

D.4.2 Titan Failure Narratives

The following narratives provide available details about each Titan failure since the beginning of the Titan I program in 1959. The narratives are numbered to match the flight-sequence numbers in Section D.4.1.

7. B-5, 14 Aug 59, Response Mode 1, Flight Phase 1: Umbilicals were prematurely pulled from missile resulting in engine shutdown and impact on pad.
8. C-3, 12 Dec 59, Response Mode 1, Flight Phase 1: Missile destroyed itself just before liftoff.
10. C-4, 5 Feb 60, Response Mode 4T, Flight Phase 1: While pitch program was in progress, a structural failure occurred in transition section. Nose cone broke off, and missile lost aerodynamic stability. Shortly after, an explosion and fire destroyed the missile.
12. C-1, 8 Mar 60, Response Mode 4, Flight Phase 2: Failure of gas-generator valve to open prevented Stage-II ignition.
13. G-5, 22 Mar 60, Response Mode 4, Flight Phase 2.5: Premature shut down of vernier engines resulted in impact 38 miles short of target.
14. C-5, 8 Apr 60, Response Mode 4, Flight Phase 2: Although Stage-I performance was low, Stage II successfully separated and ignited. All data were lost about 50 seconds later, apparently due to malfunction of Stage II turbopump.
20. J-2, 1 Jul 60, Response Mode 2, Flight Phase 1: Shortly after launch, hydraulic power to engine actuators was lost so control could not be maintained. The missile veered northwest and pitched down (Flight azimuth was 105.97°). Missile was destroyed by RSO 11 seconds after liftoff.
21. J-4, 28 July 60, Response Mode 4, Flight Phase 1: Stage I thrusting flight was terminated prematurely at 101 seconds (Nominal, 136 seconds). Stage II engine did not start, apparently because the auxiliary turbopumps did not receive sufficient head pressure to effect a successful start.
22. J-7, 10 Aug 60, Response Mode 4, Flight Phase 2: Stage II engine shutdown 0.17 seconds early and solo vernier operation did not occur. Impact was 107 miles short of target.
25. G-8, 29 Sep 60, Response Mode 4, Flight Phase 1: Stage I shut down prematurely when a low-level sensor malfunctioned and ceased to be locked out. Stage II performed properly but shutdown prematurely due to propellant depletion. The impact was some 3600 miles short of the 8700-mile target point.