



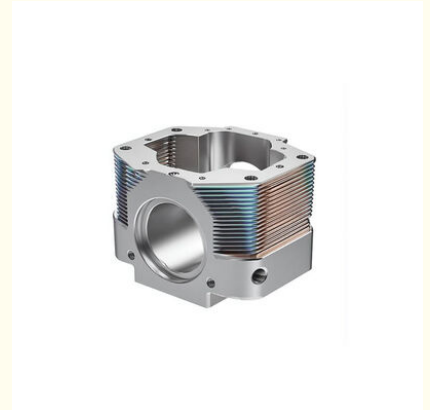
## Custom CNC Milling for Automotive Industry: High-Strength Aluminum Alloys and Polycarbonate Components with Geometric Accuracy $\pm 0.005\text{mm}$

### 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-086
- 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

#### Custom CNC Milling for Automotive Industry: High-Strength Aluminum Alloys and Polycarbonate Components with Geometric Accuracy $\pm 0.005\text{mm}$

#### Description of Custom CNC Milling for Automotive Industry: High-Strength Aluminum Alloys and Polycarbonate Components with Geometric Accuracy $\pm 0.005\text{mm}$

High-Strength Aluminum Alloys and Polycarbonate Components with Geometric Accuracy  $\pm 0.005\text{mm}$  refers to a specialized manufacturing process that utilizes computer numerical control (CNC) milling machines to produce precision components from high-strength aluminum alloys (e.g., 6061-T6, 7075-T7) and polycarbonate materials.

#### Specification of Custom CNC Milling for Automotive Industry: High-Strength Aluminum Alloys and Polycarbonate Components with Geometric Accuracy $\pm 0.005\text{mm}$

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 Custom CNC Milling for Automotive Industry: High-Strength Aluminum Alloys and Polycarbonate Components with Geometric Accuracy $\pm 0.005\text{mm}$

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

### Why Choose Us

#### Advantages

**Superior Strength-to-Weight Ratio and Material Efficiency:** High-strength aluminum alloys provide exceptional durability while being significantly lighter than steel, enhancing vehicle fuel efficiency, acceleration, and handling. Polycarbonate components offer high impact resistance, thermal stability, and optical clarity, making them ideal for applications like headlights, windshields, and interior panels. The  $\pm 0.005\text{mm}$  tolerance ensures minimal material waste and maximizes structural integrity, critical for load-bearing automotive parts.

**Enhanced Performance and Longevity:** Precision-machined aluminum components reduce friction, wear, and heat generation in engines, transmissions, and suspension systems, extending the lifespan of critical systems. Polycarbonate parts maintain clarity and structural stability under extreme temperature fluctuations and UV exposure, ensuring long-term reliability in exterior applications. Tight geometric accuracy prevents misalignment, vibration, and premature failure in assembled systems.

**Automated Quality Control and Reduced Production Risks:** Integrated CNC systems with real-time monitoring and automated inspection (e.g., CMMs, laser scanning, AI-driven vision systems) detect deviations in dimensions, surface roughness, or material defects at sub-micron levels. This eliminates human error, accelerates inspection cycles, and ensures 100% traceability, critical for automotive safety-critical components. Automated checks reduce scrap rates, rework costs, and recall risks, aligning with "zero-defect" manufacturing goals.

**Scalability and Cost Optimization:** CNC milling enables high-volume production of complex, custom-designed parts with consistent quality, supporting rapid prototyping and mass production. The process minimizes setup times through

programmable tool paths and reusable fixtures, reducing per-unit costs for large batches. Lightweight aluminum and polycarbonate components also lower shipping and assembly expenses, while precision machining reduces post-processing (e.g., grinding, polishing) requirements, streamlining the manufacturing workflow.

## Factory Show

### Factory Equipment



WEDM



Milling Machine



CNC Wire Cut



Coordinate measuring machine



CNC Bending Machine



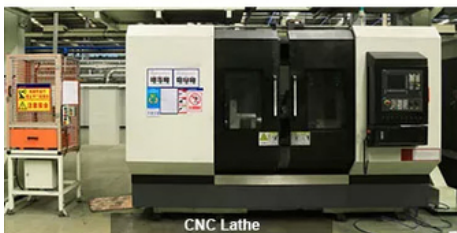
Hydraulic Press Machine



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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