

Launch Facility Walk-Through

Entry into the launch facility has already been covered in the missile maintenance training story. Once on Launcher Equipment Room Level 1, turning left from the B-plug on the left you would see the collimator bench. On the right is the diving board opening into the launch tube (normally closed) and about 3 ft further the umbilical retract mechanism mounted to the outside of the launch tube wall—about shoulder height.

Next is a shallow, long box mounted on the wall that has environmental control system (ECS) controls and fault detection devices. At this time the ECS had pneudraulic controls with control air supplied by an air compressor in the support building.

Continuing counter-clockwise you encounter the top of the ballistic gas generator assembly that opens the launcher closure. It is a metal shaft about 6 in in diameter coming out of the floor up to a set of pulleys that have the cables that pull the launch closure door open as the shaft and pulleys are pushed down when the ballistic actuators fire.

Past the door actuator on the left are two insulated 150-gallon tanks that hold chilled chromate (water and sodium chromate) stacked vertically, but the tank long axis is horizontal. Nothing on the right.

Next is a small hinged floor plate that bridges the gap between the fixed floor and the suspended floor. Immediately on the suspended floor is the Distribution box (D-box.) On the right side of the D-box is the Voice Reporting Signal Annunciator (VRSA) unit which can be queried by the LCC crew to get voice announcements about active faults. Nothing on the right.

Next is the guidance and control cooler rack that cools the chromate solution to keep the guidance set at the proper temperature. It has a 60 HZ powered chiller unit in the upper part of the equipment rack and with an amplifier (control circuits) and pumping unit below that. It is all connected with hoses ending in quick disconnects. Nothing on the right.

Next on the left is the guidance coupler equipment rack with a set of illuminated pushbuttons about mid-height and three drawers: the guidance coupler (communications with the guidance set), the ordnance control drawer (ordnance monitor/test circuits and ordnance drivers to fire ordnance) and the power supply drawer (3 phase 400 HZ to plus and minus 5 vdc-the coupler was made by Autonetics/Rockwell and used odd logic levels. Nothing on the right.

Next is the Sensitive Command Message Power Group which has five drawers.

Next is the Programmer Group which monitored fault loops in the site to detect malfunctions. It also had circuitry used to sequence some tests and terminal countdown. It had six drawers with the bottom being the power supply drawer taking 400 HZ 3phase and making power for the rack. The top drawer had a cavity and combination door for the Ground Command Signal Decoder (G-CSD) which was used as a safety device preventing accidental launch. The other drawers did the monitoring and sequencing functions. Nothing on the right.

Next was the UHF receiver and battery charger for the emergency batteries. The UHF receiver was in the top position while the battery charger occupied the lower two drawer slots. Three drawer slots were blank. Nothing on the right

Next is the security rack with the Inner Zone and Outer Zone drawers in the top two positions. The rest of the rack was empty. The security drawers used 28 vdc from the power supply rack. Nothing on the right.

Next is the power supply rack consisting of two power supply drawers and two panels with circuit breakers. One power supply drawer makes 28 vdc for the guidance set (guidance also used 400 HZ power) and the second drawer makes 28 vdc for assorted other functions (included the G&C cooler pump and amplifier). Nothing on the right.

Next was the site Interconnection box which sorted out all external data connections to the site with a tailoring plug. The tailoring plug was site unique. It routed incoming data to the correct circuits and also ensured that unused circuits were isolated. The interior was a bunch of terminal strips with wire bundles running to them. On the right was the alternate Personnel Access Hatch hydraulic control panel. With it you could start/stop the hydraulic unit in the support building and apply hydraulic power to open or close the PAH. It was primarily used during security system checkout/calibration when the topside needed to be in an operational configuration (PAH closed).

There was a hatch in the floor that you stepped across when leaving the top of the B-plug. It provided access to a metal ladder to descend to Launcher Equipment Room Level 2. Turning left at the bottom of the ladder you see the air conditioning air handling unit for chilled air. Nothing on the right.

Next on the left is an air storage tank for the ECS controls. It is about 4 ft long, 18 inches in diameter with the long axis vertical.

Next is the Electrical Surge Arrestor vault. A big silver box that goes floor to ceiling and is the point all circuits enter or exit the launcher. All circuits have electrical spike protection devices on them.

Next on the left is the circuit breaker panel for the launcher. All external power enters and is distributed here. It extends from floor to ceiling and has a locking bar across the front of the box—no lock, just bolts to secure.

Sitting in front of the circuit breaker box (it is labeled LDB-launch distribution box) is the launch tube heater control box. It supplies the launch tube heater above it and a duct runs from the heater to the launch tube wall. Inside the launch tube there is a metal duct that runs down to below the missile support ring on the suspension system.

Past the heater gear, large cables extend from the bottom of the D-box through a hole in launch tube wall down to the lower umbilical.

Past the cables are the emergency batteries. In Force Mod (and before) they sat on the LER2 floor close to the outer wall. For Force Mod, the batteries were in two sets. Set 1, two batteries, only powered the missile during launch and missile test. Set 2 was 10/12 batteries (pre/post CDB) that powered the motor generator when primary power (commercial or standby diesel) wasn't available.

This brings us back to the B-plug and its actuator that sits in the LER 2 when retracted. It raises with a gigantic worm screw and collars.