



Planetary Gearbox Set

TECHNICRAFT SERIES

READ BEFORE ASSEMBLY

★Study the instructions carefully before commencing assembly.

★The RC-260 motor included in this set utilizes carbon brushes for long motor life.

★Mabuchi RE-140 or RE-260 motors can also be used.

★RC-260 motor operates on 3 volts. Keep voltage under 4.5 volts.

★Use only grease in kit for lubricating gears and shafts. Other greases may result in damage to the product.

★Cross screwdriver, side cutter, pliers and modelling knife shown at right will help your work.

★Apply grease or oil periodically to reduce friction loss and to prolong gears. Low viscosity grease or oil is recommended.

★With 3mm x 80 screws (not in set), 2 gearbox sets can be combined. 24 different gear ratios are available by combination of 8 gearbox units. The maximum ratio is 160,000:1.

★Batteries and battery case not included.

TOOLS

Screwdriver



Side Cutter



Pliers



Modelling Knife

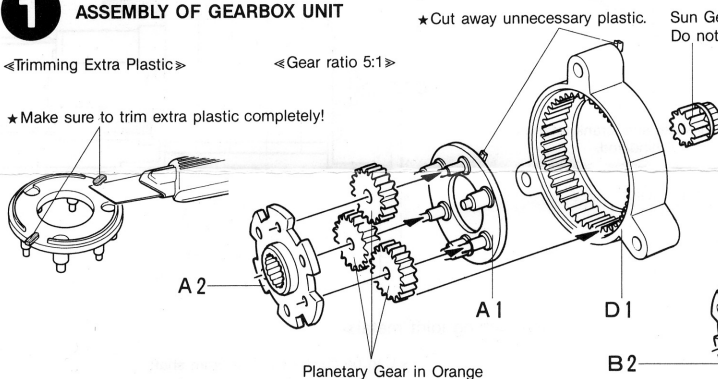


1 ASSEMBLY OF GEARBOX UNIT

«Trimming Extra Plastic»

«Gear ratio 5:1»

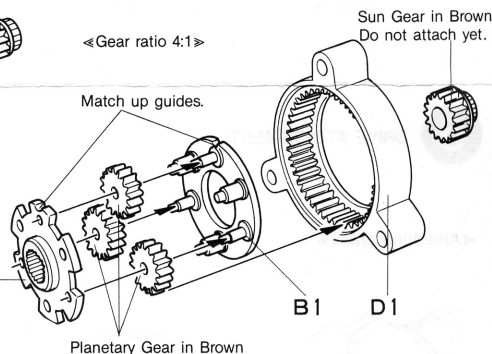
★Make sure to trim extra plastic completely!



Planetary Gear in Orange

★Grease gears and mountings.

«Gear ratio 4:1»



Planetary Gear in Brown

2 ASSEMBLY OF OUTPUT CASE

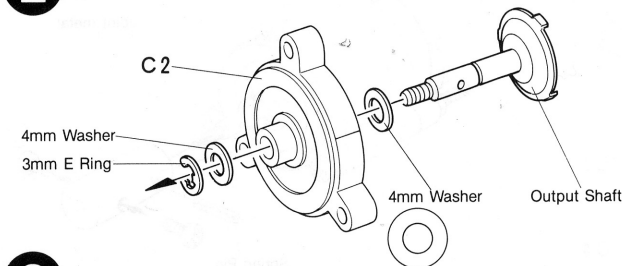
C2

4mm Washer

3mm E Ring

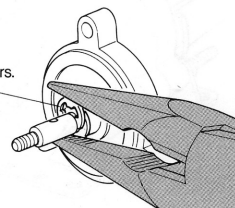
4mm Washer

Output Shaft



«Attaching E ring»

★Press on with pliers.



3 ASSEMBLY OF GEARBOX

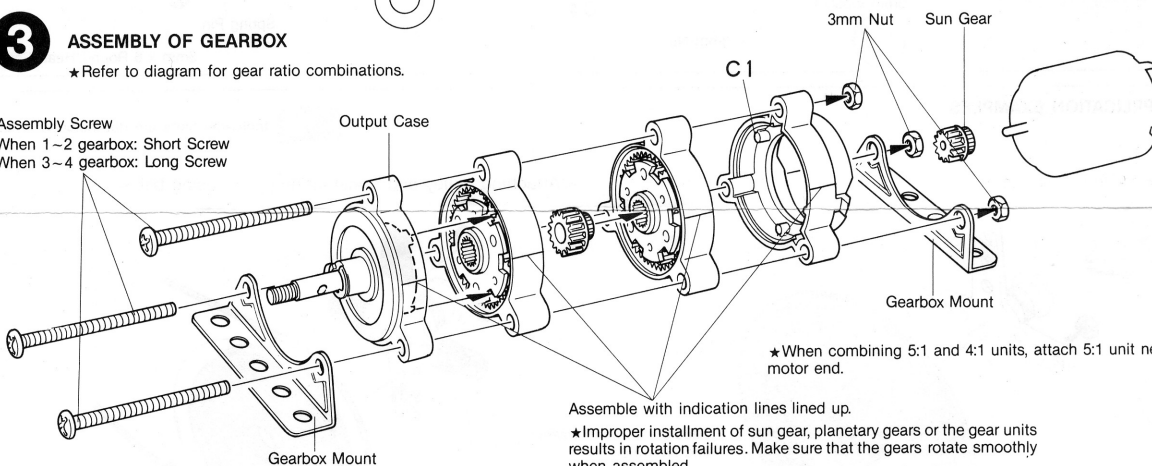
★Refer to diagram for gear ratio combinations.

Assembly Screw

When 1-2 gearbox: Short Screw

When 3-4 gearbox: Long Screw

Output Case



3mm Nut Sun Gear

C1

Gearbox Mount

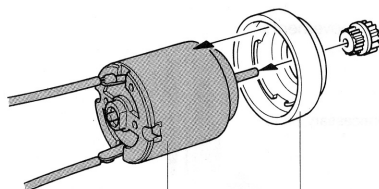
★When combining 5:1 and 4:1 units, attach 5:1 unit near motor end.

Assemble with indication lines lined up.

★Improper installment of sun gear, planetary gears or the gear units results in rotation failures. Make sure that the gears rotate smoothly when assembled.

4 ATTACHING MOTOR

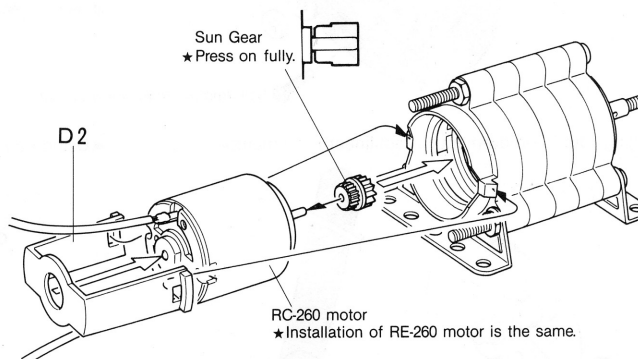
«When using RE-140 motor»



RE-140 motor

C3

Sun Gear
★Press on fully.



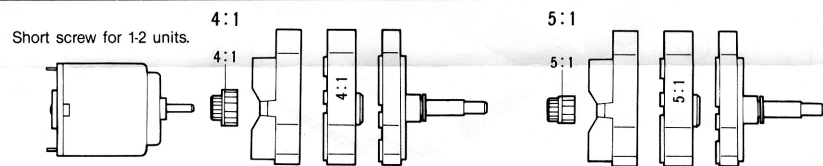
D2

RC-260 motor

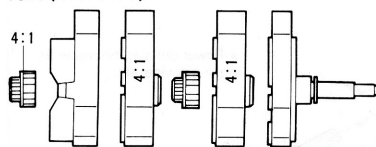
★Installation of RE-260 motor is the same.

«Gear combinations»

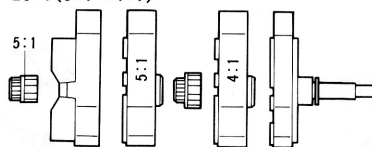
★Combining the gearboxes in various ways enables 8 different gear ratios. At a gear ratio of 400:1 and voltage of 3V, the gearbox produces a torque of about 1.8kg·cm.



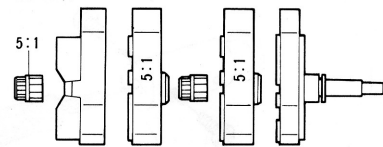
16:1 (4:1×4:1)



20:1 (5:1×4:1)

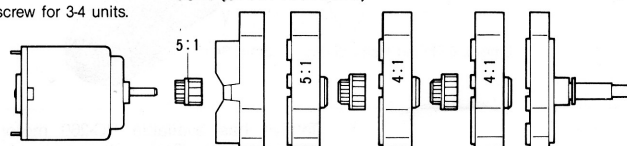


25:1 (5:1×5:1)

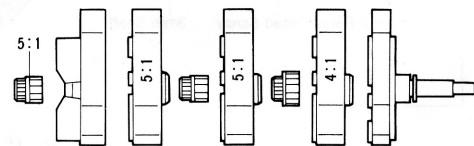


Long screw for 3-4 units.

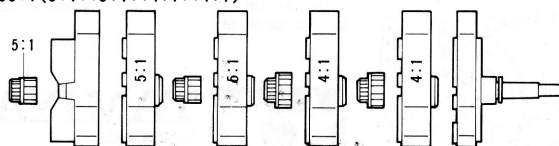
80:1 (5:1×4:1×4:1)



100:1 (5:1×5:1×4:1)



400:1 (5:1×5:1×4:1×4:1)



★The gearbox can be extended with additional units for ultra slow rotation. When doing so, never hinder the rotation or the gears will be destroyed.

«Motor specifications»

Operation voltage 3.0V
On-load speed 10,500rpm

Stall torque 15gcm
Current 1.0A