

# Service Manual

Cordless Drill &amp; Driver

EY6230

## SPECIFICATIONS

### DRILL/DRIVER

Motor voltage	: 15.6V DC
Capability (Screw driving)	: Machine screw M3 ~ M6 Wood screw $\phi 2.1 \sim 8\text{mm}$ Self-drilling screw $\phi 3 \sim 6\text{mm}$
(Drilling)	: Wood $\phi 3 \sim 36\text{mm}$ Steel $\phi 1.6 \sim 13\text{mm}$
No load speed	(LOW): 65 ~ 450 min (RPM) (HIGH): 200 ~ 1450 min (RPM)
Maximum torque	(LOW): 30.90Nm (315kg-cm, 273.0in.lbs.) (HIGH): 8.33Nm (85kg-cm, 73.3in.lbs.)
Maximum clutch torque	: 6.9Nm (70kg-cm, 60.8in.lbs.)
Overall length	: 237mm (7-13/32")
Weight (with battery pack)	: 2.3kg (5.1lbs.)

### BATTERY PACK

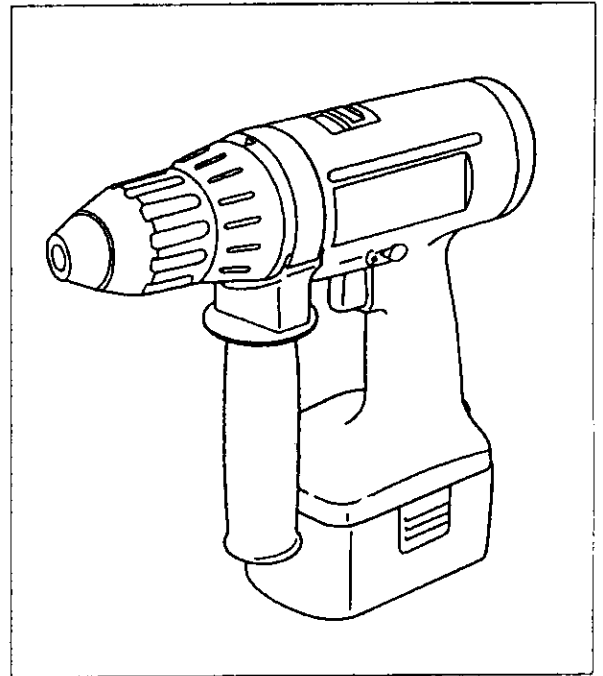
Storage battery	: Ni-Cd battery
Battery voltage	: 15.6V DC ( 1.2V $\times$ 13 cells)
Weight	: 1.0kg

### BATTERY CHARGER

Input	: 120V AC
Mass (Weight)	: 1.70kg (3.80lbs.)
Charging time	: Approx. 30 min. for EY9136

### STANDARD EQUIPMENT

Battery charger , Battery pack , Phillips bit #2 (75mm)



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### ⚠ WARNING

This service literature is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

# Panasonic

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DISASSEMBLY / ASSEMBLY INSTRUCTIONS

■ HOW TO REMOVE THE DRILL CHUCK.

Ref. No. 1A

Procedure 1A

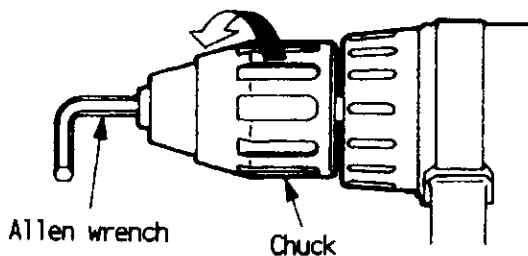
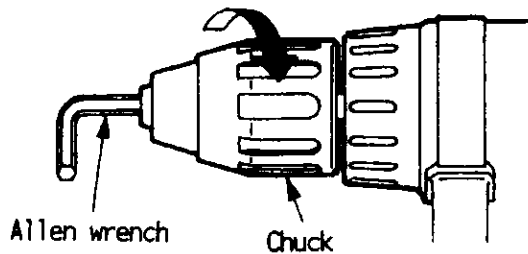
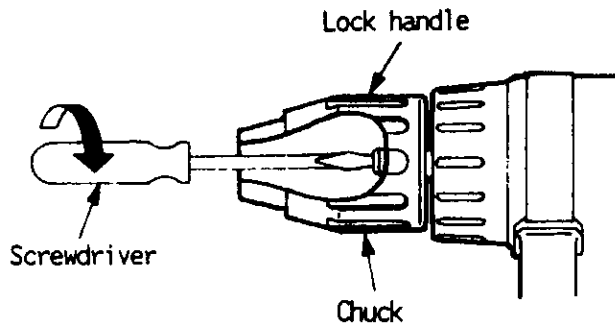
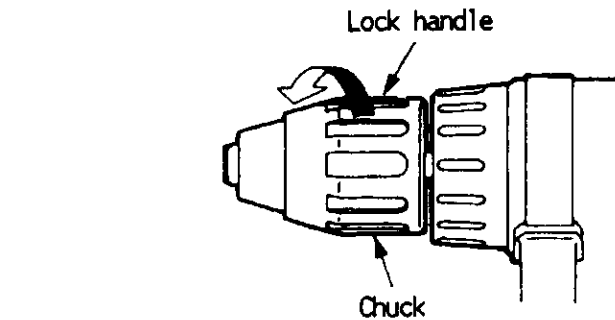
Removal of the keyless drill chuck.

1. Set the clutch handle to position 1.
2. Turn the lock handle counterclockwise to open the chuck jaws.
3. Use a screwdriver to turn the chuck fastening screw inside the chuck clockwise, and remove the screw.

NOTE: If the chuck fastening screw will not come loose, insert the allen wrench into the chuck and lightly tap in the clockwise direction with a hammer to tighten the chuck, and then loosen the chuck fastening screw.

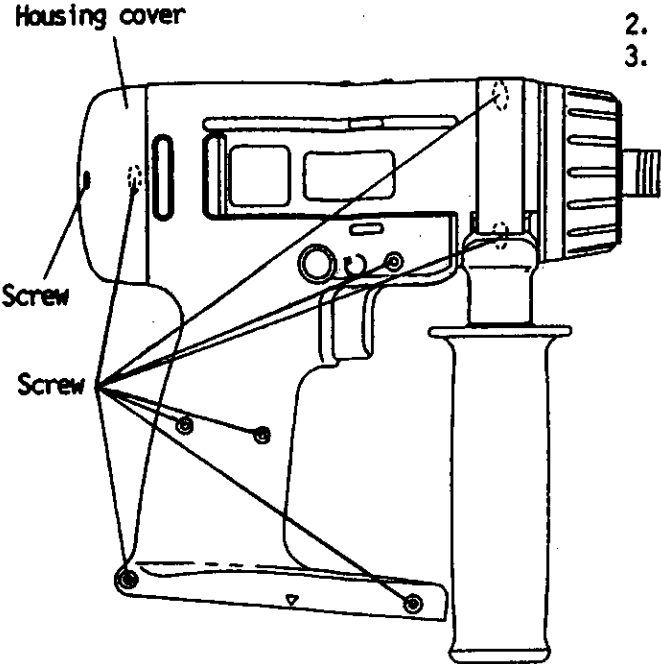
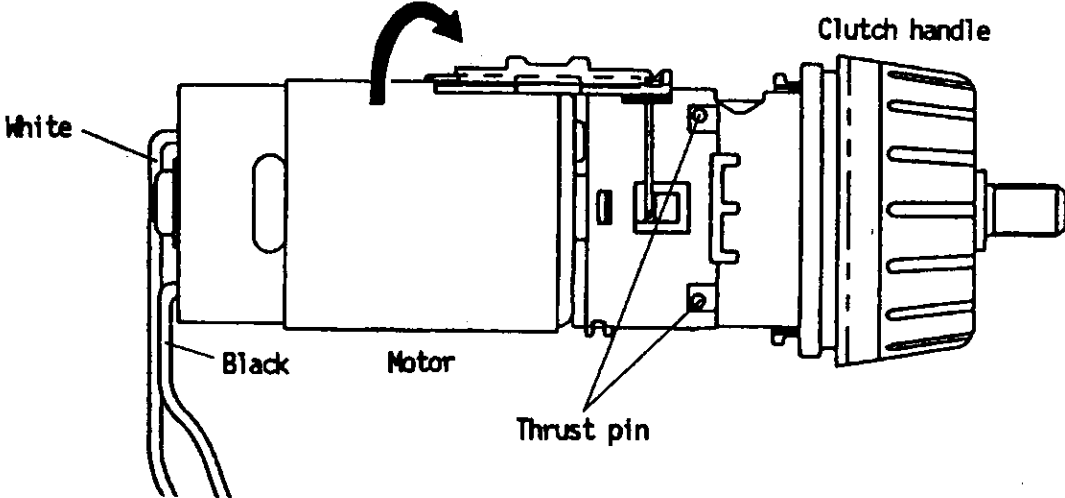
4. Insert the allen wrench into the chuck, and turn counterclockwise direction in the arrow with holding the unit by the vise to remove the chuck.

NOTE: If the chuck is broken, fit the lock release rod into the chuck and lightly tap in the counterclockwise direction with a hammer to loosen and remove the chuck.



## DISASSEMBLY / ASSEMBLY INSTRUCTIONS

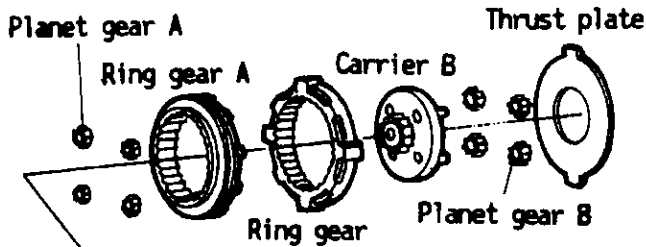
■ HOW TO REMOVE THE MAIN UNIT. (Housing AB set can be opened without disassembling the chuck.)

Ref. No. 1B	Procedure 1B	Removal of the housings.
		<ol style="list-style-type: none"> <li>1. Unscrew the auxiliary handle. Remove the base and the band.</li> <li>2. Remove 2 screws of the housing cover.</li> <li>3. Remove 9 screws of the housing.</li> </ol>
Ref. No. 2B	Procedure 1B → 2B	Removal or attachment of the motor.
		
<p>(Removal of the motor.)</p> <ol style="list-style-type: none"> <li>1. Remove the motor with the gear box block from housing.</li> <li>2. Separate the motor from the gear box block by twisting the motor to unlock tabs.</li> </ol>		<p>(Attachment for the motor.)</p> <ol style="list-style-type: none"> <li>3. Adjust the tabs of gear box block to the groove of motor in the counter-direction of the arrow.</li> </ol>

Ref. No. 3B

Procedure 1B → 2B → 3B

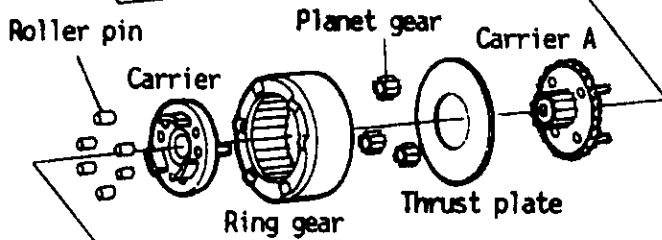
Removal or attachment of the gear box block.



(Removal of the gear box block.)

1. Turn the thrust plate.
2. The internal parts of gear box block can be removed one after another.

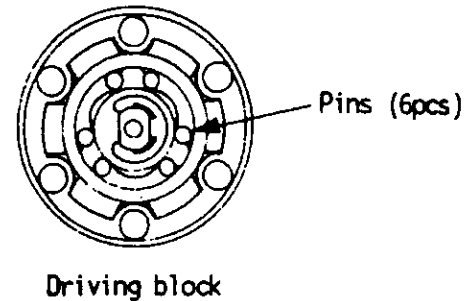
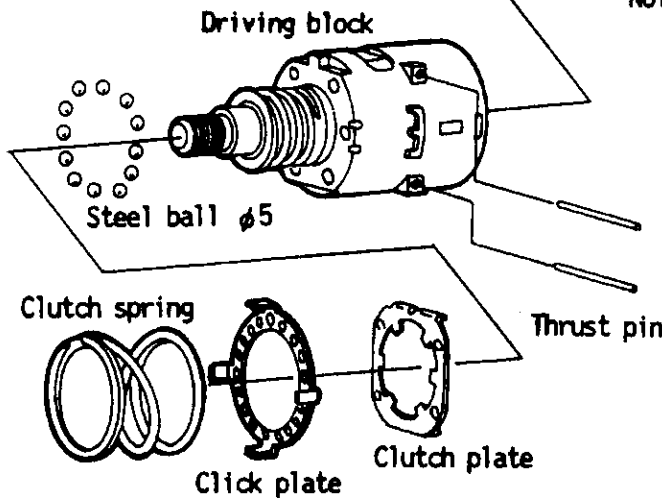
thrust plate → 3pcs of planet gear B → carrier B → ring gear → ring gear A → 3pcs of planet gear → carrier A → 2pcs of thrust pins → thrust plate → 3pcs of planet gear → ring gear → carrier → 6pcs of roller pins



(Attachment for the gear box block.)

3. Start by inserting 6 pins into the driving block.
4. Assemble the other parts in reverse order.

NOTE : Each carrier and ring gear have their own correct directions for proper reassemble. See the diagram as shown the left.

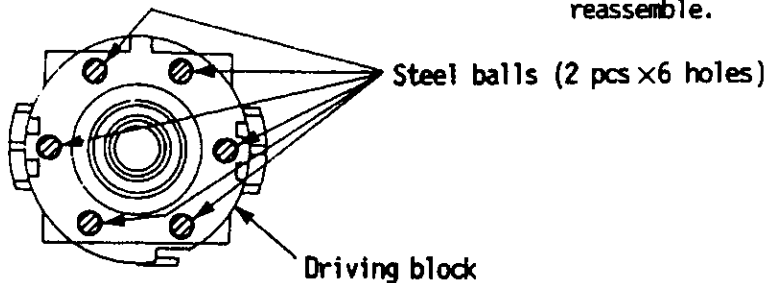


Ref. No. 4B

Procedure 1B → 2B → 3B → 4B

Attachment for steel balls, clutch plate, click plate, and clutch spring.

1. To reinstall place 2 steel balls into each of the 3 holes.
2. Clutch plate, click plate and clutch spring have their own correct directions for proper reassemble.

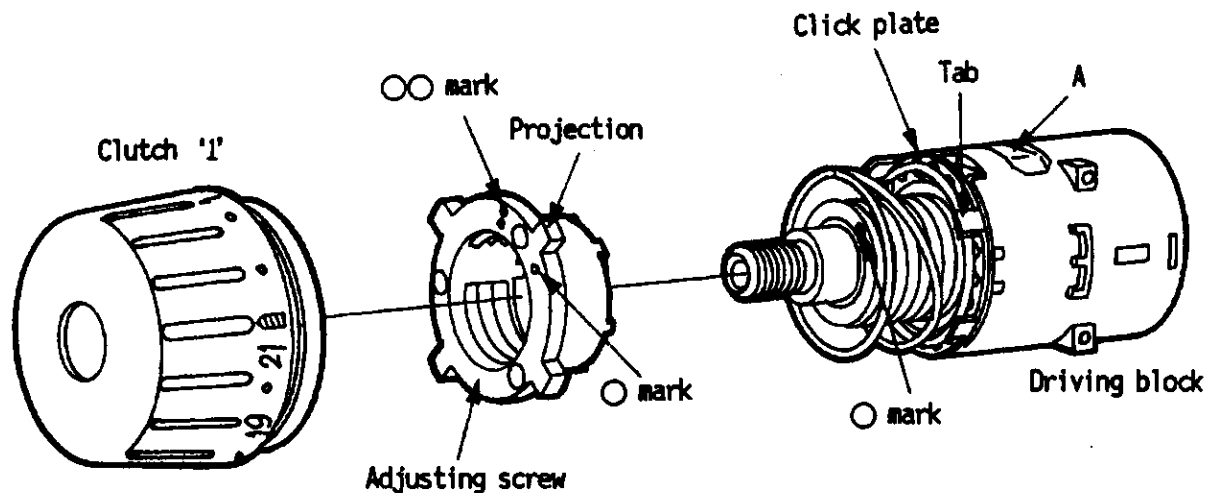


Ref. No. 5B

Procedure 1B → 2B → 3B → 4B → 5B

Attachment for the adjusting screw and the clutch handle.

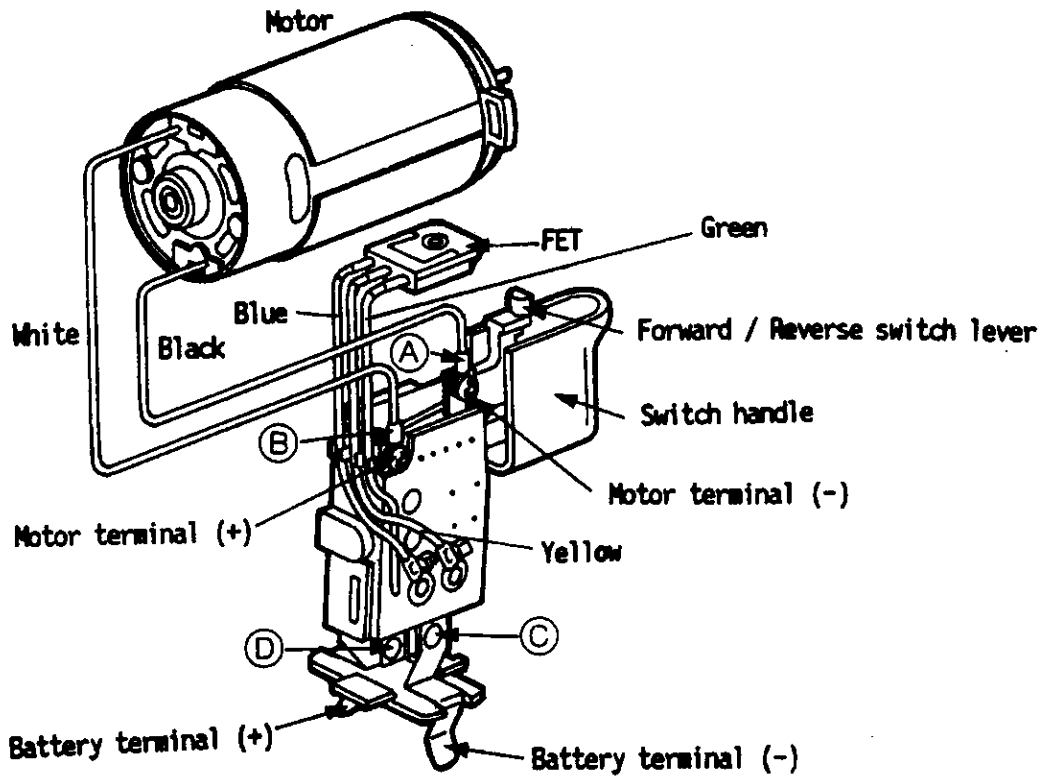
1. Reinstalling place 2 pieces of steel balls into each of the 3 holes.
2. Clutch plate, click plate and clutch spring have their own correct directions for proper reassemble.



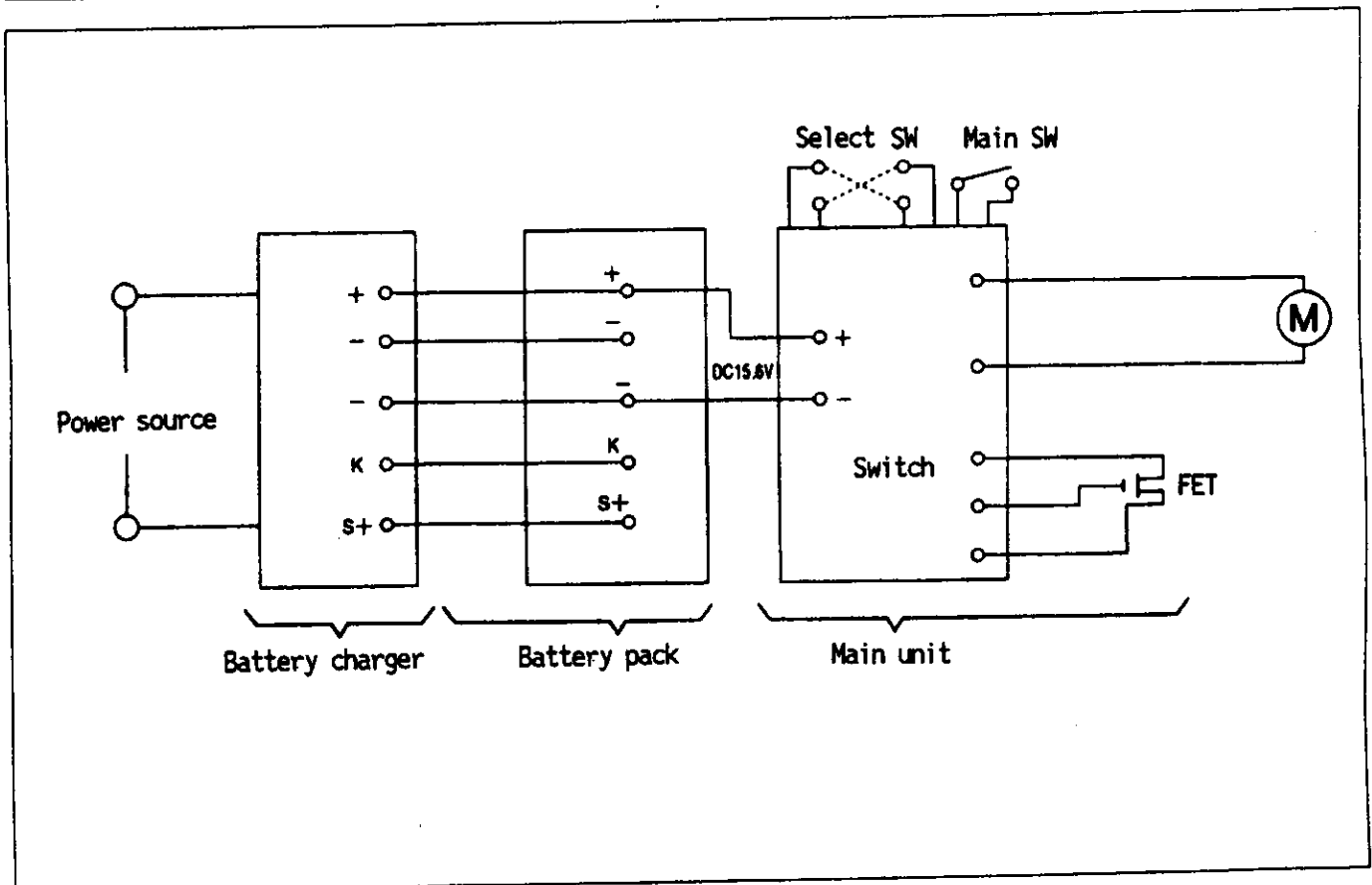
1. Align the ○ mark of adjusting screw with 'A' part of the clutch case.
2. Turn the adjusting screw into driving block about one rotation in clockwise direction.
3. Align the ○○ mark of adjusting screw with 'A' part of the clutch case.
4. Adjust the tabs of click plate to the projection of adjusting screw.
5. Set the clutch handle with position 1 toward A part of the clutch case.
6. Insert the clutch handle with adjusting the tabs of adjusting screw and of click plate to the groove of inside clutch handle.

## WIRING CONNECTION DIAGRAM

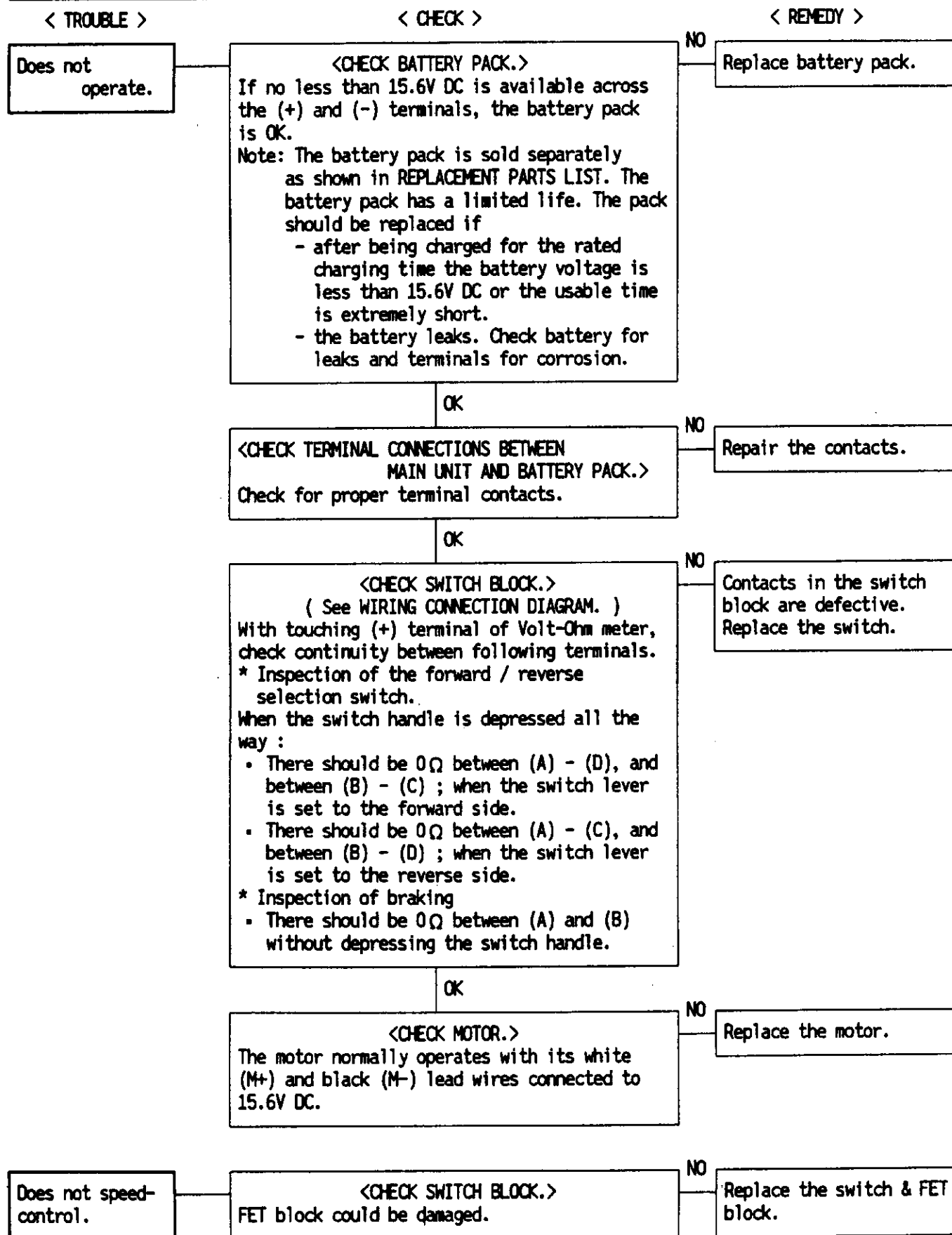
■ Main unit



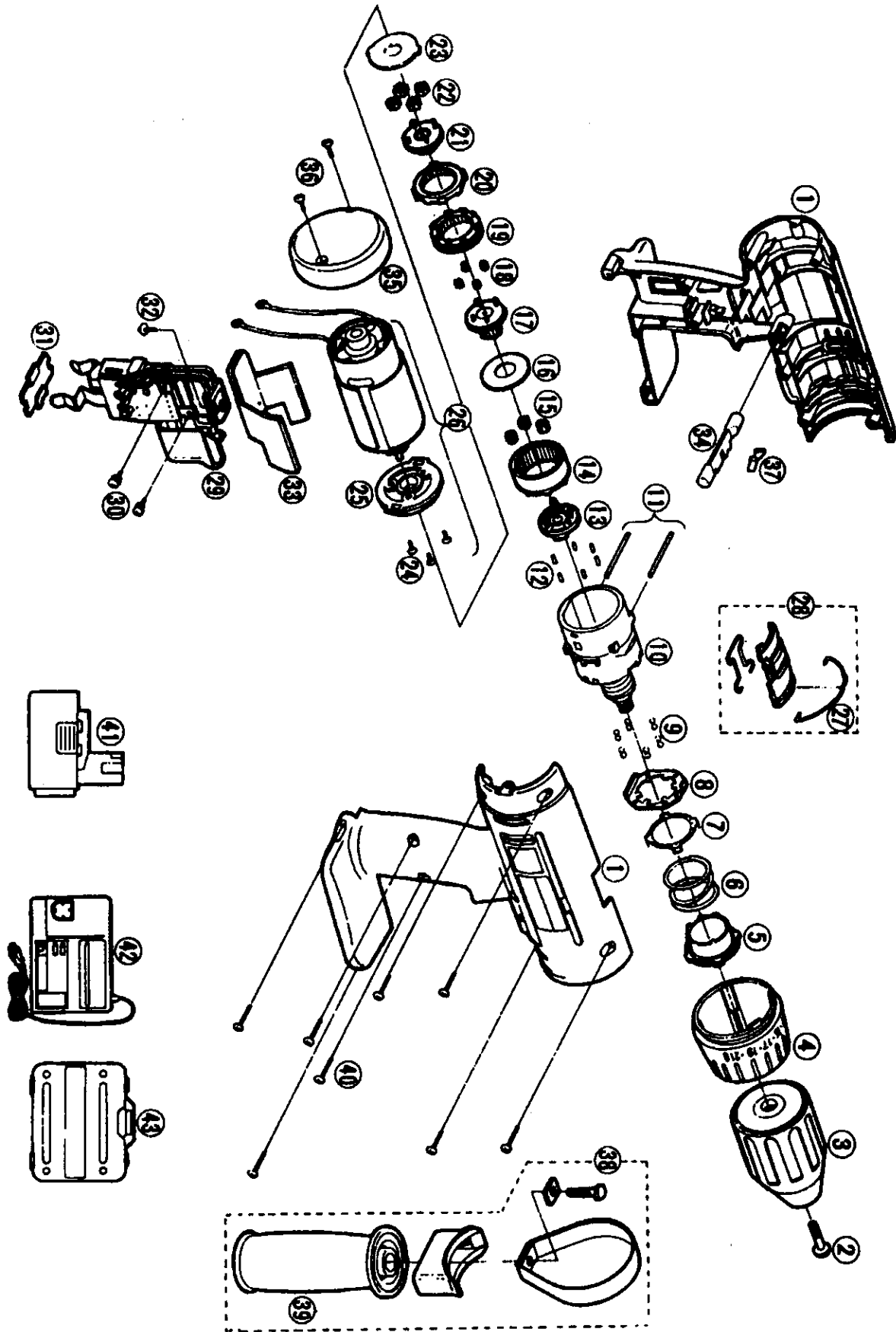
## SCHEMATIC DIAGRAM



# TROUBLESHOOTING GUIDE ( Refer to WIRING CONNECTION DIAGRAM )



EXPLODED VIEW





## REPLACEMENT PARTS LIST

NOTE : \*A . . . available as an optional accessory  
 \*B . . . only available as set  
 \*C . . . available individually

Ref. No.	Part No.	Part Name & Descriptions	Per unit	Remarks
▲ 1	EY6230K3078	HOUSING AB SET	1	
2	EY6230L6817	CHUCK FASTENING SCREW	1	
▲ 3	EY6230K7918	KEYLESS CHUCK	1	
4	EY6230H3227	CLUTCH HANDLE	1	
5	EY6230L0637	ADJUSTING SCREW	1	
6	EY6230L0167	SPRING FOR CLUTCH	1	
7	EY6230L0457	CLICK PLATE	1	
8	EY6230L0577	CLUTCH PLATE	1	
9	EY560B6967	STEEL BALL	12	*B (12PCS/PACK)
10	EY6230L1068	DRIVING BLOCK	1	
11	EY6481L0357	THRUST PIN SET	2	*B (2PCS/PACK)
12	EY6283L0377	ROLLER PIN	6	*B (6PCS/PACK)
13	EY6207B1117	CARRIER	1	
14	EY6230L1457	RING GEAR	1	
15	EY6207B1347	PLANET GEAR	3	*B (3PCS/PACK)
16	EY6230L0857	THRUST PLATE	1	
17	EY6230L1417	CARRIER	1	
18	EY6230L1357	PLANET GEAR	4	*B (4PCS/PACK)
19	EY6230L1468	RING GEAR A	1	
20	EY6230L1478	RING GEAR	1	
21	EY6230L1107	CARRIER	1	
22	EY6230L1367	PLANET GEAR B	4	*B (4PCS/PACK)
23	EY6481L0887	THRUST PLATE	1	
24	EY6230L6027	SCREW FOR MOTOR	3	*C
25	EY6481L0027	MOTOR MOUNTING PLATE	1	
26	EY6230L1008	MOTOR	1	
27	EY6230L0187	CHANGE-GEAR SPRING	1	
28	EY6230H3238	CHANGE-GEAR HANDLE	1	
▲ 29	EY6230Y2008	SWITCH BLOCK	1	
30	EY6230L6037	SEMS SCREW	2	*C
31	EY6230L0207	DUST PREVENTIVE PLATE	1	
32	EY6230L6017	TAPPING SCREW	1	
33	EY6230L2567	RADIATING PLATE (W/SCREW)	1	
34	EY6901H3247	SELECTOR HANDLE	1	
35	EY6230H3107	HOUSING COVER	1	
36	EY6230K9038	SCREW	2	*C
37	EY6481L0177	CLICK SPRING	1	
38	EY6230K3217	AUXILIARY HANDLE ASSEMBLY	1	
39	EY6230K3227	AUXILIARY HANDLE	1	
▲ 40	EY6230K9218	SCREW	9	*C
41	EY9136	BATTERY PACK	1	*A
42	EY0212	BATTERY CHARGER	1	*A
43	EY9630	TOOL CASE	1	
▲ —	EY6230K8008	INDIVIDUAL BOX	1	
▲ —	EY6230K8108	OPERATING INSTRUCTIONS	1	