Where Are They Now?

Where in the world are they (LRD test vehicles) now? - actually all over the U.S. The best locator source is the online "Field Guide to American Spacecraft" (http://www.americanspacecraft.com/). The LRD roll call is Gemini Static Article 5 (SA-5) and Apollo Boilerplate 25 (BP-25), BP-1101/1101A, BP-1102/1102A, BP-29, BP-1200's, Command Module 007/007A (CM-007/007A). SA and CM are non-flight ground test vehicles manufactured by the prime contractor with flight spacecraft primary structure and outfitted with systems only to the extent needed for testing. BP is a non-functional shell spacecraft built with the same basic size, load, and handling characteristics as a flight spacecraft for ground tests and outfitted with systems to the extent needed for testing.

Gemini SA-5 (Photo #1 THEN) is missing in action as far as today's location but probably scrapped or in a private collection since Air & Space has several interior artifacts acquired in 1970 from NASA (http://www.nasm.si.edu/collections/result.cfm?qp=static+gemini+static). SA-5 was manufactured at McDonnell in St. Louis MO. LRD used SA-5 for the Gemini manned 36-hour postlanding systems qualification test conducted in the Gulf of Mexico with an astronaut crew (Jim Lovell and Alan Bean) on September 30 & October 1, 1964. It was also used as the astronaut water crew egress trainer for the Gemini crews.

Apollo BP-25 (Photo #2 THEN, Photo #3 NOW) is currently located at the Pate Museum of Transportation in Fort Worth TX (http://web.mac.com/jimgerard/AFGAS/pages/address/n-s/pate.html). BP-25 was manufactured by North American Aviation and used in drop tests at Downey CA before coming to NASA-Houston. LRD used BP-25 in a static water tank for initial flotation collar tests, Block I static stability measurement, and Block I uprighting tests. BP-25 is Smithsonian National Air & Space Museum Collection Object No. A19750737000.

Apollo BP-1101/1101A (Photo #4 THEN, Photo #5 NOW) is currently located at the Wings Over the Rockies Air & Space Museum in Denver CO (http://web.mac.com/jimgerard/AFGAS/pages/address/t-z/wor.html). BP-1101/1101A was designed in-house MSC, manufactured by Air Material Command at Kelly AFB in San Antonio TX, and outfitted for testing by NASA-MSC Technical Services Division. LRD used BP-1101/1101A for Block I/II flotation collar and uprighting system development tests. BP-1101/1101A is Smithsonian National Air & Space Museum Collection Object No. A19760054000.

Apollo BP-1102/1102A (Photo #6 THEN, Photo #7 NOW) is currently located at the Smithsonian National Air & Space Museum Stephen F. Udvar-Hazy Center in Chantilly VA (http://www.nasm.si.edu/collections/artifact.cfm?id=A19800160000). BP-1102/1102A was designed in-house MSC, manufactured by Air Material Command at Kelly AFB in San Antonio TX, and outfitted for testing by NASA-MSC Technical Services Division. LRD used BP-1102/1102A for Block I/II water egress procedures development and astronaut water crew egress trainer for Apollo, Skylab, and ASTP astronaut crews. BP-1102/1102A is Smithsonian National Air & Space Museum Collection Object No. A19800160000.

Apollo BP-29 (Photo #8 THEN, Photo #9 NOW) is currently located at Meteor Crater AZ (http://web.mac.com/jimgerard/AFGAS/pages/address/g-m/meteor.html). BP-29 was manufactured by North American Aviation in Downey CA. LRD used BP-29 for Block I static stability measurement and unmanned Block I postlanding systems qualification conducted in the Gulf of Mexico. BP-29 is Smithsonian National Air & Space Museum Collection Object No. A19780201000.

Apollo BP-1202 (Photo #10 THEN, Photo #11 NOW) is an example of the 1200 Series Apollo Boilerplate and is currently located at the Air Force Space Museum at Cape Canaveral Air Force Station FL in Hangar R (http://web.mac.com/jimgerard/AFGAS/pages/apollo/bp-cc.html), which also has a Mercury and Gemini boilerplate. BP-1202 was used at KSC for launch site recovery team training. The 1200 Series Apollo Boilerplates were designed in-house MSC, manufactured at Ace Fabricators in Clute, Texas, and used by DoD around the world for training. They were fabricated of low-carbon steel, sand blasted, and coated with "Dimetcote," an inorganic zinc primer for corrosion control before they were painted. Of the approximately 30 BP-1200's built, there were a small number (<10) initially built in Block I configuration before being converted to Block II configuration. Although several BP-1200's were salvaged, there are still several around the U.S. in various locations. One was sunk by the Navy in 1967 as a hazard to navigation after it broke loose from a towline and could not be retrieved. Another loose Boilerplate, BP-1227, was retrieved by the Russians and subsequently returned to U.S.A. in September 1970.

Apollo CM-007/007A (Photo #12 THEN, Photo #13 NOW) is currently located at Museum of Flight in Seattle WA (http://web.mac.com/jimgerard/AFGAS/pages/address/g-m/museflt.html). CM-007 (Block I) was manufactured at North American Aviation in Downey CA and outfitted with postlanding systems. LRD used CM-007 for Block I manned 48-hour postlanding systems qualification tests conducted in the

Gulf of Mexico. CM-007 was returned to North American Aviation for modification to CM-007A (Block II) before returning to MSC for a repeat of the qualification test. CM-007A was also used in extreme habitability tests in hot/humid and cold environments to support Skylab postlanding requirements. After transfer from NASA, CM-007A was extensively refurbished/restored by Spaceworks in Hutchinson KS for museum static display purposes.

So in your travels please stop by and pay a friendly visit to the old LRD test vehicles.

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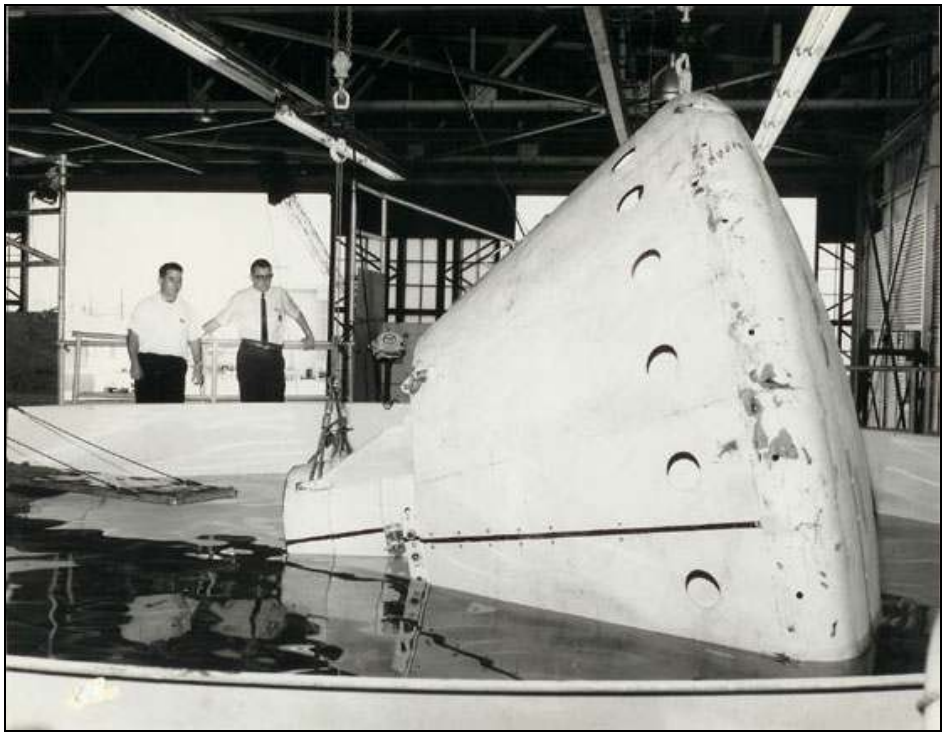
1. **THEN**: Gemini Static Article 5 with Gemini-III prime astronaut crew, Grissom and Young, during static water egress training on February 5, 1965, in water tank at Ellington AFB Hangar-135 (Photo Credit: NASA) (**NOW**: SA-5 missing in action)



2. **THEN**: Apollo BP-25 during static stability measurement in water tank test at Ellington AFB Hangar-135 in October 1964 (Photo Credit: NASA S-64-26778)

3. **NOW**: Apollo BP-25 at Pate Museum of Transportation in Fort Worth, TX in July 2000 (Photo Credit: Sven Knudsen from *A Field Guide to American Spacecraft* website)

4. **THEN**: BP-1101 with flotation collar installed/inflated during early Apollo flotation collar test in Gulf of Mexico in April 1965 (Photo Credit: Coye Mac Jones)

5. **NOW**: BP-1101A at the Wings Over The Rockies Air & Space Museum in Denver (Photo Credit: Jurg Bolli from *A Field Guide to American Spacecraft* website)

6. **THEN**: BP-1102A with Apollo 11 prime astronaut crew, Armstrong, Aldrin, Collins, and rescue swimmer in BIG suits during open water egress training in Gulf of Mexico on May 24, 1969 (Photo Credit: NASA S69-34881)

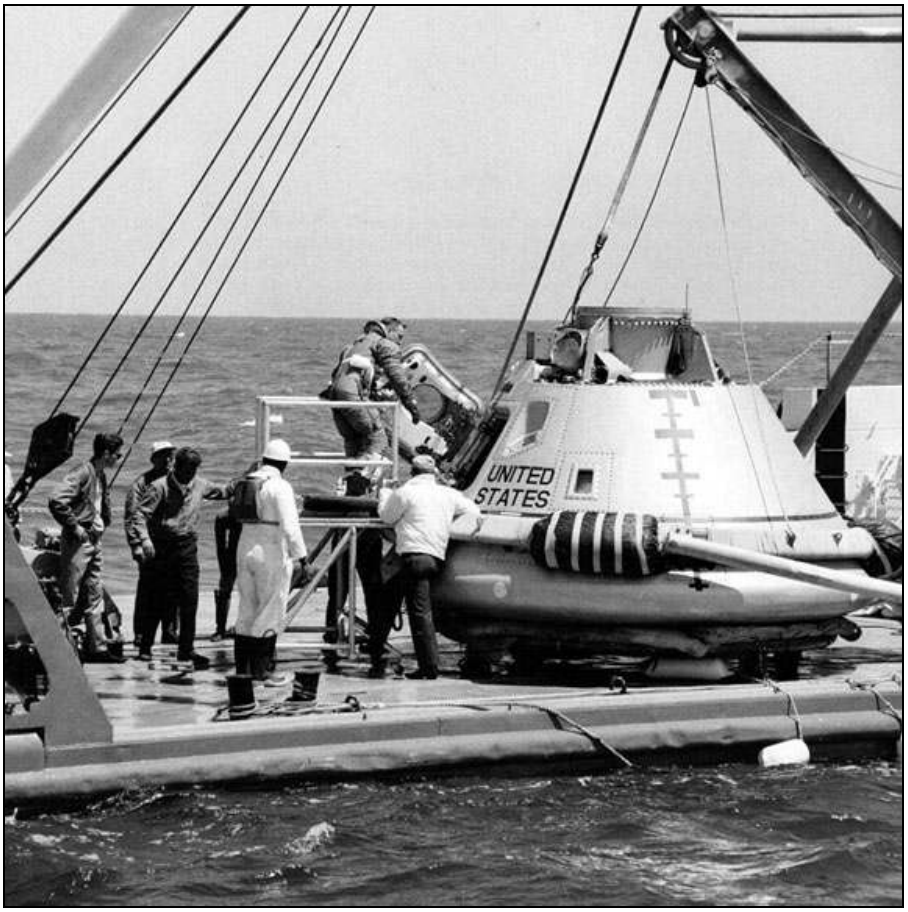
7. **NOW**: BP-1102A on display at the NASM Stephen F. Udvar-Hazy Center in Chantilly, Virginia (Photo Credit: NASM)

8. **THEN**: BP-29 during open water tests from the MV Retriever in Gulf of Mexico on February 21, 1968 (Photo Credit: NASA S-68-23154)

9. **NOW**: BP-29 on display at Meteor Crater, Arizona (Photo Credit: Beth White from *A Field Guide to American Spacecraft* website)

10. **THEN**: BP-1200 during DoD recovery training in Atlantic Ocean on February 22, 1966, for upcoming AS-201 mission (Photo Credit: NASA S66-22690)

11. **NOW**: BP-1225 on display at UDT-SEAL Museum in Fort Pierce, Florida (Photo Credit: Jim Gerard from *A Field Guide to American Spacecraft* website)



12. **THEN**: CM-007A onboard MV Retriever for Apollo Block II postlanding systems test in Gulf of Mexico on April 5, 1968 (Photo Credit: NASA S-68-31882)

13. **NOW**: CM-007A on display at Museum of Flight in Seattle, Washington (Photo Credit: Jim Gerard from *A Field Guide to American Spacecraft* website)