

OPERATING MANUAL

Right Angle Gearhead Solid Shaft Type

Introduction

Before using the gearhead

Only qualified personnel of electrical and mechanical engineering should work with the product.

The product described in this manual has been designed and manufactured to be incorporated in general industrial equipment.

Do not use for any other purpose. Oriental Motor Co., Ltd. is not responsible for any damage caused through failure to observe this warning.

RoHS Directive

The products do not contain the substances exceeding the restriction values of RoHS Directive (2011/65/EU).

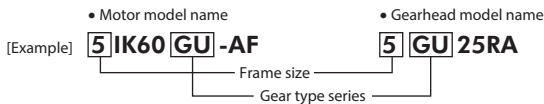
Verifying the product name and accessories

This operating manual is designated for the following products:

Model designation: **4GN□RA, 5GN□RA, 5GU□RA, 5GE□RA**
4GN□RAA, 5GN□RAA, 5GU□RAA, 5GE□RAA

* The square box in the gearhead model will contain a value representing the gear ratio. Check the model names of the motor and gearhead.

Gearheads and motors will fit together only if they are both of the same frame size and of the same gear type. See explanation below.

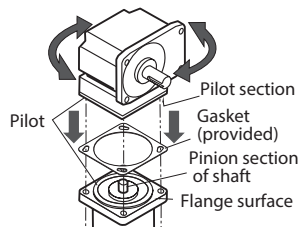


- Accessories
- Screw set (used for assembling the motor and gearhead)
[Hexagonal socket head screws, Spring washers, Flat washers 4 pcs. each]
 - Parallel key 1 pc.
 - Gasket 1 sheet

Assembly

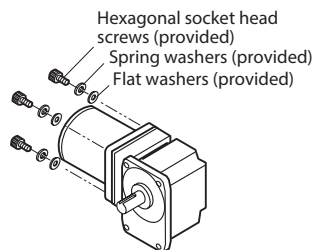
Align the gearhead and motor as shown in the figure at right, then engage the pinion section of the shaft to the gear gently by turning the gearhead slightly in both directions until the gearhead and motor fit flush together. Install the supplied gasket by making sure there is no gap between the motor flange surface and the end face of the gearhead pilot section.

Use the screw set provided to secure the motor to the gearhead.



Model	Screw size	Tightening torque [N·m (lb-in)]
4GN□RA, 4GN□RAA	M5	3.8 (33)
5GN□RA, 5GU□RA 5GE□RA, 5GN□RAA 5GU□RAA, 5GE□RAA	M6	6.4 (56)

* The square box in the gearhead model will contain a value representing the gear ratio.

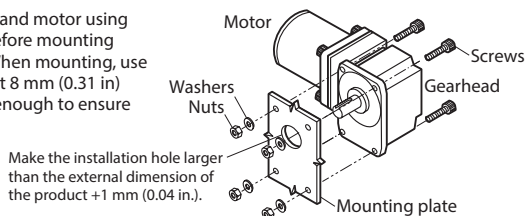


Note

- Forcing the motor and gearhead together during assemble or permitting contamination by foreign matter inside the gearhead will cause excess noise and/or shorter life of the gearhead. Remove any particles of dust or other waste that may be clinging to the O-ring or the pilot section of the motor or gearhead.
- Do not bend or damage the gasket supplied. It may cause grease to leak.

Installation to equipment

Connect the gearhead and motor using the screws provided before mounting them on equipment. When mounting, use a mounting plate about 8 mm (0.31 in) thick and screws long enough to ensure adequate bite.



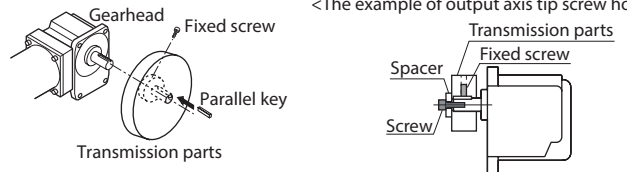
Thank you for purchasing ORIENTAL MOTOR products.

To ensure correct operation, please read this manual carefully before using your gearhead.

Attaching the load

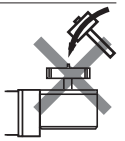
The shaft of the gearhead has been machined to an outer diameter tolerance of h7 and is provided with a key slot for connecting the transmission parts. When connecting the transmission parts, ensure that the shaft and parts have a clearance fit, and secure with a screw to prevent the parts from wobbling.

A screw hole is provided at the tip of the output shaft on **5GE□RA** (M5, effective depth 10 mm) and **5GE□RAA** (No.10-24UNC, effective depth 0.39 in.). With either model, use this screw hole as an auxiliary means for preventing the transmission parts from coming off.



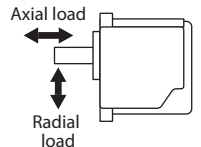
Note

- Do not use excessive force, or hammer the transmission parts onto the gearhead shaft as damage may occur.
- The output shaft cannot be rotated manually for models **5GU120RA to 5GU180RA, 5GE120RA to 5GE180RA, 5GU120RAA to 5GU180RAA, 5GE120RAA to 5GE180RAA**. Use the motor for position adjustment and alignment to equipment.



Precautions for use

- Use in a location having an ambient operating temperature range between 0 to +50 °C (+32 to +122 °F) and humidity below 85%.
- Avoid locations exposed to direct sunlight, water, or oil.
- Avoid locations with vibration or heavy shocks, locations with excessive dust, and locations with explosive or corrosive gas.
- On rare occasions, grease may ooze out from the gearhead. If there is concern over possible environmental damage resulting from the leakage of grease, check for grease stains during regular inspections. Alternatively, install an oil pan or other device to prevent leakage from causing further damage. Grease leakage may lead to problems in the customer's equipment or products.
- If the ambient temperature is low, the motor may take a longer time to start or its speed may drop. This is caused, among others, by an increased friction torque of the oil seal used on the gearhead output shaft. As the motor continues to operate and the sliding part of the oil seal breaks in, the friction torque will drop and the motor will operate at the specified speed.
- Direction of rotation of the gearhead output shaft
The motor and gearhead output shaft rotate in opposite directions.
- Maximum permissible torque
The maximum permissible torque is defined by the size and the gear ratio of the gearhead. Use within the range of the permissible torque in accordance with each gear ratio. Also, be sure shaft rotation is not stopped by an external force or load obstruction. The resulting shock may damage the gearhead.
- Permissible radial load and permissible axial load
The radial load and axial load have a great influence on the life of the bearings and strength of the shaft. Do not exceed the permissible radial load and permissible axial load. Refer to catalogue for details.



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