

Service Manual

Rechargeable Shaver

Model No. **ES-RT60**
ES-RT40
ES-RT30

Hong Kong



⚠ WARNING

This service information 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.

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by **⚠** in the Schematic Diagrams, Circuit Board Diagrams, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

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1 Warning

Caution:

- Pb free solder has a higher melting point than standard solder; Typically the melting point is 50 - 70°F (30 - 40°C) higher. Please use a soldering iron with temperature control and adjust it to 750 ± 20°F (400 ± 10°C). In case of using high temperature soldering iron, please be careful not to heat too long.
- Pb free solder will tend to splash when heated too high (about 1100°F / 600°C).

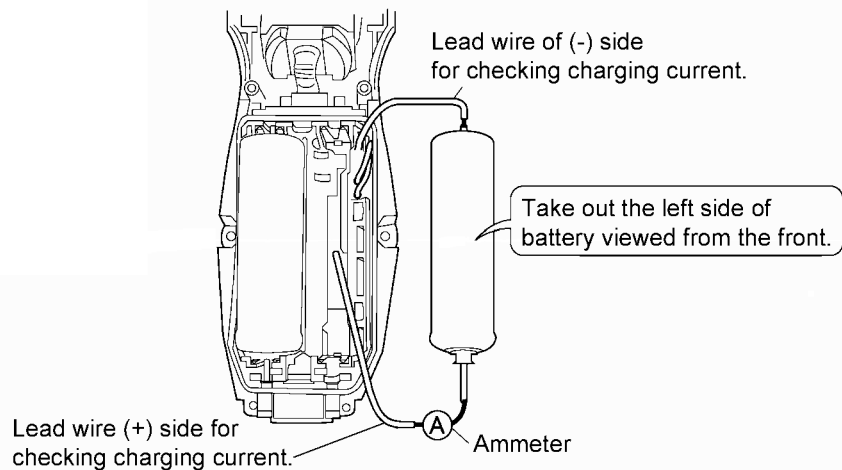
2 Specifications

Power source	AC 100-240V, 50-60Hz (Automatic voltage conversion)
Power consumption	Approx. 6W
Motor voltage	2.4V DC
Charging time	1 Hour
Shaves per charge	14 times (3 minutes shave)
Measurement	(H)15.2 x (W)6.3 x (D)4.2 cm
Weight	200g
Supplied accessories	Drying/Charging stand (ES-RT60 only)
	Soft case
	Cleaning brush

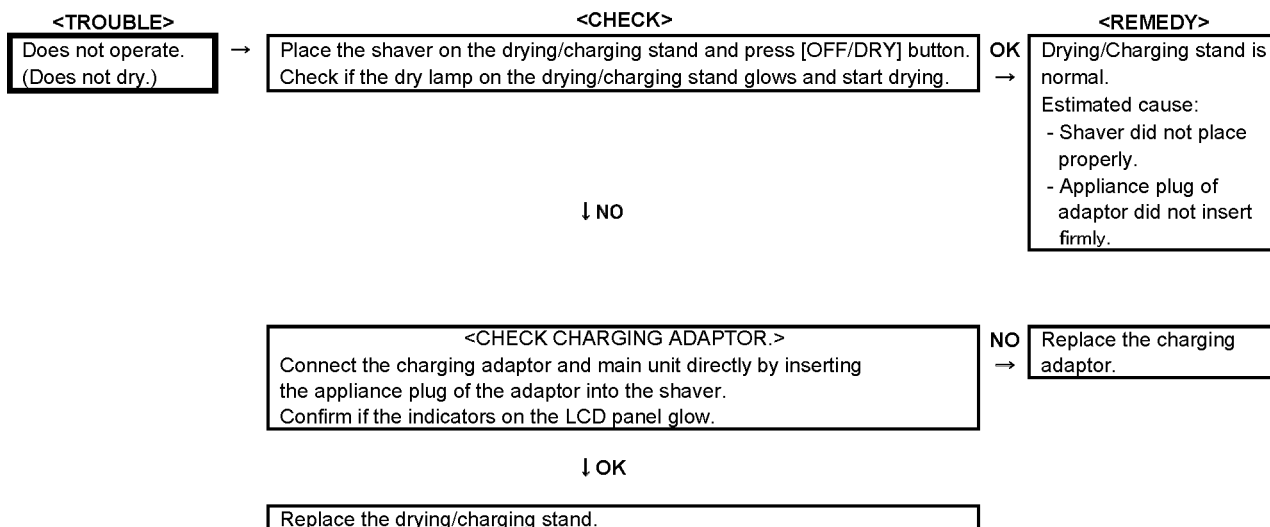
3 Troubleshooting Guide

3.1. Main unit and charging adaptor

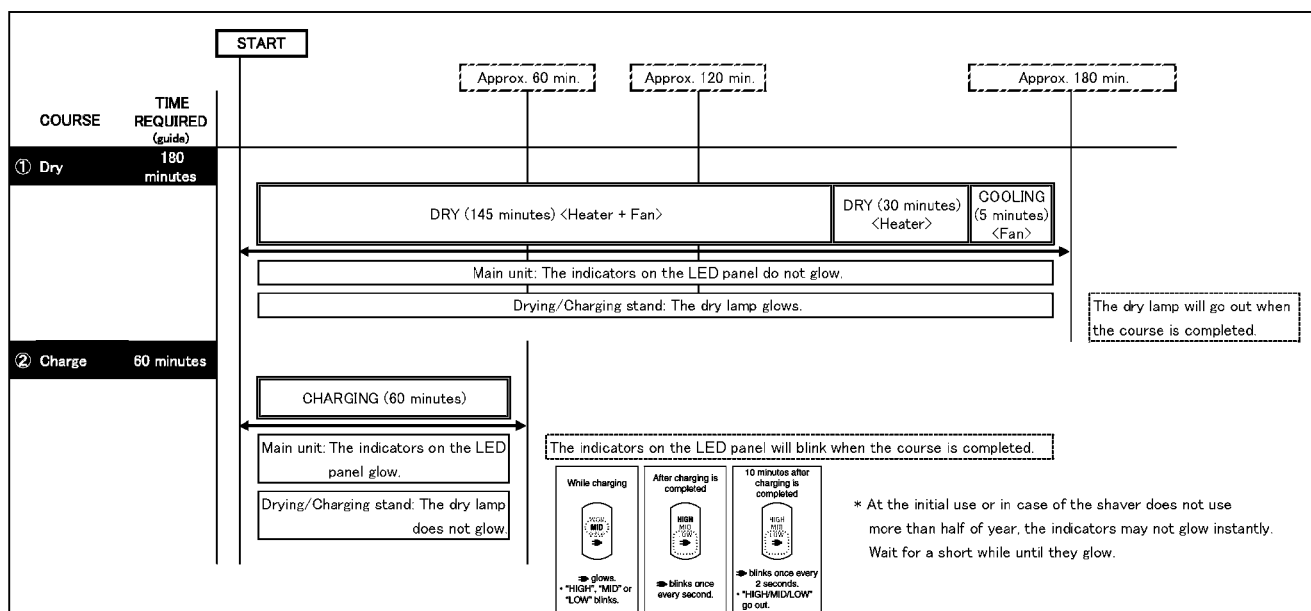
<TROUBLE>	<CHECK.>	<REMEDY>
Motor does not rotate. Does not charge. Functions for a moment and stops.	<p align="center"><CHECK CHARGING ADAPTOR.></p> Connect the rated voltage to the normal main unit by the charging adaptor. Check if the plug symbol of LED display glows. Supply the rated voltage to the adaptor and measure the voltage. OK if it is approximate DC 5.7V between the terminals of the plug with no-load operation.	NO → Replace charging adaptor.
↓ OK		
	<p align="center"><CHECK RECHARGEABLE BATTERIES.></p> Okay if the voltage of rechargeable batteries is more than approximately 1.2V DC between (+) and (-) terminals. (Replace two rechargeable batteries at the same time even though one battery is defective due to series connection.)	NO → Replace both rechargeable batteries at the same time.
↓ OK		
	<p align="center"><CHECK SWITCH CONTACT.></p> Okay if there is a continuity and no deformation of switch terminals.	NO → Repair contact or replace housing A.
↓ OK		
	<p align="center"><CHECK MOTOR.></p> Okay if motor rotates when DC2.4V is applied to (+) and (-) terminals.	NO → Replace motor.
↓ OK		
	<p align="center"><CHECK MODULE.></p> Wire the main unit returned from a customer refer with the following figure, and connect the rated voltage to it by the charging adaptor. Take out the left battery (viewed from the front). Connect the chassis and (-) terminal of battery with the lead wire. Check charging current with the wire between chassis and (+) terminal of battery. Check charging current, if it is in between 700mA to 850mA.	NO → Replace module.



3.2. Drying/Charging stand (ES-RT60 only)



3.3. Operation of Drying/charging stand (ES-RT60 only)

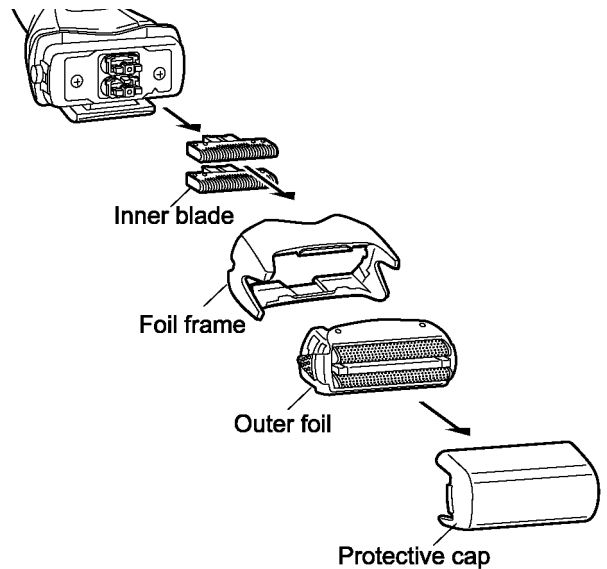


4 Disassembly and Assembly Instructions

4.1. Disassembly Instructions

Follow the procedure below to disassemble the main unit.

1. Remove the cap, the outer foil with foil frame and the inner blade.



2.

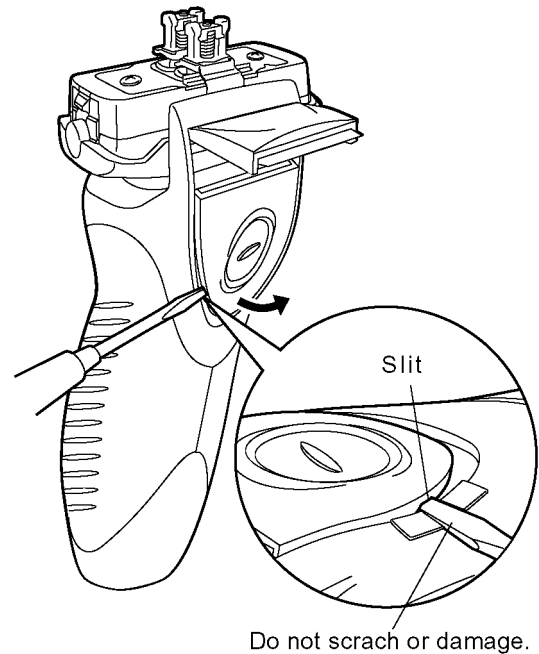
NOTE:

If you do not replace the trimmer or trimmer handle, skip to No.4.

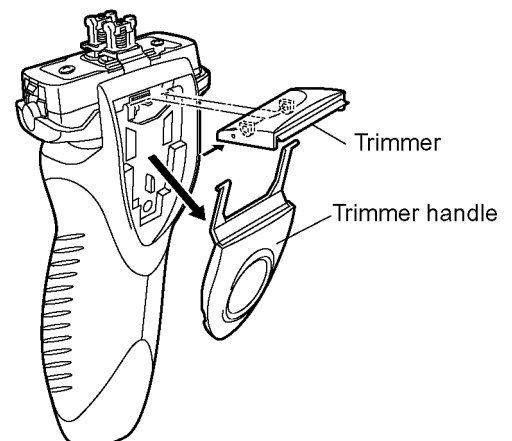
Slide the trimmer handle up to open the trimmer and unhook the trimmer handle by inserting something like a slotted screwdriver or plastic spatula into a slit.

NOTE:

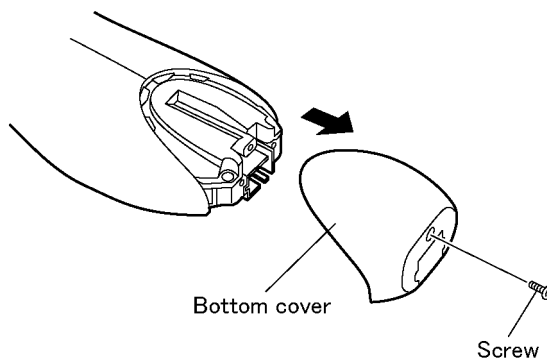
In order to prevent the scratch or damage on the housing, use the cushion under the screwdriver.



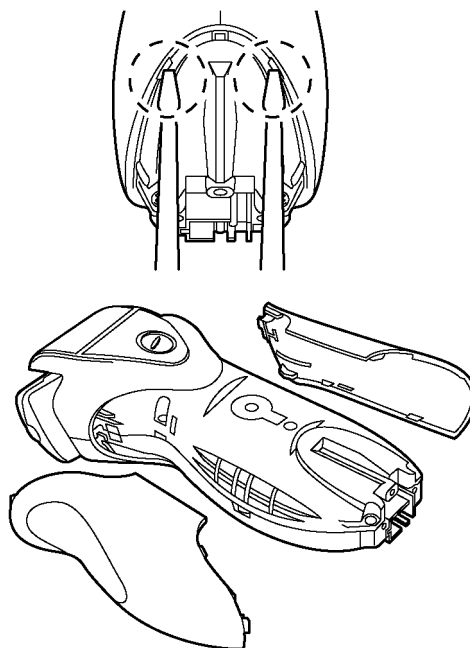
3. Remove trimmer and trimmer handle.



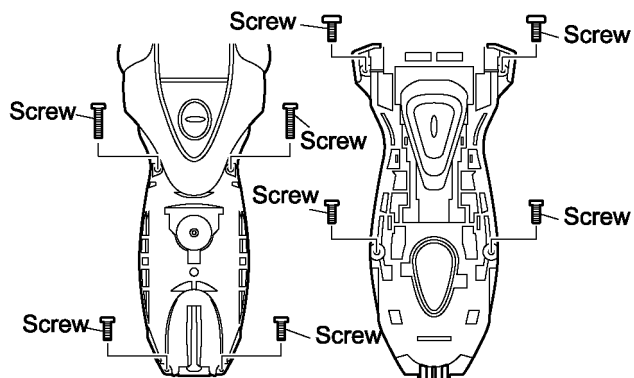
4. Loosen a screw and remove the bottom cover.



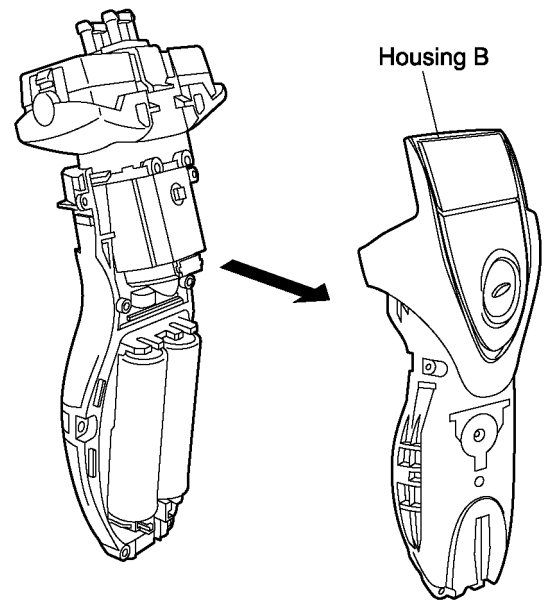
5. To remove the side panels, insert a small slotted screwdriver into the housing and unhook.



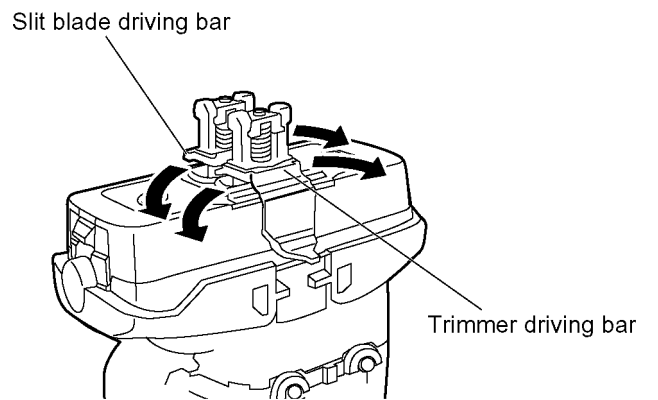
6. Loosen four screws on both front and back side of housing.



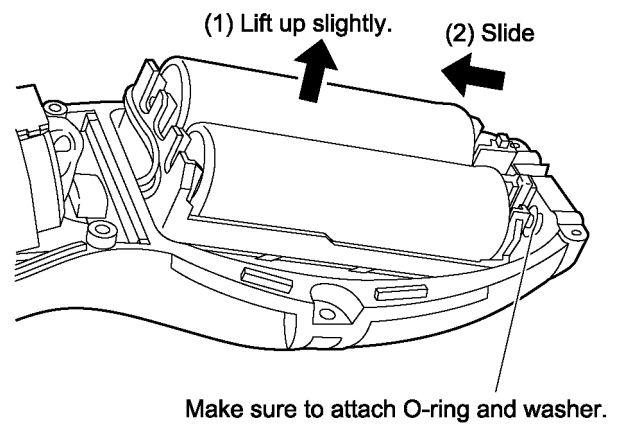
7. Take out the housing B.



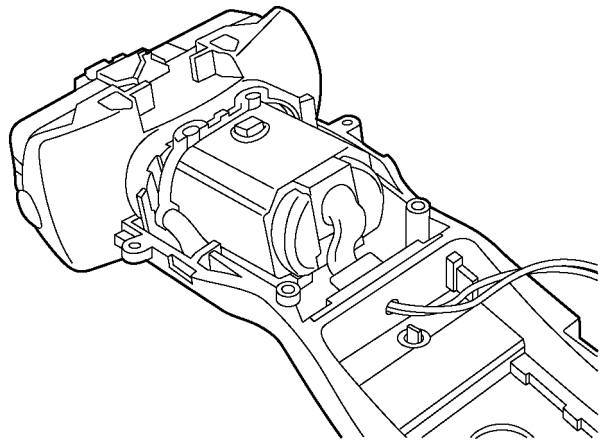
8. To remove the trimmer driving bar or the slit blade driving bar, press bars outward.



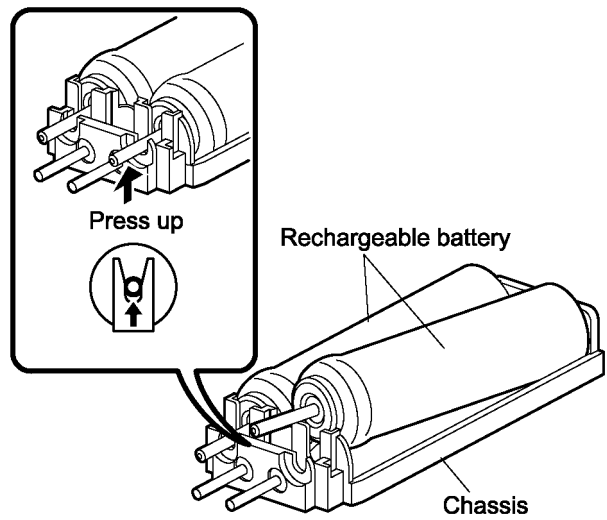
9. And take out the battery assembly from housing A.



10. Remove the motor assembly and tube holder.



11. Remove the battery o-ring and washer in each battery.
Take out the rechargeable batteries from the chassis.



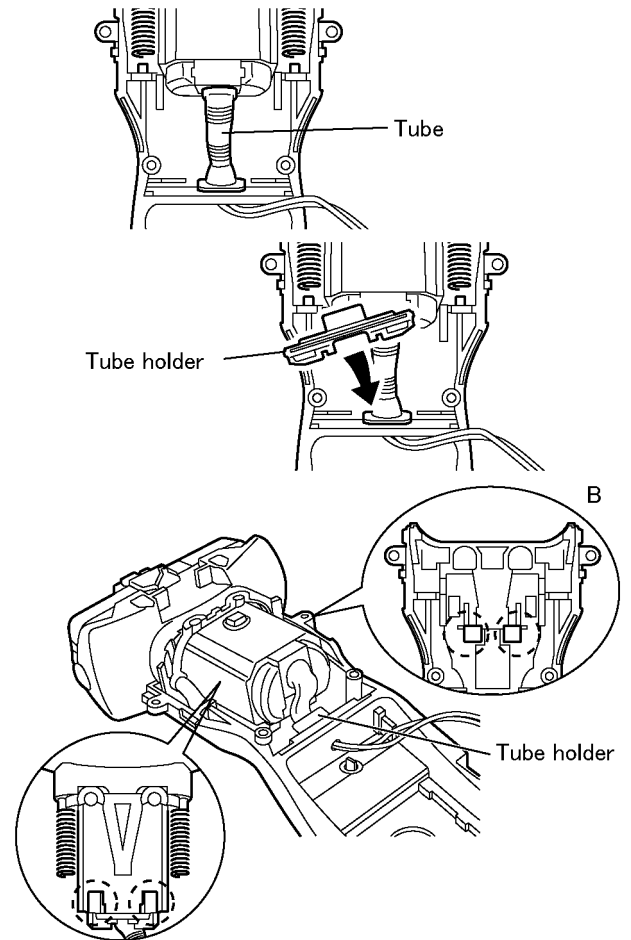
4.2. Cautions in Assembly

NOTE:

When reassembling, replace the new waterproof rubber. Make sure whether there is NO foreign substance sticking around a part covered with water seal.

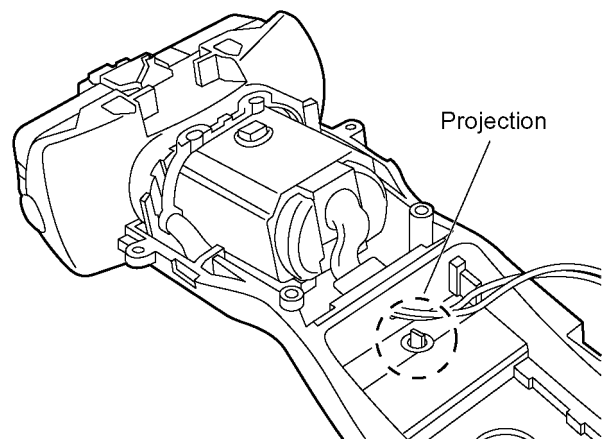
4.2.1. Motor

Insert the tube into the projection of the housing A and set the tube holder firmly. Then hook the motor holder to the housing and put the float springs properly.



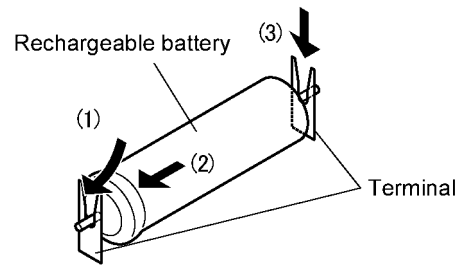
4.2.2. Module

Align the projection of switch select button on housing A with the groove of switch plate on module.



4.2.3. Rechargeable batteries

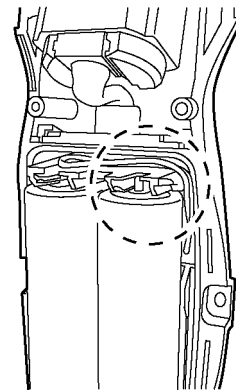
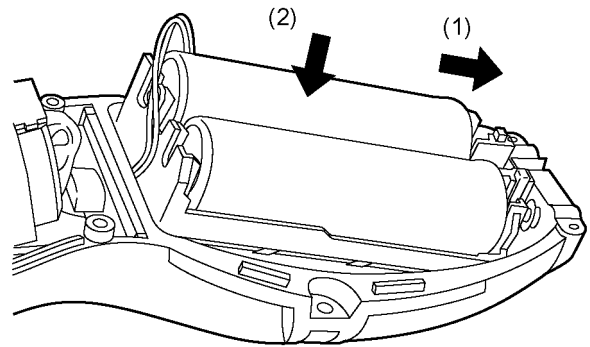
Insert the rechargeable batteries into chassis. Attach the battery o-ring and washer to the battery.



Put the battery assembly from the battery terminal side into housing A, and insert the motor side into housing A.

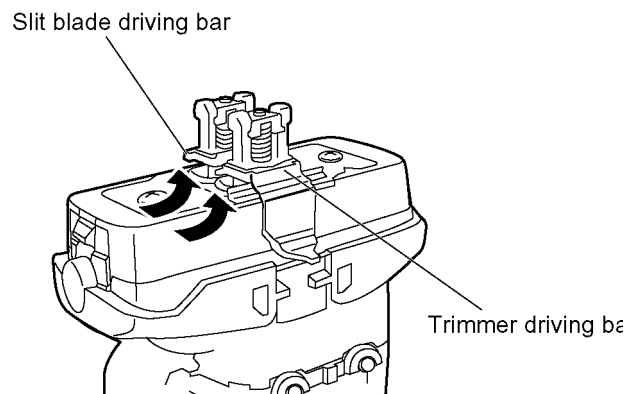
NOTE:

While setting the battery assembly, pull the lead wires out in order to prevent pinching. Then press fit the lead wires neatly.



4.2.4. Driving bars

Set the trimmer driving bar and the slit blade driving bar.

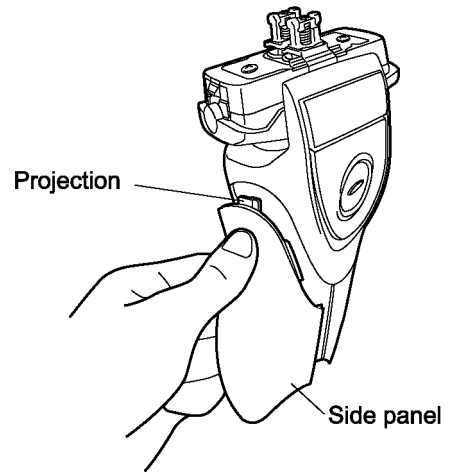


4.2.5. Side panel

Set the side panel on the body and insert the projection on top of side panel into the housing first. Then hook the front side and the rear side of the side panel in order.

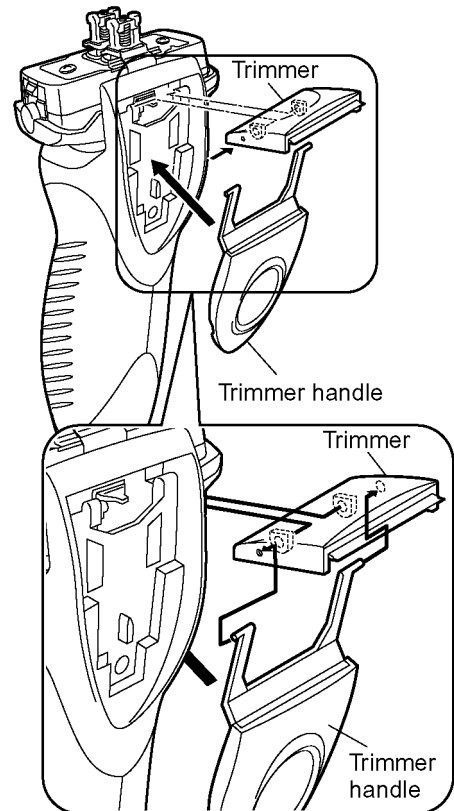
NOTE:

Make sure that the left and right side panels are firmly fitted on both rear and front side.



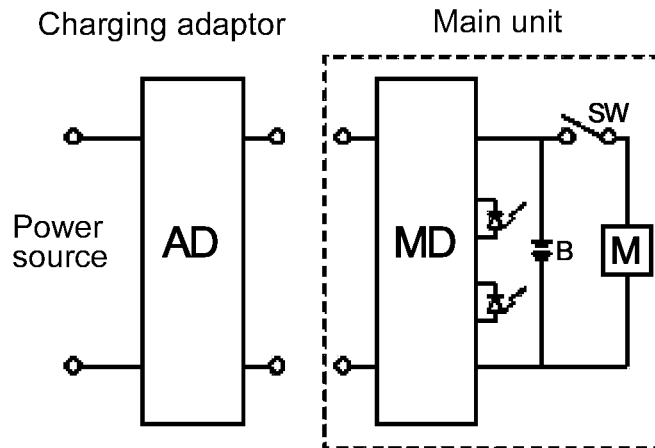
4.2.6. Trimmer

1. Make sure if the bosses of handle arm insert into the holes of trimmer.
2. Align the bosses of housing with the holes of trimmer, and hook the trimmer handle.
3. Confirm its operation or smooth movement of trimmer.

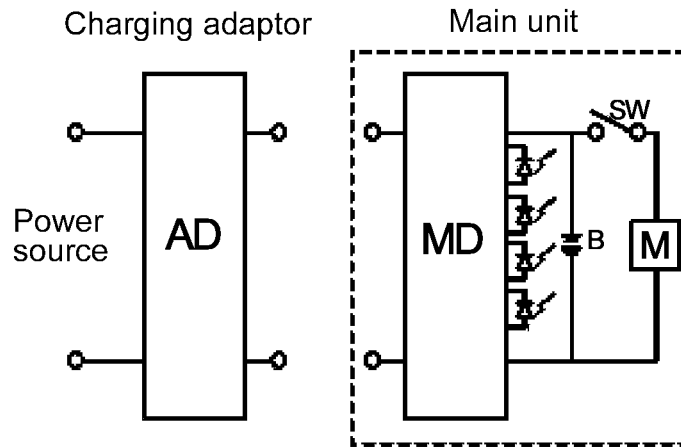


5 Schematic Diagram

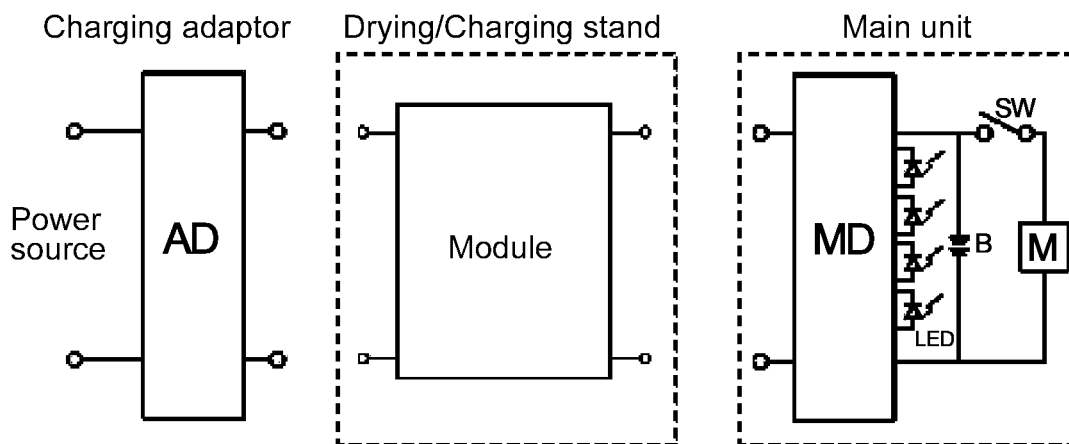
5.1. ES-RT30



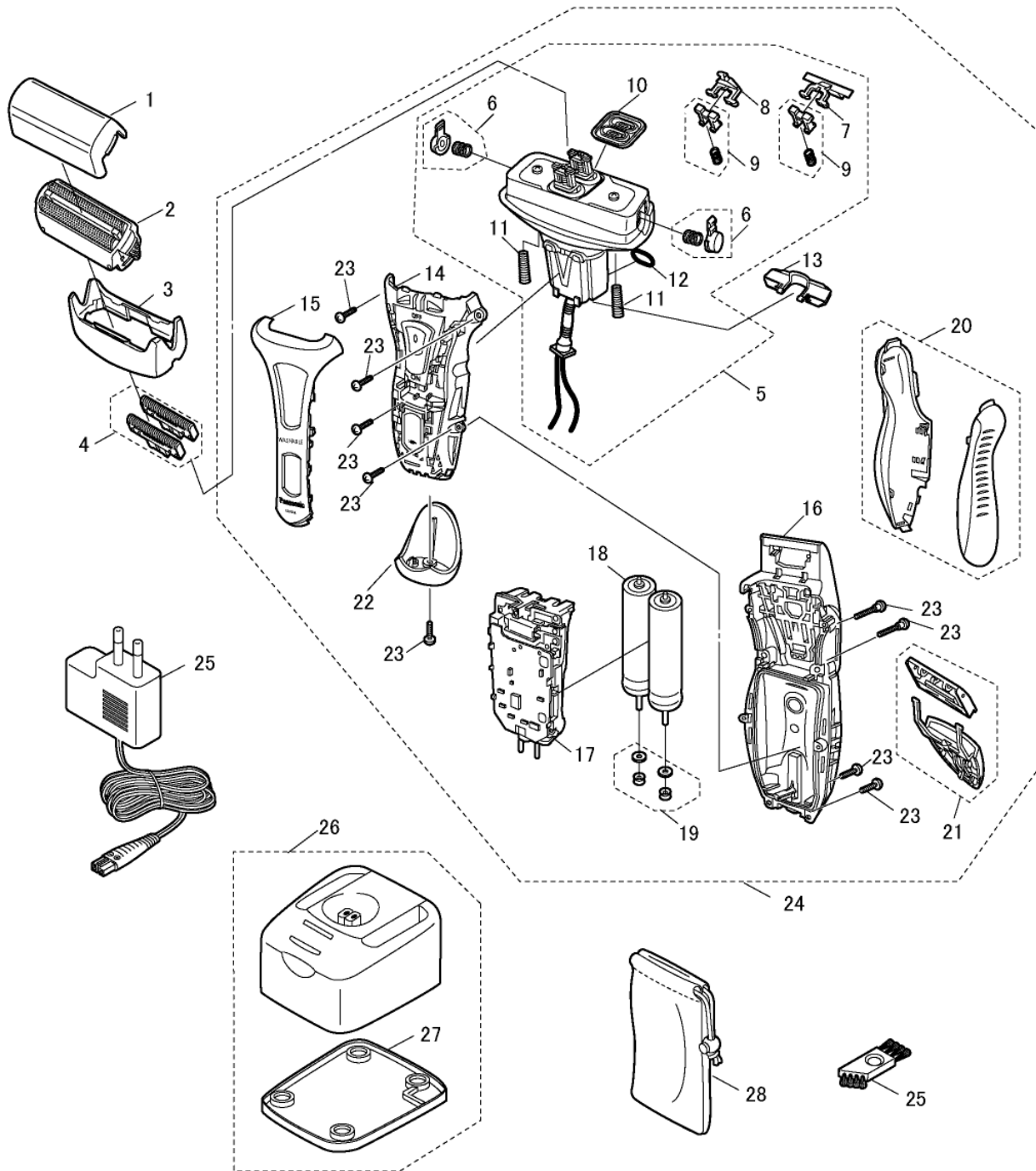
5.2. ES-RT40



5.3. ES-RT60



Model No. : ES-RT60 Exploded View

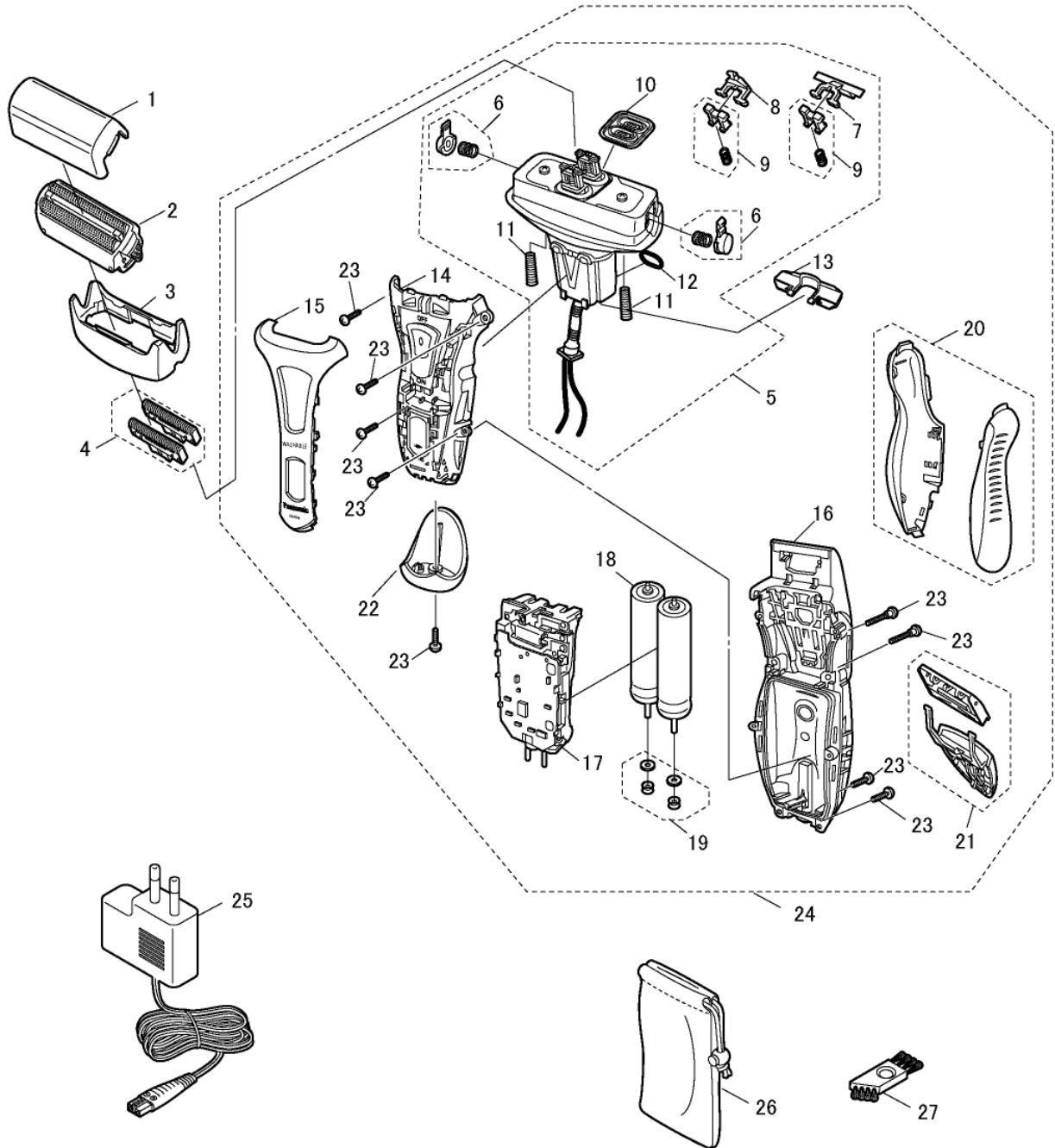


Model No. : ES-RT60 Parts List

Safety	Ref. No.	Part No.	Part Name & Description	Q'ty	Remarks
ES-RT60					
	1	WES8044X7156	PROTECTIVE CAP	1	[BG]
	2	WES9085E	OUTER FOIL	1	
	3	WESRT60S0047	OUTER FOIL FRAME	1	[BG]
	4	WES9064EP	INNER BLADE	1ST	
	5	WESRT60L1007	MOTOR ASSEMBLY	1	[BG]
	6	WES7047H3268	FOIL RELEASE BUTTON	2	(2PCS/PK), [BG]
	7	WES7046L1086	TRIMMER DRIVING BAR	1	[BG]
	8	WES7046L1076	SLIT BLADE DRIVING BAR	1	[BG]
	9	WES7046L0586	SPRING AND STOPPER	2	(2SETS/PK), [BG]
	10	WES8080L0326	WATERPROOF RUBBER	1	[BG]
	11	WES7046L0226	FLOAT SPRING	2	(2PCS/PK), [BG]
	12	WES7046L0966	O-RING	1	[BG]
	13	WES7046L0236	TUBE HOLDER	1	[BG]
	14	WESRT60S3058	HOUSING A	1	[BG]
	15	WESRT60S3778	FRONT PANEL	1	[BG]
	16	WESRT60S3067	HOUSING B	1	[BG]
	17	WESRT60L2128	MODULE	1	[BG]
	18	WES7043L2508	RECHARGEABLE BATTERY	2	(NI-MH TYPE), (2PCS/PK), [BG]
	19	WES7025L0976	WASHER & O-RING SET	2	(2PCS/PK), [BG]
	20	WESRT60K3367	SIDE PANEL	1	[BG]
	21	WES8046H1506	TRIMMER	1	[BG]
	22	WESRT60S3848	BOTTOM COVER	1	[BG]
	23	WES7023L6058	TAPPING SCREW	9	(K2-8), [BG]
	24	WESRT60S3038	BODY BLOCK	1	[BG]
	25	WESRT60K7674	CHARGING ADAPTOR	1	(C-2 PLUG), [BG]
	26	WESRT60W4218	DRYING/CHARGING STAND	1	[BG]
	27	WESRT60W3177	DRYING MAT	1	[BG]
	28	WES7115K7007	SOFT CASE	1	[BG]
	29	WES8093H7056	CLEANING BRUSH	1	[BG]
	-	WESRT60S8008	INDIVIDUAL BOX	1	[BG]
	-	WESRT60S8108	OPERATING INSTRUCTIONS	1	[BG]

6 Exploded View and Replacement Parts List

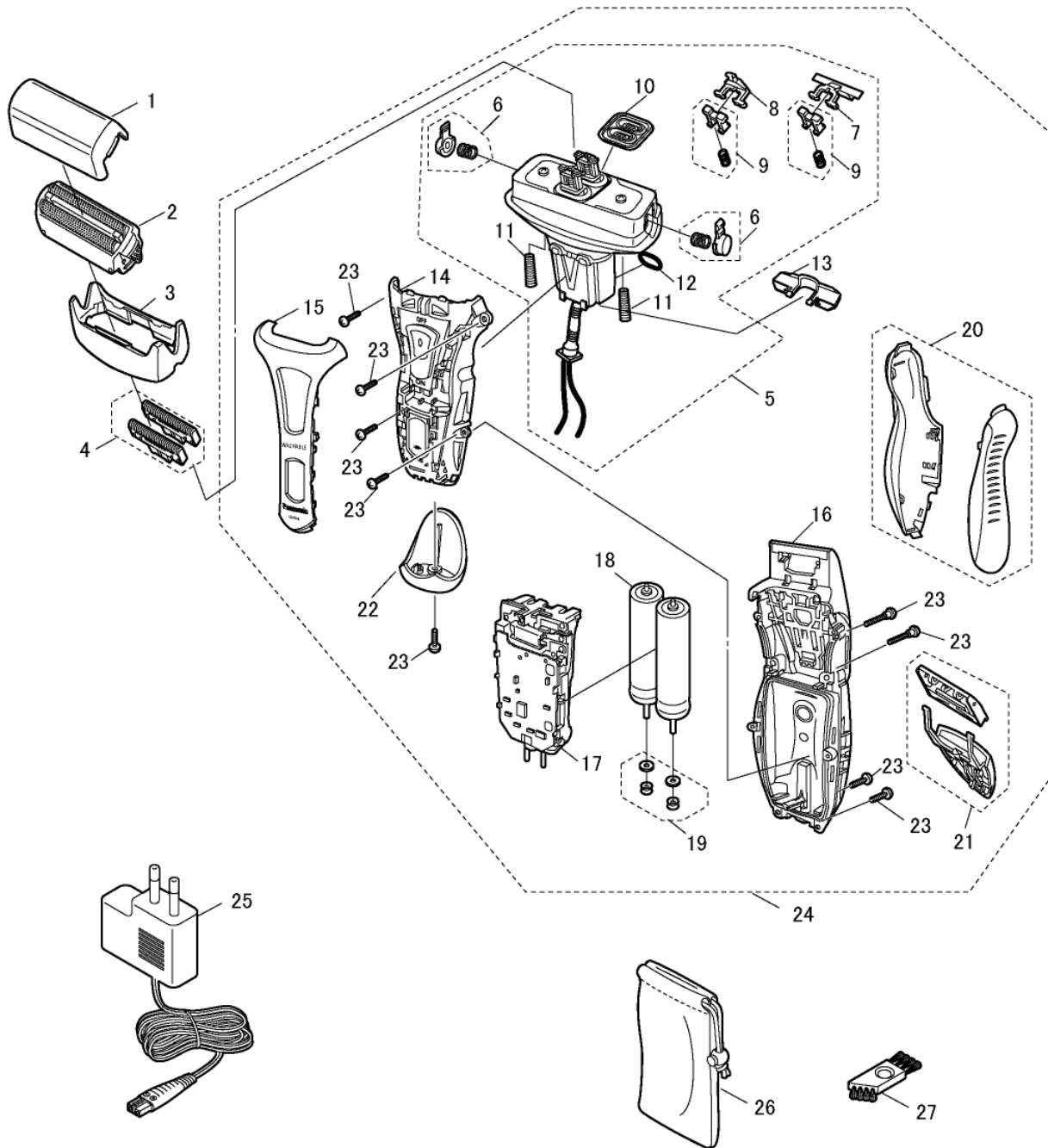
Model No. : ES-RT40 Exploded View



Model No. : ES-RT40 Parts List

Safety	Ref. No.	Part No.	Part Name & Description	Q'ty	Remarks
ES-RT40					
	1	WES8044X7156	PROTECTIVE CAP	1	[BG]
	2	WES9085E	OUTER FOIL	1	
	3	WESRT60S0047	OUTER FOIL FRAME	1	[BG]
	4	WES9064EP	INNER BLADE	1ST	
	5	WESRT60L1007	MOTOR ASSEMBLY	1	[BG]
	6	WES7047H3268	FOIL RELEASE BUTTON	2	(2PCS/PK), [BG]
	7	WES7046L1086	TRIMMER DRIVING BAR	1	[BG]
	8	WES7046L1076	SLIT BLADE DRIVING BAR	1	[BG]
	9	WES7046L0586	SPRING AND STOPPER	2	(2SETS/PK), [BG]
	10	WES8080L0326	WATERPROOF RUBBER	1	[BG]
	11	WES7046L0226	FLOAT SPRING	2	(2PCS/PK), [BG]
	12	WES7046L0966	O-RING	1	[BG]
	13	WES7046L0236	TUBE HOLDER	1	[BG]
	14	WESRT60S3058	HOUSING A	1	[BG]
	15	WESRT40S3778	FRONT PANEL	1	[BG]
	16	WESRT60S3067	HOUSING B	1	[BG]
	17	WESRT60L2128	MODULE	1	[BG]
	18	WES7043L2508	RECHARGEABLE BATTERY	2	(NI-MH TYPE), (2PCS/PK), [BG]
	19	WES7025L0976	WASHER & O-RING SET	2	(2PCS/PK), [BG]
	20	WESRT40K3367	SIDE PANEL	1	[BG]
	21	WES8046H1506	TRIMMER	1	[BG]
	22	WESRT40S3848	BOTTOM COVER	1	[BG]
	23	WES7023L6058	TAPPING SCREW	9	(K2-8), [BG]
	24	WESRT40S3038	BODY BLOCK	1	[BG]
	25	WESRT60K7674	CHARGING ADAPTOR	1	(C-2 PLUG), [BG]
	26	WES7115K7007	SOFT CASE	1	[BG]
	27	WES8093H7056	CLEANING BRUSH	1	[BG]
	-	WESRT40S8008	INDIVIDUAL BOX	1	[BG]
	-	WESRT40S8108	OPERATING INSTRUCTIONS	1	[BG]

Model No. : ES-RT30 Exploded View



Model No. : ES-RT30 Parts List

Safety	Ref. No.	Part No.	Part Name & Description	Q'ty	Remarks
ES-RT30					
	1	WES8044X7156	PROTECTIVE CAP	1	[BG]
	2	WES9085E	OUTER FOIL	1	
	3	WESRT60S0047	OUTER FOIL FRAME	1	[BG]
	4	WES9064EP	INNER BLADE	1ST	
	5	WESRT60L1007	MOTOR ASSEMBLY	1	[BG]
	6	WES7047H3268	FOIL RELEASE BUTTON	2	(2PCS/PK), [BG]
	7	WES7046L1086	TRIMMER DRIVING BAR	1	[BG]
	8	WES7046L1076	SLIT BLADE DRIVING BAR	1	[BG]
	9	WES7046L0586	SPRING AND STOPPER	2	(2SETS/PK), [BG]
	10	WES8080L0326	WATERPROOF RUBBER	1	[BG]
	11	WES7046L0226	FLOAT SPRING	2	(2PCS/PK), [BG]
	12	WES7046L0966	O-RING	1	[BG]
	13	WES7046L0236	TUBE HOLDER	1	[BG]
	14	WESRT30S3058	HOUSING A	1	[BG]
	15	WESRT30S3778	FRONT PANEL	1	[BG]
	16	WESRT60S3067	HOUSING B	1	[BG]
	17	WESRT30L2128	MODULE	1	[BG]
	18	WES7043L2508	RECHARGEABLE BATTERY	2	(NI-MH TYPE), (2PCS/PK), [BG]
	19	WES7025L0976	WASHER & O-RING SET	2	(2PCS/PK), [BG]
	20	WESRT30K3367	SIDE PANEL	1	[BG]
	21	WES8046H1506	TRIMMER	1	[BG]
	22	WESRT30S3848	BOTTOM COVER	1	[BG]
	23	WES7023L6058	TAPPING SCREW	9	(K2-8), [BG]
	24	WESRT30S3038	BODY BLOCK	1	[BG]
	25	WESRT60K7674	CHARGING ADAPTOR	1	(C-2 PLUG), [BG]
	26	WES7115K7007	SOFT CASE	1	[BG]
	27	WES8093H7056	CLEANING BRUSH	1	[BG]
	-	WESRT30S8008	INDIVIDUAL BOX	1	[BG]
	-	WESRT40S8108	OPERATING INSTRUCTIONS	1	[BG]