

TECHNICAL INFORMATION



PRODUCT

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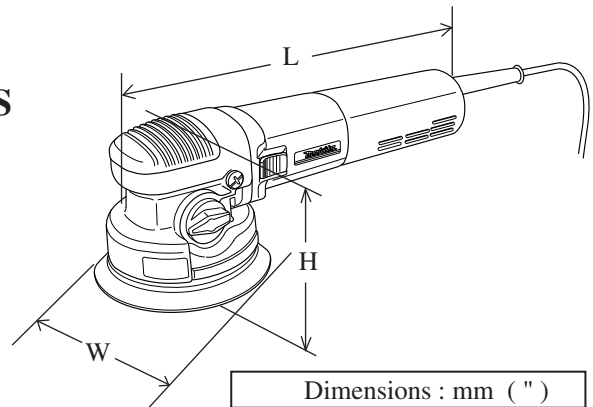
Models No. ▶ BO6040

Description ▶ 150 mm Random Orbit Sander

CONCEPTION AND MAIN APPLICATIONS

This model is a versatile random orbit sander for professional use.

Due to the two mode selection, "Forcible rotation mode" / "Free-rotation mode", rough sanding, fine finishing and polishing can be done only with this machine.



Dimensions : mm (")	
Width (W)	150 (5-7/8)
Height (H)	132 (5-3/16)
Length (L)	316 (12-1/2)

► Specification

Voltage (V)	Current (A)	Cycle (Hz)	Continuous Rating (W)		Max. Output(W)
			Input	Output	
110	7.2	50 / 60	750	390	850
120	6.6	50 / 60	750	390	850
220	3.6	50 / 60	750	390	850
230	3.4	50 / 60	750	390	850
240	3.3	50 / 60	750	390	850

Orbits per min. : (min ⁻¹ = spm)	1,600 - 5,800
Oscillation rate per min.: spm = min ⁻¹	3,200 - 11,600
Rpm.of pad with Forcible-Rotation : rpm = min ⁻¹	180 - 670
Orbit diameter : mm (")	5.5 (7/32)
Pad diameter : mm (")	150 (6)
Cord length : m (ft)	2.5 (8.2)
Net weight :Kg (lbs)	2.7 (5.9)

► Standard equipment

- * Pad 150 (soft) 1pc. (factory-attached to the machine)
- * Abrasive disc 150-120 (Hook and loop type) 1 pc.
- * Hex wrench 6 1 pc.
- * Joint 1 pc. (only for European market)

< Note > The standard equipment for the tool shown may differ from country to country.

► Optional accessories

- * Pad 150 (hard)
- * - ditto - (soft)
- * - ditto - (super soft)
- * Abrasive disc 150 - 40, 60, 80, 120, 180, 240, 400
- * Sanding cloth 150 - 100, 200, 800
- * Sponge pad 150 (hook and loop type)
- * Felt pad 150 (hook and loop type)
- * Wool pad 150 (hook and loop type)
- * Side grip

< 1 > Replacing armature and spiral bevel gear 9

- 1) Take off tapping screw 4x18 and detach rear cover from motor housing. And detach carbon brush as illustrated in Fig.1.

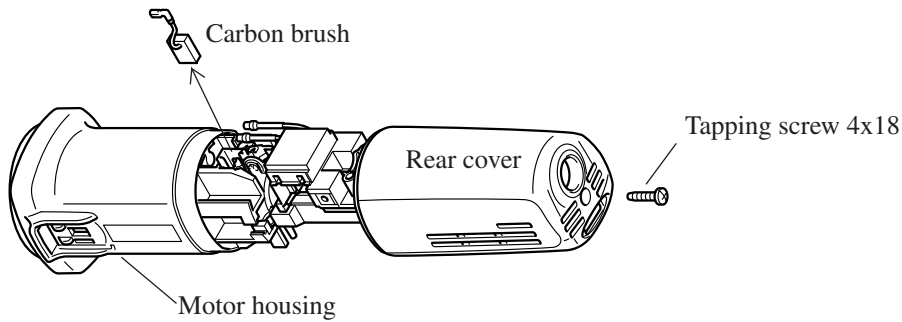


Fig. 1

- 2) Put the torsion spring installed on brush holder, on the side of brush holder after detaching carbon brush as illustrated in Fig.2. This is necessary for avoiding to scratch the armature's commutator, when armature is pulled out from motor housing.

The torsion spring put on the side of brush holder

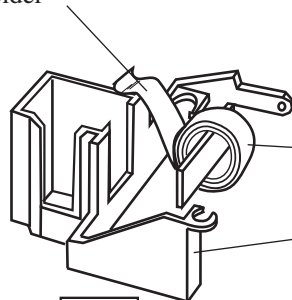


Fig.2

The torsion spring positioned as illustrated in Fig.2A can scratch the armature's commutator.

Torsion spring
Brush holder

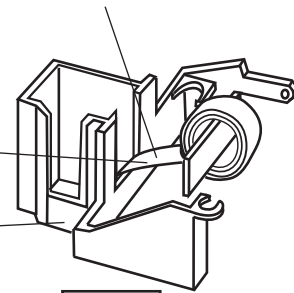


Fig.2A

It is not necessary to remove brush holder itself, when removing armature.

- 3) After pulling out armature from motor housing, remove retaining ring 6 with retaining ring plier, and detach spiral bevel gear 9 as illustrated in Fig.3.

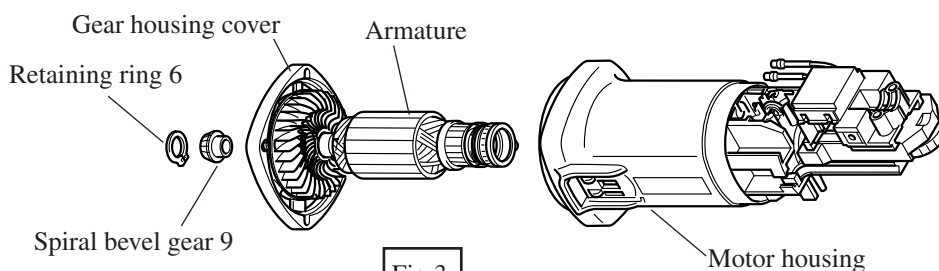


Fig.3

- 4) Remove armature from gear housing cover by pressing the armature shaft with arbor press as illustrated in Fig.4.

- 5) Take reverse step of the above, when assembling armature and spiral bevel gear.

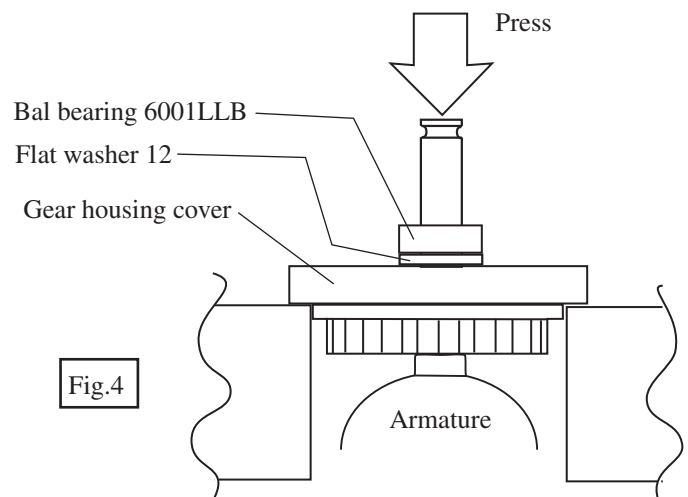


Fig.4

< 2 > Replacing ball bearing 6201LLB installed in skirt

- (1) Unscrew flat head screw M8x11 and detach head cover from gear housing. See Fig.5.
- (2) Unscrew pan head screw M4x12 and detach skirt from gear housing. See Fig.5.

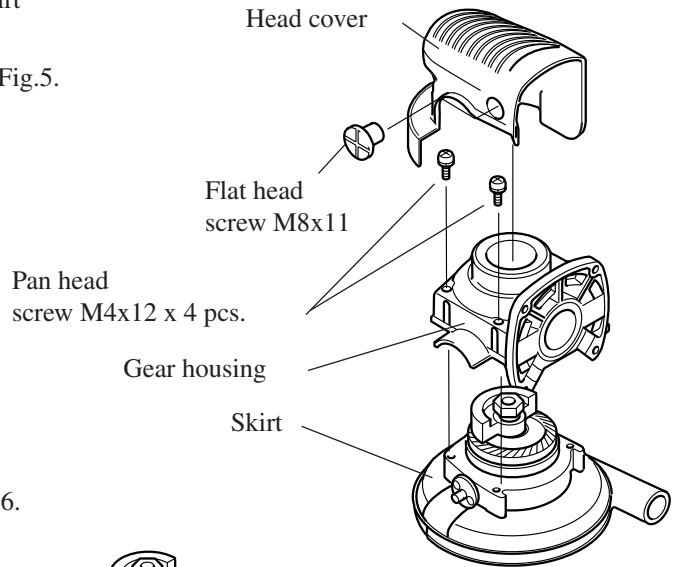


Fig. 5

- (3) Unscrew pan head screw M4x12 and detach bearing retainer 80 from skirt. See Fig.6.

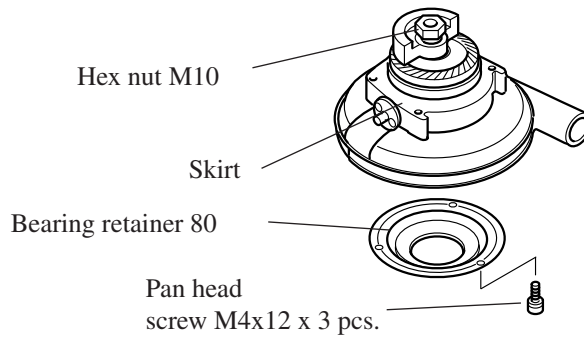


Fig. 6

- (4) Set box wrench 17 on hex nut M10 and insert hex wrench 6 into the hole of "spur gear 26 complete" as illustrated in Fig. 7. And loosen hex nut M10 with box wrench 17.

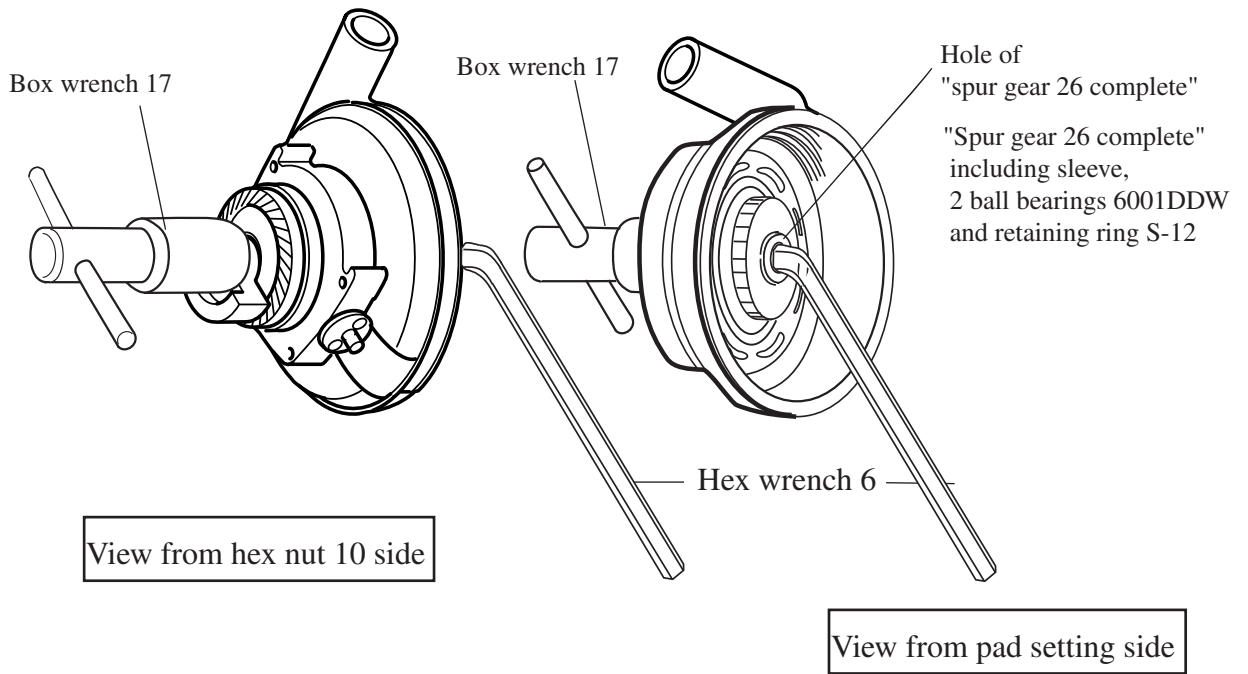
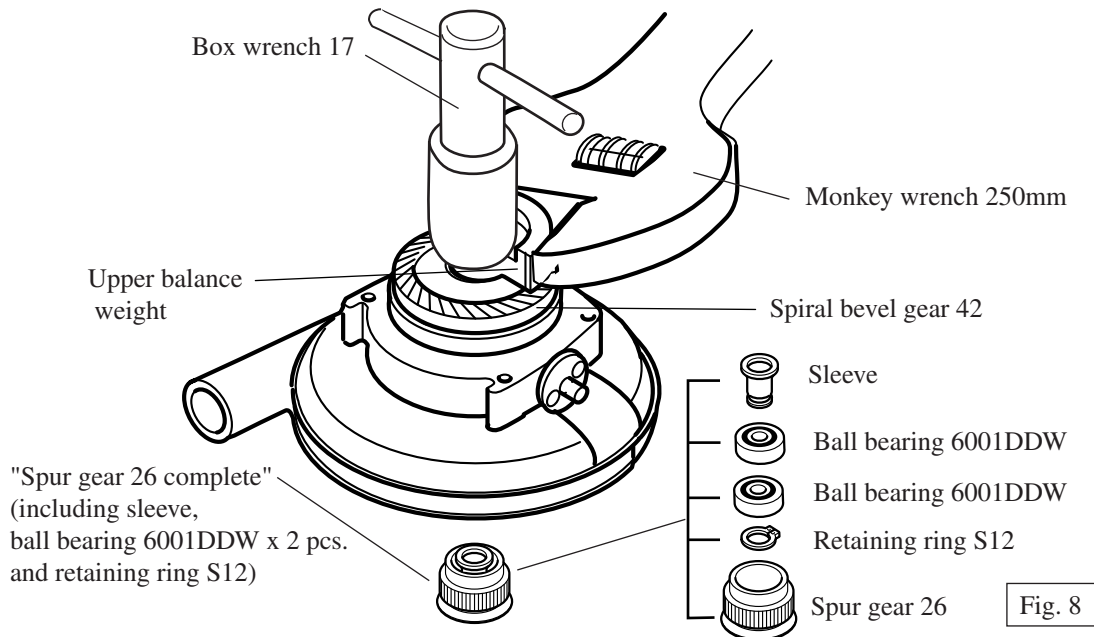
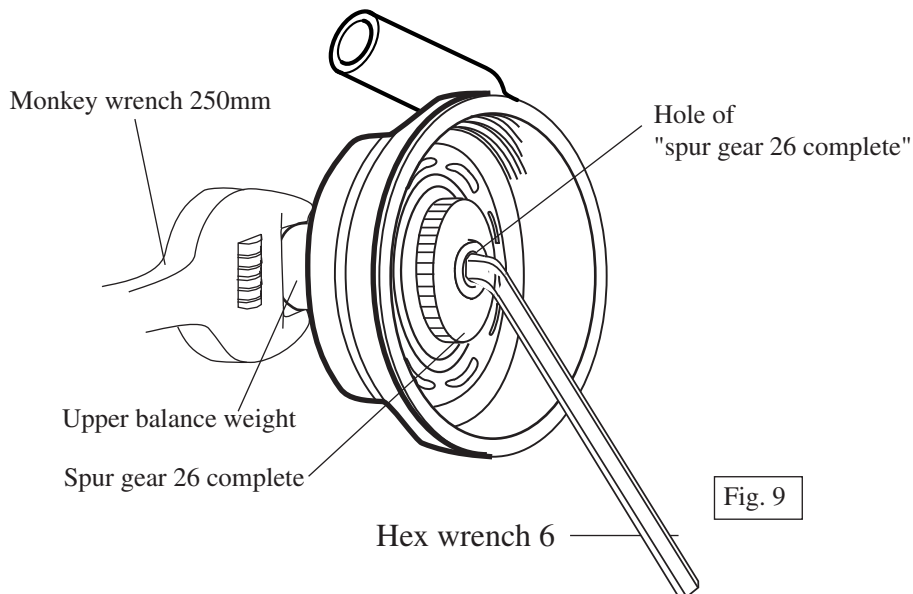


Fig. 7

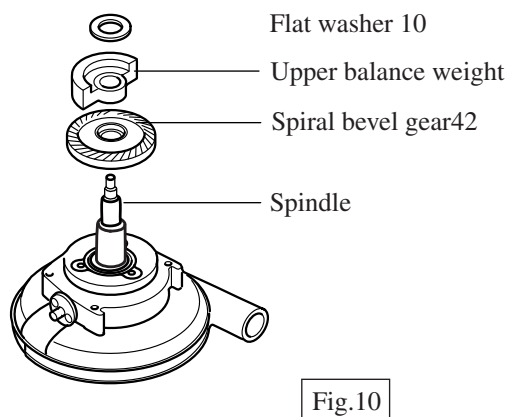
(4-A) If "spur gear 26 complete" is loosened first, Remove "spur gear 26 complete". And loosen hex nut M10 with box wrench 17, gripping upper balance weight with monkey wrench 250mm. See Fig. 8.



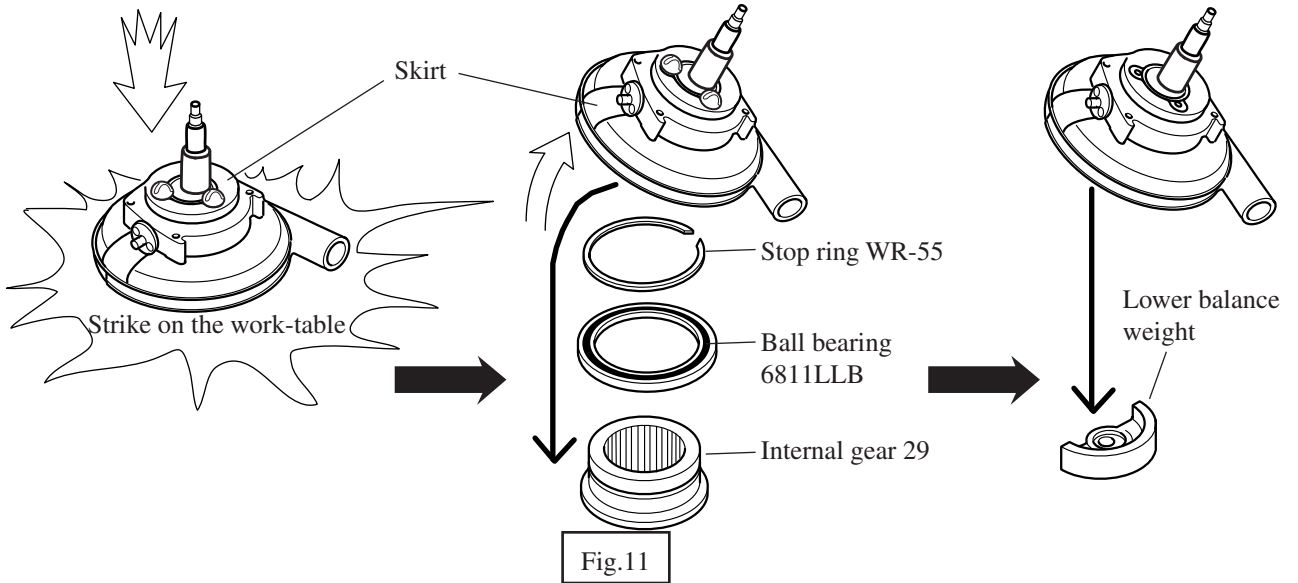
(4-B) If hex nut M10 is loosened first, Tighten hex nut M10 provisionally And remove upper balance weight with monkey wrench 250m, holding "spur gear 26 complete" with hex wrench 6. See Fig. 9.



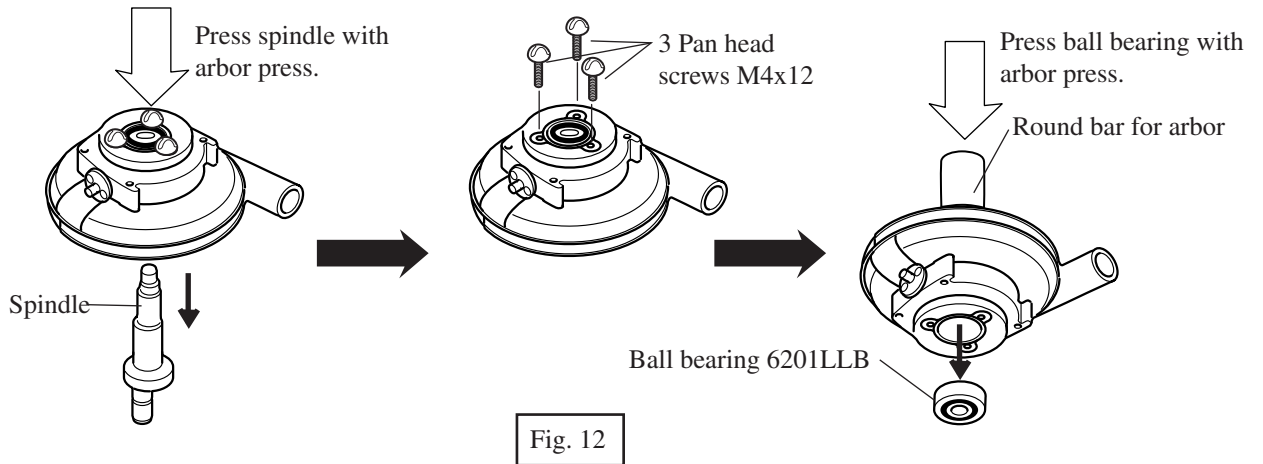
(5) Remove flat washer 10, upper balance weight and spiral bevel gear42 from spindle as illustrated in Fig.10.



(7) Remove internal gear 29, ball bearing 6811LLB and stop ring WR-55 by striking skirt on the work-table covered with soft sheet as illustrated in Fig.11. And then, remove lower balance weight.

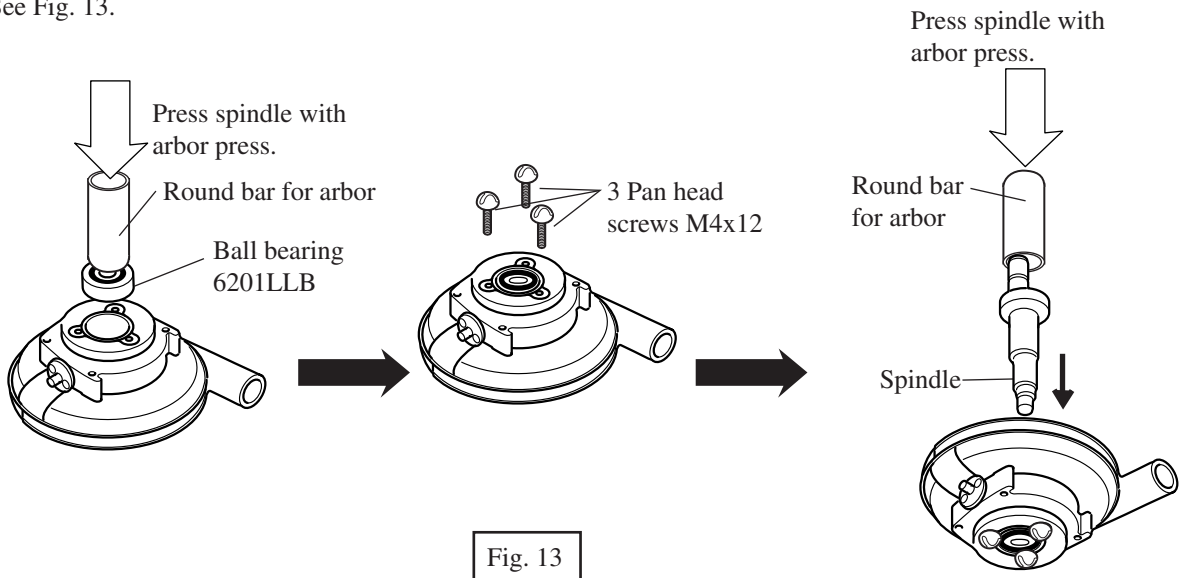


(8) Remove spindle from skirt with arbor press as illustrated in Fig. 12. Take off 3 pan head screws M4x12 holding ball bearing 6201LLB. And then, remove ball bearing 6201LLB with arbor press from skirt.

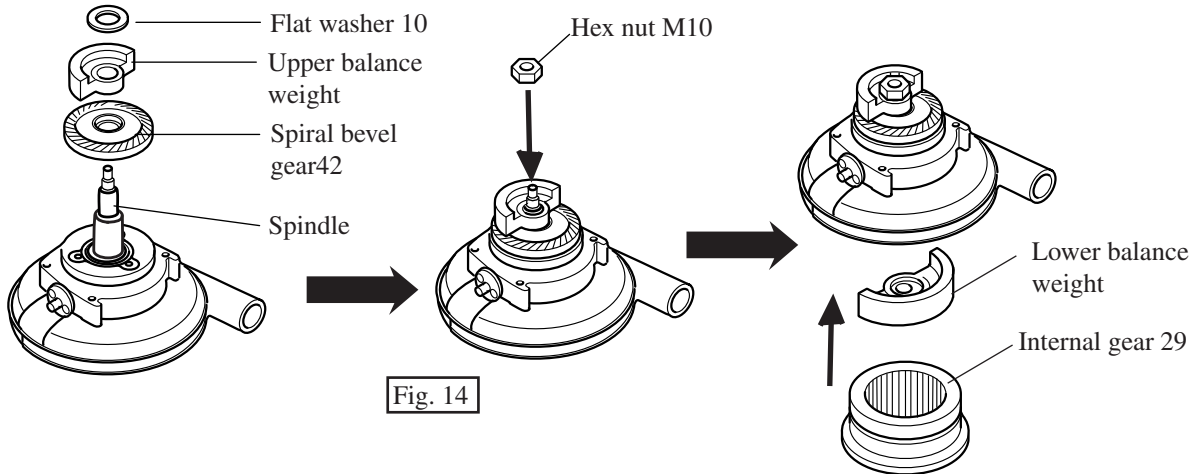


(9) Assembling skirt section

(9-1) Assemble ball bearing 6201LLB by pressing it with arbor press. Fix the ball bearing 6201LLB with 3 pan head screws M4x12. And then, assemble spindle with arbor press. See Fig. 13.

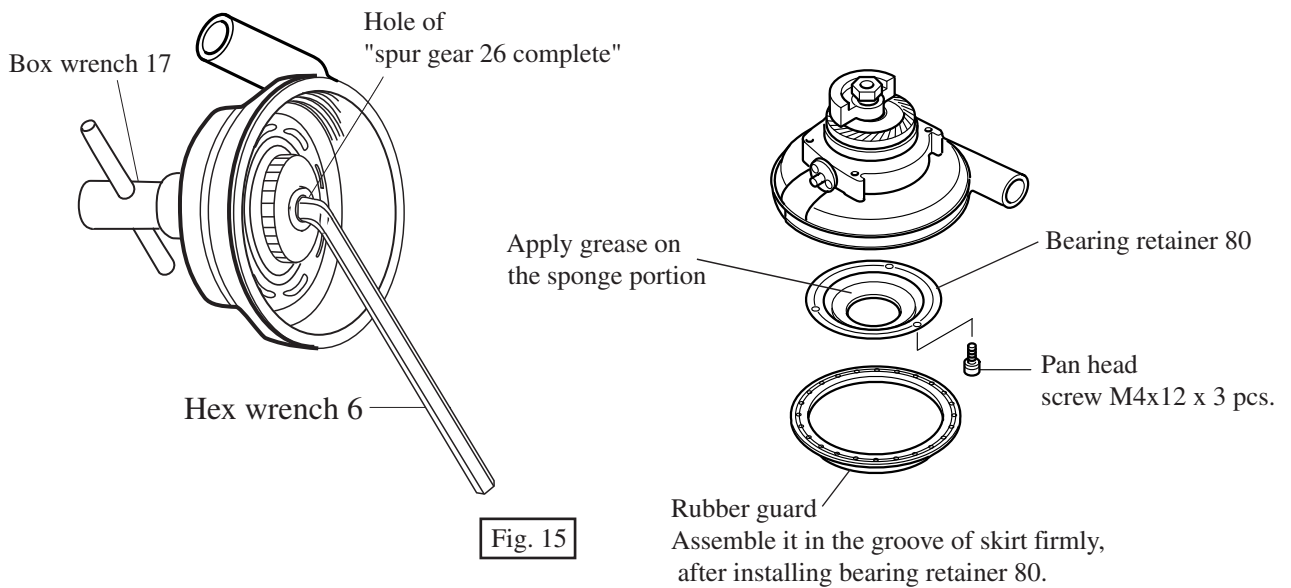


(9-2) Assemble spiral bevel gear 42, upper balance weight and flat washer 10. And then, tighten hex nut M10 provisionally. Assemble internal gear 29 after installing lower balance weight.



(9-3) Set box wrench 17 on hex nut M10 and insert hex wrench 6 into the hole of "spur gear 26 complete" as illustrated in Fig. 15. And fasten hex nut M10 with box wrench 17. Hold bearing retainer 80 with 3 pan head screws M4x12.

< Note > Apply grease on the sponge portion of bearing retainer 80.



► **Repair**

< 3 > Replacing ball bearing 6001DDW installed in "spur gear 26 complete"

See Fig. 16.

- 1) In order to replace ball bearing 6001DDW, the removed spindle is needed as a repairing tool.
Screw spindle into sleeve installed in "spur gear 26 complete" as illustrated in Fig. 17.

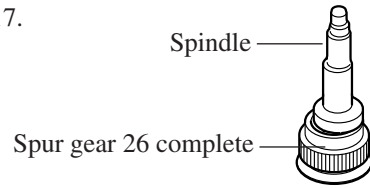


Fig. 17

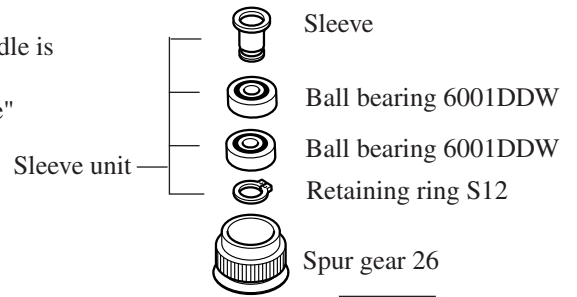


Fig. 16

- 2) Hold "spur gear 26 complete" with No.1R232 pipe 30 and No.1R037 bearing setting plate as illustrated in Fig. 18.
Remove spindle together with sleeve unit (including 2 ball bearings 6001DDW and retaining ring S-12) from spur gear 26, by pressing No.1R235 "round bar for arbor" with arbor press as illustrated in Fig. 18. And then, remove spindle from sleeve unit by unscrewing.

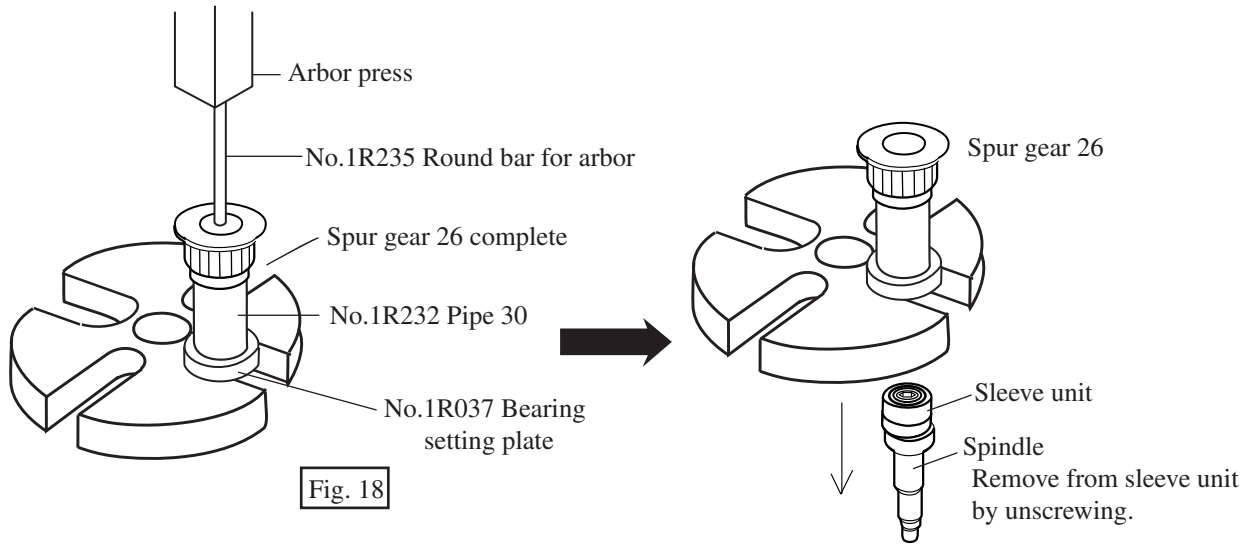


Fig. 18

- 3) Remove retaining ring S-12 from sleeve with retaining ring plier ST-1.
Press No.1R235 "round bar for arbor" set on sleeve. Then, Ball bearing 6001DDW can be separated from sleeve. See Fig. 19.

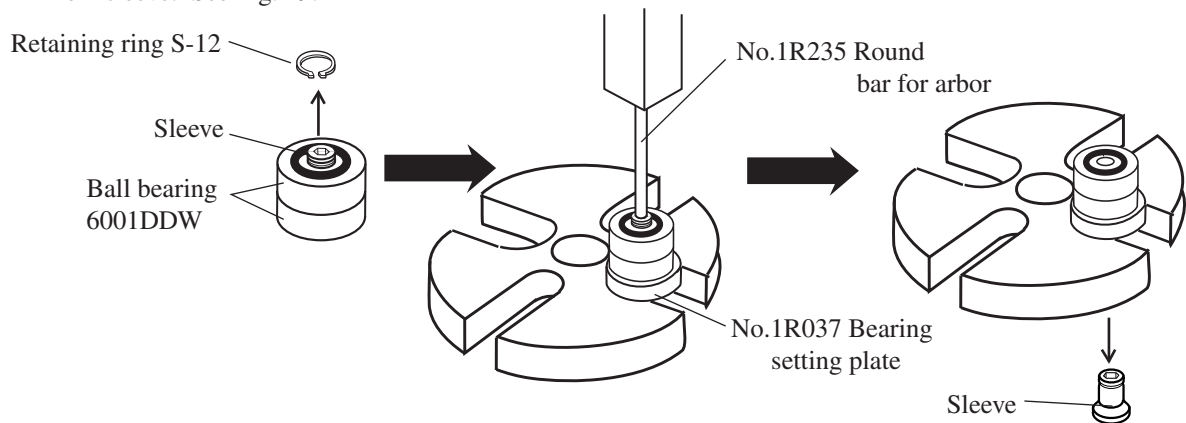


Fig. 19

- 4) Assembling ball bearing 6001DDW installed in "spur gear 26 complete"
 Assemble sleeve to new ball bearings 6001DDW by pressing it, and assemble retaining ring S-12 to sleeve.
 And then, press them into spur gear 26. See Fig. 20.

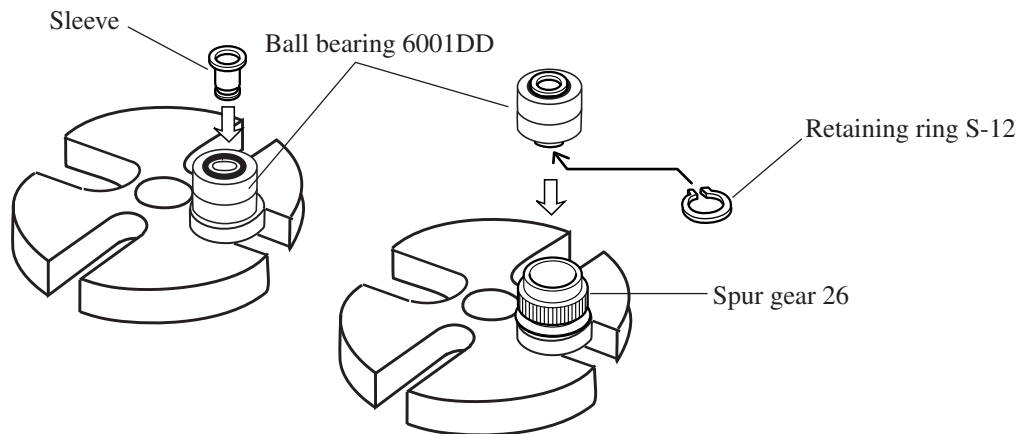


Fig. 20

< 4 > Replacing ball bearing 6811LLB installed in internal gear 29

- 1) Remove stop ring WR-55 with No.1R003 retaining plier from internal gear 29. The, ball bearing 6811LLB can be removed from internal gear 29 with hand. See Fig. 21.

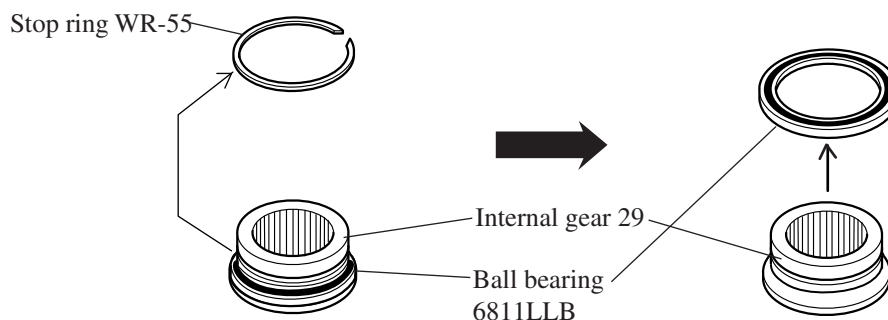


Fig. 21

When assembling ball bearing 6811LLB, take reverse step of Fig. 21.

< 5 > Replacing holder for action mode change

- 1) Install unit of internal gear 29 (including ball bearing 6811LLB and stop ring WR-55) in skirt.
- 2) Detach cap. And then, remove pan head screw M4x12, knob, spring holder and compression spring 4 as illustrated in Fig. 22.
- 3) Remove holder from skirt. And apply grease to the surface of new holder.
- 4) When assembling, install new holder, compression spring 4, spring holder and knob. And assemble cap by fastening it with pan head screw M4x12.

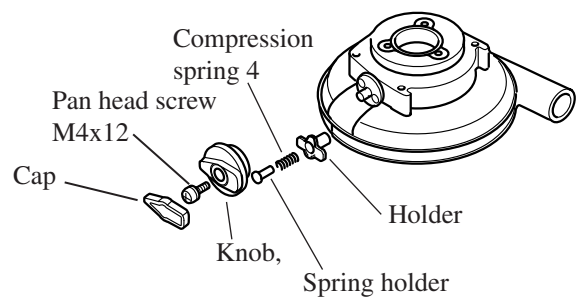
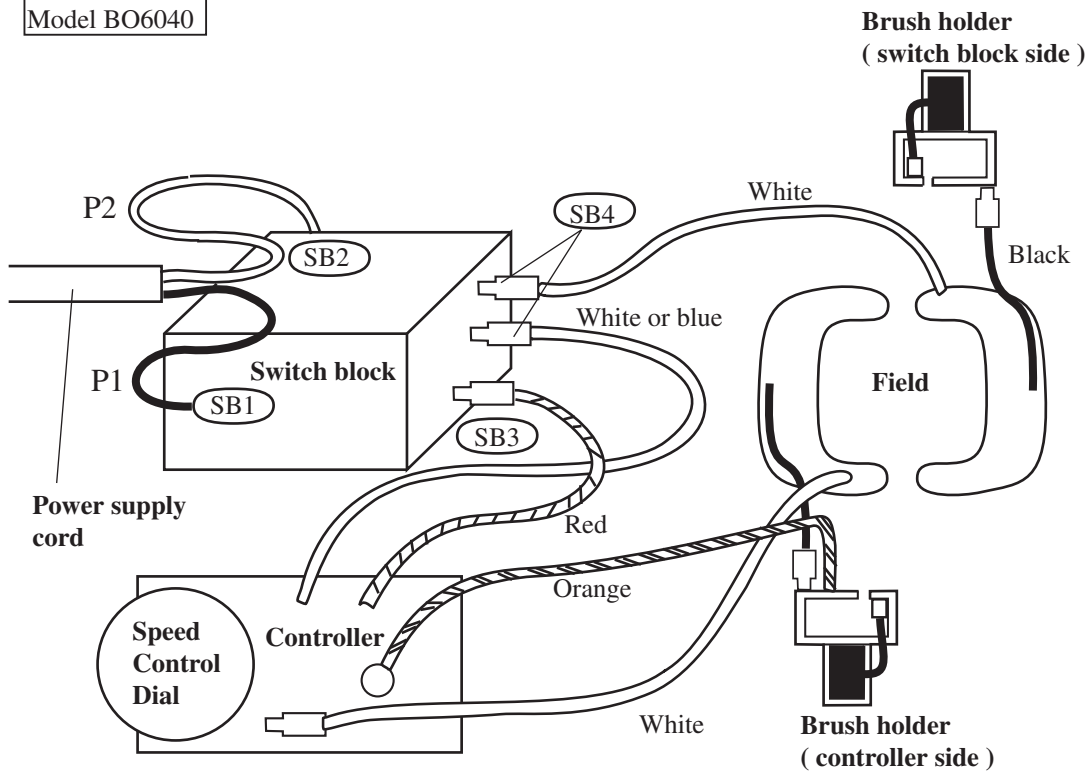


Fig. 22

Model BO6040



< Note >

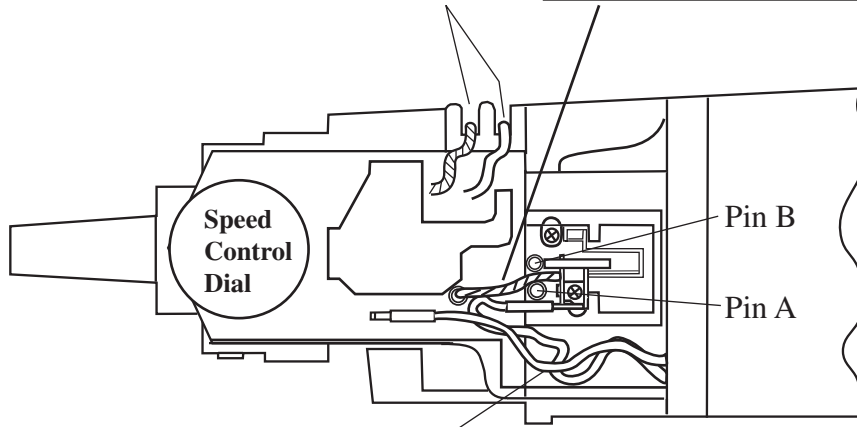
The lead wire (orange) for connection of controller and brush holder is not used in some countries.

Fig. 23

Model BO6040

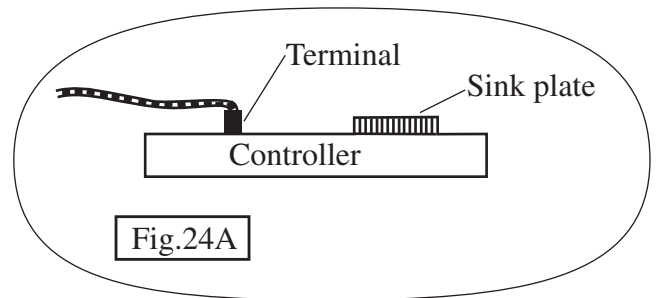
Put the lead wires of controller in the lead holder so that they are not slacken.

Fix lead wire of controller with lead holder between pin A and pin B.
Infect the lead wire at the terminal in right angle. See Fig 24A.



Be careful not to loosen the lead wires of field in motor housing
Put the loosened lead wires in the above place.

Fig. 24



Put lead wires of power supply cord by strain relief as illustrated in Fig. 25.

Do not loosen the lead wires of filed in motor housing.
Put the loosened ones in the place as illustrated in Fig.25.

Fix lead wires of controller with lead holder.

Put their slack part in the place as illustrated in Fig.25.

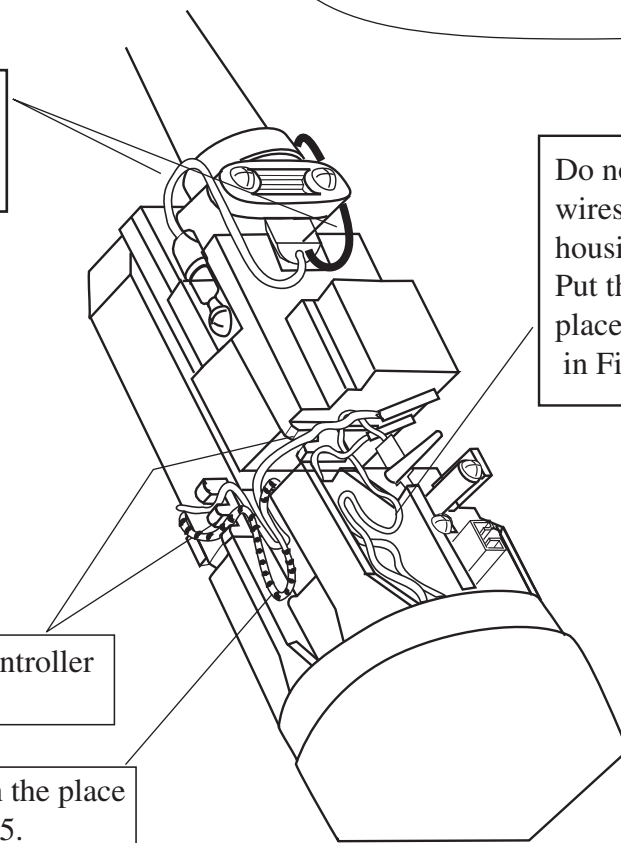


Fig. 25