# ESCP CORP. Certified 9001-2008

Custom Metal Fabrication Shop

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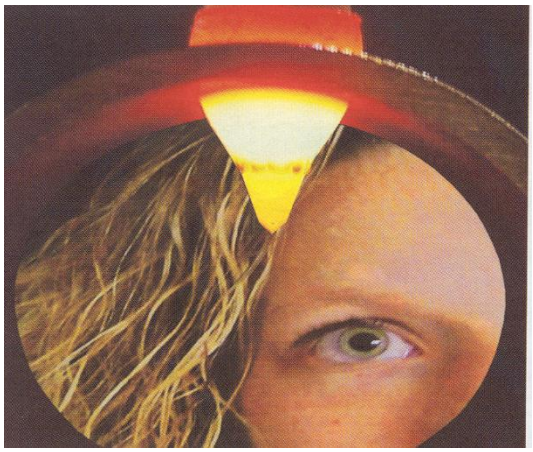
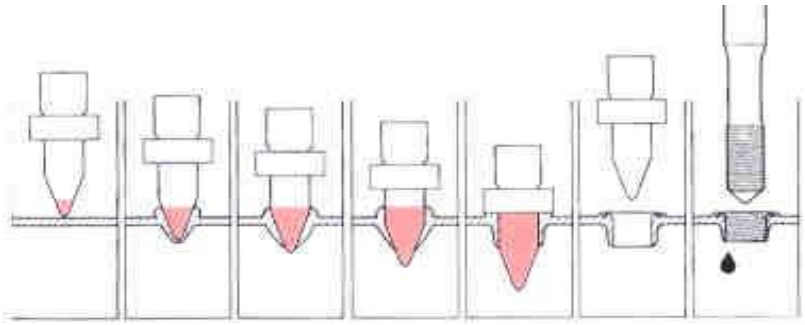
## FlowDrill and FlowTap SYSTEMS ENHANCE DRILLING AND TAPPING IN THIN WALL APPLICATIONS





The FlowDrill system is designed to provide a cost saving and problem solving method for the formation of malleable metals. The Flowdrill thermal friction drill uses a combination of the rotation speed and thrust pressure to locally heat the material, forming a bush in various thicknesses of metal.

Advantages of the system include:

- Consistently accurate hole sizes.
- Bush length approximately three times original thickness.
- Short cycle time of between two and six seconds, depending on the diameter and thickness of material.

Machines that are capable of utilizing the Flowdrill system range from standard drill presses to NC/CNC automated machine centers, with motor capacities between 1.5 kw and 3.0 kw and speeds from 1000 RPM to 3500 RPM. Friction drilling is designed for a range of materials including mild steel, stainless steel, copper, brass and aluminum. Flowdrill tools are available in sizes from 0.06” to 2” and can hold 0.0005” repeatability. Special sizes are available on request.

Also featured by the company is Flowtap, a cold-form tapping system used as a secondary operation, creating a chip-free thread in the bush. Flowtap is designed to increase the depth of threads formed in thin metal.

Advantages of cold-form tapping in conjunction with friction drilling are:

- Increased pull out strength of the formed thread as the process reforms the material in the bush, without cutting into the natural grain structure of the metal.
- Precise formation of the thread within the bush.
- Increased productivity, through high speed and long tool life.
- Chip-free process, therefore no waste to remove.
- Designed for most tapping machines.
- Suitable for all materials that can be friction drilled.

# Flowdrill

**Improves Quality & Saves Time and Money**

Flowdrill uses frictional heat to perforate and simultaneously form a bushing that can be used as a bearing sleeve, as a brazed joint or as a cost-effective replacement for welded or riveted nuts.
The automotive industry uses Flowdrill in various applications because it reduces labor costs, minimizes weight of materials and saves a lot of money

**Holes with or without Collar**

**Round Tubes**

**Rectangular Tubes**

**Rotational Support**