

Hardware Processing facts

Flight & Critical Hardware Processing

White Sands Test Facility (WSTF) Flight and Critical Hardware Processing employs a small team of highly skilled engineers and technicians with almost 500 years of combined technical expertise in the processing, development, and qualification of flight hardware. Program-qualified personnel have hands-on experience in flight hardware processing (decontamination, failure analysis, disassembly, reassembly, repair, and acceptance testing) ranging from Space Shuttle and International Space Station (ISS), to other commercial vendor hardware. The team has expertise in mono and hypergolic propellant & oxygen systems, and test system design, fabrication, and operation. Personnel are experienced and trained in Project Management and in the development of detailed processing and test procedures. The facility capabilities are listed below.

Clean Room, Test & Assembly Areas, & Special Equipment

- Two Class 100 & six Class 10,000 clean rooms (hard & soft wall)
 - Ranging from 100 to 600 ft²
 - Various inert gas (gaseous nitrogen – GN₂, gaseous helium - GHe) & fluid test systems (deionized water, HFE-7100) available
- Six Class 100 flow bench work areas
- Borescope inspection equipment with digital recording capability

Fabrication & Assembly Area (Test Articles, Servicing Equipment, Test Panels)

- High-bay shop area - 1500 ft² with 20-ft W x 45-ft H access door & overall work height
- Shop-air, breathing air, GN₂, GHe, and deionized water supplies available
- 15-ton overhead bridge crane
- Tubing systems and test panel fabrication equipment, including a CNC precision tube bending machine

Component/Test Article Decontamination Areas

- Two laboratory fume extraction hoods (one for fuel propellant & one for oxidizer propellant contaminated hardware)
- Class 10,000 decontamination clean room with fume extractor system for fuel & oxidizer propellant contaminated hardware
- Heated GN₂ purge/drying system
- Portable deionized water pump/circulation system
- Portable process water catch/pump transfer system

Flight Hardware Parts & Component Fabrication/Manufacturing

- Certified to manufacture flight hardware by NASA Shuttle and ISS Programs
- Machining & welding
- Cable/wire harness fabrication

Bonded Storage Facility

- Procedures & systems in place for the controlled storage of critical hardware

