

# Missiles and Spaceflight

## BILLION-DOLLAR DIARY

### A Further Record of US Military Firings

LISTED below are the most significant launchings of American military missiles, test vehicles and satellites which took place in the second half of 1963. In the case of Atlas, Minuteman, Nike Zeus, Pershing, Polaris A3, Titan I, and Titan II every effort has been made to ensure that the record is complete, and no gaps are known to exist in the lists as presented. In the case of the other weapons only particularly interesting or significant shots are included. These records cover the period since last August 1, when this journal's first such log was published. Abbreviations are: ABRES, advanced ballistic re-entry systems; AFSC, Air Force Systems Command; AMR, Atlantic Missile Range; B, Blanding, Black Mesa, Utah; Cape, Cape Kennedy (formerly Cape Canaveral), Florida; c.e.p., circular-error probability; DoD, Department of Defense; FB, Fort Bliss, Hueco Range, Texas; FW, Fort Wingate, New Mexico; GSE, ground support equipment; PMR, Pacific Missile Range; R&D, research and development; SAC, Strategic Air Command; SMS, Strategic Missile Squadron; TAC, Tactical Air Command; USS, United States Ship; VAFB, Vandenberg Air Force Base, Calif; WSMR, White Sands Missile Range, New Mexico.

### Atlas

- July 3 VAFB, missile sub-type not disclosed, success.
- July 26 VAFB, Atlas D, SAC routine training, result not disclosed.
- July 30 VAFB, SAC launch of Atlas E with "advanced guidance system," R&D flight exceeding 7,000 miles, success.
- July 31 VAFB, missile sub-type not disclosed, 7,000 miles, success. (This may be a mis-dated report of the July 30 firing.)
- August 24 VAFB, SAC launch, no further details.
- August 28 VAFB, SAC launch, no further details.
- September 6 VAFB, SAC routine training launch, no further details.
- September 9 VAFB, SAC launch, no further details (but probably failure, see October 28).
- September 11 VAFB, SAC launch, no further details (but probably failure, see October 28).
- September 25 VAFB, SAC routine training, launch crew from 548 SMS at Forbes AFB, Topeka (probably Atlas E). Result not disclosed, but probably failure (see October 28).
- October 3 VAFB, Atlas F exploded on surface above silo during countdown by Ballistic Missiles Division.
- October 7 VAFB, Atlas D exploded soon after SAC launch (heard for over 100 miles); cause not announced.
- October 28 Cape, night launch of Atlas F which successfully jettisoned booster and then tumbled end-over-end and triggered self-destruct. Sixth consecutive failure (Congressional inquiry ordered as a result).
- November 4 VAFB, first ABRES (advanced ballistic re-entry system) test from this location; Atlas F used, as in previous firings in this programme from Cape.
- November 13 VAFB, Atlas D on 5,000-mile SAC firing, success.
- December 11 VAFB, no further details.
- December 18 VAFB: Atlas F routine SAC training, 5,000 miles, success; and Atlas D ABRES shot, 5,000 miles, success (the first ABRES firing using a D-type missile). These were believed to be the 197th and 198th Atlas firings.

### Blue Scout Jr

- July 30 Cape, 8,000-mile probe into ionosphere above F layer; USAF payload transmitted on 2.4 and 4Mc/s, using 30ft aerials.
- September 27 VAFB, undisclosed USAF payload (not placed in orbit).

### Mace

- June 5 Cape, TAC training mission, success.
- June 12 Cape, TAC crew's graduation launch, success.
- June 27 Cape, TAC training mission, success.
- July 18 Cape, launch by 4050th Missile Training Wing (Orlando, Florida), complete success. This was the 44th Mace firing.

### Minuteman

- July 1 Cape, Wing 2 missile, R&D silo launch, Avco Mk 11 re-entry vehicle and Mistran (missile trajectory measurement) package tracked actively at Valkaria, Fla, and passively down-range at Eleuthera, success. This was the 46th Minuteman launch, and the 36th at the Cape.
- July 5 VAFB, missile type not disclosed, Strategic Air Command silo launch; result not disclosed, but launch "provided data for evaluation of missile subsystems and validated improvements in components of the operational missile."
- July 11 VAFB, missile type not disclosed, approximately 5,000 miles, success.
- July 16 Cape, Wing 2 missile, R&D silo launch at about 0200hr EST, missile exploded 5sec after clearing top of silo and sprayed Cape with flaming fragments.
- July 24 Cape, Wing 2 missile, R&D silo launch at night, approximately 2,000 miles in test of short-range guidance, success.
- July 27 VAFB, missile type not disclosed, late evening firing over 5,000 miles, success.

August 5 Cape, Wing 2 missile, R&D silo launch, fell short of target due to undisclosed malfunction, partial.

- August 8 VAFB, SAC training launch, success (12th out of 14 at VAFB).
- August 27 Cape, Wing 2 missile, R&D silo launch by 6555th Aerospace Test Wing; impacted as planned some 2,300 miles short of 6,325-mile limit, success.
- August 29 VAFB, SAC firing over 5,000 miles, success.
- August 30 VAFB, SAC firing over approximately 5,000 miles, success.
- September 26 VAFB, success (no further details).
- October 17 VAFB, SAC night firing from operational training silo, success.
- October 31 VAFB, SAC routine training launch, success.
- November 1 VAFB, no further details.
- November 7 Cape, missile exploded shortly after emerging from R&D silo and fragments started several fires; night launching to test guidance accuracy on 1,700-mile flight.

*This fine study of an early Atlas Agena lifting off with a US Air Force satellite payload gives an indication of the type of launch frequently seen at Point Arguello, Calif. Unfortunately no recent photographs of military satellite firings have been released*

