



Heavy-duty Vehicle Engine Iron Casting Bracket

Our Product Introduction

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Basic Information

- Place of Origin: China
- Brand Name: Dongfeng
- Certification: IATF 16949:2016
- Minimum Order Quantity: 100 piece
- Packaging Details: Metal mesh box packaging
- Delivery Time: Spot goods
- Payment Terms: T/T
- Supply Ability: Annual production of 50000 pieces



Product Specification

- Efficiency: Effective
- Mounting Location: Engine Block
- Tensile Strength: High
- Strength: Strong
- Surface Treatment: Painted
- Warranty: 1 Year
- Country Of Origin: China
- Certifications: IATF 16949:2016
- Installation Method: Bolt-on
- Compressive Strength: High
- Included Components: Bracket, Bolts
- Corrosion Resistance: Yes
- Mounting Type: Engine Mount
- Vibration Resistance: Yes
- Highlight: **Vehicles Engine Cast Iron Bracket.**

Product Description

Engine Cast Iron Bracket: Deep Analysis of Key Components

The cast iron bracket of the engine, as an important supporting component of the automobile engine, has a crucial impact on the stability of the engine and the overall performance of the vehicle through its design and material selection. This article will comprehensively introduce this key component from multiple aspects, including the function, types, material selection, characteristics, and applications of the engine bracket.

The function and type of engine bracket

The engine mount is a key component that connects the engine to the vehicle frame. Its function is to ensure the stability of the engine during driving, while reducing vibration and noise, and improving driving comfort. Engine mounts are mainly divided into two types: torque mounts and engine foot mounts.

Torque bracket:

Location and function: The torque bracket is usually installed at the front end of the car's front axle, closely connected to the engine. Its main function is to ensure the stability and performance of the vehicle, especially during driving, by reducing the vibration and noise generated by the engine.

Structural features: The torque bracket is different from the engine foot glue. It is not directly installed at the bottom of the engine, but presents a sturdy iron rod shape and is installed on the side of the engine. In addition, the torque bracket also includes a rubber component, namely the torque bracket rubber, which is designed to provide additional shock absorption and ensure smooth driving.

Engine foot glue:

Function: The main function of engine foot glue is to fix and absorb shock. It is usually a rubber pier that is directly installed at the bottom of the engine, reducing the impact of the engine on the frame by absorbing and dispersing vibrations.

Material selection for engine bracket

The material selection of the engine bracket directly affects its performance and service life. At present, common engine bracket materials include cast iron, aluminum alloy, and rubber.

Cast iron:

Advantages: Cast iron is a traditional and widely used material for engine mounts. Its advantages lie in high strength, good wear resistance, and the ability to withstand large loads and impact forces. In addition, the cost of cast iron is relatively low and the manufacturing process is also relatively mature.

Disadvantage: The disadvantage of cast iron is that it is relatively heavy, which increases the overall weight of the vehicle and affects fuel economy. Meanwhile, cast iron has poor thermal conductivity, which is not conducive to engine heat dissipation.

aluminium alloy:
Advantages: Aluminum alloy, as a lightweight material, is increasingly being used in engine mounts. Its main advantage is light weight, which can effectively reduce the curb weight of the vehicle, improve fuel efficiency and power performance. In addition, aluminum alloy also has good thermal conductivity, which helps with engine heat dissipation.

Disadvantages: Aluminum alloy has relatively low strength and may not be as reliable as cast iron when subjected to large loads. Meanwhile, the cost of aluminum alloy is relatively high, which increases the manufacturing cost.

Rubber:

Advantages: Rubber has good shock absorption and noise reduction performance, which can effectively reduce the vibration and noise transmitted to the vehicle body during engine operation, and improve driving comfort. The flexibility of rubber can also adapt to the slight displacement of the engine under different working conditions.

Disadvantages: Rubber materials are prone to aging and have a relatively short service life, requiring regular replacement.

Characteristics and advantages of cast iron brackets

Cast iron brackets have significant advantages in engine brackets due to their unique material properties.

High strength and wear resistance:

Cast iron brackets have high strength and wear resistance, and can withstand large loads and impact forces. This is crucial for ensuring the stability of the engine during the driving process of the car.

Low cost:

The manufacturing cost of cast iron brackets is relatively low, making it a widely used material in economical car models.

Meanwhile, the manufacturing process of cast iron is also relatively mature, which helps to reduce production difficulty and costs.

Widely applicable:

Cast iron brackets are not only suitable for traditional fuel vehicles, but also widely used in heavy-duty vehicles such as diesel engines. Its strong load-bearing capacity and stability make it an indispensable key component in these vehicle models.

Application of Cast Iron Bracket in Automotive Engines

The application of cast iron brackets in automotive engines is mainly reflected in the following aspects:

Front suspension bracket:

The front suspension bracket is an important component that connects the engine and the frame. Cast iron brackets, due to their high strength and wear resistance, can withstand the huge vibrations and impact forces generated during engine operation, ensuring the stability and reliability of the engine.

Rear suspension bracket:

The rear suspension bracket also undertakes the task of connecting the engine and the frame. In some car models, the rear suspension bracket is also made of cast iron material to ensure the stability and performance of the engine during driving.

Engine support feet:

The engine support foot is another key component that connects the engine and the frame. Cast iron support feet, due to their high strength and wear resistance, can withstand the huge vibrations and impact forces generated during engine operation, ensuring the stability and reliability of the engine.

Innovation and Development of Cast Iron Supports

With the continuous advancement of automotive technology and the increasing demand for vehicle performance from consumers, cast iron brackets are also constantly innovating and developing.

Lightweight design:

In order to reduce the overall weight of vehicles and improve fuel economy, cast iron brackets are also developing towards lightweighting. By improving manufacturing processes and optimizing structural design, the weight of cast iron brackets can be reduced while maintaining strength and wear resistance.

Improve heat dissipation performance:

Researchers are exploring new materials and manufacturing processes to improve the heat dissipation performance of cast iron brackets in response to their poor thermal conductivity. This will help reduce the operating temperature of the engine and extend its service life.

Intelligent monitoring:

With the continuous development of sensors and IoT technology, cast iron brackets can also achieve intelligent monitoring. By installing sensors on the bracket to monitor its working status and stress conditions in real time, potential safety hazards can be identified and addressed in a timely manner.

conclusion

As an important supporting component of automotive engines, the design and material selection of engine cast iron brackets have a crucial impact on the stability of the engine and the overall performance of the vehicle. Cast iron brackets have been widely used in the automotive industry due to their high strength, wear resistance, and low cost. With the continuous advancement of automotive technology and the increasing demand for vehicle performance from consumers, cast iron brackets are also constantly innovating and developing. In the future, we can look forward to the application of more lightweight, high-performance, and intelligent cast iron brackets in automobiles, providing people with safer, more comfortable, and convenient travel experiences.



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