JOINT TEST ASSEMBLY FLIGHT TESTS

WHY CONDUCT FLIGHT TESTS?

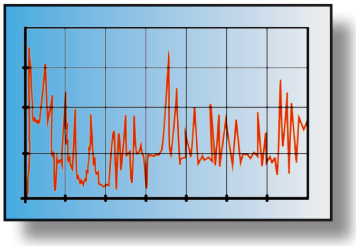
The primary objective of flight testing the nuclear deterrent is to obtain, under operationally representative conditions, data on reliability, accuracy and performance data. Flight testing is an ongoing element of stockpile weapon system surveillance and the qualification process of alterations and Life Extension Programs for weapon systems. Joint Test Assembly Flight testing is performed without nuclear explosive package jointly by the applicable Department of Defense military service and NNSA.

WHY ARE FLIGHT TESTS IMPORTANT?

Joint flight testing is one of the most important data sources used to support assessment of the nuclear weapon stockpile. It provides a unique opportunity to assess the system in a realistic environment that cannot be duplicated by a virtual test. Flight testing is the most comprehensive and realistic test of both functional and operational aspects of the combined Department of Defense-NNSA weapon system. It demonstrates the United States' ability to maintain a strong, credible nuclear deterrent vital to the national security of the U.S. and its allies and partners.

WHAT HAPPENS DURING A FLIGHT TEST?

Telemetric monitoring equipment transmits data during flight trajectories enabling design and development teams to assess in-flight functionality and support ongoing development efforts. Data is collected throughout launch, flight, and reentry. Time of flight of the system varies based on the speed and altitude of the release and the selected delivery option.



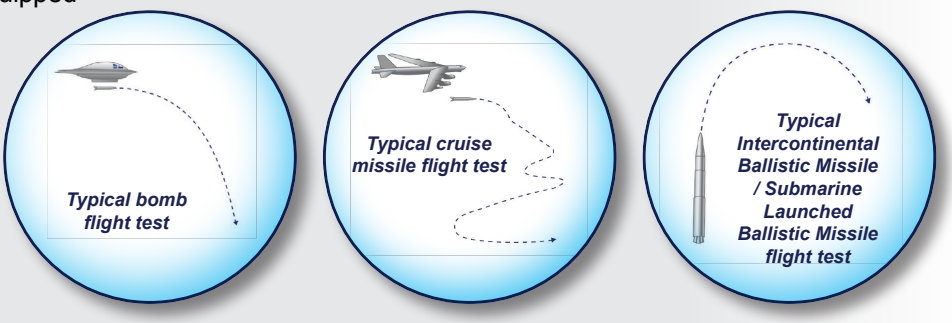
WHAT KINDS OF FLIGHT TESTS ARE THERE?

Stockpile flight tests use Department of Defense operational hardware, personnel, and procedures to the greatest extent possible within safety constraints. NNSA's flight test units, called Joint Test Assemblies, are non-nuclear assemblies incapable of producing nuclear yield. Two types of Joint Test Assemblies are used: instrumented and high-fidelity.

- Instrumented Joint Test Assemblies are equipped with a telemetry system to collect test data on performance.
- High-Fidelity Joint Test Assemblies validate fact-of-function – or that the systems will work as intended.

Tests are conducted in support of all three legs of the nuclear triad:

1. Bomber aircraft carrying bombs or nuclear variants of cruise missiles.
2. Land-based Intercontinental Ballistic Missiles.
3. Submarine Launched Ballistic Missile.



NNSA is a semi-autonomous agency within the U.S. Department of Energy responsible for enhancing national security through the military application of nuclear science.