

MSFC No. III-5-509-4

IBM No. 66-966-0006

TECHNICAL MANUAL

**SATURN IB/V INSTRUMENT UNIT
SYSTEM DESCRIPTION
AND
COMPONENT DATA
(S-IU-201-212/501-515)**

Prepared under Contract

NAS 8-14000

by

International Business Machines Corporation

Federal Systems Division

Huntsville, Alabama

1 June 1966

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LIST OF EFFECTIVE PAGES

Page	Issue	Page	Issue
*Title	1 Dec 67	89	1 Dec 66
*A	1 Dec 67	90	Original
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4 thru 5	1 Jun 67	94	1 Jun 67
*6 thru 7	1 Dec 67	95 thru 98	Original
8	1 Jun 67	*99 thru 100	1 Dec 67
*9	1 Dec 67	100A thru 100B Added	1 Dec 66
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*15	1 Dec 67	102B Added	1 Jun 67
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44A thru 44B Added	1 Jun 67	*116	1 Dec 67
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*46	1 Dec 67	120 Blank	Original
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*56A	1 Dec 67	132	1 Dec 66
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*60A	1 Dec 67	141	1 Dec 66
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*62A	1 Dec 67	143	1 Jun 67
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*68A	1 Dec 67	*147	1 Dec 67
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72A thru 72H Added	1 Dec 66	152 thru 153	Original
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86 Blank	Original	177 thru 178	1 Jun 67
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88A Added	1 Dec 66	*231 thru 233 Added	1 Dec 67
88B	1 Jun 67	*234 Blank Added	1 Dec 67

*The asterisk indicates pages changed, added, or deleted by the current change.

Original	Revision	Change No. 1	Change No. 2	Change No. 3			
1 Mar 1966	1 Jun 1966	1 Dec 1966	1 Jun 1967	1 Dec 1967			

Table 1. Instrument Unit Component Alphabetical List (Continued)

Nomenclature	Part Number	Reference Designation	Loc. on Panel	Fig. 1 Loc. No.	Vehicle Effectivity	Page
Battery D30	40Z20780-001	601A9	4	27	204-212 501-515	76
Battery D40	40M20780-007	601A10	4	28	201-203	
Battery D40	40Z20780-001	601A10	4	28	204-212 501-515	
Cable Tray	10Z22257-001	--	--	--	201-212 501-515	72E
Camera Control Unit (GEC)	50M12521	603A650	24	10	202	158
Camera Control Unit (GEC)	50M12521	603A613	24	19	203	159
Camera Control Unit (Kintel)	50M12520	603A612	24	20	203	
C-Band Antenna Mod 708	50M10347	603A435	See Fig. 2		201-202	--
C-Band Antenna Mod 713	50M12504	603A577	See Fig. 2		203	--
	50Z12504-001	603A577			204-212	--
	50Z12504-001	602A618			501-515 204-212 501-515	--
C-Band Transponder	50M12261-001	603A434	23	108	201-202	159
	50Z12261	603A434	23	108	203	
	50Z12574-001	602A619	12	71	204	
		603A653	23	108	204	
		602A634	23	108	205 & 501	
		602A635	12	71	205 & 501	
	50Z12574-003	602A635	12	71	206-208	
	or				502-504	
	50Z12574-005					
	50Z12574-003	602A634	23	108	206-208	
	or				502-504	
	50Z12574-005					
	50Z12574-005	602Z634	23	108	209-212 505-515	

Table 1. Instrument Unit Component Alphabetical List (Continued)

Nomenclature	Part Number	Reference Designation	Loc. on Panel	Fig. 1 Loc. No.	Vehicle Effectivity	Page
C-Band Transponder	50Z12574-005	602A635	12	71	209-212 505-515	159
CCS Coaxial Switch Mod 612	50M13016-001	603A629	24	25	501-503	160
	50Z13016-001				504-509	
	50Z13016-003				510-515	
CCS Directional Antenna Mod 609	50M13018-001	601A32	See Fig. 2		501-503	--
CCS Directional Antenna Mod 609	50Z13018-001	601A32	See Fig. 2		504-515	--
CCS Hybrid Ring Mod 608	50M13015	603A631	17	93	501-504	161
CCS Power Amplifier	50M12673	603A637	24	22	501-503	162
CCS Power Amplifier	50Z12673-001	603A637	24	22	504-515	162
CCS Power Divider Mod 607	50M12527	603A626	17	94	501-503	163
	50Z12527-001	603A626		94	504-515	
	50Z12527-001	603A691		90E	505-515	
CCS Receiving Antenna Mod 610	50M13019	602A627	See Fig. 2		501	--
	50M13019	603A628			501	--
	50M13019-001	602A627			502-503	--
	50M13019-001	603A628			502-503	--
	50Z13019-001	602A627			504-515	--
	50Z13019-001	603A628			504-515	--
CCS Transponder	50M13017-003	603A636	24	21	501-503	164

Table 1. Instrument Unit Component Alphabetical List (Continued)

Nomenclature	Part Number	Reference Designation	Loc. on Panel	Fig. 1 Loc. No.	Vehicle Effectivity	Page
CCS Transponder	50Z13017-003	603A636	24	21	504-515	164
Coaxial Switch	50M12357	601A563	4	31	201-203	130
Coaxial Switch	50Z12357-001	601A563	4	31	204-212 501-515	130
Coaxial Termination	50M12358	601A569	4	30	201-203	131
Coaxial Termination	50Z12358-001	601A569	4	30	204-212 501-515	131
Command Antenna Mod 309	50M10484	602A423	See Fig. 2		201	--
Command Antenna Mod 309	50M10484	602A433	See Fig. 2		201	--
Command Antenna Mod 313	50M12321	602A423			203	--
	50M12321	602A433			203	--
	50Z12321-001	602A578			204-211	--
	50Z12321-001	601A579			204-211	--
	50Z12321-003	602A578			212	--
	50Z12321-003	601A579			212	--
Command Decoder	50M12264	603A450	18	105	203-205 501-503 206-207	165
	50Z12705-001			105	504	
	or					
	50Z12705-003			107	208-212 505-515	
	50Z12705-003					
Command Directional Coupler	50M12382	603A562	17	89	201 & 203 204	166
	50Z12382-001					
	or					
	50Z12382-003				205-212	
	50Z12382-003					
Command Power Divider	50M10485	603A451	17	90	201	167
	50M12173				203	
	50Z12173-001				204	
	or					
	50Z12173-003					
	50Z12173-003				205-212	

Table 1. Instrument Unit Component Alphabetical List (Continued)

Nomenclature	Part Number	Reference Designation	Loc. on Panel	Fig. 1 Loc. No.	Vehicle Effectivity	Page
Command Receiver	50M10697	603A449	18	98	201 & 203-205	168
	50M10697				206-210	
	or					
	50Z10697-001					
	50Z10697-001				211-212	
Control Accelerometer (Pitch)	50M35022	601A25	2	15	201-208	110
Control Accelerometer (Pitch)	50Z35022-001	601A25	2	15	209-212	110
Control Accelerometer (Yaw)	50M35023	603A26	21	112	201-208	110
Control Accelerometer (Yaw)	50Z35023-001	603A26	21	112	209-212	110
Control Distributor	40M37210-001	603A2	18	97	201	77
	40M37217-001				202	
	40M37224-001				203	
	40Z37231-001				204	
	7910417-001				205	
	7910417-003				206	
	7910417-005				207	
	7910417-007				208	
	7910417-009				209	
	7910417-011				210	
	7910417-013				211	
	7910417-015				212	
	7910417-021				501	
	7910417-023				502	
	7910417-025				503	
	7910417-027				504	
	7910417-029				505	
	7910417-031				506	
	7910417-033				507	

Table 1. Instrument Unit Component Alphabetical List (Continued)

Nomenclature	Part Number	Reference Designation	Loc. on Panel	Fig. 1 Loc. No.	Vehicle Effectivity	Page	
Control Distributor	7910417-035	603A2	18	97	508	77	
	7910417-037				509		
	7910417-039				510		
	7910417-041				511		
	7910417-043				512		
	7910417-045				513		
	7910417-047				514		
	7910417-049				515		
Control-EDS Rate Gyros	50M35021	602A23	15	82 †	201-204	111	
	50Z35021-001						
	50M35021	602A23	15	90B †	501-503		
	50Z35021-001						602A23
Control Signal Processor	50M35500-007	602A24	15	83	201-204	112	
	501-503						
	50Z35500-013			205-212	504-515		
Coolant Pump	20M42001-001	601A37	6	35	201-203	91	
	20M42001-001				204 & 501		
	or						
	20Z42001-001						
	20Z42001-001						
	20Z42001-001						
					44A		205 & 502
							206-211
	7914878-001						502-505
	20Z42001-001						212 & 506
	or						507-515
7914878-001							
† Physical location varies between vehicles, refer to Figure 1.							

Table 1. Instrument Unit Component Alphabetical List (Continued)

Nomenclature	Part Number	Reference Designation	Loc. on Panel	Fig. 1 Loc. No.	Vehicle Effectivity	Page
Coolant Pump 	20M42001-001	601A62	6	44B	206 & 502	91
	20Z42001-001				207-210	
	7914878-001				503-506	
	20Z42001-001				211-212	
	or 7914878-001				507-515	
CP1 Multiplexer Assembly Mod 270 	50M12212-003	602A567	10	49†	201	135
	50M12212-011				202	
	50M12212-015				203	
	50M12212-019				204	
	50Z12212-001	602A575	9	52 †	205	
	50Z13002-009				206	
	50Z13002-015				207-212	
	50Z13002-003	602A592			501-503	
	50Z13002-009	602A593	10	49 †	504-515	
DDAS/Computer Interface Unit 	50M12216-001	603A447	17	92	203-204	132
	50Z13007-001	603A447	17	92	205-212	
	50Z13007-001	603A605	17	92	501-515	
DP1 Multiplexer Assembly Mod 270 	50M12212-001	602A446	9	52 †	201	135
	50M12212-009				202	
	50M12212-013				203	
	50M12212-017				204	
	50Z12212-003		10	49 †	205	
	50Z13002-019				206	
	50Z13002-013				207-212	
	50Z13002-001	602A593			501	
	50Z13002-005	602A593			502-503	
	50Z13002-021	602A592	9	52 †	504-505	
					507-515	
	50Z13002-017	602A592	9	52 †	506	
EDS Distributor 	40M37211-001	602A5	14	66	201	78
	40M37218-001				202	
	40M37225-001				203	
	40Z37232-001				204	
	7910418-001				205	
	7910418-003				206	
	7910418-005				207	
† Physical location varies between vehicles, refer to Figure 1.						

Table 1. Instrument Unit Component Alphabetical List (Continued)

Nomenclature	Part Number	Reference Designation	Loc. on Panel	Fig. 1 Loc. No.	Vehicle Effectivity	Page
EDS Distributor	7910418-007	602A5	14	66	208	78
	7910418-009				209	
	7910418-011				210	
	7910418-013				211	
	7910418-015				212	
	7910418-021				501	
	7910418-023				502	
	7910418-025				503	
	7910418-027				504	
	7910418-029				505	
	7910418-031				506	
	7910418-033				507	
	7910418-035				508	
	7910418-037				509	
	7910418-039				510	
	7910418-041				511	
	7910418-043				512	
	7910418-045				513	
	7910418-047				514	
	7910418-049				515	
EDS Timer No. 1 (40 Second Timer)	40M37452-001	603A56	17	88	201 & 203	79
	7914540-001				205,207,& 209-212	
	40Z37452-001				204	
	7915671-001				501-502	
					503-515	
EDS Timer No. 2 (20 Second Timer)	40Z37575-001	603A58	17	87	204 & 206 501-503	
EDS Timer No. 3 (60 Second Timer)	40Z37615-001	603A56	17	88	202, 206, & 208	
Electronic Con- troller Assembly	20Z42007-003	601A40	2	14	201-212 501-515	101
Environmental Conditioning Duct (Y Purge)	--	--	All	3	201-212 501-515	92
	20Z42100-001	--	--	--	--	--
(Duct Assembly)	20Z42197-001	--	--	--	--	--

Table 1. Instrument Unit Component Alphabetical List (Continued)

Nomenclature	Part Number	Reference Designation	Loc. on Panel	Fig. 1 Loc. No.	Vehicle Effectivity	Page
Environmental Conditioning Duct (Flex Tubing)	20Z42101-003	--	--	--	--	--
	-005	--	--	--	--	--
	-007	--	--	--	--	--
	-009	--	--	--	--	--
	-011	--	--	--	--	--
Exciter Unit (Bottom)	50M12675	603A671	24	17	203	169
Exciter Unit (Top)	50M12675	603A672	24	17	203	169
First Stage Pressure Regulator	20Z42013	601A42	6	33	201-203	93
	20Z42013-003 or	601A42	6	33	204-212	93
	20Z42013-005				501-515	
Flight Control Computer (IB)	50M32550-001	602A27	16	86	201-203 & 205	113
	50Z32550-007				204 & 208	
	50Z32550-003				206	
	50Z32550-005				207	
	50Z32550-009				209-212	
Flight Control Computer (V)	50M35300-009				501	
	50M35300-007				502	
	50M35300-011				503	
	50Z35300-001				504-515	
Force Balance Accelerometer	50M12390-001	603A464	21	113	201-204	124
	50M12370-001	603A463			501	
					201-204	
					501	
	50Z12390-001	603A464			205-212	
					502-515	
	50Z12370-001	603A463			205-212	
					502-515	
	50M12391-001	603A465			501	
	50M12391-001	603A466			501	
	50Z12391-001	603A465			205-212	
					502-515	
	50Z12391-001	603A466			205-212	
					502-515	

Table 1. Instrument Unit Component Alphabetical List (Continued)

Nomenclature	Part Number	Reference Designation	Loc. on Panel	Fig. 1 Loc. No.	Vehicle Effectivity	Page
F1 RF Transmitter Assembly Mod I	50M12205-001	602A438	12	69	201-204	141
F1 RF Transmitter Assembly Mod II	50Z13011-007	602A643			205-212	
	50Z13011-001	602A589			501	
	50Z13011-007	602A589			502-515	
F1 Telemeter Assembly Mod B1	50M12206-001	602A439	12	73	201	133
	50M12206-005				202	
	50M12206-007				203	
	50M12206-009				204	
	50Z13000-005				205-212	
	50Z13000-001	602A588			501-503	
	50Z13000-009				504 & 506 & 507	
	50Z13000-007				505 & 508-515	
F2 RF Transmitter Assembly Mod I	50M12205-003	602A444	9	54	201-204	141
F2 RF Transmitter Assembly Mod II	50Z13011-003	602A591	9	54	501	
	50Z13011-009	602A591	9	54	502-503	
F2 Telemeter Assembly Mod A3	50M12207-001	602A443	10	56	201	134
	50M12207-005				202	
	50M12207-007				203	
	50M12207-009				204	
	50Z13001-001	602A590			501-503	

Table 1. Instrument Unit Component Alphabetical List (Continued)

Nomenclature	Part Number	Reference Designation	Loc. on Panel	Fig. 1 Loc. No.	Vehicle Effectivity	Page
Gas Bearing Heat Exchanger 	20M42048	--	22	111†	201-202	94
	20M42048-001	--	21	121†	203	
	20M42048-001	--	21	124†	204	
	20Z42048-001	--	21	124†	205 & 501	
	7912296-001	--	21	123A†	206-212 502-515	
Gas Bearing Pressure Regulator 	20Z42012	--	22	115	201-203	95
	20Z42012	--			205-212	
	or 20Z42012-003	--			204 & 501	
	20Z42012-003	--			502-515	
Gas Bearing Solenoid Valve	20Z42079	603A43	22	118†	201-203	96
Gas Bearing Solenoid Valve 	20Z42079-003	603A43	22	125†	204-205	96
	20Z42079-005				501	
	or 20Z42079-003				206-207	
	20Z42079-005				208-212	
	20Z42079-005				502-515	
Hazardous Gas Manifold	--	601A57	7	42	201-203	97
Heat Exchanger Assembly	20Z42159-001	--	6	38	201-212 501-515	98
Lateral Accelerometer Slosch, Pitch, and Yaw	50M12552	603A555	23	119	203	125
Launch Vehicle Data Adapter	50M35011	603A29	19	96	201-212 501-515	114
Launch Vehicle Digital Computer	50M35010	603A28	19	101	201-212 501-515	115
† Physical location varies between vehicles, refer to Figure 1.						

Table 1. Instrument Unit Component Alphabetical List (Continued)

Nomenclature	Part Number	Reference Designation	Loc. on Panel	Fig. 1 Loc. No.	Vehicle Effectivity	Page
Longitudinal Accelerometer Orbital LH ₂ Venting	50M12573	603A663	23	120	203	125
Low Pressure Switch	20M42131 20Z42016-001 20Z42016-005	603A44 	22 	116 	201-203 204-208 501-503 209-212 504-515	99
Manual Shutoff Valve	20M42155-001	--	7	41	201-202	100A
Manual Shutoff Valve	20Z42155-001	--	7	41	203-212 501-515	100A
Measuring Distributor	40M37208-001 40M37209-001 40M37215-001 40M37216-001 40M37222-001 40M37223-001 40Z37229-001 40Z37230-001 7910416-001 7910415-001 7910416-003 7910415-003 7910416-005 7910416-007 7910416-009 7910416-011 7910416-013 7910416-015 7910416-021 7910415-021 7910416-023 7910415-023 7910416-025 7910415-025 7910416-027	602A3 602A4 602A3 602A4 602A3 602A4 602A3 602A4 602A3 602A4 602A3 602A4 602A3 602A4 602A3 602A4 602A3 602A4 602A3 602A4 602A3 602A4 602A3 602A4 602A3 602A4 602A3 602A4 602A3 602A4 602A3	10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10	48 67 48 67 48 67 48 67 48 67 48 67 48 67 48 67 48 67 48 67 48 67 48 67 48 67 48 67 48 67 48	201 201 202 202 203 203 204 204 205 205 206 206 207 208 209 210 211 212 501 501 502 502 503 503 504	80

Table 1. Instrument Unit Component Alphabetical List (Continued)

Nomenclature	Part Number	Reference Designation	Loc. on Panel	Fig. 1 Loc. No.	Vehicle Effectivity	Page
Measuring Distributor	7910416-029	602A3	10	48	505	80
	7910416-031				506	
	7910416-033				507	
	7910416-035				508	
	7910416-037				509	
	7910416-039				510	
	7910416-041				511	
	7910416-043				512	
	7910416-045				513	
	7910416-047				514	
	7910416-049				515	
Measuring Rack A401	50M12271-001	601A401	2	1 †	201	126
	50M12271-007				202	
	50M12271-009				203	
	50Z12271-011				204	
	50Z12271-013				205	
	50Z12271-015				206	
	50Z12271-017				207	
	50Z12271-019				208	
	50Z12271-021				209	
	50Z12271-023				210	
	50Z12271-025				211	
	50Z12271-027				212	
	50M12271-005				501	
	50Z12271-029				502	
	50Z12271-031				503	
	50Z12271-033				504	
	50Z12271-035		1	5 †	505	
	50Z12271-037				506	
	50Z12271-039				507	
	50Z12271-041				508	
	50Z12271-043				509	
	50Z12271-045				510	
	50Z12271-047				511	
	50Z12271-049				512	
	50Z12271-051				513	
	50Z12271-053				514	
	50Z12271-055				515	
† Physical location varies between vehicles, refer to Figure 1.						

Table 1. Instrument Unit Component Alphabetical List (Continued)

Nomenclature	Part Number	Reference Designation	Loc. on Panel	Fig. 1 Loc. No.	Vehicle Effectivity	Page		
Measuring Rack A402	50M12525-003	601A402	1	5 †	201	126		
	50M12272-007				202			
	50M12272-009				203			
	50Z12272-011				204			
	50Z12272-013	602A402	9	50 †	205			
	50Z12272-015				206			
	50Z12272-017				207			
	50Z12272-019				208			
	50Z12272-021				209			
	50Z12272-023				210			
	50Z12272-025				211			
	50Z12272-027				212			
	50M12272-005	601A402	1	5 †	501			
	50Z12272-029				502			
	50Z12272-031				503			
	50Z12272-033	602A402	9	50 †	504			
	50Z12272-035				505			
	50Z12272-037				506			
	50Z12272-039				507			
	50Z12272-041				508			
	50Z12272-043				509			
	50Z12272-045				510			
	50Z12272-047				511			
	50Z12272-049				512			
	50Z12272-051				513			
	50Z12272-053				514			
	50Z12272-055				515			
	Measuring Rack A403	50M12273-001	602A403	11	47 †		201	
		50M12273-007					202	
		50M12273-009					203	
		50Z12273-011					204	
		50Z12273-013					205	
50Z12273-015			15	85 †	206			
50Z12273-017					207			
50Z12273-019					208			
50Z12273-021					209			
50Z12273-023					210			
50Z12273-025					211			
50Z12273-027					212			
† Physical location varies between vehicles, refer to Figure 1.								

Table 1. Instrument Unit Component Alphabetical List (Continued)

Nomenclature	Part Number	Reference Designation	Loc. on Panel	Fig. 1 Loc. No.	Vehicle Effectivity	Page
Measuring Rack A 403	50M12273-005	602A403	11	47 †	501	126
	50Z12273-029		—	—	502	
	50Z12273-031		—	—	503	
	50Z12273-033		15	90A †	504	
	50Z12273-035		—	—	505	
	50Z12273-037		—	—	506	
	50Z12273-039		—	—	507	
	50Z12273-041		—	—	508	
	50Z12273-043		—	—	509	
	50Z12273-045		—	—	510	
	50Z12273-047		—	—	511	
	50Z12273-049		—	—	512	
	50Z12273-051		—	—	513	
	50Z12273-053		—	—	514	
	50Z12273-055		—	—	515	
Measuring Rack A404	50M12274-001	602A404	13	68 †	201	126
	50M12274-007		—	—	202	
	50M12274-009		—	—	203	
	50Z12274-011		—	—	204	
	50Z12274-013		—	—	205	
	50Z12274-015		15	84 †	206	
	50Z12274-017		—	—	207	
	50Z12274-019		—	—	208	
	50Z12274-021		—	—	209	
	50Z12274-023		—	—	210	
	50Z12274-025		—	—	211	
	50Z12274-027		—	—	212	
	50M12274-005		13	68 †	501	
	50Z12274-029		—	—	502	
	50Z12274-031		—	—	503	
	50Z12274-033		—	84 †	504	
	50Z12274-035		—	—	505	
	50Z12274-037		—	—	506	
	50Z12274-039		—	—	507	
	50Z12274-041		—	—	508	
	50Z12274-043		—	—	509	
	50Z12274-045		—	—	510	
	50Z12274-047		—	—	511	
	50Z12274-049		—	—	512	
	50Z12274-051		—	—	513	
	50Z12274-053		—	—	514	
	50Z12274-055		—	—	515	
† Physical location varies between vehicles, refer to Figure 1.						

Table 1. Instrument Unit Component Alphabetical List (Continued)

Nomenclature	Part Number	Reference Designation	Loc. on Panel	Fig. 1 Loc. No.	Vehicle Effectivity	Page
Measuring Rack A405 	50M12275-001	602A405	9	50	201	126
	50M12275-007				202	
	50M12275-009				203	
	50Z12275-011				204	
	50Z12275-015		13	68 †	206	
	50M12275-005		9	50	501	
	50Z12275-029				502	
	50Z12275-031				503	
Measuring Rack A406 	50M12276-001	602A406	15	85 †	201	
	50M12276-007				202	
	50M12276-009				203	
	50M12276-011				204	
	50Z12276-015		13	78A †	206	
	50M12276-005		15	90A †	501	
	50Z12276-029				502	
	50Z12276-031				503	
Measuring Rack A407 	50M12277-001	602A407	14	78	201	
	50M12277-007				202	
	50M12277-009				203	
	50Z12277-011				204	
	50M12277-005				501	
	50Z12277-029				502	
	50Z12277-031				503	
Measuring Rack A408 	50M12278-001	602A408	14	77	201	
	50M12278-007				202	
	50M12278-009				203	
	50Z12278-011				204	
	50M12278-005				501	
	50Z12278-029				502	
	50Z12278-031				503	
Measuring Rack A409 	50M12279-001	602A409	15	84	201	
	50M12279-007				202	
	50M12279-009				203	
	50Z12279-011				204	
	50M12279-005				501	
	50Z12279-029				502	
	50Z12279-031				503	
† Physical location varies between vehicles, refer to Figure 1.						

Table 1. Instrument Unit Component Alphabetical List (Continued)

Nomenclature	Part Number	Reference Designation	Loc. on Panel	Fig. 1 Loc. No.	Vehicle Effectivity	Page
Measuring Rack A669 	50M12667-005 50Z12667-029 50Z12667-031	603A669 	23 	122 	501 502 503	126
Measuring Rack Selector	50M12270-001	601A400	1	12	201-203 501	128
Measuring Rack Selector	50Z12270-001	601A400	1	12	204-212 502-515	128
Methanol-Water Accumulator	20Z42040-001 7914398-001 7915880-001	-- -- --	6 	34 	201-203 204-212 501-507 508-515	100
Modulating Flow Control Valve	20Z42007-001	601A39	6	39	201-212 501-515	101
Mounting and Thermal Conditioning Panels	20Z42000-001	--	--	--	201-212 501-515	100B
PCM Transmitting Antenna Mod 609	50M13018-001	601A633	See Fig. 2 		501-503	--
PCM Transmitting Antenna Mod 609	50Z13018-001	601A633	See Fig. 2 		504	--
PCM/CCS Transmitting Antenna Mod 613 	50M12664-001 50Z12664-001 50M12664-001 50Z12664-001	602A585 602A585 603A625 603A625	See Fig. 2 		501-503 504-515 501-503 504-515	-- -- -- --
PCM Coaxial Switch Mod 612 	50M13016 50M13016-001 50Z13016-001	603A630 	24 	24 	501 502-503 504	136

Table 1. Instrument Unit Component Alphabetical List (Continued)

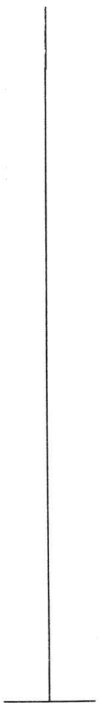
Nomenclature	Part Number	Reference Designation	Loc. on Panel	Fig. 1 Loc. No.	Vehicle Effectivity	Page
PCM/DDAS Telemeter Assembly Mod 301 	50M12210-001	602A420	12	70	201	137
	50M12210-005				202	
	50M12210-007				203	
	50M12210-009				204	
	50Z13005-005				205-207	
	50Z13005-007				208-212	
	50Z13005-001	602A595			501-503	
	50Z13005-007	602A595			504-515	
Plug Type J-Box Assembly 	40M33012-001	603A54	20	102	201	81
	40M33032-001				202	
	40M33052-001				203	
	40Z33072-001				204-212	
					501-515	
Power Distributor 	40M37212-001	601A1	2	2	201	82
	40M37219-001				202	
	40M37226-001				203	
	40Z37233-001				204	
	7910419-001				205	
	7910419-003				206	
	7910419-005				207	
	7910419-007				208	
	7910419-009				209	
	7910419-011				210	
	7910419-013				211	
	7910419-015				212	
	7910419-021				501	
	7910419-023				502	
	7910419-025				503	
	7910419-027				504	
	7910419-029				505	
	7910419-031				506	
	7910419-033				507	
	7910419-035				508	
	7910419-037				509	
	7910419-039				510	
	7910419-041				511	
	7910419-043				512	
	7910419-045				513	
	7910419-047				514	
	7910419-049				515	

Table 1. Instrument Unit Component Alphabetical List (Continued)

Nomenclature	Part Number	Reference Designation	Loc. on Panel	Fig. 1 Loc. No.	Vehicle Effectivity	Page
P1 PCM/RF Transmitter Assembly CT-19B	50M12211-001	602A421	13	74	201-202	138
P1 PCM/RF Transmitter Assembly Mod II	50M12421-001	602A571	13	79 †	203-204	138
	50Z13012-005	602A571	11	62 †	205-212	
	50Z13012-001	602A600	13	79 †	501	
	50Z13012-005	602A600	13	79 †	502-503	
	50Z13012-007	602A600	13	79 †	504-515	
Remote Digital Multiplexer Mod 410	50M12214-001	603A455	18	100	201	139
	50M12214-005				202	
	50M12214-007				203	
	50M12214-009				204	
Remote Digital Multiplexer J Mod 410	50Z13006-005	602A615	11	59	205-207	
	50Z13006-007	602A615	11	59	208-212	
	50Z13006-001	603A599	17	91 †	501-503	
	50Z13006-007	603A599	11	59 †	504-515	
Remote Digital Multiplexer K Mod 410	50Z13006-003	603A455	18	100	205-212	
Remote Digital Multiplexer K Mod 410	50Z13006-003	603A594	18	106	501-515	
Remote Digital Submultiplexer	50M12213-001	603A431	17	81	201-204	140
Retroreflector Assembly	50M22108-001	--	See Fig. 2		202-205 501	116
Retroreflector Assembly	50Z22108	--			206-212 502-515	116
S-Band Power Amplifier	50M12676	603A673	24	16	203	170
S-Band Power Amplifier	50M12676	603A674	24	18	203	170

† Physical location varies between vehicles, refer to Figure 1.

Table 1. Instrument Unit Component Alphabetical List (Continued)

Nomenclature	Part Number	Reference Designation	Loc. on Panel	Fig. 1 Loc. No.	Vehicle Effectivity	Page
Secure Range Safety Decoder	50M10698	603A568	18	99	201	171
Segment (Access Door)	30Z13101-001	Unit 601	--	--	201-212 501-515	72F
Segment (ST-124M)	30Z13102-001	Unit 603	--	--	201-212 501-515	72F
Segment	30Z13103-001	Unit 602	--	--	201-212 501-515	72F
Slow Speed Multiplexer Assembly Mod 245	50M12208-001 50M12208-005 50M12208-007 50M12208-009 50Z13003-005	602A442 602A598	11 11	45 45	201 202 203 204 501-503	142
Source Follower	50M12413-001	601A472	1	13	201-204 501-503	143
Splice Plates	Ref. Page 72G	--	See Fig. 2		501-515	72G
ST-124M-3 Inertial Platform Assembly	50M22100-005 50M22100-007 50M22100-009 50M22100-015 50M22100-013	603A19 	21 	114 	201-206 501-502 207 503 208 & 211-212 209-210 504-505	117
ST-124M-3 Platform AC Power Supply	50M22106-001 50M22106-005 50M22106-007 50M22106-009	603A13 	20 	103 	201 202-204 501 205-206 502-503 207-212 504-515	118

Table 1. Instrument Unit Component Alphabetical List (Continued)

Nomenclature	Part Number	Reference Designation	Loc. on Panel	Fig. 1 Loc. No.	Vehicle Effectivity	Page
ST-124M-3 Platform Electronic Assembly	50M22102-005 50M22102-007 50M22102-011 50M22102-013 50M22102-015 50M22102-017 50M22102-019	603A20 	20 	95 	201 202-204 501 205-206 502 503 207 & 211-212 506-515 208-209 210 504-505	119
Switch Selector Mod I	50M64008	603A17	17	80	201	83
Switch Selector Mod II	50M67864-005	603A17	17	80	202-212 501-515	83
S1 RF Trans- mitter Assembly Mod I	50M12205-005	602A441	11	57	201-204	141
S1 RF Trans- mitter Assembly Mod II	50Z13011-005 50Z13011-011	602A597 602A597	11 11	57 57	501 502-503	141 141
S1 Telemeter Assembly	50Z12209-001	602A440	11	58	201-203	144
S1 Telemeter Assembly Mod 601	50M13004-001	602A440	11	58	204	144
S1 Telemeter Assembly Mod 601	50Z13004-001	602A596	11	58	501-503	144
Tape Recorder (Airborne)	50M12410-001	602A419	11	46	201-204	145
Tape Recorder (Airborne)	50Z13010-001	602A604	11	46	501-503	145
Telemetry Antenna Mod 219	50M12284	602A452	See Fig. 2		201-202	--

Table 1. Instrument Unit Component Alphabetical List (Continued)

Nomenclature	Part Number	Reference Designation	Loc. on Panel	Fig. 1 Loc. No.	Vehicle Effectivity	Page
Telemetry Antenna Mod 219	50M12284	603A453	See Fig. 2		201-202	--
Telemetry Antenna Mod 223	50M12500	602A580	See Fig. 2		203	--
	50M12500	602A581			203	--
	50Z12500-001	602A580			204-212	--
					501-515	
	50Z12500-001	602A581			204-212	--
					501-515	
Telemetry Calibrator	50M12416-001	602A437	13	76 †	201-204	146
	50Z13008-001	602A602	13	76 †	501-503	
	50Z13008-003	602A644	11	64 †	205-212	
					504-515	
Telemetry Calibrator Power and Control Assembly	50M12404-001	602A566	13	75 †	201-204	
	50Z13009-001	602A566	11	63 †	205-212	
	50Z13009-001	602A603	13	75 †	501-515	
Telemetry Directional Coupler Mod 226	50M12586-001	602A668	10	65	205	147
Telemetry Directional Coupler Mod 226	50Z12586-001	602A668	10	65	206-212	147
					504-515	
Telemetry Power Divider	50M12495	601A436	4	29	201-203	148
	50Z12495-001	601A436	4	29	204	
	50Z12495-003	601A436	4	29	205-212	
					501-515	
Telemetry RF Coupler	50M12497-001	602A445	9	53	201-203	149
Telemetry RF Coupler Mod 451	50Z12497-001	602A445	9	60	204-212	149
					501-515	
Temperature Sensor	20Z42007-005	--	--	--	201-212	101
					501-515	

† Physical location varies between vehicles, refer to Figure 1.

Table 1. Instrument Unit Component Alphabetical List (Continued)

Nomenclature	Part Number	Reference Designation	Loc. on Panel	Fig. 1 Loc. No.	Vehicle Effectivity	Page
Thermal Conditioning Panel Heaters	40M37641-001	601A66	1	20A	501-503	102A
	or					
	40Z37641-001	601A67	1	20B	501-503	
		601A68	2	15A	501-503	
		601A69	2	20C	501-503	
		603A75	17	90C	501-503	
		603A76	17	90D	501-503	
		603A77	23	123B	501-503	
Thermal Expansion Chamber	20Z42163-001	--	7	32A	201-212 501-515	102
Thermal Radiation Shrouds	7914395-001	--	5, 21	--	204	102B
	7914396-001	--	1, 2, 14, 15 17, 21	--	204	
	7914395-001	--	5, 19, 21		205 & 207	
	7914396-001	--	1, 2	--	205 & 207	

Table 1. Instrument Unit Component Alphabetical List (Continued)

Nomenclature	Part Number	Reference Designation	Loc. on Panel	Fig. 1 Loc. No.	Vehicle Effectivity	Page
Thermal Radiation Shrouds			9, 14 15, 17 18, 20			102B
	7914395-001	--	5, 19 21	--	501-503	
	7914396-001	--	1, 2 9, 13 14, 15 17, 18 20	--	501-503	
TV Antenna	50M12411	601A646	See Fig. 2		202	--
TV Antenna	50M12411	601A647	See Fig. 2		202	--
TV Antenna Mod 613	50M12664	601A614	See Fig. 2		203	--
TV Antenna Mod 613	50M12664-001	601A617	See Fig. 2		203	--
TV Camera	50M12575	*	*	--	202	172
	50M12583	*	*	--	203	
	50M12584	*	*	--	203	
TV Junction Box	50M12352	603A652	24	6	202	173
TV Power Amplifier	50M12571	603A649	24	8	202	174
TV Power Divider	50M12408	603A651	24	7	202	175
TV Transmitter Assembly	50M12570	602A648	24	9	202	176
Two-Cubic-Foot Sphere	20Z32013-001	603A525	22	117	201-212 501-515	103
UHF/RF Filter	50M12668	603A670	23	123	503	150
* On vehicle 202, this component is located on payload. On vehicle 203, this component is located on S-IVB LH ₂ tank.						

Table 1. Instrument Unit Component Alphabetical List (Continued)

Nomenclature	Part Number	Reference Designation	Loc. on Panel	Fig. 1 Loc. No.	Vehicle Effectivity	Page
UHF/RF Transmitter Assembly	50M13013-001 50M12799-001 50Z13013-001	603A601 — —	24 — —	23 — —	501-502 503 504	151 — —
Umbilical Door	30Z13008-001	--	7 —	-- —	201-202 501-515	72H —
Umbilical Plate Assembly	11Z00055-001 11Z00014-005 11Z00014-007 11Z00014-009	-- -- -- --	— — — —	41A — — —	201-212 501-504 505-506 507-515	— — — —
VSWR Measuring Assembly Mod 220	50M10683	602A448	10	55	201-202	152
VSWR Measuring Assembly Mod 225	50Z12555-001	602A642	10	61	203-204 501-503	152
Water Accumulator Assembly	20Z42196-001 7915984-001	-- -- --	6 3 —	37 27A	201-205 501 206-502	104 — —
Water Solenoid Valve	20Z42034-001	601A41 — —	6 6 3 6	36 43 27B 44C	201-202 203-205 501 206-208 209-212 502-515	105 — — — — —
5 Volt Measuring Voltage Supply	40Z20964	602A16	12	72	201-212 501-515	84
50-Cubic-Inch Spheres	20Z42039-001	--	6	40	201-205	106
56 Volt Power Supply	40Z20807-003	601A15	1	11	201-212 501-515	85
165-Cubic-Inch Sphere	7910120-003	--	6	44	206-212 501-515	106

Table 2. Instrument Unit Component Numerical Listing

Part Number	Nomenclature	Page
10Z22257-001	Cable Tray	72E
11Z00014-005	Umbilical Plate Assembly	72H
-007		
-009		
11Z00055-001		
20Z32013	Two-Cubic-Foot Sphere	104
20M42001-001	Coolant Pump	91
20M42048	Gas Bearing Heat Exchanger	94
20M42048-001	Gas Bearing Heat Exchanger	
20M42155-001	Manual Shutoff Valve	100A
20Z42000-001	Mounting and Thermal Conditioning Panels	100B
20Z42001-001	Coolant Pump	91
20Z42007-001	Modulating Flow Control Valve	101
20Z42007-003	Electronic Controller Assembly	
20Z42007-005	Temperature Sensor	
20Z42012-003	Gas Bearing Pressure Regulator	95
20Z42013-003	First Stage Pressure Regulator	93
-005		
20Z42016-001	Low Pressure Switch	99
20Z42034-001	Water Solenoid Valve	105
20Z42039-001	50-Cubic-Inch Spheres	106
20Z42040-001	Methanol-Water Accumulator	100
20Z42048-001	Gas Bearing Heat Exchanger	94

Table 2. Instrument Unit Component Numerical Listing (Continued)

Part Number	Nomenclature	Page
20Z42079-003	Gas Bearing Solenoid Valve	96
-005		
20Z42100-001	Y Purge	92
20Z42101-003	Flex Tubing	92
-005		
-007		
-009		
-011		
20Z42155-001	Manual Shutoff Valve	100A
20Z42159-001	Heat Exchanger Assembly	98
20Z42163-001	Thermal Expansion Chamber	102
20Z42170-001	Methanol-Water Accumulator	100
20Z42196-001	Water Accumulator Assembly	104
20Z42197-001	Duct Assembly	92
30Z13008-001	Umbilical Door	72H
30Z13101-001	Segment (Unit 601)	72F
30Z13102-001	Segment (Unit 603)	72F
30Z13103-001	Segment (Unit 602)	72F
40M20780-001	Battery D10, D20, D30, D40	76
-003		
-005		
-007		
40M33012-001	Plug Type J-Box	81
40M33032-001	Plug Type J-Box	
40M33052-001	Plug Type J-Box	
40M33072-001	Plug Type J-Box	
40M37208-001	Measuring Distributor	80
40M37209-001	Measuring Distributor	
40M37210-001	Control Distributor	77

Table 2. Instrument Unit Component Numerical Listing (Continued)

Part Number	Nomenclature	Page
50M12278-001	Measuring Rack A408	126
-005		
-007		
-009		
50M12279-001	Measuring Rack A409	
-005		
-007		
-009		
50M12284	Telemetry Antenna Mod 219	--
50M12321	Command Antenna Mod 313	--
50M12352	Junction Box (TV)	173
50M12357	Coaxial Switch	130
50M12358	Coaxial Termination	131
50M12370-001	Force Balance Accelerometer	124
50M12382	Command Directional Coupler	166
50M12390-001	Force Balance Accelerometer	124
50M12391-001	Force Balance Accelerometer	124
50M12404-001	Telemeter Calibrator Power and Control Assembly	146
50M12408	TV Power Divider	175
50M12410-001	Tape Recorder (Airborne)	145
50M12411	TV Antenna	--
50M12413-001	Source Follower	143
50M12416-001	Telemetry Calibrator	146
50M12421-001	P1 PCM/RF Transmitter Assembly	138

Table 2. Instrument Unit Component Numerical Listing (Continued)

Part Number	Nomenclature	Page
50M12495	Telemetry Power Divider	148
50M12497-001	Telemetry RF Coupler	149
50M12500	Telemetry Antenna Mod 223	--
50M12501	PCM/CCS Antenna	--
50M12504	C-Band Antenna Mod 713	--
50M12504-001	C-Band Antenna Mod 713	--
50M12520	Camera Control Unit (Kintel)	158
50M12521	Camera Control Unit (GEC)	
50M12525-003	Measuring Rack A402	126
50M12527	CCS Power Divider	163
50M12552	Lateral Accelerometer Slosh, Pitch, and Yaw	125
50M12555	VSWR Measuring Assembly Mod 225	152
50M12570	TV Transmitter Assembly	176
50M12571	TV Power Amplifier	174
50M12573	Longitudinal Accelerometer Orbital LH ₂ Venting	125
50M12575	TV Camera	172
50M12583	TV Camera	
50M12584	TV Camera	
50M12586	Telemetry Directional Coupler	147
50M12664-001	PCM/CCS Antenna	--
50M12664	TV Antenna Mod 613	--
50M12668	UHF/RF Filter	150

Table 2. Instrument Unit Component Numerical Listing (Continued)

Part Number	Nomenclature	Page
50M12673	CCS Power Amplifier	162
50M12675	Exciter Unit	169
50M12676	TV Power Amplifier	174
50M12799-001	UHF/RF Transmitter Assembly	151
50M13004-001	S1 Telemeter Assembly Mod 601	144
50M13015	CCS Hybrid Ring	161
50M13016-001	PCM Coaxial Switch	136
50M13016-001	CCS Coaxial Switch	160
50M13017-003	CCS Transponder	164
50M13018-001	CCS Directional Antenna Mod 609	--
50M13018-001	PCM Transmitting Antenna Mod 609	--
50M13019-001	CCS Receiving Antenna Mod 610	--
50M13022	Telemetry RF Coupler Mod 451	149
50M22100-005	ST-124M-3 Inertial Platform Assembly	117
-007		
-009		
-013		
-015		
50M22102-005	ST-124M-3 Platform Electronic Assembly	119
-007		
-011		
-013		
-015		
-017		
-019		

Table 2. Instrument Unit Component Numerical Listing (Continued)

Part Number	Nomenclature	Page
50M22106-005	ST-124M-3 Platform AC Power Supply	118
-007		
-009		
50M22107-003	Accelerometer Signal Conditioner	109
-005		
-009		
50M22108-001	Retroreflector Assembly	116
50M32550-001	Flight Control Computer IB	113
50M35010	Launch Vehicle Digital Computer	115
50M35011	Launch Vehicle Data Adapter	114
50M35021	Control-EDS Rate Gyros	111
50M35022	Control Accelerometer (pitch)	110
50M35023	Control Accelerometer (yaw)	
50M35300-007	Flight Control Computer V	113
-009		
-011		
50M35500-007	Control Signal Processor	112
50M64008	Switch Selector Mod I	83

Table 2. Instrument Unit Component Numerical Listing (Continued)

Part Number	Nomenclature	Page
50Z12274-017	Measuring Rack A404	126
-019		
-021		
-023		
-025		
-027		
-029		
-031		
-033		
-035		
-037		
-039		
-041		
-043		
-045		
-047		
-049		
-051		
-053		
-055		
50Z12275-011	Measuring Rack A405	
-015		
-029		
-031		
50Z12276-011	Measuring Rack A406	
-015		
-029		
-031		
50Z12277-011	Measuring Rack A407	
-029		
-031		
50Z12278-011	Measuring Rack A408	
-029		
-031		
50Z12279-011	Measuring Rack A409	
-029		
-031		
50Z12321-001	Command Antenna Mod 313	--
50Z12333-001	Azusa Antenna Mod 711	--

Table 2. Instrument Unit Component Numerical Listing (Continued)

Part Number	Nomenclature	Page
50Z12357-001	Coaxial Switch	130
50Z12358-001	Coaxial Termination	131
50Z12370-001	Force Balance Accelerometer	124
50Z12382-001 -003	Command Directional Coupler	166
50Z12390-001	Force Balance Accelerometer	124
50Z12404-001	Telemetry Calibrator Power and Control Assembly	146
50Z12495-001 -003	Telemetry Power Divider	148
50Z12497-001	Telemetry RF Coupler	149
50Z12500-001	Telemetry Antenna Mod 223	--
50Z12504-001	C-Band Antenna Mod 713	--
50Z12527-001	CCS Power Divider	163
50Z12555-001	VSWR Measuring Assembly Mod 225	152
50Z12574-001 -003 -005	C-Band Transponder	159
50Z12586-001	Telemetry Directional Coupler	147
50Z12664-001	PCM/CCS Antenna	--
50Z12667-005 -029 -031	Measuring Rack A669	126
50Z12668	UHF/RF Filter	150
50Z12673-001	CCS Power Amplifier	162
50Z12705-001 -003	Command Decoder	165

Table 2. Instrument Unit Component Numerical Listing (Continued)

Part Number	Nomenclature	Page
50Z12754-001 -003 -005	C-Band Transponder	159 —
50Z13000-001 -005 -007 -009	F1 Telemeter Assembly Mod B1	133 —
50Z13001-001	F2 Telemeter Assembly Mod A3	134
50Z13002-003 -009 -015	CP1 Multiplexer Assembly Mod 270	135 —
50Z13002-001 -005 -013 -017 -019 -021	DP1 Multiplexer Assembly Mod 270	135 —
50Z13003-005	Slow Speed Multiplexer Mod 245	142
50Z13004-001	S1 Telemeter Assembly Mod 601	144
50Z13005-001 -005 -007	PCM/DDAS Telemeter Assembly Mod 301	137 —
50Z13006-001 -005 -007	Remote Digital Multiplexer J Mod 410	139 —
50Z13006-003	Remote Digital Multiplexer K Mod 410	139 —
50Z13007-001	DDAS/Computer Interface Unit	132
50Z13008-001 -003	Telemetry Calibrator	146 —
50Z13009-001	Telemetry Calibrator Power and Control Assembly	146 —
50Z13010-001	Tape Recorder (Airborne)	145

Table 2. Instrument Unit Component Numerical Listing (Continued)

Part Number	Nomenclature	Page
50Z13011-001 -007	F1 RF Transmitter Assembly Mod II	141
50Z13011-003 -009	F2 RF Transmitter Assembly Mod II	
50Z13011-005 -011	S1 RF Transmitter Assembly Mod II	
50Z13012-001 -005 -007	P1 PCM/RF Transmitter Assembly Mod II	
50Z13013-001	UHF/RF Transmitter Assembly	151
50Z13015-001	CCS Hybrid Ring	161
50Z13016-001	PCM Coaxial Switch	136
50Z13016-001 -003	CCS Coaxial Switch	160
50Z13017-003	CCS Transponder	164
50Z13018-001	PCM Transmitting Antenna Mod 609	--
50Z13018-001	CCS Directional Antenna Mod 609	--
50Z13019-001	CCS Receiving Antenna Mod 610	--
50Z22108	Retroreflector Assembly	116
50Z32550-001 -003 -005 -007	Flight Control Computer (IB)	113
50Z35021-001	Control-EDS Rate Gyros	111
50Z35022-001	Control Accelerometer (pitch)	110
50Z35023-001	Control Accelerometer (yaw)	
50Z35300-001	Flight Control Computer (V)	113
50Z35500-007 -009 -011	Control Signal Processor	112
7910120-003	165-Cubic-Inch Sphere	106A
7910415-001 -003 -021 -023 -025	Measuring Distributor	80

Table 2. Instrument Unit Component Numerical Listing (Continued)

Part Number	Nomenclature	Page
7910419-039	Power Distributor	82
-041		
-043		
-045		
-047		
-049		
7910420-001	Auxiliary Power Distributor	75
-003		
-005		
-007		
-009		
-011		
-013		
-015		
-021		
-023		
-025		
-027		
-029		
-031		
-033		
-035		
-037		
-039		
-041		
-043		
-045		
-047		
-049		
7910421-001	Auxiliary Power Distributor	
-003		
-005		
-007		
-009		
-011		
-013		
-015		
-021		
-023		
-025		
-027		
-029		
-031		

Table 2. Instrument Unit Component Numerical Listing (Continued)

Part Number	Nomenclature	Page
7910421-033	Auxiliary Power Distributor	75
-035		
-037		
-039		
-041		
-043		
-045		
-047		
-049		
7912296-001	Gas Bearing Heat Exchanger	94
7914398	Methanol-Water Accumulator	100
7914540-001	EDS Timer No. 1 (40 Second Timer)	79
7914878-001	Coolant Pump	91
7915671-001	EDS Timer No. 1 (30 Second Timer)	79
7915880-001	Methanol-Water Accumulator	100
7915984-001	Water Accumulator Assembly	104

FIGURE 1 COMPONENT NOMENCLATURE BY CALLOUT NUMBER

- | | |
|--|--|
| 1. Measuring Rack A401 | 20B. Thermal Conditioning Panel Heater |
| 2. Power Distributor | 20C. Thermal Conditioning Panel Heater |
| 3. Environmental Conditioning Duct | 21. CCS Transponder |
| 4. Auxiliary Power Distributor | 22. CCS Power Amplifier |
| 5. Measuring Rack A401 or A402 | 23. UHF/Rf Transmitter Assembly |
| 6. TV Junction Box | 24. PCM Coaxial Switch |
| 7. TV Power Divider | 25. CCS Coaxial Switch |
| 8. TV Power Amplifier | 25A. Thermal Conditioning Panel Heater |
| 9. TV Transmitter Assembly | 25B. Thermal Conditioning Panel Heater |
| 10. Camera Control Unit (GEC) | 25C. Thermal Conditioning Panel Heater |
| 11. 56 Volt Power Supply | 26. Battery D10 |
| 12. Measuring Rack Selector | 27. Battery D30 |
| 13. Source Follower | 27A. Water Accumulator Assembly |
| 14. Electronic Controller Assembly | 27B. Water Solenoid Valve |
| 15. Control Accelerometer (Pitch) | 28. Battery D40 |
| 15A. Thermal Conditioning Panel Heater | 29. Telemetry Power Divider |
| 16. S-Band Power Amplifier | 30. Coaxial Termination |
| 17. Exciter Units | 31. Coaxial Switch |
| 18. S-Band Power Amplifier | 32. Battery D20 |
| 19. Camera Control Unit (GEC) | 32A. Thermal Expansion Chamber |
| 20. Camera Control Unit (Kintel) | 33. First Stage Pressure Regulator |
| 20A. Thermal Conditioning Panel Heater | |

REFER TO TABLE 1 FOR COMPONENT EFFECTIVITIES

FIGURE 1 COMPONENT NOMENCLATURE BY CALLOUT NUMBER (Continued)

- | | |
|---|---|
| 34. Methanol-Water Accumulator | 51. Auxiliary Power Distributor |
| 35. Coolant Pump | 52. CP1 or DP1 Multiplexer Assembly |
| 36. Water Solenoid Valve | 53. Telemetry RF Coupler |
| 37. Water Accumulator | 54. F2 RF Transmitter Assembly Model II |
| 38. Heat Exchanger Assembly | 55. VSWR Measuring Assembly Model 220 |
| 39. Modulating Flow Control Valve | 56. F2 Telemeter Assembly |
| 40. 50-Cubic-Inch Spheres | 57. S1 RF Transmitter Assembly Model II |
| 41. Valve, Shutoff Methanol-Water (Manually Operated) | 58. S1 Telemeter Assembly |
| 41A. Umbilical Plate | 59. Remote Digital Multiplexer J |
| 42. Hazardous Gas Manifold | 60. Telemetry RF Coupler Model 451 |
| 42A. Access Door | 61. VSWR Measuring Assembly Model 225 |
| 43. Water Solenoid Valve | 62. P1 PCM/RF Transmitter Assembly Model II |
| 44. 165-Cubic-Inch Sphere | 63. Telemetry Calibrator Power and Control Assembly |
| 44A. Coolant Pump (Primary) | 64. Telemetry Calibrator |
| 44B. Coolant Pump (Secondary) | 65. Telemetry Directional Coupler Model 226 |
| 44C. Water Solenoid Valve | |
| 45. Slow Speed Multiplexer Assembly | |
| 46. Tape Recorder (Airborne) | |
| 47. Measuring Rack A403 | |
| 48. Measuring Distributor | |
| 49. CP1 or DP1 Multiplexer Assembly | |
| 50. Measuring Rack A402 or A405 | |

REFER TO TABLE 1 FOR COMPONENT EFFECTIVITIES

FIGURE 1 COMPONENT NOMENCLATURE BY CALLOUT NUMBER (Continued)

- | | |
|---|---|
| 66. EDS Distributor | 80. Switch Selector |
| 67. Measuring Distributor | 81. Remote Digital Submultiplexer |
| 68. Measuring Rack A404 | 82. Control-EDS Rate Gyros |
| 69. F1 RF Transmitter Assembly | 83. Control Signal Processor |
| 70. PCM/DDAS Telemeter Assembly | 84. Measuring Rack A404 or A409 |
| 71. C-Band Transponder | 85. Measuring Rack A403 or A406 |
| 72. 5-Volt Measuring Voltage Supply | 86. Flight Control Computer |
| 73. F1 Telemeter | 87. EDS Timer No. 2 (20 Second Timer) |
| 74. P1 PCM/RF Transmitter Assembly CT-19B | 88. EDS Timer No. 1 or 3 (30, 40, or 60 Second Timer) |
| 75. Telemetry Calibrator Power and Control Assembly | 89. Command Directional Coupler |
| 76. Telemetry Calibrator | 90. Command Power Divider |
| 77. Measuring Rack A408 | 90A. Measuring Rack A403 or A406 |
| 78. Measuring Rack A407 | 90B. Control-EDS Rate Gyros |
| 78A. Measuring Rack A406 | 90C. Thermal Conditioning Panel Heater |
| 79. P1 PCM/RF Transmitter Assembly Model II | 90D. Thermal Conditioning Panel Heater |
| | 90E. CCS Power Divider |

REFER TO TABLE 1 FOR COMPONENT EFFECTIVITIES

FIGURE 1 COMPONENT NOMENCLATURE BY CALLOUT NUMBER (Continued)

91. Remote Digital Multiplexer J	111. Gas Bearing Heat Exchanger
92. DDAS/Computer Interface Unit	112. Control Accelerometer (Yaw)
93. CCS Hybrid Ring	113. Force Balance Accelerometers
94. CCS Power Divider	114. ST-124M Inertial Platform Assembly
95. ST-124M Platform Electronic Assembly	115. Gas Bearing Pressure Regulator
96. Launch Vehicle Data Adapter	116. Low Pressure Switch
97. Control Distributor	117. Two-Cubic-Foot Sphere
98. Command Receiver	118. Gas Bearing Solenoid Valve
99. Secure Range Safety Decoder	119. Lateral Accelerometer Slosh, Pitch, and Yaw
100. Remote Digital Multiplexer K	120. Longitudinal Accelerometer Orbital LH ₂ Venting
101. Launch Vehicle Digital Computer	121. Gas Bearing Heat Exchanger
102. Plug Type J-Box Assembly	122. Measuring Rack A669
103. ST-124M Platform AC Power Supply	123. UHF/RF Filter
104. Accelerometer Signal Conditioner	123A. Gas Bearing Heat Exchanger
105. Command Decoder	123B. Thermal Conditioning Panel Heater
106. Remote Digital Multiplexer K	124. Gas Bearing Heat Exchanger
107. Command Decoder	125. Gas Bearing Solenoid Valve
108. C-Band Transponder	
109. Azusa RI Filter Assembly	
110. Azusa Transponder	

REFER TO TABLE 1 FOR COMPONENT EFFECTIVITIES

Figure 1. Instrument Unit Component Locations (sheet 1 of 19)

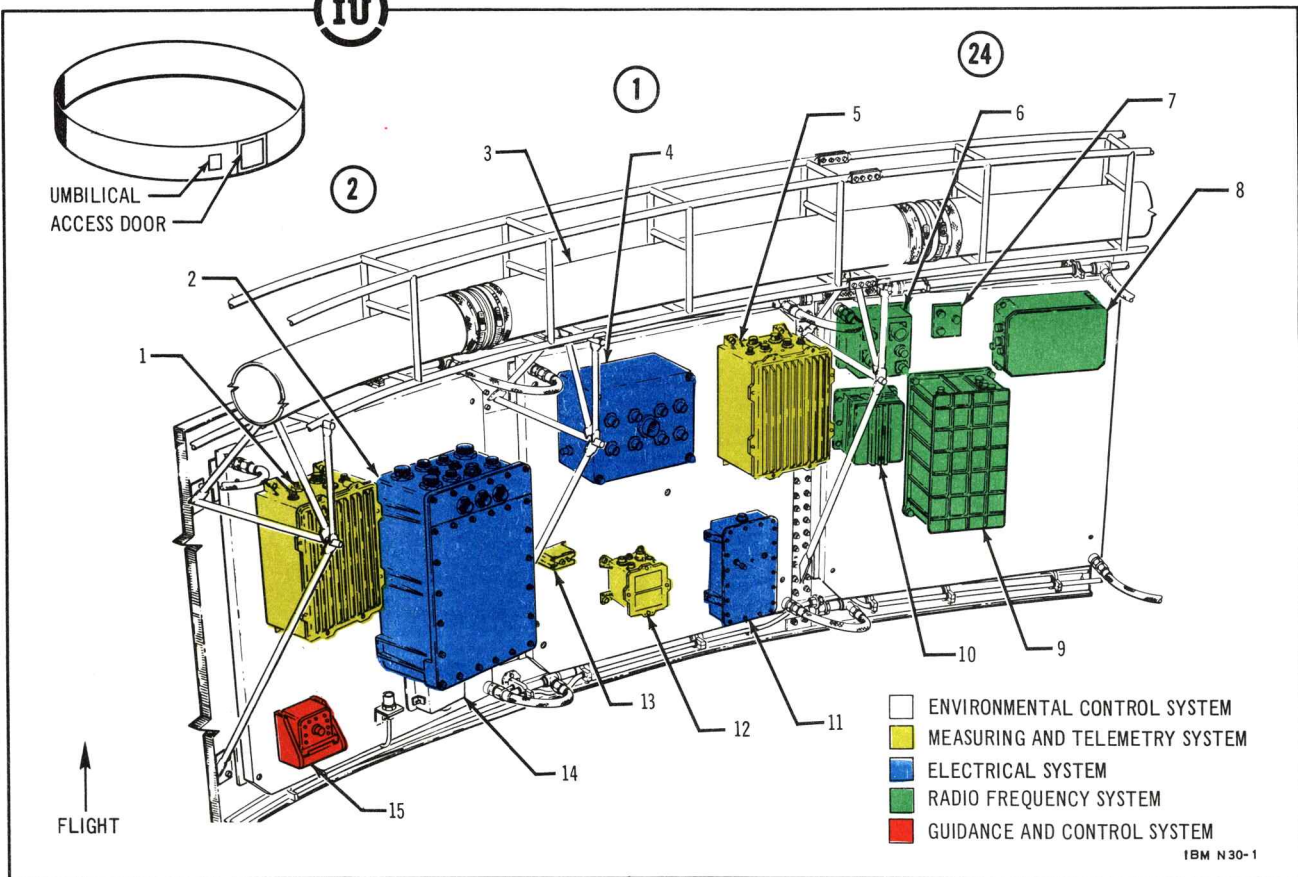
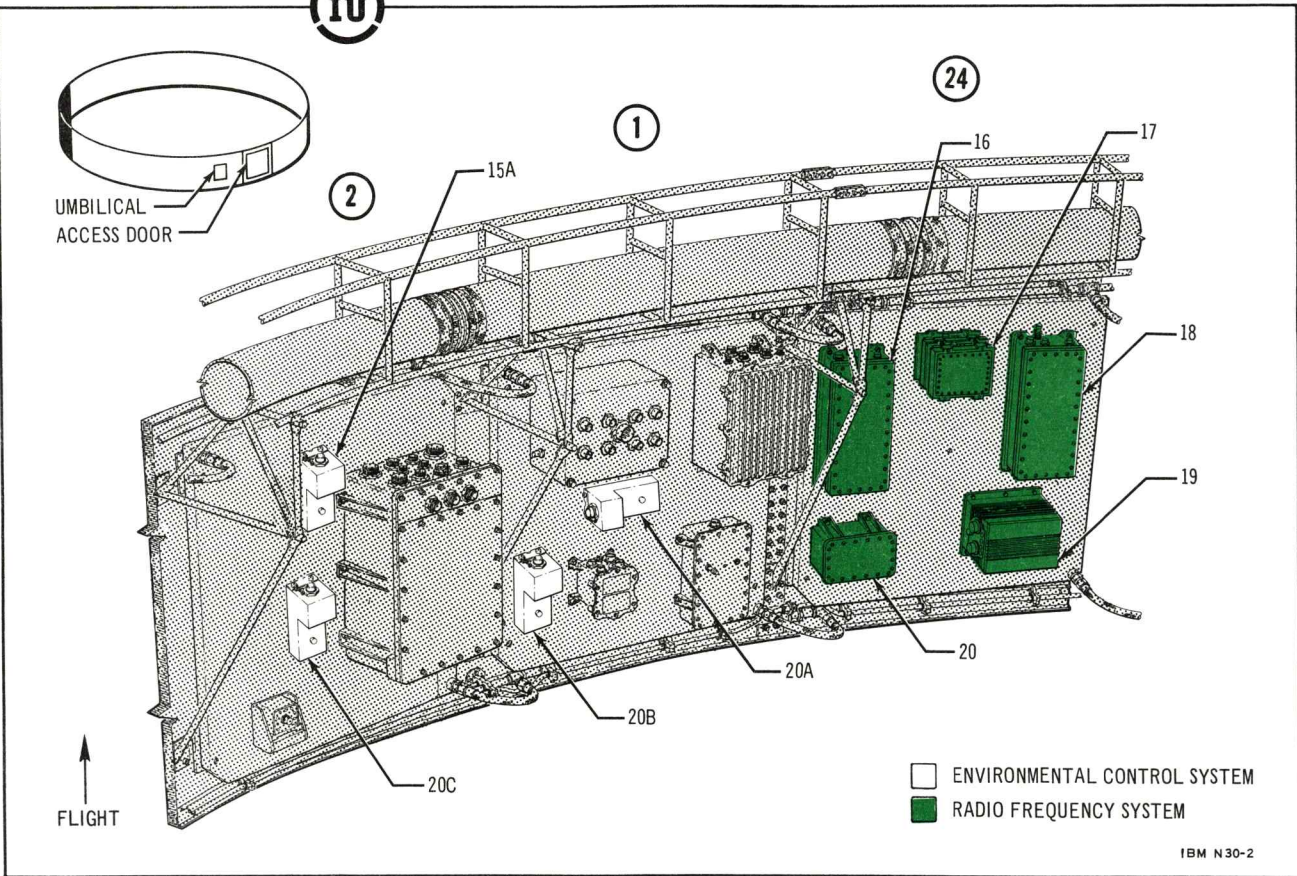
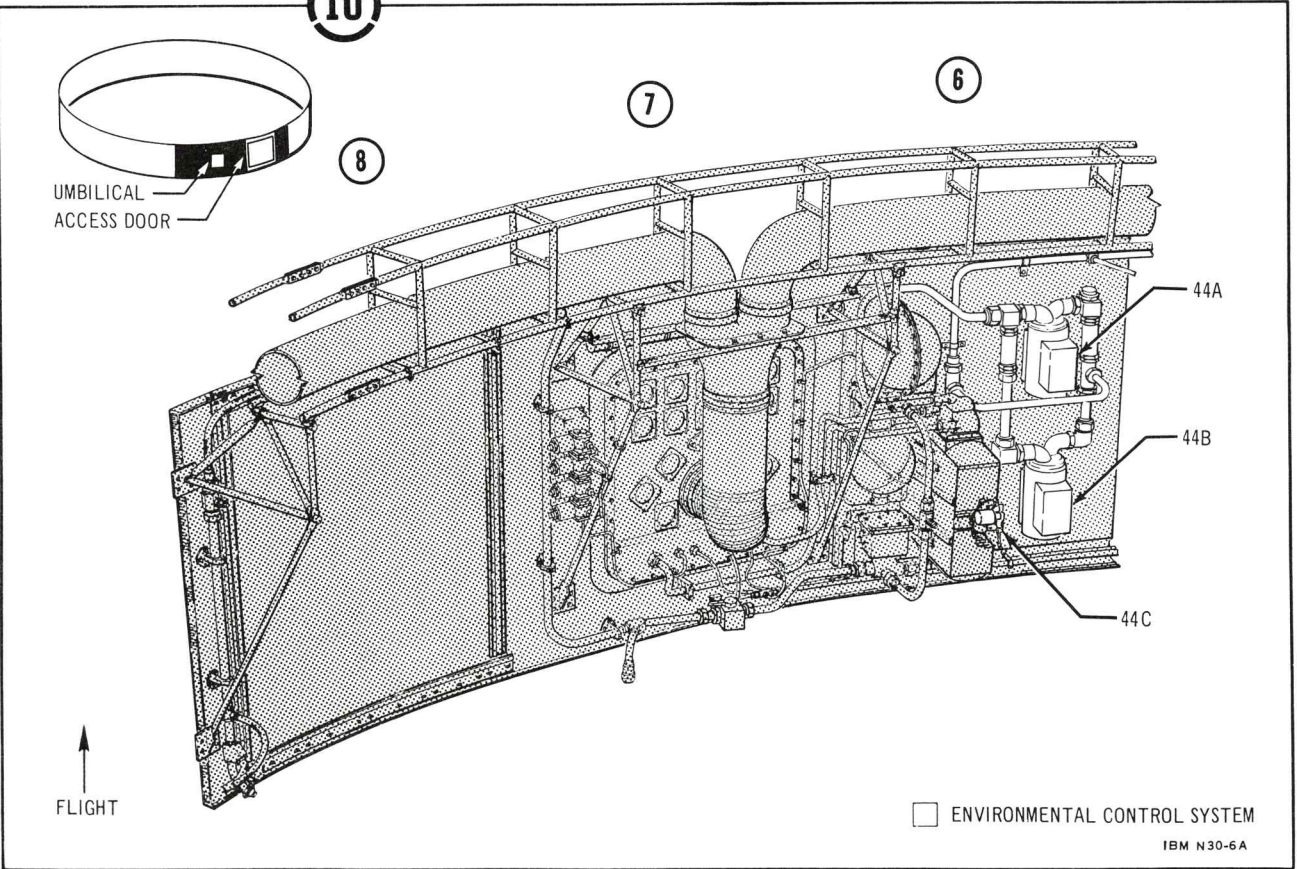


Figure 1. Instrument Unit Component Locations (sheet 2 of 19)





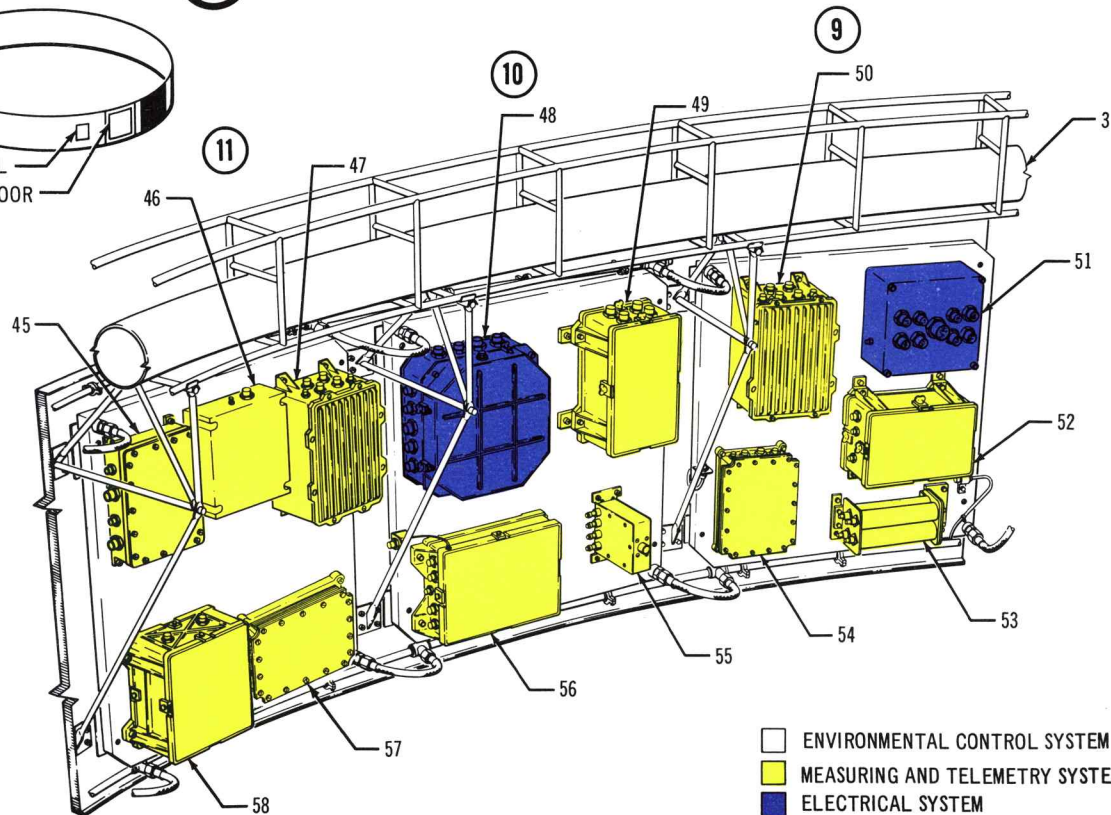
IBM N30-6A

Figure 1. Instrument Unit Component Locations (sheet 6A of 19)

IU



UMBILICAL
ACCESS DOOR



IBM N30-7

Panels 9, 10 & 11

Figure 1. Instrument Unit Component Locations (sheet 7 of 19)

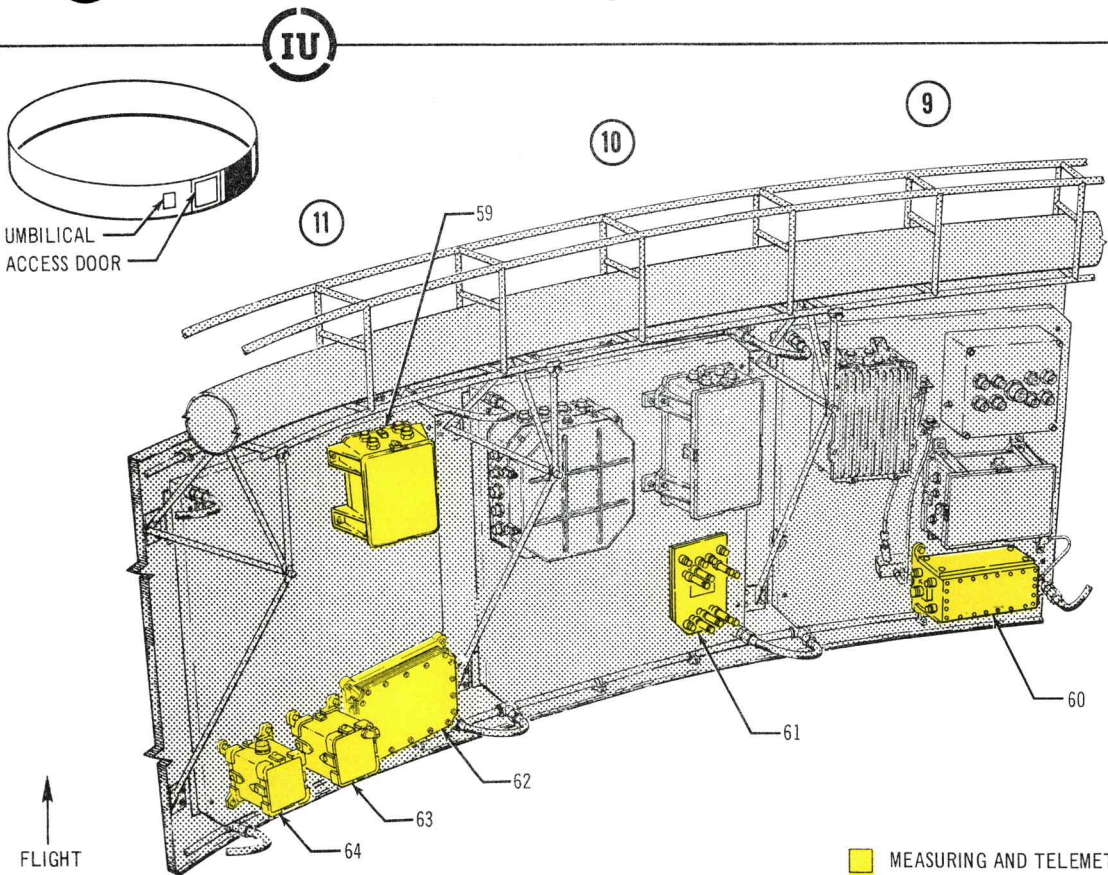


Figure 1. Instrument Unit Component Locations (Sheet 8 of 19)

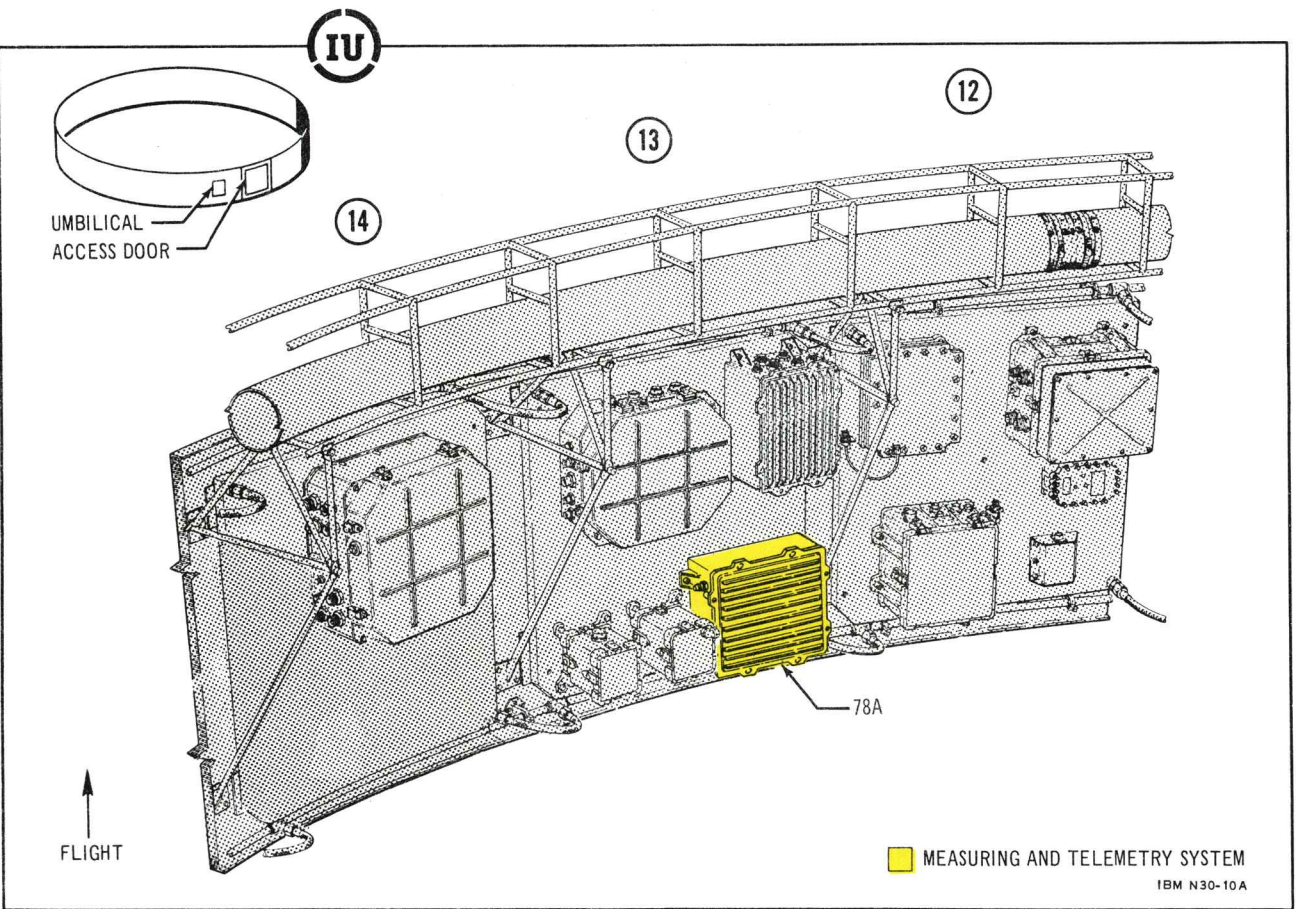
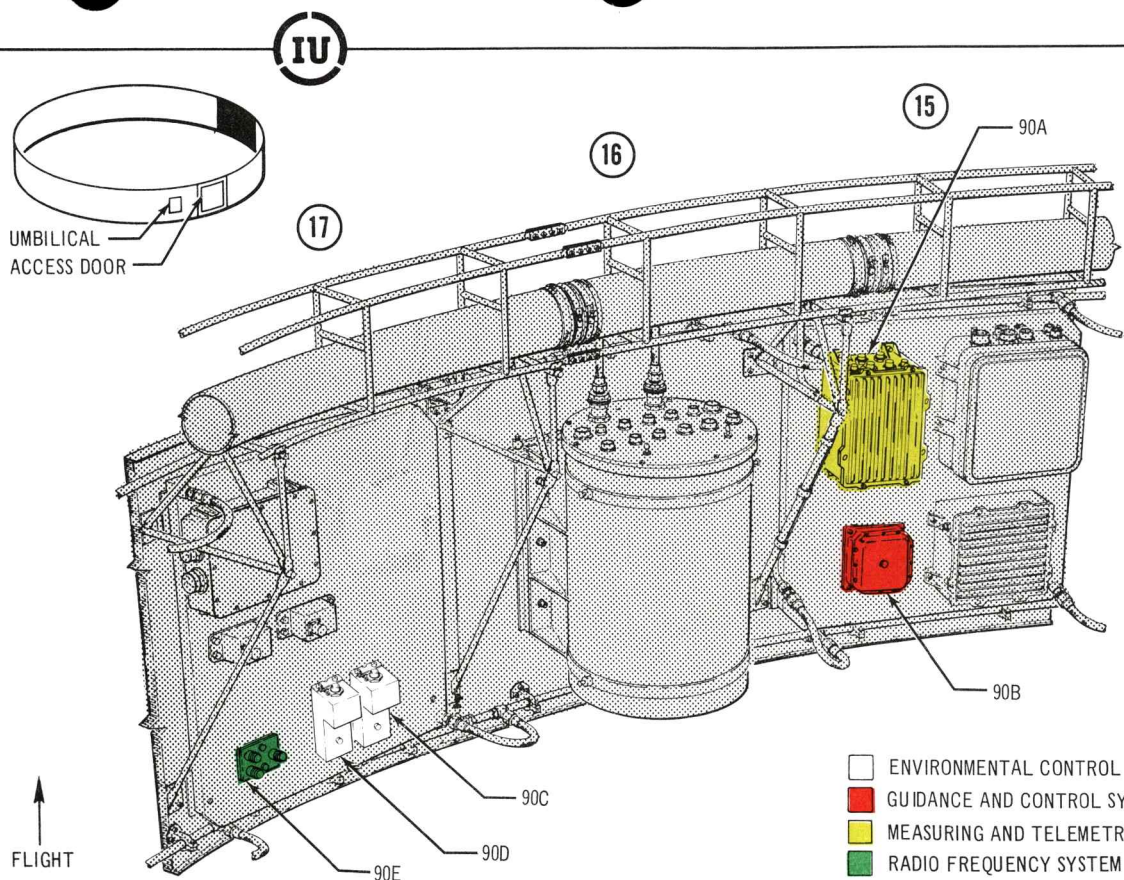


Figure 1. Instrument Unit Component Locations (Sheet 10A of 19)



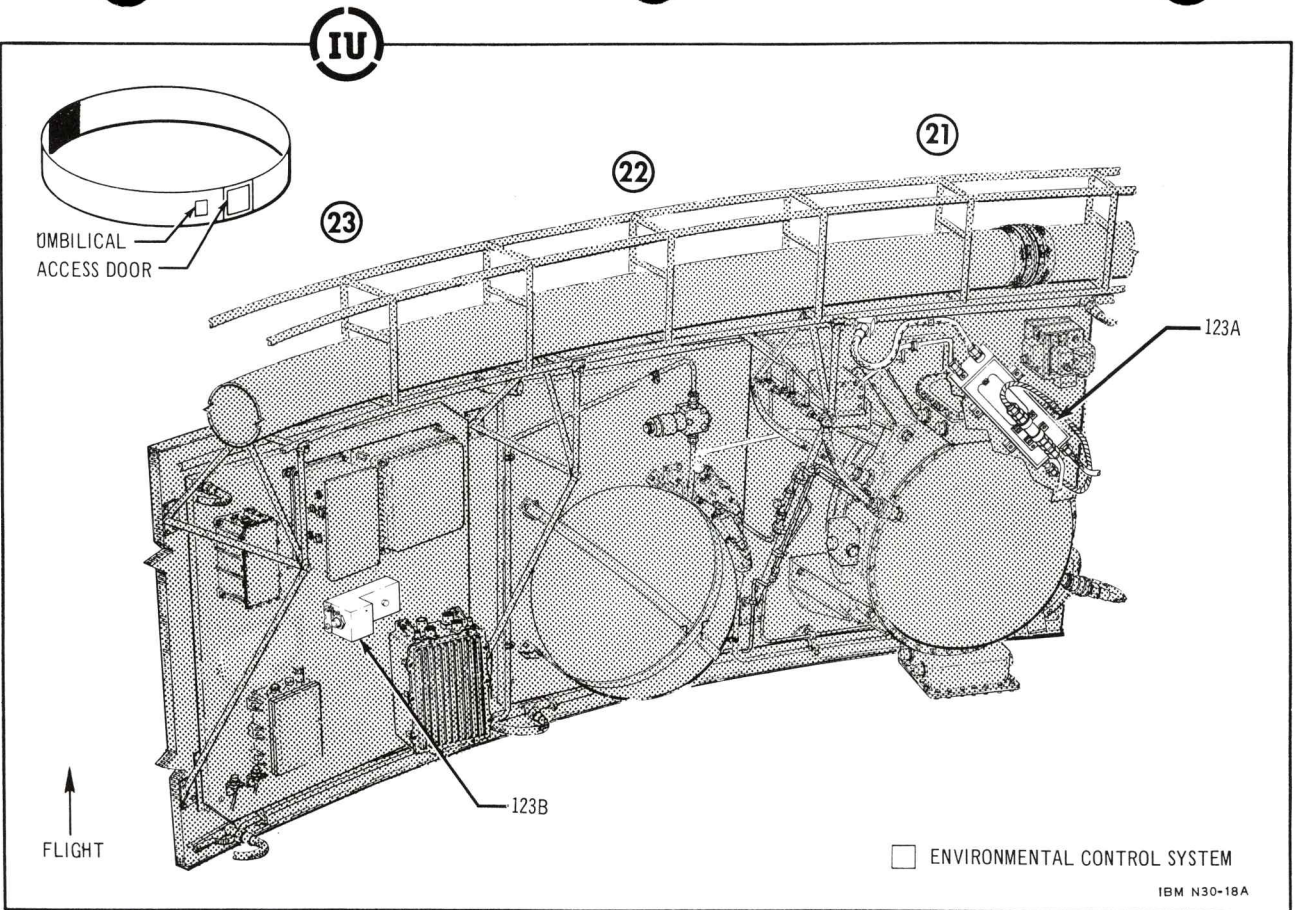
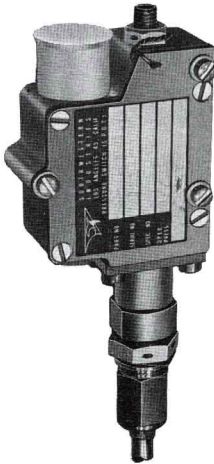
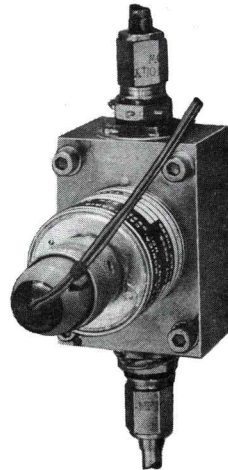


Figure 1. Instrument Unit Component Locations (sheet 18A of 19)



201-203



204-212/501-515

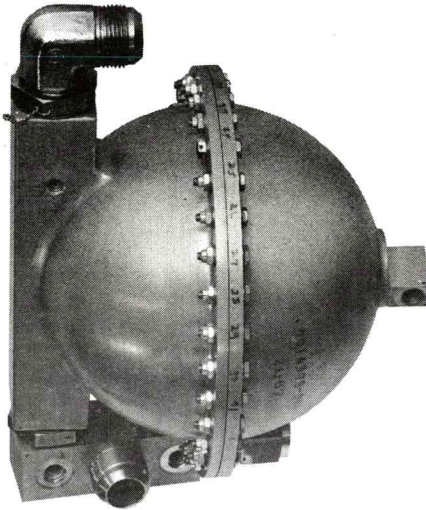
IBM N63

If nitrogen pressure within the 2-cubic-foot GN₂ storage sphere falls below 925 psia during preflight operation, the Low Pressure Switch initiates shut-down of the ST-124M-3 platform. This switch is inactive during flight.

Effectivity:	All (Refer to note in Introduction)	
Specification No.	201-203	20M42131
	204-212/501-515	20Z42016
Figure 1 Location:	Panel 22 Callout 116	

ENVIRONMENTAL CONTROL SYSTEM

Methanol-Water Accumulator

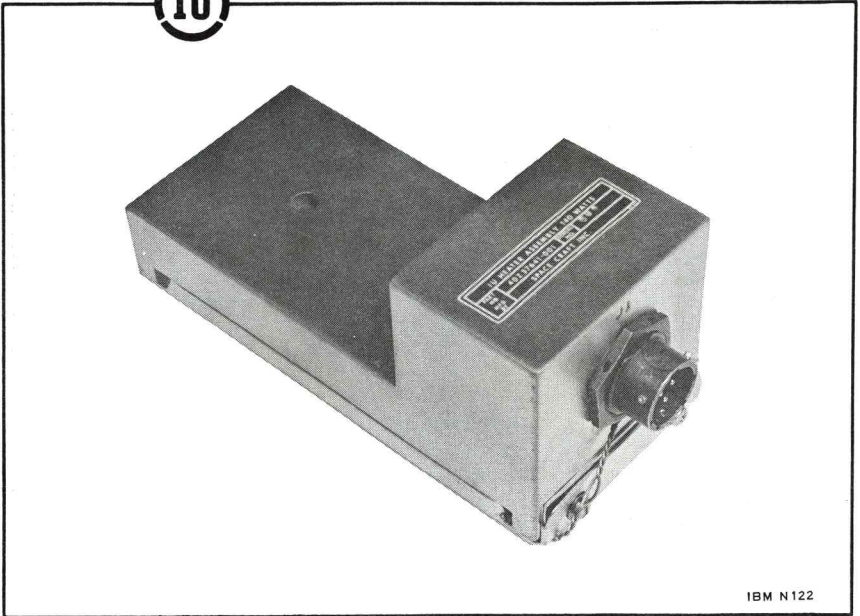


IBM N64

The Methanol-Water Accumulator compensates for the coolant thermal expansion and provides make-up fluid for any fluid lost due to leakage. A rubber bladder within the accumulator separates the methanol-water and GN_2 used for pressurization. The GN_2 , acting through the Methanol-Water Accumulator, keeps a constant inlet pressure to the Coolant Pump. The capacity of the Methanol-Water Accumulator for IU 508 through 515 has been doubled, but the basic concept and use remains the same.

Effectivity:	All (Refer to note in Introduction)
Specification No.	20Z42078
Figure 1 Location:	Panel 6 Callout 34

ENVIRONMENTAL CONTROL SYSTEM
Thermal Conditioning Panel Heaters

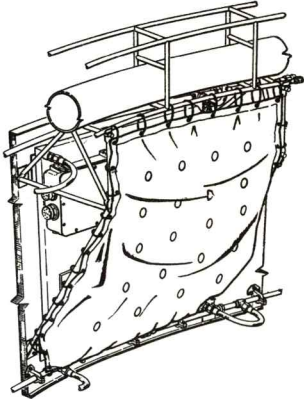


IBM N122

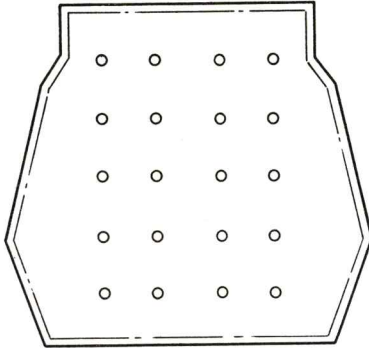
To improve Environmental Control System heat balance, 140-watt Thermal Conditioning Panel Heaters are mounted directly to the Mounting and Thermal Conditioning Panels. The heaters are turned on at power transfer and remain on during flight. The quantity and location of the heaters vary from vehicle to vehicle.

Effectivity:	501-503
Specification No.	40Z39572
Figure 1 Location:	Panel 1 Callouts 20A and 20B, Panel 2 Callouts 15A, and 20C, Panel 17 Callouts 90C, and 90D, Panel 23 Callout 123B.

ENVIRONMENTAL CONTROL SYSTEM
Thermal Radiation Shrouds



SHROUD INSTALLED



SHROUD

IBM N123

To improve Environmental Control System heat balance, Thermal Radiation Shrouds cover the inboard surfaces of the Thermal Conditioning Panels and Components. They are attached to the Cable Tray at the top, to the Cable Tray supports at the sides, and to the coolant return manifolds at the bottom. Air/GN₂ purge gas from the Environmental Conditioning Duct is vented through open areas at the top and bottom of the shrouds and through holes in the shrouds.

The shrouds are fabricated from sheets of aluminized, low-thermal-emissivity mylar and bound with aluminum tape. The tape is used to reinforce the shrouds at the edges and around the vent holes. The shrouds are installed at KSC in the required locations for each vehicle effectivity.

In those locations where RF interference would result from the use of a shroud-type shield, a low-emissivity, pressure-sensitive tape is used. The tape is applied to accessible exposed surface areas of components and/or Thermal Conditioning Panels.

Effectivity: 204-207/501-503
Specification No. 7915318 (Low-Emissivity Tape)
Figure 1 Location: Not shown

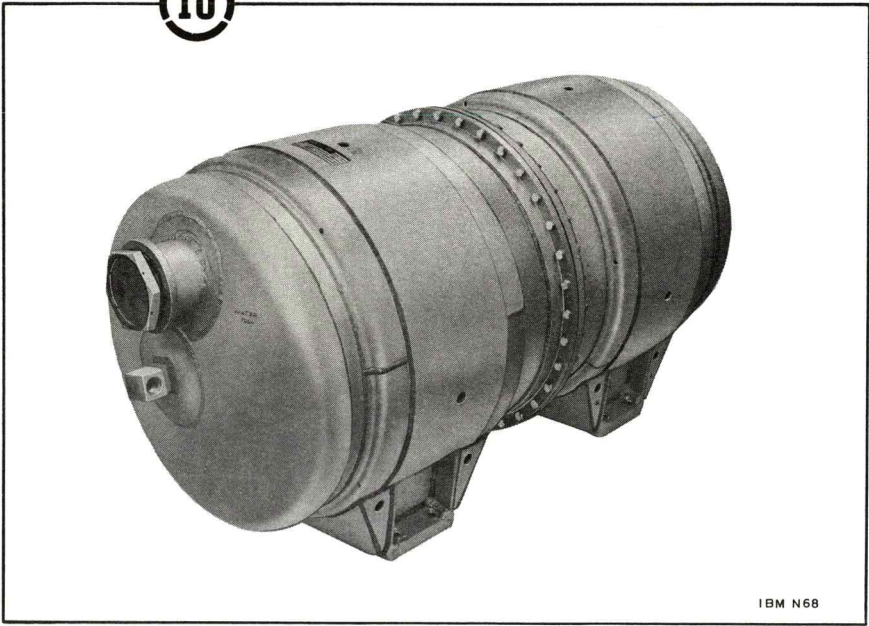


The Two-Cubic-Foot Sphere is used as a storage device for GN_2 under pressure to pressurize the ST-124M-3 Inertial Platform Assembly gas bearing system.

Effectivity: All (Refer to note in Introduction)
Specification No. 20Z32013
Figure 1 Location: Panel 22 Callout 117

ENVIRONMENTAL CONTROL SYSTEM

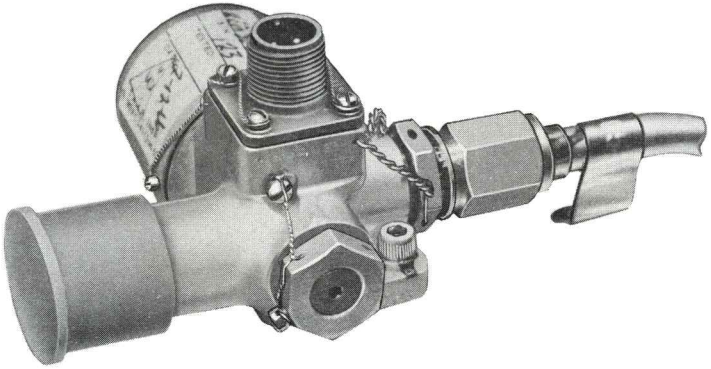
Water Accumulator Assembly



IBM N68

The Water Accumulator Assembly consists of a tank used to store water for use as a refrigerant to cool the methanol-water coolant as it flows through the sublimator, and an orifice assembly to regulate and vent the GN₂ supply to the water accumulator. A rubber bladder within the accumulator separates the water and the pressurized GN₂ used to force the water to the sublimator.

Effectivity:	All (Refer to note in Introduction)
Specification No.	20Z42122
Figure 1 Location:	Panel 3 Callout 27A Panel 6 Callout 37



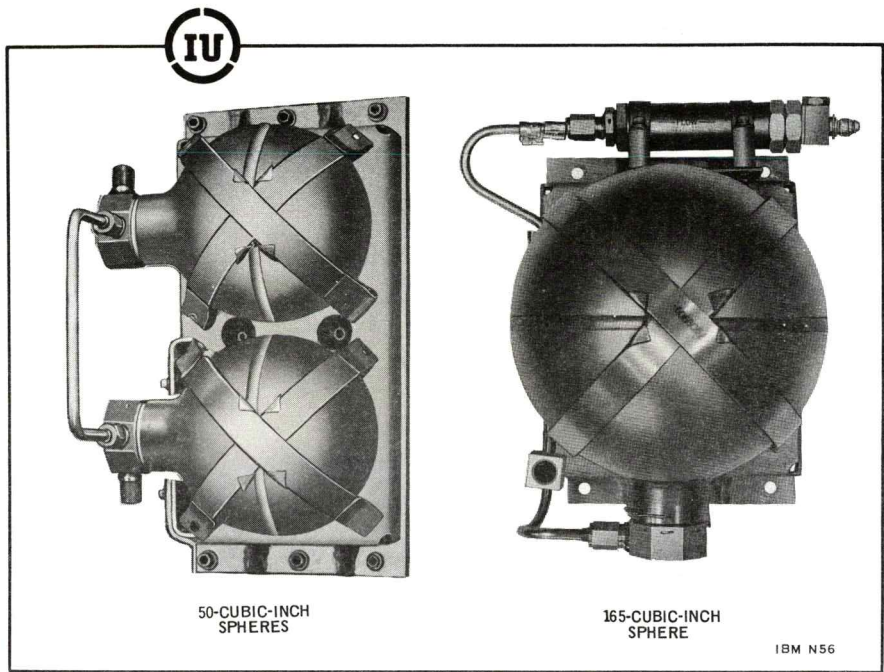
IBM N69

The Water Solenoid Valve is located in the water line between the Water Accumulator and the Heat Exchanger Assembly. The valve is held closed by a 28-volt signal from the LVDC until approximately 130 seconds after lift-off. At this time the 28-volt signal is removed, allowing the valve to transfer to its normally open position. When the valve has opened, water is able to flow from the Water Accumulator to the sublimator contained in the Heat Exchanger Assembly for subsequent cooling of the methanol-water solution in the thermal conditioning system.

Effectivity:	All (Refer to note in Introduction)
Specification No.	20Z42034
Figure 1 Location:	Panel 3 Callout 27B Panel 6 Callouts 36, 43, and 44C

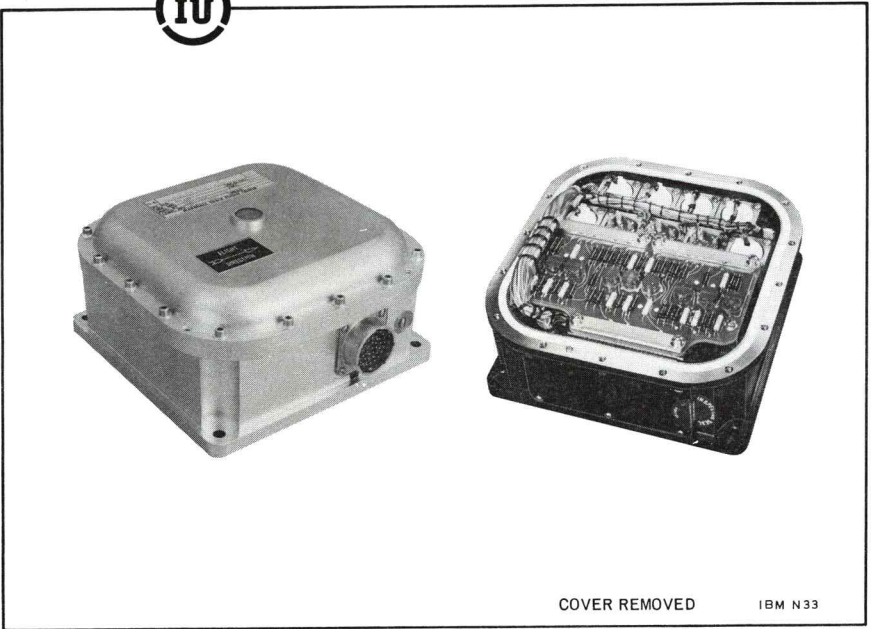
ENVIRONMENTAL CONTROL SYSTEM

50-Cubic-Inch Spheres/165-Cubic-Inch Sphere



The 50-Cubic-Inch Spheres and the 165-Cubic-Inch Sphere are used as storage devices for GN_2 under pressure to maintain a pressure on the Water Accumulator and the Methanol-Water Accumulator.

Effectivity:	50-Cubic-Inch Spheres	201-205
	165-Cubic-Inch Sphere	206-212/501-515
Specification No.	50-Cubic-Inch Spheres	20Z42014
	165-Cubic-Inch Sphere	Not available
Figure 1 Location:	50-Cubic-Inch Spheres,	Panel 6 Callout 40
	165-Cubic-Inch Sphere,	Panel 6 Callout 44

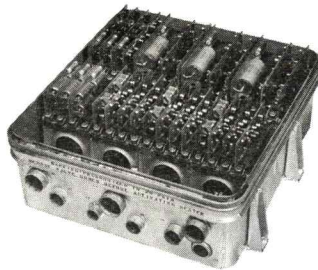


The Control-EDS Rate Gyros provide nine 400 Hz voltage output signals that are analogs of the rates of vehicle rotation about the yaw, pitch, and roll axes. These signals are sent to the Control Signal Processor, which provides outputs to the Flight Control Computer and the Emergency Detection System (EDS). The nine Control-EDS Rate Gyros are arranged in groups of three for triple redundancy. Each group, consisting of pitch, yaw, and roll rate gyros, is completely isolated electrically from the others.

Effectivity:	All (Refer to note in Introduction)
Specification No.	6009086
Figure 1 Location:	Panel 15 Callouts 82 and 90B

GUIDANCE AND CONTROL SYSTEM

Control Signal Processor



COVER REMOVED

IBM N34

The Control Signal Processor provides power to and receives inputs from the nine Control-EDS Rate Gyros. These inputs are processed by two separate sets of circuits. One set of circuits provide outputs to the Emergency Detection System Distributor, and the other set processes and provides rate signals to the Flight Control Computer.

Effectivity: All (Refer to note in Introduction)
Specification No. 7907068
Figure 1 Location: Panel 15 Callout 83

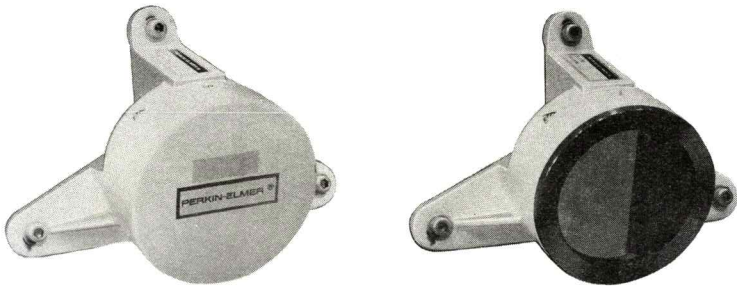


The Launch Vehicle Digital Computer (LVDC) is a general purpose computer under control of a stored program. Data is processed serially in two arithmetic sections which can, if desired, operate concurrently. Addition, subtraction, and logical extractions are performed in one arithmetic section while multiplication and division are performed in the other. The principal storage device is a random access, ferrite-core memory with separate controls for data and instruction addressing. The memory can be operated in either simplex or duplex mode.

Effectivity:	All (Refer to note in Introduction)
Specification No.	6150001
Figure 1 Location:	Panel 19 Callout 101

GUIDANCE AND CONTROL SYSTEM

Retroreflector Assembly

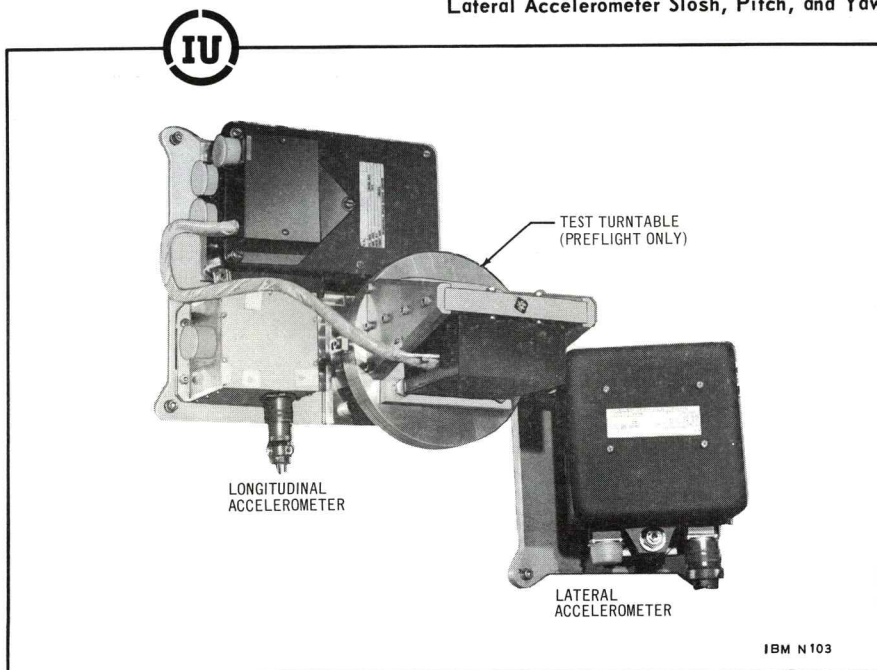


COVER REMOVED IBM N100

The Retroreflector Assembly is used as reference for a servo-system to position the penta mirror in the autocollimator theodolite located on the ground. The penta mirror, servosystem, and the Retroreflector Assembly provide the autocollimator theodolite with the capability of translatory tracking. At the vehicle elevation of the platform system, while the vehicle is resting on the pad, the autocollimator theodolite will compensate for a ± 14 -inch translation (sway) movement of the vehicle. Infrared energy is generated by the autocollimator theodolite and is reflected from the Retroreflector Assembly to detect deviation from the desired position of the vehicle. The retroreflector servo loop increases the effect of the autocollimator theodolite aperture from 8 inches to 32 inches at a rate of 32 inches/second.

- Effectivity: 202-212/501-515
- Specification No. 7907121
- Location: See Figure 2

MEASURING SYSTEM
Longitudinal Accelerometer Orbital LH₂ Venting
Lateral Accelerometer Slosh, Pitch, and Yaw



These two assemblies have been placed onboard S-IU-203 to monitor the effects of near-zero acceleration forces (low G experiment) on the IU and S-IVB Stage. The measurements taken will be those for longitudinal acceleration and the forces induced by propellant sloshing.

The Longitudinal Accelerometer consists of an accelerometer, counter, electronic box, and mounting plate. The accelerometer provides an analog output to the electronic box and the counter. The electronic box signal conditions the accelerometer analog output providing two 0 to 5-volt levels that indicate positive or negative acceleration. The counter converts the accelerometer analog output to a 14-bit digital output indicating a value from 0 to 0.0001 g. The output from the counter and either a positive or negative indication from the electronic box are required to provide a complete measurement.

The Lateral Accelerometer consists of an accelerometer and mounting plate. This accelerometer measures forces along the pitch and yaw axes and supplies two 0 to 5-volt outputs which indicate values from minus 0.0001 g to plus 0.0001 g for each axis.

The three measurements from the Longitudinal Accelerometer and the two measurements from the Lateral Accelerometer are applied directly to the PCM Telemeter Assembly for subsequent transmission to the ground.

Effectivity:	203
Specification No.	Longitudinal Accelerometer (Not available)
	Lateral Accelerometer 50M60332
Figure 1 Location:	Lateral Accelerometer, Panel 23 Callout 119
	Longitudinal Accelerometer, Panel 23 Callout 120

MEASURING SYSTEM

Measuring Rack



COVER REMOVED

IBM N9

Measuring Racks contain plug-in type signal conditioning modules that adapt the outputs of transducers and some electrical circuits to the electrical input requirements to the telemetry system. The quantity of racks and the quantity of modules within each rack vary from vehicle to vehicle dependent upon the mission requirements, however, each rack is capable of containing 20 signal conditioning modules. In addition to the signal conditioning modules, the racks contain one or two channel selector modules. The channel selector modules operate in conjunction with the Measuring Rack Selector to determine measuring equipment accuracy. The signal conditioning modules provide flexibility and ease of maintenance. They accept output signals from the transducers or electrical pickoffs and convert the signals to a proportional 0 to 5-volt range. Several types of signal conditioning modules are available for use in the racks; one type of module is illustrated on the following page. The types of signal conditioning modules used in the Measuring Racks are as follows:

- AC Amplifiers
- DC Amplifiers
- Servo-Accelerometers
- Frequency-to-DC Converters
- Frequency Measuring Adapters

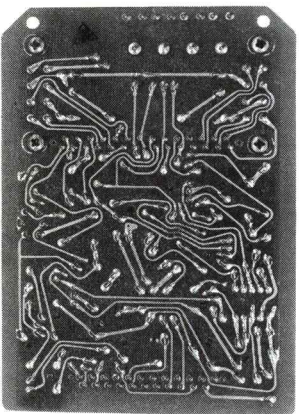
Effectivity: All (Refer to note in Introduction)

Specification No. Not available

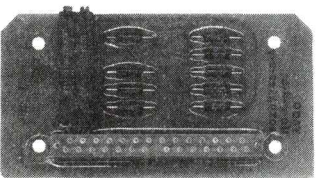
Figure 1 Location: Measuring Rack A401, Panels 2 and 1 Callouts 1 and 5, A402, Panels 1 and 9 Callouts 5 and 50, A403, Panels 11 and 15 Callouts 47, 85, and 90 A, A404, Panels 13 and 15 Callouts 68 and 84, A405, Panel 9 and 13 Callouts 50 and 68, A406, Panel 13 and 15 Callouts 78A, 85 and 90A, A407, Panel 14 Callout 78, A408, Panel 14 Callout 77, A409, Panel 15 Callout 84, and A669, Panel 23 Callout 122

IBM N 105

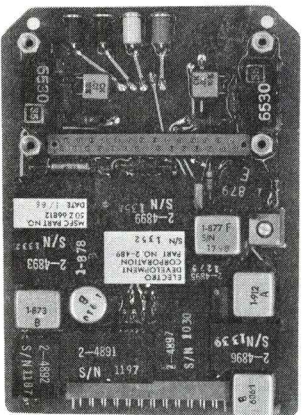
BACK



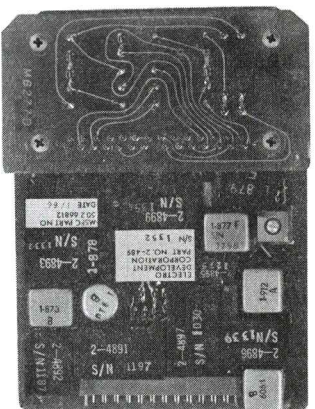
RANGE CARD



FRONT WITH RANGE
CARD REMOVED



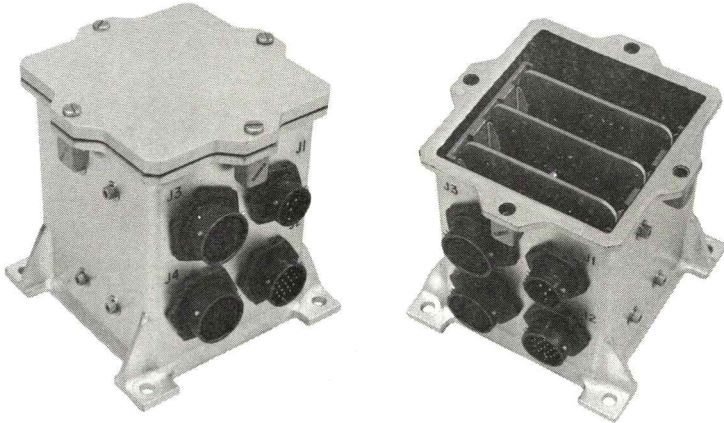
FRONT WITH RANGE
CARD MOUNTED



Typical DC Amplifier Signal Conditioning Module



MEASURING SYSTEM
Measuring Rack Selector



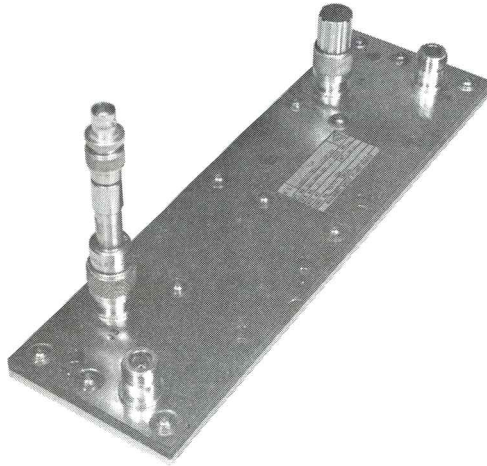
COVER REMOVED IBM N 10

The Measuring Rack Selector operates in conjunction with the Ground Support Equipment (GSE) remote automatic calibration system to select a particular Measuring Rack, a channel or signal conditioning module within the Measuring Rack, and the high or low checkpoint for that particular channel. The purpose for the Measuring Rack Selector is to assist in determining the accuracy of the measuring equipment. Upon command for remote automatic calibration, the Measuring Rack Selector receives a binary coded input on 13 parallel input lines via the umbilical. These 13 inputs contain the information necessary to make the above mentioned selections. The Measuring Rack Selector houses the rack selector card, the mode converter card, and the sync generator card, all of which are solid-state logic circuits mounted on printed circuit boards.

Effectivity: All (Refer to note in Introduction)
Specification No. 50M60077
Figure 1 Location: Panel 1 Callout 12

TELEMETRY SYSTEM
Telemetry Directional Coupler

IV

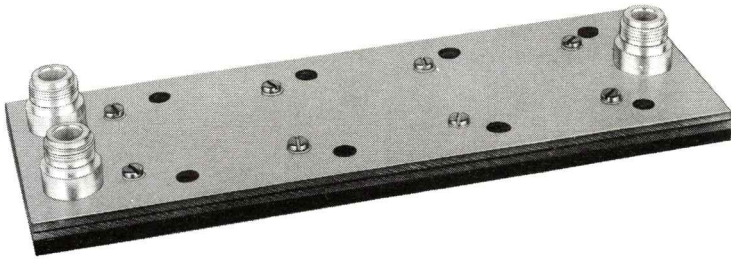


IBM N 107

The Telemetry Directional Coupler contains a coupler assembly which measures the transmitted power of the P1 PCM/RF Transmitter Assembly. The output signal from the coupler is low level dc and is fed to a Measuring Rack dc amplifier signal conditioning module.

Effectivity:	205-212/504-515
Specification No.	Mod 226, 7907499
Figure 1 Location:	Panel 10 Callout 65

TELEMETRY SYSTEM
Telemetry Power Divider



IBM N45

The Telemetry Power Divider routes and equally divides the composite carrier signal from the Coaxial Switch to the two telemetry antennas. The power divider also provides impedance matching.

Effectivity: All (Refer to note in Introduction)
Specification No. 50M60256
Figure 1 Location: Panel 4 Callout 29



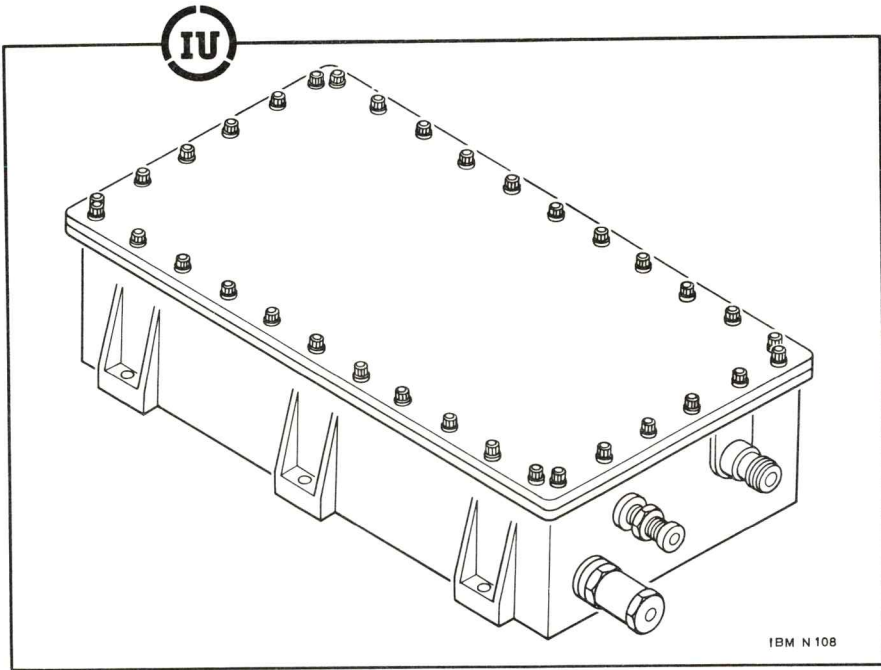
IBM N44

The Telemetry RF Coupler uses tuned cavities to selectively pass signals from the telemetry RF transmitters to the Coaxial Switch. Each carrier input passes through a resonant cavity that is tuned to $1/4$ wavelength of the carrier center frequency. The carriers are then capacitively coupled together and routed to the Coaxial Switch. Since each cavity is tuned to a different center frequency, only the selected carrier frequency may pass.

Effectivity:	All (Refer to note in Introduction)
Specification No.	50M60278
Figure 1 Location:	Panel 9 Callout 53

TELEMETRY SYSTEM

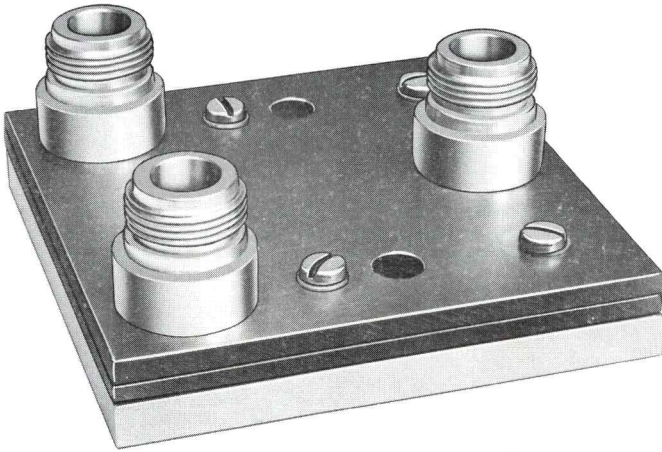
UHF/RF Filter



The UHF/RF Filter serves as a bandpass filter for the output of the UHF/RF Transmitter Assembly. The filter ensures that noise generated by the UHF/RF Transmitter is not radiated by the UHF transmitting antennas (PCM directional and the CCS/PCM omnidirection) thereby overlapping the signal received by the CCS receiving antennas. The RF noise spectrum of the UHF Transmitter overlaps the signal received by the CCS Transponder. The UHF/RF Filter prevents interference problems.

Effectivity:	503
Specification No.	Not available
Figure 1 Location:	Panel 23 Callout 123

IV

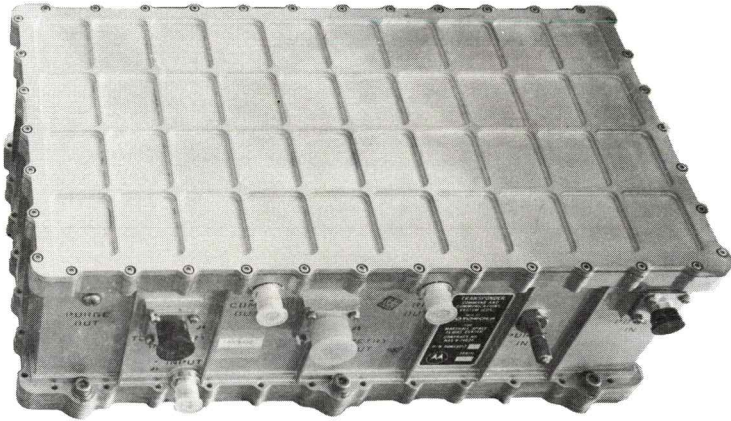


IBM N84

Two CCS Power Dividers are used in the IU. One of the power dividers is used on IU 501 through 515 and accepts inputs from the two CCS Omni-directional Receiving Antennas, couples the input signals, routes them to the CCS Transponder, and provides impedance matching. The second CCS Power Divider is used on IU 505 through 515 to provide impedance matching and couple the output signal from the CCS Coaxial Switch to the CCS Omni-directional Transmitting Antennas.

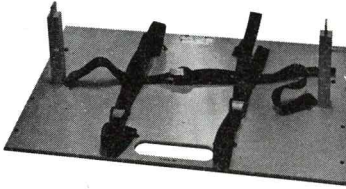
Effectivity:	501-515
	505-515
Specification No.	501-503 50M60289
	504-515 50Z60289
Figure 1 Location:	Panel 17 Callouts 90E and 94

CCS Transponder

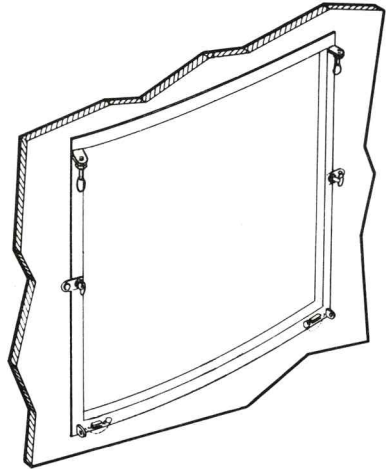


The CCS Transponder receives a phase modulated carrier input from the CCS Power Divider. This input carrier is modulated by a Pseudo Random Noise (PRN) ranging code for use in tracking, and by a command subcarrier which is frequency modulated with up-link command data. The transponder consists of a double conversion, phase-coherent receiver, and a continuous wave (cw) transmitter that are integrally related in both frequency and phase. Demodulation of the input carrier produces two outputs; one output containing up-link data is applied to the Command Decoder, while the other output containing the PRN ranging code is connected to an amplifier for subsequent modulation of a down-link carrier.

Effectivity:	501-515	
Specification No.	501-503	50M60227
	504-515	50Z60227
Figure 1 Location:	Panel 24	Callout 21



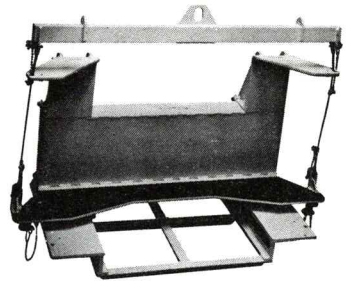
LEM BATTERY FIXTURE ASSEMBLY



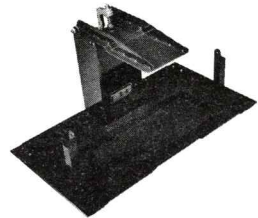
DOOR FRAME ASSEMBLY



CART ASSEMBLY



LVDC FIXTURE ASSEMBLY



ST-124M-3 PLATFORM ELECTRONIC
FIXTURE ASSEMBLY

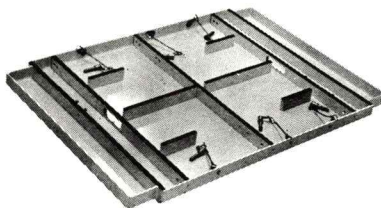
IBM N 124-2



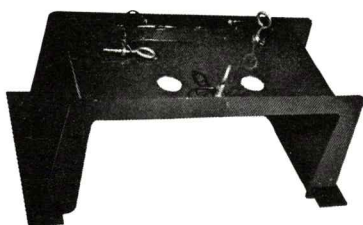
IU BATTERY FIXTURE ASSEMBLY



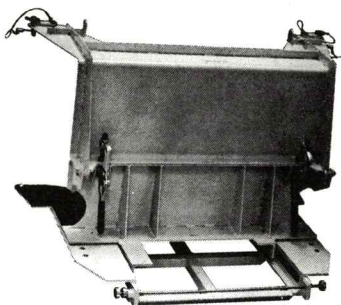
S-IVB BATTERY FIXTURE ASSEMBLY



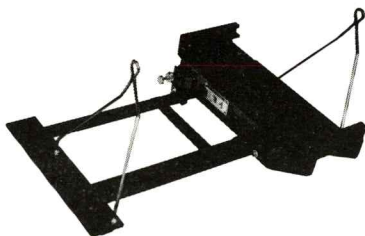
BATTERY TRANSPORTATION BED



FLIGHT CONTROL COMPUTER
FIXTURE ASSEMBLY



LVDA FIXTURE ASSEMBLY

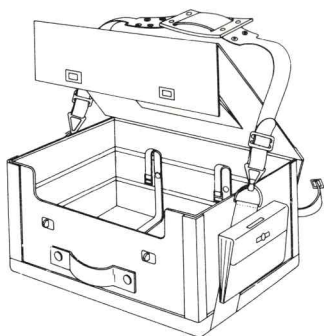


POWER DISTRIBUTOR
FIXTURE ASSEMBLY

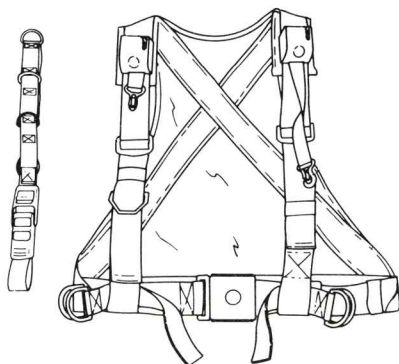


ST-124M-3 INERTIAL PLATFORM
FIXTURE ASSEMBLY

IBM N 124-3



TRANSPORTER BAG



RESTRAINT HARNESS AND
BELT ASSEMBLY

IBM N124-4

Component Handling Equipment (Sheet 4)

AUXILIARY POWER DISTRIBUTOR

Figure 1 Location: Panel 1 Callout 4

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 5-5/16 Screws, AN4-56A
4 Washers, AN960-416L

Tools Required: 7/16-inch socket
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 13.5 pounds
Weight of mounting hardware: 0.1268 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

MEASURING RACK A402

Figure 1 Location: Panel 1 Callout 5

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-1/2 Screws, MS16998-47
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 21 pounds, with all module slots filled
Weight of mounting hardware: 0.1128 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

56 VOLT POWER SUPPLY

Figure 1 Location: Panel 1 Callout 11

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-1/2 Screws, MS16998-47
4 Washers, NAS620-416L

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 11.0 pounds
Weight of mounting hardware: 0.108 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

MEASURING RACK SELECTOR

Figure 1 Location: Panel 1 Callout 12

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-1/2 Screws, MS16998-47
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 3.0 pounds
Weight of mounting hardware: 0.1128 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7915991-1
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

SOURCE FOLLOWER

Figure 1 Location: Panel 1 Callout 13

Manpower: 1 Technician

Mounting Hardware: Two 1/4-28 by 1-1/4 Screws, MS16998-46
2 Washers, NAS620-416L

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 0.2 pounds
Weight of mounting hardware: 0.0474 pounds

CHE Required: None

Pressurization Required: (Not applicable)

MEASURING RACK A401

Figure 1 Location: Panel 2 Callout 1

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-1/2 Screws, MS16998-47
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 21 pounds, with all module slots filled
Weight of mounting hardware: 0.1128 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

POWER DISTRIBUTOR

Figure 1 Location: Panel 2 Callout 2

Manpower: 4 Technicians

Mounting Hardware: Six 1/4-28 by 1-3/4 Screws, MS16998-48
6 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 41 pounds
Weight of mounting hardware: 0.1260 pounds

CHE Required: Door Frame Assembly, P/N 7902257
Top Channel Assembly, P/N 7902255
Cart Assembly, P/N 7902170
Hoist and Track Assembly, P/N 7902259
2 Tube Assemblies, P/N 7902256
Transporter and Adapter Assembly, P/N 7904080
Power Distributor Fixture Assembly, P/N 7904066

Pressurization Required: (Not applicable)

ELECTRONIC CONTROLLER ASSEMBLY

Figure 1 Location: Panel 2 Callout 14

Manpower: 1 Technician

Mounting Hardware: Four 1/4-28 by 1-1/2 Screws, MS16998-47
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 2.0 pounds
Weight of mounting hardware: 0.1128 pounds

CHE Required: None

Pressurization Required: (Not applicable)

CONTROL ACCELEROMETER (PITCH)

Figure 1 Location: Panel 2 Callout 15

Manpower: 1 Technician

Mounting Hardware: Four # 8-32 by 3/4 Screws, MS16997-34
4 Washers, NAS620-8

Tools Required: 9/64-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 5.0 pounds
Weight of mounting hardware: (Not available)

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7915991-1
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

BATTERIES D30 AND D40

Figure 1 Location: Panel 4 Callouts 27 and 28

Manpower: 4 Technicians

Mounting Hardware: Two 1/4-28 by 5/8 Screw, MS16998-42
Eight 1/4-28 by 1-3/4 Screw, MS16998-48
Three 1/4-28 by 3/4 Screws, MS16998-43
13 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 170 pounds
Weight of mounting hardware: 0.1031 pounds

CHE Required: Door Frame Assembly, P/N 7902257
Top Channel Assembly, P/N 7902255
Cart Assembly, P/N 7902170
Hoist and Track Assembly, P/N 7902259
2 Tube Assemblies, P/N 7902256
Transporter and Adapter Assembly, P/N 7904080
Battery Fixture, P/N 7904000

Pressurization Required: (Not applicable)

TELEMETRY POWER DIVIDER

Figure 1 Location: Panel 4 Callout 29

Manpower: 1 Technician

Mounting Hardware: Six 1/4-28 by 1 Screws, MS16998-45
6 Washers, NAS620-416
12 Washers, NAS549F416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 40-45 inch pounds

Weight of component: (maximum) 1.0 pounds
Weight of mounting hardware: (Not available)

CHE Required: None

Pressurization Required: (Not applicable)

COAXIAL TERMINATION

Figure 1 Location: Panel 4 Callout 30

Manpower: 1 Technician

Mounting Hardware: Four 1/4-28 by 1-1/2 Screws, MS16998-47
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 4.75 pounds
Weight of mounting hardware: 0.1128 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7915991-1
Transporter Bat, P/N 7904090-1

Pressurization Required: (Not applicable)

COAXIAL SWITCH

Figure 1 Location: Panel 4 Callout 31

Manpower: 1 Technician

Mounting Hardware: Four #10-28 by 2 Screws, MS16998-35
8 Washers, NAS549F10
8 Washers, NAS620-10L
4 Self-Locking Nuts, MS20364-1032

Tools Required: 5/32-inch Allen wrench
3/8-inch socket

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 1.0 pounds
Weight of mounting hardware: 0.1912 pounds

CHE Required: None

Pressurization Required: (Not applicable)

BATTERIES D10 AND D20

Figure 1 Location: Panel 5 Callouts 26 and 32

Manpower: 4 Technicians

Mounting Hardware: Two 1/4-28 by 5/8 Screw, MS16998-42
Eight 1/4-28 by 1-3/4 Screw, MS16998-48
Three 1/4-28 by 3/4 Screws, MS16998-43
13 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 165 pounds
Weight of mounting hardware: 0.1031 pounds

CHE Required: Door Frame Assembly, P/N 7902257
Top Channel Assembly, P/N 7902255
Cart Assembly, P/N 7902170
Hoist and Track Assembly, P/N 7902259
2 Tube Assemblies, P/N 7902256
Transporter and Adapter Assembly, P/N 7904080
Battery Fixture, P/N 7904000

Pressurization Required: (Not applicable)

MEASURING RACK A405

Figure 1 Location: Panel 9 Callout 50

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-1/2 Screws, MS16998-47
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 21 pounds, with all module slots filled
Weight of mounting hardware: 0.1128 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

AUXILIARY POWER DISTRIBUTOR

Figure 1 Location: Panel 9 Callout 51

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 5-5/16 Screws, AN4-56A
4 Washers, AN960-416L

Tools Required: 7/16-inch socket
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 13.5 pounds
Weight of mounting hardware: 0.1268 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

CP1 MULTIPLEXER ASSEMBLY

Figure 1 Location: Panel 9 Callout 52

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 21 pounds
Weight of mounting hardware: 0.1128 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

DP1 MULTIPLEXER ASSEMBLY

Figure 1 Location: Panel 9 Callout 52

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 21 pounds
Weight of mounting hardware: 0.1212 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

TELEMETRY RF COUPLER

Figure 1 Location: Panel 9 Callout 53

Manpower: 1 Technician

Mounting Hardware: Four 1/4-28 by 1-1/2 Screw, MS16998-47
4 Washers, NAS620-416L

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 3 pounds
Weight of mounting hardware: 0.108 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7915991-1
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

F2 RF TRANSMITTER ASSEMBLY

Figure 1 Location: Panel 9 Callout 54

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 19.5 pounds
Weight of mounting hardware: 0.1260 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7094090-1

Pressurization Required: 5.3 psig

TELEMETRY RF COUPLER

Figure 1 Location: Panel 9 Callout 60

Manpower: 1 Technician

Mounting Hardware: Four 1/4-28 by 1-1/2 Screws, MS16998-48
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (Not available)
Weight of mounting hardware: 0.1128 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7915991-1
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

MEASURING DISTRIBUTOR

Figure 1 Location: Panel 10 Callout 48

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 3-5/16 Screws, AN4-36A
4 Washers, AN960-416

Tools Required: 7/16-inch socket
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 21 pounds
Weight of mounting hardware: 0.0932 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-1
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

DP1 MULTIPLEXER ASSEMBLY

Figure 1 Location: Panel 10 Callout 49

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 21 pounds
Weight of mounting hardware: 0.1212 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

CP1 MULTIPLEXER ASSEMBLY

Figure 1 Location: Panel 10 Callout 49

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 21 pounds
Weight of mounting hardware: 0.1212 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

VSWR MEASURING ASSEMBLY

Figure 1 Location: Panel 10 Callout 61

Manpower: 1 Technician

Mounting Hardware: Six 1/4-28 by 1-1/2 Screws, MS16998-47
6 Washers, NAS620-416L

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 40-45 inch pounds

Weight of component: (maximum) 6 pounds
Weight of mounting hardware: 0.108 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7915991-1
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

TELEMETRY DIRECTIONAL COUPLER

Figure 1 Location: Panel 10 Callout 65

Manpower: 1 Technician

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48
4 Washers, NAS620-416L

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 40-45 inch pounds

Weight of component: (maximum) 1 pound
Weight of mounting hardware: 0.1764 pounds

CHE Required: None

Pressurization Required: (Not applicable)

F2 TELEMETER ASSEMBLY

Figure 1 Location: Panel 10 Callout 56

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
3-inch extension
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 14 pounds
Weight of mounting hardware: 0.126 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: 5.3 psig

SLOW SPEED MULTIPLEXER ASSEMBLY

Figure 1 Location: Panel 11 Callout 45

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 12.5 pounds
Weight of mounting hardware: 0.1260 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

TAPE RECORDER (AIRBORNE)

Figure 1 Location: Panel 11 Callout 46

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48
4 Washers, NAS602-416L

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 9 pounds
Weight of mounting hardware: 0.108 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-5
Transporter Bag, P/N 7904090-1

Pressurization Required: 5.3 psig

MEASURING RACK A403

Figure 1 Location: Panel 11 Callout 47

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-1/2 Screws, MS16998-47
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 21 pounds, with all module slots filled
Weight of mounting hardware: 0.1128 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

S1 RF TRANSMITTER ASSEMBLY

Figure 1 Location: Panel 11 Callout 57

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 19.5 pounds
Weight of mounting hardware: 0.1260 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: 5.3 psig

S1 TELEMETER ASSEMBLY

Figure 1 Location: Panel 11 Callout 58

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-1/2 Screws, MS16998-47
4 Washers, NAS620-416L

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of components: (maximum) 18 pounds
Weight of mounting hardware: 0.1080 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

REMOTE DIGITAL MULTIPLEXER

Figure 1 Location: Panel 11 Callout 59

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 15 pounds
Weight of mounting hardware: 0.1212 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

TELEMETRY CALIBRATOR POWER AND CONTROL ASSEMBLY

Figure 1 Location: Panel 11 Callout 63

Manpower: 1 Technician

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 5.3 pounds
Weight of mounting hardware: 0.1260 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7915991-1
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

P1 PCM/RF TRANSMITTER ASSEMBLY

Figure 1 Location: Panel 11 Callout 62

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 19.5 pounds
Weight of mounting hardware: 0.1260 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: 5.3 psig

TELEMETRY CALIBRATOR

Figure 1 Location: Panel 11 Callout 64

Manpower: 1 Technician

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 5.3 pounds
Weight of mounting hardware: 0.1260 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7915991-1
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

F1 RF TRANSMITTER ASSEMBLY

Figure 1 Location: Panel 12 Callout 69

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS169998-48
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 19.5 pounds
Weight of mounting hardware: 0.1260 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: 5.3 psig

PCM/DDAS TELEMETER ASSEMBLY

Figure 1 Location: Panel 12 Callout 70

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 27 pounds
Weight of mounting hardware: 0.1260 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

C-BAND TRANSPONDER

Figure 1 Location: Panel 12 Callout 71

Manpower: 1 Technician

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48 (501 Only)
Four 1/4-28 by 1-1/2 Screws, MS16998-47 (201-212/502-515)
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 5.7 pounds
Weight of mounting hardware: 0.1260 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-5
Transporter Bag, P/N 7904090-1

Pressurization Required: 5 psig

5 VOLT MEASURING VOLTAGE SUPPLY

Figure 1 Location: Panel 12 Callout 72

Manpower: 1 Technician

Mounting Hardware: Four 1/4-28 by 1-1/2 Screws, MS16998-47
4 Washers, NAS620-416L

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 3.0 pounds
Weight of mounting hardware: 0.108 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-5
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

F1 TELEMETER ASSEMBLY

Figure 1 Location: Panel 12 Callout 73

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-1/2 Screws, MS16998-47
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 17.5 pounds
Weight of mounting hardware: 0.1128 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

MEASURING DISTRIBUTOR

Figure 1 Location: Panel 13 Callout 67

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 3-5/16 Screws, AN4-36A
4 Washers, AN960-416

Tools Required: 7/16-inch socket
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 21 pounds
Weight of mounting hardware: 0.0932 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-1
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

MEASURING RACK A404

Figure 1 Location: Panel 13 Callout 68

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-1/2 Screws, MS16998-47
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 21 pounds, with all module slots filled
Weight of mounting hardware: 0.1128 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

P1 PCM/RF TRANSMITTER ASSEMBLY

Figure 1 Location: Panel 13 Callout 74

Manpower: 2 Technicians

Mounting Hardware: Six 1/4-28 by 1-3/4 Screws, MS16998-48
6 Washers, NAS620-416L

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 19.5 pounds
Weight of mounting hardware: 0.1764 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

TELEMETRY CALIBRATOR POWER AND CONTROL ASSEMBLY

Figure 1 Location: Panel 13 Callout 75

Manpower: 1 Technician

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 5.3 pounds
Weight of mounting hardware: 0.1260 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7915991-1
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

EDS DISTRIBUTOR

Figure 1 Location: Panel 14 Callout 66

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 5-7/16 Screws, AN4-57A
4 Washers, AN960-416L

Tools Required: 7/16-inch socket
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 34 pounds
Weight of mounting hardware: 0.1316 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-1
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

MEASURING RACK A408

Figure 1 Location: Panel 14 Callout 77

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-1/2 Screws, MS16998-47
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value of mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 21 pounds, with all module slots filled
Weight of mounting hardware: 0.1128 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

TELEMETRY CALIBRATOR

Figure 1 Location: Panel 13 Callout 76

Manpower: 1 Technician

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 5.3 pounds
Weight of mounting hardware: 0.1260 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7915991-1
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

P1 PCM/RF TRANSMITTER ASSEMBLY

Figure 1 Location: Panel 13 Callout 79

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 15 pounds
Weight of mounting hardware: 0.1260 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: 5.3 psig

MEASURING RACK A407

Figure 1 Location: Panel 14 Callout 78

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-1/2 Screws, MS16998-47
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value of mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 21 pounds, with all module slots filled
Weight of mounting hardware: 0.1128 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

CONTROL-EDS RATE GYROS

Figure 1 Location: Panel 15 Callout 82

Manpower: 2 Technicians

Mounting Hardware: Two 1/4-28 by 1-3/4 Screws, MS16998-48
Two 1/4-28 by 2 Screws, MS16998-49
4 Washers, NAS620-416L

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 10.5 pounds
Weight of mounting hardware: 0.1278 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904079-5
Transporter Bag, P/N 7904090-1

Pressurization Required: 5.3 psig

CONTROL SIGNAL PROCESSOR

Figure 1 Location: Panel 15 Callout 83

Manpower: 2 Technicians

Mounting Hardware: Six 1/4-28 by 1-1/4 Screws, MS16998-46 (204 Only)
Six 1/4-28 by 1-1/2 Screws, MS16998-47 (205-212/501-515)
6 Washers, NAS620-416L

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 38.5 pounds
Weight of mounting hardware: 0.1422 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-1
Transporter Bag, P/N 7904090-1

Pressurization Required: 5.3 psig

MEASURING RACK A409

Figure 1 Location: Panel 15 Callout 84

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-1/2 Screws, MS16998-47
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 21 pounds, with all module slots filled
Weight of mounting hardware: 0.1128 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

MEASURING RACK A406

Figure 1 Location: Panel 15 Callout 85

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-1/2 Screws, MS16998-47
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 21 pounds, with all module slots filled
Weight of mounting hardware: 0.1128 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

FLIGHT CONTROL COMPUTER

Figure 1 Location: Panel 16 Callout 86

Manpower: 4 Technicians

Mounting Hardware: Six 1/4-28 by 3/4 Screws, MS20004-4
6 Washers, MS20002C4

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 140 pounds
Weight of mounting hardware: 0.1260 pounds

CHE Required: Door Frame Assembly, P/N 7902257
Top Channel Assembly, P/N 7902255
Cart Assembly, P/N 7902170
Hoist and Track Assembly, P/N 7902259
2 Tube Assemblies, P/N 7902256
Transporter and Adapter Assembly, P/N 7904080
Flight Control Computer Fixture Assembly, P/N 7904046

Pressurization Required: 5.3 psig

Drain and Fill Procedure: Refer to Critical Components Drain and Fill
Procedure 6-ILIU1B-260 or equivalent.

SWITCH SELECTOR

Figure 1 Location: Panel 17 Callout 80

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-1/2 Screws, MS16998-47
4 Washers, NAS620-416L

Tools Required: 3/16-inch Allen head
6-inch extension
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 19.8 pounds
Weight of mounting hardware: 0.108 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

REMOTE DIGITAL SUBMULTIPLEXER

Figure 1 Location: Panel 17 Callout 81

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 13.5 pounds
Weight of mounting hardware: 0.1212 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

EDS TIMERS NO. 1, 2, AND 3 (40, 20, AND 60 SECONDS)

Figure 1 Location: No. 1 Panel 17 Callout 88

No. 2 Panel 17 Callout 87

No. 3 Panel 17 Callout 88

Manpower: 1 Technician

Mounting Hardware: Four 1/4-28 by 1-1/2 Screw, MS16998-47
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 0.6 pounds

Weight of mounting hardware: 0.1128 pounds

CHE Required: None

Pressurization Required: (Not applicable)

COMMAND DIRECTIONAL COUPLER

Figure 1 Location: Panel 17 Callout 89

Manpower: 1 Technician

Mounting Hardware: Six 1/4-28 by 1-3/4 Screws, MS16998-48
6 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 40-45 inch pounds

Weight of component: (approximate) 0.7 pounds

Weight of mounting hardware: 0.189 pounds

CHE Required: None

Pressurization Required: (Not applicable)

COMMAND POWER DIVIDER

Figure 1 Location: Panel 17 Callout 90

Manpower: 1 Technician

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 40-45 inch pounds

Weight of component: (maximum) 1 pound
Weight of mounting hardware: 0.1212 pounds

CHE Required: None

Pressurization Required: (Not applicable)

DDAS/COMPUTER INTERFACE UNIT

Figure 1 Location: Panel 17 Callout 92

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 15 pounds
Weight of mounting hardware: 0.1212 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

REMOTE DIGITAL MULTIPLEXER (J)

Figure 1 Location: Panel 17 Callout 91

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 13 pounds
Weight of mounting hardware: 0.1212 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

CCS HYBRID RING

Figure 1 Location: Panel 17 Callout 93

Manpower: 1 Technician

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 40-45 inch pounds

Weight of component: (approximate) 1 pound
Weight of mounting hardware: 0.1212 pounds

CHE Required: None

Pressurization Required: (Not applicable)

CCS POWER DIVIDER

Figure 1 Location: Panel 17 Callout 94

Manpower: 1 Technician

Mounting Hardware: Two 1/4-28 by 1-3/4 Screws, MS16998-48
2 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 40-45 inch pounds

Weight of component: (approximate) 0.5 pounds
Weight of mounting hardware: 0.0606 pounds

CHE Required: None

Pressurization Required: (Not applicable)

CONTROL DISTRIBUTOR

Figure 1 Location: Panel 18 Callout 97

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 5-7/16 Screws, AN4-57A
4 Washers, AN960-416L

Tools Required: 7/16-inch socket
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 35 pounds
Weight of mounting hardware: 0.1316 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-1
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

COMMAND RECEIVER

Figure 1 Location: Panel 18 Callout 98

Manpower: 1 Technician

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48
4 Washers, NAS620-416L

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 4 pounds
Weight of mounting hardware: 0.1212 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7915991-1
Transporter Bag, P/N 7904090-1

Pressurization Required: 14.3 psig

SECURE RANGE SAFETY DECODER

Figure 1 Location: Panel 18 Callout 99

Manpower: 1 Technician

Mounting Hardware: Four 1/4-28 by 1-1/2 Screws, MS16998-47
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 4.7 pounds
Weight of mounting hardware: 0.1128 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: 14.3 psig

COMMAND DECODER

Figure 1 Location: Panel 18 Callouts 105 and 107

Manpower: 1 Technician

Mounting Hardware: Ten 1/4-28 by 1-3/4 Screws, MS16998-48
10 Washers, NAS620-416L

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 7.5 pounds
Weight of mounting hardware: 0.303 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-5
Transporter Bag, P/N 7904090-1

Pressurization Required: 14.3 psig

REMOTE DIGITAL MULTIPLEXER (K)

Figure 1 Location: Panel 18 Callouts 100 and 106

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value of mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 15 pounds
Weight of mounting hardware: 0.1212 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

LAUNCH VEHICLE DATA ADAPTER

Figure 1 Location: Panel 19 Callout 96

Manpower: 4 Technicians

Mounting Hardware: Four 3/8-24 by 1-3/16 Screws, MS20006-8
4 Washers, MS20002C6

Tools Required: 5/16-inch Allen wrench
Guide pins, P/N IBM-SDD-22-26

Torque value for mounting hardware: 270 inch pounds maximum

Weight of component: (approximate) 190 pounds

Weight of mounting hardware: 0.3292 pounds

CHE Required: Door Frame Assembly, P/N 7902257
Top Channel Assembly, P/N 7902255
Cart Assembly, P/N 7902170
Hoist and Track Assembly, P/N 7902259
2 Tube Assemblies, P/N 7902256
Transporter and Adapter Assembly, P/N 7904080
Launch Vehicle Data Adapter Fixture Assembly, P/N 7904033

Pressurization Required: 1.25 psig

Drain and Fill Procedure: Refer to Critical Components Drain and Fill
Procedure 6-ILIU1B-260 or equivalent.

LAUNCH VEHICLE DIGITAL COMPUTER

Figure 1 Location: Panel 19 Callout 101

Manpower: 4 Technicians

Mounting Hardware: Four 3/8-24 by 1-3/16 Screws, MS20006-8
4 Washers, MS20002C6

Tools Required: 5/16-inch Allen wrench
Guide pins, P/N IBM-SDD-22-40

Torque value for mounting hardware: 270 inch pounds maximum

Weight of component: (approximate) 80 pounds
Weight of mounting hardware: 0.3292 pounds

CHE Required: Door Frame Assembly, P/N 7902257
Top Channel Assembly, P/N 7902255
Cart Assembly, P/N 7902170
Hoist and Track Assembly, P/N 7902259
2 Tube Assemblies, P/N 7902256
Transporter and Adapter Assembly, P/N 7904080
Launch Vehicle Digital Computer Fixture Assembly,
P/N 7904050

Pressurization Required: 1.25 psig

Drain and Fill Procedure: Refer to Critical Components Drain and Fill
Procedure 6-ILIU1B-260 or equivalent.

ST-124M-3 PLATFORM ELECTRONIC ASSEMBLY

Figure 1 Location: Panel 20 Callout 95

Manpower: 4 Technicians

Mounting Hardware: Four 1/4-28 by 1-1/2 Screws, MS16998-47 (201-212/502-515)
Four 1/4-28 by 1-3/4 Screws, MS16998-48 (501 Only)
Ten 1/4-28 by 1-3/4 Screws, MS16998-48
10 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 50 pounds

Weight of mounting hardware: 0.4278 pounds

CHE Required: Door Frame Assembly, P/N 7902257
Top Channel Assembly, P/N 7902255
Cart Assembly, P/N 7902170
Hoist and Track Assembly, P/N 7902259
2 Tube Assemblies, P/N 7902256
Transporter and Adapter Assembly, P/N 7904080
ST-124M-3 Platform Electronic Assembly Fixture Assembly,
P/N 7904056

Pressurization Required: 2 psig

PLUG TYPE J-BOX ASSEMBLY

Figure 1 Location: Panel 20 Callout 102

Manpower: 1 Technician

Mounting Hardware: One 1/4-28 by 1-1/2 Screw, MS16998-47
1 Washer, NAS620-416

Tools Required: 3/16-inch Allen wrench

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 0.105 pounds

Weight of mounting hardware: 0.0282 pounds

CHE Required: None

Pressurization Required: (Not applicable)

ST-124M-3 PLATFORM AC POWER SUPPLY

Figure 1 Location: Panel 20 Callout 103

Manpower: 2 Technicians

Mounting Hardware: Six 1/4-28 by 1-3/4 Screws, MS16998-48
6 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 30 pounds
Weight of mounting hardware: 0.1890 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: 2 psig

ACCELEROMETER SIGNAL CONDITIONER

Figure 1 Location: Panel 20 Callout 104

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48 (201-212/502-515)
Four 1/4-28 by 2 Screws, MS16998-49 (501 Only)
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 12 pounds
Weight of mounting hardware: 0.1260 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-5
Transporter Bag, P/N 7904090-1

Pressurization Required: 2 psig

CONTROL ACCELEROMETER (YAW)

Figure 1 Location: Panel 21 Callout 112

Manpower: 1 Technician

Mounting Hardware: Four #8-32 by 3/4 Screws, MS16997-34
4 Washers, NAS620-8

Tools Required: 9/64-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 5 pounds
Weight of mounting hardware: (Not available)

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7915991-1
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

FORCE BALANCE ACCELEROMETERS

Figure 1 Location: Panel 21 Callout 113

Manpower: 2 Technicians

Mounting Hardware: Eight #10-32 by 5/8 Screws, MS16998-28
8 Washers, NAS620-10L

Tools Required: 5/32-inch Allen wrench
Guide pins

Torque value for mounting hardware: (Not available)

Weight of component: (Not available)
Weight of mounting hardware: (Not available)

CHE Required: None

Pressurization Required: (Not applicable)

ST-124M-3 INERTIAL PLATFORM ASSEMBLY

Figure 1 Location: Panel 21 Callout 114

Manpower: 4 Technicians

Mounting Hardware: To mount brackets

Five 1/4-28 by 3/4 Bolts, MS20004-4

5 Washers, 7915407-1

To mount platform to brackets

Two 1/2-20 by 15/16 Bolts, NAS1308-3H

Three 1/2-20 by 2-27/64 Bolts, NAS1308-27H

5 Washers, MS20002C8

5 Washers, 7914509-001

Tools Required: 3/16-inch Allen wrench

3/4-inch socket

Guide pins

Torque value for mounting hardware: 5 Bolts (MS20004-4), 85-90 inch pounds

2 Bolts (NAS1308), 100-150 inch pounds

3 Bolts (NAS1308-27H), 650-700 inch
pounds

Weight of component: (approximate) 107 pounds

Weight of mounting hardware: (Not available)

CHE Required: Door Frame Assembly, P/N 7902257

Top Channel Assembly, P/N 7902255

Cart Assembly, P/N 7902170

Hoist and Track Assembly, P/N 7902259

2 Tube Assemblies, P/N 7902256

Transporter and Adapter Assembly, P/N 7904080

ST-124M-3 Inertial Platform Assembly Fixture Assembly,

P/N 7904022

Pressurization Required: (Not applicable)

Drain and Fill Procedure: Refer to Critical Components Drain and Fill
Procedure 6-ILIUIB-260 or equivalent.

LOW PRESSURE SWITCH

Figure 1 Location: Panel 22 Callout 116

Manpower: 1 Technician

Mounting Hardware: Four 10-32 by 1-1/2 Screws, MS16998-33
4 Washers, NAS620A10

Tools Required: 5/32-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 0.48 pounds
Weight of mounting hardware: 0.0753 pounds

CHE Required: None

Pressurization Required: (Not applicable)

C-BAND TRANSPONDER

Figure 1 Location: Panel 23 Callout 108

Manpower: 1 Technician

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48 (501 Only)
Four 1/4-28 by 1-1/2 Screws, MS16998-47 (201-212/502-515)
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 5.7 pounds
Weight of Mounting hardware: 0.1260 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-5
Transporter Bag, P/N 7904090-1

Pressurization Required: 5 psig

AZUSA RI FILTER ASSEMBLY

Figure 1 Location: Panel 23 Callout 109

Manpower: 2 Technicians

Mounting Hardware: Two 1/4-28 by 7/8 Screws, MS16998-44
Two 1/4-28 by 1-3/4 Screws, MS16998-48
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 10 pounds
Weight of mounting hardware: 0.1030 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-5
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

AZUSA TRANSPONDER

Figure 1 Location: Panel 23 Callout 110

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 2 Screws, MS16998-49
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 19 pounds
Weight of mounting hardware: 0.1392 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: 1.3 psig

MEASURING RACK A669

Figure 1 Location: Panel 23 Callout 122

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-1/2 Screws, MS16998-47
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 21 pounds, with all module slots filled
Weight of mounting hardware: 0.1128 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

LATERAL ACCELEROMETER SLOSH, PITCH, AND YAW

Figure 1 Location: Panel 23 Callout 119

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 70-90 inch pounds

Weight of component: (approximate) 16.4 pounds
Weight of mounting hardware: 0.1260 pounds

CHE Required: (Not available)

Pressurization Required: (Not available)

LONGITUDINAL ACCELEROMETER ORBITAL LH₂ VENTING

Figure 1 Location: Panel 23 Callout 120

Manpower: 2 Technicians

Mounting Hardware: Six 1/4-28 by 1-3/4 Screws, MS16998-48
6 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 70-90 inch pounds

Weight of component: (approximate) 17.5 pounds
Weight of mounting hardware: 0.189 pounds

CHE Required: (Not available)

Pressurization Required: (Not available)

UHF/RF FILTER

Figure 1 Location: Panel 23 Callout 123

Manpower: 1 Technician

Mounting Hardware: Four 1/4-28 by 1-1/2 Screws, MS16998-48
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 8.0 pounds
Weight of mounting hardware: 0.1212 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-1
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not available)

TV JUNCTION BOX

Figure 1 Location: Panel 24 Callout 6

Manpower: 1 Technician

Mounting Hardware: Four 1/4-28 by 1-1/2 Screws, MS16998-47
4 Washers, AN960-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 1.5 pounds
Weight of mounting hardware: 0.114 pounds

CHE Required: None

Pressurization Required: (Not applicable)

TV POWER DIVIDER

Figure 1 Location: Panel 24 Callout 7

Manpower: 1 Technician

Mounting Hardware: Two 1/4-28 by 1-3/4 Screws, MS16998-48
2 Washers, AN960-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 40-45 inch pounds

Weight of component: (approximate) 0.56 pounds
Weight of mounting hardware: 0.0636 pounds

CHE Required: None

Pressurization Required: (Not applicable)

TV POWER AMPLIFIER

Figure 1 Location: Panel 24 Callout 8

Manpower: 1 Technician

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48
4 Washers, AN960-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 8.5 pounds
Weight of mounting hardware: 0.114 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: 5 psig

TV TRANSMITTER ASSEMBLY

Figure 1 Location: Panel 24 Callout 9

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-1/2 Screws, MS16998-47
Two 1/4-28 by 1-3/4 Screws, MS16998-48
6 Washers, AN960-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 70-90 inch pounds

Weight of component: (approximate) 28 pounds
Weight of mounting hardware: 0.1926 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-1
Transporter Bag, P/N 7904090-1

Pressurization Required: 5 psig

CAMERA CONTROL UNIT (GEC)

Figure 1 Location: Panel 24 Callouts 10 and 19

Manpower: 1 Technician

Mounting Hardware: Six 1/4-28 by 1-3/4 Screws, MS169998-48
6 Washers, AN960-416

Tools Required: 3/16-inch Allen wrench

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 8.25 pounds
Weight of mounting hardware: 0.1908 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

CCS TRANSPONDER

Figure 1 Location: Panel 24 Callout 21

Manpower: 1 Technician

Mounting Hardware: Six 1/4-28 by 2 Screws, MS16998-49
6 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 20.5 pounds
Weight of mounting hardware: 0.2088 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-1
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

CCS POWER AMPLIFIER

Figure 1 Location: Panel 24 Callout 22

Manpower: 2 Technicians

Mounting Hardware: Eight 1/4-28 by 1-1/2 Screws, MS16998-47
8 Washers, NAS610-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (maximum) 20 pounds
Weight of mounting hardware: 0.2256 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

UHF/RF TRANSMITTER ASSEMBLY

Figure 1 Location: Panel 24 Callout 23

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48
4 Washers, 7915826-001

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 11 pounds
Weight of mounting hardware: 0.1212 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: 5.3 psig

PCM COAXIAL SWITCH

Figure 1 Location: Panel 24 Callout 24

Manpower: 1 Technician

Mounting Hardware: Six 1/4-28 by 1-1/2 Screws, MS16998-47
6 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 0.5 pounds
Weight of mounting hardware: 0.1692 pounds

CHE Required: None

Pressurization Required: (Not applicable)

CCS COAXIAL SWITCH

Figure 1 Location: Panel 24 Callout 25

Manpower: 1 Technician

Mounting Hardware: Six 1/4-28 by 1-1/2 Screws, MS16998-47
6 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 0.5 pounds
Weight of mounting hardware: 0.1692 pounds

CHE Required: None

Pressurization Required: (Not applicable)

S-BAND POWER AMPLIFIER

Figure 1 Location: Panel 24 Callouts 16 and 18

Manpower: 2 Technicians

Mounting Hardware: Four 1/4-28 by 1-3/4 Screws, MS16998-48
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 12 pounds
Weight of mounting hardware: 0.1212 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

EXCITER UNITS

Figure 1 Location: Panel 24 Callout 17

Manpower: 1 Technician

Mounting Hardware: Bottom Unit, Four 1/4-28 by 1-1/2 Screws, MS16998-47
4 Washers, NAS620-416
Top Unit, Four 1/4-28 by 1 Screws, MS16998-45
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (Not available)
Weight of mounting hardware: 0.1992 pounds

Pressurization Required: (Not available)

CAMERA CONTROL UNIT (KINTEL)

Figure 1 Location: Panel 24 Callout 20

Manpower: 1 Technician

Mounting Hardware: Four 1/4-28 by 1-1/2 Screws, MS16998-47
4 Washers, NAS620-416

Tools Required: 3/16-inch Allen wrench
Guide pins

Torque value for mounting hardware: 85-90 inch pounds

Weight of component: (approximate) 8.0 pounds
Weight of mounting hardware: 0.1128 pounds

CHE Required: Restraint Harness, P/N 7904049-1
Belt Assembly, P/N 7904070-3
Transporter Bag, P/N 7904090-1

Pressurization Required: (Not applicable)

IU TECHNICAL MANUAL AND RELATED DOCUMENTS LIST

TITLE	NUMBER	SOURCE*
INSTRUMENT UNIT		
COMPONENT HANDLING EQUIPMENT DESCRIPTION AND OPERATING INSTRUCTIONS	66-966-0005	1
OPERATION AND MAINTENANCE INSTRUCTIONS, HEAT SUBSTITUTE CART PART NO. 85Z06676	67-966-0001	1
Instrument Unit General Test Plan	67-257-0001	5
System Equipment Functional Block Diagrams, Saturn IB/V	66-256-0003	5
Instrument Unit Apollo Saturn AS-200 and AS-500 Series System Functional Interconnection Diagram		
AS-201	65-208-0002H	5
AS-202	65-256-0001H	5
AS-203	65-256-0003H	5
AS-204	65-256-0006H	5
AS-205	66-256-0004	5
AS-206	66-256-0005	5
AS-207	66-256-0006	5
AS-208	66-256-0010	5
AS-501	66-256-0002H	5
AS-502	66-256-0008	5
AS-503	66-256-0007	5
AS-504	66-256-0009	5

TITLE	NUMBER	SOURCE *
APOLLO-SATURN VEHICLES		
ASTRIONICS SYSTEM HANDBOOK, SATURN LAUNCH VEHICLES	-----	1
EMERGENCY DETECTION SYSTEM DESCRIPTION (200 SERIES)	66-966-0010	1
EMERGENCY DETECTION SYSTEM DESCRIPTION (500 SERIES)	66-966-0022	1
EDS Q-BALL SENSOR ASSEMBLY (50Z12580)	66-966-0027	1
STRUCTURAL SYSTEM		
STRUCTURE REPAIR MANUAL	66-966-0011	1
UMBILICAL SATURN IB	67-966-0004	1
UMBILICAL SATURN V	67-966-0005	1
ELECTRICAL SYSTEM		
AUXILIARY POWER DISTRIBUTORS**	66-966-0013H	1
Auxiliary Power Distributor Qualification Test Report	66-226-0019	5
BATTERY (S-IU-201 THRU 212/501 THRU 515)	66-966-0024	1
CONTROL DISTRIBUTOR**	65-966-0016H	1
Control Distributor Qualification Test Report	66-226-0017	5
EMERGENCY DETECTION SYSTEM DISTRIBUTOR**	65-966-0015H	1
EDS Distributor Qualification Test Report	66-226-0018	5
J-Box Assembly Qualification Test Report	66-226-0011	5
MEASURING DISTRIBUTORS**	65-966-0017H	1
Measuring Distributor Qualification Test Report	66-226-0020	5
POWER DISTRIBUTOR**	65-966-0014H	1
Power Distributor Qualification Test Report	66-226-0016	5
Network Cables Qualification Test Report	66-226-0013	5
S-IU-501 Batteries Qualification Test Report	67-F01-0001	5
Switch Selector Mod I	50M04008	3
SWITCH SELECTOR MOD II	66-966-0001	1
Switch Selector Mod II, Worst Case Analysis	65-294-0001H	5
5 VOLT MEASURING VOLTAGE SUPPLY	65-966-0019H	1
5-Volt Measuring Voltage Supply Qualification Test Report	66-226-0014	5
40-Second Timer Qualification Test Report	66-226-0012	5
56 VOLT POWER SUPPLY	65-966-0018H	1
56-Volt Power Supply Qualification Test Report	66-226-0015	5
**These manuals are at the S-IU-201 level. No plans exist to update their contents to later vehicle configurations.		

TITLE	NUMBER	SOURCE*
ENVIRONMENTAL CONTROL SYSTEM		
Contact Chatter Vibration Test of Pressure Switches	67-242-0008	5
Differential Pressure Transducer Qualification Test Report	67-245-0008	5
ENVIRONMENTAL CONTROL SYSTEM DESCRIPTION	66-966-0009	1
Flexible Hose Assemblies Qualification Test Report	67-966-0006	5
Gas Bearing Heat Exchanger Qualification Test Report	67-K83-0002	5
IU Heaters Qualification Test Report	67-F02-0001	5
Machined Methanol/Water Accumulator Qualification Test Report	67-K83-0003	5
Quick Disconnect Coupling Qualification Test Report	66-226-0024	5
Water/Methanol Accumulator Qualification Test Report	66-K83-0001	5
20-Micron Filter Qualification Test Report	67-K83-0001	5
165-Cubic-Inch Sphere Qualification Test Report	66-226-0032	5
GUIDANCE CONTROL SYSTEM		
CONTROL ACCELEROMETER	66-966-0012	1
Control Active Filter Synthesis and Worst Case Analysis, Saturn V	66-280-0002	5
Control Computer 12MA Servo Magnetic Amplifier, Noise Investigation	66-280-0001	5
CONTROL-EDS RATE GYRO PACKAGE	66-966-0013	1
CONTROL SIGNAL PROCESSOR	66-966-0014	1
FLIGHT CONTROL COMPUTER (AS-203)	66-966-0015	1
FLIGHT CONTROL COMPUTER (200 SERIES)	66-966-0021	1
FLIGHT CONTROL COMPUTER (500 SERIES)	66-966-0025	1
Final Flight Simulation Report for AS-205 Flight Control Computer No. 0101	Not Avail.	
Launch Vehicle Data Adapter, Volumes I and II	NASA No. 50M35011 IBM No. 66112050, 6112070, 6139200, 6139800, 6139400	1
Launch Vehicle Digital Computer, Volumes I and II	NASA No. 50M35010 IBM No. 6112050, 6112070, 6139200, 6139800	1

TITLE	NUMBER	SOURCE*
LVDA, LVDC Vibration Isolation Qualification Test Report	67-K80-0001	5
NAVIGATION, GUIDANCE, AND CONTROL SYSTEM DESCRIPTION	66-966-0003	1
Passive Filter Network Analyses Worst Case, Saturn 501	66-280-0003	5
Retroreflector Assembly Qualification Test Report	66-210-0002	5
ST-124M Inertial Platform System, NASA Technical Note	NASA TND-2983	2
ST-124M/LVDA Resolver System, Error Analysis of	65-208-0074	5
ST-124M Mounting Frame Qualification Test Report	66-K80-0009	5
TEST REFERENCE MANUAL, SATURN IB/V REFERENCE MANUAL	66-966-0004	1
Volume I - Control System		
Volume II - Guidance System		
Volume III - ST-124M-3 Inertial Stabilizer System		
Worst Case Analysis of 45-Volt DC Amplifier	66-280-0006	5
50 Ma Servo Amplifier Interface Study & Worst Case Analysis	67-280-0001	5
MEASURING AND TELEMETRY SYSTEM		
Computer Interface Unit Mod 501 Maintenance and Instruction Manual	50M66520	3
Instrumentation Program and Components Lists		
S-IU-201	50M12020	3
S-IU-202	50M12030	3
S-IU-203	50M12393	3
S-IU-204	50M12394	3
S-IU-205	6009039	3
S-IU-206	6009040	3
S-IU-207	6009041	3
S-IU-208	6009042	3
S-IU-209	6009043	3
S-IU-210	6009044	3
S-IU-211	6009045	3
S-IU-212	6009046	3
S-IU-501	50M10670	3
S-IU-502	6009047	3
S-IU-503	6009048	3
S-IU-504	6009049	3
S-IU-505	6009050	3
S-IU-506	6009051	3

TITLE	NUMBER	SOURCE *
Instrumentation Program and Components Lists (Cont)		
S-IU-507	6009052	3
S-IU-508	6009053	3
S-IU-509	6009054	3
S-IU-510	6009055	3
S-IU-511	6009056	3
S-IU-512	6009057	3
S-IU-513	6009058	3
S-IU-514	6009059	3
S-IU-515	6009060	3
Instrumentation Systems Description, Saturn IB SA-201 thru 205	60C0975	3
Inter-Range Instrumentation Group (IRIG) Telemetry Standards	106-65	4
MEASURING AND TELEMETRY SYSTEM DESCRIPTION	67-966-0008	1
MEASURING RACK AND MEASURING RACK SELECTOR	66-966-0017	1
Multiplexer Mod 245, Maintenance Instructions	50M66509	3
PCM/RF Assembly Mod CT-19B, Maintenance Instructions	50M66514	3
PCM/DDAS Model 301, Subsystem Assembly Maintenance Instructions	50M66512	3
Remote Digital Multiplexer Mod 410 Maintenance and Instruction Manual	50M66519	3
Remote Digital Submultiplexer, Maintenance Instructions	50M66513	3
Radio Frequency Assembly Mod I, Maintenance and Instruction Manual	50M66505	3
RF Assembly (Analog) Mod II Maintenance and Instruction Manual	50M66515	3
RF Assembly (Digital) Mod II Maintenance and Instruction Manual	50M66516	3
Saturn Telemetry Post-Flight Analysis Report	Not Avail.	
SS/FM Telemetry Assembly, Maintenance and Instruction Manual	50M66510	3
SS/FM Top Deck Assembly Maintenance Instructions	50M66511	3
Tape Recorder Mod 101	50M66517	3
Tape Recorder Mod 101 Maintenance and Instruction Manual	50M66504	3
Telemetry Calibrator Mod II, Maintenance and Instruction Manual	50M66508	3
Telemetry Calibrator Power and Control Assembly	50M66521	3
Telemetry Directional Coupler Assembly Qualification Test Report	67-223-0003	5
Telemetry Oscillator Assembly Models A1, A2, and A3, Maintenance and Instruction Manual	50M66501	3
Telemetry Oscillator Assembly Mod B1 Maintenance and Instruction Manual	50M66503	3
Telemetry Power Divider Qualification Test Report	67-235-0007	5
Time Division Multiplexer Mod 270 Maintenance Instructions	50M66506	3
TM Antenna Qualification Test Report	67-235-0006	5
VSWR Measuring Assembly Qualification Test Report	67-235-0008	5

TITLE	NUMBER	SOURCE *
RADIO FREQUENCY SYSTEM		
Antenna Systems (SA-202)	60C0958	3
Azusa Antenna Qualification Test Report	67-235-0004	5
Azusa Type C Transponder Assembly Model 26-52 Maintenance and Instruction Manual	-----	3
C-Band Antenna Qualification Test Report	67-235-0005	5
C-BAND RADAR TRANSPONDER SET SST-135C	66-966-0008	1
C-BAND RADAR TRANSPONDER SET SST-135C (S-IU-204) THRU 212/501 THRU 515)	66-966-0020	1
C-Band Transponder Qualification Test Report	67-235-0010	5
CCS Omnidirectional Receiving Antenna Qualification Test Report	67-223-0002	5
CCS Omnidirectional Transmitting Antenna Qualification Test Report	67-223-0004	5
CCS POWER AMPLIFIER	67-966-0002	1
CCS Power Divider Qualification Test Report	67-223-0001	5
CCS TRANSPONDER	67-966-0003	1
Command Antenna Qualification Test Report	67-235-0003	5
COMMAND DECODER (S-IU-204 THRU 212/501 THRU 515)	66-966-0019	1
Command Decoder Qualification Test Report	67-235-0009	5
Command Directional Coupler Qualification Test Report	67-235-0002	5
Command Power Divider Qualification Test Report	67-235-0001	5
COMMAND RECEIVER	67-966-0014	1
Command Receiver Checkout Manual	50M60161	3
COMMAND SYSTEM DESCRIPTION	67-966-0007	1
Math Model Program for Predicting Interference Frequencies and their Amplitude	Not Avail.	5
Radio Frequency System Manual	60C09036A	3
Range Safety Decoder Checkout Manual	50M60157-A	3
Unified S-Band Telecommunications Techniques for Apollo, Volume 1 - Functional Descriptions, NASA Technical Note	NASA TND-2208	2
Unified S-Band Technical Conference, Proceedings of	NASA SP-87	2

* Details on the availability of these documents may be obtained from the following sources:

1. See Note 1
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2. All requests for documents coded 2 and 4 shall be made to source 5 if the requester is located at IBM Huntsville.
3. All titles typed in upper-case letters represent technical manuals prepared by Department 966 at IBM Huntsville.

NOTICE

The enclosed pages change, delete, or add information to your IU System Description and Component Data manual IBM No. 66-966-0006. Insert the changed and added pages (see page A, "List of Effective Pages" included in the change package), and remove and destroy the superseded pages. The change date for each page is located on the lower inside corner of each page; original pages are not dated. When updating your manual retain the existing tabs.

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