

Service Manual

AC/Rechargeable Shaver

Model No. **ES8113**
ES8116

Asia



⚠ 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.

TABLE OF CONTENTS

	PAGE	PAGE
1 Warning-----	2	
2 Specifications -----	2	
3 Troubleshooting Guide-----	3	
4 Disassembly and Assembly Instructions -----	6	
5 Schematic Diagram-----	11	
6 Exploded View and Replacement Parts List -----	12	

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

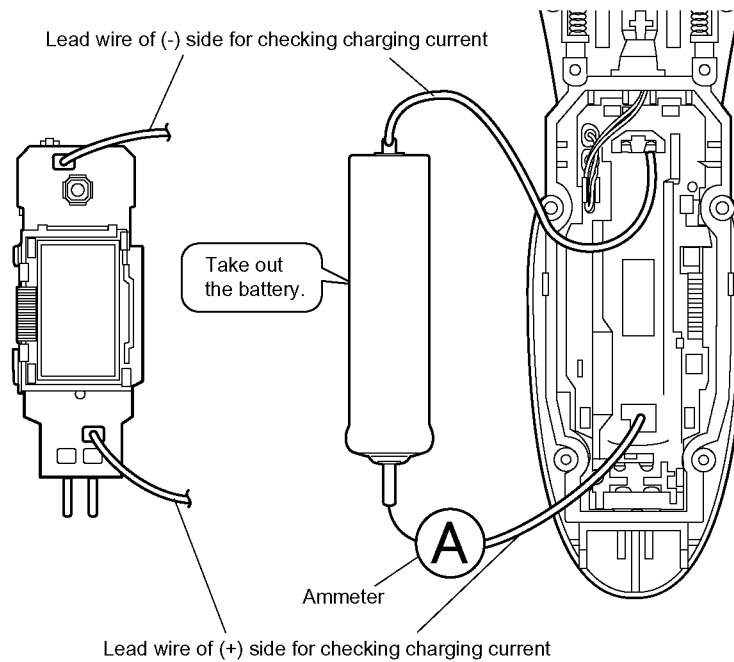
Power source	AC 100-240V, 50-60Hz (Automatic voltage conversion)
Power consumption	Approx. 6W
Charging time	1 Hour
Shaves per charge	14 times (3 minutes shave)
Measurement	(H)15.7 x (W)6.4 x (D)4.3 cm
Weight	175g (without protective cap)

Supplied accessories	Drying/Charging stand (ES8116 only)
	Soft case
	Oil
	Cleaning brush

3 Troubleshooting Guide

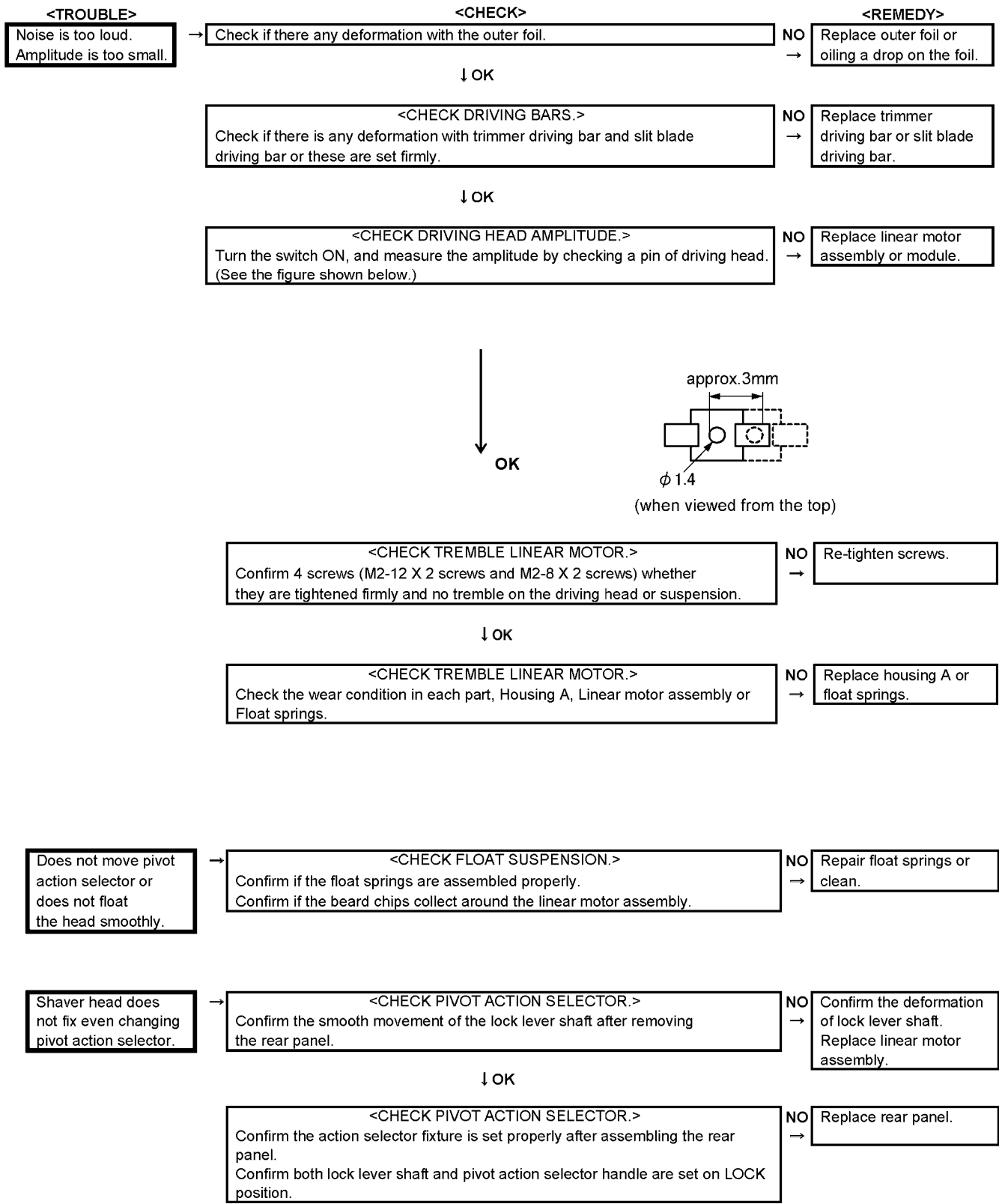
3.1. Main unit and charging adaptor

<TROUBLE>	<CHECK>	<REMEDY>
Motor does not rotate. Does not charge. Functions for a moment and stops.	<p align="center"><CHECK CHARGING ADAPTOR.></p> 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		
	<p align="center"><CHECK RECHARGEABLE BATTERY.></p> Okay if the voltage of rechargeable battery is more than approximately 3.6V DC between (+) and (-) terminal.	NO → Replace rechargeable battery.
↓ 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 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 600mA when connecting AC power source. When switching ON and OFF, check if motor rotates and the indicator	NO → Check the soldering points. ↓ OK Replace module. ↓ OK Replace linear motor assembly.

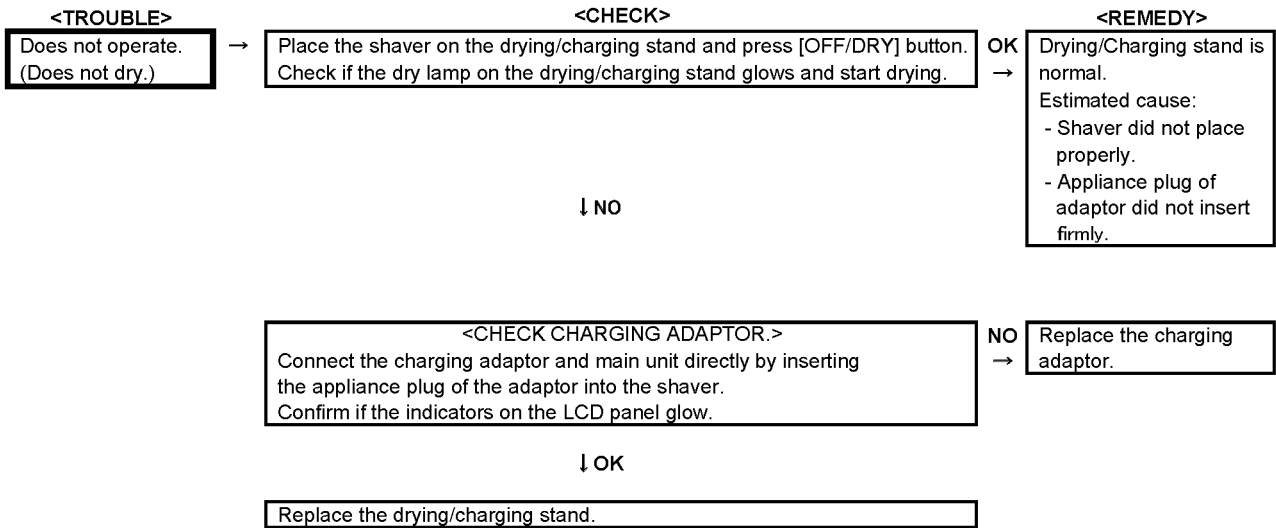


NOTE: Once taking the battery out, the shaver is RESET. The shaver must be charged for several seconds first.

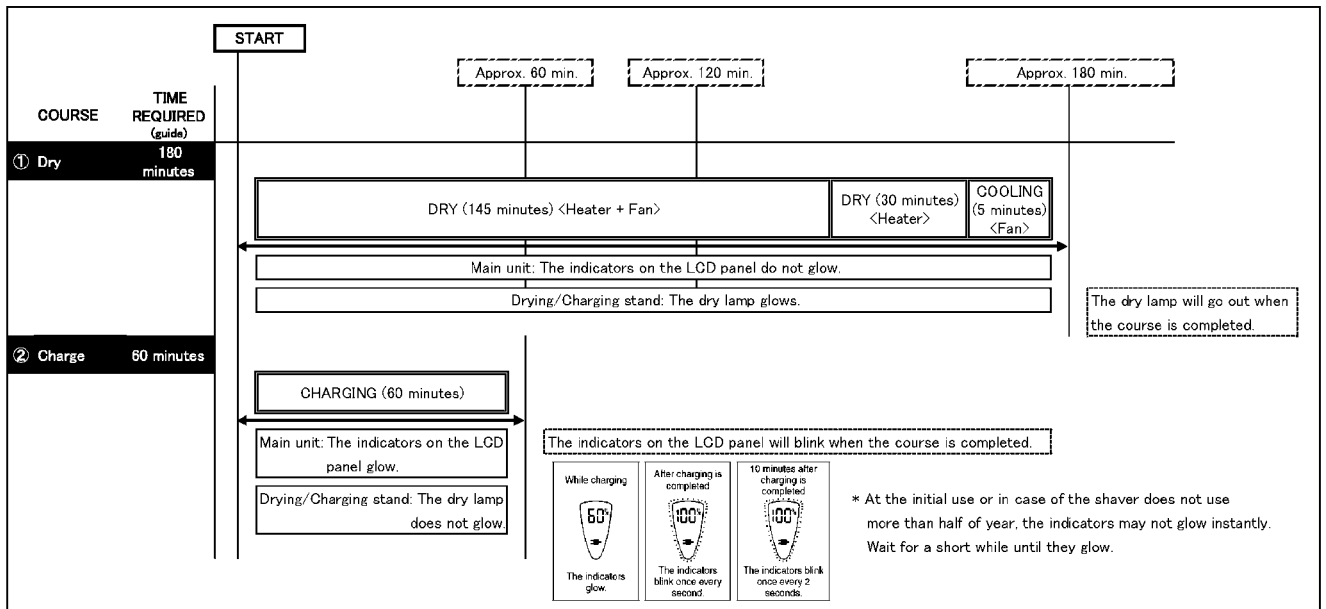
NOTE: Completely discharge and then fully charge before returning the shaver to the customer.



3.2. Drying/Charging stand (ES8116 only)



3.3. Operation of Drying/Charging stand (ES8116 only)

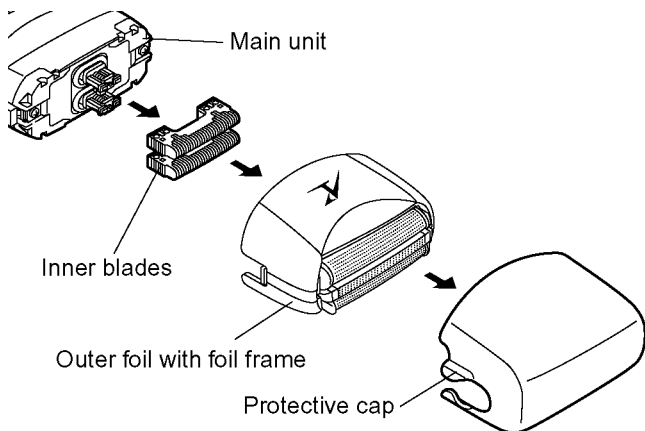


4 Disassembly and Assembly Instructions

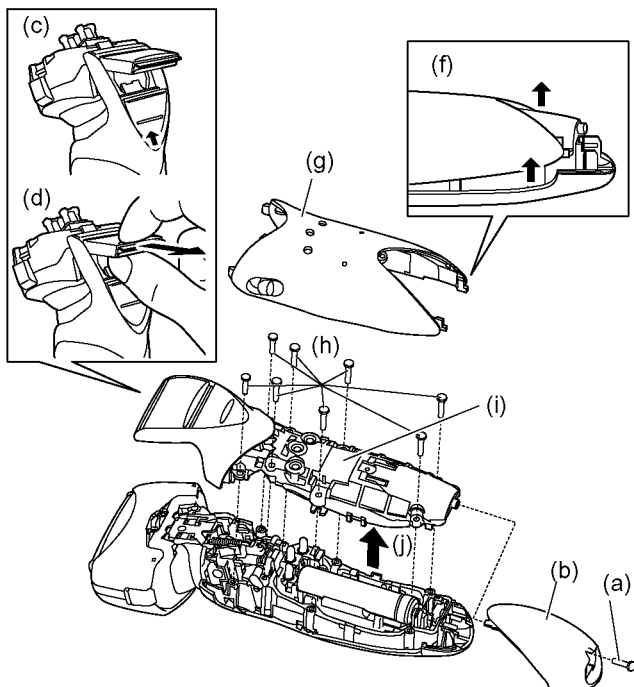
4.1. Disassembly Instructions

Follow the procedure below to disassemble the main unit.

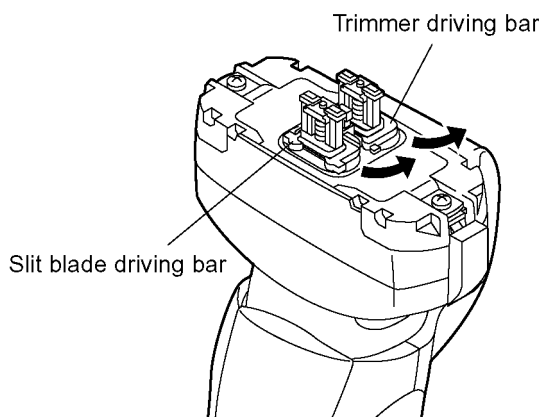
1. Remove the cap, the outer foil and the inner blade.



2. How to disassemble the housing A and B.
 - a. Loosen a screw.
 - b. Remove the bottom cover.
 - c. Slide the trimmer handle up.
 - d. Pull out the trimmer vertically.
 - e. Unhook the bottom of trimmer handle and pull out.
 - f. Lift up the bottom of rear panel on both side.
 - g. Remove the rear panel.
 - h. Loosen eight screws.
 - i. Remove the connecting plate.
 - j. Remove the housing B.



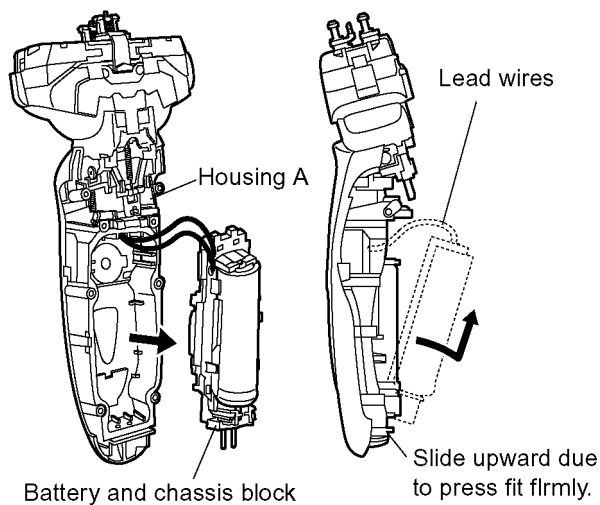
3. To remove the trimmer driving bar or the slit blade driving bar, press bars outward.



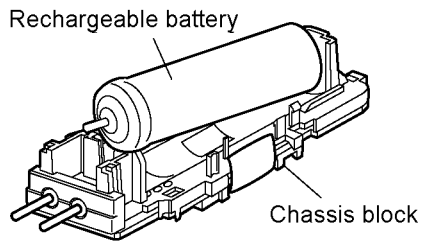
4. Pull up the battery and chassis block from the linear motor side first. Then, slide it upward and take it out from the housing A.

NOTE:

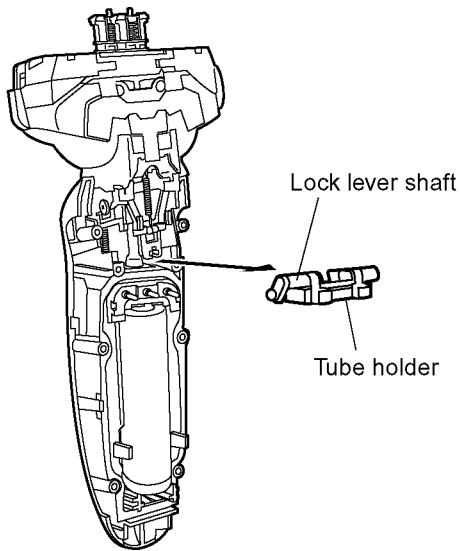
Do not pull the battery and chassis block forcefully due to connecting the linear motor by the lead wires.



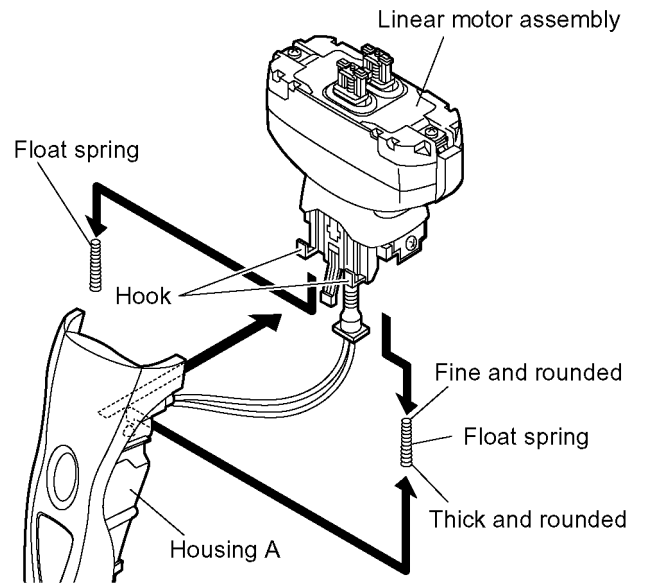
5. Take out the battery from the chassis.



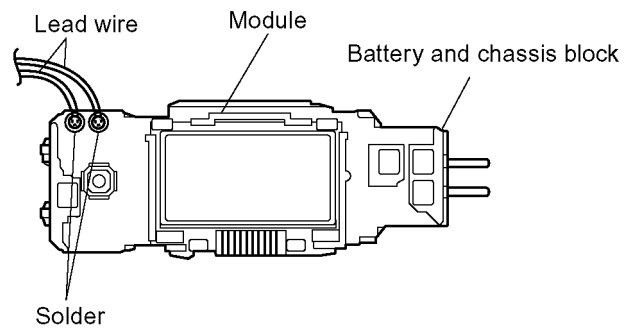
6. Take out the tube holder.



7. Move gently the linear motor assembly down and unhook it and remove the float springs from housing A.



8. Unsolder the lead wires from the module.



4.2. Caution in Assembly

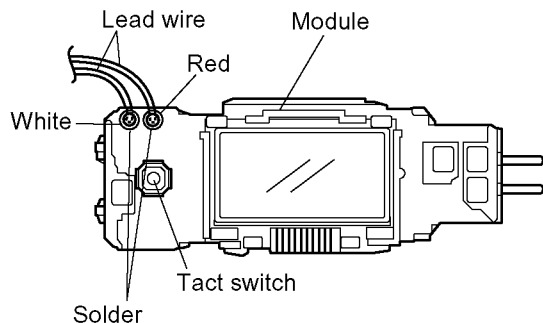
NOTE:

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

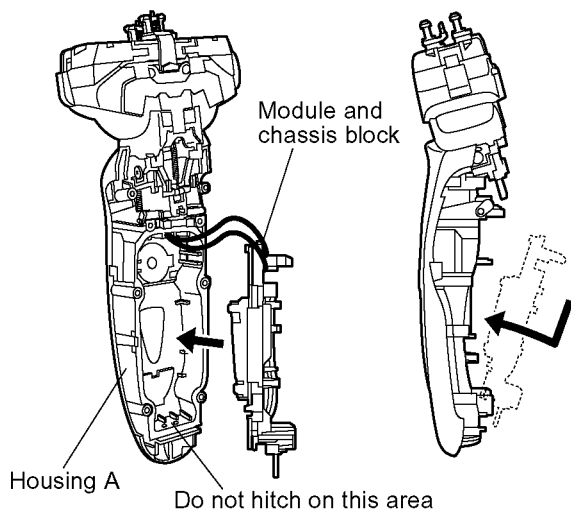
1. Solder the lead wires with the module.

NOTE:

Make sure of the color of lead wires.



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



3. Make sure that the lead wires set in position to avoid abnormal noise. Install (+) terminal of battery into the terminal plate at the bottom cover side and firmly set the battery sliding the direction of arrow.

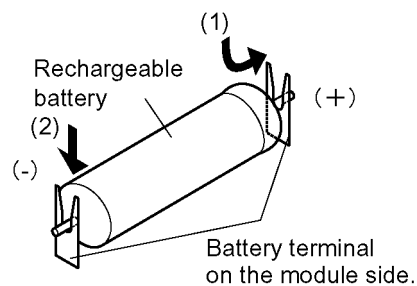
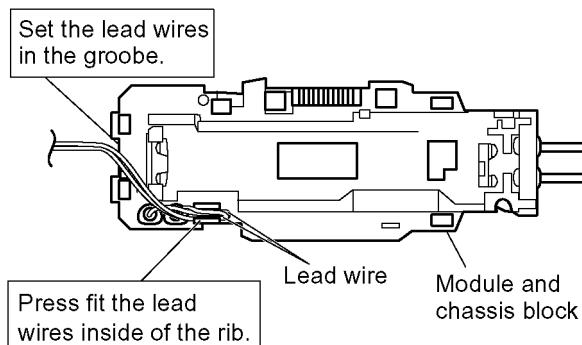
NOTE:

Once taking the battery out, the shaver is RESET.

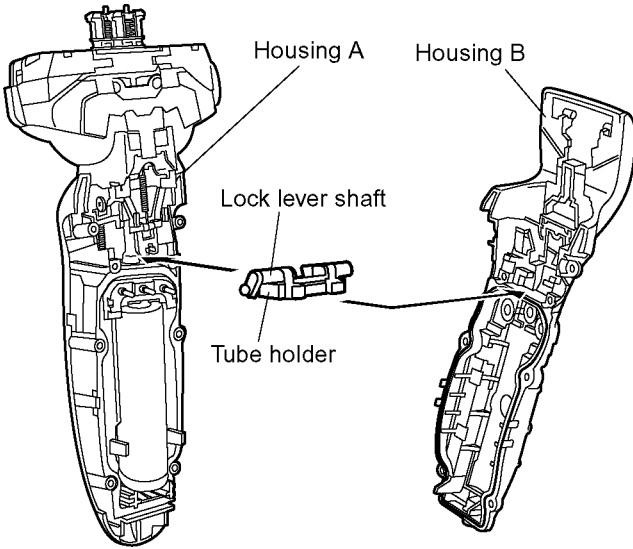
The shaver must be charged for several seconds first.

NOTE:

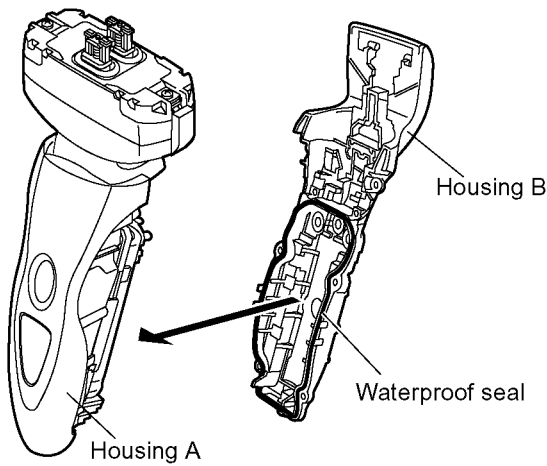
Completely discharge and then fully charge before returning the shaver to the customer.



4. Set the linear motor assembly on the housing A and sliding it upward to hook. Confirm that the lead wire tube fits to the housing A firmly and no foreign substance sticking around. Attach the tube holder with the lock lever shaft to housing A with care of the direction.



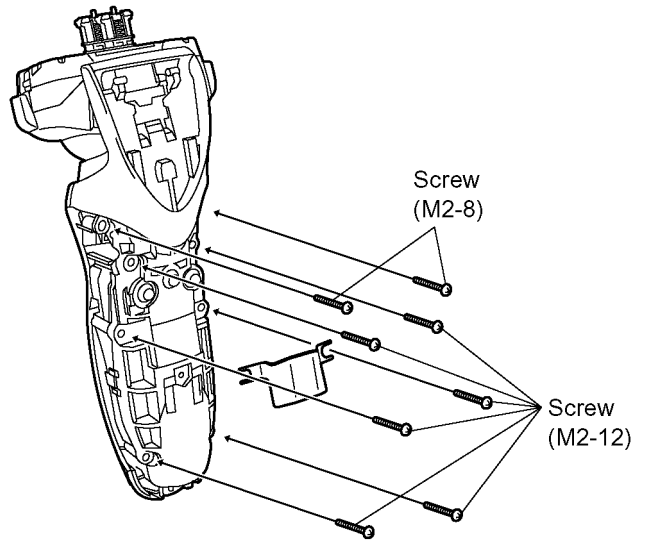
5. When putting the housing A and the housing B together, make sure if the waterproof seal must be fitted properly and no foreign substance sticking around.



6. Tighten eight screws.

NOTE:

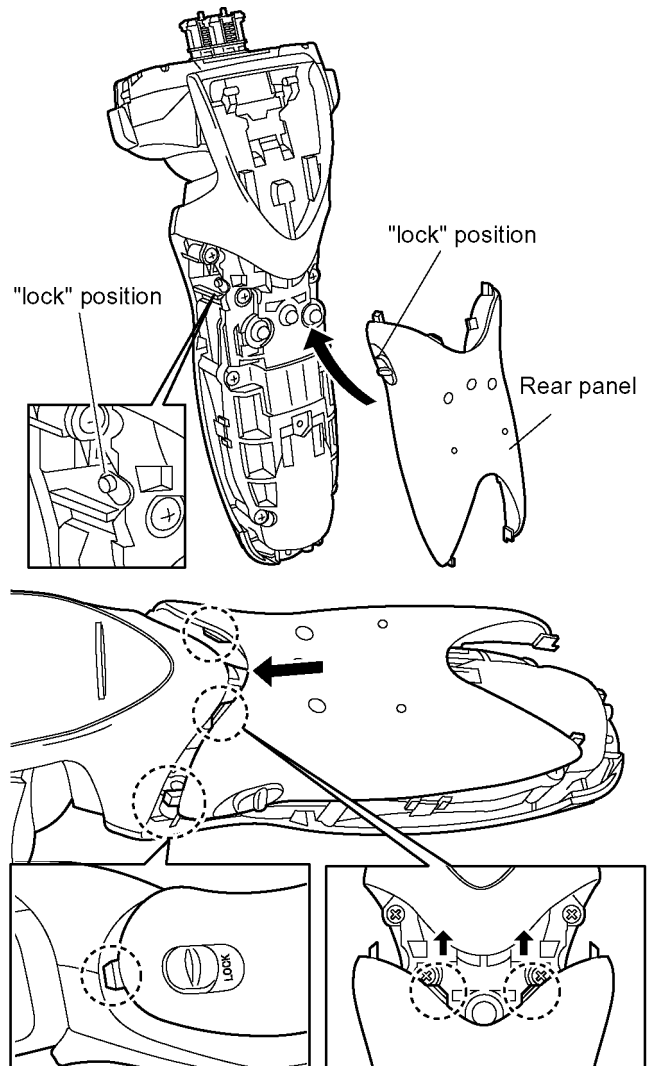
Make sure to attach the connecting plate.



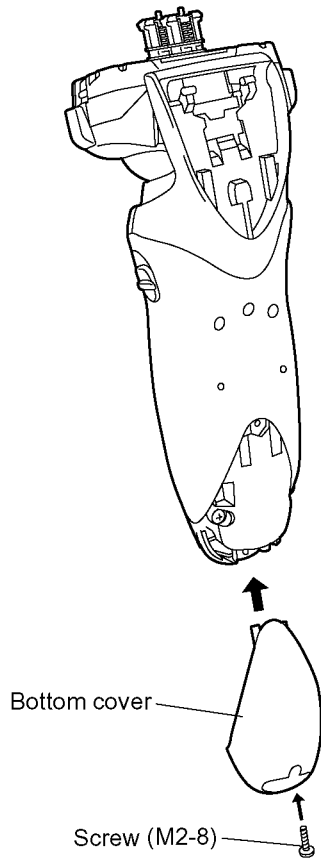
7. Insert two hooks on top of the rear panel into the dent of housing first and attach the rear panel firmly. Set the rear panel with the position "LOCK".

NOTE:

Make sure of the smooth movement of the lock lever shaft.

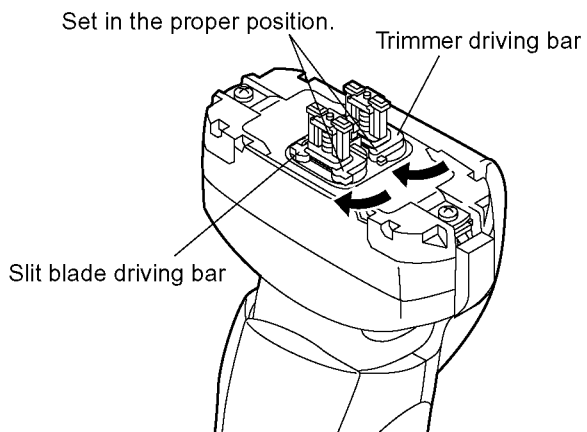


8. Attach the bottom cover and tighten a screw.



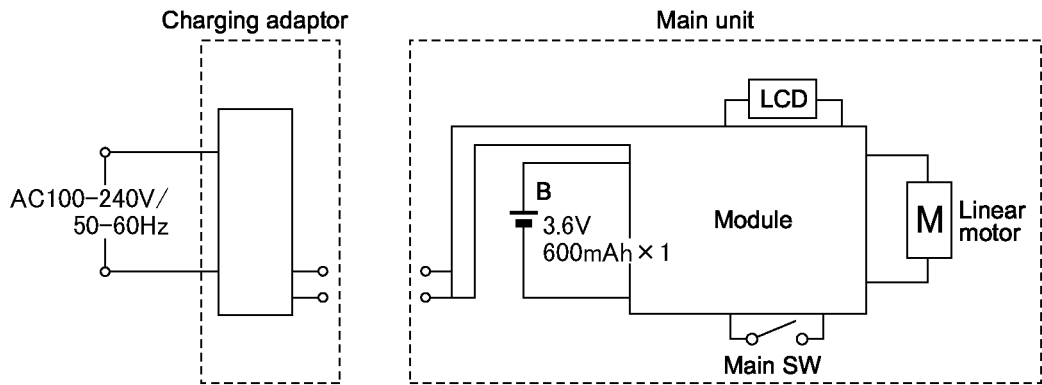
10. Set the trimmer where removing it and click the hook. If the position is not properly, it makes the deformation of the hook.

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

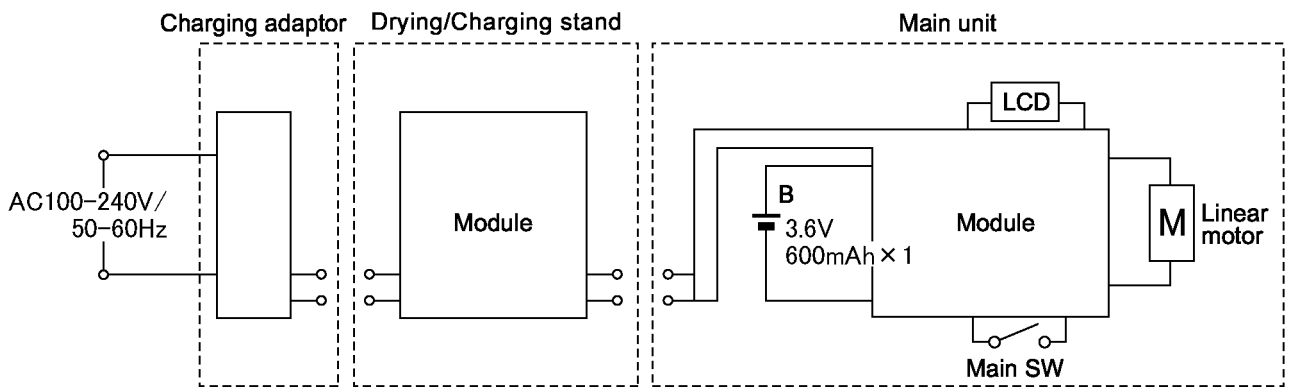


5 Schematic Diagram

5.1. ES8113

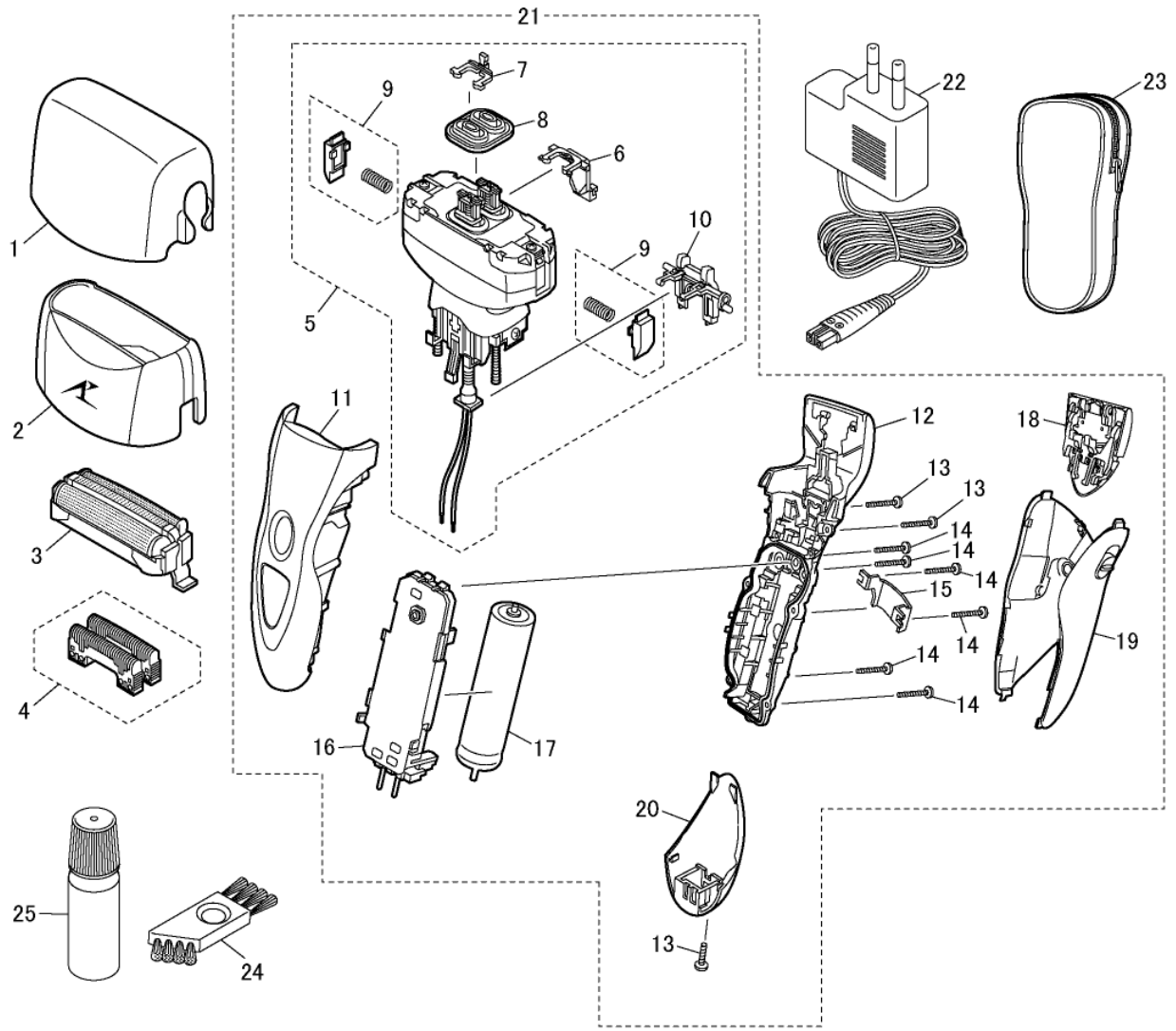


5.2. ES8116



6 Exploded View and Replacement Parts List

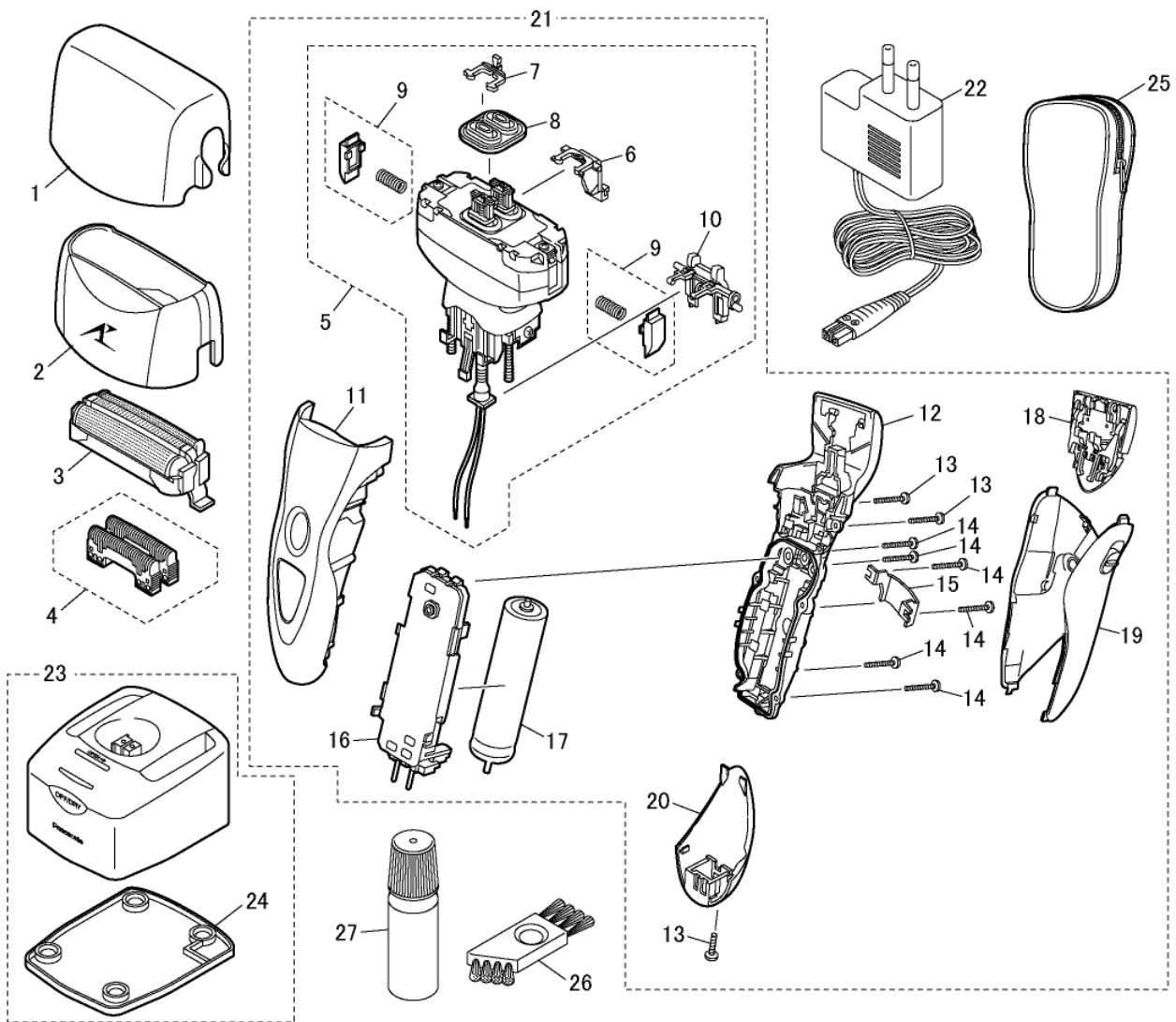
Model No. : ES8113 Exploded View for ES8113



Model No. : ES8113 Parts List

Safety	Ref. No.	Part No.	Part Name & Description	Q'ty	Remarks
ES8113					
	1	WES8116X7158	PROTECTIVE CAP	1	
	2	WES8119S0047	OUTER FOIL FRAME	1	
	3	WES9087E	OUTER FOIL	1	
	4	WES9068E	INNER BLADE	1ST	
	5	WES8111L1007	LINEAR MOTOR ASSEMBLY	1	
	6	WES8119L1087	TRIMMER DRIVING BAR	1	
	7	WES8176L1077	SLIT BLADE DRIVING BAR	1	
	8	WES8196L0328	WATERPROOF RUBBER	1	
	9	WES8119K3267	FOIL RELEASE BUTTON	2	(2PCS/PK)
	10	WES8238W0537	TUBE HOLDER	1	
	11	WES8113S3058	HOUSING A	1	
	12	WES8116S3068	HOUSING B	1	
	13	WES8176L6057	TAPPING SCREW	3	(M2-8)
	14	WES8176L6007	P TIGHT SCREW	6	(M2-12)
	15	WES8238L0487	CONNECTING PLATE	1	
	16	WES8116L2128	MODULE	1	
	17	WES8176L2508	RECHARGEABLE BATTERY	1	(LM-ION TYPE)
	18	WES8119K1507	TRIMMER	1	
	19	WES8119K3367	REAR PANEL	1	
	20	WES8113S3128	BOTTOM COVER	1	
	21	WES8113S3038	BODY BLOCK	1	
	22	WES8238K7663	CHARGING ADAPTOR	1	(C-2 PLUG)
	22	WES8238K7671	CHARGING ADAPTOR	1	(KS-PLUG)
	23	WES8176K7017	SOFT CASE	1	
	24	WES8093H7057	CLEANING BRUSH	1	
	25	WES8196X7918	OIL	1	
	-	WES8113S8008	INDIVIDUAL BOX	1	(only for KOREA)
	-	WES8113S8009	INDIVIDUAL BOX	1	
	-	WES8113S8108	OPERATING INSTRUCTIONS	1	

Model No. : ES8116 Exploded View for ES8116



Model No. : ES8116 Parts List

Safety	Ref. No.	Part No.	Part Name & Description	Q'ty	Remarks
ES8116					
	1	WES8116X7158	PROTECTIVE CAP	1	
	2	WES8119S0047	OUTER FOIL FRAME	1	
	3	WES9087E	OUTER FOIL	1	
	4	WES9068E	INNER BLADE	1ST	
	5	WES8111L1007	LINEAR MOTOR ASSEMBLY	1	
	6	WES8119L1087	TRIMMER DRIVING BAR	1	
	7	WES8176L1077	SLIT BLADE DRIVING BAR	1	
	8	WES8196L0328	WATERPROOF RUBBER	1	
	9	WES8119K3267	FOIL RELEASE BUTTON	2	(2PCS/PK)
	10	WES8238W0537	TUBE HOLDER	1	
	11	WES8116S3058	HOUSING A	1	
	12	WES8116S3068	HOUSING B	1	
	13	WES8176L6057	TAPPING SCREW	3	(M2-8)
	14	WES8176L6007	P TIGHT SCREW	6	(M2-12)
	15	WES8238L0487	CONNECTING PLATE	1	
	16	WES8116L2128	MODULE	1	
	17	WES8176L2508	RECHARGEABLE BATTERY	1	(LM-ION TYPE)
	18	WES8119K1507	TRIMMER	1	
	19	WES8119K3367	REAR PANEL	1	
	20	WES8116S3128	BOTTOM COVER	1	
	21	WES8116S3038	BODY BLOCK	1	
	22	WES8238K7663	CHARGING ADAPTOR	1	(C-2 PLUG)
	22	WES8238K7671	CHARGING ADAPTOR	1	(KS-PLUG)
	23	WES8116K4218	DRYING/CHARGING STAND	1	
	24	WES8116K3177	DRYING MAT	1	
	25	WES8176K7017	SOFT CASE	1	
	26	WES8093H7057	CLEANING BRUSH	1	
	27	WES8196X7918	OIL	1	
	-	WES8116S8008	INDIVIDUAL BOX	1	(only for KOREA)
	-	WES8116S8009	INDIVIDUAL BOX	1	
	-	WES8116S8108	OPERATING INSTRUCTIONS	1	