

Service Manual

Rechargeable Shaver

Model No. **ES-RF41**
ES-RF31

America



⚠ 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).

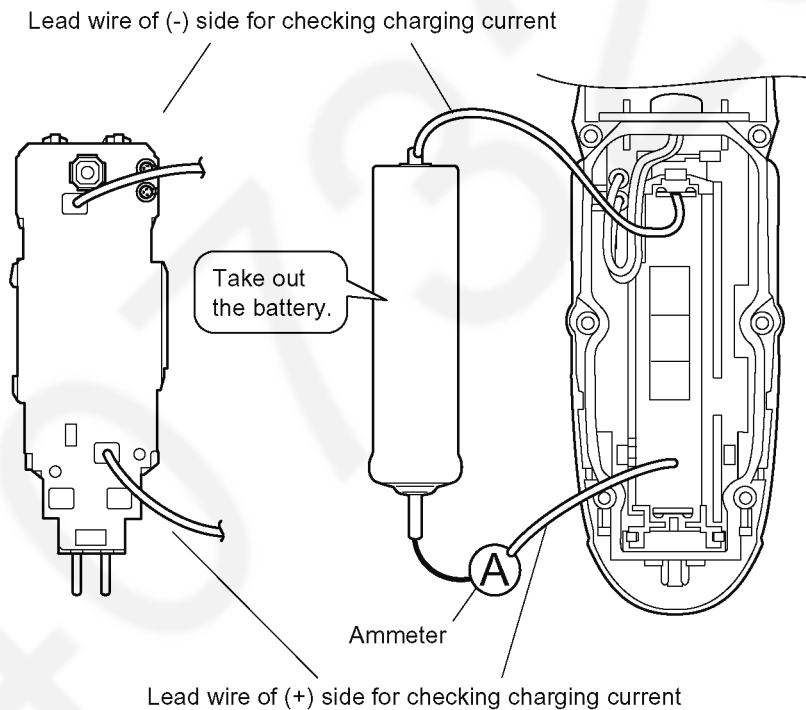
2 Specifications

Power source	AC 100-240V, 50-60Hz (Automatic voltage conversion)
Power consumption	Approx. 6W (when charging)
Charging time	1 Hour
Shaves per charge	Approx. 21 times (3 minutes shave)
Weight	Approx. 200g

Supplied accessories	Charging stand (ES-RF41)
	Soft case
	Cleaning brush

3 Troubleshooting Guide

<TROUBLE>	<CHECK>	<REMEDY>
Motor does not rotate. Does not charge. Functions for a moment and stops.	<CHECK CHARGING ADAPTOR.> Supply the rated voltage to the adaptor. And confirm the continuity. OK if it is approx. DC6V between the terminals of the plug at the no-load operation.	NO → Replace charging adaptor.
	↓ OK	
	<CHECK RECHARGEABLE BATTERY.> Okay if the voltage of rechargeable battery is more than approximately 3.6V DC between (+) and (-) terminal.	NO → Replace rechargeable battery.
	↓ OK	
	<CHECK MODULE.> Wire the main unit returned from a customer refer with the following figure, and connect the rated voltage to it by the normal adaptor. When switching ON and OFF, check if motor rotates and the indicator of LCD is lid. Discharge the battery completely and check charging current, if it is more than 600-800mA when connecting the charging adaptor.	NO → Check the soldering points. ↓ OK Replace module. ↓ OK Replace linear motor assembly.



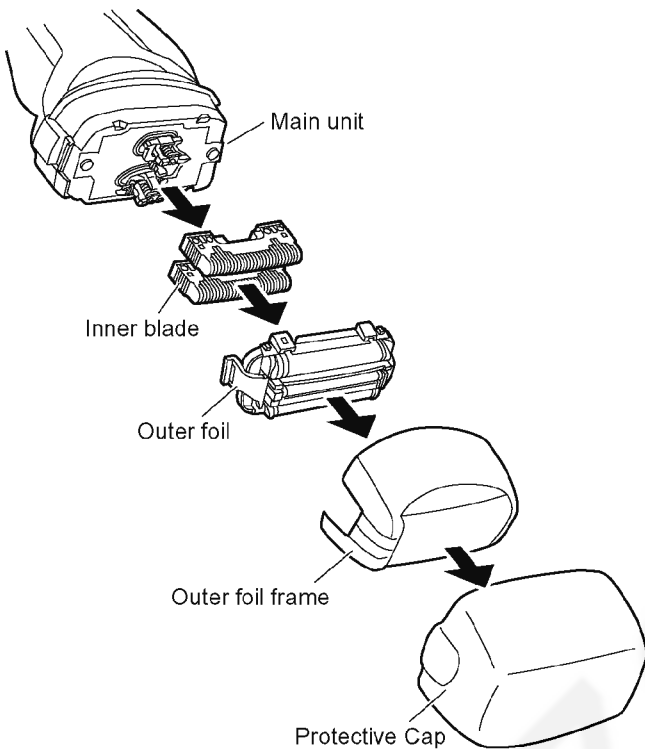
NOTE: Once taking the battery out, the shaver is RESET. The shaver must be charged for several seconds first.

NOTE: Completely discharge and then fully charge before returning the shaver to the customer.

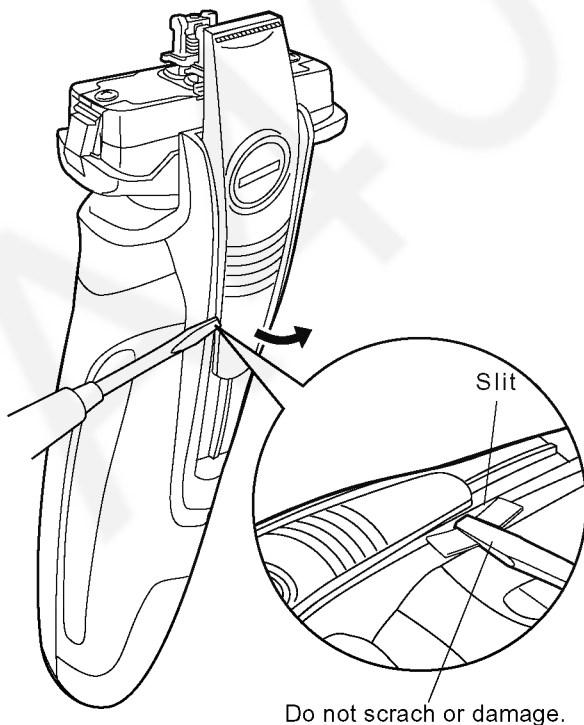
4 Disassembly and Assembly Instructions

4.1. Disassembly Instructions

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

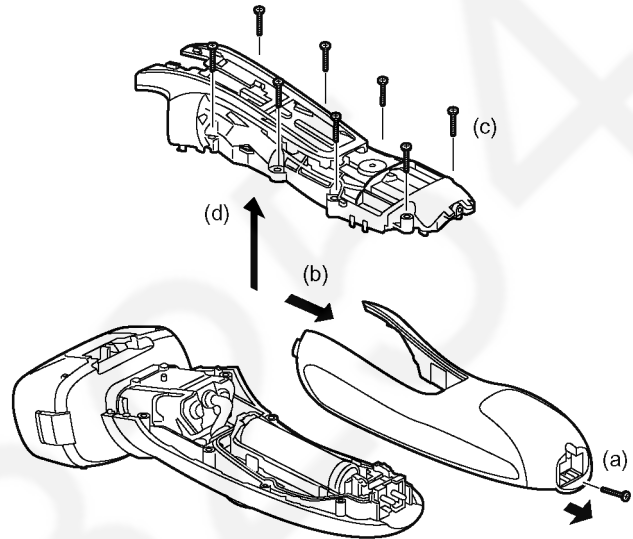


2. Slide the trimmer handle and unhook the trimmer handle by inserting something like a slotted screwdriver or plastic spatula into a slit.

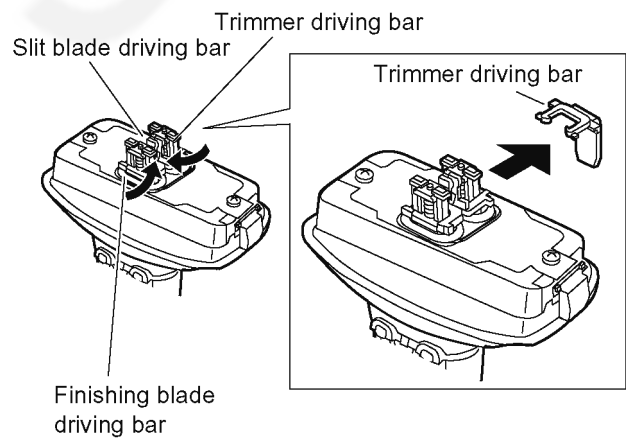


3. How to disassemble the housing.

- a. Loosen a screw.
- b. Slide the rear panel and remove it.
- c. Loosen 8 screws.
- d. Remove the housing.



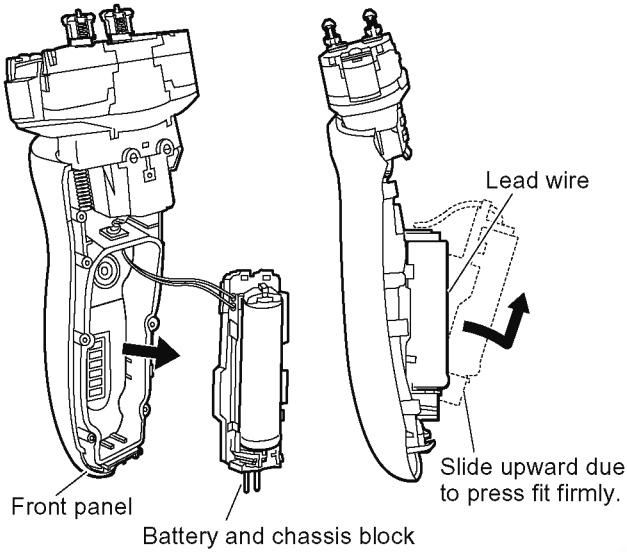
4. To remove the trimmer driving bar or the slit blade driving bar, press bars outward.



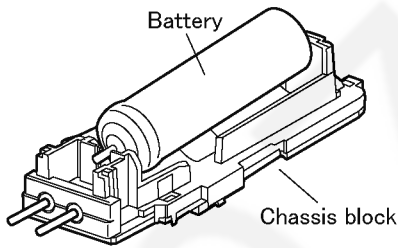
5. Pull up the battery and chassis block from the linear motor side first. Then, slide it upward and take it out from the front panel.

NOTE:

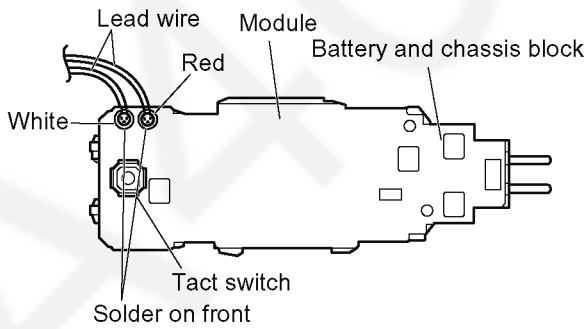
Do not pull the battery and chassis block forcefully due to connecting the linear motor by the lead wires.



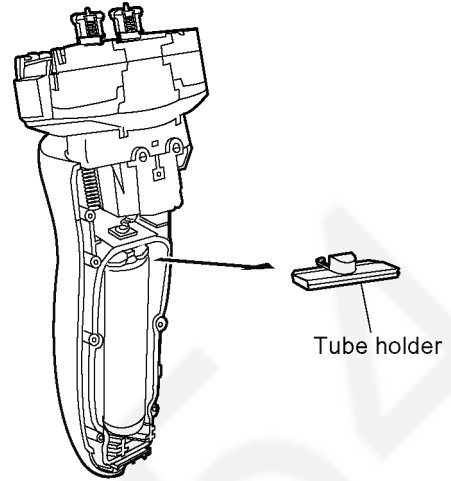
6. Take out the battery from the chassis.



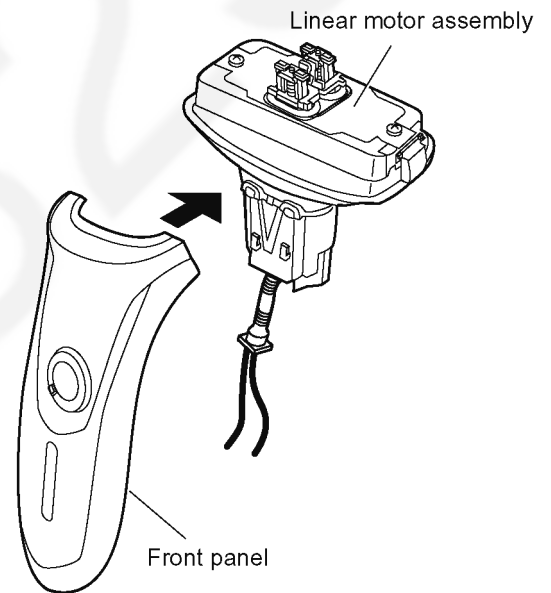
7. Unsolder the lead wires from the module.



8. Take out the tube holder.



9. Move gently the linear motor assembly down and unhook it and remove the float springs from the front panel.



4.2. Caution in Assembly

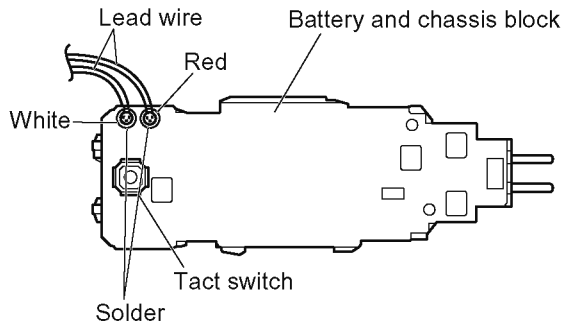
NOTE:

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

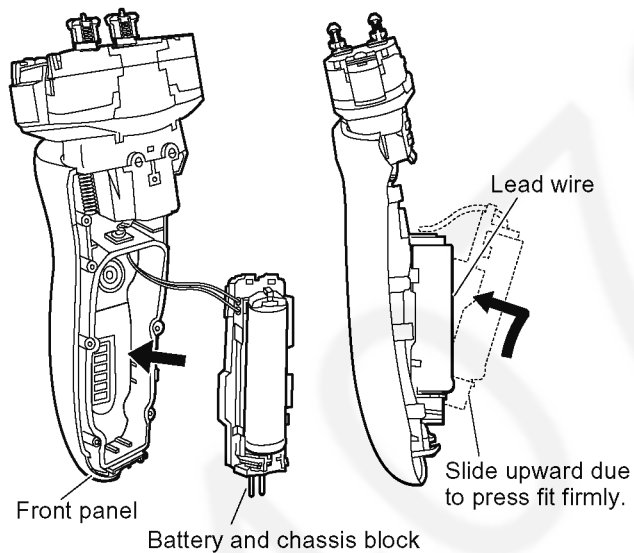
1. Solder the lead wires with the module.

NOTE:

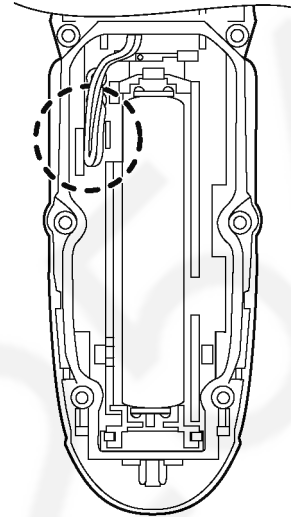
Make sure of the color of lead wires.



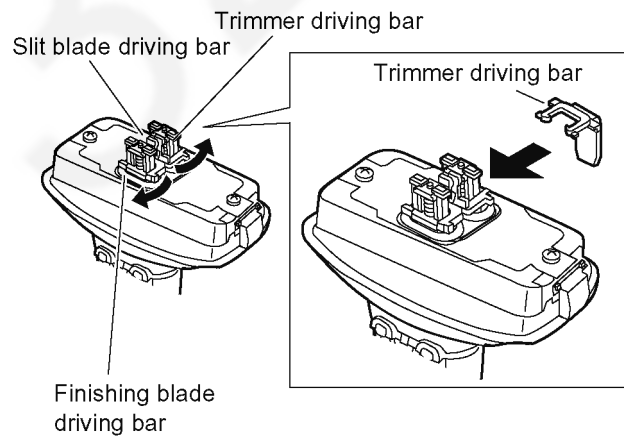
2. When inserting the module and chassis block into the front panel, confirm if the module does not get any damage or deformation.



3. Twist the lead wires and place them in the ribs.

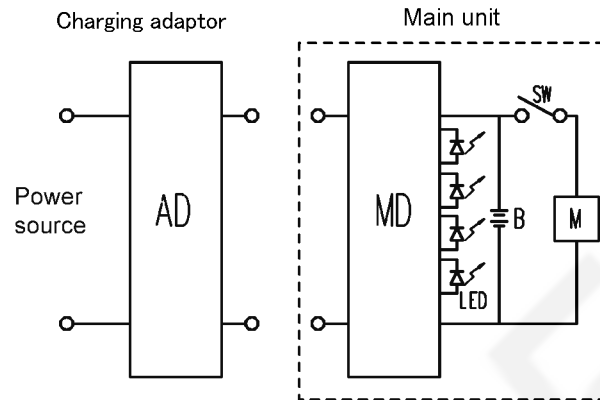


4. Set the trimmer driving bar and the slit blade driving bar.

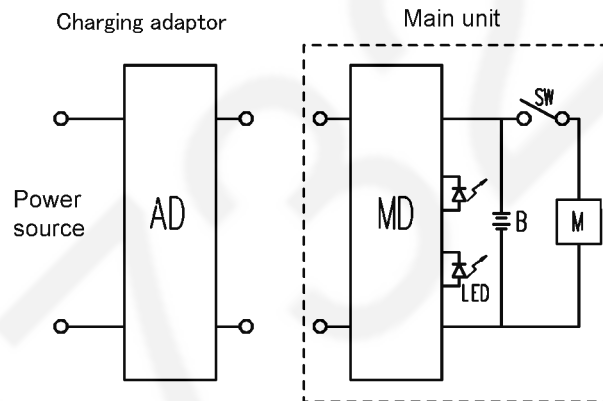


5 Schematic Diagram

5.1. ES-RF41

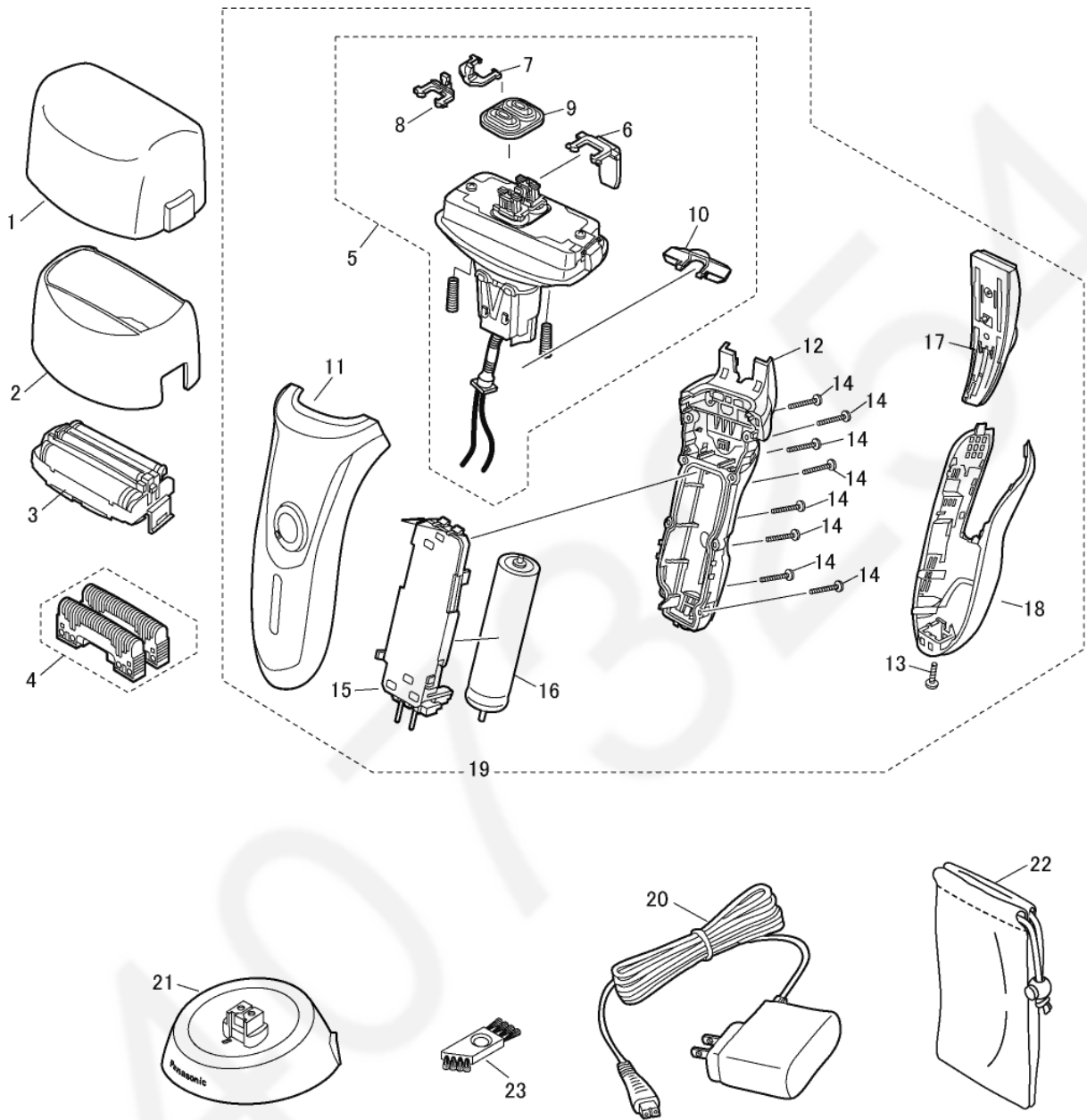


5.2. ES-RF31



6 Exploded View and Replacement Parts List

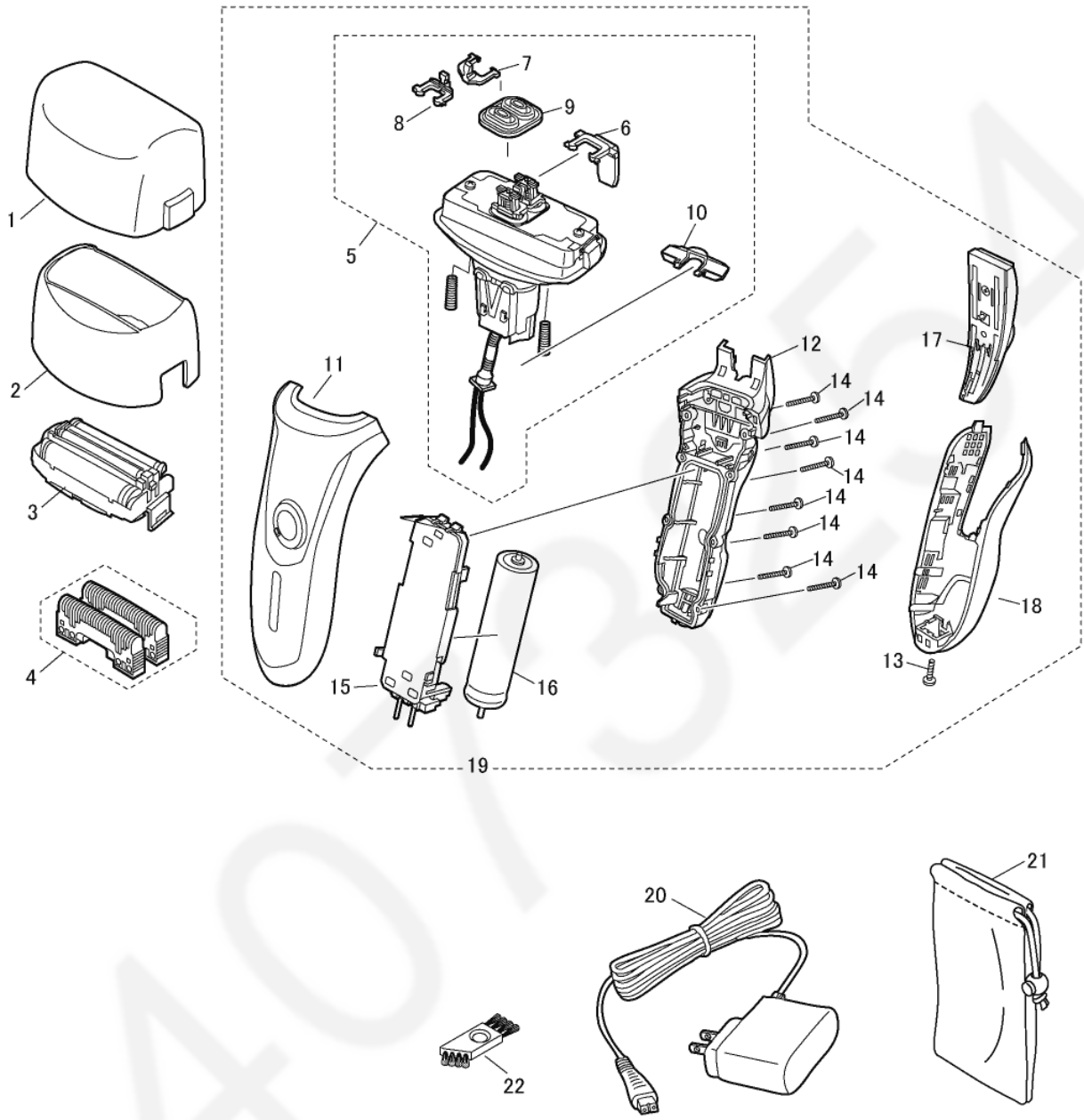
Model No. : ES-RF41 Exploded View for ES-RF41



Model No. : ES-RF41 Parts List

Safety	Ref. No.	Part No.	Part Name & Description	Q'ty	Remarks
ES-RF41					
	1	WESRF41X7158	PROTECTIVE CAP	1	[BG]
	2	WESRF41S0048	OUTER FOIL FRAME	1	[BG]
	3	WES9167PC	OUTER FOIL	1	
	4	WES9068PC	INNER BLADE	1ST	
	5	WESRF41L1008	LINEAR MOTOR ASSEMBLY	1	[BG]
	6	WESRF41L1088	TRIMMER DRIVING BAR	1	[BG]
	7	WES8258L1077	SLIT BLADE DRIVING BAR	1	[BG]
	8	WES8258L1177	FINISHING BLADE DRIVING BAR	1	[BG]
	9	WES8258L0327	WATERPROOF RUBBER	1	[BG]
	10	WES7046L0237	TUBE HOLDER	1	[BG]
	11	WESRF41S3858	FRONT PANEL	1	[BG]
	12	WESRF41K3068	HOUSING	1	[BG]
	13	WES7023L6058	TAPPING SCREW	1	(K2-8), [BG]
	14	WES8176L6007	P TIGHT SCREW	1	(M2-12), [BG]
	15	WESRF41L2128	MODULE	1	[BG]
	16	WES8176L2509	LITHIUM ION STORAGE BATTERY	1	(LM-ION TYPE), [BG]
	17	WESRF41K1508	TRIMMER	1	[BG]
	18	WESRF41K3369	REAR PANEL	1	[BG]
	19	WESRF41K3039	BODY BLOCK	1	[BG]
	20	WESRF41K7658	CHARGING ADAPTOR	1	(A-2 PLUG), [BG]
	21	WESLT50K7189	CHARGING STAND	1	[BG]
	22	WES7115K7007	SOFT CASE	1	[BG]
	23	WES8093H7057	CLEANING BRUSH	1	(Only for Canada and Latin America), [BG]
	-	WESRF41S8000	INDIVIDUAL BOX	1	[BG]
	-	WESRF41S8109	OPERATING INSTRUCTIONS	1	[BG]

Model No. : ES-RF31 Exploded View for ES-RF31



Model No. : ES-RF31 Parts List

Safety	Ref. No.	Part No.	Part Name & Description	Q'ty	Remarks
ES-RF31					
	1	WESRF41X7158	PROTECTIVE CAP	1	[BG]
	2	WESRF41S0048	OUTER FOIL FRAME	1	[BG]
	3	WES9167PC	OUTER FOIL	1	
	4	WES9068PC	INNER BLADE	1ST	
	5	WESRF41L1008	LINEAR MOTOR ASSEMBLY	1	[BG]
	6	WESRF41L1088	TRIMMER DRIVING BAR	1	[BG]
	7	WES8258L1077	SLIT BLADE DRIVING BAR	1	[BG]
	8	WES8258L1177	FINISHING BLADE DRIVING BAR	1	[BG]
	9	WES8258L0327	WATERPROOF RUBBER	1	[BG]
	10	WES7046L0237	TUBE HOLDER	1	[BG]
	11	WESRF31S3858	FRONT PANEL	1	[BG]
	12	WESRF41K3068	HOUSING	1	[BG]
	13	WES7023L6058	TAPPING SCREW	1	(K2-8), [BG]
	14	WES8176L6007	P TIGHT SCREW	1	(M2-12), [BG]
	15	WESRF31L2128	MODULE	1	[BG]
	16	WES8176L2509	LITHIUM ION STORAGE BATTERY	1	(LM-ION TYPE), [BG]
	17	WESRF41K1508	TRIMMER	1	[BG]
	18	WESRF31K3369	REAR PANEL	1	[BG]
	19	WESRF31K3039	BODY BLOCK	1	[BG]
	20	WESRF41K7658	CHARGING ADAPTOR	1	(A-2 PLUG), [BG]
	21	WES7115K7007	SOFT CASE	1	[BG]
	22	WES8093H7057	CLEANING BRUSH	1	(Only for Canada and Latin America), [BG]
	-	WESRF31S8000	INDIVIDUAL BOX	1	[BG]
	-	WESRF41S8109	OPERATING INSTRUCTIONS	1	[BG]