TECHNICAL INFORMATION

New Tool

Models No. ► UM401D

Description ► 400mm Cordless Lawn Mower

CONCEPT AND MAIN APPLICATIONS

Model UM401DW is cordless lawn mower powered with 24V lead battery.

Its effective cutting width by rotary blade is 406mm(16"). Its brief benefits are;

*No pollution owing to no exhaust gas and less noise

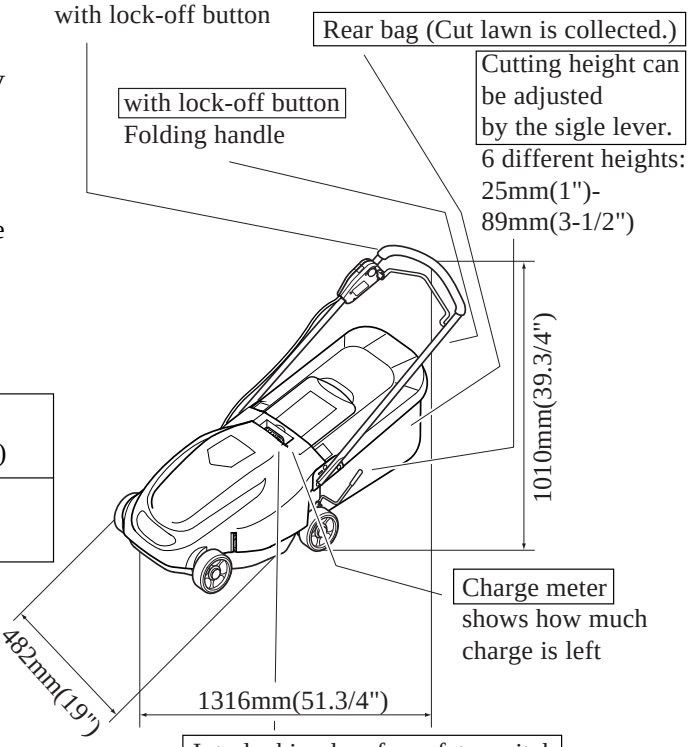
*Can mow approx.75 min.. continuously(approx. l200m) from a single charge.

Without rear bag With mulching plate	Mulching (Scattering cut lawn to turf)
With rear bag Without mulching plate	Collecting cut lawn

*Chaging time

3Hr :.75% charge

4Hr : Full charge



Model UM4OlDW is with Charger DC240.

Cutting capacity

1200m² from a single charge

Charging time

4Hr Competitors' tools'charging time are 16-24Hr.

Mulching(scattering cut lawn to turf)

can be performed without rear bag but with mulching plate

Specifications

Motor	DC 24V magnet motor
Battery	24V lead battery (15Ah)
No Load Speed	3800rpm
Effective cutting width	406mm(16")
Effective cutting height	25mm(1")-89mm(3-1/2") ------ 6 heights
Net Weight	31.9kg (70.3 lbs)

Standard equipment

Socket Wrench 13 ---------- 1 pc.

Wrench 32 ---------- 1 pc.

Key(for interlocking safety switch) ----- l pc.

Mulching Plate ----------1 pc.

Optional accessories

Swing Saw Blade 406

The standard equipment for the tools shown may differ form country to country.

► Repair

*Cautions in repairing

Caution (1) : Be sure to turn off the interlock switch and take away the key before repairing for safety.

Caution (2) : This machine consists of the battery. If the curling has been removed, the battery and lead wire will be exposed. Use care not to get a short circuit. Especially take care that the metal ruler and driver etc. in the breast pocket may not drop on the machine when you have bent forward.

Caution (3) Many strong impact proof resins(polypropylene) are used for this machine. Since fastening the tapping screws by the excessive torque may damage the female screws, be sure to apply the tool fastening torque as specified. Do not fasten manually or never use the tool that cannot set the torque as specified.

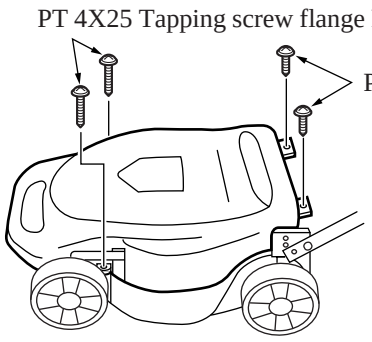
Torque set for the tool when fastening the screws

(1) Tapping screw flange PT 4x18	=>	8-12 kgf-cm (0.6 - 0.9 ft-lbs)
Note that the following is excluded.		
i) For the cord lamp of deck and switch box	=>	10-12 kgf-cm (0.7- 0.9 ft-lbs)
ii) For the plate of front/rear shafts	=>	12-16 kgf-cm (0.9-1.2 ft-lbs)
(2) Tapping screw flange PT 4x25	=>	8-12 kgf-cm (0.6 -0.9 ft-lbs)
(3) Tapping screw flange PT 5 x25	=>	18-22 kgf-cm (1.3-1.6 ft-lbs)
(For battery holder complete)		
(4) Tapping screw flange PT 5X25	=>	10-14 kgf-cm (0.7-1.0 ft-lbs)
(For control panel)		

1.Disassembling of blade

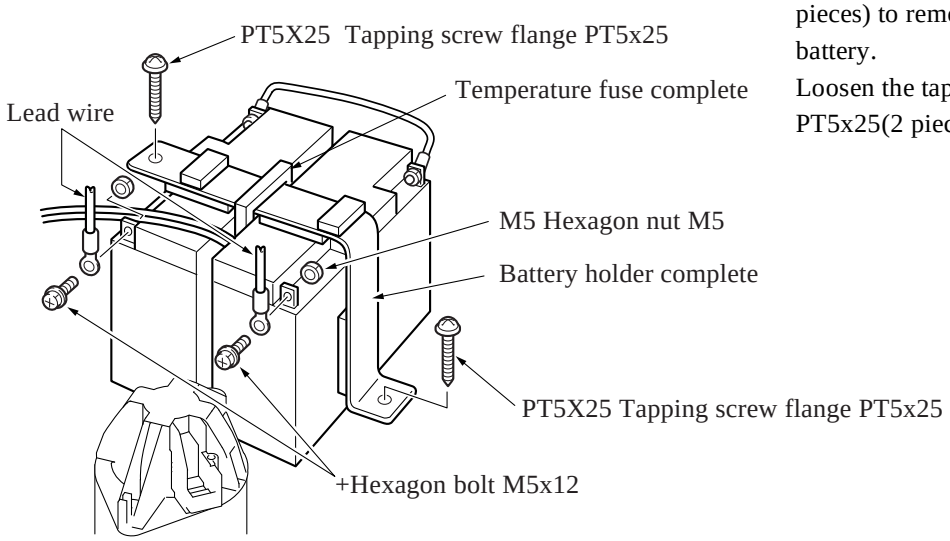
To disassemble the motor assembly, remove the blade beforehand. See the instruction manuals for disassembling methods.

2.How to remove the cowling

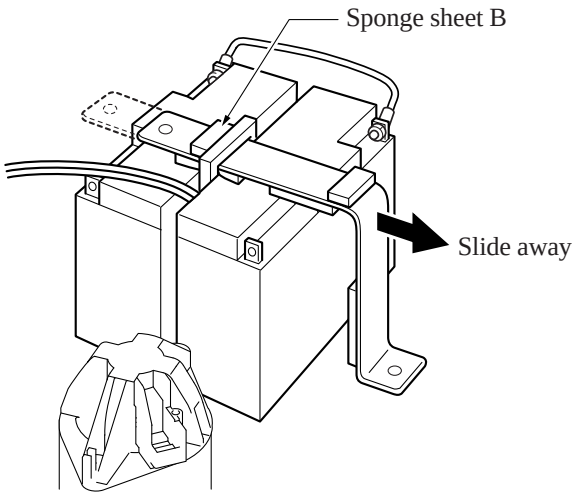


Remove the rear bag, and then loosen the tapping screw PT4x25(2 pieces) and PT4x18(2 pieces) for mounting the curling to disconnect the curling.

3.Replacing of the battery



Loosen the +Hexagon bolt M5x12(2 pieces) to remove the lead wire from the battery.
Loosen the tapping screw flange PT5x25(2 pieces).

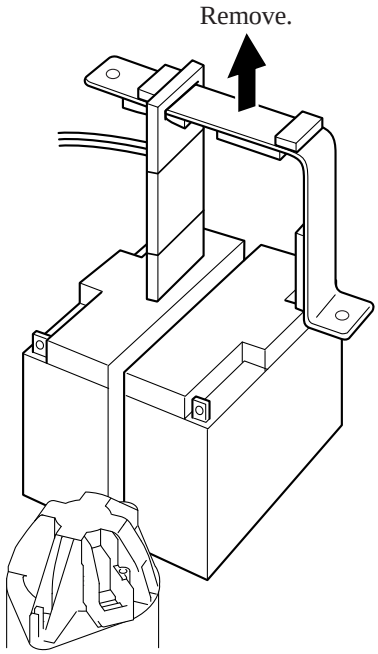


Slide the battery holder complete upward to take away it.
Remove the battery from deck and then replace it.

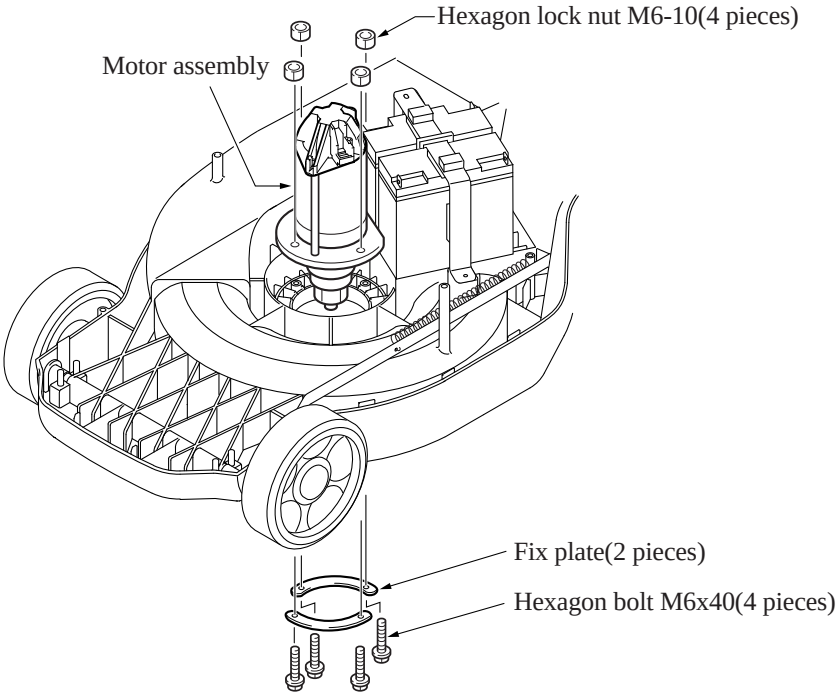
<Cautions in assembling>

Be sure to place the temperature fuse complete between batteries.

Slide the battery holder complete until the sponge sheet B touches with the temperature fuse complete.



4.How to remove the motor assembly



Engage the box wrench 10 with both hexagon lock nut M6-10 and hexagon bolt M6x40, and then disassemble the hexagon bolt M6x40 and the fix plate.

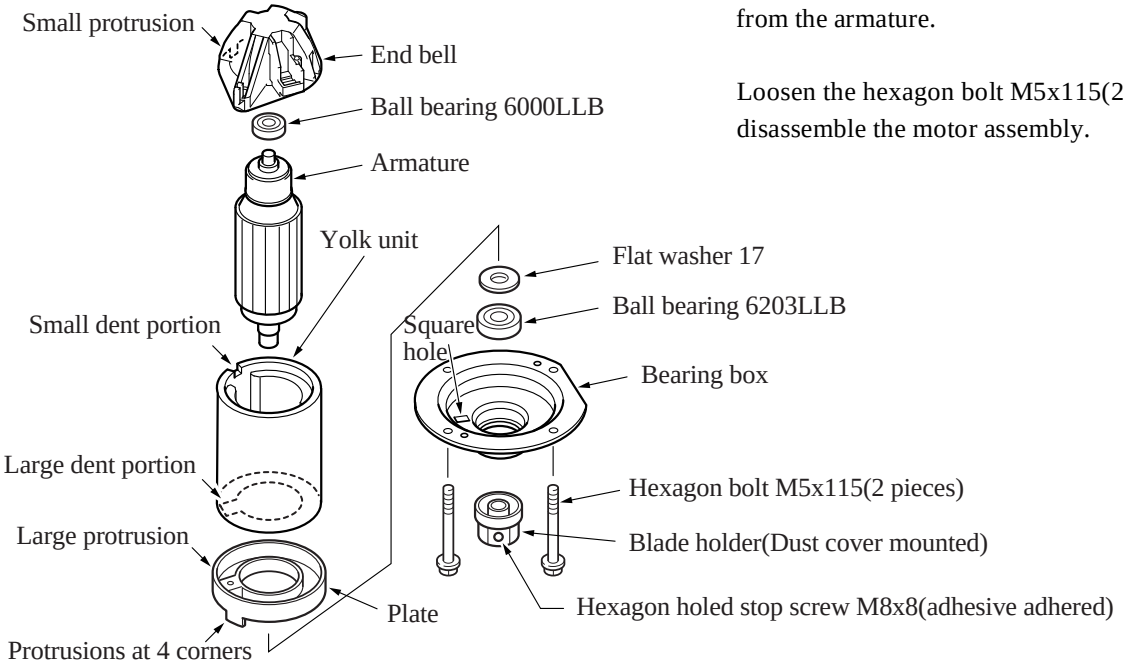
<Cautions in assembling>

Fasten the hexagon bolt M6x40 under the tool setting torque of 40-60 kgf-cm[2.9-4.3 ft-lbs] when assembling.

5.Disassembling of motor assembly

Loosen the hexagon holed stop screw M8 x 8 (Adhesive attached) to remove the blade holder from the armature.

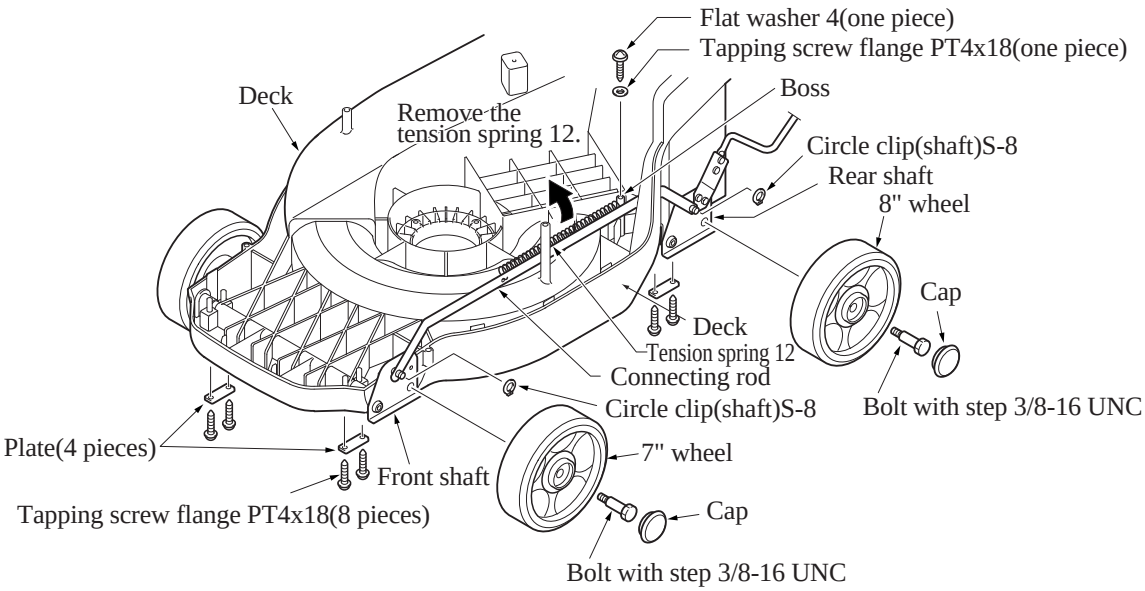
Loosen the hexagon bolt M5x115(2 pieces) to disassemble the motor assembly.



<Cautions in assembling>

Fasten the hexagon bolt M5x115 under the tool setting torque of 20-30 kgf-cm[1.4-2.2 ft-lbs] when assembling. Make fit of each dent and protruded portions on the end bell, yolk unit, plate and bearing box, respectively.

6.How to remove the connecting rod, front shaft and rear shaft



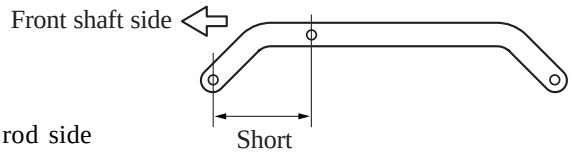
Remove the wheel cap and then loosen the bolt with step 3/8-16 UNC to disconnect the 7" wheel and 8" wheel. Loosen the tapping screw flange PT4x12(1 piece) to remove the flat washer 4. Remove the tension spring 12 from the boss on the deck. Remove the circle clip(shaft)S-8 from the front and rear shafts. Remove the connecting rod.

Loosen the tapping screw flange PT4x18(8 pieces) on the back of the deck to remove the plates(4 pieces)

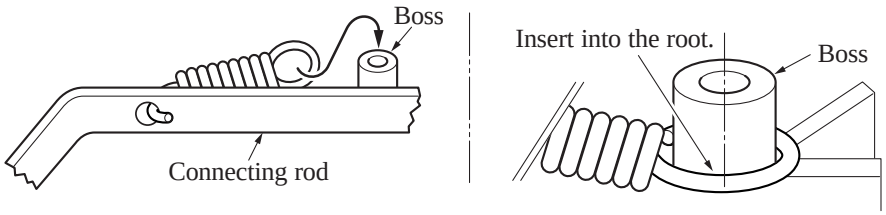
Remove the front shaft and rear shaft from the deck.

<Cautions in assembling>

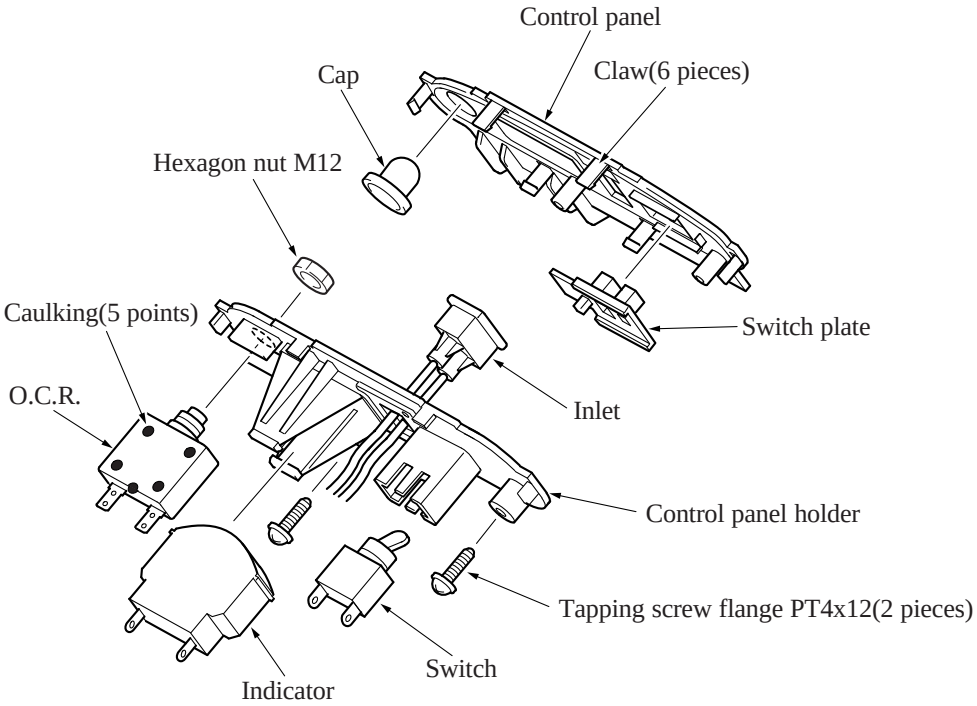
Assemble the shorter side of the connecting rod on the front shaft.



For the tension spring 12, first assemble the connecting rod side and then insert the hook at back side into the root of boss on the deck.



7.Disassembling of the control panel



Loosen the tapping screw flange PT4x12(2 pieces) to remove the claws at 6 points, and then disassemble the control panel and control panel holder.

To disassemble the inlet, cut off the lead wire.

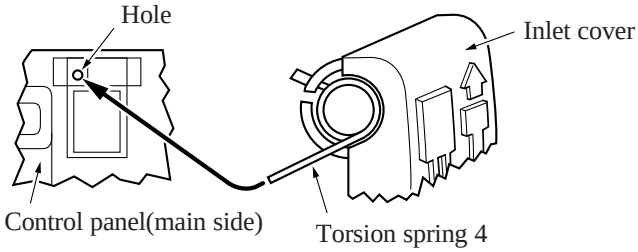
<Cautions in assembling>

Assemble the switch while the switch lever is being turned off.

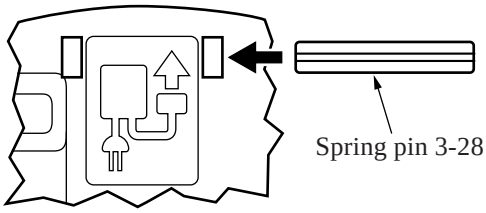
Use care of directions for up/down when assembling the indicator.

Assemble the O.C.R. while the face with 5 caulking faced up.

How to assemble the inlet cover

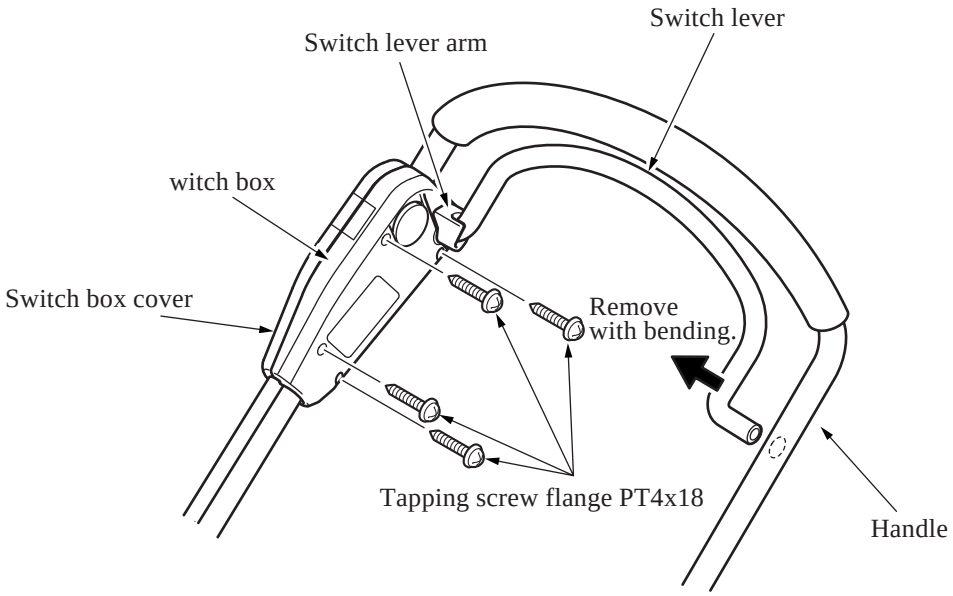


Set the torsion spring 4 on the inlet cover as shown on the figure and then insert the longer arm of the torsion spring 4 through the hole of control panel.



Insert the spring pin 3-28 in the direction shown on the figure and then mount the inlet cover.

8.Disassembling of the switch box



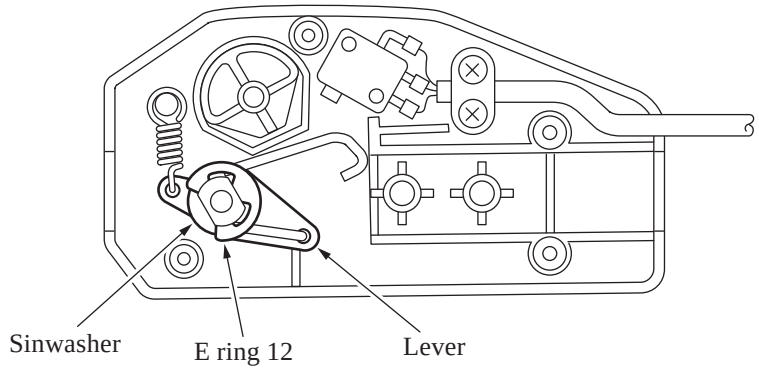
Slightly bend the switch lever and then remove the switch lever from the handle.
Loosen the tapping screw flange PT4x18(4 pieces), and remove the switch box and switch box cover from the handle.

Caution : Use care not to miss the compression spring 16 as it may potentially jump out.

Disconnect the E ring 12 to remove the

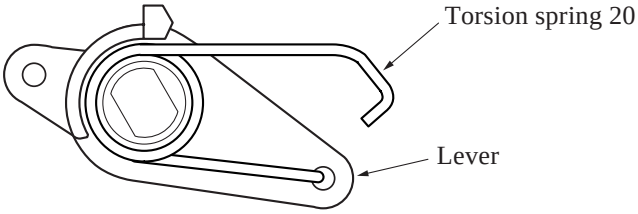
15, lever and switch

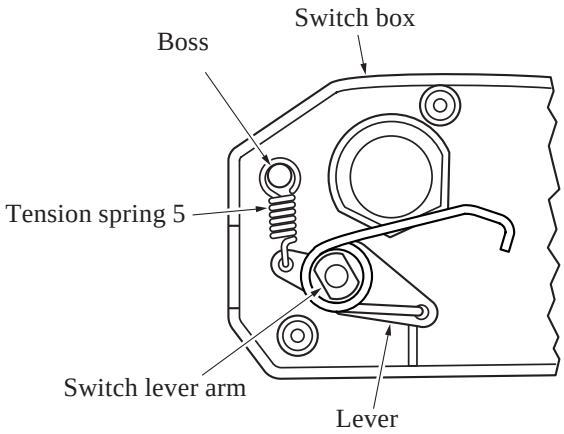
lever arm etc.



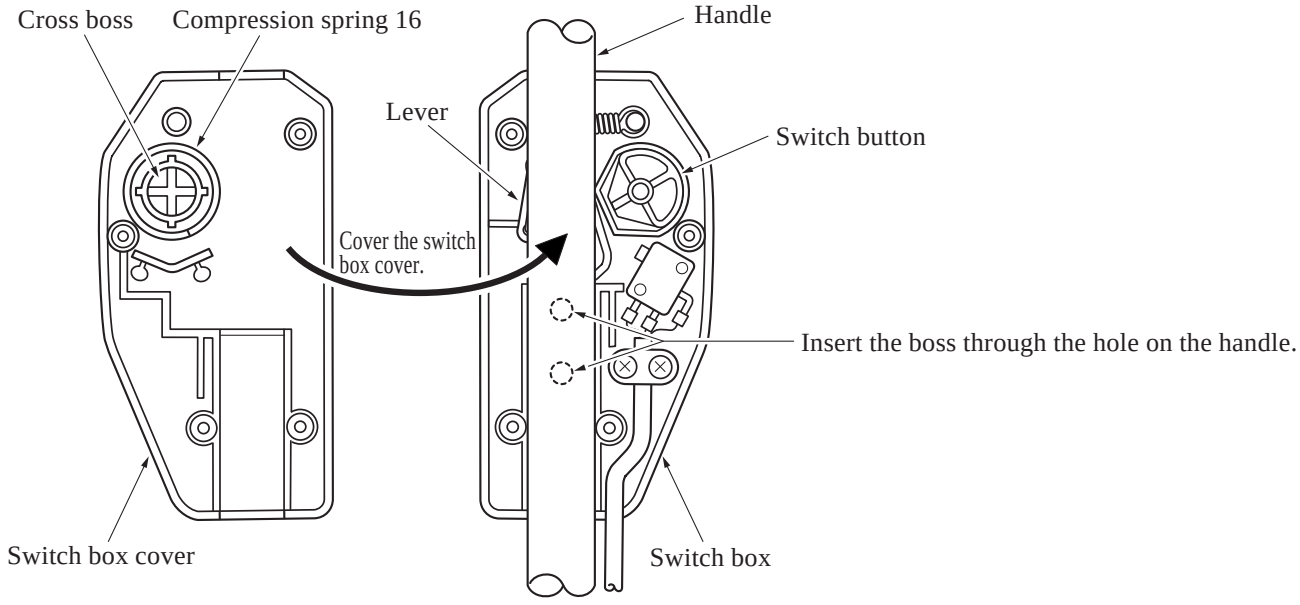
<Cautions in assembling>

Set the torsion spring 20 on the lever as shown on the figure.





Insert the U-shaped hook of the tension spring 5 through the hole of lever. Also set the circle-shaped hook on the boss of the switch box.
Mount the lever on the switch lever arm which has been pre-mounted on the switch box.
Set the thin washer 15 and E ring 12 to fix.



Insert the boss(2 pieces) of the switch box equipped with the lever and switch button through the hole on the handle to assemble.
Set the compression spring 16 on the cross boss of the switch box cover, and then mount the switch box cover on the switch box.

Circuit drawing