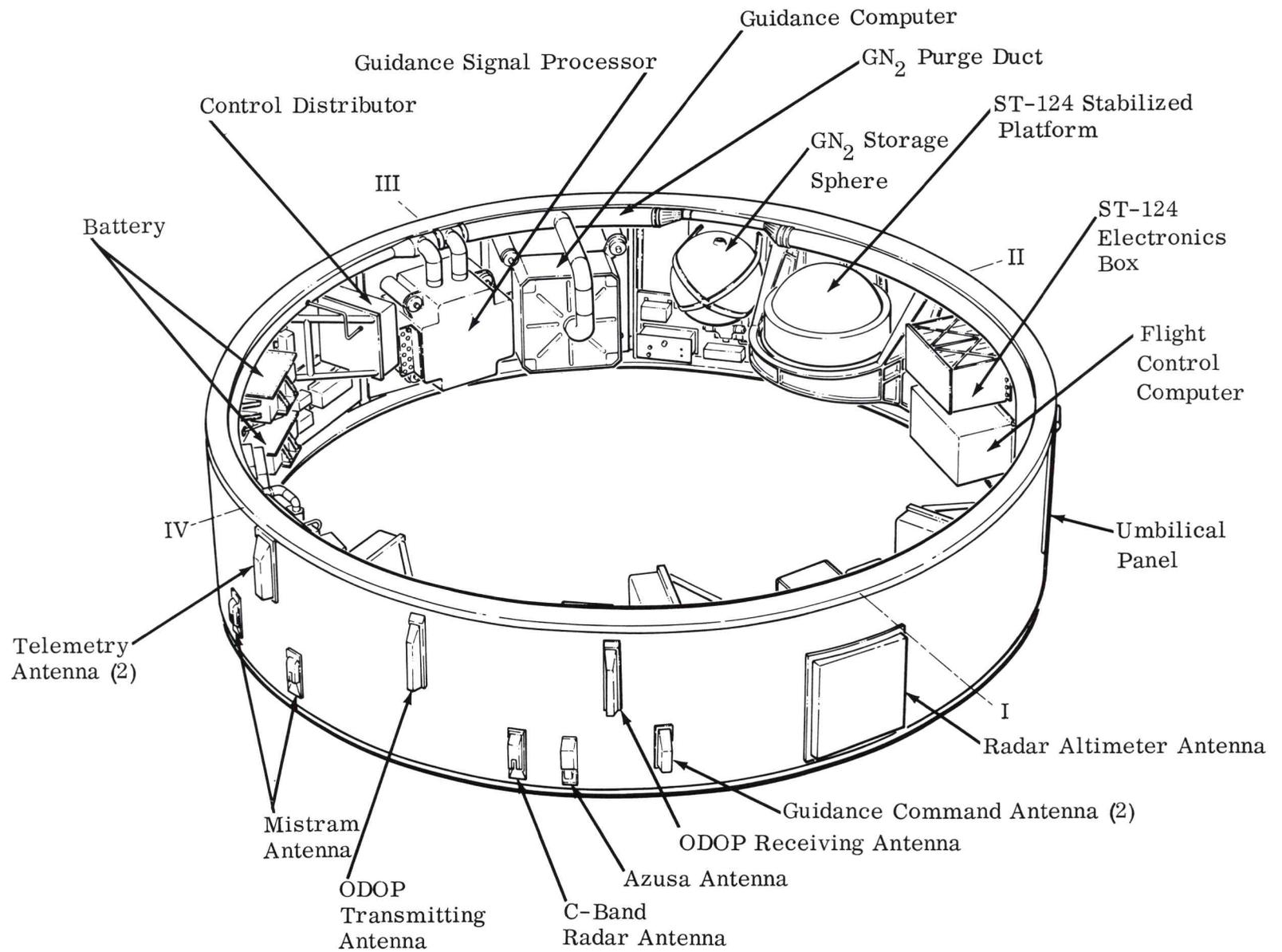


Figure 6. Prototype Instrument Unit, SA-8, SA-9 and SA-10

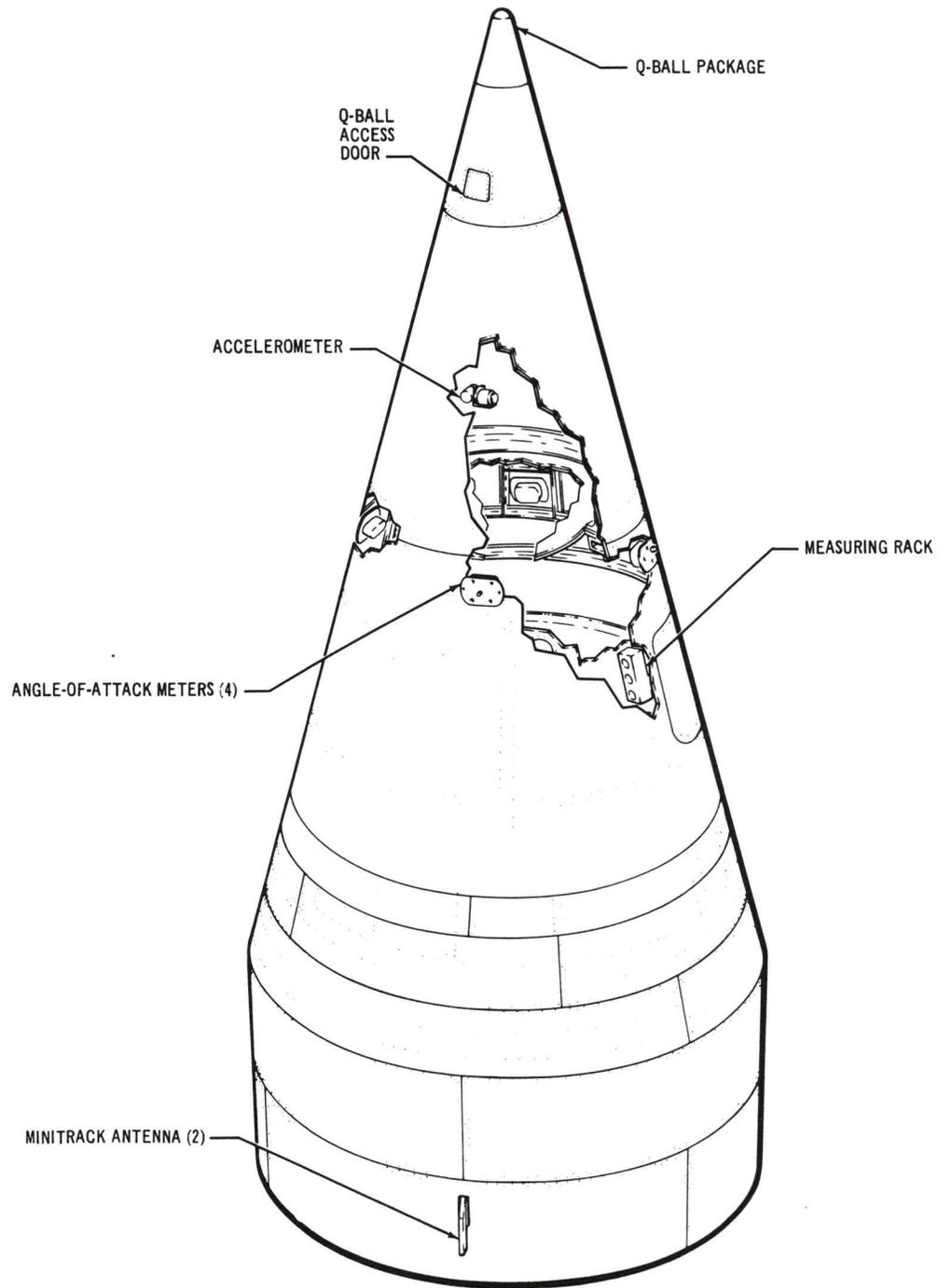


Figure 7. Jupiter Type Payload

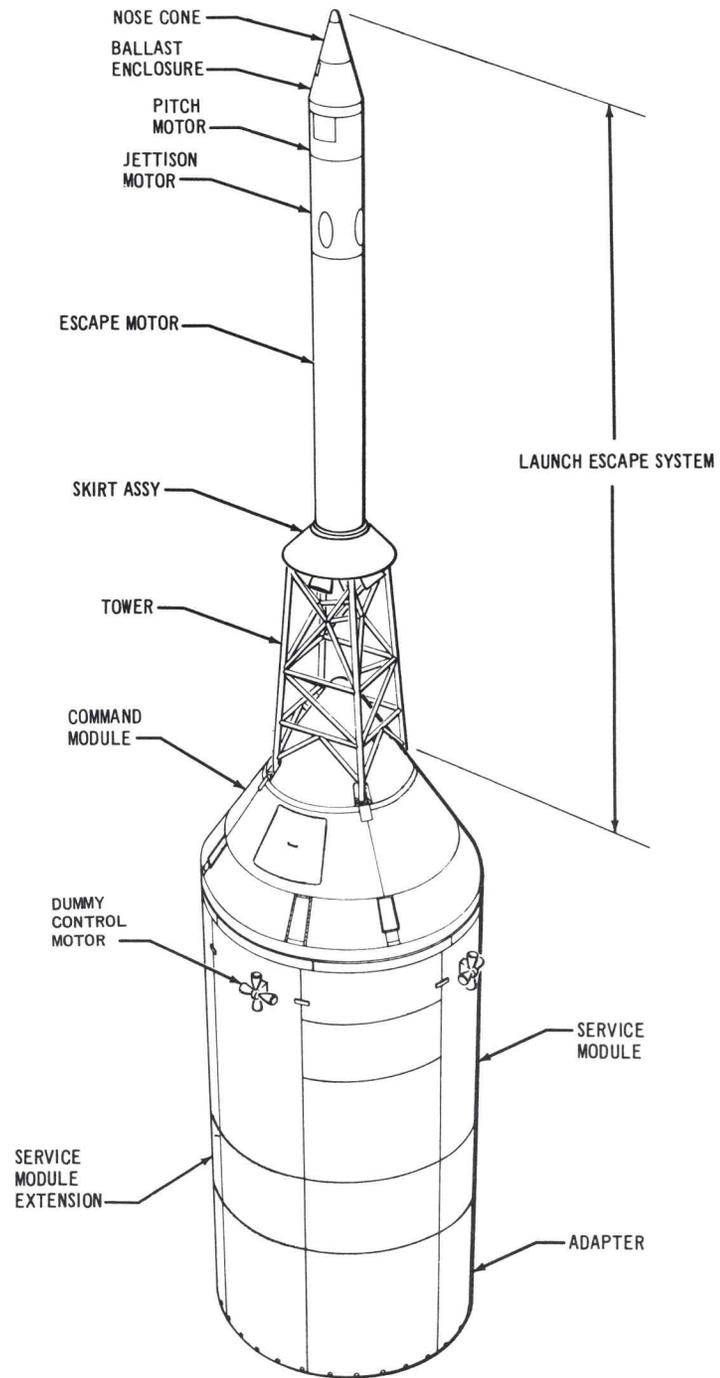


Figure 8. Apollo Payload

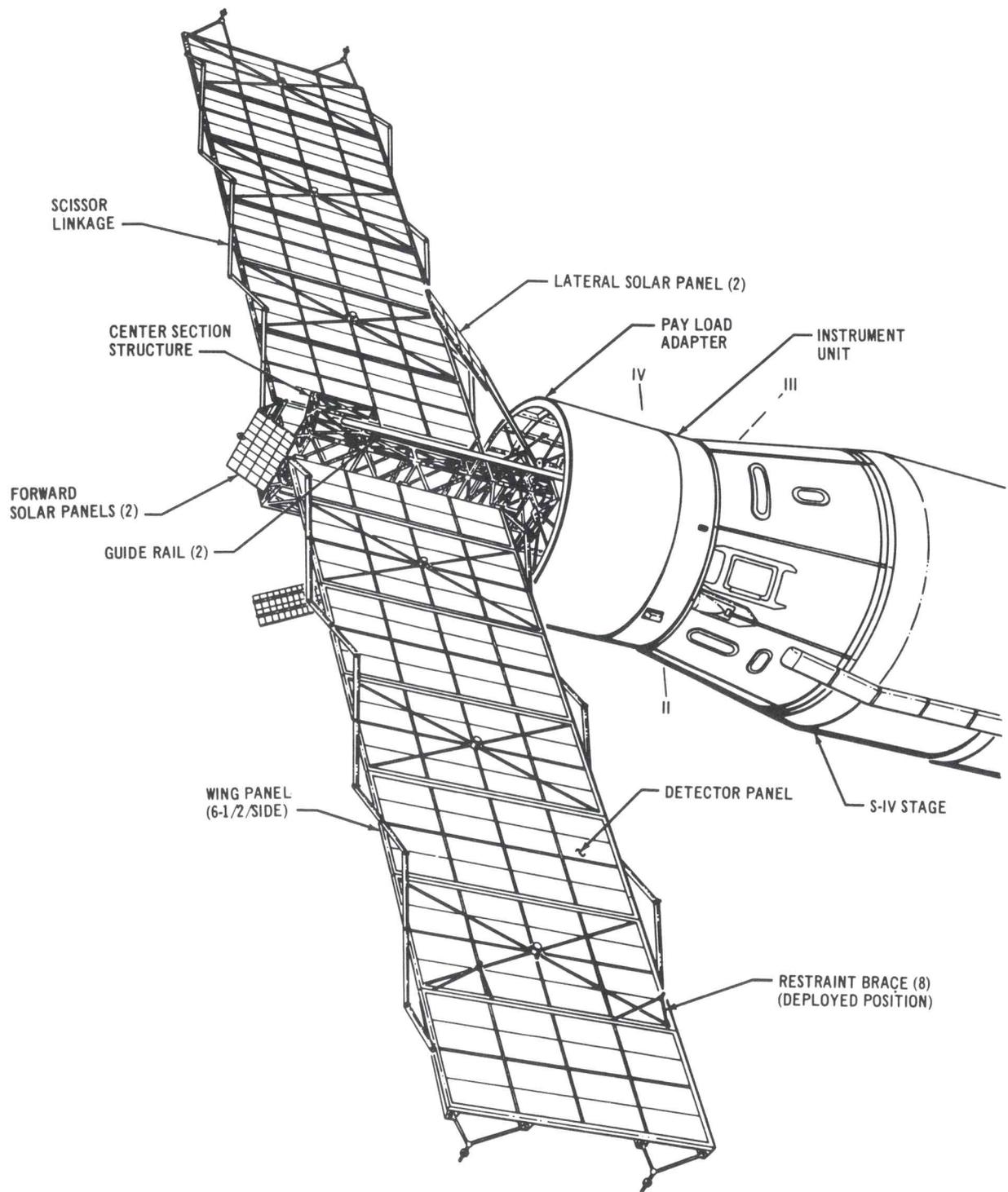
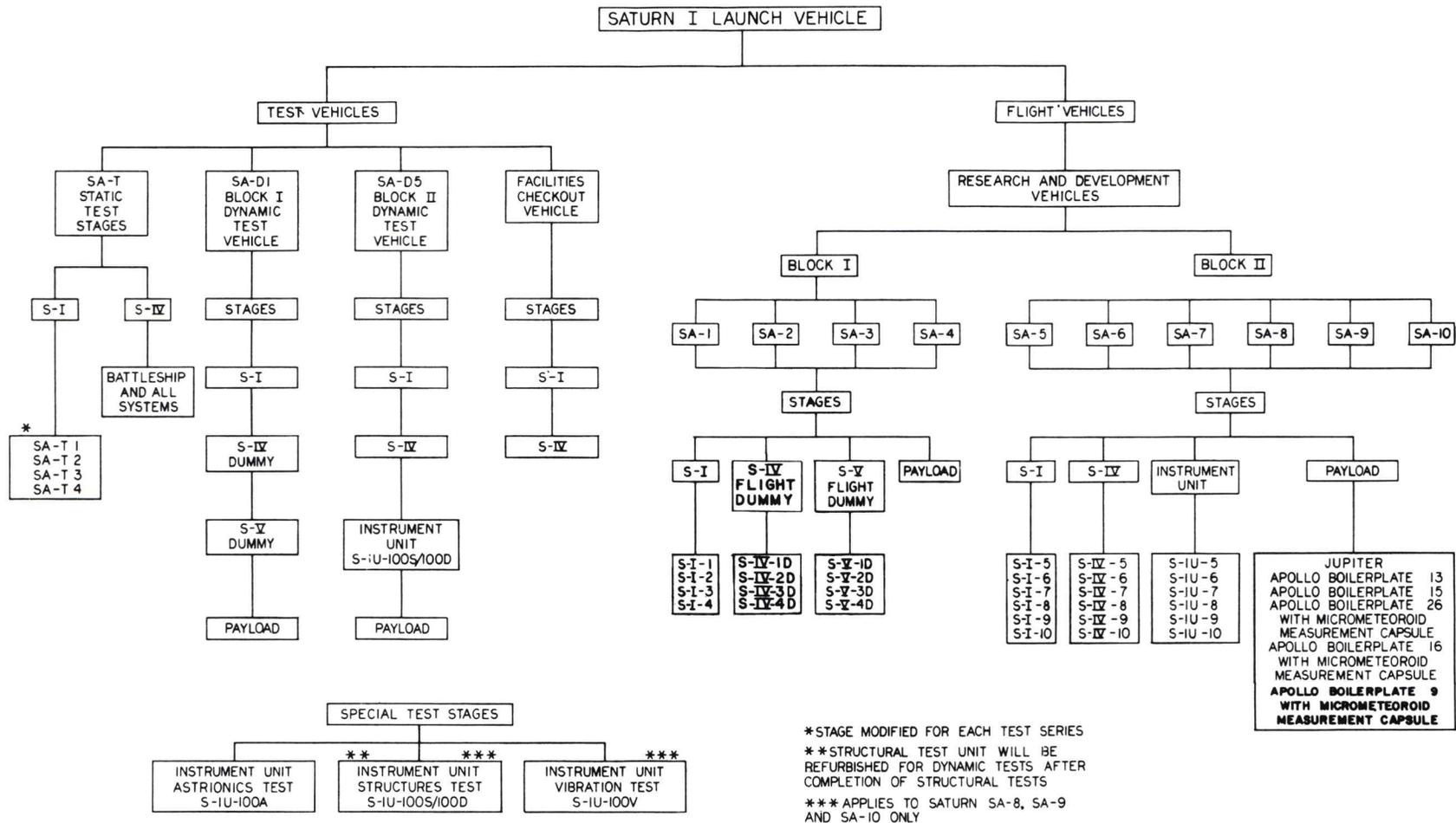


Figure 9. Micrometeoroid Measuring Capsule



*STAGE MODIFIED FOR EACH TEST SERIES
 **STRUCTURAL TEST UNIT WILL BE REFURBISHED FOR DYNAMIC TESTS AFTER COMPLETION OF STRUCTURAL TESTS
 ***APPLIES TO SATURN SA-8, SA-9 AND SA-10 ONLY

Figure 10. Saturn I Nomenclature

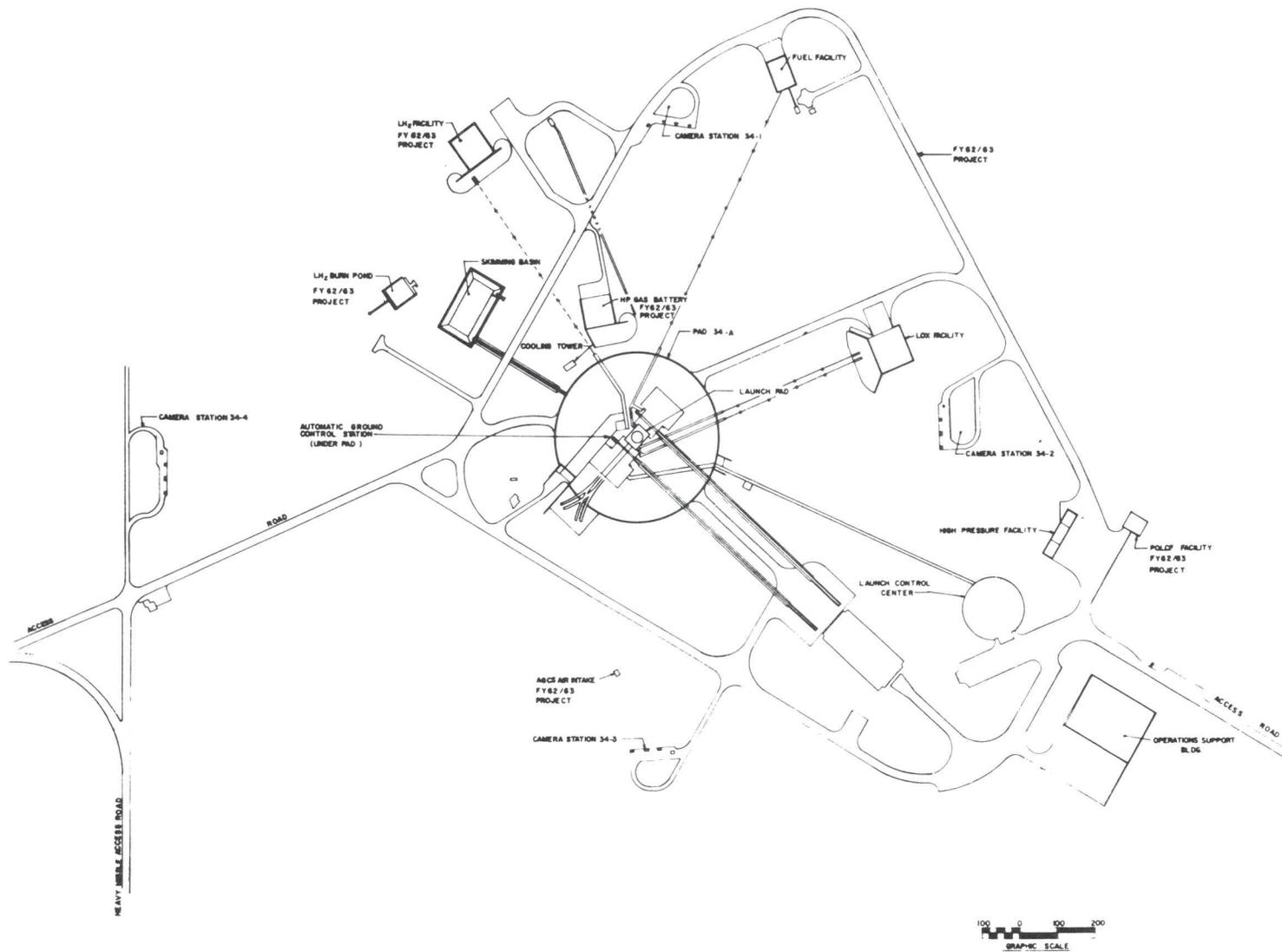


Figure 11. Launch Complex 34 Plan

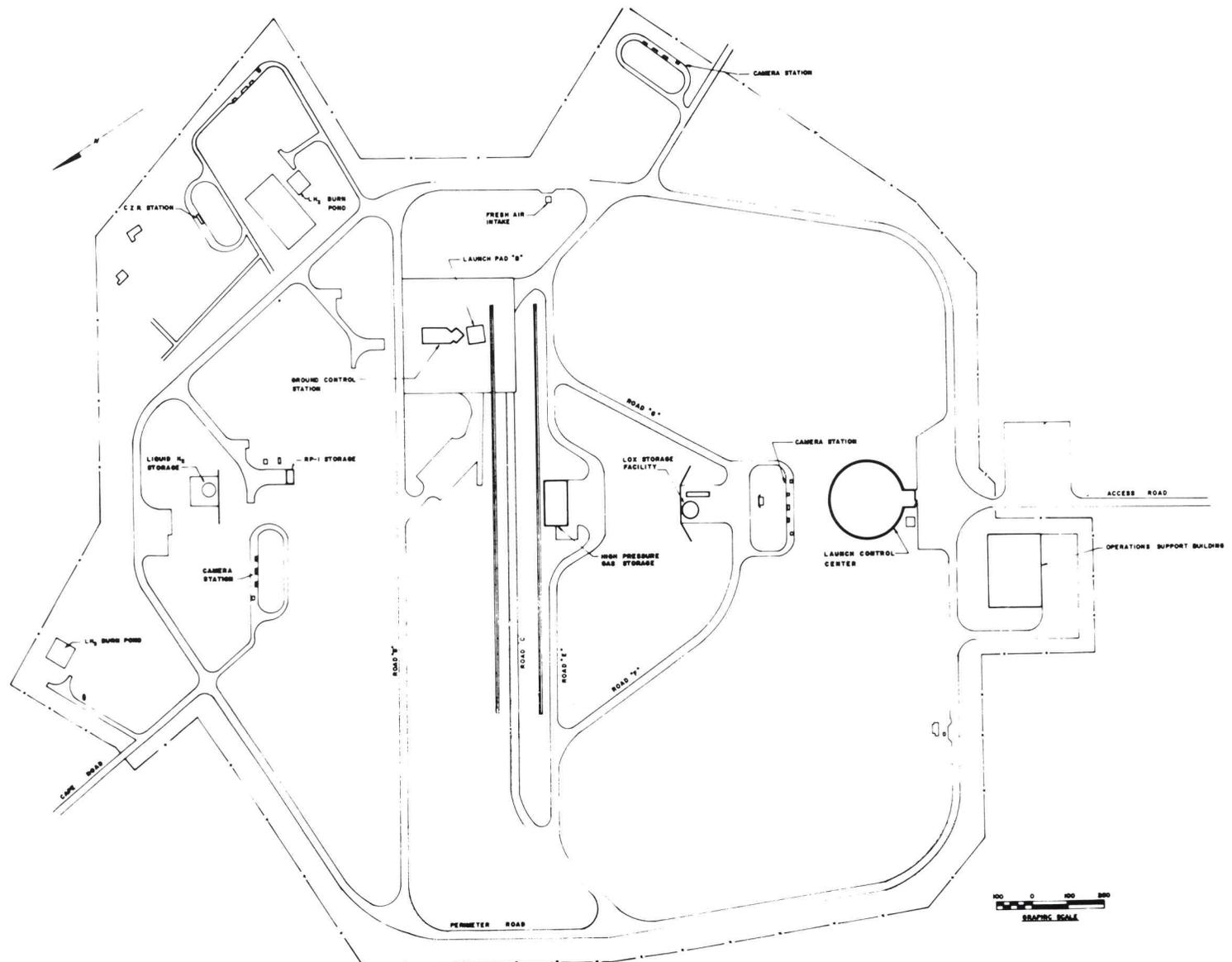


Figure 12. Launch Complex 37 Plan

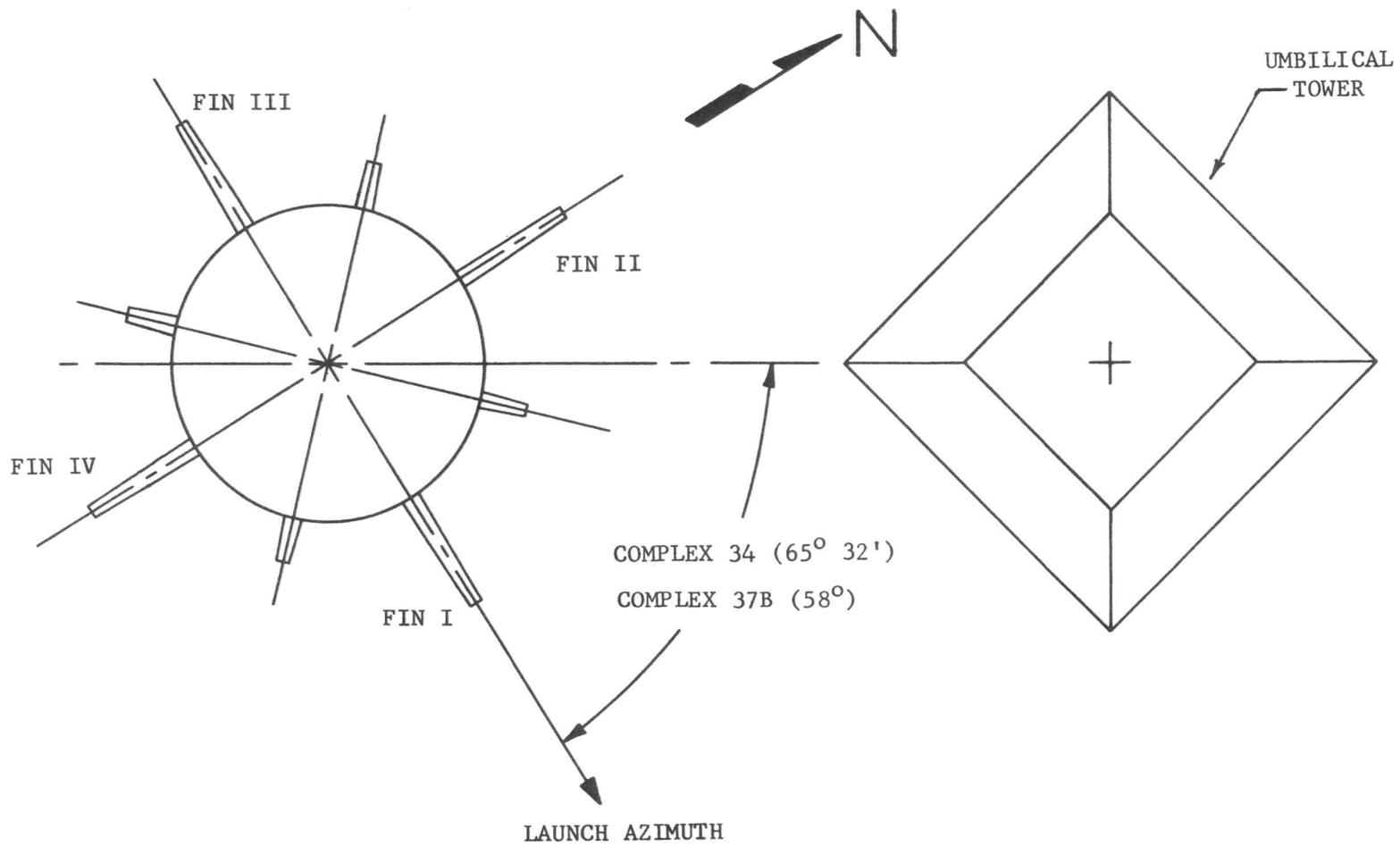


Figure 13. Block II Vehicle to Umbilical Tower Orientation

IGNITION COMMAND

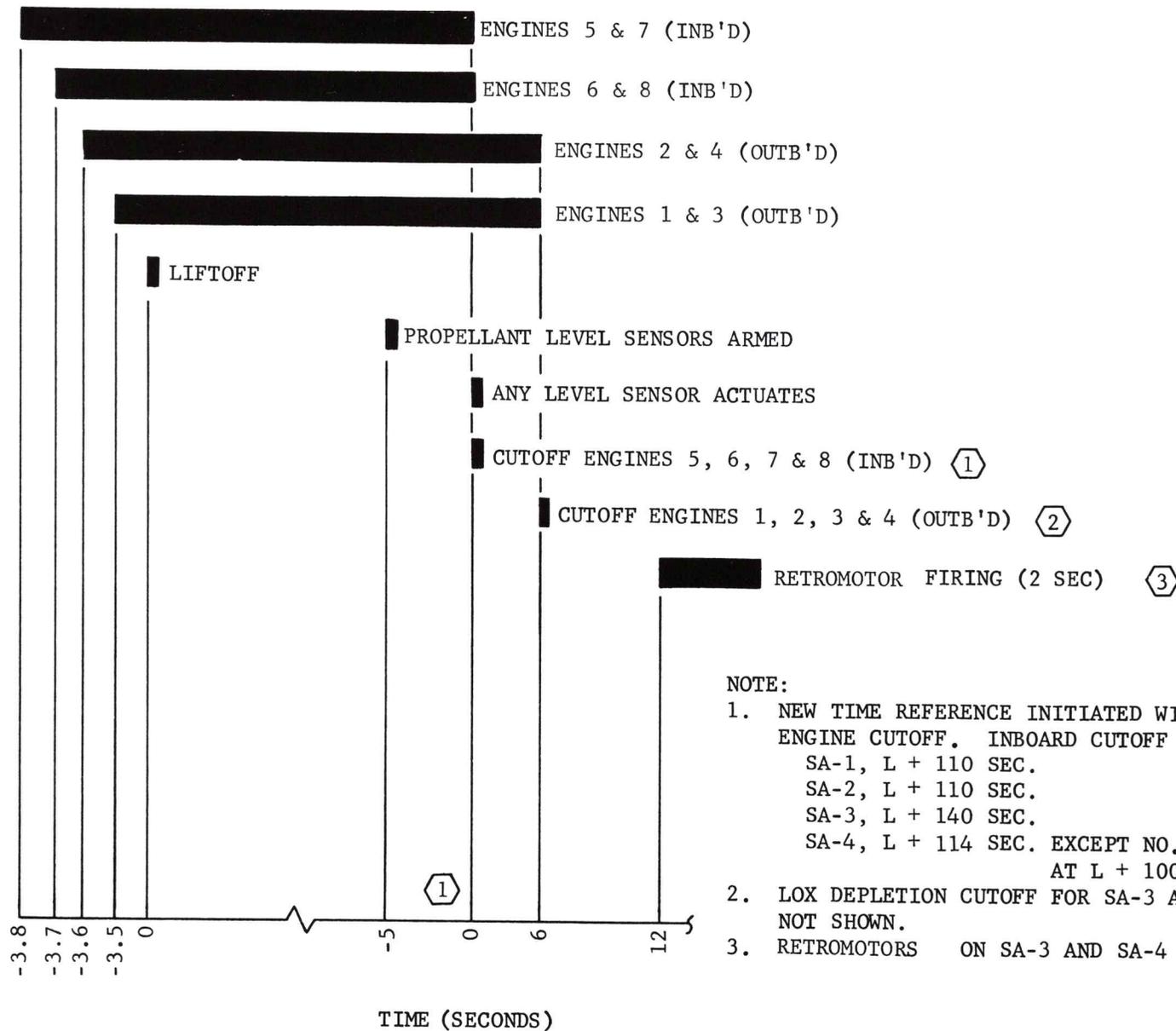


Figure 14. Launch Vehicle Propulsion Sequence, SA-1 through SA-4

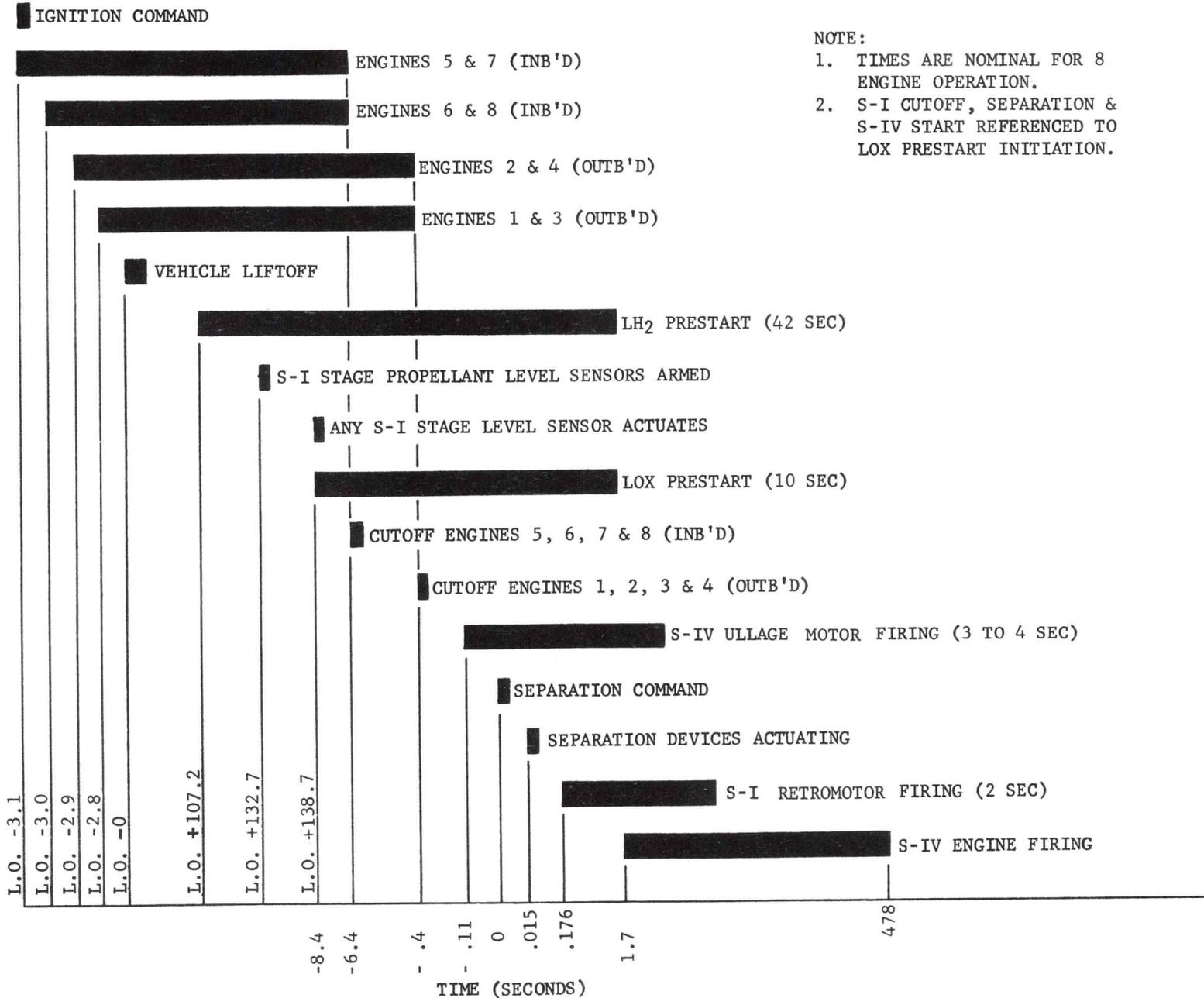


Figure 15. Launch Vehicle Propulsion Sequence, SA-5 and SA-6

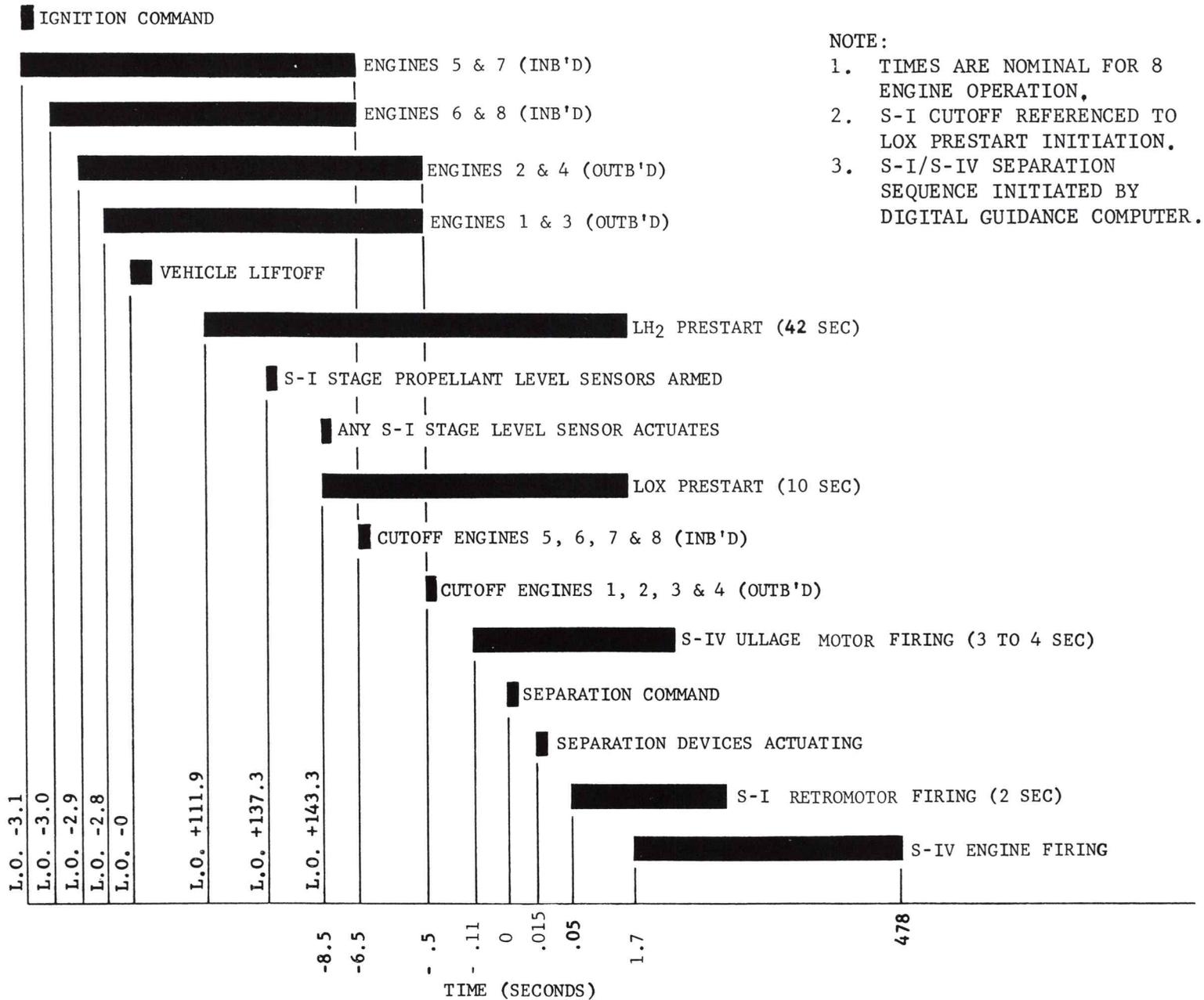


Figure 16. Launch Vehicle Propulsion Sequence, SA-7

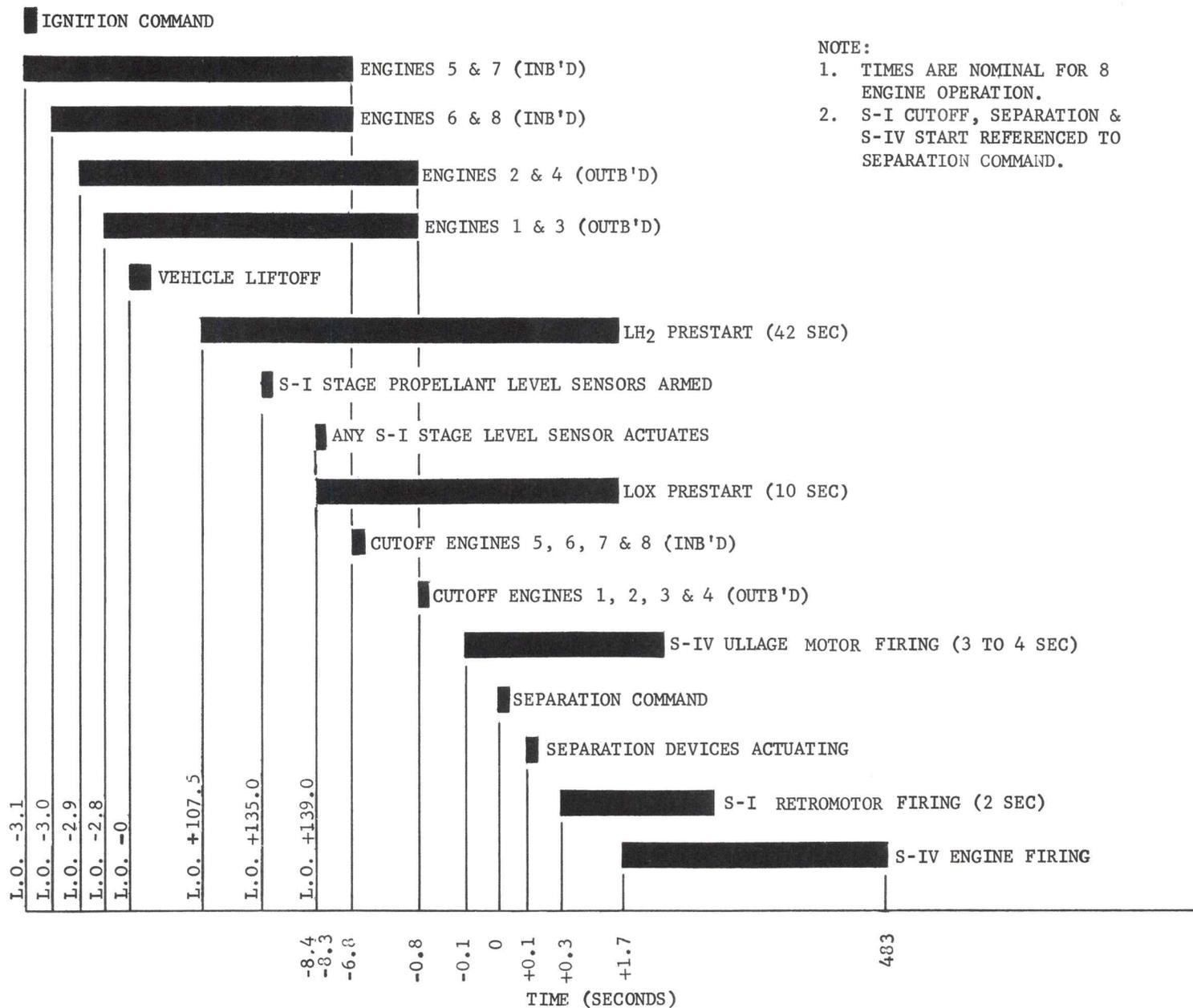


Figure 17. Launch Vehicle Propulsion Sequence, SA-9

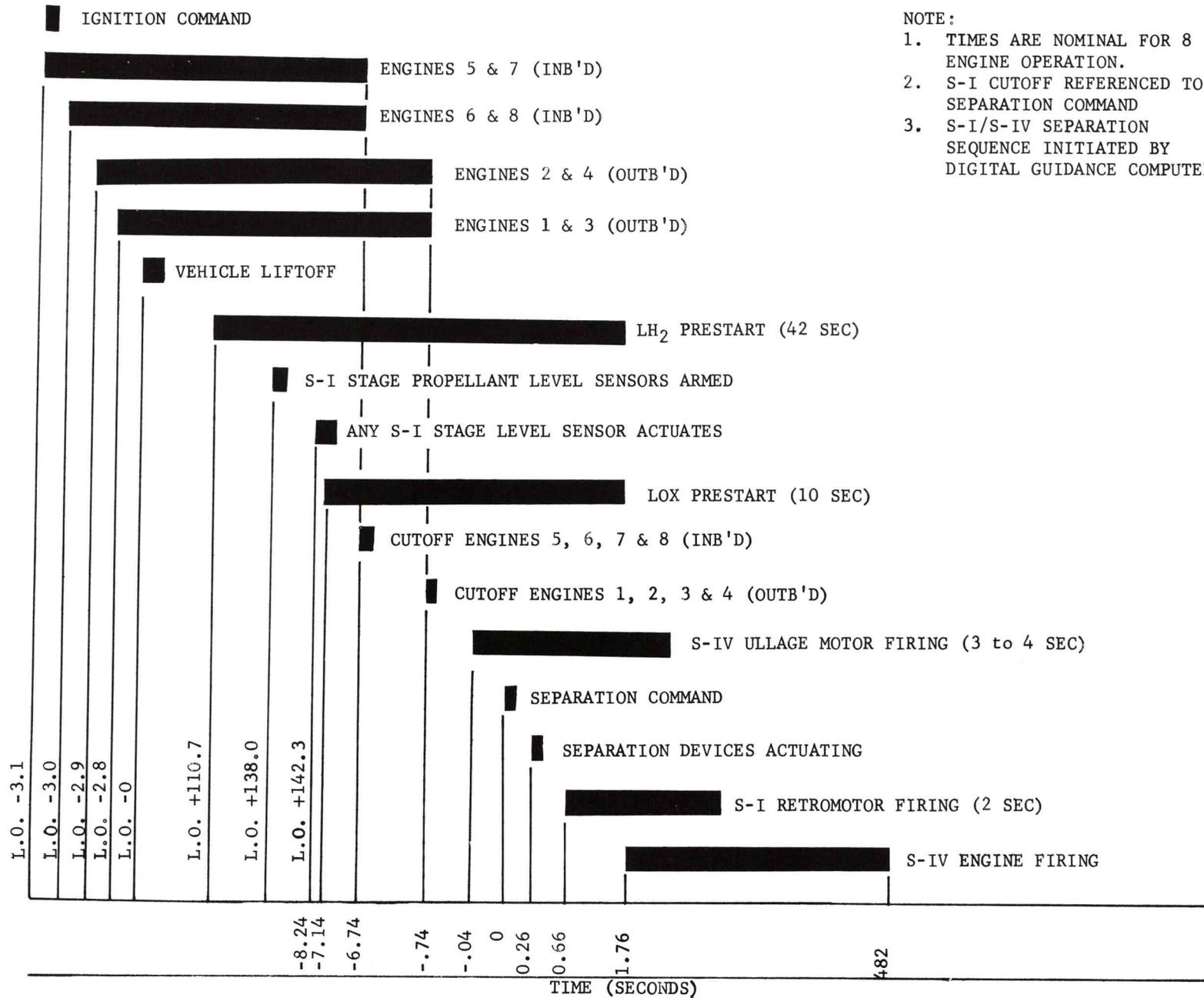


Figure 18. Launch Vehicle Propulsion Sequence, SA-8 and SA-10