

# Service Manual

Cordless Drill &amp; Driver

EY503

## &lt; Specifications &gt;

**DRILL/DRIVER**

Motor voltage : 2.4V DC  
 No load speed : LOW 200 r.p.m.  
                   HIGH 400 r.p.m.  
 Maximum torque : LOW 2.9Nm, 30kg-cm, 26in. lbs.  
                   HIGH 1.5Nm, 15kg-cm, 13in. lbs.  
 Maximum clutch torque : 2.0Nm, 20kg-cm, 17.5in. lbs. at 5 position  
 Overall length : 237mm, 9-11/32"  
 Weight : 0.4kg, 0.9 lbs.  
 (with battery pack)

**BATTERY PACK**

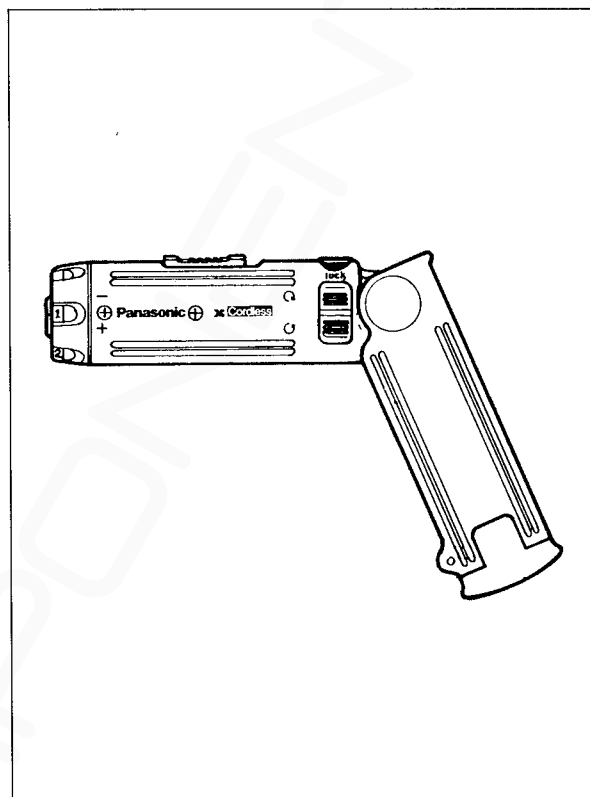
Storage battery : Ni-Cd battery  
 Battery voltage : 2.4V DC (1.2V×2cells)

**BATTERY CHARGER**

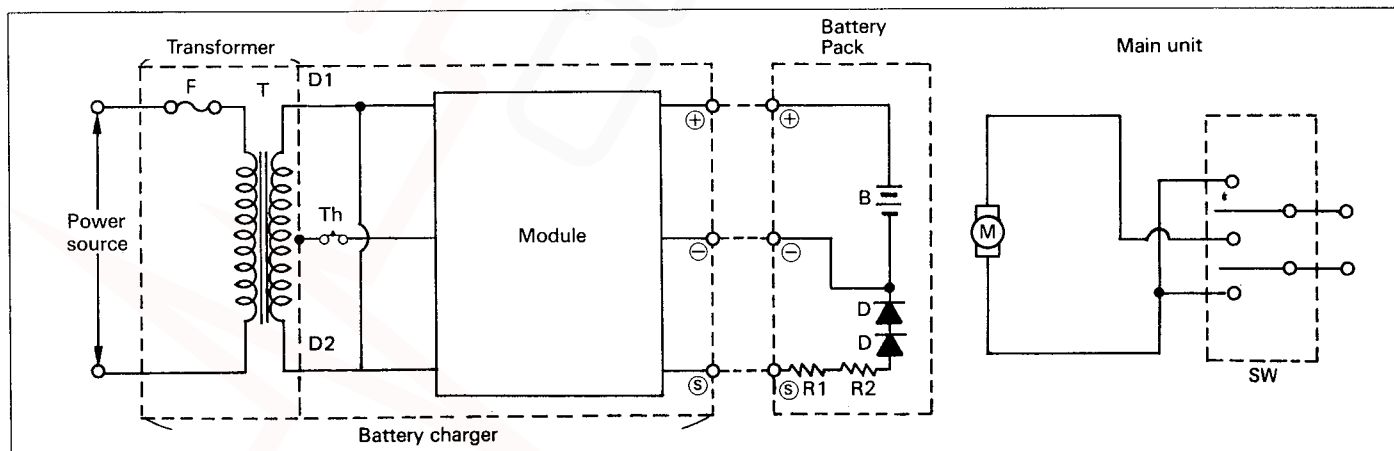
Input : 220,230,240V AC separately available  
 Weight : 0.67kg, 1.5 lbs.  
 Charging time : Standard 1 hour

## &lt; Standard equipment &gt;

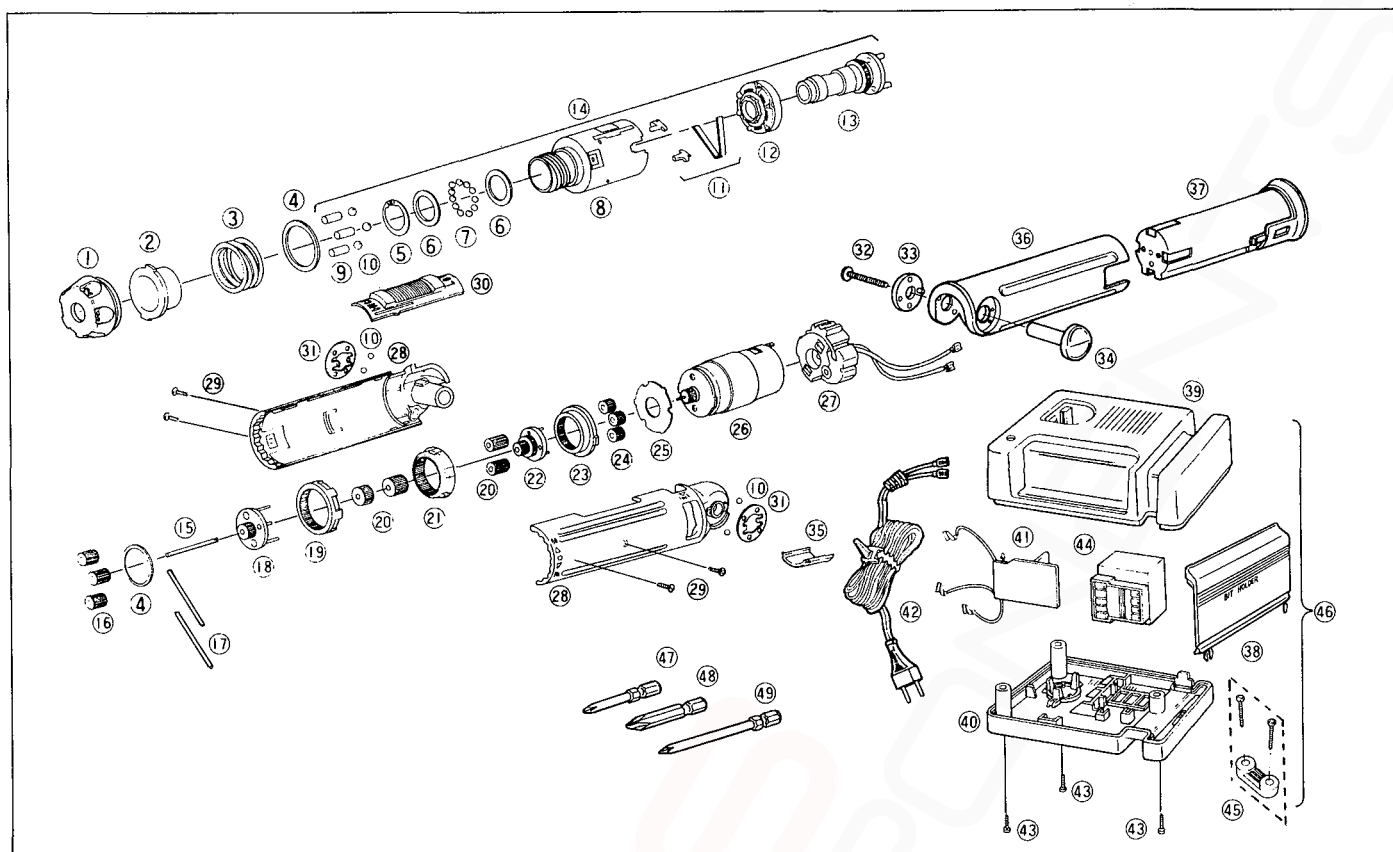
Battery pack  
 Battery charger  
 #1 phillips bit (45mm)  
 #2 phillips bit (45mm)  
 #2 phillips bit (75mm)



## SCHEMATIC DIAGRAM



# EXPLODED VIEW

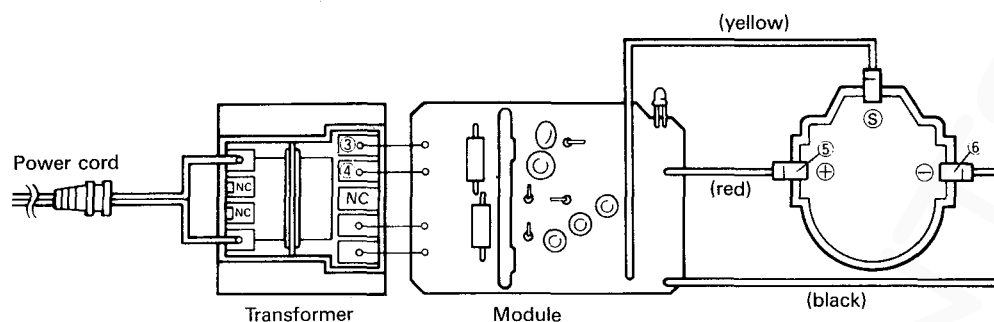


## REPLACEMENT PARTS LIST

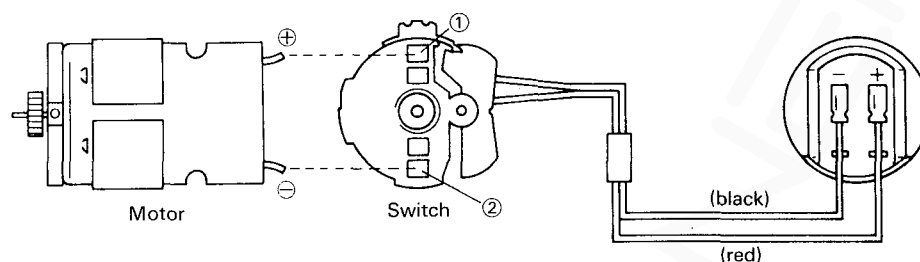
Ref No	Part No.	Part Name & Description	Per set	Remarks	Ref. No.	Part No.	Part Name & Descriptions	Per set	Remarks
1	WEY503H3228	Clutch handle	1		27	WEY503Y2008	Switch	1	
2	WEZ503B0637	Adjust ring	1		28	WEY503B3082	Housing AB set	1	
3	WEZ503B0167	Spring for clutch	1		29	WEZ503B9167	Housing screw	4	Available individually
4	WEZ503B0847	Thrust plate	2	Available individually	30	WEY503H3238	Change gear handle	1	
5	WEZ502B0417	Stop ring	1		31	WEZ502B0187	Click spring	2	Available individually
6	WEZ502B6437	Washer	2	Available individually	32	WEZ502B6217	Tapping screw for grip	1	
7	WEZ503B1927	Steel ball B set	18	Only available as set	33	WEZ503H6247	Decorative washer	1	
8	WEZ503B1767	Gear case	1		34	WEZ503H6347	Fastening nut	1	
9	WEZ503B0397	Clutch pin set	3	Only available as set	35	WEZ502B0877	Hinge cover	1	
10	WEZ503B1917	Steel ball A set	7	Only available as set	36	WEY503B3941	Grip block	1	
11	WEZ503B0927	Lock spring lug set	1		37	EY903B	Battery pack	1	Commercial available
12	WEZ503B1457	Ring gear A	1		38	WEZ502B7907	Bit holder	1	
13	WEZ503B1127	Driving shaft	1		39	WEY0020B3099	Housing A for charger	1	
14	WEZ503B1797	Gear case block	1		40	WEY0020Y3029	Housing B for charger	1	
15	WEZ503B0367	Pin E	1		41	WEZ503B2129	Module	1	
16	WEZ503B1357	Planet gear A	3	Only available as set	42	WEZ503B2060	Power cord	1	
17	WEZ503B0357	Pin D set	2	Only available as set	43	WEZ78339067	Tapping screw for charger	3	Available individually
18	WEZ503B1647	Carrier A	1		44	WEZ503B2240	Power transformer	1	
19	WEZ503B1467	Ring Gear B	1		45	WEZ562B0218	Cord anchore set	1	
20	WEZ503B1367	Planet gear set	1		46	EY0020B	Battery charger (Complete)	1	Commercial available
21	WEZ503B1477	Ring gear C	1		47	WEZ502B7887	Bit (+) 45mm	1	
22	WEZ503B1117	Carrier B	1		48	WEZ502B7927	Bit (+) 45mm	1	
23	WEZ503B1487	Ring gear D	1		49	WEZ502B7957	Bit (+) 75mm	1	
24	WEZ503B1377	Planet gear D	3	Only available as set	—	WEY503B8012	Individual box	1	
25	WEZ502B0207	Internal presser	1		—	WEY503B8113	Operating instructions	1	
26	WEZ503B1007	Motor	1						

# WIRING CONNECTION DIAGRAM

## Battery Charger



## Main Unit



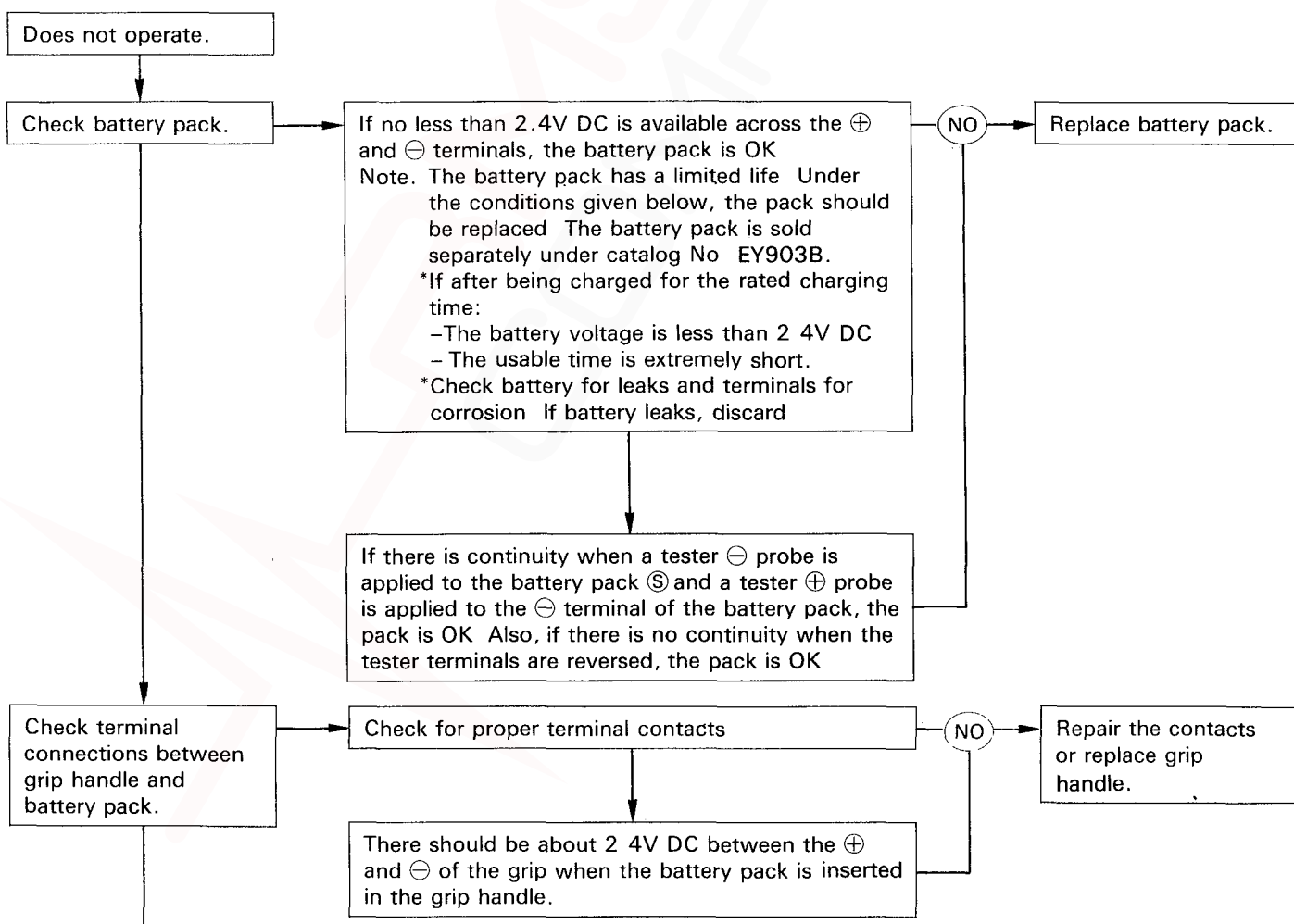
※The color of wires are subject to change without notice

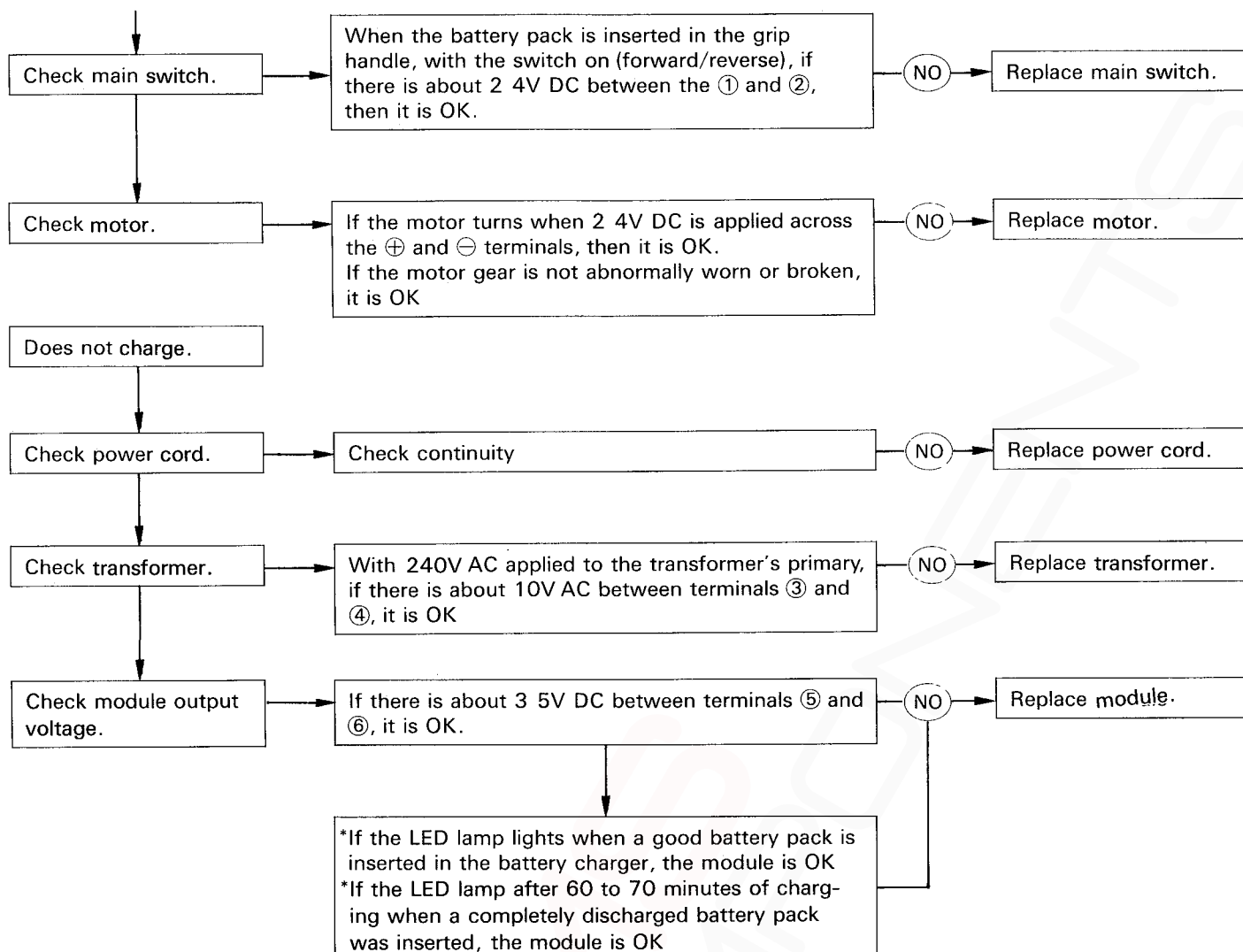
## TROUBLESHOOTING GUIDE (Refer to WIRING CONNECTION DIAGRAM)

### < TROUBLE >

### < CHECK >

### < REMEDY >





## DISASSEMBLY / ASSEMBLY INSTRUCTIONS

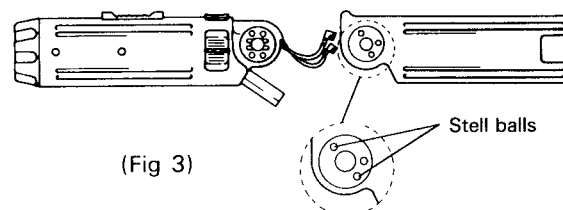
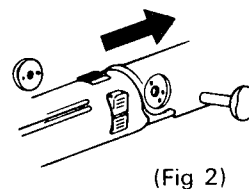
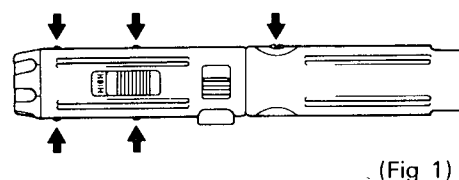
Before disassembly, remove the battery pack from the main unit.

(Housing/Grip Handle Disassembly)

- 1 Remove the four housing screws and one grip fastening screw (Fig 1)
- 2 Remove the decorative washer and fastening nut to separate grip handle from housings A and B (Fig 2)

**Note** The steel balls (four pieces for both sides of hinge) may fall out during disassembly and could be lost  
Handle accordingly

(Fig 3)



- 3 Separate housings A and B, and take out clutch, gear-box, motor, and switch

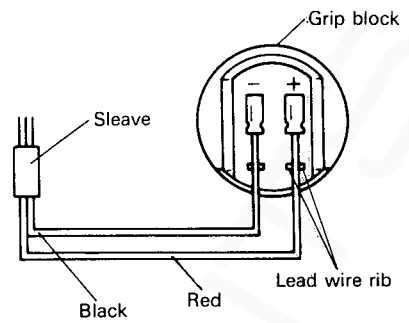
#### (Housing/Grip handle Assembly)

1. When reassembling, connect the black wire to  $\ominus$  terminal and red one to  $\oplus$  terminal of the grip handle. Also be sure to pinch the wires into small ribs.

**Note:** Do not twist or cross the wires to avoid pinching of wires.

**Note:** Once remove the wires from terminals, the contact may become loose. Reform the metal contact parts at the end of wires with pinchers. These contactors pivot on the terminals after snapped in place.

(Fig. 4)

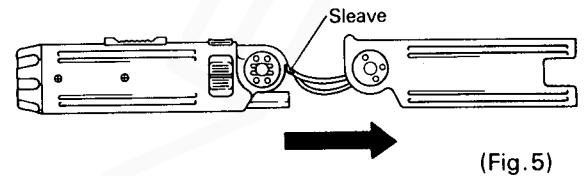


(Fig. 4)

2. Set the wire protection sleeve at the base of housings A and B, then couple grip handle to housings.

**Note:** Be sure to insert hinge cover into grip handle as shown.

(Fig. 5)



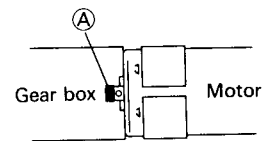
(Fig. 5)

#### (Motor Removal/Replacement)

1. Slowly remove motor with switch from gear-box block.

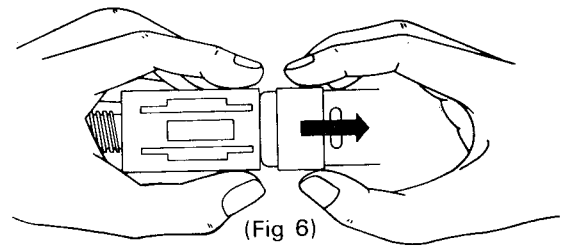
**Note:** When removing, the gears may come out. Grasp the both ends ① of the motor to prevent this.

(Fig. 6)

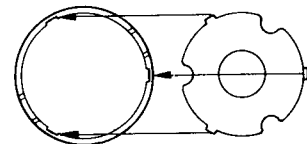


If the internal divider come off, replace it into gear-box block accordingly as shown to keep the gears from falling out.

(Fig. 7)



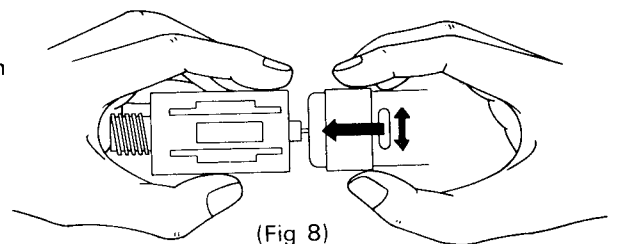
(Fig. 6)



(Fig. 7)

2. When connecting the motor to gear-box block, slowly insert the motor gear twisting slightly into the gear-box block for proper match.

(Fig. 8)



(Fig. 8)

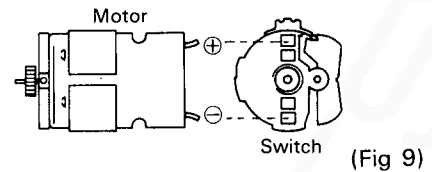
## (Switch Removal/Replacement)

### 1. Remove switch from motor

**Note.** When connecting the switch to the motor, be sure to check the direction as shown. If connect incorrectly, it is impossible to replace them into the housings

Connect the switch firmly to the motor as far as it will go

(Fig 9)



## (Clutch Assembly/Disassembly)

**Note.** To disassemble the clutch, first disassemble the housings and grip block

### 1 Remove the clutch handle

### 2 Unscrew the adjust ring, and remove it.

**Note** Be careful not to lose the clutch pins and ball bearings

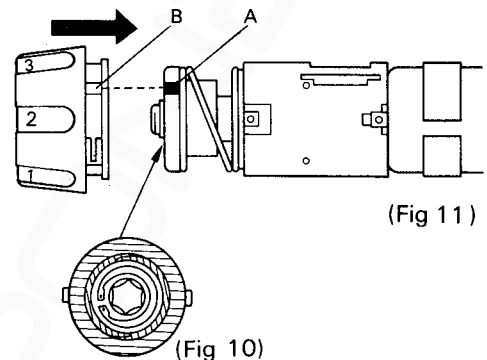
### 3 When reassembling, screw the adjust ring so far as the surfaces of adjust ring and gear-box top come to the same surface level

(Fig.10)

By this, one of the projection (A) of adjust ring come to the position as shown.

### 4 Replace the clutch handle fitting the groove B to the projection A

(Fig.11)



## (Gear Box Assembling)(Fig 12)

### Assembly procedure

### Assembly method

### Notes

- ① Gear case
- ② Lock spring lug set
- ③ Lock spring lug set
- ④ Lock spring lug set

Ⓐ

Insert the two lock lugs in the gear case. There is a left lug and a right lug, so refer to the figure for correct assembly method

- ⑤. Ring gear A
- ⑥. Driving shaft

Ⓑ

Insert ring gear A and turn it slightly to open the lock spring, then insert the driving shaft

- ⑦. Washer
- ⑧. Steel ball B set (18 balls)
- ⑨. Washer
- ⑩. Stop ring
- ⑪. Steel ball A set (3 balls)
- ⑫. Clutch pin set
- ⑬. Thrust plate
- ⑭. Spring for clutch
- ⑮. Adjust ring

Ⓒ

Secure ring gear A and the driving shaft in place and insert the washers and steel ball B set, then attach the stop ring

Be particularly careful not to lose; balls from the steel ball B set (18 balls) or A set (3 balls); or any of the clutch pins.

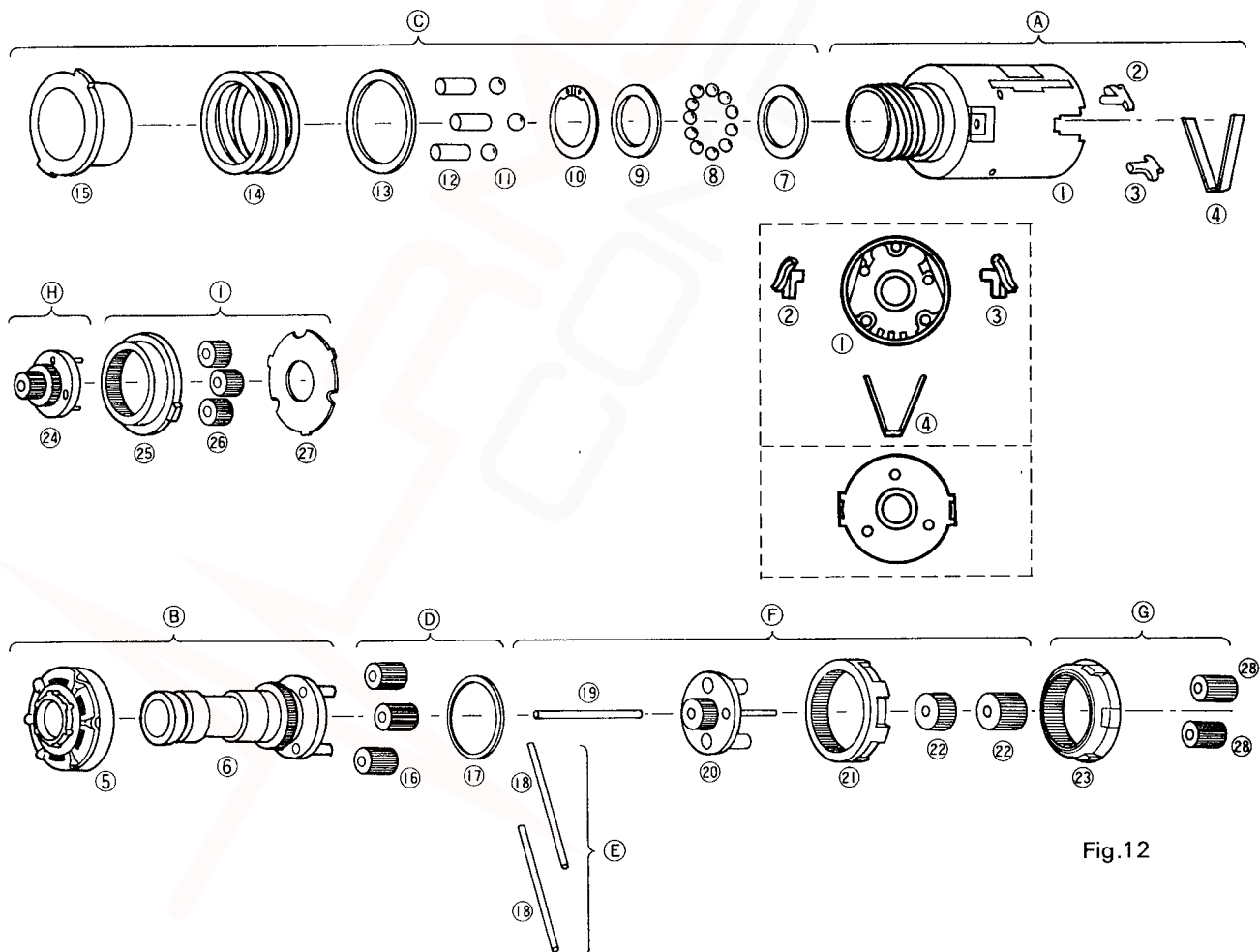
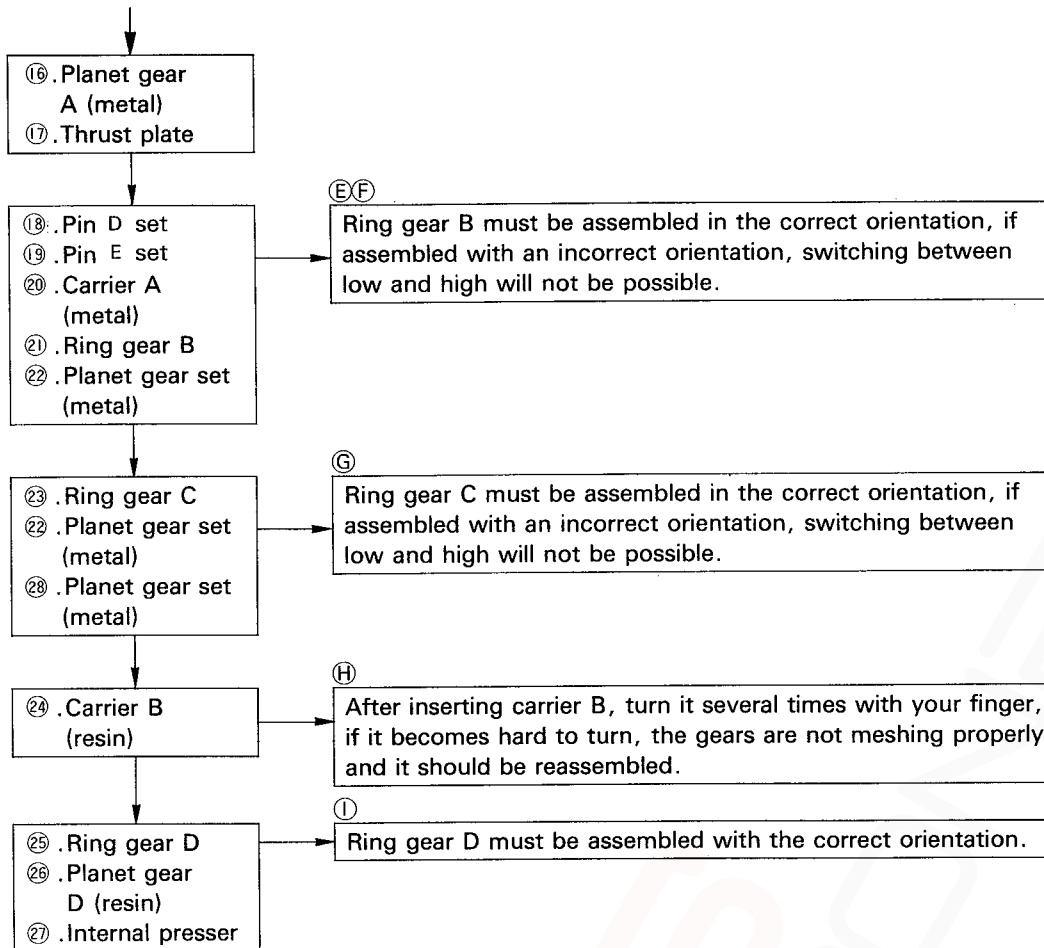
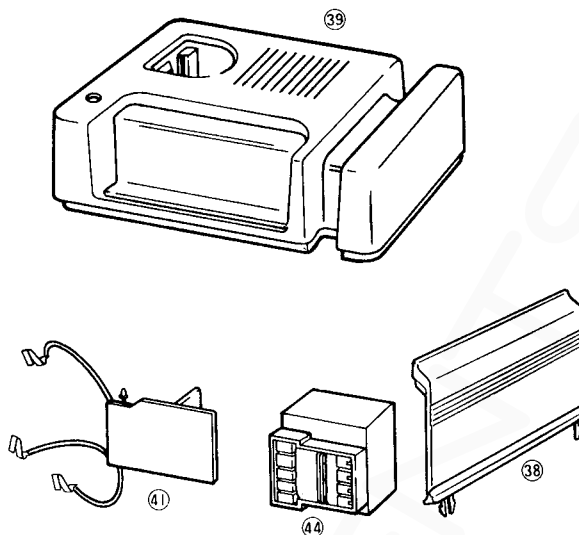


Fig.12

(Battery Charger Disassembly) (Fig.13)

- 1 Remove the three holding screws and separate housings
- 2 The bit holder is removed by pulling it up straight

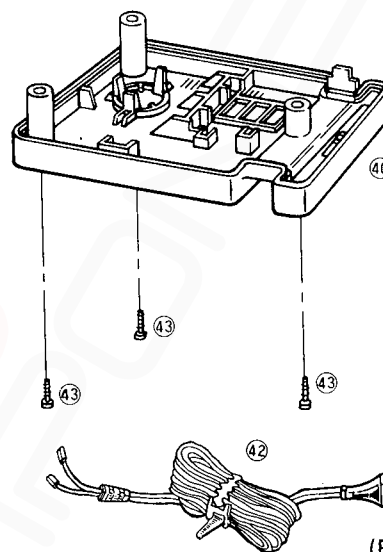


(Battery Charger Assembly)

- 1 Avoid pinching wires, dress into housing recess and around screw posts etc

Note When reassembling, be certain that LED appears through the hole in Housing A

- 2 After reassembly, test for proper voltage at battery terminals (+ and - for approx. 3.5V DC)



(Fig.13)