



## High-Precision CNC Milling Parts for Automotive and Electronics Advanced Manufacturing for Critical Applications

### Our Product Introduction

for more products please visit us on [cnc-metalmachining.com](http://cnc-metalmachining.com)

#### Basic Information

- Place of Origin: Shenzhen China
- Brand Name: Xianheng
- Certification: ISO9001:2015
- Model Number: ML-CNC-075
- 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: 10000 pcs per week



#### Product Specification

- Cnc Machining Or Not: CNC Machining
- Type: CNC Milling
- Material Capabilities: Copper, Aluminum, Bronze, Stainless Steel, Brass
- Surface Treatment: Anodized, Anodizing, Anodize/natural, Sandblast, Silk-screen
- 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
- Application: Machinery, Automotive, Laptop, Industrial Equipment, Engineering
- Color: As Per Customers' Requirement



#### More Images



## Product Description

### What We Can Provide

#### High-Precision CNC Milling Parts for Automotive and Electronics Advanced Manufacturing for Critical Applications

##### Description of High-Precision CNC Milling Parts for Automotive and Electronics Advanced Manufacturing for Critical Applications

High-precision CNC (Computer Numerical Control) milling is a cutting-edge manufacturing process that produces intricate components with exceptional accuracy, repeatability, and surface finish. In the automotive and electronics industries, where safety, performance, and reliability are paramount, CNC milling ensures that critical parts meet stringent tolerances and functional requirements. From engine components and transmission parts to semiconductor fixtures and aerospace-grade connectors, this technology enables the production of complex geometries that traditional methods cannot achieve.

##### Specification of High-Precision CNC Milling Parts for Automotive and Electronics Advanced Manufacturing for Critical Applications

Product Name	High Quality Copper Steel Stainless Brass Material CNC Milling Parts Services
Material	Aluminum, Stainless Steel, Copper, Brass, Titanium, Galvanized, Nylon, ABS, POM etc.
Surface Treatment	Zinc Plating, Painting, Mirror Polished, Brush Polished, Powder Coating, Electroplating, Anodizing, Sandblasting etc.
Processing	Laser Cutting, Precision Stamping, Bending, CNC Punching, Threading, Riveting, Drilling, Welding, Painting, Assembly etc.
Drawing Format	3D/CAD/DWG/IGS/STEP/PDF/JPG
OEM Service	Accept

##### 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 CNC Milling Parts for Automotive and Electronics Advanced Manufacturing for Critical Applications

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

##### 1. Micron-Level Accuracy ( $\pm 0.005\text{mm}$ or Better) for Critical Performance

High-precision CNC milling achieves tolerances as tight as  $\pm 0.005\text{mm}$  ( $\pm 0.0002$  inches), ensuring that components fit and function perfectly in demanding applications. In automotive engineering, this level of precision is vital for fuel injection systems, where nozzle clearances must be controlled to optimize combustion efficiency and reduce emissions. Similarly, in electronics, CNC-milled connectors for high-speed data transmission (e.g., USB4 or Thunderbolt) require exact pin spacing to prevent signal loss or crosstalk. Such accuracy is unattainable with conventional machining, making CNC milling the gold standard for critical components.

##### 2. Superior Surface Finish ( $R_a < 0.8\mu\text{m}$ ) for Enhanced Durability and Functionality

Beyond dimensional precision, high-precision CNC milling delivers exceptional surface finishes, often achieving roughness values ( $R_a$ ) below  $0.8\mu\text{m}$  without additional polishing. This is crucial for automotive parts like cylinder liners, where a smooth surface reduces friction and wear, extending engine life. In electronics, ultra-fine surface finishes on heat sinks improve thermal conductivity, ensuring efficient cooling of high-power semiconductors. Additionally, smooth surfaces minimize bacterial growth in medical-grade automotive components (e.g., HVAC systems) and prevent electrical arcing in connectors.

##### 3. Multi-Axis Machining for Complex, Lightweight Designs

Advanced 5-axis CNC milling enables the production of highly complex geometries in a single setup, reducing lead times and eliminating errors from repositioning. This capability is transformative for automotive lightweighting, allowing manufacturers to machine intricate lattice structures or hollowed-out components from aluminum or titanium alloys. For example, a CNC-milled

electric vehicle (EV) battery housing with integrated cooling channels can be 30% lighter than a cast alternative while maintaining structural integrity. In electronics, 5-axis milling produces compact, high-density circuit board housings with angled ports and internal ribs for EMI shielding.

#### 4. Real-Time Quality Control and Traceability for Compliance with Industry Standards

High-precision CNC milling integrates advanced metrology tools, such as in-process probing and laser scanning, to monitor dimensions and surface quality during production. This ensures that every part meets specifications before leaving the machine, reducing scrap rates and rework. For automotive and electronics manufacturers, this level of control is essential for compliance with standards like IATF 16949 (automotive) and IPC-A-600 (electronics). Additionally, digital traceability systems log every machining parameter, enabling rapid root-cause analysis in case of defects and facilitating regulatory audits.

## Factory Show

### Factory Equipment



WEDM



Milling Machine



CNC Wire Cut



Coordinate measuring machine



CNC Bending Machine



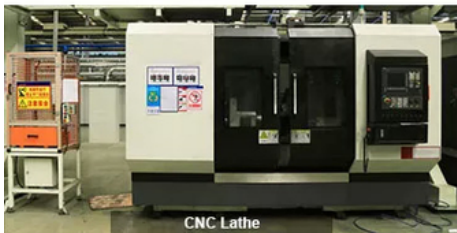
Hydraulic Press Machine



SLS/SLA Machine



5-Axis CNC



CNC Lathe



Laser cutting Machine



CNC Punching Machine



Injection Molding machine



## FAQ

Q: How can I customize my products ?

A: Please describe your project. Include the following information so that we can provide an accurate quote: Part Name, 3D CAD Drawing, Quantity, Material, Color, Finishing.

Q: How can I know my products going on ?

A: We will offer a detailed production schedule and send weekly reports with digital pictures and videos which show the production process.

Q: Can You sign a confidentiality greement ?

A: We can sign a confidentiality agreement according to your needs.

Q: What is your terms of payment ?

A: 30% in advance ,70% balance before shipment. Other terms negotiable.

Q: Are you a trading company or factory?

A: We are direct factory with 20 experienced engineers and more than 80 employees as well approximate 3,000 square meters workshop area.

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

A: 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.



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