



Lone Star Tool, Die & Metalworks *A division of H&O Die Supply*

"Stamping Dies, Gages, Fixturing, 2 & 3 Axis CNC machining, Wire EDM, Grinding & Heat treat"

Quality Tooling for metal parts and assemblies, including blanked, formed and deep drawn stampings. We produce single hit dies, progressive, compound, & transfer dies. Materials processed can vary from coil, precut strips/blanks, structural metals and extrusions. We have worked with nearly all metals, mild steel, high strength steels, stainless, brass, copper, aluminum, precious metals such as silver & gold, plastics & polymers.

Whether your production consists of automotive, appliance, industrial, or ornamental parts, we can provide the tooling necessary. We have the expertise and capability, within our 29,000 sq. ft. facility, to design & build dedicated stamping tools for simple parts, to complex stampings and even associated tools & fixtures for stamped assemblies.

We design and build tooling in-house, to manufacture your specific production part, to your specifications. Tooling tolerances are held to a minimum, keeping dimensional part tolerance available for your manufacturing process. All possible work is done in-house, rather than outsourcing it like some competitors. This ensures us control over the entire process and maximizes our quality. We utilize state of the art computerized numeric control (CNC) machining centers for complex machining and utilize several wire electronic discharge machines (EDM), to electronically cut intricate shapes in tool steels with typical tolerances in the .0002" range (5 microns) and radii as small as .002". EDM cuts can range from extremely thin material up to 16" and finishes from rough cuts to near a mirror finish.

Our Tool and Die Process

We produce all of our tools, dies, gauges and fixtures to order, based on your part print specifications. Design work is done using Solidworks 3D CAD and we also utilize Logopress, a software add-on, specifically geared to stamped products. Reverse engineering when required, is done with various precision measuring tools, including an optical comparator and a state of the art Hexagon CMM. To facilitate the fabrication of your metal part, we **start** by developing the most efficient process available. After discussing the options with you, the tools are designed to produce the parts in the most efficient manner agreed upon. Production volume, raw material, complexity, finish requirements & datum structure are all contributing factors. Dies can be single hit operations, multiple hit hand transfers, progressive dies where multiple operations are performed simultaneously, or even complex mechanical transfer dies with integral 2 or 3 axis transfer systems. In most cases, the goal is to produce a finished product, start to finish, on one tool base. With our equipment and technical expertise, we have the capabilities to provide you the tooling to produce your finished part with efficiency and still maintain the highest accuracy & repeatability possible.

Durability and robust designs

No one makes a profit off of downtime. Whether we are designing a new die, refurbing an existing tool or making a replacement component for that goes into an existing process, we keep tool longevity in mind. Bulletproof is somewhat cliché, but we strive to design up front or make improvements, to make tools as indestructible as possible.

Additional Stamping Die Services

In addition to designing and building stamping dies from scratch, we also can provide services for engineering changes on existing tools, repairs and perform maintenance on dies already in service. Individual die sections or portions of dies can be reproduced to bring your older tooling back into specification, or perhaps improve efficiencies. All die refurbis are treated on a case by case basis and no job is typically too big or too complex.

Gages & Fixtures

As part of our goal to be a full service facility, we also welcome the opportunity to provide gaging and fixtures for production parts. Discuss your quality concerns with us & we can make recommendations for typical gages which will keep your production verified to be within spec. We can make simple plug gages to check hole diameters, or complex functional gages capable of passing most certification criteria. We also can design and produce fixtures to perform secondary machining operations or locate parts for secondary assembly operations. Our goal is to assist you in developing the entire manufacturing process and give you the best tooling we can, to make that process as efficient and accurate as possible.

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Equipment listing

Wire EDM	Mitsubishi MV1200R 15.7x11.8x8.7 Travel-31.9x27.6x8.5 Max Submerged cut to 8" Mitsubishi MV2400R 23.6x15.7x12.2 Travel-41.3x32.3x12.0 Max Submerged cut to 12.2" Mitsubishi MV2400S 23.6 x 15.7 x 16.5 Travel-41.3x32.3x16.3 Max Submerged cut to 16" Mitsubishi MV1200S 15.7x11.8x8.7 Travel-31.9x27.6x8.5 Max Submerged cut to 8"
Milling/Drill	<u>Drill Presses</u> PRM Radial Arm Drill Press Milwaukee Mag-Drill <u>Manual Mills</u> Lagun FTV-4 Acer EVS-3VKH <u>Machining Centers</u> Haas TM1 P; Travels- X axis 30", Y axis 12", Z axis 16" 7.5 HP, 6,000 RPM Max. Haas VF4 SS; Travels- X axis 50", Y axis 20", Z axis 25" 30 HP, 12,000 RPM Max. Haas VF11/40; Travels- X axis 120", Y axis 40", Z axis 30" 30 HP, 10,000 RPM Max. Amada BRX800NC Duplexer
Turning	<u>Manual Lathe</u> Acer E-Lathe 1740G; 17" swing-bed, 9 5/8" swing-cross slide, 40" between centers <u>CNC Lathe</u> Trak 1845RX; 18.1" swing-bed, 9.13" swing-cross slide, 45" distance between centers
Grinding	KO Lee S718; 6" X 18" manual surface grinder Acer AGS 1230 AHD; 12 X 30 3 axis automatic surface grinder, 14 X 1 1/2 wheel, 5 HP spindle Acer AGS 2040 AHD; 20 X 40 3 axis automatic surface grinder, 16 X 2 wheel, 10 HP spindle Cincinnati Milacron 1671028 retrofitted cutter grinder Kalamazoo S612 belt/disc grinder Palmgren 8" Bench Grinder 36" Blanchard Grinder
Inspection Equipment	Deltronic 10X LTV Optical Comparator Hexagon TIGO-SF CMM Keyence XM-5000 Handheld probe coordinate measuring machine Multiple surface plates and contact measuring instruments
Tryout Press	Seyi SN2-275-S 9.84" Stroke 21.65" SH 275 Ton Straight-side stamping press
Misc.	LaserEvo Laser Etcher HydroMech Horizontal Band Saw 16" X 16" Capacity DoAll 36-3 Contour Band Saw 150 Ton Air/Hydraulic shop press 500 ton (rated 750) Custom Hydraulic Jaw Press, 24" stroke, 85" between uprights Walker AXM-7167-658 Plate Type Demagnetizer MHC 40" manual leaf brake, 16 gauge capacity Vulcan Mig/Tig Welder Miller Tig Welder Lincoln CNC Plasma Cutter 2ea Cress double stack heat treat/tempering oven 48" cabinet bead blaster Sunnen Horizontal Hone 10 ton overhead bridge crane and 5 ton portable A frame crane