Aluminum CNC Parts for Automotive Industry Custom Assemblies with Advanced Machining Capabilities and Materials

Our Product Introduction

Basic Information

- Place of Origin: Shenzhen China
- Brand Name: Xianheng
- Certification: ISO9001:2015
- Model Number: AL-CNC-081
- 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: Milling, Turning, Machining
- Material Capabilities: Copper, Aluminum, Bronze, Stainless Steel, Brass
- Surface Treatment: Anodizing, Brush, Anodized, Painting/Powder Coating/Sandblast/Color Anodize/Polish/Oxidation
- Application: Machinery, Automotive, Laptop, Industrial Equipment, Engineering
- Keyword: Aluminum Enclosure Box
- Tolerance: 0.01mm, 0.05 Mm, +/-0.005, 0.003-0.05mm
- Service: Customized OEM
- Sample: Acceptable
- Highlight: **Custom Assemblies Aluminum CNC Parts**, **Advanced Machining Aluminum CNC Parts**, **Automotive Industry Aluminum CNC Parts**

More Images

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Product Description

What We Can Provide

Custom Assemblies with Advanced Machining Capabilities and Aluminum CNC Parts for Automotive Industry

Description of Custom Assemblies with Advanced Machining Capabilities and Aluminum CNC Parts for Automotive Industry

Custom assemblies in the automotive sector combine precision-engineered aluminum CNC (Computer Numerical Control) parts with advanced machining techniques to create tailored solutions that meet specific vehicle requirements. These assemblies leverage high-grade aluminum alloys, known for their lightweight yet durable properties, and are crafted using cutting-edge CNC processes such as 5-axis milling, laser cutting, and surface finishing. The result is a range of modular or integrated systems—such as suspension components, engine subframes, heat exchangers, or hybrid/electric vehicle battery enclosures—that are optimized for performance, weight reduction, and integration into complex vehicle architectures.

Specification of Custom Assemblies with Advanced Machining Capabilities and Aluminum CNC Parts for Automotive Industry

CNC Capacity				
CNC Machining Center	3 / 4 / 5 axis CNC Machining Centers		40+ CNC Machines	
CNC Turning	φ0.5 - φ300 * 750 mm		DIN-2768-Fine +/-0.005 mm	
CNC Machining	1270×508×635 mm(max)		DIN-2768-Fine +/-0.005 mm	
CNC Stamping	1000 * 1000 mm(max)		DIN-2768-Fine +/-0.005 mm	
Drawing Format	IGS,STP,X_T ,DXF,DWG , Pro/E, PDF			
Inspection Equipments	Measurement Instrument, Projector, CMM, Altimeter, Micrometer, Thread Gages, Calipers, Pin Gauge etc.			
Material Available				
Stainless Steel	SS201,SS301, SS303, SS304, SS316, SS416, 17-4PH, etc.			
Steel	Mild steel, Carbon Steel, 4140, 4340, Q235, Q345B, 20#, 45# etc.			
Brass	HPb63, HPb62, HPb61, HPb59, H59, H68, H80, H90 etc.			
Copper	C11000,C12000,C12000 C36000 etc.			
Aluminum	AL6061, Al6063, AL6082, AL7075, AL5052, A380 etc.			
Iron	A36, 45#, 1213, 12L14, 1215 etc.			
Plastic	ABS, PC, PE, POM, Delrin, Nylon, Teflon, PP,PEI, Peek etc.			
Surface Finishing				
Aluminum Parts	**Stainless Steel Parts**	**Steel Parts**	**Copper /Brass**	**Plastic Parts**
Clear Anodized	Polishing	Zinc plating	Polishing	Painting
Color Anodized	Passivating	Oxide black	Passivation	Chrome plating
Sandblast Anodized	Sandblasting	Nickel plating	Galvanized	polishing
Chemical Film	Laser engraving	Chrome plating	Nickel Plating	Sandblast
Brushing		Carburized	Chrome plating	Laser engraving
Polishing		Heat treatment		
Chroming		Powder Coated		

Application Of Custom Assemblies with Advanced Machining Capabilities and Aluminum CNC Parts for Automotive Industry

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

Feature Of Custom Assemblies with Advanced Machining Capabilities and Aluminum CNC Parts for Automotive Industry

1. Good corrosion resistance
2. High strength and hardness
3. High thermal conductivity
4. Good finishing characteristics

Why Choose Us

Advantages

1. Weight Reduction and Improved Vehicle Dynamics
Aluminum's inherent lightweight properties, combined with expertly machined designs, enable significant weight savings in custom assemblies. This reduces unsprung mass in suspension systems, enhances handling and braking performance, and lowers energy consumption in both internal combustion engine (ICE) and electric vehicles (EVs). Lighter assemblies also contribute to extended battery range in EVs and improved fuel efficiency in traditional vehicles.

2. Design Freedom and Innovation
Advanced CNC machining allows for the creation of highly customized, complex geometries that traditional manufacturing methods cannot achieve. This flexibility enables automotive engineers to innovate with aerodynamic shapes, integrated functionalities (e.g., fluid channels within structural components), and modular designs that simplify assembly and maintenance. Custom assemblies can also incorporate features like thermal management systems or vibration-damping structures, enhancing overall vehicle performance and longevity.

3. Cost-Effective Customization and Rapid Prototyping
The scalability of CNC-machined aluminum parts and assemblies reduces lead times and costs associated with tooling and setup. This accelerates product development cycles, enabling faster time-to-market for new vehicle models or upgrades. Additionally, the ability to iterate designs quickly through CNC machining supports rapid prototyping, allowing manufacturers to test and refine custom solutions before full-scale production, minimizing risks and optimizing performance.

Factory Show

Factory Equipment

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, Hight, Width), CAD or 3D file will be made for you if placed order.

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