

Service Manual

Rechargeable Shaver

Model No. **ES-RT53**
ES-RT33



Europe
CIS

⚠ 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

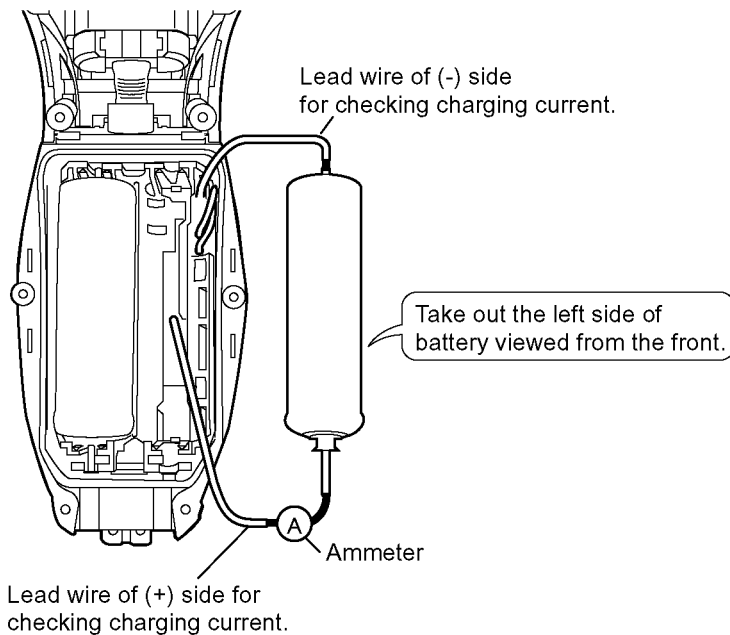
Power source	AC 100-240V, 50-60Hz (Automatic voltage conversion)
Motor voltage	2.4V DC
Charging time	1 Hour
Shaves per charge	14 times (3 minutes shave)
Measurement	(H)17 x (W) 6.3 x (D) 4.5 cm
Weight	200g

Supplied accessories	Oil
	Cleaning brush

3 Troubleshooting Guide

3.1. Main unit and charging adaptor

<TROUBLE>	<CHECK.>	<REMEDY>	
<p>Motor does not rotate. Does not charge. Functions for a moment and stops.</p>	<p><CHECK CHARGING ADAPTOR.> 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.</p>	<p>NO → Replace charging adaptor.</p>	
↓ OK			
<p><CHECK RECHARGEABLE BATTERIES.> 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.)</p>			<p>NO → Replace both rechargeable batteries at the same time.</p>
↓ OK			
<p><CHECK SWITCH CONTACT.> Okay if there is a continuity and no deformation of switch terminals.</p>			<p>NO → Repair contact or replace housing A.</p>
↓ OK			
<p><CHECK MOTOR.> Okay if motor rotates when DC2.4V is applied to (+) and (-) terminals.</p>			<p>NO → Replace motor.</p>
↓ OK			
<p><CHECK MODULE.> 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.</p>			<p>NO → Replace motor.</p>

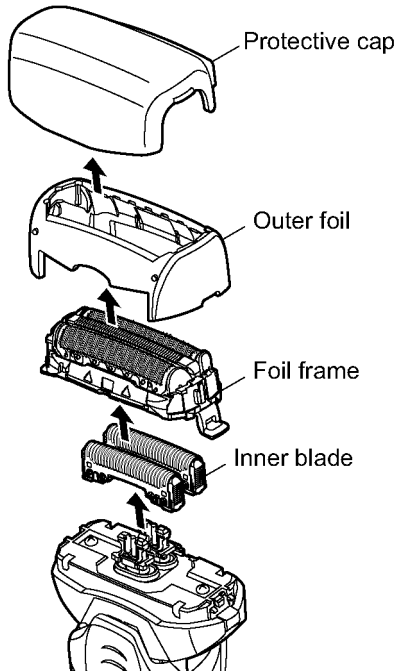


4 Disassembly and Assembly Instructions

4.1. Disassembly Instructions

Follow the procedure below to disassemble the main unit.

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



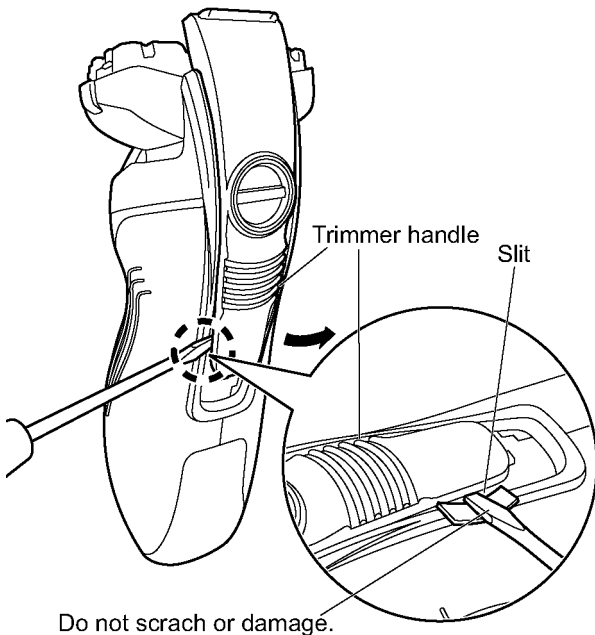
2.

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

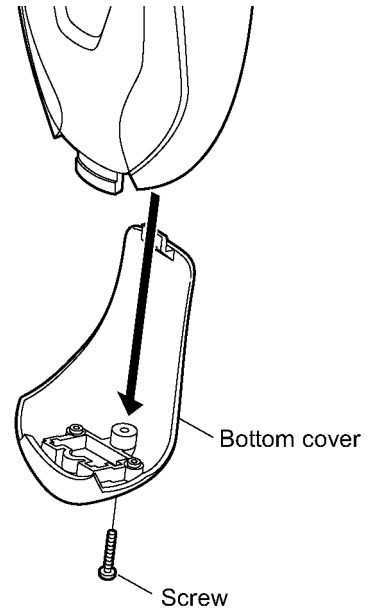
Slide the trimmer handle and unhook the trimmer handle by inserting something like a slotted screwdriver or plastic spatula into a slit.

NOTE:

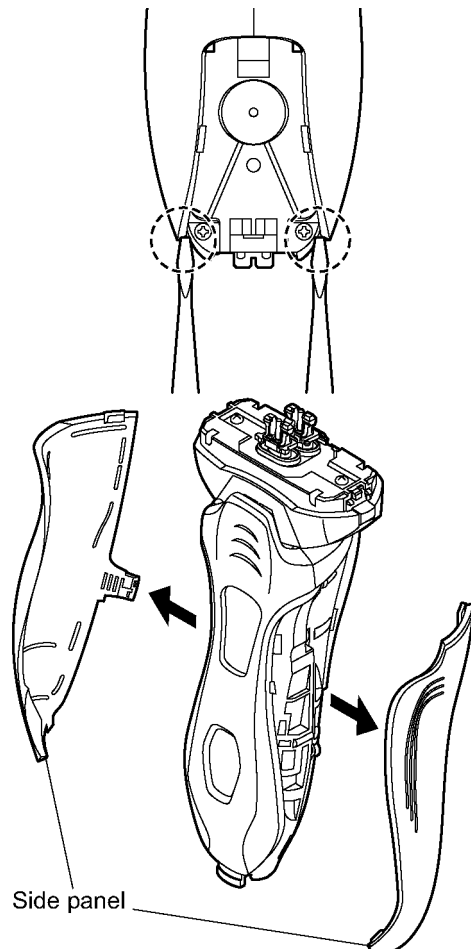
In order to prevent the scratch or damage on the housing, use the cushion under the screwdriver.



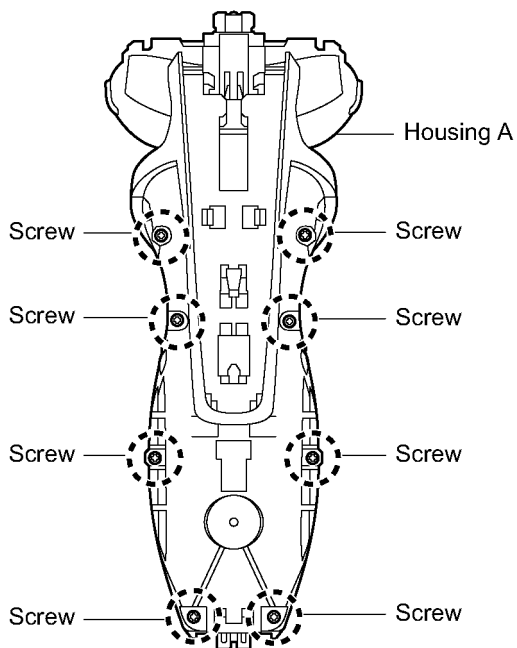
3. Loosen a screw and remove the bottom cover.



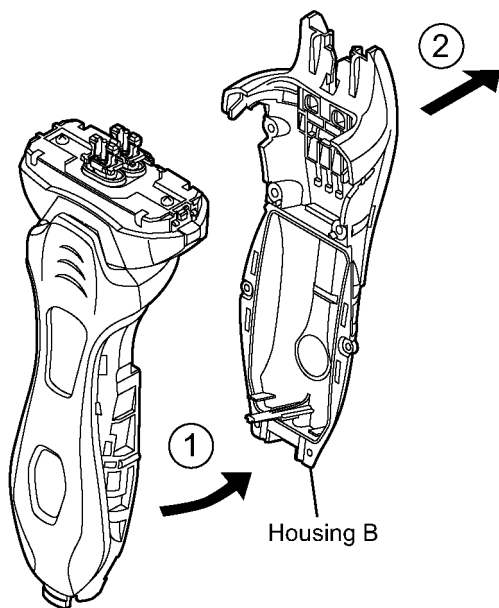
4. To remove the side panels, insert a small slotted screwdriver into the housing and unhook.



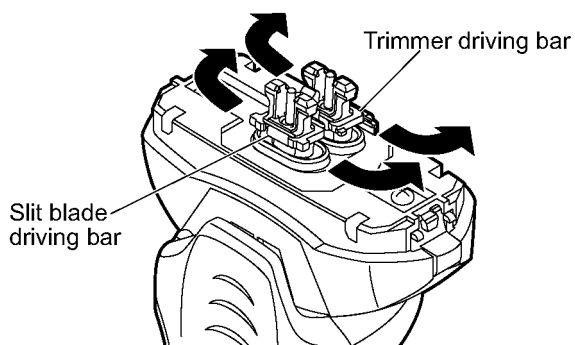
5. Loosen four screws on and back side of housing A.



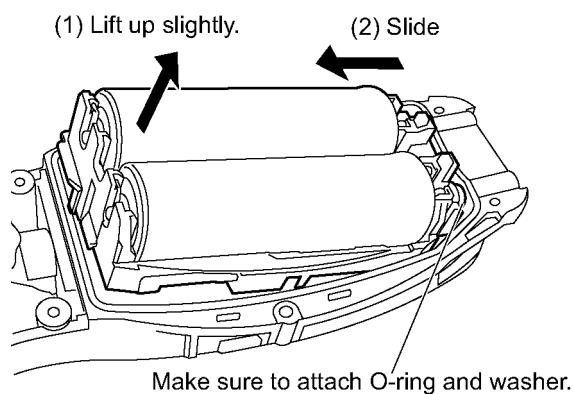
6. Take out the housing B, from the bottom side.



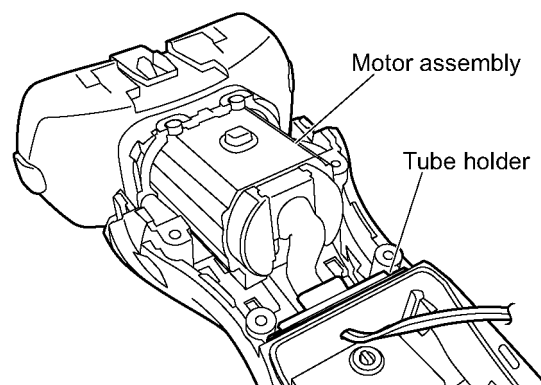
7. To remove the trimmer driving bar or the slit blade driving bar, press bars outward.



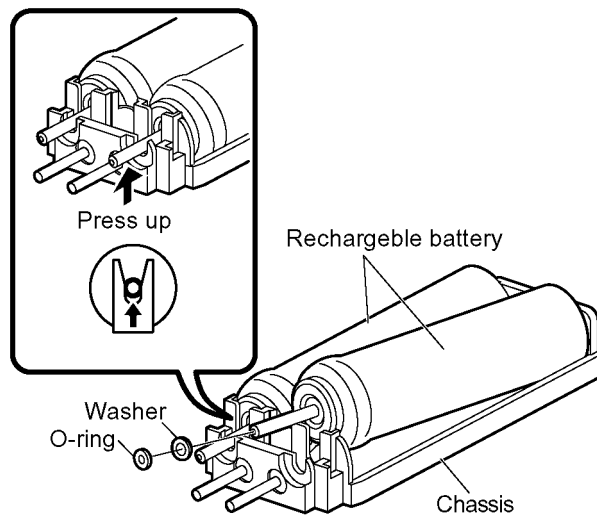
8. And take out the battery assembly from housing A.



9. Remove the motor assembly and tube holder.



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



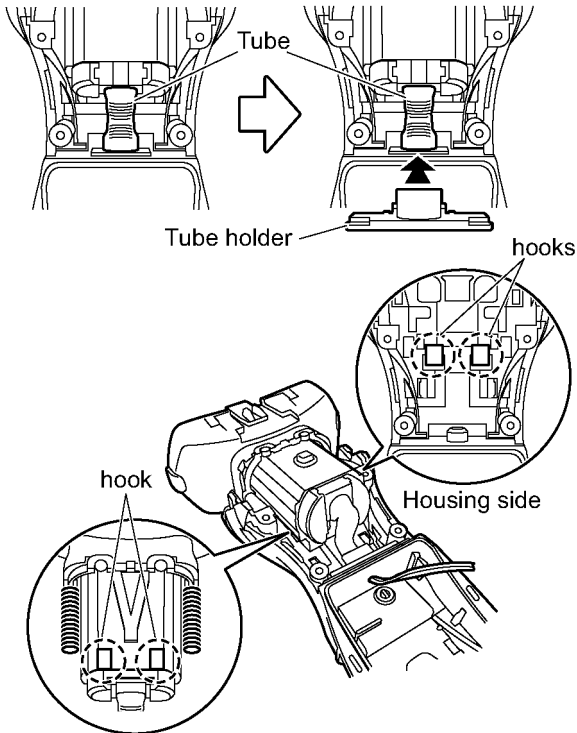
4.2. Cautions in Assembly

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

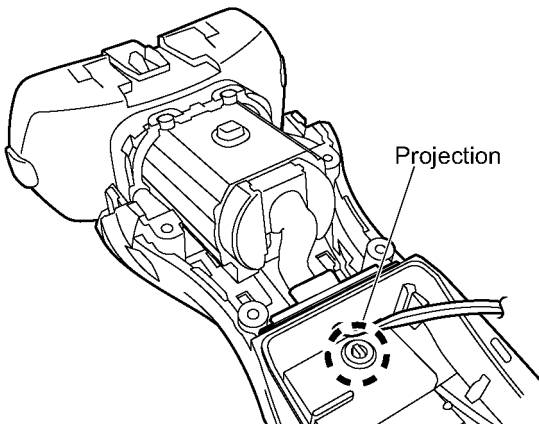
Insert the tube into the projection of the housing and set the tube holder firmly. Then hook the motor holder to the housing and put the float springs properly.



The back side of the motor holder

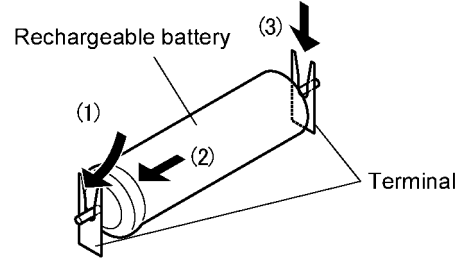
4.2.2. Module

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



4.2.3. Rechargeable batteries

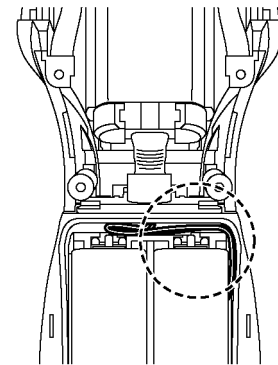
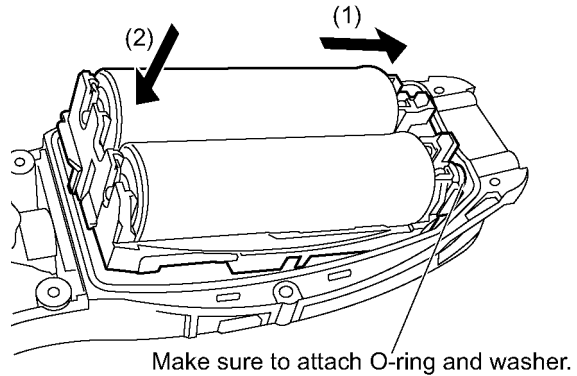
Insert the rechargeable batteries into chassis. Attach the battery o-ring and washer to the battery.



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

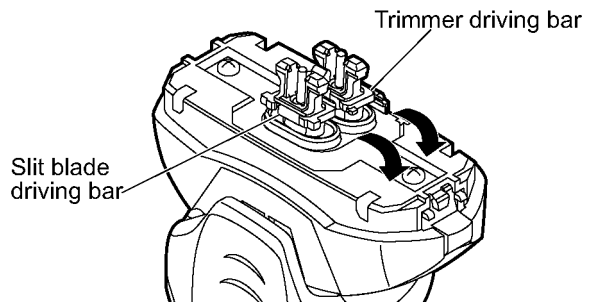
NOTE:

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.

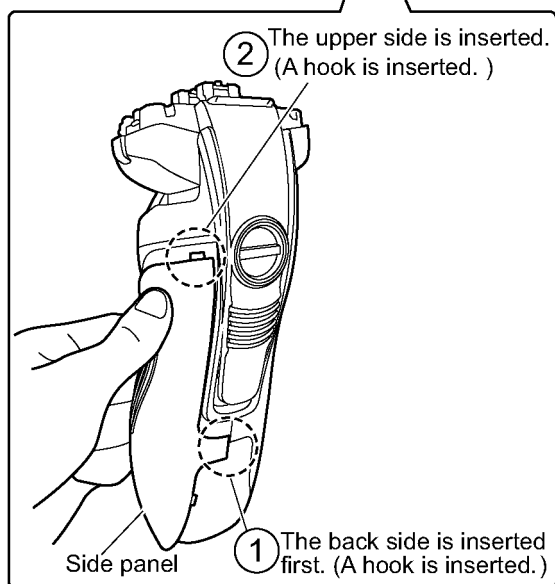
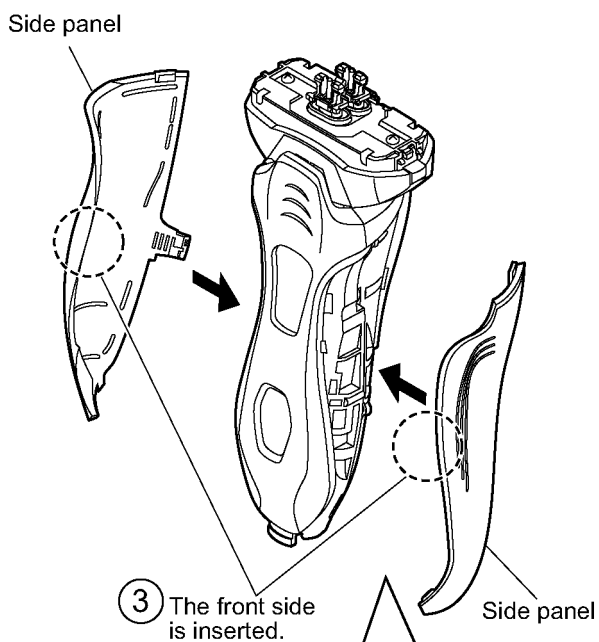


4.2.5. Side panel

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

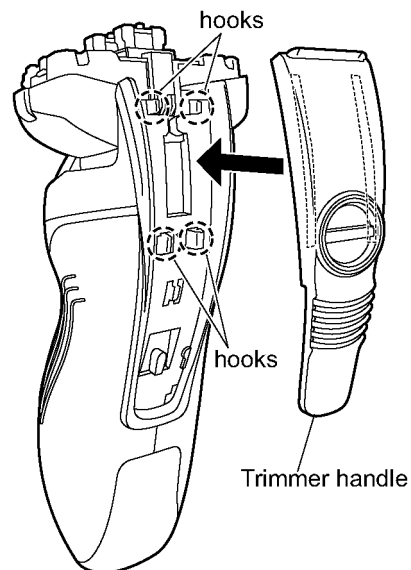
NOTE:

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



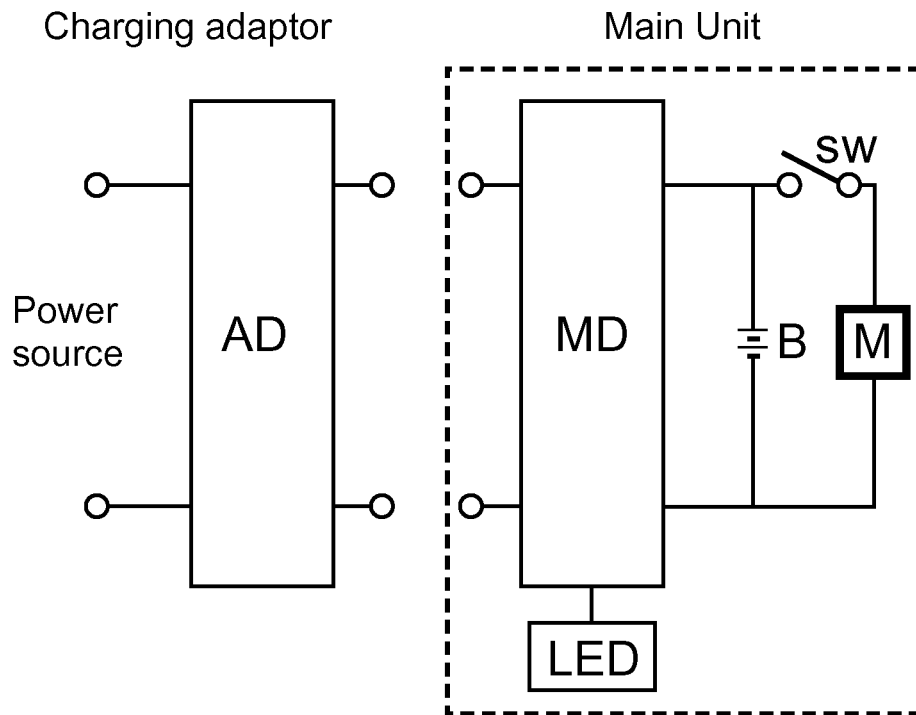
4.2.6. Trimmer

1. Align the housing with the hooks of trimmer.
2. Confirm its operation or smooth movement of trimmer.

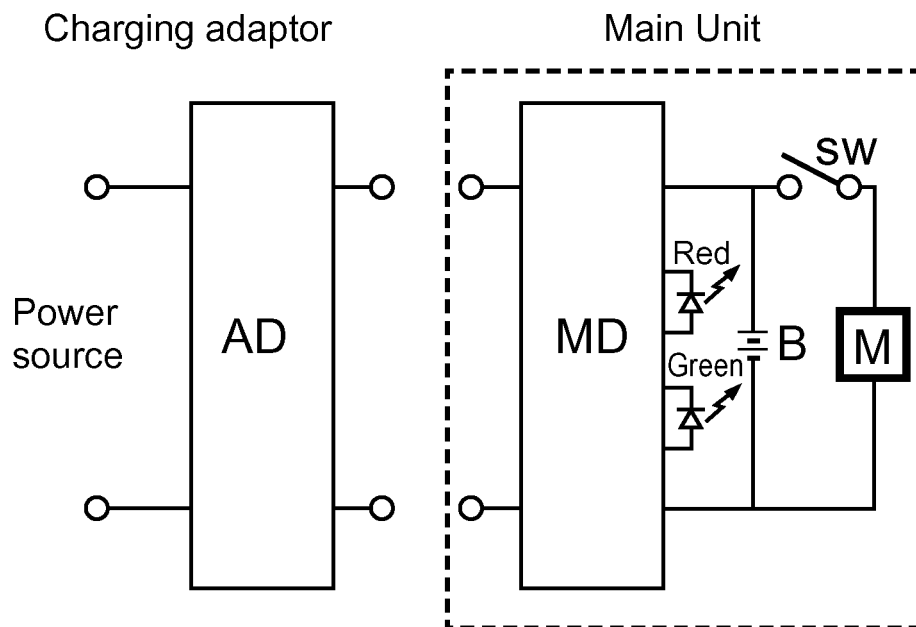


5 Schematic Diagram

5.1. ES-RT53

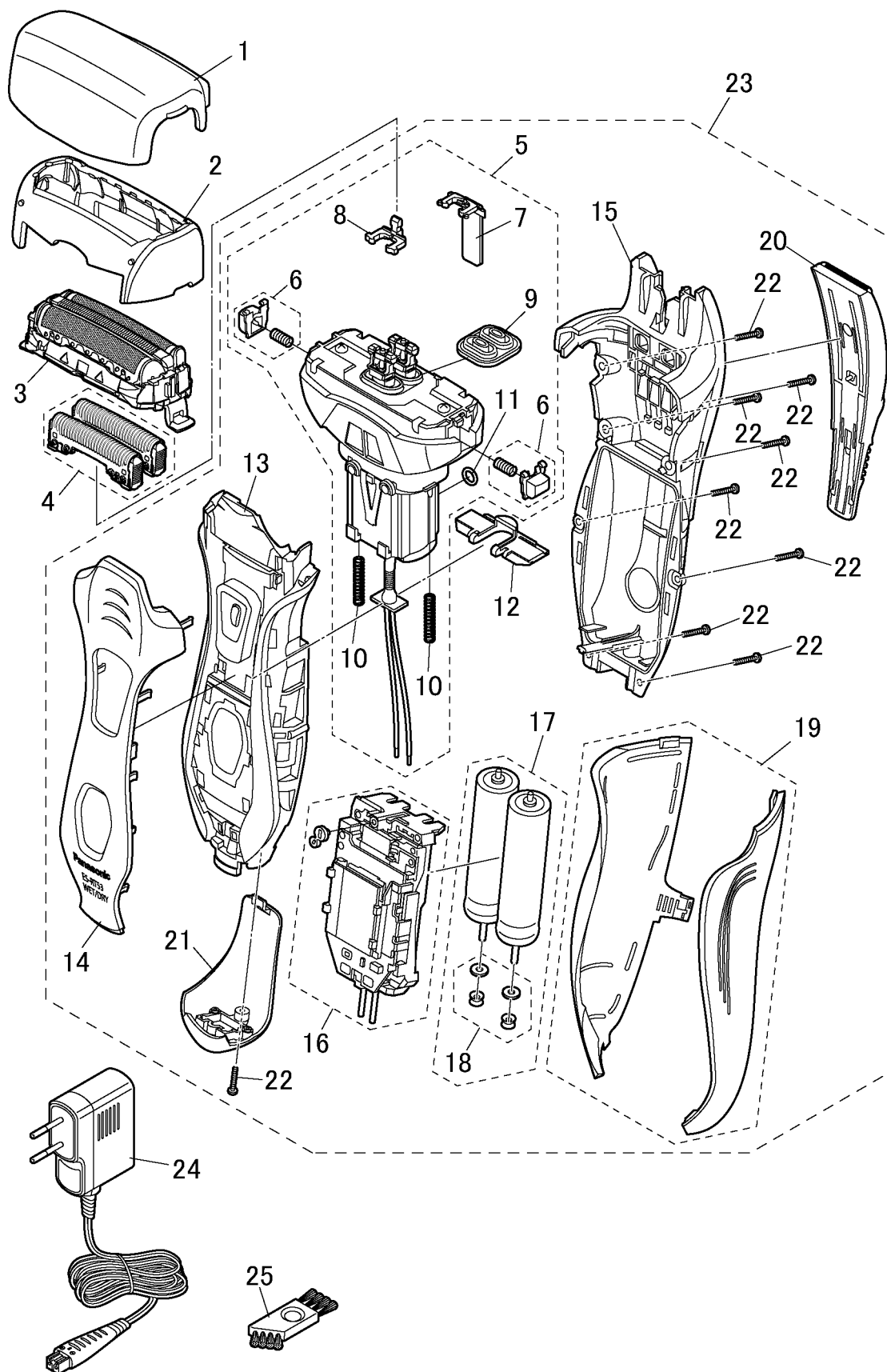


5.2. ES-RT33



6 Exploded View and Replacement Parts List

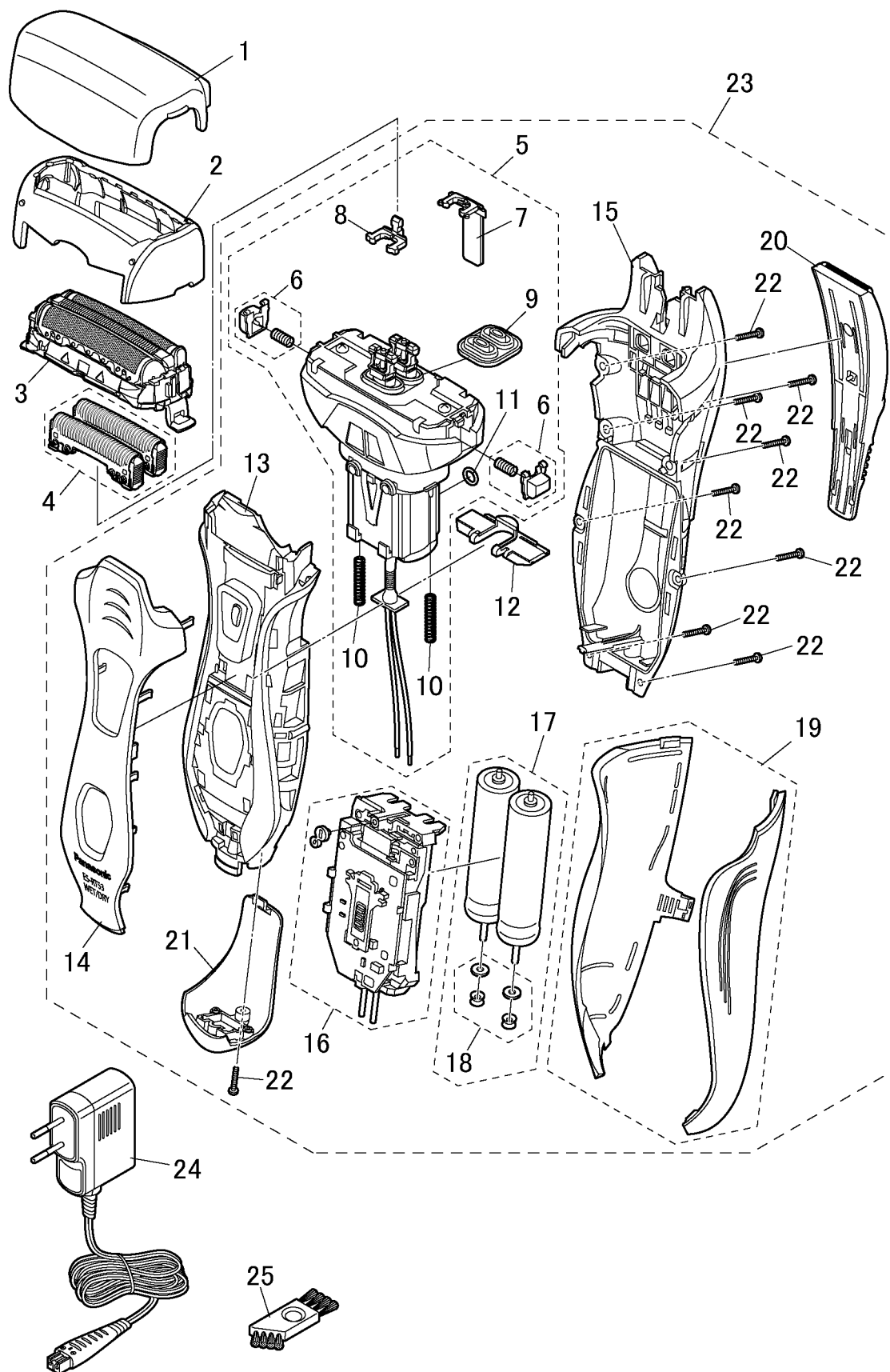
6.1. Exploded View for ES-RT53



6.2. Replacement Parts List

Safety	Ref. No.	Part No.	Part Name & Description	Qty/ unit	Remarks
	1	WESRT33X7158	PROTECTIVE CAP	1	
	2	WESRT33S0048	OUTER FOIL FRAME	1	
	3	WES9087Y	OUTER FOIL	1	
	4	WES9068Y	INNER BLADE	1	
	5	WESRT33L1008	MOTOR ASSEMBLY	1	
	6	WESRT33K3268	FOIL RELEASE BUTTON	1	
	7	WESRT33L1088	TRIMMER DRIVING BAR	1	
	8	WES8176L1077	SLIT BLADE DRIVING BAR	1	
	9	WES8196L0328	WATERPROOF RUBBER	1	
	10	WES7046L0226	FLOAT SPRING	2	(2PCS/PK)
	11	WES7046L0966	O-RING	1	
	12	WES7046L0236	TUBE HOLDER	1	
	13	WESRT53S3058	HOUSING A	1	
	14	WESRT53K3778	FRONT PANEL	1	
	15	WESRT33S3068	HOUSING B	1	
	16	WESRT53L2128	MODULE	1	
	17	WES7038L2508	RECHARGEABLE BATTERY	2	Ni-Mh Type, (2PCS/PK)
	18	WES7025L0976	WASHER & O-RING SET	2	(2PCS/PK)
	19	WESRT53K3368	SIDE PANEL	1	
	20	WESRT53K1508	TRIMMER	1	
	21	WESRT53K3848	BOTTOM COVER	1	
	21	WESRT53K3849	BOTTOM COVER	1	only for CIS
	22	WES7023L6058	TAPPING SCREW	9	K2-8
	23	WESRT53S3038	BODY BLOCK	1	
	23	WESRT53S3039	BODY BLOCK	1	only for CIS
	24	WESRF41K7664	CHARGING ADAPTOR	1	C-2 PLUG
	24	WESRF41K7660	CHARGING ADAPTOR	1	B-2 PLUG, for U.K.
	24	WESRT51K7650	CHARGING ADAPTOR	1	C-2 PLUG, for CIS
	25	WES8093H7056	CLEANING BRUSH	1	
	-	WESRT53S8008	INDIVIDUAL BOX	1	
	-	WESRT53S8009	INDIVIDUAL BOX	1	only for CIS
	-	WESRT53S8000	INDIVIDUAL BOX	1	only for U.K.
	-	WESRT33S8108	OPERATING INSTRUCTIONS	1	
	-	WESRT33S8109	OPERATING INSTRUCTIONS	1	only for CIS

6.3. Exploded View for ES-RT33



6.4. Replacement Parts List

Safety	Ref. No.	Part No.	Part Name & Description	Qty/ unit	Remarks
	1	WESRT33X7158	PROTECTIVE CAP	1	
	2	WESRT33S0048	OUTER FOIL FRAME	1	
	3	WES9087Y	OUTER FOIL	1	
	4	WES9068Y	INNER BLADE	1	
	5	WESRT33L1008	MOTOR ASSEMBLY	1	
	6	WESRT33K3268	FOIL RELEASE BUTTON	1	
	7	WESRT33L1088	TRIMMER DRIVING BAR	1	
	8	WES8176L1077	SLIT BLADE DRIVING BAR	1	
	9	WES8196L0328	WATERPROOF RUBBER	1	
	10	WES7046L0226	FLOAT SPRING	2	(2PCS/PK)
	11	WES7046L0966	O-RING	1	
	12	WES7046L0236	TUBE HOLDER	1	
	13	WESRT33S3058	HOUSING A	1	
	14	WESRT33K3778	FRONT PANEL	1	
	15	WESRT33S3068	HOUSING B	1	
	16	WESRT33L2128	MODULE	1	
	17	WES7038L2508	RECHARGEABLE BATTERY	2	Ni-Mh Type, (2PCS/PK)
	18	WES7025L0976	WASHER & O-RING SET	2	(2PCS/PK)
	19	WESRT33K3368	SIDE PANEL	1	
	20	WESRT33K1508	TRIMMER	1	
	21	WESRT33K3848	BOTTOM COVER	1	
	21	WESRT33K3849	BOTTOM COVER	1	only for CIS
	22	WES7023L6058	TAPPING SCREW	9	K2-8
	23	WESRT33S3038	BODY BLOCK	1	
	23	WESRT33S3039	BODY BLOCK	1	only for CIS
	24	WESRF41K7664	CHARGING ADAPTOR	1	C-2 PLUG
	24	WESRF41K7660	CHARGING ADAPTOR	1	B-2 PLUG, for U.K.
	24	WESRT51K7650	CHARGING ADAPTOR	1	C-2 PLUG, for CIS
	25	WES8093H7056	CLEANING BRUSH	1	
	-	WESRT33S8008	INDIVIDUAL BOX	1	
	-	WESRT33S8008	INDIVIDUAL BOX	1	only for CIS
	-	WESRT33S8000	INDIVIDUAL BOX	1	only for U.K.
	-	WESRT33S8108	OPERATING INSTRUCTIONS	1	
	-	WESRT33S8109	OPERATING INSTRUCTIONS	1	only for CIS