Operation Manual

Gearbox

GB60, GB80, GB90

Thank you for purchasing Swipfe Gearbox.
Please read this operation manual thoroughly before installing and operating the motor, and always keep the manual where it is readily accessible.

1. Verifying Product Name and Accessories

Check the model names of the motor and gearbox. Gearboxes and motors will fit together only if they are of the same frame size (First two digit of model name is the same.)

Motor model
90 IX 4G 90

Gearbox model
90 GB 30I

□ Frame Size

Gearbox comes with following accessories for mounting the motor and gearbox on equipment
Screws for mounting, hexagon nuts, washers ..... 4pcs. each
Key ..... 1pc.

Key and Key slot Dimensions (Unit = mm)

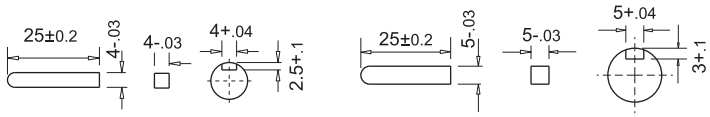
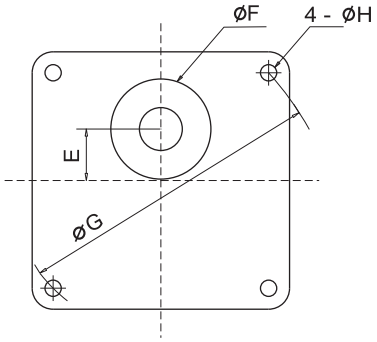
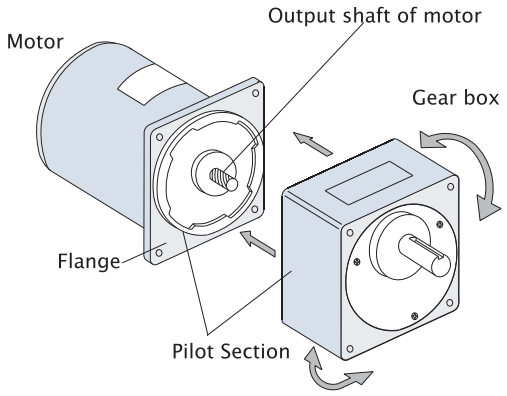


Table 1. **Size of Screws & Installation Hole Dimensions for Mounting**

Gearbox Model	Size of Screws for Mounting		Installation Hole Dimensions			
	Thread Series X Length (mm)	Type	E	F	G	H
65 GB 3I ~180I	M5 X 60	Cross Recessed Head Machine Screw	13.5	30	76	5.5
65 GB 10 X	M5 X 95		-	-		
80 GB 3I ~ 180I	M5 X 65		15	30	94	5.5
80 GB 10 X	M5 X 100		-	-		
90 GB 3I~180I	M6 X 90	Hexagon Socket Head Cap Screw	18	34	104	6.5
90 GB 10 X	M6 X 130		-	-		



2. Assembly

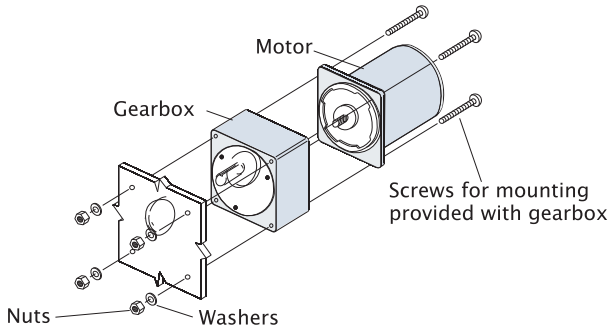


Align the gearbox and motor as shown in figure, engage the pinion section of the gear gently by turning the gearbox slightly in both directions until gearbox and motor fits flush together.

Note: Forcing the motor and gearbox together during assembling or permitting contamination of foreign matter inside the gearbox will cause excess noise and/or shorten life of the gearbox.

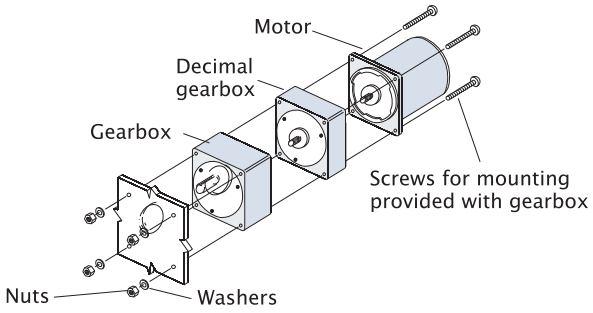
3. Installing Gearmotor

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



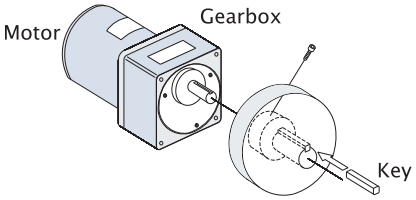
With decimal gearbox

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

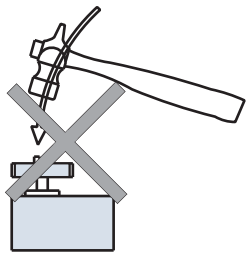


4. Attaching Load

The shaft of the gearbox 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.



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



5. Precautions for Operation

Use your gearmotor under ambient temperature of -10℃ ~ 50 and 0 - 85% humidity. Do not use your gear motor where it may be exposed to direct sunlight water and/or oil. Do not use your gear motor in locations subject to severe vibration or shock, a large amount of dust in flammable gas and/or corrosive gas.

Direction of Rotation of the Gearbox Output Shaft.

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

Gearbox Models	Gear Ratio	
	Same direction as motor	Opposit direction to motor
65 GB	3 ~ 18 50 ~ 180	25 ~ 36
80 GB	3 ~ 18 50 ~ 180	25 ~ 36
90 GB	3 ~ 9 25 ~ 36	12.5 ~ 18 50 ~ 180

Maximum Permissible Torque

Since the output torque of the gearbox increases proportionally with the reduction of speed, a high reduction ratio of the gearbox will result in an output torque that cannot be taken up by the physical construction of the gearbox. Use gearboxes 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 that shaft rotation is not stopped by an external force or load obstruction. The resulting shock may damage the gearbox.

Permissible Overhung Load and Permissible Thrust Load.

"Overhung load" refers to load placed on the output shaft of the gearbox in a direction perpendicular to the shaft as shown in the figure. The "Thrust lord" is also applied in the axial direction in output shaft. Since the overhung load and trust load have a great influence on the life of the bearings and strength of the shaft, be careful not to exceed the maximum value shown in the Table 2.

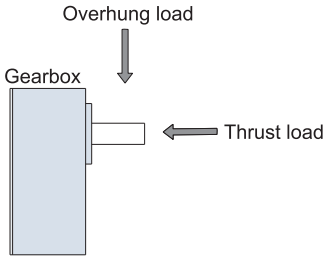


Table 2. **Permissible Overhung & Thrust Load.**

Gearbox Model	Gear Ratio	Maximum Permissible Torque in kg.cm	Permissible Overhung Load in Kg		Permissible Thrust Load in Kg
			10mm from the end of shaft	20mm from the end of shaft	
65 GB	3 ~ 18	40	7	11	4
	25 ~ 180		12	22	
80 GB	3 ~ 18	80	10	15	5
	25 ~ 180		20	30	
90 GB	3 ~ 18	200	30	40	12
	25 ~ 180		40	60	