



High Precision Metal Stamping Parts for Aerospace Applications with Tight Tolerances and Superior Mechanical Performance

Our Product Introduction

for more products please visit us on cnc-metalmachining.com

Basic Information

- Place of Origin: Shenzhen China
- Brand Name: Xianheng
- Certification: ISO9001:2015
- Model Number: PMS-XG-074
- Minimum Order Quantity: 1 pcs
- Price: USD \$0.1-\$1.99
- Packaging Details: Carton, As Customers' packaging requirements
- Delivery Time: Samples 7-10 days, Mass production 20-25 days
- Payment Terms: T/T, Western Union, MoneyGram
- Supply Ability: 50000 pcs per week



Product Specification

- Material: Copper, Stainless Steel, Aluminum, Brass, Etc.
- Surface Treatment: Hot Galvanized, Zinc Plating, Nickel Plating, Powder Plating, Anodize
- Process: Stamping, Punching, Bending, Punching Of Stamping Blanks, Stamping + CNC
- Application: Construction, Industrial, Used Widely Industry Auto, Mechanical Equipment, Auto Parts
- Service: OEM/ODM, OEM ODM Metal Stamping, Customized OEM OEM ODM, OEM Service
- Tolerance: 0.01mm, 0.05 Mm, +/-0.005, 0.003-0.05mm
- Oem: Available
- Quality: ISO9001
- Keywords: Custom Stamping Metal
- Packing: As Customers' Requirement



More Images



Product Description

What We Can Provide

High Precision Metal Stamping Parts for Aerospace Applications with Tight Tolerances and Superior Mechanical Performance

Description of High Precision Metal Stamping Parts for Aerospace Applications with Tight Tolerances and Superior Mechanical Performance

High Precision Metal Stamping Parts for Aerospace Applications with Tight Tolerances and Superior Mechanical Performance are critical components designed to meet the stringent demands of the aerospace industry. These parts are manufactured using advanced stamping processes and precision molds, ensuring they adhere to extremely tight dimensional tolerances (often within ± 0.001 inches or even tighter for micro-level precision) and exhibit superior mechanical properties under extreme conditions, such as high altitudes, intense vibrations, and corrosive environments.

Specification of High Precision Metal Stamping Parts for Aerospace Applications with Tight Tolerances and Superior Mechanical Performance

Name	Custom OEM Laser Cutting Sheet Metal Fabrication Services Copper Stainless Steel Anodised Aluminum Metal Stamping bending Parts
Material	Zn-plating, Ni-plating, Cr-plating, Tin-plating, copper-plating, the wreath oxygen resin spraying, the heat disposing, hot-dip galvanizing, black oxide coating, painting, powdering, color zinc-plated, blue black zinc-plated, rust preventive oil, titanium alloy galvanized, silver plating, plastic, electroplating, anodizing etc.
Applications	Automotive, instrument, electrical equipment, household appliances, furniture, mechanical equipment, daily living equipment, electronic sports equipment, light industry products, sanitation machinery, market/ hotel equipment supplies, artware etc.
Packaging	Regular: Paper, Foam, OPP bag, Carton; Other: According to customers' requirements
Testing Equipment	Projecting apparatus, Salt Spray Test, Durometer, and Coating thickness tester
Tolerance	± 0.01 -0.05mm
Drawing	JPG, PDF, CAD, DWG, STP, STEP

Quality Control

1. Checking the raw material after they reach our factory----- Incoming quality control (IQC)
2. Checking the details before the production line operated
3. Have full inspection and routing inspection during mass production---In process quality control(IPQC)
4. Checking the goods after they are finished---- Final quality control(FQC)
5. Checking the goods after they are finished-----Outgoing quality control(OQC)

Application Of High Precision Metal Stamping Parts for Aerospace Applications with Tight Tolerances and Superior Mechanical Performance

1. Auto Components Hardware Parts Auto Parts
2. Communication Equipment
3. Industrial Equipment
4. Medical EquipmentsMechanical Parts
5. Ship Accessories
6. Electrical Equipment
7. Mechanical Equipment

Why Choose Us

Advantages

Unparalleled Precision and Consistency

High precision metal stamping achieves micro-level accuracy through computer-controlled stamping presses and advanced mold design. This ensures that every part meets exact specifications, eliminating variability in critical components like fuel system fittings, sensor housings, or structural brackets. For example, aircraft engine components stamped with ± 0.001 -inch tolerance ensure optimal fuel flow and combustion efficiency, directly impacting performance and safety. The consistency of these parts also reduces the need for rework or adjustments during assembly, streamlining production processes.

High Strength-to-Weight Ratio

Aerospace applications require parts that can withstand extreme forces while minimizing weight. High precision stamping enables the use of lightweight yet high-strength materials, such as titanium alloys, aluminum-lithium alloys, or nickel-based

superalloys, in complex geometries that would be impossible to manufacture via traditional methods. For instance, stamped titanium brackets for satellite structures reduce weight by 30% compared to machined alternatives while maintaining structural integrity under launch vibrations. This weight reduction translates to improved fuel efficiency and payload capacity for aircraft and spacecraft.

Cost-Efficiency at Scale

Stamping is a high-volume, low-cost process once molds are created, making it ideal for aerospace programs requiring thousands of identical parts. Automated stamping lines reduce labor costs and material waste, while tight tolerances minimize scrap and rework. For example, a single stamping die can produce 10,000+ aircraft-grade rivets per day at a fraction of the cost of machining each rivet individually. This cost-effectiveness is crucial for aerospace manufacturers, who must balance performance requirements with budget constraints.

Durability in Extreme Environments

High precision stamped parts undergo rigorous surface treatments, such as anodizing, plating, or thermal spraying, to resist corrosion, thermal expansion, and fatigue. This ensures long-term reliability in conditions like:

High temperatures: Turbine blade components exposed to 1,200°C+ must maintain dimensional stability and resist oxidation.

Cryogenic conditions: Liquid fuel tank fittings must withstand temperatures as low as -200°C without cracking or leaking.

Corrosive atmospheres: Parts exposed to salt-laden air (e.g., maritime aircraft) or rocket exhaust gases must resist chemical degradation.



Multiple Machines

5-axis CNC & Imp... Professional machines, skillful workers, achieving skillful... guarantee the quality and lead time.



Strictly Confidential

We will protect the customers' design and the customer can request a confidentiality agreement



Quality Inspection

We have a strict quality inspection process to ensure the quality of our products

Stainless Steel Material

Material:

Stainless Steel 201
Stainless Steel 430
Stainless Steel 304
Stainless Steel 316

Finish:

Mirror Polishing
Brush Polishing
Electro Polishing
Vibration Polishing



FAQ

Q1: Where can I get product & price information?

A1: Send us inquiry e-mail, we will contact you as we receive your mail.

Q2: How long can I get the sample?

A2: Depends on your specific items, within 3-7 days is required generally.

Q3: What kinds of information you need for quote?

A3: Kindly please provide the product drawing in PDF, and will be better you can provide in STEP or IGS.

Q4: What are the payment terms?

A4: We accept 50% as payment deposit, when the goods is done, we take photos for your check and you then pay the balance.

Q5: Are you a trading company or factory?

A5: We are direct factory with 10 experienced engineers and more than 650 employees as well approximate 2,000 square ft. workshop area.

Q6: What shall we do if we do not have drawings?

A6: Please send your sample to our factory, then we can copy or provide you better solutions. Please send us pictures or drafts with dimensions (Length, Height, Width), CAD or 3D file will be made for you if placed order.



Shenzhen Xianheng Technology Co.,Ltd

0086-13682614486

shawn@xianheng-tech.com

cnc-metalmachining.com

Room 8-1409, Xingji jiaoyuan building 8-9#, HongXing community, Songgang street, Bao'an District, Shenzhen City China

