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# SATURN V APOLLO FLIGHT CONFIGURATION

VEHICLE STATION IN:	INCHES	METERS
SPACECRAFT (NORTH AMERICAN AVIATION)		

VEHICLE STATIONS IN:	INCHES	METERS
SPACECRAFT		

- LES JETTISON MOTOR & LAUNCH ESCAPE SYSTEM
- LES LAUNCH ESCAPE TOWER
- COMMAND MODULE
  - COMMAND PILOT
  - SENIOR PILOT
  - PILOT
- SERVICE MODULE
  - CARRY ON UMBILICAL
  - FLY AWAY UMBILICAL
  - FUEL SUMP TANK
  - H<sub>2</sub> CRYOGENIC STORAGE TANK
- LUNAR MODULE (GRUMMAN AIRCRAFT ENGINEERING)
  - RCS THRUSTER ASSEMBLY 4 PLACES
  - L/M UPPER DOCKING TUNNEL
  - L/M ASCENT STAGE
  - L/M DESCENT STAGE
  - L/M LANDING GEAR 4 PLACES

- VEHICLE STATION
- BASE OF CONARD NOSE CONE
- CENTERLINE LAUNCH ESCAPE MOTOR
- BOTTOM OF LES SKIRT
- TOP OF BOOST COVER
- VEHICLE SEPARATION
- AFT HEAT SHIELD
- REACTION CONTROL SYSTEM MODULE
- VEHICLE STATION FLIGHT SEPARATION
- VEHICLE SEPARATION
- PROPULSION MOTOR
- RENDEZVOUS RADAR ANTENNA
- LUNAR MODULE
- L/M FORWARD DOCKING TUNNEL
- VEHICLE SEPARATION
- VEHICLE STATION

INSTRUMENT UNIT (IBM)	INCHES	METERS
S-IVB (DOUGLAS)		
LH <sub>2</sub> TANK VENT	3293.56	81.370
ACCESS PLATFORM SUPPORT FITTING	3161.56	80.303
ANTENNAS CENTERLINE	3193.56	81.116
COLD HELIUM SPHERES (8)		
LOX TANK PROBE		
LOX TANK		
LINE FAIRING LH <sub>2</sub> FILL & DRAIN		
TOP OF AFT SKIRT	2832.00	71.933
LOX LH <sub>2</sub> FILL AND DRAIN	2780.05	70.105
RETRO ROCKET (4 PLACES)		
BOTTOM OF AFT SKIRT	2746.50	69.701
ACCESS PLATFORM SUPPORT FITTING	2664.33	67.674

INSTRUMENT UNIT	INSTRUMENT UNIT TOP	INSTRUMENT UNIT BOTTOM	INCHES	METERS
S-IVB	3224.58	82.767		
TOP FORWARD SKIRT			575.70	14.609
BOTTOM OF FORWARD SKIRT	3100.56	78.754	554.70	14.089
FUEL MASS SENSOR PROBE				
INSTRUMENTATION PROBE				
AUXILIARY PROPULSION SYSTEM (APS) (2)				
FLIGHT SEPARATION				
LOX VENT (FAR SIDE)	2759.00	70.078	213.15	5.414
HELIUM SPHERES (9 PLACES)				
TOP J-2 ENGINE	2645.85	67.204	100.00	2.540
J-2 ENGINE				
BOTTOM S-IVB TOP S-II	2519.00	63.982	-26.98	-0.682

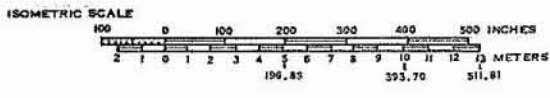
S-II (NORTH AMERICAN AVIATION)	INCHES	METERS
SYSTEMS TUNNEL	938.30	23.637
LH <sub>2</sub> VENT	942.00	23.926
S-II TOP FORWARD SKIRT	2519.00	63.982
RADIO COMMAND ANTENNA 4 PLACES	923.00	23.444
TELEMETRY ANTENNA 4 PLACES	902.00	22.910
LOX TANK		
LOX PROPELLANT MANAGEMENT PROBE		
RING SLOSH BAFFLE	357.00	9.057
LH <sub>2</sub> RECIRCULATION SYSTEM 5 PLACES	366.60	9.311
LH <sub>2</sub> FILL & DRAIN	341.00	8.661
DIVISION OF AFT SKIRT	283.00	7.188
TOP OF AFT SKIRT	326.00	8.280
BOTTOM OF SLOSH BAFFLE	288.00	7.213
TOP ULLAGE ROCKET FAIRING MOTOR	176.68	3.725
TOP OF THRUST CONE	223.00	5.664
BOTTOM OF THRUST CONE	112.00	2.844

S-II	INCHES	METERS
BOTTOM OF FORWARD SKIRT	923.00	23.444
LH <sub>2</sub> PROPELLANT MANAGEMENT PROBE		
PRESSURIZATION MAST		
LOX VENT LINE		
TOP OF LH <sub>2</sub> FEED FAIRING 5 PLACES	451.75	11.474
LOX TANK EQUATOR	1848	46.939
LOX FILL & DRAIN (FAR SIDE)	207.00	5.257
CRUCIFORM BAFFLE	173.00	4.394
BOTTOM LH <sub>2</sub> FEED FAIRING	158.00	4.013
FLIGHT SEPARATION	1786.00	44.704
GIMBAL PLANE	100.00	2.540
BOTTOM ULLAGE R M FAIRING	-0.44	-0.011
J-2 ENGINES (5 PLACES)		

S-IC (BOEING)	INCHES	METERS
TOP FORWARD SKIRT	1541.00	39.141
LOWER SECTION OF FORWARD SKIRT	1420.30	36.075
RING SLOSH BAFFLES		
LOWER SECTION OF HELIUM BOTTLES (4)	846.50	21.401
TOP OF INTERTANK ASSEMBLY	885.20	22.484
FUEL VENT LINE	896.00	22.776
ACCESS DOOR (FAR SIDE)	794.18	20.172
LOX FILL & DRAIN (FAR SIDE)	776.16	19.715
LOX FILL & DRAIN (FAR SIDE)		
BOTTOM OF INTERTANK ASSEMBLY	638.80	16.197
SLOSH BAFFLES		
FUEL FILL & DRAIN	130.00	3.302
RETRO ROCKETS (2 EACH 4 PLACES)		
BOTTOM OF FUEL TANK	225.00	5.715
TOP OF HEAT SHIELD	112.00	2.844
BOTTOM OF F-1 ENGINE (5 PLACES)	-115.36	-2.930

S-IC	INCHES	METERS
FLIGHT SEPARATION	0.00	0.000
S-II INTERSTAGE BOTTOM	1541.00	39.141
LOX VENT	1521.00	38.633
GOX LINE	1511.75	38.398
Y RING	1404.00	35.681
PRESSURIZATION TUNNEL (2 PLACES)		
LOX FEED LINE TUNNEL (5 PLACES)		
Y RING	909.00	23.088
BOTTOM OF LOX TANK	772.00	19.608
TOP OF FUEL TANK	742.00	18.846
FUEL PRESSURE LINE	692.80	17.576
Y RING	605.00	15.367
TOP OF ENGINE FAIRING	362.00	9.184
TOP OF THRUST STRUCTURE	345.70	8.780
INTERCONNECT LOX DRAIN	130.00	3.302
BOTTOM OF ENGINE FAIRING	48.50	1.231
BOTTOM OF THRUST STRUCTURE	116.00	2.946
GIMBAL	100.00	2.540

NOTE: S-IC STAGE ROTATED 45° COUNTER CLOCKWISE FOR CLARITY



SHEET 1 OF 2 SATURN APOLLO 500 SERIES

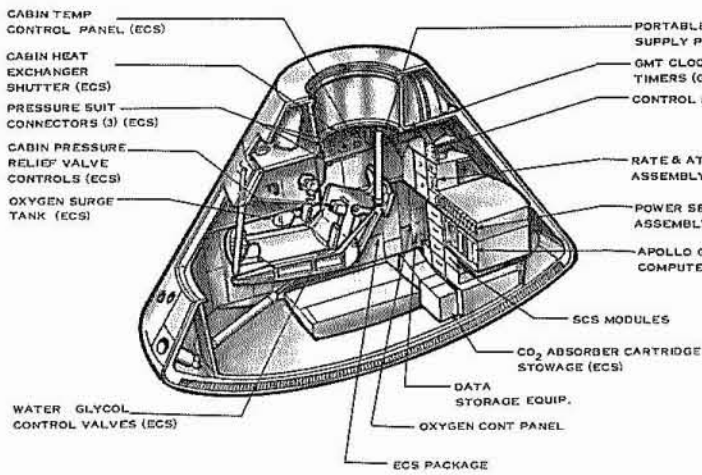
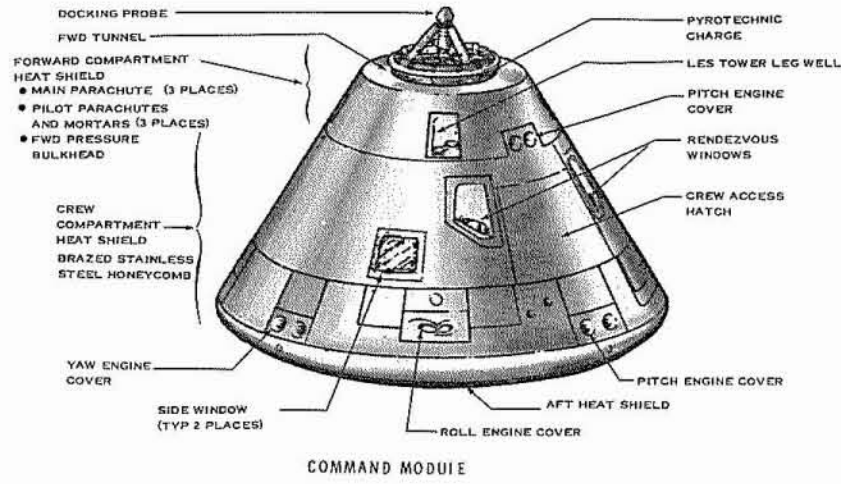
THE **BOEING** COMPANY  
SPACE DIVISION, LAUNCH SYSTEMS BRANCH  
HUNTSVILLE, ALA. 35897

SATURN V APOLLO  
FLIGHT CONFIGURATION

DRAWING ORIGINATED BY: HUNTSVILLE ENGINEERING  
DATE: 1 JANUARY 1968  
DRAWN BY: DON SPRAGUE

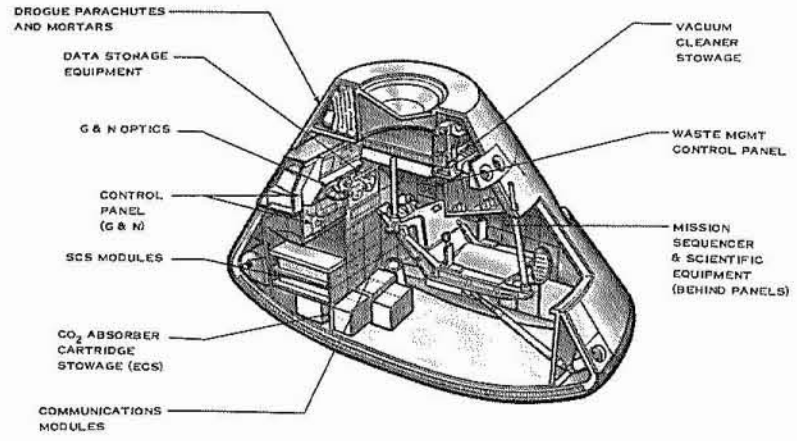
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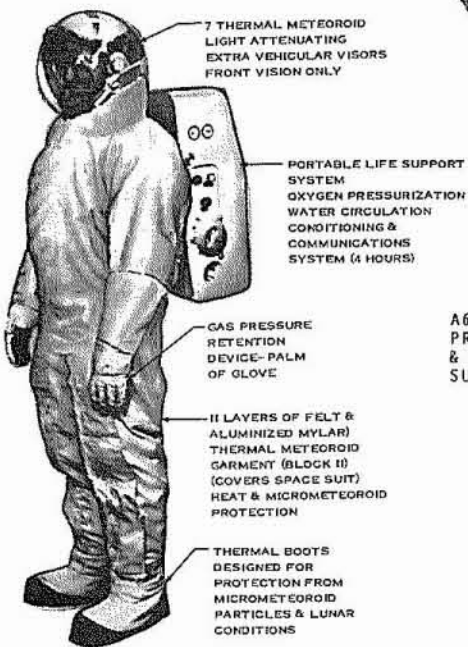
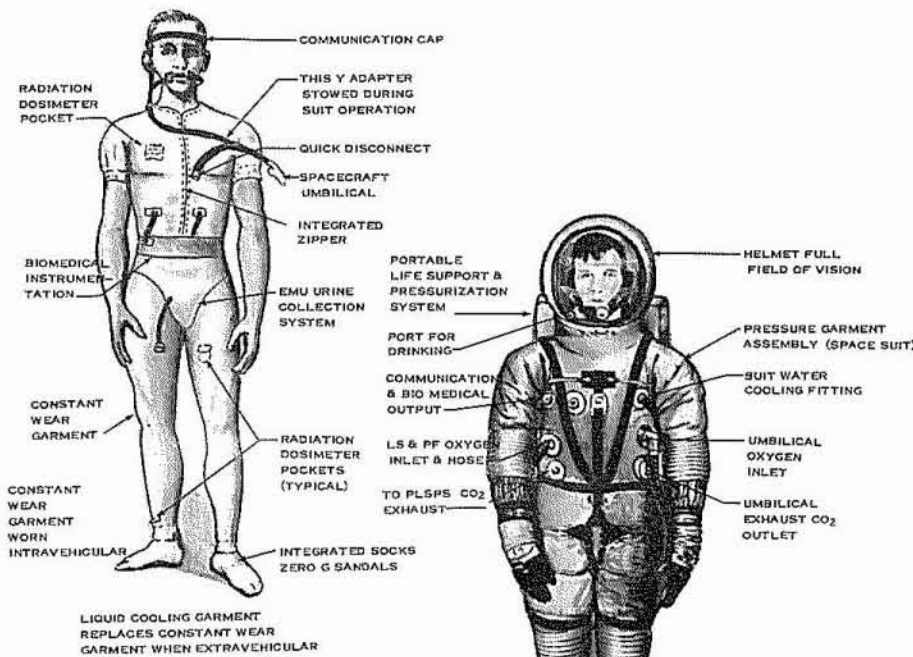


LEFT HAND VIEW OF FORWARD EQUIPMENT COMPARTMENT

COMMAND MODULE CONTROLS & DISPLAYS



RIGHT HAND VIEW OF FORWARD EQUIPMENT COMPARTMENT



	LENGTH		DIAMETER		POUNDS	
	FEET	INCHES	FEET	INCHES	WET WT.	DRY WT.
APOLLO SPACECRAFT (NORTH AMERICAN AVIATION)						
TOTAL	81.665	982.390			83,420	33,745
LAUNCH ESCAPE SYSTEM	33.396	400.752				8,420
LES JETTISON MOTOR	23.538	282.462	2.166	26		
COMMAND MODULE	11.125	133.500			11,250	
SERVICE MODULE	13.500	162.000	12.83	154	40,450	10,275
SPACECRAFT L/M ADAPTER	18.000	235.000			3,800	3,800
LUNAR MODULE (GRUMMAN AIRCRAFT ENGINEERING)	19.3	231.6				29,500
L/M LUNAR LAUNCH STAGE	9.5	114.0				
L/M LUNAR LANDING STAGE	9.8	117.6				
LAUNCH VEHICLE INSTRUMENT UNIT (IBM)	3	36				4,661
S-IVB THIRD STAGE (DOUGLAS)	58.63	704.00	21.66	260	264,998	26,472
(1) J2 ENGINE 200,000 POUNDS THRUST						
(2) S-IVB ULLAGE MOTORS (THIokol)						
2848 POUNDS THRUST EACH						
S-II S-IVB INTERSTAGE (DOUGLAS)						
(4) RETRO ROCKETS (THIokol)	18.958	227.5			7,611	8,536
34,800 POUNDS THRUST EACH						
S-II SECOND STAGE (NAA)	81.50	978	33.00	396	1,031,455	88,200
(5) J-2 ENGINES						
1,000,000 POUNDS THRUST						
S-IC S-II INTERSTAGE (NAA)	18.25	219	33.00	396	14,020	12,200
(6) ULLAGE ROCKETS (ROCKETDYNE)						
22,900 POUNDS THRUST EACH						
S-IC FIRST STAGE BOOSTER (BOEING)	139.03	1656.36	33.00	396	4,698,340	305,200
LOX TANK	64.083	769.00				
FUEL TANK	43.083	517.00				
(8) RETRO ROCKETS (THIokol)						
91,610 POUNDS THRUST EACH						
FIN SPAN	62.73	752.77				
(5) F-1 ENGINES						
7.5 MILLION POUNDS THRUST						
TOTAL LIFTOFF					6,115,403	
VEHICLE LENGTH	363.01	4356.14	110.646			

SHEET 2 OF 2

SATURN APOLLO 500 SERIES

THE **BOEING** COMPANY  
 SPACE DIVISION, LAUNCH SYSTEMS BRANCH  
 HUNTSVILLE, ALA 35807

SATURN V APOLLO  
 FLIGHT CONFIGURATION

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