

## General Project 13— Tiny Turbine Engine/Andy Paul

Twenty-six year old Andy Paul is fairly new to machining having owned his Sherline CNC setup only a year and a half before this project was built, but he jumped in with both feet, learning to use a Flashcut CNC system and Sherline tools at the same time. He didn't take on an easy project either. As you can see from the photos below, his turbine engine is both small and well made.

Besides his Sherline 4400 lathe, 2000 mill and rotary table, Andy's shop also includes a small metal cutting bandsaw, a home built spot welder, small drill press, a small slip roll, air compressor and blasting cabinet and a Dremel tool. Before buying these machines he had no knowledge of machining or CNC programming. He also purchased BobCAD/CAM which helped out immensely due to its simplicity. Andy says, "I had started out making parts of aluminum parts for R/C cars which became boring very fast. I wanted to make something dynamic that functioned on its own. I had no idea what I was in for! I slowly gathered or made many of the tools that would be necessary to build the engine. Things progressed from a crude looking, silly thing that only shot out big loads of flames, to the jet engine that I have now. Much of this time was just spent thinking or project, and researching the materials selection/procurement in small quantities (hard to do)."

Andy is currently working on the wax molds for the turbine wheel and the Nozzle guide vane. The entire engine, including the molds and the fuel pump he designed were all built on the Sherline mill and lathe. He intends to release plans and a kit for the engine so that the average Sherline user will be able to make the engine. The kit will include any castings and CNC machined components that would be difficult or impossible for the average person to complete with simple tools, yet there will still be plenty of work left for the builder.

















