

### Let DTI do the work for you

Many firms have found it faster and more convenient to have DTI manufacture their component parts as well as provide higher level assemblies and completed products, because of our ability to provide complete custom manufacturing and hardware assembly all in one place.

DTI's staff of skilled technicians are proficient with mechanical assembly techniques using spot welders,



and rivet and hardware insertion equipment that maybe required to assemble your product. Our Lumonics System 2000 Yag welder significantly improves welding consistency while increasing productivity and decreasing your overall costs.

In staying with our mission of providing complete manufacturing solutions, many other secondary operations such as tapping, deburring and machining operations can also be done.

The result is **complete**, economical assemblies, finished to your exacting specifications while delivering quality on time delivery.

# Hardware Assembly Services



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**DTI**  
Quality on Time

For over 20 years DTI has been providing custom manufacturing of metals, plastics, and composite parts to the Pacific Northwest.

DTI provides a wide range of hardware assembly and laser welding services. With a team of full-time engineers on staff, and an in-house product support system, DTI can provide almost all your hardware assembly needs. From single component parts to complete assembly of complex high tech components, our technicians are ready to work for you. It is DTI's goal for our customers to consider DTI as a single source for a wide range of manufacturing and assembly services.



Hardware assembly of printer chassis

Laser welding is a proven joining method for a variety of today's metals and metal alloys. Various grades of stainless steel, titanium, inconel, and super alloys have been successfully welded with the laser. Its precision, repeatability, and high process speeds, offer a unique alternative to TIG welding, EB welding, resistance welding, brazing, silver soldering, and adhesive bonding. The laser is particularly ideal for high production volumes associated with fully automated or semi-automated tooling applications.



YAG laser welder 400w Lumonics System 2000

Unlike many of the other joining processes, the overall size and depth-to-width ratio of the weld nugget can be custom tuned in laser welding. By adjusting various parameters such as the laser energy and focal point position, one can create weld ratios ranging from wide and shallow to narrow and deep. In most cases the part geometry dictates this ratio.

### Benefits

- Minimum part distortion - Due to small Heat Affected Zones (HAZ).
- Weld ability near heat sensitive components - Due to small (HAZ).
- Weld ability in otherwise hard to reach areas - Due to a non-contact operation.
- No secondary clean-up required - Due to the absence of filler metals.
- Repeatable weld placement - Due to the computer controlled process.
- Consistent weld depth and width control - Due to power output controls.
- Cost competitive - Due to minimum set-up time, low fixturing costs, and high feed rates.



- Examples of weldable metals
  - Stainless steel 302, 304, 316, 410
  - Carbon steel <.25% carbon content
  - Inconel 718
  - Cast alloy X, C, B
  - Titanium
- Examples of application sensitive materials
  - Stainless steel 303, most 400 series
  - Carbon steel >.25% carbon content
  - Other materials can be welded with lasers depending on thickness and metal

*Dedicated to meeting all your Assembly requirements,*

**Call us at 503.648.0936**  
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