

Metal Stamping Supporting Services

Introduction

The best online resources for metal stamping supporting services are found here.

What you will learn is as follows:

- What is Metal Stamping Supporting Services
- Types of Metal Stamping Supporting Service

Chapter One- What is Metal Stamping Supporting Services

As a professional metal stamping factory in China, Dongguan [Orienson](#) Hardware Electrical Co., Ltd. has complete supporting resources, which can provide customers with one-stop hardware products as well as the full set of processing services, we can independently develop and manufacture molds, and provide precision CNC machining services, plastic injection molding service, metal plating services, heat treatment, passivation, grinding, radium carvings and other surface treatment processing technology, besides, assembly services such as metal laser welding, resistance welding, automatic tapping, and automatic riveting is included, Orienson is equipped with a complete inspection and testing instruments to ensure quality from raw material production to delivery, thus reduce the loss and cost of the customer and also offer high-quality and cost-effective prototype metal [service stampings](#).

Chapter Two- Types of Metal Stamping Supporting Service

Assembling Service

Assembly refers to the process of assembling parts according to specified technical requirements and making them qualified products after debugging and inspection. Assembly begins with the design of assembly drawings. Products such as [metal laser welding](#) are made up of several parts and components. We provide highly consistent assembly services at every stage of your production process, from prototyping, proof of concept to mass production. In addition, our professional automation engineering design team can provide comprehensive assembly and commissioning tests to ensure consistency and accuracy at every stage of your production process.

Steps	The process scheme	Operation description
ICQ		Inspect according to 《Incoming inspection instruction》
Warehousing storage		Operate according to 《handling, storage, packaging, protection and delivery procedure》
Assembly		Operate according to 《SOP operation instruction》
High-voltage insulation test		Operate according to 《SOP operation instruction》
Pad printing		Operate according to 《SOP operation instruction》
Full inspection		Operate according to 《SIP operation instruction》
Packaging		Operate according to 《packing operation instruction》
Warehousing storage		Operate according to 《handling, storage, packaging, protection and delivery procedure》
OQC		Operate according to 《shipping inspection instruction》
Shipment		Freight transport

*Explanation: ○ Process □ Inspect ▼ Storage ⇨ Transport

Benefits Of Metal Stamping Assembling Service

Realize the automation of processing and assembly, ensure the quality of product assembly, and strive to improve the quality, in order to prolong the service life of products. Reasonable arrangement of assembly sequence and process, shorten assembly cycle, reduce labor, improve efficiency, increase capacity, and ensure the consistency, accuracy, and high quality of each stage of the production process.

Features Of Metal Stamping Assembling Service

- With the high utilization rate of the equipment, output increased several times.
- Relatively stable production capacity. The automatic processing system is composed of one or more machine tools. It has the ability to degrade the operation in case of failure.
- High-quality products. When processing the part, We can complete the loading and unloading at one time with high processing accuracy and stable processing form.

CNC Machining Service

CNC machining is the method to conduct numerical control machine tool parts processing, the numerical control system can complete a variety of process control machine tools centrally and automatically to avoid artificial operation error, reduce the workpiece clamping & measurement time and adjustment of machine tool and the workpiece turnover, thus greatly improving the machining efficiency and machining accuracy. Therefore, [precision CNC machining services](https://www.oriensonmetal.com) possesses good economic benefits. Orienson can provide customers with various types, complex shapes, and high precision CNC machining parts in addition to metal stamping parts.

**01 Analyze Part Drawings To Determine The Process**

Analyze the shape, size, precision, material, and blank of parts drawing requirements, and make clear the processing content and requirements; Determine the processing scheme, cutting route, cutting parameters and select tools and fixtures, etc.

**02 Numerical Calculation**

According to the geometric dimension and machining route of the parts, the starting point and endpoint of the geometric elements on the outline of the parts and the coordinates of the center of the circular arc are calculated.

**03 Write Processing Programs**

After the completion of the above two steps, in accordance with the numerical control system provisions to use the functional instruction code and program section format, we write a single processing program.

**04 Input The Program Into The CNC System**

Program input can be directly through the keyboard input CNC system, also can be through the computer communication interface input CNC system.

**05 Inspection Procedure And Trial Cutting Of The Initial Workpiece**

The correctness of the tool path can be checked by using the graphic display function provided by the numerical control system. Make the first trial cut of the workpiece, analyze the cause of the error and correct it in time until the qualified parts are cut.

Benefits Of CNC Machining

CNC processing has the following advantages:

- (1) Greatly reduce the number of tooling, processing of complex shape parts does not need complex tooling. If you want to change the shape and size of parts, only need to modify parts processing procedures.
- (2) Stable processing quality, high processing accuracy, high repetition accuracy, even meet the requirements of aircraft processing.
- (3) The production efficiency is higher under the condition of multiple varieties and small batch production, which can reduce the time of production preparation, machine tool adjustment, and process inspection, and reduce the cutting time due to the usage of the best cutting quantity.
- (4) It can process the complex surface which is difficult to be processed by conventional methods, and can even process some parts which cannot be easily observed.

Features Of CNC Machining

- With the high degree of automation and high production efficiency.
- Strong adaptability to the processing object, when changing the processing object, only need to reprogram, no need to make any complex adjustment, thus shortening the

production preparation cycle.

- High machining accuracy and stable quality. Machining dimension accuracy between 0.005~0.01mm, not affected by the complexity of parts.
- It can greatly improve the machining accuracy, including the machining quality accuracy and the machining time error accuracy.
- Repeatability of processing quality, keep the quality of processed parts consistent, ensure the stability of processing quality.

Plastic Injection Molding Service

Injection molding refers to the process of heating the plastic, plasticizing and melting, and then injecting it into the cavity of the molding mold. After cooling, the melt solidifies and molds. Orienson has complete supporting resources of [plastic injection molding service](#). In addition to providing hardware stamping parts, Orienson can also provide customers with supporting services such as plastic parts, injection molding of inserts, and hardware assembly, providing customers with one-stop production to facilitate customer control, reduce costs and shorten cycles.



01 The Preplastic Process

The pre-plastic process is the plastic material in the barrel into overheating, transportation, compaction, shearing, mixing, homogenization to make the material from glass state to viscous state, so as to meet the requirements of injection molding.



02 Injection Molding Filling Process

The injection molding filling stage is the screw under the thrust of the injection cylinder, the melt in the storage chamber through the nozzle, mold runner, gate into the cavity.



03 Pressure-retaining And Feeding Process

Continuous injection molding is used to fill the volume vacated by shrinkage of the part.



04 Cooling Finalize Process

After holding pressure, the gate is frozen. The product undergoes a period of cooling and setting.



05 The Process Of Ejecting And Taking Parts

Push the parts out of the injection mold through the push rod of the mold. The product has a certain rigidity and strength after a period of cooling.

Benefits Of Plastic Injection Molding

Injection molding method has the advantage of production speed, high efficiency, automation

operation realization, Design and color is various, Shapes can vary from simple to complex and sizes from large to small with precise dimension, injection molding is suitable for mass production with complex shape product and molding processing field.

Features Of Plastic Injection Molding

- The injection molding process is easy to be fully automated and realize program control.
- One operator can usually manage two or more injection molding machines, so the labor required is relatively low.
- It can be shaped with complex shape, clear surface pattern, and high dimensional precision.
- High production efficiency, molding can be formed dozens or even hundreds of plastic parts.
- Molded plastic parts only need a small amount of dressing, and the waste generated in the molding process can be reused, therefore, the waste of raw materials during injection molding is very little.
- The melt has little wear on the mold, so a set of molds can produce large quantities of injection products.

Electroplating

Electroplating is the process of using electrolysis to attach a layer of the metal film to the surface of metal or other materials so as to prevent metal oxidation, improve wear resistance, electrical conductivity, reflection, corrosion resistance, and enhance the role of beauty. Orienson has complete supporting resources of [metal plating services](#), which can provide customers with different plating methods such as continuous plating, barrel plating, rack plating, and different plating types such as gold plating, silver plating, tin plating, nickel plating, zinc plating, zinc-nickel alloy plating, etc., and can be tested and controlled by XRay coating thickness tester, Brine spray tester, high temperature, and high humidity testing machine and other equipment.

**01 Basic Process**

(grinding → polishing) → racking → degrease & oil removal → washing → (electrolytic polishing or chemical polishing) → acid activation → (preplating) → plating → washing → (post-process) → washing → dry → taking down → Inspecting packing

**02 The Role Of Pretreatment Process**

Pretreatment: all processes before plating are called pretreatment, the purpose is to dress the surface of the workpiece, remove the grease, rust, oxide film on the surface of the workpiece, and provide the required electroplating surface for the subsequent deposition of the coating.

**03 The Role Of Electroplating Process**

Electroplating is getting the required coating on the surface of the workpiece, also is the core process of the electroplating process. The quality of this process directly affects the properties of the coating.

**04 The Role Of Post-treatment Process**

Post-treatment: after electroplating, the coating is processed to enhance the various properties of the coating, such as corrosion resistance, anti-discoloration ability, solderability, etc.

Benefits Of Metal Electroplating

Different effects can be obtained according to various electrodeposits:

1. Copper plating: Base for improving adhesion and corrosion resistance of electroplating.
2. Nickel plating: For base or appearance, improve corrosion resistance and wear resistance.
3. Gold plating: Improve conductive contact impedance, enhance signal transmission.
4. Palladium nickel plating: Improve conductive contact impedance, enhance signal transmission, wear resistance higher than gold.
5. Tin plating: Enhance the welding ability, and have a shielding effect on nitriding.
6. Silver plating: Improve conductive contact impedance, enhance signal transmission.

Automatic Tapping

[Metal tapping](#) is in all kinds of different specifications of the hole or blind hole of the inner side of the parts machining process of the internal thread, Orienson has the automatic tapping machine for tapping after stamping, also can use mold tapping, which means directly finish tapping in the stamping die, a simultaneous stamping and tapping step, thereby greatly shorten the production cycle, improve productivity and reduce costs.

**01 Reduce The Process, Improve Production Efficiency**

Tapping machine combines tapping parts punching and tapping together and synchronous proceed, which can save working time, reach high precision tapping, improve production efficiency.

**02 High Precision Thread Forming**

Tapping efficiency and precision of tap can be improved by using an in-die tapping machine, and tap movement is precisely matched with screw pitch.

**03 Save Resources**

The tapping machine is fully automatic and saves labor costs. And the tapping machine is completely driven by machinery, saving the energy of the machine specially used for tapping teeth.

**04 Reduce The Defective Rate And The Cost**

Tapping machines can reduce the damage of the tap probability as well as the probability of waste due to the feeding error, also can reduce the probability of the feeding error, the number of products in the process of processing to save costs.

**05 Tapping Machine Is Easy To Install And Replace**

The design of the automatic tapping machine is durable with small size. The tapping head can be replaced with different specifications and easy to be installed with different molds.

Benefits Of Automatic Tapping

1. For batch products, the current technology can realize the whole process of automatic feeding, positioning, and tapping, greatly reducing labor costs.
2. To improve product quality, automated products have stable and reliable quality because there is no influence of artificial factors.
3. High precision, fast efficiency, can shorten the product processing cycle.
4. Simple operation.
5. Can be equipped with multi-axis synchronous machining, production efficiency is greatly improved.

Features Of Automatic Tapping

- High precision, detected by tooth gauge.
- Fast speed.
- Stable quality.
- Good consistency.
- Low prices.

Automatic Riveting

With the increase of stamping parts, the requirement of stamping production efficiency is higher and higher. With the continuous development of die and stamping technology, many secondary processing processes originally carried out outside the stamping die are gradually introduced into the die, such as in-die tapping, in-die riveting, and so on. Orienson has accumulated certain experience in in-die [automatic riveting](#) technology. Through sorting and feeding by vibrating plate, automatic riveting can be realized in the mold, which can shorten the production cycle, improve productivity and reduce cost.



01 In-die Riveting

In-die riveting is a continuous working process in which the parts are automatically riveted while the hardware with an assembly hole is stamped and formed by a vibrating plate and automatic feeder. Of course, we can complete it with an automatic riveting machine. Here is the process.



02 Process

- (a) Clamp the workpiece
- (b) Drill holes according to nailhead shape requirements
- (c) Feed rivets
- (d) Press riveting, the workpiece floats upward, forming nail head and pier head at the same time, and the workpiece is reset to the riveting plane after riveting
- (e) Mill off the excess section of the countersunk head
- (f) Loosen the clamp and prepare the next rivet for riveting

Benefits Of Automatic Riveting

1. Compared with the traditional connection completely relying on the welding process, the automatic riveting parts not only have good aesthetic results but also have higher strength and better consistency in the stress of the structure.
2. Directly cancel the secondary processing of riveting process, save manpower as well as shorten the process to only complete in the production workshop of stamping plant.
3. Greatly improved the production efficiency and reduced the cost.

Features Of Automatic Riveting

- Using automatic riveting technology can assembly efficiency.
- Reduce costs, improve working conditions, to ensure assembly quality.
- The riveting process is stable without shaking.
- The surface of the riveting parts is smooth and beautiful.
- The riveting pressure, feed speed and riveting quantity can be adjusted to ensure the best effect.