

Large or small, AEDC's Model Shop gets the job done right

By Philip Lorenz III
AEDC Public Affairs

AEDC's Model Shop provides critical support to aerospace ground simulation testing through the fabrication and modification of testing components, supporting structures as well as components of the center's infrastructure – all of which are essential to fulfilling the testing mission of the base.

"The range of work done at the Model Shop covers a broad spectrum of core capabilities to support the test cell and plant operations at AEDC," explained Roger Kraft, ATA supervisor for the model machine shop.

Mr. Kraft, who also holds the title of section manager of the maintenance and support section of the Model Shop, which is supervised by Robert Sotherland, elaborated on what is done at the shop, saying, "The type of jobs may include a complete 'lock and key' model for test simulation, a component, or a fixture to hold another component for a test. We repair parts from (blue) prints or

from old broken parts that support plant operations. We also design changes to piping, vessels or rigid structural support systems."

Mr. Kraft is quick to point out the team effort required to get the mission accomplished at AEDC.

"None of the craftsmen at the Model Shop work in a vacuum," he added. "Machine and fabrication craftsmen combine their efforts with the folks in design, work control, safety, health, quality control and environmental to ensure we (all) follow best (industry) practices, ensure safety awareness, and strive to meet customer satisfaction."

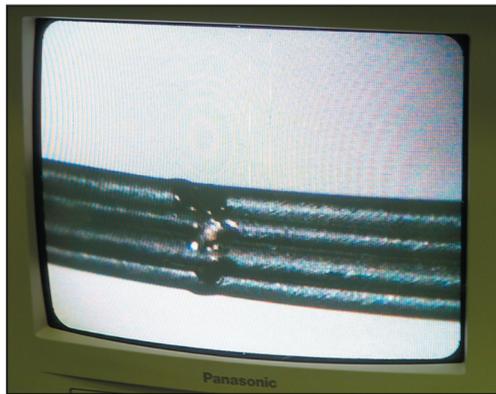
According to Mr. Kraft, approximately 90 craft employees comprise the shop's staff, including 26 machinists and an assortment of pipe fitters, boilermakers, iron workers and other specialists.

He further emphasized, "We not only get items before a test, but also during testing, as well as emergency work during various phases of testing. Basically, if our doors aren't open, testing probably won't get done."



The base's Model Machine and Fabrication Shop is a one-stop complex for handling the array of machining and fabrication jobs required by the center's customers. At one time each testing facility on base had a corresponding model shop, but later consolidation changes in 1989 brought everything together into the present complex.

Benny Todd, below, ATA machinist, does laser micro-welding on a three thousands-of-an-inch thick steel tube forming part of a small probe for measuring plume temperatures during testing at the Aerodynamic and Propulsion Testing facility. The highly magnified image is displayed on a television monitor, right inset, enabling him to do the welding required for such intricate work. Water runs through the tiny tubes making up the inside of the probe, preventing the intense heat from destroying the fragile sensor.



Norman Smith, left, machinist, works a manual lathe in processing sabots for the center's G-Range.



Jon Noeth, ATA machinist and inspector, operates a coordinate measurement machine at the inspections branch at the Model Machining and Fabrication Shop facility.



Michael Cowan operates a variable jig bandsaw at the Model Machining and Fabrication Shop.



Bob Williams, ATA machinist, left, and Roger Kraft, ATA section manager for the Model Shop, and examine a 109-inch diameter flange to be used in ducting at the Large Rocket Facility, J-1. The flange was fabricated on a large lathe, once used for work on Army tanks.



Tim Brown, left, and Darrin Perry, ATA boilermakers, fabricate an exhaust duct for H3 (heater arc testing facility).



Billy Emberton, ATA pipefitter, files off spurs from welding on a section of pipe.



David Taylor, ATA machinist, operates a three-axis computerized numerically controlled horizontal mill.



AEDC's Model Machining and Fabrication Shop is designed to handle jobs ranging in size from the microscopic to the large industrial demands of the center's various customers.

Layout by Philip Lorenz III and photos by David Housch