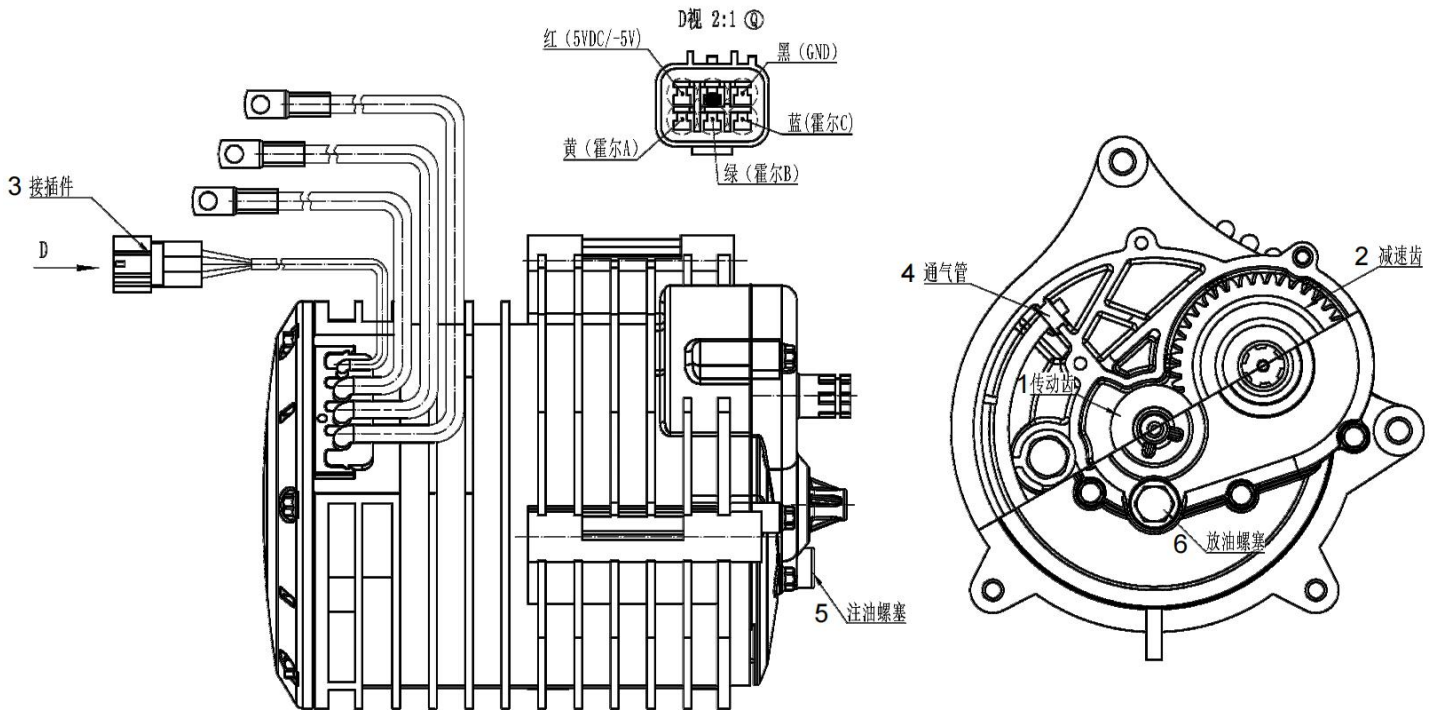


---

# **Drive Motor With Reducer**

## **Assembly Maintenance**

# 1. Assembly overview



- ① motor ; ② reducer; ③ Connector( Six-core AP terminal; ④ Vent plug ; ⑤ Oil filling plug; ⑥ Oil drain plug

## 1.2 Performance characteristics and advantages

To realize the integration of motor and reducer in the true sense, this product combines reducer with permanent magnet synchronous motor. Compared with ordinary products, the structure is more compact. Since the motor and the reducer are integrated, it solves the quality problems such as wear, jamming, abnormal noise of the assembly and the motor output spline; Improve the service life of the reducer and the motor; The failure rate of the assembly is reduced, and the product quality is also improved.

Further improve the transmission efficiency; At the same time, it also reduces energy consumption and increases cruising range; While improving product performance, it also reduces costs; And the product has also been patented.

---

### 1.3 Use environment and storage and transportation)

This product is used in electric motorcycles powered by batteries and controlled by a controller, as the driving force of the vehicle. The environmental conditions for use are as follows:

- A. The altitude does not exceed 1200 meters;
- B. The highest ambient air temperature is 60°C, and the lowest temperature is -30°C;
- C. The ambient air should not contain corrosive and flammable gases;

Storage and transportation conditions:

- A. Keep the product dry during storage, no acid, alkali or other corrosive gas should be contained in the warehouse, and avoid sudden changes in the ambient temperature;
- B. Product storage should not be stacked too high, so as not to affect ventilation and damage the packaging of the underlying product;
- C. Protective measures should be taken during storage and transportation to avoid product bumps, and also to prevent dumping or upside-down

## 2. Common exceptions and troubleshooting

### 2.1 Motor abnormalities and troubleshooting

Common malfunctions	Analyze and solve
Lightly step on the accelerator and the motorcycle does not move, or shakes at a very slow speed	Motor encoder is abnormal
	If the motor encoder is normal, check the motor phase sequence. If the phase sequence is wrong, you need to change the U V or V W phase of the motor
Car forward and reverse gears are opposite	Adjust the motor phase sequence, exchange the U V or V W phase of the motor
	Change the position of the A/B signal of the motor encoder
Nothing happens after stepping on the accelerator	Check whether the KSI signal of the controller is properly connected
	Check whether the direction signal and brake signal are normal, and check whether the accelerator is properly connected
The motor heats up severely in a short time	Check whether the vehicle brake system is normal

### 2.2 Reducer abnormalities and troubleshooting

Common malfunctions	Analyze and solve
Abnormal noise	Clean the gear oil and check whether there is any foreign matter inside the assembly
	Check whether the bearing is damaged
Rapid temperature rise in a short period of time	Check whether the vent plug is blocked
	Check whether the bearing is damaged
Local temperature rise	Check whether the bearing is damaged
Oil spill	Check whether the oil drain plug is tightened
	Check whether the oil filling plug is tightened
	Check whether the reducer case is cracked
	Check if the fastening bolts on the end face of the box shell are loose
	Check whether the oil seal is damaged

## 3. Maintenance

### 3.1 Using

- 
1. During operation, if the controller does not work normally, the vehicle cannot be started directly;
  2. During operation, there should be no intermittent or abnormal sound or vibration;
  3. During operation, if the gear oil is not filled (filled with GL-5 85W-90/140 oil, about 45mL), the vehicle cannot be started directly.

### 3.2 Maintenance

The new car travels about 3,000 kilometers for the first maintenance of the assembly. During the first maintenance, the gear oil of the reducer needs to be replaced, at the same time, clean the iron filings adsorbed on the oil drain plug, and clean the residual iron filings in the reducer; Clean the dust and foreign matter around the vent plug and keep it unblocked; Check the signal of each sensor and the tightening of bolts.

After the first maintenance, perform maintenance inspections on the assembly according to the vehicle maintenance requirements, as follows:

- A. Check the signal of the motor sensor, if it is found that the wire is broken or the signal wire is damaged, it should be replaced in time;
- B. Check the suspension of the assembly and whether the fastening bolts of each part are loose. If looseness is found, it must be tightened immediately;
- C. Check all sealing surfaces and oil seals of the assembly, and replace damaged oil seals in time to ensure the sealing performance of the assembly;
- D. Clean up foreign bodies around the vent plug and keep the vent plug unblocked;
- E. According to the driving situation of the vehicle, change gear oil every 4 months or 7000 kilometers (whichever comes first) and clean up iron filings