

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Visit our website - *Click HERE*

Oriental motor

HG-9025-2

OPERATING MANUAL

Gearhead

(GN・GE・GU Types)

Thank you for purchasing an Oriental Motor product.
To ensure correct operation, please read this manual carefully before using your gearhead.

Introduction

■ Before using the gearhead

Only qualified personnel should work with the product. To ensure correct operation, please read this manual carefully before using your gearhead. Should you require the inspection or repair of internal parts, contact the Oriental Motor office where you purchased the product.

■ Hazardous substances

RoHS (Directive 2002/95/EC 27Jan.2003) Compliant

Verifying the product name and accessories

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 (first digit of model name is the same) and of the same gear type (**GN**, **GE** appear in both the gearhead and motor model name).

・Motor model name ・Gearhead model name

<Example> 4 **IK25** GN **-AW2** 4 GN **25SA**

Frame size

Gear type series

Gearhead comes with following accessories for mounting the motor and gearhead on equipment. Also check them completely provided.

Accessories

- Screws for mounting, Hexagon nuts, Washers 4 pcs. each
- Key 1 pc.
  (Key is not provided with gearheads that have a flat on the output shaft.)

Key and key slot dimensions (Unit = in.)

GE, **GU** Type

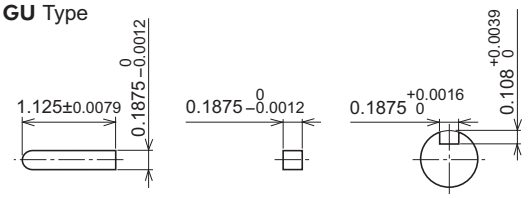


Table 1. Size of screws for mounting

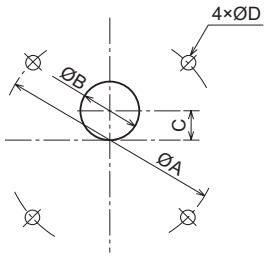
Gearhead model name	Size of screw for mounting (provided)	
	Thread series × Length (in.)	Type
0GN3KA to **180KA**	No.4-40UNC × 1.57	Cross-recessed head machine screw
2GN3SA to **18SA**	No.8-32UNC × 1.97	
2GN25SA to **180SA**	No.8-32UNC × 2.36	
3GN3SA to **18SA**	No.10-24UNC × 1.97	
3GN25SA to **180SA**	No.10-24UNC × 2.56	
4GN3SA to **18SA**	No.10-24UNC × 1.97	
4GN25SA to **180SA**	No.10-24UNC × 2.56	
5GN3SA to **18SA**	1/4-20UNC × 2.75	
5GN25SA to **180SA**	1/4-20UNC × 3.25	
5GE3SA to **180SA** **5GU3KA** to **180KA**	1/4-20UNC × 3.75	Hexagon socket head screw

Table 2. Installation hole dimensions

Gearhead model name	Installation hole dimensions (in.)			
	ØA	ØB	C	4×ØD
0GN□KA	1.89	0.71	0.32	0.14
2GN□SA	2.76	0.94	0.39	0.18
3GN□SA	3.23	1.18	0.59	0.22
4GN□SA	3.70	1.34	0.59	0.22
5GN□SA	4.09	1.42	0.71	0.27
5GE□SA **5GU□KA**	4.09	1.34	0.71	0.27

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

< Installation holes >

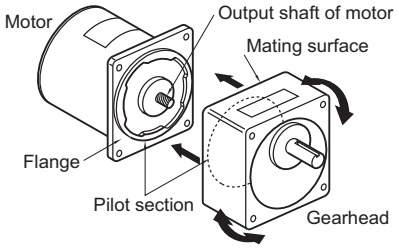


∗ ØB indicates the external dimension of the product.
Provide a hole with a diameter of "ØB +0.04 in. or more."

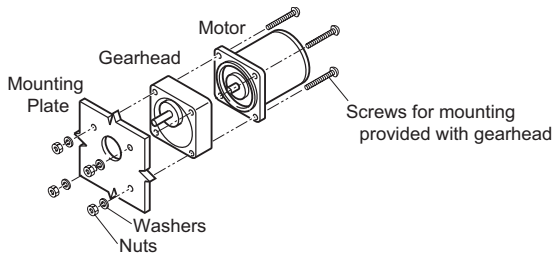
Assembly

Align the gearhead and motor as in the Figure below, 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.

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.

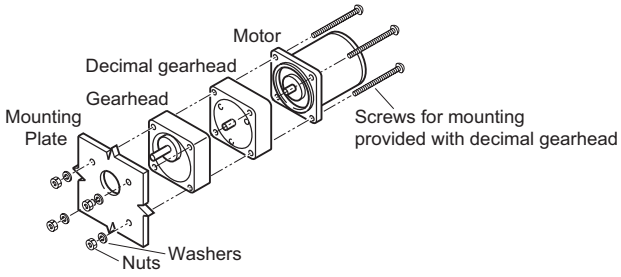


Installing gearmotor



Use the mounting screws provided with the gearhead to mount the gearhead and motor on equipment.

- Decimal gearhead



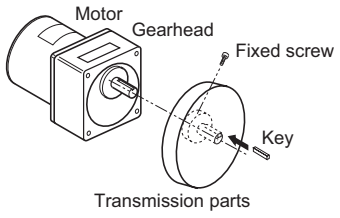
Use the screws provided with the decimal gearhead and secure all parts so that there are no gaps between the motor flange face and the recessed area of the decimal gearhead and between the decimal gearhead and the gearhead's recessed area.

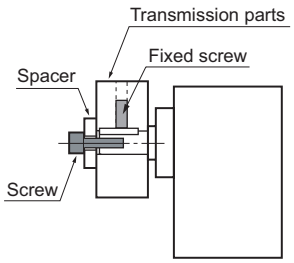
∗ Dedicated mounting brackets can also be used for installing gearmotor. For details, please refer to catalogue.
∗ Refer Table 2 for the size of installation hole.

Attaching 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. (Model **0GN** to **5GN** type have a flat on the shaft.)
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.
Use a screw hole (No.10-24UNC, effective depth 0.39 in.) provided at the tip of the output shaft of **5GE□SA** as an auxiliary means for preventing the transfer mechanism from disengaging.

< The example of output axis tip screw hole use >





Note Do not use excessive force, or hammer the transmission parts onto the gearmotor shaft as damage may occur.



Precautions for operation

- Use your gearmotor under ambient temperature of +14 to +122 °F and 85% humidity.
- Do not use your gearmotor where it may be exposed direct sunlight water and/or oil.
- Do not use your gearmotor in locations subject to severe vibration or shock, a large amount of dust, inflammable gas and or corrosive gas.
- On rare occasions, a small amount of 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. Oil leakage may lead to problems in the customer's equipment or products.

- Direction of rotation of the gearhead output shaft

With some gear ratios, the motor and gearhead output shaft will rotates in opposite directions. The direction of rotation does not change if a decimal gearhead is connected.

Gearhead model name	Gear ratio	
	Same direction as motor	Opposite direction to motor
2GN□SA 3GN□SA	**3** to **18**	**25** to **36**
4GN□SA 5GN□SA	**50** to **180**	
0GN□KA 5GE□SA	**3** to **9**	**12.5** to **18**
5GU□KA	**25** to **60**	**75** to **180**

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

- Maximum permissible torque

Since the output torque of the gearhead increases proportionally with the reduction of speed, a high reduction ratio of the gearhead will result in an output torque that cannot be taken up by the physical construction of the gearhead. Use gearheads within the maximum permissible torque set for each speed reduction ratio. For the values of the maximum permissible torque, please refer to catalogue. Also, be sure shaft rotation is not stopped by an external force or load obstruction. The resulting shock may damage the gearhead.

- Permissible overhung load and permissible thrust load

"Overhung load" refers to load placed on the output shaft of the gearhead in a direction perpendicular to the shaft as shown to the right. The "Thrust load" is a load applied in the axial direction of the output shaft. Since the overhung load and thrust load have a great influence on the life of the bearings and strength of the shaft, be careful not to exceed the maximum values shown in the Table 3.

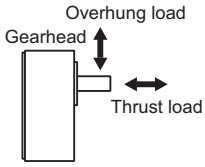


Table 3. Permissible overhung load and permissible thrust load

Gearhead model name	Gear ratio	Maximum permissible torque (lb-in)	Permissible overhung load (lb.)		Permissible thrust load (lb.)
			Output axis tip		
			0.39 in.	0.79 in.	
0GN□KA	**3** to **180**	8.8	4.5	–	3.3
2GN□SA	**3** to **18**	26	11.2	18	6.7
	25 to **180**		27	40	
3GN□SA	**3** to **18**	44	18	27	9
	25 to **180**		33	56	
4GN□SA	**3** to **18**	70	22	33	11.2
	25 to **180**		45	67	
5GN□SA	**3** to **18**	88	56	78	22
	25 to **180**		67	101	
5GE□SA 5GU□KA	**3** to **9**	177	90	112	33
	12.5 to **18**		101	135	
	25 to **180**		112	157	

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

- Unauthorized reproduction or copying of all or part of this Operating Manual is prohibited.
- Oriental Motor shall not be liable whatsoever for any patent-related problem arising in connection with the use of any information, circuit, equipment or device described in the manual.
- Characteristics, specifications and dimensions are subject to change without notice.
- While we make every effort to offer accurate information in the manual, we welcome your input. Should you find unclear descriptions, errors or omissions, please contact the nearest office.
- ***Orientalmotor*** is a trademark of Oriental Motor Co., Ltd.

© Copyright ORIENTAL MOTOR CO., LTD. 2006

• Please contact your nearest Oriental Motor office for further information.

ORIENTAL MOTOR U.S.A. CORP.
Technical Support Line Tel:(800)468-3982
Available from 7:30 AM to 5:00 PM, P.S.T.
E-mail: techsupport@orientalmotor.com
www.orientalmotor.com

ORIENTAL MOTOR CO., LTD.
Headquarters Tokyo, Japan
Tel:(03)3835-0684 Fax:(03)3835-1890

Printed on Recycled Paper

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP