

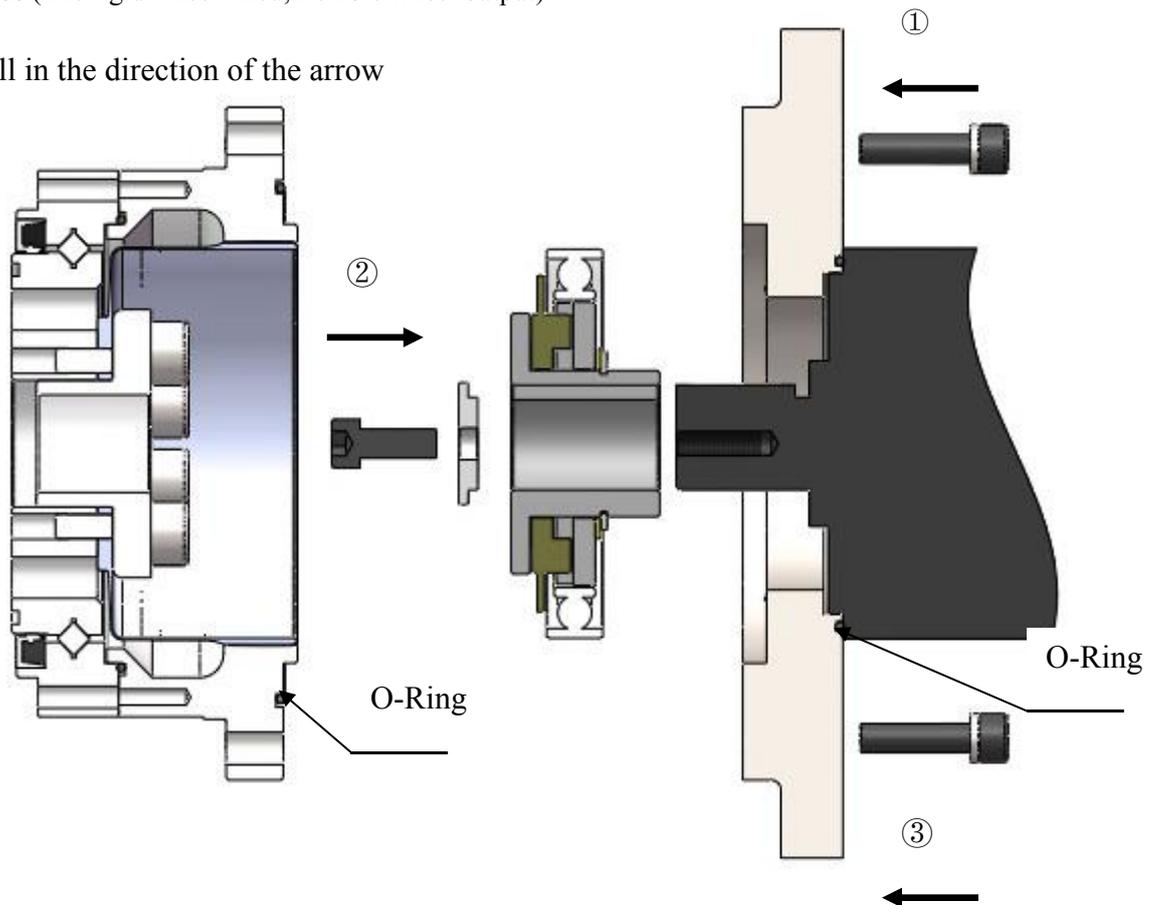
Harmonic Drive Gearbox Installation Manual

Precautions before installation

1. The harmonic drive gearbox must be installed in a clean environment. During the installation process, nothing can enter the harmonic drive gearbox to avoid damage.
2. Please confirm that the tooth surface of the drive gearbox and the flexible bearing are always lubricated.

1. CSF series (The rigid wheel fixed, flexible wheel output)

Please install in the direction of the arrow



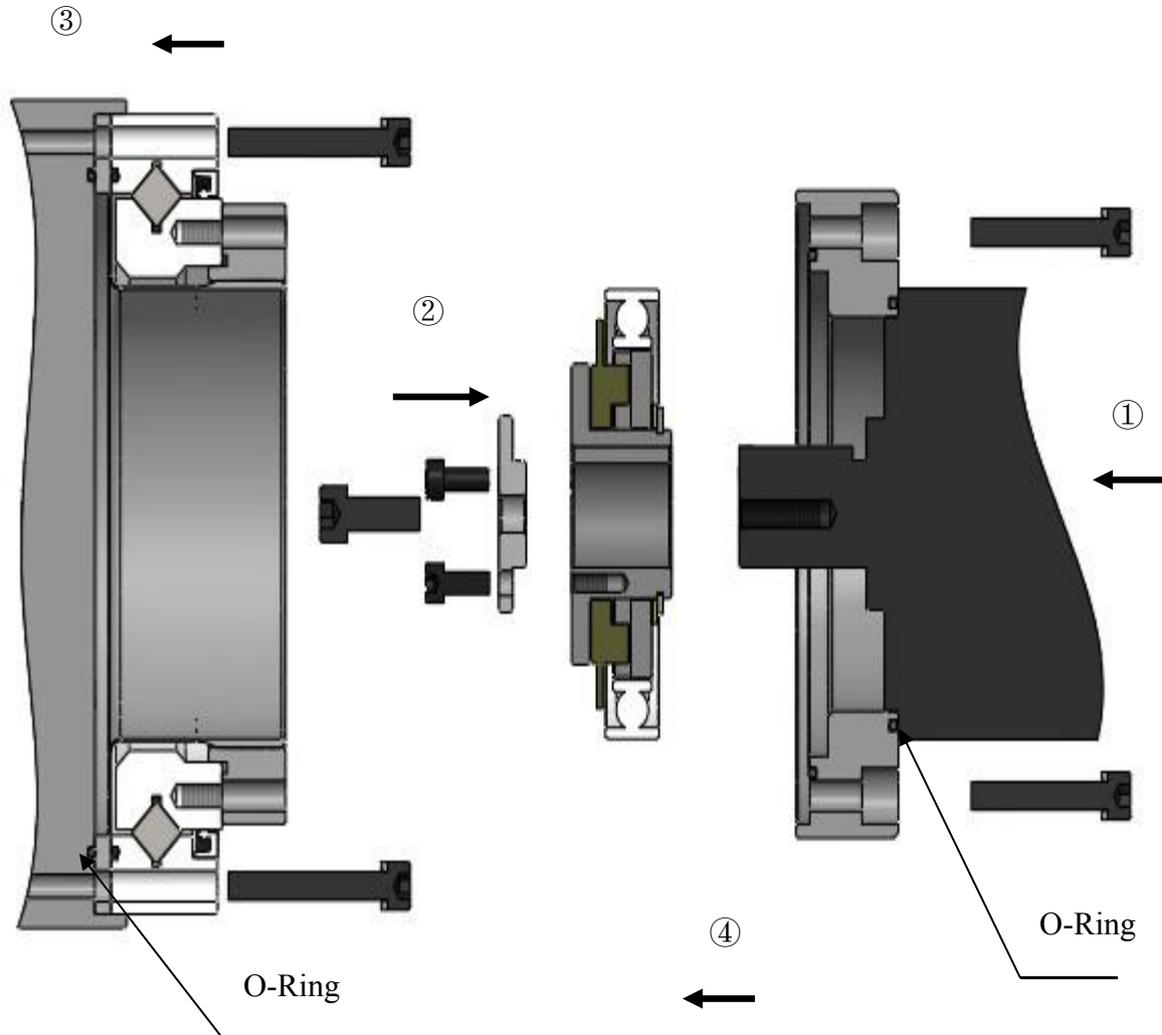
Installation Steps

- Step 1. Fix the motor to the mounting flange, and pay attention to adding an O-ring inside.
- Step 2. Install the wave generator on the output shaft of the motor (the flexible bearing surface needs to be greased before installation), and lock it on the output shaft end of the motor with a screw pressure plate.
- Step 3. The whole set is installed into the flexible wheel of the harmonic drive gearbox, and a certain amount of grease is injected into the flexible wheel before installation.
- Step 4. Set the motor speed to about 100r/min, start the motor, and after the sound is normal, usually tighten the bolts sequentially in a diagonal order.

Note: All connected and fixed screws must be of grade 12.9 and must be coated with Loctite 243 thread glue to prevent screw failure or loosening during work.

2. SHF/SHD series

(The rigid wheel fixed, flexible wheel output. The gear ratio is the indicated gear ratio.)



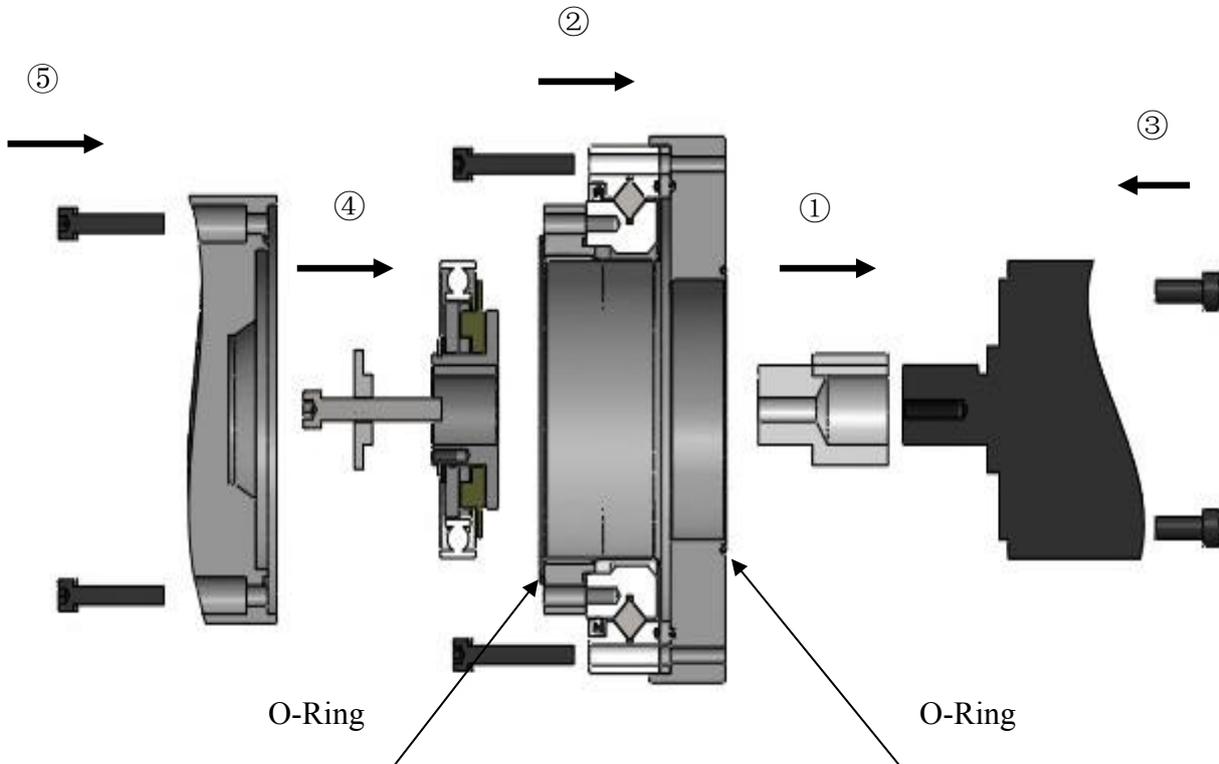
Installation Steps

- Step 1. Install the motor into the fixed flange, and pay attention to installing the O-ring on the flange.
- Step 2. Evenly apply the attached grease on the flexible bearing (please use the specified grease, do not replace the grease at will to avoid damage to the harmonic drive gearbox.) and install the wave generator on the output shaft of the motor, and use the screw pressure plate to connect and fix..
- Step 3. Install the flexible wheel and cross-bearing on the output flange, pay attention to installing the O-ring and lock the screws and gaskets.
- Step 4. Assemble the wave generator, motor and mounting flange into the flexible wheel at the output end.
- Step 5. Set the motor speed to about 100r/min, start the motor, and after the sound is normal, usually tighten the bolts sequentially in a diagonal order.

Note: All connected and fixed screws must be of grade 12.9 and must be coated with Loctite 243 thread glue to prevent screw failure or loosening during work.

3. SHF/SHD series

(Flexible wheel fixed, rigid wheel output, gear ratio is marked gear ratio +1)



Installation Steps

Step 1. Fix the connecting shaft to the motor, install the motor into the fixing flange, and pay attention to installing the O-ring on the flange.

Step 2. Install the cross-bearing and flexible wheel into the input flange, pay attention to the O-ring on the bottom of the flange, and usually tighten the bolts in a diagonal order.

Step 3. Install the motor into the input flange and fix it with screws.

Step 4. After injecting enough lubricating oil into the inner space of the flexible wheel, apply the attached lubricating grease evenly on the flexible bearing at the same time (please use the specified lubricating grease, do not change the grease at will to avoid damage to the harmonic drive gearbox.) Install the wave generator on the output shaft of the motor, and connect and fix it with screws and flat pads.

Step 5. The output flange is fixed to the steel wheel of the harmonic drive gearbox, and the bolts are usually tightened in a diagonal order.

Step 6. Set the motor speed to about 100r/min, start the motor, and after the sound is normal, install the output flange, and tighten the bolts in sequence in a diagonal order.

Note: All connected and fixed screws must be of grade 12.9 and must be coated with Loctite 243 thread glue to prevent screw failure or loosening during work.