

Delphi Customer Technology Center Michigan Fabrication Shop

The Fabrication Shop at the Delphi Customer Technology Center Michigan (CTCM) is a versatile full service resource for the development of custom prototype parts, tooling and fixtures. The shop can also modify existing products for new applications.

The Delphi CTCM Fab Shop supports a wide array of automotive and non-automotive manufacturers and product designers with high quality and craftsmanship. Skilled and experienced technicians use equipment and processes that meet highest industry standards to deliver completed products quickly and at low cost. They can help reduce the customer's time-to-market and shrink product development costs. They work closely with customers and maintain firm confidentiality.

The Delphi CTCM Fab Shop offers exceptional flexibility to meet the needs of its customers. The shop can create almost any kind of finished product from a wide range of design software, including: UG, CATIA, PRO-E, Solid Works and more. Finished products can also be developed from engineering blueprints, reverse engineering and rough specification information.

► Capabilities

- Computerized Numeric Control (CNC) Mill:
 - Machines precision prototype parts, tooling and fixtures from computerized models and engineering drawings
 - Offers excellent flexibility and low cost for physical development
- Vertical Milling Machine:
 - Standard-of-the-industry equipment
 - Creates prototype parts, tooling and fixtures to precise specifications
 - Table size: 8 inches by 48 inches (0.203 meters x 1.219 meters)
 - Offers low cost and quick turn-around times
- Water Jet Cutting System:
 - A programmable numerically controlled machine
 - Produces a concentrated stream (0.0015 inches diameter) of a mixture of water and garnet abrasive at high pressure (30,000 psi)
 - Cuts complex shapes from a wide range of materials including aluminum, a variety of steels, plastic and rubber up to 8 inches thick with accuracy, precision and repeatability
 - Preferred for materials that are sensitive to high temperatures
 - Reduces production time to deliver significant cost savings for small volume component and prototype manufacturing
 - Considered a "green" technology since it produces no hazardous wastes and reduces dust, smoke, fumes and airborne contaminants



Computerized Numeric Control (CNC) Mill creates metal and plastic prototype parts from models or prints.



Vertical Milling Machine produces prototypes, tooling and fixtures to precise dimensions.

- Lathes:
 - Machine cylindrical parts
 - Capacity: 14 inches diameter by 60 inches length (0.335 meters by 1.524 meters)
 - Additional lathe for small, precise requirements
- Complementary Services
 - Surface grinding, I.D. and O.D. grinding, to meet tight tolerances
 - Tungsten inert gas (TIG) welding for fine welding requirements
 - Metal inert gas (MIG) welding provides fast, low cost work
 - Plasma cutting and acetylene torch cutting
 - Sheet metal work:
 - 48 inch (1.219 meters) break for bending metal
 - 48 inch (1.219 meters) shear for cutting
 - 36 inch (0.914 meters) slip roll for creating cylinders
 - CAD software includes Unigraphics
 - Paint booth
- Wire Electrical Discharge Machining (EDM)



The Delphi CTCM Fabrication Shop Lathes fashion cylindrical parts to customer specification.

▶ The Delphi Advantage

The Delphi Customer Technology Center Michigan supports hundreds of customers worldwide in the design, development, testing, and validation of their products. It is certified to the ISO/TS 16949 Standard for Automotive Supplier Quality Management Systems. It is a part of Delphi's network of state-of-the-art technical centers around the world.

Delphi is a leading global supplier of a broad range of technologies with manufacturing facilities located in more than 30 countries. Our products are engineered to meet the rigorous standards of the automotive industry, but Delphi technologies are also found in many other industries. We leverage our rich heritage and extensive technical knowledge to offer our customers an array of innovative, cost competitive solutions.



Water Jet Cutter offers low cost, precision cutting of complex shapes.

▶ Contact Information

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