# Service Manual



Europe CIS Middle East



## **⚠ 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  $\triangle$  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.

•The specifications and the parts of this product are subject to change without notice for performance improvement or other purposes.

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PAGE

# **Panasonic**

## 1 Warning

#### Caution:

- Pb free solder has a higher melting point that 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	See the name plate on the AC adaptor. (Automatic voltage conversion)
Motor voltage	3.6V
Charging time	Approx. 1 hour
Airborne Acoustical Noise	62 (dB (A) re 1 pW)
Accessories	Cleaning brush, Oil, Soft case, Charging adaptor, Charging stand

This product is intended for household use only.

## **Troubleshooting Guide**

#### <TROUBLE>

Motor does not rotate. Does not charge. Functions for a moment and stops.

#### <CHECK>

#### <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.

#### <REMEDY>

Replace charging NO adaptor.

#### ↓ OK

#### <CHECK RECHARGEABLE BATTERY.>

Okay if the voltage of rechargeable battery is more than approximately 3.6V DC between (+) and (-) terminal.

Replace rechargeable battery.

#### ↓ ok

#### <CHECK MODULE.>

Wire the main unit returned from a customer referring to the following figure, and connect the rated voltage to it by the normal adaptor.

When switching ON and OFF, check if the indicator  $\longrightarrow$  of LCD is lit.

Check the soldering points

↓ OK

Replace module.

Discharge the battery completely and check charging current, if it is more than approximately 1240~1340 mA when connecting the charging adaptor.

#### ↓ OK

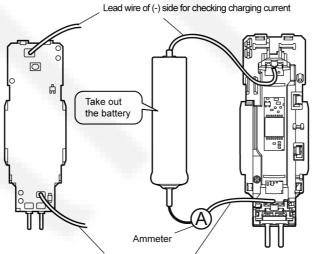
#### <CHECK LINEAR MOTOR.>

Wire the main unit returned from a customer referring to the following figure, and connect the rated voltage to it by the normal adaptor.

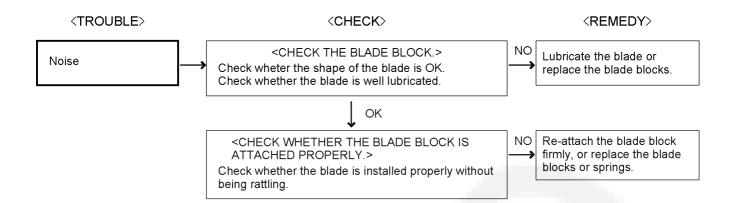
When switching ON and OFF, check if motor rotates.

(Once the battery is replaced, the battery needs to be charged for a while, otherwise linear motor may not operate.)

NO Replace linear motor assembly.



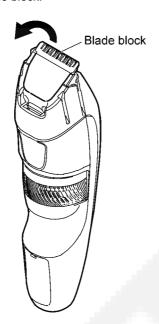
Lead wire of (+) side for checking charging current



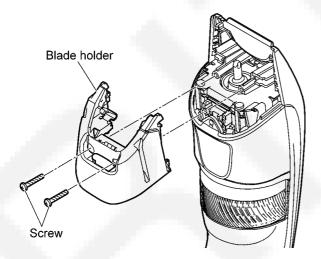
## 4 Disassembly and Assembly Instructions

## 4.1. Disassembly Instructions.

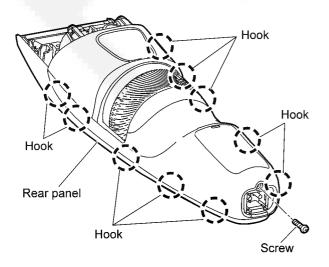
1. Remove the blade block.



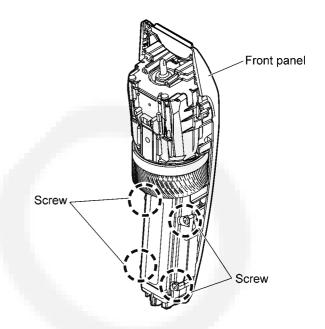
2. Remove 2 screws to detach the blade holder.



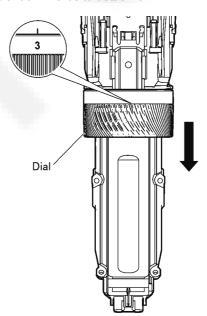
3. Remove the screw and 10 hooks to detach the rear panel.



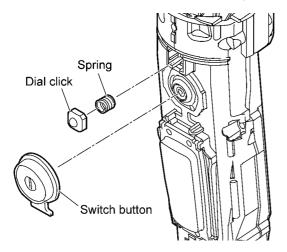
4. Remove the 4 screws to detach the front panel.



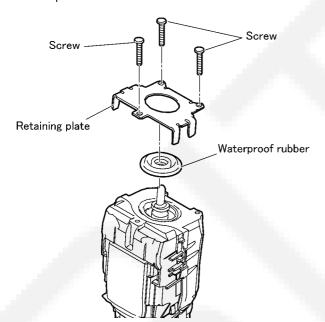
5. Align the body block mark with location [3] and slide the dial downwards to detach it.



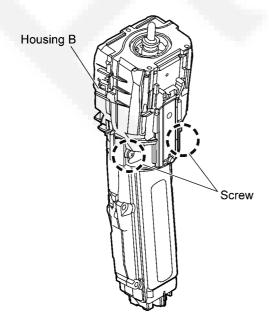
6. Remove the switch button, dial click and spring. \*Be careful not to lose the dial click and spring.



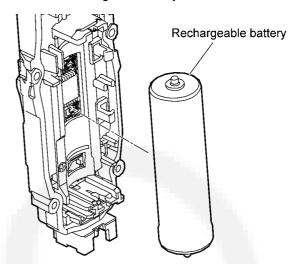
7. Remove 3 screws and detach the retaining plate and waterproof rubber.



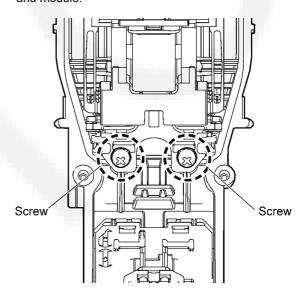
8. Remove 2 screws to detach housing B.

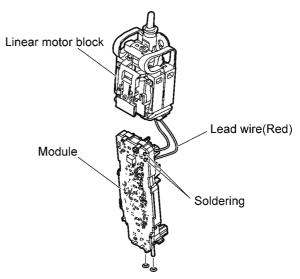


9. Remove the rechargeable battery.



10. Remove the 2 screws to detach the linear motor block and module.





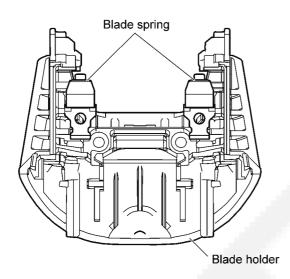
## \*Soldering precautions

- When removing or applying solder, be careful not to break or warp the parts due to heat.
- Be careful not to over-apply solder, cause cracks or through-holes.

#### **Key points of Disassembly/** 4.2. Assembly.

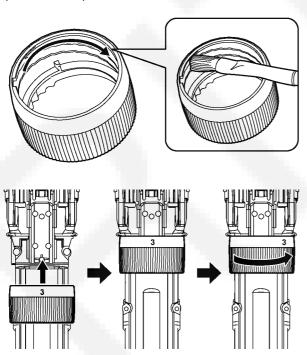
\*Replace the blade springs.

Replace the blade spring placed between the ribs. Be careful of the direction to attach the blade spring.



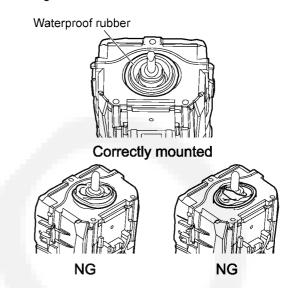
\*Precautions for dial replacement or assembly.

When replacing or assembling the dial, apply grease (FLOIL G741S) inside first.



\*Precautions for mounting the waterproof rubber.

Make sure to mount the waterproof rubber to cover the surrounding area.

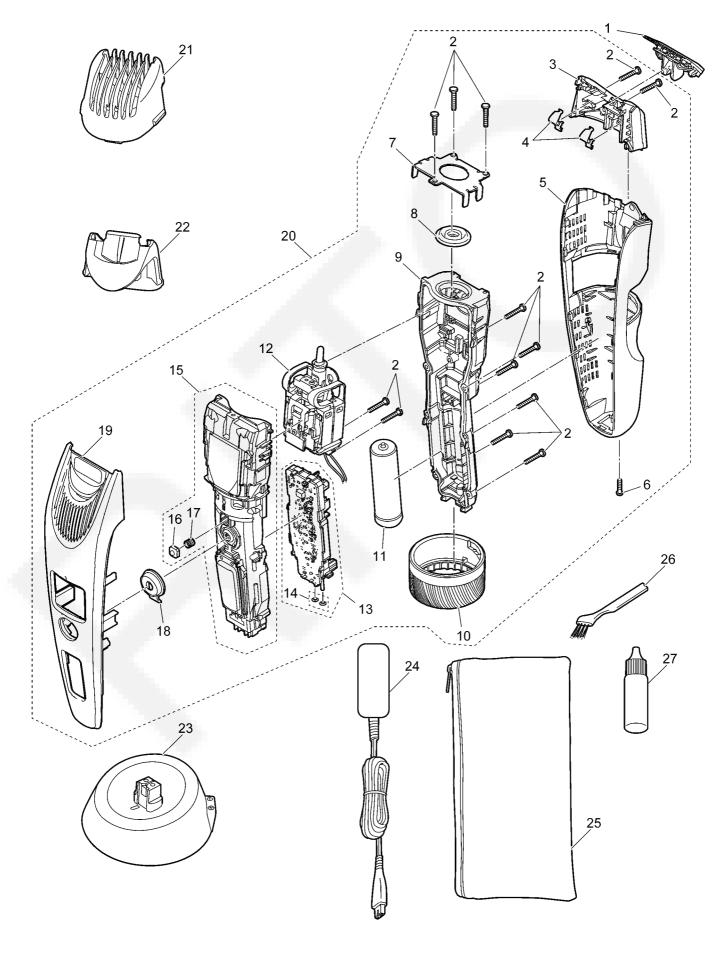


#### 4.3. Checks after the inspection/ repairs

- Check that there is no looseness or gap in the housing.
- After charging, turn the switch on and check that it works.

# 5 Exploded View and Replacement Parts List

## 5.1. Exploded View



## 5.2. Replacement Parts List

Safety	Ref. No.	Part No.	Part Name & Description	Quantity	Remarks
	1	WER9621Y	BLADE BLOCK	1	
	2	WES8176L6007	P TIGHT SCREW	1	
	3	WERSB60K3757	BLADE HOLDER	1	
	4	WERSB60L1067	BLADE SPRING	1	
	5	WERSB60K3388	REAR PANEL	1	Europe
	5	WERSB60K3389	REAR PANEL	1	CIS
	5	WERSB60K3380	REAR PANEL	1	Middle Easte
	6	WES8176L6057	TAPPING SCREW	1	
	7	WERSC60L0207	RETAINING PLATE	1	
	8	WES321B0327	WATERPROOF RUBBER	1	
	9	WERSC60K3077	HOUSING B	1	
	10	WERSB60S3207	DIAL	1	
	11	WESLV95L2508	RECHARGEABLE BATTERY	1	Europe/CIS(LI-ION TYPE)
	11	WESLV95L2509	RECHARGEABLE BATTERY	1	Middle Easte(LI-ION TYPE)
	12	WERGP62K2108	LINEAR MOTOR BLOCK	1	
	13	WERSB60L2107	MODULE	1	
	14	WESST8NL0977	O RING	1	
	15	WERSC60K3187	HOUSING A	1	
	16	WERSC60L0457	DIAL CLICK	1	
	17	WERSC60L0177	SPRING	1	
	18	WESLT8NS3568	SWITCH BUTTON	1	
	19	WERSB60S3087	FRONT PANEL	1	
	20	WERSB60S3038	BODY BLOCK	1	Europe
	20	WERSB60S3039	BODY BLOCK	1	CIS
	20	WERSB60S3030	BODY BLOCK	1	Middle Easte
	21	WERSB60H7397	COMB ATTACHMENT	1	
	22	WERSB60H7347	DETAIL ATTACHMENT	1	
	23	WESST3NL7668	CHARGING STAND	1	Europe
	23	WESSTFNK7668	CHARGING STAND	1	CIS/Middle Easte
	24	WESLT6NK7664	CHARGING ADAPTOR	1	Europe
	24	WERSB60K7661	CHARGING ADAPTOR	1	CIS
	24	WESLT4NK7675	CHARGING ADAPTOR	1	Middle Easte(BF-3)
	24	WESLT6AK7663	CHARGING ADAPTOR	1	Middle Easte(C-2)
	25	WERSC60K7008	SOFT CASE	1	
	26	WES6500K7257	CLEANING BRUSH	1	
	27	WERGC20X7919	OIL	1	
	-	WERSB60S8778	OPERATING INSTRUCTIONS	1	Europe
	-	WERSB60S8779	OPERATING INSTRUCTIONS	1	CIS
	-	WERSB60S8770	OPERATING INSTRUCTIONS	1	Middle Easte
	-	WERSB60S8008	INDIVIDUAL BOX	1	Europe
	-	WERSB60S8009	INDIVIDUAL BOX	1	CIS
	-	WERSB60S8010	INDIVIDUAL BOX	1	Middle Easte
	-	WERSB60S8011	INDIVIDUAL BOX	1	Middle Easte(Oman)