

L. Parker

JSC - 03600

Lewis Parker

Lesson with L. Parker

**APOLLO/SKYLAB
ASTP
AND
SHUTTLE ORBITER
MAJOR END ITEMS**

MARCH 1978

FINAL REPORT



National Aeronautics and Space Administration
LYNDON B. JOHNSON SPACE CENTER
Houston, Texas

PREPARED BY BW3/MC3

Program Operations Office
NASA Johnson Space Center
Houston, Texas 77058

PROGRAM OPERATIONS DISTRIBUTION U
MSC-03600 - Apollo/Skylab/ASTP
Major End Items
Effective date: January 31, 1978

National Air and Space Museum
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C. F. Hughes, Dept. 695-300, SG60
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D. L. Samsal, Dept. 014, FC23

Rockwell-KSC

R. W. Pyle
L. R. Parrott

NASA Headquarters

LFC-18/W. J. O'Donnell
M-1/M. L. McNickle
MTE-3/J. H. VonPuttkamer
MHS-7/P. V. Dunfee

NASA-MSFC

AL01/H. Strickland

NASA-KSC

PA-VIC/P. A. Fagnant

NASA-JSC

AP5/C. A. Biggs
BT/J. J. Shannon
BC27/W. E. Wright
BT2/W. C. Farries
BW3/A. L. Brady (6)
LA12/T. E. O'Briant
EC/H. L. Stutesman
ES/D. H. Greenshields
FE2/S. Faber
FE3/K. I. Mansfield
JF3/J. Priode
JF3/J. P. Olivares
JF3/F. G. Morford
JF34/D. Rodriguez
LA2/O. G. Morris
MA/A. Cohen
MR/W. B. Wilson
MR24/G. B. Anderson
MT/A. Hobokan
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PH/L. G. Williams
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PREFACE

The purpose of this document is to reflect the last known status of selected end items. It is hoped that it will improve the utilization of the hardware and reduce new procurements and fabrications by using available assets. It also serves as a thumbnail historical reference as well as a quick progress report of items still in production, scheduled for movement, or of current tests.

Responsible personnel or custodians are cited, where known, because these individuals are the most likely ones to know the current condition, planned usage, configuration, and the availability for other utilization, for each end item tracked. This document is not necessarily an accountability instrument but serves as a location indicator of select assets. Anyone finding changes or corrections that should be made to this document should informally report the information to the Orbiter Logistics Office (MC3/BW3), NASA Johnson Space Center Center, Houston, Texas 77058, telephone area code 713-483-2657. Copies of documents moving any of the end items cited herein should be furnished to the above address for proper tracking of the item.

NOTE: This is the last update of the major end items status report. This office will continue to control flown hardware.

ADDRESS AND TELEPHONE NUMBERS OF
RESPONSIBLE OFFICERS OR CUSTODIANS OF END ITEMS

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Mr. B. B. Bolger, Mail Code CB54, Dept. 077, telephone 213-922-3400
Mr. W. B. Wilson, Mail Code, MR, NASA-SSPRO, telephone 213-922-3358

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Mr. A. C. Chapman, ES64, Bldg. 49, x2517
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Mr. C. A. Biggs, AP5, Bldg. 2, x4241
Mr. T. E. O'Briant, LA14, Bldg. 4, x2738
Mr. A. E. Lightsey, EJ8, Bldg. 16, Room 271, x2237
Mr. R. W. Bricker, ES6, x3166
Mr. V. C. Hammersley, EW63, Bldg. 35, Room 216, x2415
Mr. S. Faber, FE, Bldg. 30, Room 2014, x5238
Mr. K. Mansfield, FE3, Bldg. 30, Room 2020B, x 4626
Mr. J. W. Griffin, EE6, Bldg. 14, Room 113, x2189
Mr. W. K. Williams, FE2, Bldg. 30, Room 2026B, x3981
Mr. R. N. Stucky, ES6, Bldg. 13, Room 124, x3251
Mr. D. G. Billingsly, EL2, Bldg. 32, Room 205, x4226
Mr. G. F. Prude, FE2, Bldg. 30, Room 2028B, x5104

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Mr. A. E. Morse, WSK, x7870

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Mr. J. Levinson, Mail Code EL03, x3-4579
Mr. R. Ise, Mail Code GA01, x0844

WSTF

Mr. K. R. Haynes, RE, x5137

ORBITER VEHICLES

VEHICLE NO.	UTILIZATION	REMARKS
101	ALT at DFRC Conversion to flight vehicle later	
102	First DDT&E Orbital Flights	Being fabricated at Downey
103	NASA vehicle	

CSM	UTILIZATION	REMARKS
2TV-1 (CM 098)	Pyro Shock Tests.	Transferred to Smithsonian. Was on display at KSC during NASA Bicentennial Exhibit. On loan to Russia for ASTP display.
2TV-2 (SM 098)	Thermal vac. tests, retain for Pyro Shock Tests.	Same as 2TV-1.
CSM 2D-3 (SM 105) (CM 105)	Acoustic Vibration. J-Series.	See 3D-2.
CSM 3D-2 (CSM 105)	Acoustic Vibration. Skylab.	Converted back to CSM 105. (See CSM 105).
CM 2S-1 (CM 099)	Mockup CM used for Skylab flight crew interface training.	Scrapped.
CM 2S-2 or 3MS1 (CM 100)	CM simulator used for Skylab flight crew training and familiarization.	Structure only, no systems equipment installed. Transferred to Smithsonian as an artifact. See SM 012.
3RC-1 3RC-2 (SM 100)	SM (SM 100) used for ground test purposes and time life studies.	Transferred from WSTF to Smithsonian. On display at ISHF, Alamogordo, NM.
CSM 2S-3 (CM 014) (SM 105)	Static Test. J-Series.	See CSM 3S-2.
CSM 3S-2 (CM 014) (SM 105)	Static Test. Skylab.	CM 014 Downey/SD. See CSM 014. See CSM 105AV for SM105. CM 014 scrapped.

CSM	UTILIZATION	REMARKS
CSM 101	AS-205/SIA #5.	CSM 101 launched as Apollo 7. Only CM 101 recovered. Transferred to the Smithsonian. Presently at National Museum of Science and Technology, Ottawa, Ont. Canada, until 9/79.
CSM 102	Not a flight spacecraft. SM 102 ALEM verification tests.	CM 102 located scrapped, Downey/SD. SM 102 on display at JSC with "Little Joe". Transferred to Smithsonian Institution, May 1977.
CSM 103	AS-503/ITA-B/SIA 11A Mission C.	CSM 103 was launched as Apollo 8. Only CM 103 was recovered and it has been transferred to the Smithsonian Institution. On loan to Chicago Museum of Science & Industry.
CSM 104	AS 504 - Mission D. SIA, IM-3.	CSM 104 launched as Apollo 9. Only CM 104 recovered 3/13/69. Transferred to the Smithsonian (HOU 497). Presently at Michigan Science Center, Jackson, Michigan, until 3/79.
CSM 105 AV	Acoustic/Vibration - Skylab. Not a flight spacecraft.	Displayed at Paris Air Show. Transferred to the Smithsonian. Part of ASTP display at NASM.
CSM 106	Extended life tests planned use - RCM - verification CCA 3604B.	CSM 106 launched as Apollo 10. Only CM 106 recovered. 5/18/69. Transferred to Smithsonian. On display at Science Museum, London, England.
CSM 107	Planned use - Smithsonian.	CSM 107 launched 7/16/69 as Apollo 11. Only CM 107 was recovered. Completed tour of 50 states and received by the Smithsonian during June 1971. On display in National Air & Space Museum, Washington, D.C.
CSM 108	SA-507 SIA #15 SM-6.	CSM 108 launched as Apollo 12. Only CM 108 recovered. Transferred to Smithsonian during July 1971. At Langley Research Center after return from Paris Air Show.

CSM	UTILIZATION	REMARKS
CSM 109	SA-508 SLA #16 LM-7.	Launched as Apollo 13. Only CM 109 recovered. Transferred to the Smithsonian as an artifact. Now on display at KSC Visitor Center.
CSM 110	SA-509 Mission H-3 SLA #17 LM-8.	CSM 110 launched as Apollo 14 on 1/31/71. Only CM 110 recovered. Transferred to Smithsonian, May 1977. On display at Rockwell/SD, Downey, CA.
CSM 111	SA-514 SLA #18	Launched on ASTP mission. Only CM111 recovered. Returned in August 1975 to Rockwell-Downey for post-flight test. Transferred to Smithsonian -- on display at KSC.
CSM 112	SA-510 Mission J-1 SIA #19 LM-10. Extended lunar exploration. Engineering support vehicle.	CSM 112 launched as Apollo 15 on 7/26/71. Only CM 112 recovered. Transferred to Smithsonian on 7/22/74. Presently at U.S. Air Force Museum, Wright-Patterson Air Force Base, Ohio, until 12/78.
CSM 113	SA-511 Mission J-2 SIA #20 LM-11. Extended lunar exploration.	CSM 113 launched as Apollo 16 on 4/16/72. Only CM 113 recovered. Transferred to Smithsonian in November 1973. Presently at Alabama Space and Rocket Center until 12/78.
CSM 114	AS-512 Mission J-3 SIA #21 LM-12. Extended lunar exploration.	CSM 114 launched as Apollo 17 on 12/6/72. Only CM 114 recovered. Transferred to Smithsonian. Retained at JSC for public display.
CSM 115	AS-515 - SLA#25	Transferred to Smithsonian. CSM at Rockwell/SD, Downey, CA. Will move to JSC April 1978.
CSM 115A	Spares Vehicle.	CSM 115A stored in Bldg. 247, Rockwell/SD, Downey, CA. Transferred to the Smithsonian display location unknown as of 1/78 (possibly Japan).

CSM	UTILIZATION	REMARKS
<u>SKYLAB</u>		
CSM 116 (SL-2)	Manned Flight - SL 6 - launch vehicle 206.	CSM 116 assigned Skylab-2 for a 28-day mission. Launched 5/25/73. Only CM 116 recovered on 6/22/73. Transferred to Smithsonian in November 1973. Presently at the Naval Aviation Museum, Pensacola, Florida, until 12/78.
CSM 117 (SL-3)	Manned Flight - SIA 23 - launch vehicle 207.	CSM 117 assigned Skylab-3 for a 59-day mission. Launched on 7/28/73. CM 117 recovered on 9/25/73. Transferred to Smithsonian. On display at Ames Research Center.
CSM 118 (SL-4)	Manned Flight - SLA 24 - launch vehicle 208.	CSM 118 assigned Skylab-4 for a 84-day mission. Launched on 11/9/73. CM 118 recovered on 2/8/74. Transferred to the Smithsonian, 11/75 - on display at National Air & Space Museum (NASM), Washington, DC.
CSM 119	Manned Flight - TBD SLA #22 - launch vehicle 209.	CSM 119 on display at KSC.
Skylab - 1 (SL-1)	Launch vehicle AS- 513 - Unmanned launch.	Workshop launched 5/14/73. Skylab-1 is a 2-stage Saturn V launch vehicle, a payload shroud (PS), Saturn V Workshop (SWS) which includes a S-IVB stage modified as an orbiter workshop (OWS), Airlock Module (AM), Multiple Docking Adapter (MDA), Apollo Telescope Mount (ATM), and Instrument Unit (IU). Not to be recovered.

LUNAR MODULES	UTILIZATION	REMARKS
LM-1	Apollo 5.	Apollo 5 AS-204, with SIA #7, launched 1/22/68, not recovered.
LM-2	Smithsonian display (letter, PP8-G/35-71-BC32-1191, dated 4/21/72 directed GAC to transfer "as is" to Smithsonian).	Shipped to the Smithsonian 4/28/71 - on display at National Air and Space Museum (NASM), Washington, D.C.
LM-3	Apollo 9.	Launched 3/4/69 with Apollo 9. Not recovered.
LM-4	Apollo 10.	Launched 5/18/69 with Apollo 10. Not recovered.
LM-5	Apollo 11.	Launched 7/16/69 with Apollo 11. Not recovered.
LM-6	Apollo 12.	Launched 11/14/69 with Apollo 12. Not recovered.
LM-7	Apollo 13.	Launched 4/11/70 with Apollo 13. Not recovered.
LM-8	Apollo 14.	Launched 1/31/71 with Apollo 14. Not recovered.
LM-9	H-Mission.	Accountability transferred to the Smithsonian on 12/20/73. On loan to KSC for display.
LM-10	Mission J-1 Apollo 15.	Launched 7/26/71 with Apollo 15, Not recovered.
LM-11	Mission J-2, Apollo 16	Launched 4/16/72 with Apollo 16. Not recovered.

LUNAR MODULES	UTILIZATION	REMARKS
LCRU #4	Spare	Transferred to the Smithsonian
ADAPTERS	UTILIZATION	REMARKS
SLA #1	Dynamic Test BP-27.	On display at the Alabama Space and Rocket Center. In stack with BP-27 SM 016 and LES BP-27 (BP-16). Also referred to as BP-27 SLA.
SLA #2	Structural Test Acoustic Facility.	8/21/68 cannibalized. Scrapped at JSC.
SLA #3	CSM 009/AS-201.	Launched. Not recovered.
SLA #4	CSM 011/AS-202.	Launched. Not recovered.
SLA #5	CSM 101/AS-205.	Launched. Not recovered.
SLA #6A	CSM 116/Launch vehicle 208.	Assigned to CSM 116 and Skylab-2. Launched 6/25/73. Not recovered.
SLA #7	AS204/LM1.	Launched 1/22/68 as Apollo 5. Not recovered.
SLA #7A	Assigned to facility verification vehicle at KSC.	SLA 7A was shipped from Mississippi Test Facility to KSC to release SLA 10 for flight vehicle.
SLA #8	CSM 017/AS-501.	Launched. Not recovered.
SLA #9	CSM 020/AS-502	Launched. Not recovered.

ADAPTERS	UTILIZATION	REMARKS
SLA #10	Converted to flight status.	Located at KSC.
SLA #11A	CSM 103/AS-503 LTA-B Apollo 8.	Launched. Not recovered.
SLA #12A	CSM 104/AS-504 LM-3 Mission D.	Launched 3/4/69 as Apollo 9. Not recovered.
SLA #13A	CSM 106/AS-505 LM-4 Apollo 10.	Launched 5/18/69 as Apollo 10. Not recovered.
SLA #14	CSM 107/AS-506 LM-5.	Launched 7/16/69 as Apollo 11. Not recovered.
SLA #15	CSM 108/AS-507 LM-6.	Launched 11/14/69 as Apollo 12. Not recovered.
SLA #16	CSM 109/AS-508 LM-7.	Launched 4/11/70 as Apollo 13. Not recovered.
SLA #17	CSM 110/AS-509 LM-8.	Launched 1/31/71 as Apollo 14. Not recovered.
SLA #18	CSM 111/ ASTP.	Launched 7/15/75 as ASTP. Not recovered.
SLA #19	CSM 112/AS-510 LM-10.	Launched 7/26/71 as Apollo 15. Not recovered.
SLA #20	CSM 113/AS-511 LM-11 J-2 Mission.	Launched 4/16/72 as Apollo 16. Not recovered.

ADAPTERS	UTILIZATION	REMARKS
SLA #21	CSM 114/AS-512 IM-12.	Launched 12/6/72 as Apollo 17. Not recovered.
SLA #22	CSM 119/launch vehicle 209.	On display at JSC.
SLA #23	Skylab-3 - CSM 117 Launch vehicle 207.	Launched 7/28/73 as Skylab-3. Not recovered.
SLA #24	Skylab-4 - CSM 118 Launch vehicle 208.	Launched 11/10/73 as Skylab-4. Not recovered.
SLA #25	CSM 115/AS-515 LM-13	Shipped to KSC for storage.
SLA #26	Spacecraft IM adapter Manufacture not complete and placed in storage unassembled.	Located at KSC. Excellent condition in panel sections.
SLA #27	Cancelled as cost reduction.	Was not manufactured.
SLA #28	Cancelled.	

CSM	UTILIZATION	REMARKS
CSM 001	Propulsion Test.	CSM 001 on display WSTF, stripped. Ken Haynes responsible.
CSM 002	Land Impact (BK I) storage. CM 002B was used for water impact tests.	Transferred to the Smithsonian, HOU 450. On loan to Elk Grove Park District, Elk Grove, Illinois.
CSM 004 CM 004B CM 004A	Structural Tests Storage Unified hatch mod. Static and thermal test letter JF4-50742 dated 3/5/71 directed Rockwell-Downey to process regular property disposal procedures.	SM 004 - Scrapped at Downey 6/66. CM 004 - Modified to CM 004B. CM 010 - Modified to CM 004A. CM 004A - Transferred to Smithsonian 7/11/69 (redesignated BP-2Y) CM 004B - Was disposed of as excess by GSA and was donated to an educational institution. Was offered to Smithsonian as an artifact but was declined.
CSM 006 CM 006 SM 006	House spacecraft ELS Proof Test Dynamic Test (BP-27).	CM 006 - Refused by the Smithsonian. Transferred to JSC Property Disposal Office - 807402, for disposal purposes. SM 006 - Reassigned as SM 010 at MSFC. LES 006 - Reassigned to B-14, and again to BP-23A and launched 6/27/65. Not recovered.
CSM 007 CM 007A SM 007A	Manned Uprighting Tests.	CM 007A - Located at JSC. T. E. O'Briant controls. On lot adjacent to Bldg. 259. Offered to the Smithsonian 4-76. SM 007A - Shipped to MSFC the week of 5/7/73 - 5/11/73 for display purposes.

CSM	UTILIZATION	REMARKS
SM 008	SM used as a Skylab trainer. Was utilized in the POGO test project.	Declined by the Smithsonian, 8/73. Scrapped at Rockwell/SD, Downey, CA 5/77.
CM 008A	CM was utilized in the POGO test project.	Scrapped - ref. NASA letter: JF4-S0742, dated 3/5/71.
CSM 009	Launch CM 009 Recovered - modified to CM 009B.	SM, SLA, and LES not recovered. CM 009 updated to CM 009B after recovery. CM 009B declared excess to Apollo Program and was declined by Smithsonian as an artifact. CM 009B transferred permanently to the University of Nebraska.
CSM 010 (BP-27)	Thermal Test (CM 004A) MSFC stack of: CM BP-27/SMD10/SLA 1/ LES	CM redesignated as CM 004A. On display at the Alabama Space and Rocket Center.
CSM 011	Modified for land impact tests.	SM, SLA, and LES consumed in launch 8/25/66. Not recovered, CM 011 updated to CM 011A after recovery. CM 011A was extensively damaged during land impact tests. Transferred to the Smithsonian for display at Oklahoma City University.
CSM 012	SM 012 had a temporary designation of 3RC-1 for AAP.	CM damaged by fire on launch pad; in storage at Langley Research Center LES at KSC. SM scrapped at Rockwell/SD, Downey, CA, 5/27.

CSM	UTILIZATION	REMARKS
CSM 014	Integrated Structural Test W/25-2 CM-ALEM/AAP Static Cert. Test.	SM 014 launched with CSM 020. Not recovered. LES 014 at KSC as part of BP-30. CM was declined by the Smithsonian and was scrapped, 5/77 at Rockwell/SD.
SM 015	Swing Arm Tests.	Part of BP-30. Located at KSC.
LES 015	CSM Test Vibration.	Transferred to property disposal officer at JSC in May 1971.
LES 016	Dynamic Tests.	Transferred to Smithsonian for permanent display at MSFC with BP-27.
CSM 017	AS-501- Saturn V Vehicle development. Launched 11/67.	SM 017 damaged by explosion. - scrapped. LES 017 launched. Not recovered. CM 017A presently at North Carolina Museum of Life and Science.
CSM 020	AS-502 SIA-9 - Saturn V vehicle development Launched 4/68.	SM 020 launched with CM 017. Not recovered. LES 020 launched with AS-502. Not recovered. CM 020 transferred to Smithsonian. On display at Fernbank Service Center, Atlanta, Georgia.
<u>BOILERPLATES</u>		
BP-1	Water impact tests.	Disposed of as scrap at JSC during November 1971.
BP-2	Flotation tests storage.	Disposed of as scrap by JSC property disposal officer during Nov. 71.

CSM	UTILIZATION	REMARKS
BP-3	Parachute tests.	Destroyed.
BP-6	Aerial drop test vehicle .	Updated to BP-6C CM. Declined by the Smithsonian as an artifact. Scrapped at Rockwell/SD, 5/77.
BP-9	Sat I Dyanmic Test.	BP-9A - Micro Meteoroid - SA-10 launched. Not recovered.
BP-13	Launch Env. SA-6.	Launched. Not recovered.
BP-14	Letter JF4-50799 dated 3/26/71 directed Rockwell to dispose of BP-14 CSM through regular property disposal procedures. BP-14 CSM consists of CM 14, SM 3, LES 14, SIA adapters.	BP-14 was offered to the Smithsonian as an artifact but was declined. CM disposed of as excess by GSA, sold to Kolar, Inc., Tucson, AZ. SM was scrapped at Downey.
BP-15	Launch Env. SA-7.	Launched. Not recovered.
BP-16	Micro Meteoroid SA-9.	Launched. Not recovered.
BP-19A	Testing VHF recovery antenna.	Transferred to Smithsonian during April 1972 for display by Los Angeles County. Handling equipment H14-9001, S/N 7; H14-086, S/N 1; H14-9076, S/N 1; also transferred with BP-19A.

BOILERPLATES

CSM	UTILIZATION	REMARKS
BP-22 CSM	Display only.	Declared excess to the Apollo Program. Declined by Smithsonian as an artifact. Located at JSC adjacent to Bldg. 14 parking lot. C. A. Biggs is responsible. To be used for display purposes only.
BP-23A	Display only.	Transferred to the Smithsonian for display at MSFC.
BP-25 CM	Water recovery attenuation test (AAP).	Transferred to Smithsonian in March 1975. On display at the Fort Worth Museum of Transportation.
BP-26	Micro Meteoroid SA-8.	Launched. Not recovered.
BP-27	Dynamic test (CM) (Excess - transfer to the Smithsonian) Engine gimbal test (SM)	BP-27 CM/SM OLO/LES 16 /SLA 1 stack was transferred to the Smithsonian on 2/10/70 for display at MSFC. BP-27 SM disposed of by JSC during June 1971.
BP-28A	Impact test (BK I) Impact test (BK II).	Disposed of as scrap by the property disposal officer during Nov. 1971.
BP-29A	Water uprighting tests.	Transferred to the Smithsonian 5/19/77 On display at Metcor Crater, AZ.
BP-30	Swing arm test.	Transferred to Smithsonian, 3/27/75, on display at Fort Worth Museum of Transportation.
BP-1101A		Offered to the Smithsonian 10/74 - declined. Transferred to disabled American veterans of Wheatridge, Colorado, for permanent display.

BOILERPLATES

CSM	UTILIZATION	REMARKS
BP-1102A	Used for crew egress training.	Transferred to the Smithsonian 5/77. On loan to Louisville, KY, Museum of Natural Science and History, Louisville, KY.
BP-1150		Transferred to the Smithsonian during 1971. Transferred to MSFC for display purposes.
BP-1201		Transferred to Smithsonian. On loan to ISHF, NM 9/77.
BP-1202	Apollo Command Module.	Used by to Patrick AFB Fire Dept. for abort training. Transferred to the Smithsonian 11/76. On display at Brevard Community College, Cocoa, FL.
BP-1203	Apollo Command Module.	Salvaged.
BP-1204	Apollo Command Module.	With Carrier Task Force 140 at Rota, Spain. Used in retrieval test at sea. Offered to the Smithsonian, 9/75
BP-1205	Apollo Command Module.	Transferred to Smithsonian 9/77. On loan to ISHF, NM.
BP-1206	Apollo Command Module.	Located at Woodbridge, England. Offered to the Smithsonian, 4/76.
BP-1207	Apollo Command Module.	Used at Patrick AFB. Transferred to the Smithsonian 11/76. On display at Earth-Space Science Center, Howey-in-the-Hills, FL.
BP-1208	Apollo Command Module.	Salvaged.

BOILERPLATES

CSM	UTILIZATION	REMARKS
BP-1209	Apollo Command Module.	Salvaged.
BP-1210	Apollo Command Module.	Transferred to NASM, Smithsonian. On loan to Cherokee Strip Museum, Enid, OK.
BP-1211	Apollo Command Module.	Located at 55th ARRS, Elgin AFG, FL. Declined by the Smithsonian.
BP-1212	Apollo Command Module.	Located at Kadena, Okinawa, Japan.
BP-1213	Apollo Command Module.	Salvaged.
BP-1214	Apollo Command Module.	Salvaged.
BP-1215	Apollo Command Module.	With Carrier Task Force 130, at Yokoska, Japan.
BP-1216	Apollo Command Module.	Salvaged.
BP-1217	Apollo Command Module.	Salvaged.
BP-1218	Apollo Command Module.	Located at Ford Island, Hawaii.
BP-1219	Apollo Command Module.	With UDT Coronada, California. Declined by the Smithsonian.

BOILERPLATES

CSM	UTILIZATION	REMARKS
BP-1220	Apollo Command Module.	With Carrier Task Force 140, Norfolk, VA. Transferred to the Smithsonian, 7/75. On loan to NAS, Norfolk, VA.
BP-1221	Apollo Command Module.	Located at Ford Island, Hawaii.
BP-1222	Apollo Command Module.	Salvaged.
BP-1223	Apollo Command Module.	Used by ARRS, Lajes, Azores. Declined by the Smithsonian. Salvaged, 4/76.
BP-1224	Apollo Command Module	Donated to Harris County Boys Home on NASA Road 1.
BP-1225	Apollo Command Module.	Located with Carrier Task Force 130, Honolulu. Offered to the Smithsonian, 4/76.
BP-1226	Apollo Command Module.	Salvaged.
BP-1227	Apollo Command Module.	Transferred to Smithsonian 11/76. On loan to Grand Rapid, MI.
BP-1228	Apollo Command Module.	Salvaged.
BP-1229	Apollo Command Module	Salvaged.

BOILERPLATES

CSM	UTILIZATION	REMARKS
BP-1230	Apollo Command Module.	Located at Ford Island, Hawaii. Under the control of T. E. O'Briant. Declined by the Smithsonian, 8/75.
BP-1231	Apollo Command Module.	Located at KSC (HOU 711).
BP-1233	Apollo Command Module.	With the 55th ARRS, Bermuda.
BP-1250C	Storage.	Scrapped at Rockwell/SD, 5/77.
BP-1301	Apollo Command Module for Heavy-lift Helicopter Training.	Transferred to the Smithsonian, on loan to MSFC for display.
BP-1302	Storage.	Located at KSC. T. E. O'Briant controls. Being excessed. Declined by the Smithsonian.
BP-K	Vacuum Chamber Test.	Located on patio (outside Hi-bay) adjacent to Bldg. 13. R. Stuckey is responsible. Chamber is being used for flammability and radiant heat testing in support of general research and technology and Shuttle programs.

ARTICLE NO.	DESCRIPTION	REMARKS
M-1 - IM	Cabin Interior Studies	Scrapped.
M-2 - CM		Converted to KSC-E below.
M-3	IM, Ascent and Descent Stage - for SIA and Facility verification TWX BT7-G/87-72-BC32-T254 dated 7/24/72	Located at MSFC. Offered to Smithsonian as artifact. Smithsonian declined. Transferred to MSFC from KSC via barge for display purposes.
M-4	Partial SM and partial S-IV adapter for interface studies.	Disposed of as excess January 1967.
M-4 - IM	Descent engine compartment studies.	Offered to the Smithsonian and declined. Disposed of as excess at GAC-Bethpage, NY.
M-5 - CM	For cabin exterior equipment (design control).	Declared excess to the Apollo Program and transferred to the Smithsonian. (Ref: Letter BP4-50179, dated 5/20/70).
M-5 - IM	IM Mockup for Equipment Installation Evaluation.	Converted to IM JSC 12.
M-6 - IM	IM Mockup - Flammability test.	Excessed 3/8/77.

ARTICLE NO.	DESCRIPTION	REMARKS
M-7 - IM	IM Mockup - A/S & D/S.	With 90 degree SIA section. Transferred to the Smithsonian.
M-8 - CM	CM, Airlock, and Docking incomplete. Deleted in April 1962.	Scrapped.
M-9	CM, SM, S-IV Adapter and LES for Handling and Transportation.	CSM - part of M-11 as launch verification vehicle. Located at KSC. LES destroyed in L.J. launch. SIA disposed of as excess. M-9 CM declined by Smithsonian. Disposed of as excess. SM located at MSFC.
M-11	CM, SM, S-IV Adapter and LES for Handling and Transportation.	Declared excess to the Apollo program. Declined by Smithsonian. To be disposed of through JSC Property Disposal Office. LES located at KSC. CM located KSC in stack with M-9 SM. Transferred to the Smithsonian.
M-12A	CM mockup used for interior lighting studies.	Scrapped at Rockwell/SD, 5/77.
M-18	CSM, SIV, SIA, and LES to assess system interface. Plan to use M-18 SM in ALEM.	M-18 CM modified to JSC-1 mockup. M-18 SLA located at KSC. M-18 SM : scrapped, Rockwell/SD, Downey, 5/77. LES disposed of at Downey.

ARTICLE NO.	DESCRIPTION	REMARKS
M-22	CM for Cabin Interior and Exterior arrangements (see JSC-2, page 24)	Converted to JSC-2.
M-23	CM, SM, and LES for Umbilical Tests (LES 015 at MSFC).	CM, SM, and LES on display at the Alabama Space and Rocket Center.
M-24	CM to provide spares for AAP CM 100. Residue to be disposed of as excess.	Scrapped at Rockwell/SD-Downey.
M-25	SM Mockup used as a manufacturing simulator.	Scrapped at Rockwell/SD-Downey.
M-26	CM - Lower equipment bay. No planned use.	5/11/70 Rockwell/SD-Downey recommended disposal. Disposed of by DD543 No. 0-082A-3, 3/14/71.
M-27	CM - Forward compartment.	Disposed of as excess per C. Hughes, Rockwell/SD-Downey. JSC letter JF4-50805 dated 4/19/71, states that JSC contracting officer authorized disposal 11/14/68, on PC68-4257.

ARTICLE NO.	DESCRIPTION	REMARKS
M-27A	Mockup employed for flight crew training in docking procedures.	Located at JSC, bldg. 29. Comparable to ASTP flight module. V. C. Hammersley is responsible.
M-27B (JSC-07)	Mockup employed for flight crew training in tunnel transfer procedures.	Located at JSC, bldg. 5. Comparable to flight module. V. C. Hammersley is responsible.
M-28	Converted from CM-B. Planned use is ASTP,	Transferred to the Smithsonian. On display at Clark County (WA) Historical Museum.
KSC-E	Ingress-Egress Trainer Converted from M-2.	Located at Kennedy Space Center, Bldg. M7-355. Planned use as trainer for emergency egress training in Skylab and ASTP programs.
JSC-1 CM	1-G Trainer.	Located Bldg. 5 as part of JSC visitor program. Transferred to Smithsonian and loaned to JSC.
JSC-2 CM	CM 1-G Trainer.	Transferred to the Smithsonian. On loan to Hutchinson Planetarium, Hutchinson, KS.
JSC-3 CM	CM mockup used for Zero G training of the flight crew.	Located in Bldg 419 laydown yard. To excess 2/24/78.
JSC-09 (8A)	1-G SIM Bay.	Located Bldg. 38, JSC. V. C. Hammersley is responsible.

MOCKUPS

ARTICLE NO.	DESCRIPTION	REMARKS
JSC-4 CM	Mockup - Water Immer.	Transferred to Smithsonian, on display at Alabama Space and Rocket Center.
JSC-5*	Zero G Trainer - Partial CM and LM (EVA Trail).	Salvaged 3/74.
JSC-8 SM*	Zero G Trainer Mockup WIF and SIM Bay.	Salvaged 3/74.
JSC-11 LM	LM Mockup for 1-G Trainer.	Declined by Smithsonian on 8/16/72. Turned in as excess property.
JSC-12 LM	LM Mockup 1-G Trainer.	Transferred to Smithsonian.
JSC-13 (Static Rover)	Zero G KC-135 Mockup.	Transferred to the Smithsonian.
JSC-14 LM	Zero G KC-135 Mockup.	Transferred to the Smithsonian for display at KSC.
JSC-15 LM	LM ingress/egress trainers and O-G.	Wooden mockup used in WIF. Severely deteriorated by weather and rot. Disposed of as scrap in June 1973.

*Item has been submitted to PAO as an artifact.

MOCKUPS

ARTICLE NO.	DESCRIPTION	REMARKS
JSC-16 LM	LM Mockup trainer (1-G).	Shipped to KSC. Used for Apollo 16 and 17. Configured to LM 12. Transferred to the Smithsonian in January 1974 - HOU 461. On display at the N. C. Museum of Life and Science, Dunham, N.C.
JSC-17 LM-WIF	Used for Apollo 16 and 17.	Salvaged 10/7/74.
JSC-18 LM	IM ingress/egress trainer and O-G.	Salvaged 4/74.
JSC-21	Skylab Orbital Work Station Mockup, 1-G Atmosphere used for Flight Crew Training.	Located at JSC, Bldg. 5, as part of the JSC visitor program. Comparable to flight module. Transferred to Smithsonian 11/76.
JSC-22	Orbital Work Station-Crew quarters - Neutral Buoyancy.	Salvaged 4/74.
JSC-25	Skylab Airlock Module Mockup 1-G used for flight crew training.	Located at JSC, Bldg. 5, as part of JSC visitor program. Comparable to flight module. Includes a support stand to assemble the AM, ATM, and DA in one unit. Transferred to Smithsonian 11/76.
JSC-26	Airlock Module Mockup for Skylab B use.	Transferred from MSFC to the Alabama Space and Rocket Center.

MOCKUPS

ARTICLE NO.	DESCRIPTION	REMARKS
JSC-27	Skylab Airlock Module Mockup, 0-G Atmosphere for flight crew training.	Located at JSC, Bldg. 5, as part of the JSC visitor program. Comparable to flight module. Transferred to the Smithsonian and loaned to JSC.
JSC-28	Skylab Multiple Docking Adapter, 1-G Atmosphere used for flight crew training.	Located at JSC, Bldg. 5, as part of the JSC visitor program. Comparable to flight module. JSC Tag #88538. Transferred to the Smithsonian and loaned to JSC.
JSC-30	Skylab Multiple Docking Adapter, 0-G Atmosphere used for flight crew training.	Located at JSC, Bldg. 38. Comparable to flight module. V. C. Hammersley is responsible.
JSC-31	Skylab Apollo Telescope Mount Mockup 1-G Atmosphere used for flight crew training.	Located at JSC, Bldg. 5 as part of the JSC visitor program. Comparable to flight module. Transferred to Smithsonian and loaned to JSC.
JSC-32	AIM Mockup	Transferred from MSFC to the Alabama Space and Rocket Center.
JSC-33	Skylab Apollo Telescope Mount Mockup 0-G Atmosphere used for flight crew training.	Located at JSC, Bldg. 38. Comparable to flight module. V. C. Hammersley is responsible.
JSC-34	Skylab Deployment Assembly Mockup 1-G Atmosphere used for flight crew training.	Located at JSC, Bldg. 5. Comparable to flight module. V. C. Hammersley is responsible.

MOCKUPS

ARTICLE NO.	DESCRIPTION	REMARKS
JSC-35 (34A)	OWS - Dome Mockup	Transferred from MSFC to the Alabama Space and Rocket Center.
JSC-36	Apollo/Soyuz Docking Module 1 "g" trainer	On display at JSC auditorium, Bldg. 2
JSC 37	Apollo/Soyuz Docking Module 1 "g" trainer (light weight).	Turned into excess - Awaiting disposition.
JSC 38	Soyuz Orbiter Module 1 "g" Mockup.	Transferred to the Smithsonian, on loan to ASRC.
E-1	CM Internal Evaluation Systems Simulators.	Transferred to the Smithsonian, 10/76.
E-2	CM Internal Evaluation Parts Simulators	Scrapped at Rockwell/SD-Downey.
3PDR	CSM Mockup TWX BT7-N/78-71-BC22-T115.	SM mockup on pad 3, Rockwell/SD-Downey. C. Hughes is responsible. (Outside display area) CM Mockup 3PDR was transferred to the Smithsonian and shipped to KSC, 1/6/72. SM scrapped at Rockwell/SD.
F-1	Heavyweight Propulsion System Test Fixture.	Located at Aerojet, SACTO. Retained for possible ASTP use. Transferred accountability from NAS 9-150 to NAS 9-14000. DD1149, #CV-24849, dated 6/10/74.
F-2A	SPS Engine Development Heavyweight Propulsion Fixture.	Scrapped at WSTF after removing the tanks and other reusable items.
F-3	SPS Engine Development Heavyweight Propulsion Fixture.	Transferred to the Air Force.
180/CM/MU	Sun Interference Evaluation.	Shipped to JSC 12/67, CCA 1679. Disposed of as excess.

ARTICLE NO.	DESCRIPTION	REMARKS
CM-B	Engineering Test.	Modified to mockup. See M-28.
LLRF	Lunar Landing Research Facility	Located at Langley Research Center, VA, and is not currently in active use.
CMPS	Command Module Procedures Simulator used for flight crew training.	Deactivated on April 1, 1974. Certain components will be used for the Shuttle procedures simulator. Transferred to the Smithsonian as an artifact. Will be displayed at Center of Science and Industry, Columbus, Ohio.
LMPS	Lunar Module Procedures Simulator.	Transferred to Smithsonian as an artifact - HOU 404, for display at Center of Science and Industry, Columbus, Ohio.
SIS	Skylab Mission Simulator used for crew training purposes.	Deactivated & disposition has been approved. Computer complex assigned to Orbiter retroflight simulator. Crew station given to PAO. Stored in Bldg. 29. Visual generation hardware stored for possible use. An interim crew station has been loaned to PAO for display and unused peripheral and visual hardware are stored in Bldg. 5. The stored material will impact building modifications in the near future. S. Faber is responsible.
DCFS	CM Dynamic Crew Procedures Simulator.	Deactivated on 2/28/73. Transferred to the Smithsonian - will be displayed at Center of Science and Industry, Columbus, Ohio.

SIMULATORS

ARTICLE NO.	DESCRIPTION	REMARKS
CMS-1	CM Simulator for ASTP.	Transferred to the Smithsonian. On loan to Houston Medical Museum.
CME-2	CM Simulator.	Disposed of by components at KSC.
CMS-3	CM Simulator.	Disposed of by components at KSC.
LMS-1	Lunar Mission Simulator.	Simulator has been salvaged. Limited components are in use by other crew training and simulation division facilities. Crew station given to Public Affairs Office.
LMS-2	Lunar Mission Simulator.	Disposed of by components at KSC.
PA-1 - IM	IM Ascent Stage Propulsion Test Vehicle.	Salvaged at WSTF.
PD-1 - IM	Prototype IM D/S Propulsion Test Vehicle Earlier Design.	Salvaged at WSTF.
PD-2 - IM	Prototype IM D/S Propulsion Test Vehicle Later Design.	Salvaged at WSTF.

SIMULATORS

ARTICLE NO.	DESCRIPTION	REMARKS
3T-1 - CM	See page 3, CM 2 S-1 which is the prime designation.	
FMES	IM full mission Engineering simulator Used for engineering evaluation and verification tests at GAC-Bethpage.	Transferred to Smithsonian. Dismantled for controls and display panels to equip the M-7 mockup to IM cockpit configuration.

TRAINER VEHICLES

DESIGNATION	REMARKS
LTA-B	Launched with Apollo 8. - Not recovered.
LTA-1	LTA-1, ascent stage, transferred to Smithsonian 2/74. D/S transferred to the Smithsonian 9/76 for display at GAC-Bethpage, NY.
LTA-2R	Launched on AS-502. Not recovered.
LTA-3A and LTA-3DR	Transferred to the Smithsonian 9/76. On display at Franklin Institute, Philadelphia, PA.
LTA-3D	Transferred to the Smithsonian-11/71.
LTA-5D	Located at WSTF. Offered to the Smithsonian as an artifact - 6/75, declined. Partially stripped.
LTA-8	Transferred to JSC 2/18/71 as a program support vehicle and for display in Bldg. 2 auditorium. An ASHUR is required for removal of components. C. A. Biggs is contact point for moving LTA-8 for test purposes.
LTA-10R	Launched AS-501. Not recovered.
LTA-11	LTA-11, descent stage transferred to Smithsonian 2/74.
HA-1 - LM	Scrapped.
HA-2 - LM	Scrapped at Bell.

TRAINER VEHICLES

DESIGNATION	REMARKS
LLTV #1	Crashed and burned during training at EAFB 12/2/68.
LLTV #2	Located at JSC, Cap. Equip. Tag #74794 Tail No. NASA 951. Crashed at EAFB 1/28/71.
<u>LLTV #3</u>	Located at Alabama Space and Rocket Center. Transferred to the Smithsonian.
1G Trainer	Trainer, 1G, Lunar Roving Vehicle, S/N 001 JSC Tag #87541. Located at Bldg. 2 (on display). C. Biggs is custodian Value \$700,000. Transferred to Smithsonian 9/74.

TEST ARTICLES

ARTICLE NO.	DESCRIPTION	REMARKS
TM-1 IM	Visibility and Crew Mobility Studies.	Located at MSFC. Being used as a display in NASA/MSFC Museum. Shipped 9/18/70.
TM-2A (Ascent only)		Scrapped at GAC-Bethpage during December 1970.
TM-2D (IM Descent)		Located at KSC. Offered to Smithsonian but was declined. KSC advised to seek possible display locations and if none, initiate disposal actions.
TM-3A IM	Radio Frequency Tests (BT7-A/246-2)	Scrapped.
TEM-4 IM	Pyro Rig for Simulated Stage Separation	Scrapped at GAC-Bethpage on 9/30/70.
TM-5D IM	Lightweight D/S Landing Also used for stowage reviews.	Scrapped.
TM-6 IM	Rendezvous Radar Antenna Tests	Scrapped as excess at KSC.
TM-7A IM	A/S Rendezvous Radar Antenna Tests.	Located JSC, Bldg. 18 positioner. J. W. Griffin controls.
TM-8D IM	D/S Landing Radar Antenna Tests.	Moved from GAC to JSC on 8/11/66. Excess to JSC requirements. Rejected by Smithsonian and turned into property disposal officer, JSC.

ARTICLE NO.	DESCRIPTION	REMARKS
TM-9 LM	LM RCS Plum Test completed 5/16/69.	Dismantled and components sent three different directions. No longer recognized as an end item.
TM-11 LM		MESA pallet and deployment system. Nature of item was an accumulation of components rather than an identifiable end item. Dismantled by GAC and disposed of as excess components through approved routine disposal procedures.
TM-13 LM	LM Bat Installation Thermal Test.	Nature of item was an accumulation of components rather than an identifiable end item. Dismantled by GAC and disposed of as excess components through approved routine disposal procedures.
TM-14 LM	Docking Tunnel Test.	Nature of item was an accumulation of components rather than an identifiable end item. Dismantled by GAC and disposed of as excess components through approved routine disposal procedures.
TM-15 LM	Thermal Quad I.	Nature of item was an accumulation of components rather than an identifiable end item. Dismantled by GAC and disposed of as excess components through approved routine disposal procedures.
TM-16 LM	Quad II Structural Tests.	Scrapped.
TM-17 LM	Quad III Thermal Tests.	Thermal test MESA pallet. Nature of item was an accumulation of components rather than an identifiable end item. Dismantled by GAC and disposed of as excess components through approved routine disposal procedures.

SERIAL NO.	USE	LOCATION
001	JSC quarantine facility checkout.	Salvaged.
002	Astronaut quarantine - storage.	Transferred to a contagious disease center, Atlanta, GA.
003	Backup quarantine facility - storage.	Transferred to the Smithsonian 11/74. On display at MSFC.
004	Quarantine facility - storage.	Transferred to the Smithsonian.

ACE STATIONS

ACE - S/C STATION	USE	LOCATION
JSC 1	SESL Thermal Vacuum Test Support.	Bldg. 32, JSC. D. G. Billingsley is responsible.
JSC 2	SESL Thermal Vacuum Test Support.	Bldg. 32, JSC. D. G. Billingsley is responsible.
PD 1	Orbiter checkout.	Located at Palmdale. A. E. Lightsey is responsible.
PD 2	Orbiter checkout/ Computer Room only.	Located at Palmdale. A. E. Lightsey is responsible.
PD 3	Orbiter checkout.	Located at Rockwell/Palmdale. A. E. Lightsey is responsible.
DACS 1	SESL Thermal Vacuum Test Support.	Bldg. 32A, JSC. (Fabricated from GAC 1 and 2.) A. E. Lightsey is responsible.
KSC 1	Ready storage.	KSC MSOB. A. E. Lightsey is responsible.
KSC 2	Ready storage.	KSC MSOB. A. E. Lightsey is responsible.
KSC 3	Ready storage.	KSC MSOB. A. E. Lightsey is responsible.
KSC 4	Ready storage.	KSC MSOB. A. E. Lightsey is responsible.
KSC 5	Ready storage.	KSC MSOB. A. E. Lightsey is responsible.

