


CUSTOM FABRICATION



The machine shop supports a variety of work, including custom modifications.

The Nevada National Security Site (NNSS) provides a one-stop-shop for custom precision machine fabrication, dimensional inspection, precision welding, assembly, and performance of acceptance testing for classified and unclassified components. These services support the broad spectrum of National Nuclear Security Administration (NNSA) missions.

The NNSS has been recognized by the NNSA and Department of Defense for fabricating and inspecting numerous classified and unclassified parts to support the U.S. nuclear stockpile and training components for the Weapon Surety Program.

Machine Shop Capabilities

The machine shop includes machinists, inspectors, and welders to help sponsors with quick turnarounds during experimental setup. Capabilities include:

- Custom hardware
- Waterjet cutting machine
- Plasma cutting machine
- Computer numerical control (CNC) machines
- Part marking – laser etching and machine engraving
- Coordinate measuring machine (CMM) inspection
- Creo CAM and MasterCAM software programming
- Manual machines
- Ability to transfer models/programming from classified workstations to CNC machines
- Packing, shipping, and receiving



Custom Machine Fabrication

Machine fabrication is the art of bending, punching, cutting, and creating objects and parts from raw materials. NNSS machinists can fabricate custom parts and structures onsite from simple brackets to complex primary target chambers (PTCs). Parts can be fabricated to extremely tight tolerances or to custom precision instruments. Our team prides itself on exercising absolute attention to detail when creating components for the PTCs and other parts from design specifications.

With the addition of a new waterjet cutting machine, NNSS machinists are now able to deliver products to customers across the Site and the Department of Energy complex more quickly and efficiently. The waterjet cutting machine, which uses water and sand to pierce, cut shapes and put holes in metal, expands the machine shop's capability to meet current customer needs and to bring in new projects.

Dimensional Inspection

Inspectors test parts and machines for conformance to specifications and dimensions. NNSS inspectors use direct computer-controlled coordinated measuring, calibrated measurement data, and reverse engineering. Our equipment adheres to National Institute of Standards and Technology specifications for maintenance and calibration.

Precision Welding

Precision welding is typically used for small parts, parts with tight dimensional tolerances, or parts that barely show a visible line weld. Dimensional tolerances for the location of the weld typically range less than 0.008 inch for the weld line and depth of the weld. NNSS welders are experts at working within these tight tolerances and are certified by the NNSS Weld Engineering Department.

NNSS' commitment to our sponsors is to be the best-in-class custom machine fabricator for national security. Our hands-on team is dedicated to providing a quality service and consistently delivers increased value and outstanding results to our sponsors.