# Service Manual

AC/Rechargeable Beard/Hair Trimmer
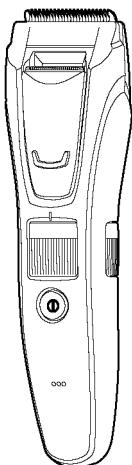
Model No. ER-GB80
Model No. ER-GB70
Model No. ER-GB60

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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# 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°) higher. Please use a soldering iron with temperature control and adjust it to 750 ± 20°F (400 ± 10°). 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
Motor voltage	1.2 V DC
Charging time	1 hour
Rated usable time with full-charging	50 minutes
Weight	Approx. 176g (ER-GB80, ER-GB70), Approx. 172g (ER-GB60)
	Approx. 181g (Adaptor)
Supplied accessories	Comb attachment for beard : 1 - 10mm (1/32" . 13/32")
	Comb attachment for hair : 11 - 20mm (7/16" . 51/64")
	Comb attachment for body hair (Only for ER-GB80)
	Pouch
	Cleaning brush
	Oil

3 Troubleshooting Guide

| <TROUBLE>		<CHECK.>		<REMEDY>

| Does not operate. Does not charge. Functions for a moment and stops. | → | **<CHECK ADAPTOR.>** Supply rated voltage to the adaptor. OK if it is approx. DC 2.5V between the terminals of the plug with no-load operation. | NO → | Replace adaptor. |

↓ OK

| | | **<CHECK RECHARGEABLE BATTERY.>** Okay if the voltage of rechargeable battery is more than approximately 1.2V DC between (+) and (-) terminals. | 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 adaptor. Measure the charging current if it is approximately 1100mA. Make sure if the motor rotate when switching ON. | NO → | Repair the soldering points. ↓ Replace the module. |

↓ OK

| | | **<CHECK MOTOR.>** The motor should turn when 1.2V DC is applied to terminals. | NO → | Replace the motor. |

↓ OK

| | | **<CHECK CONTACT CONDITIONS OF SWITCH.>** Check for proper position, there is no deformation and no hair chips around the switch terminal plate. | NO → | Replace the switch terminal plate. |

| Noise is too loud. Amplitude is too small. | → | Check if there any deformation with the blade block. | NO → | Replace blade or oiling a drop for blade. |

Lead wire

Clip   Clip

Lead wire of (-) side for checking charging current

Lead wire of (+) side for checking charging current

A

4 Disassembly and Assembly Instructions

4.1. Disassembly Instuctions

1. Remove the attachment and blade.

Comb attachment
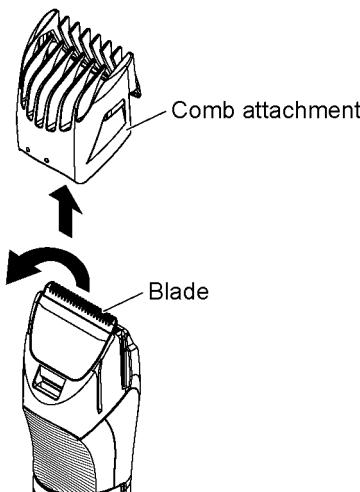
Blade

2. Loosen two screws and remove the blade holder.

Screw

Blade holder
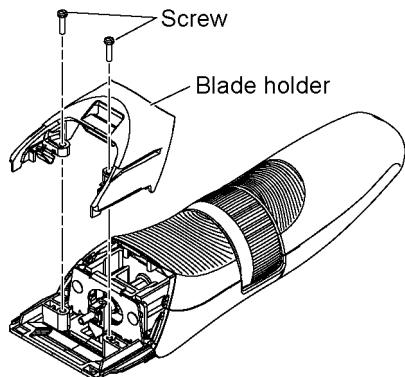
3. Press the trimmer driving bar outward. (ER-GB80 and ER-GB70 only)

Trimmer driving bar
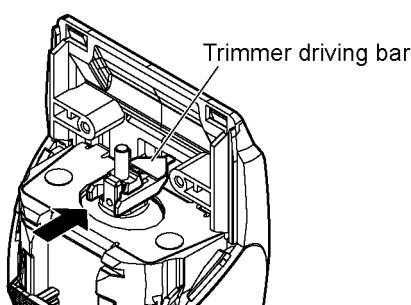
4. Loosen a screw on bottom and slide down the bottom cover.

Bottom cover

Screw
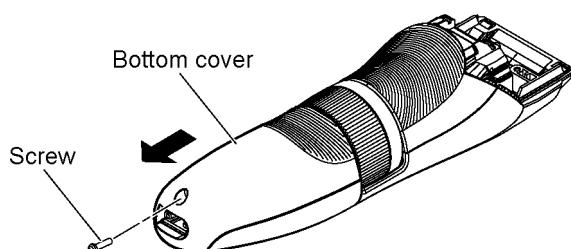
5. Remove the front panel together with the side panels.
   NOTE:
   If the front panel is removed alone, it may deform.

Front panel

Side panel

Hooks
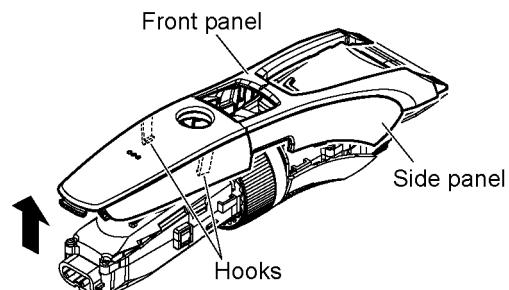
6. Remove the switch button.
7. Adjust the trimming height indication mark to the maximum [10][20] position.
   Slide down the dial.

Switch button

Dial
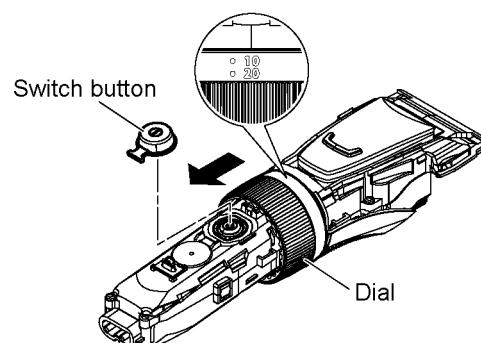
8. Insert a slotted screwdriver to take out the clip on both side.

Screwdriver

Clip
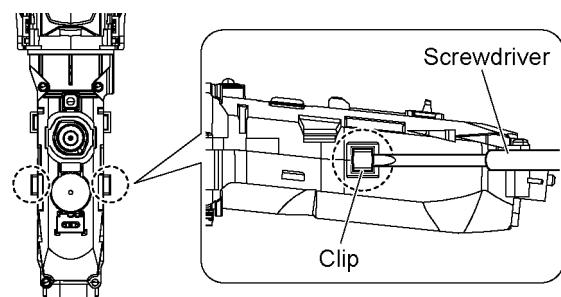
9. Loosen 6 screws and remove the motor and module assembly.

Screw

Motor and module assembly

10. Pull the chassis and module assembly upward.
    NOTE:
    Make sure to attach the O-ring.

O-ring

Chassis and module assembly
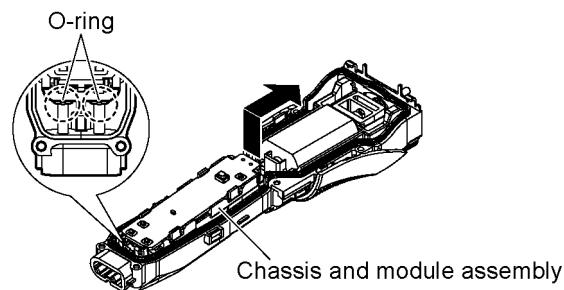
11. Remove two screws, retaining plate, O-rings and water-proof rubber.
12. Pull the motor assembly upward.

Waterproof rubber

Retaining plate

Motor assembly

Screw

O-ring

13. Slide up the trimmer and set the highest position.
    Unhook the rear side of trimmer to separate from the housing. (ER-GB80 and ER-GB70 only)

Precision trimmer

Hook
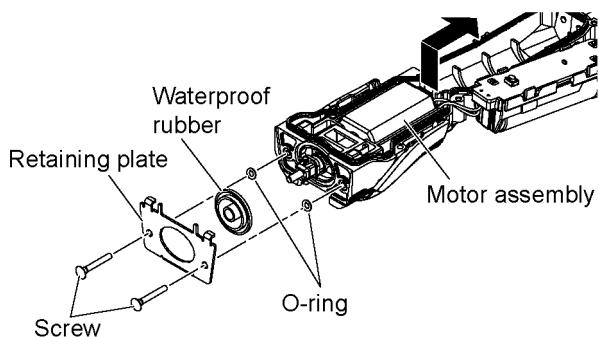
4.2. Assembly Instructions

1. Rechargeable battery

   Insert the rechargeable battery into the battery holder.

   NOTE:

   Make sure to attach the washer and O-ring to the battery terminal.

   And apply the grease (FLOIL G741S).

   Insert this side first.

   Washer

   O-ring (thick type)

   Longer terminal pin

   O-ring

   No attachment   Improper attachment

   GOOD   **NO GOOD**
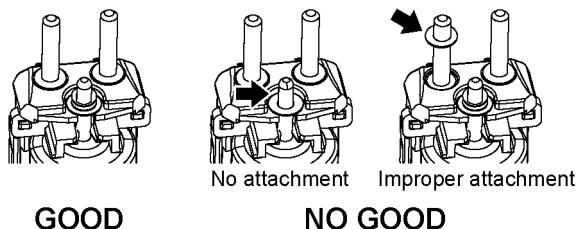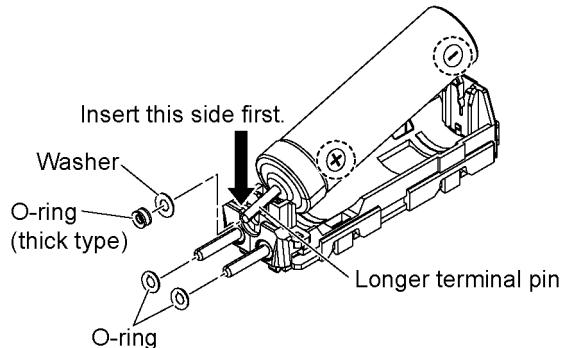
2. Motor

   Apply the grease (FLOIL G741S) on the motor balancer. Insert the motor into the motor holder with the confirmation of the direction.

   No indication on top

   RED mark

   RED Wire
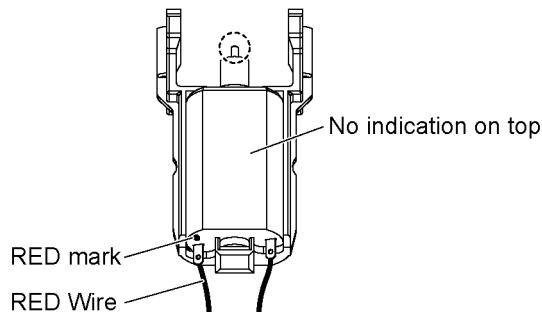
3. Driving head

   Insert a motor tip pin into the hole of driving head and fit the projections of housing into the holes of driving head.

   Motor

   Driving head

   Motor holder

   Driving head

   Motor holder

   wrong direction

   GOOD   **NO GOOD**
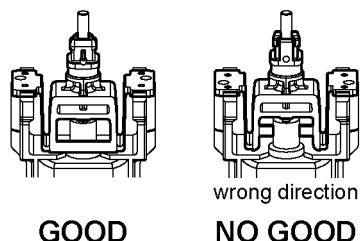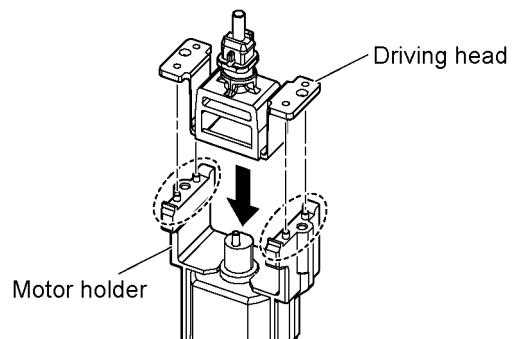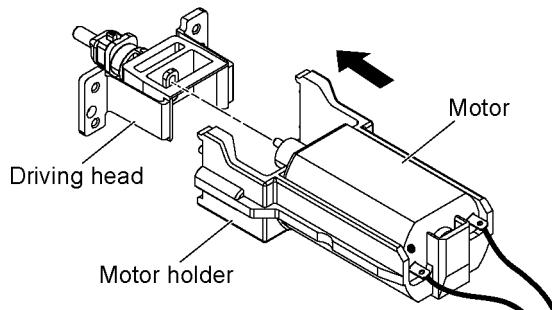
4. Dial lever

   Attach the dial lever to the housing.
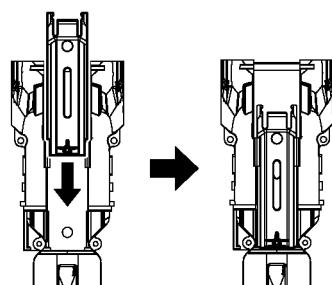
5. Driving block

Set the motor, module and battery assembly to the housing A.

Place the motor holder first and then inset the battery terminal side.

NOTE:

Make sure that two motor lead wires are pressed fit within the space between the battery holder and the motor holder to prevent pinching.

Improper fitting

GOOD   NO GOOD
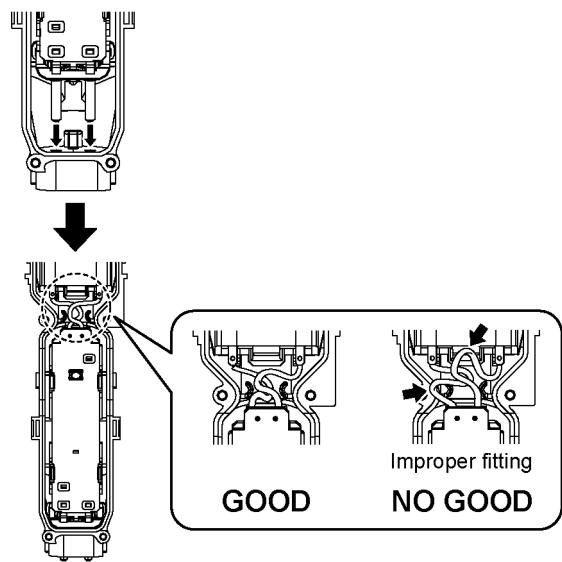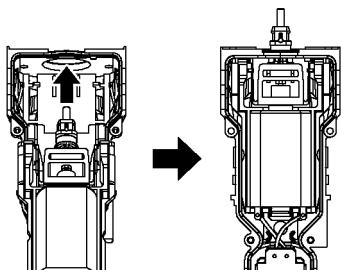
6. Waterproof rubber

The waterproof rubber must be fitted the right way around.

Waterproof rubber

FIT PROPERLY

NO GOOD   NO GOOD
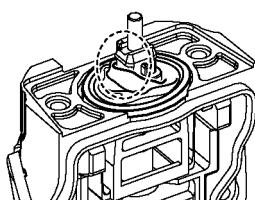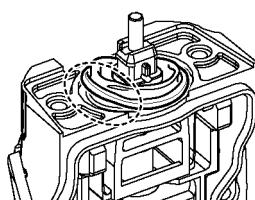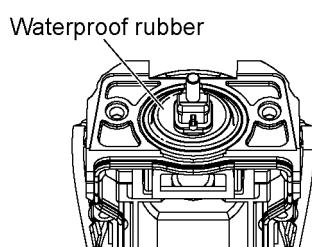
7. Housing O-ring

Apply the grease (FLOIL G714S) on the housing O ring.

Align the projection of the housing O-ring and the groove of housing.
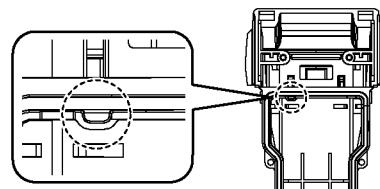
8. Trimmer

Set the trimmer on the housing.
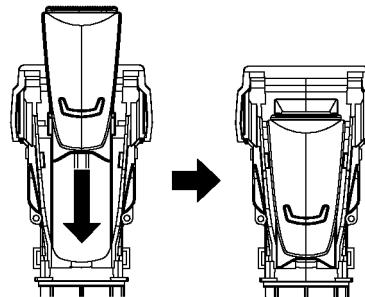
9. Retaining plate

Attach two O-rings.

Hitch the projections of retaining plate first and press down on the other side.

NOTE:

Make sure that the waterproof rubber is set properly.
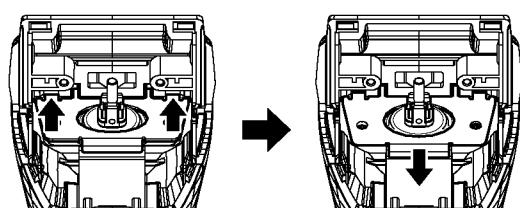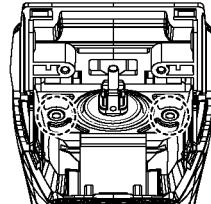
10. Trimmer driving bar

Set the trimmer driving bar to the pin of driving head.

7
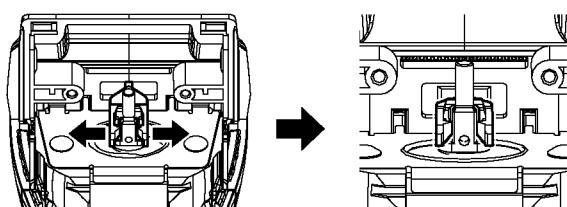
11. Housing clip

Set the both side of housing clips firmly.
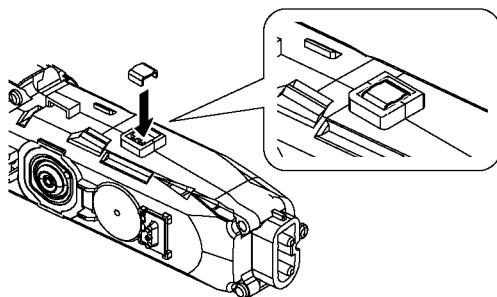
12. Dial

Apply the grease (FLOIL G714S) on the rear side of dial.
Align the mark with the dial "10/20" and set in position.
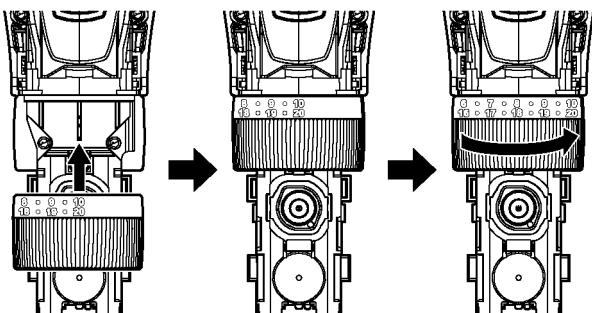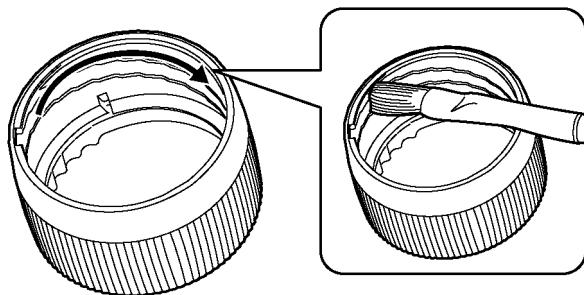
13. Switch

Insert the projections of switch button into housing.
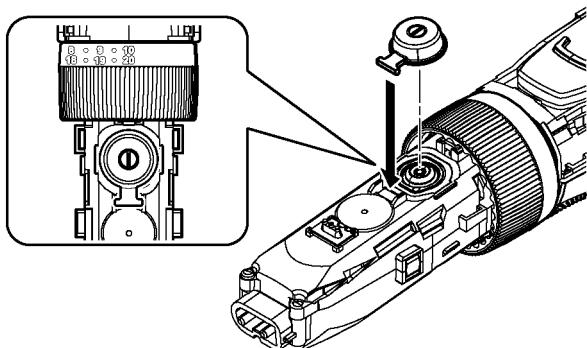
14. Side panel and Front panel

Attach both side of side panels by inserting the hooks into the slit of housing.
Insert the projections of housing and press the hook on body.

Side panel

Hooks

Front panel

Side panel
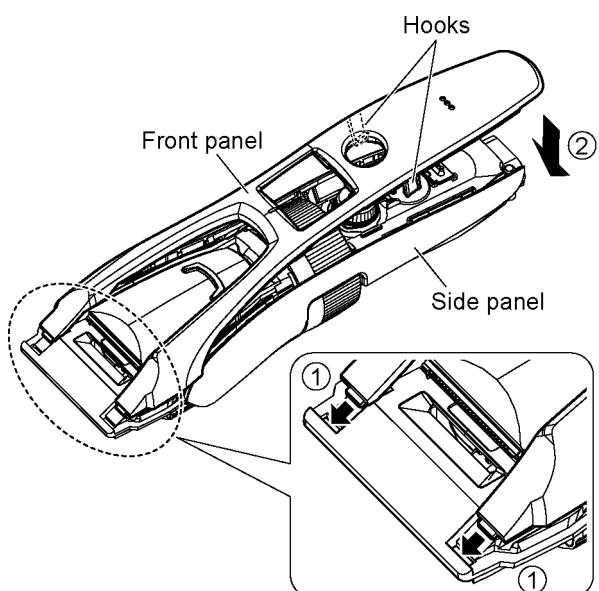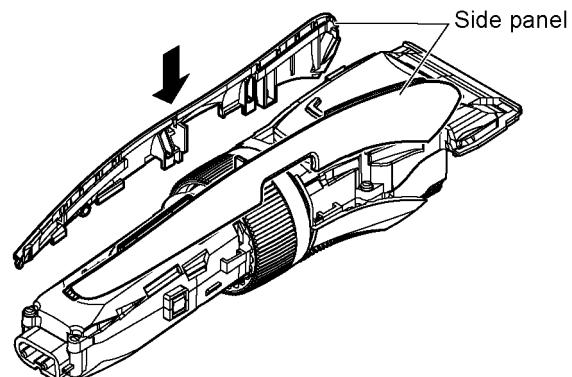
5   Wiring Connection Diagram

Red mark

Module

(+)   (-)

(1)   (2)

(-) Blue   (+) Red

Rechargeable
battery

6 Schematic Diagram

Adaptor

Main unit

AD

Module

AC100-240V
50-60Hz

SW

LED

B
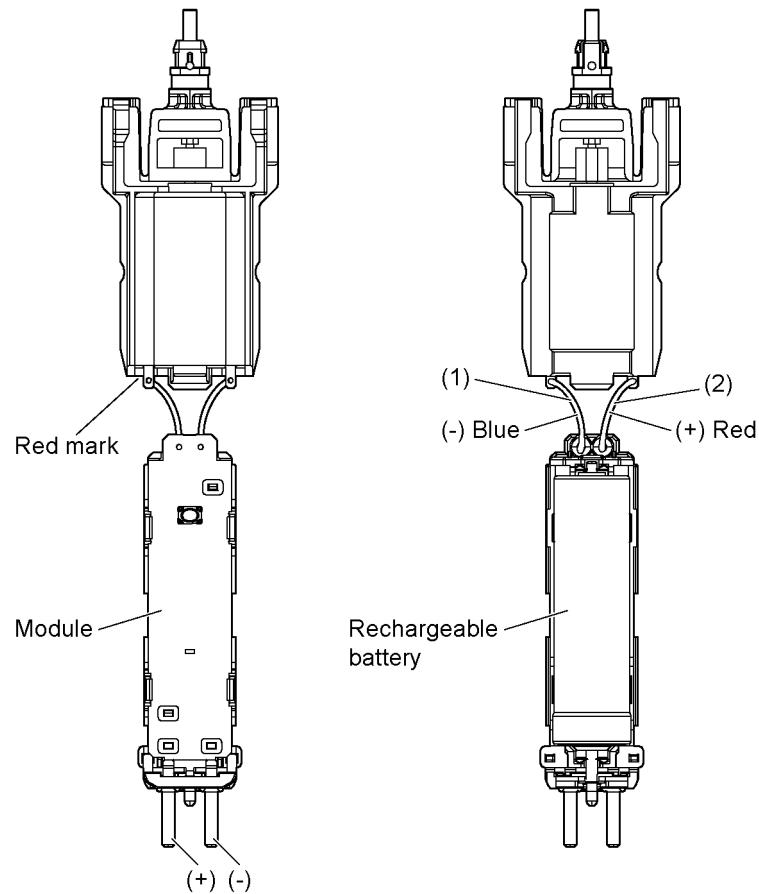
M
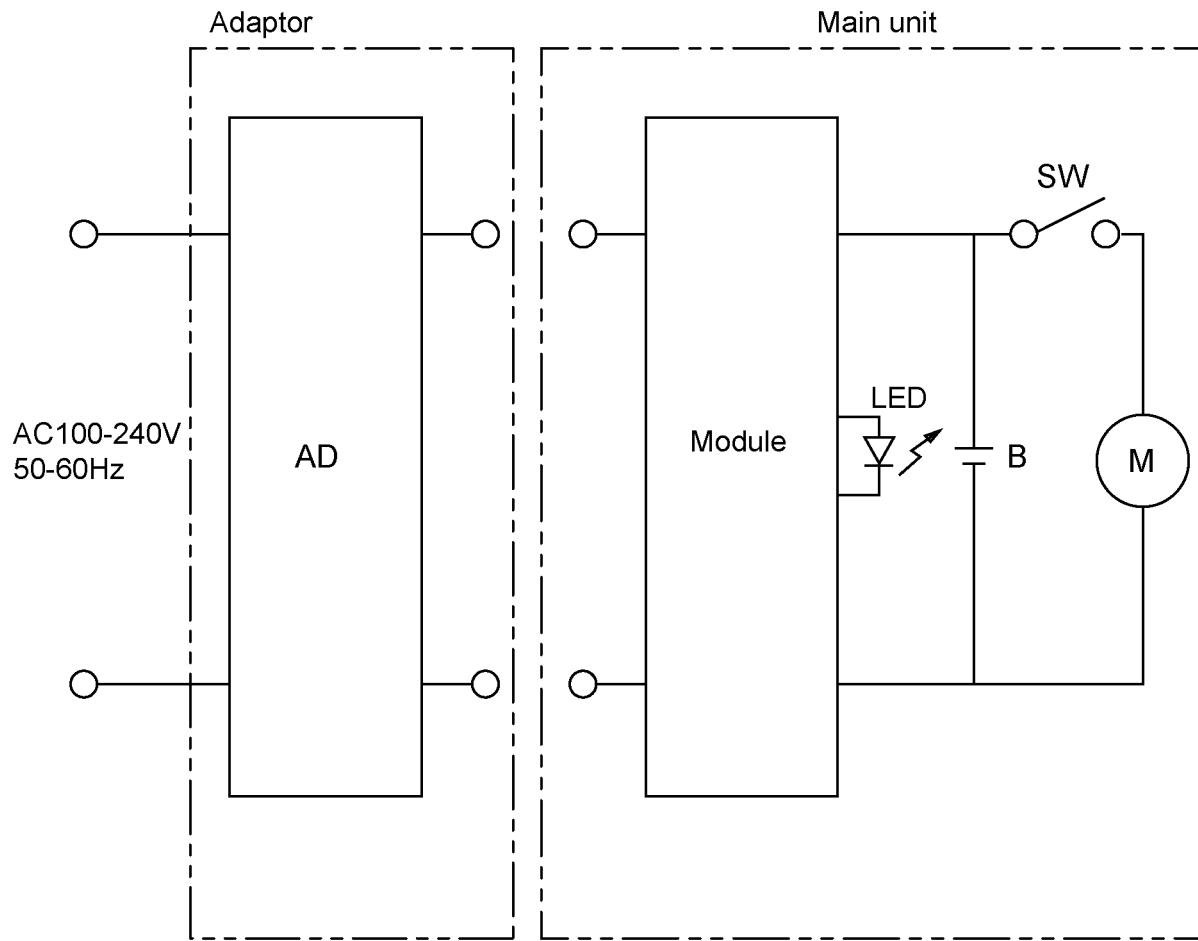
7 Exploded View and Replacement Parts List

7.1. Exploded View For ER-GB80
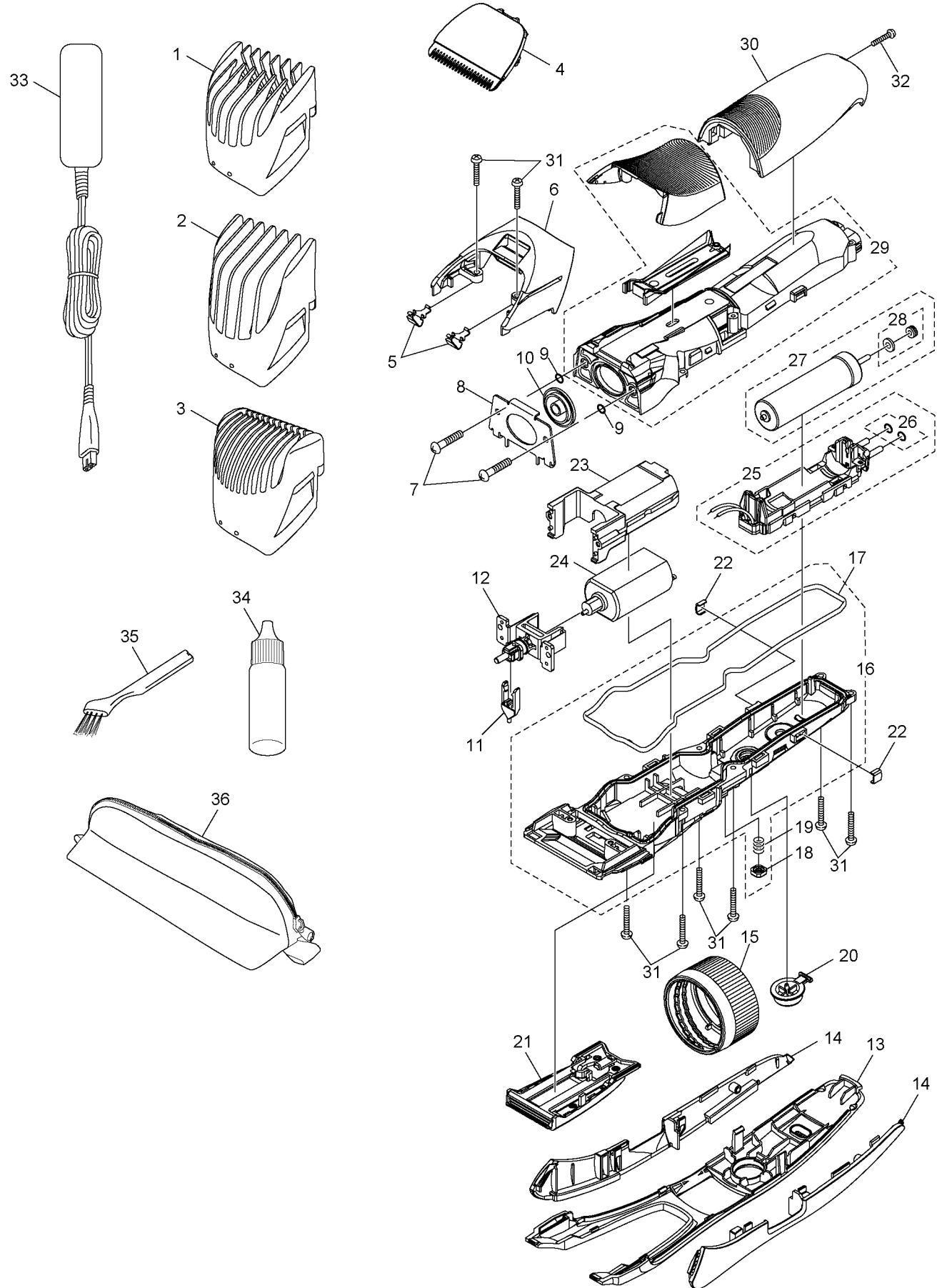
7.2. Replacement Parts List For ER-GB80

Safety	Ref. No.	Part No.	Part Name & Description	Quan-tity	Remarks
	1	WERGB80K7458	COMB ATTACHMENT	1	
	2	WERGB80K7468	COMB ATTACHMENT	1	
	3	WERGB80K7478	COMB ATTACHMENT	1	
	4	WER9602Y	BLADE BLOCK	1	
	5	WER504L0167	SPRING FOR CUTTER	2	(2PCS/PK)
	6	WERGB80K1588	BLADE HOLDER	1	
	7	WES7025L9707	SCREW	2	
	8	WER223L0207	RETAINING PLATE	1	
	9	WER217L0967	O-RING	2	(6PCS/PK)
	10	WES366L0326	WATERPROOF RUBBER	1	
	11	WER223L1087	TRIMMER DRIVING BAR	1	
	12	WER223L1247	DRIVING HEADS	1	
	13	WERGB80S3858	FRONT PANEL	1	
	14	WERGB80K3368	SIDE PANEL SET	1ST	
	15	WERGB80K3338	DIAL	1	
	16	WERGB80K3058	HOUSING A	1	
	17	WERGB80L0588	HOUSING O-RING	1	
	18	WERGB40L0458	CLICK BUTTON	1	
	19	WERGB40L0178	SPRING A	1	
	20	WERGB80S3208	SWITCH BUTTON	1	
	21	WERGB80K1508	TRIMMER ASSEMBLY	1	
	22	WES8176L0166	HOUSING CLIP	1	
	23	WER223L2107	MOTOR HOLDER	1	
	24	WERGB80L1008	MOTOR	1	
	25	WERGB80L2108	MODULE ASSEMBLY	1	
	26	WER217L0977	O-RING	2	(2PCS/PK)
	27	WERGB80L2508	RECHARGEABLE BATTERY	1	NI-MH TYPE
	28	WES7025L0977	O-RING AND WASHER	1	(2PCS/PK)
	29	WERGB80K3068	HOUSING B	1	
	30	WERGB80K3848	BOTTOM COVER	1	
	30	WERGB80K3849	BOTTOM COVER	1	only for CIS
	31	WESRT64L6058	TAPPING SCREW	8	K2-10
	32	WERGB80L6068	TAPPING SCREW	1	K2-8
	33	WERGC70K7664	ADAPTOR	1	C-2 PLUG
	33	WERGB80K7661	ADAPTOR	1	C-2 PLUG only for CIS
	34	WER203X7918	OIL	1	
	35	WES76806761	CLEANING BRUSH	1	
	36	WER217K7007	SOFT CASE	1	
	-	WERGB80S8008	INDIVIDUAL BOX	1	
	-	WERGB80S8009	INDIVIDUAL BOX	1	only for CIS
	-	WERGB80S8108	OPERATING INSTRUCTIONS	1	
	-	WERGB80S8109	OPERATING INSTRUCTIONS	1	only for CIS

7.3. Exploded View For ER-GB70
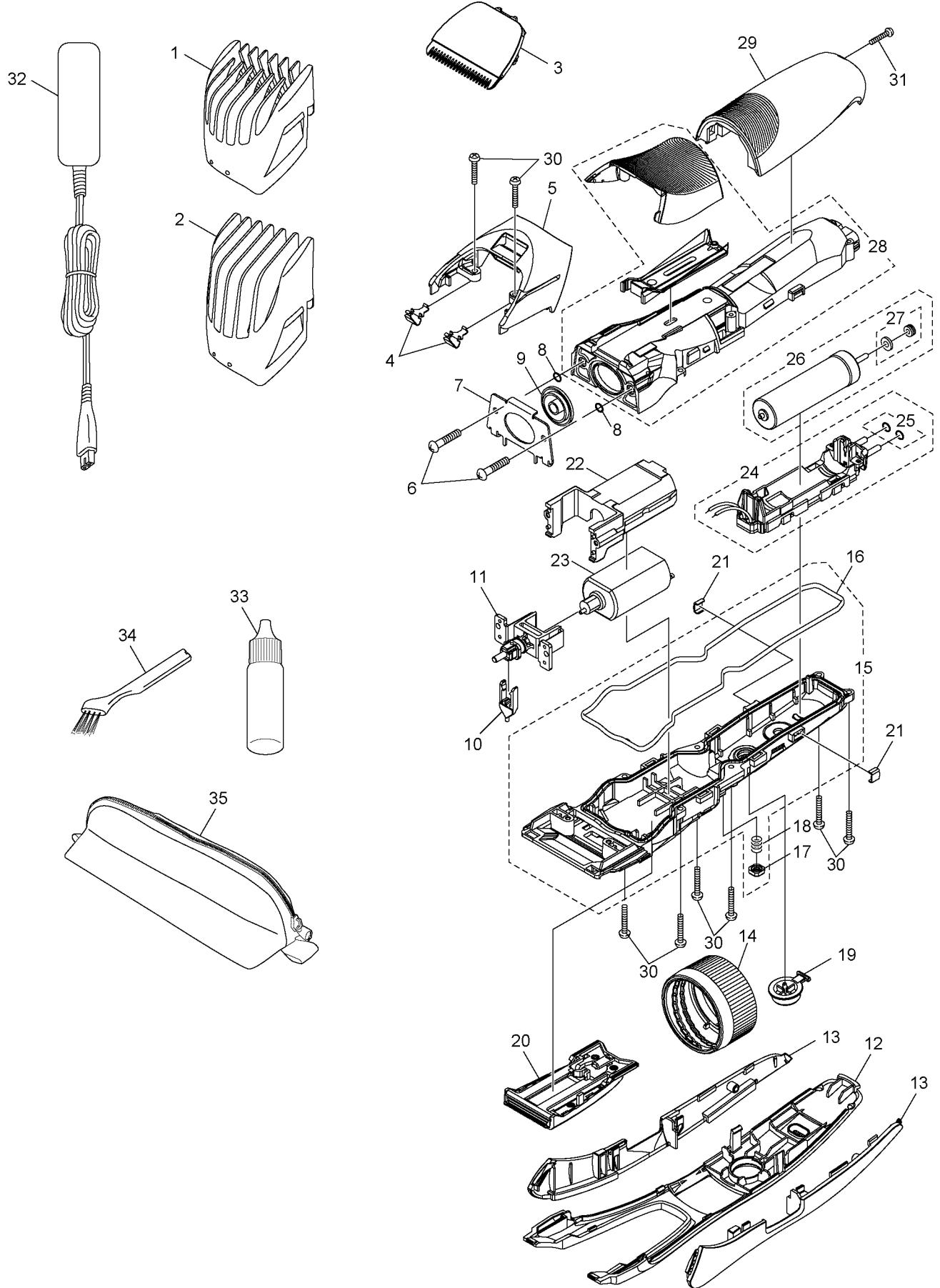
7.4. Replacement Parts List For ER-GB70

| Safety	Ref. No.	Part No.	Part Name & Description	Quan- tity	Remarks
	1	WERGB80K7458	COMB ATTACHMENT	1	
	2	WERGB80K7468	COMB ATTACHMENT	1	
	3	WER9602Y	BLADE BLOCK	1	
	4	WER504L0167	SPRING FOR CUTTER	2	(2PCS/PK)
	5	WERGB80K1588	BLADE HOLDER	1	
	6	WES7025L9707	SCREW	2	
	7	WER223L0207	RETAINING PLATE	1	
	8	WER217L0967	O-RING	2	(6PCS/PK)
	9	WES366L0326	WATERPROOF RUBBER	1	
	10	WER223L1087	TRIMMER DRIVING BAR	1	
	11	WER223L1247	DRIVING HEADS	1	
	12	WERGB70S3858	FRONT PANEL	1	
	13	WERGB80K3368	SIDE PANEL SET	1ST	
	14	WERGB80K3338	DIAL	1	
	15	WERGB80K3058	HOUSING A	1	
	16	WERGB80L0588	HOUSING O-RING	1	
	17	WERGB40L0458	CLICK BUTTON	1	
	18	WERGB40L0178	SPRING A	1	
	19	WERGB70S3208	SWITCH BUTTON	1	
	20	WERGB70K1508	TRIMMER ASSEMBLY	1	
	21	WES8176L0166	HOUSING CLIP	1	
	22	WER223L2107	MOTOR HOLDER	1	
	23	WERGB80L1008	MOTOR	1	
	24	WERGB80L2108	MODULE ASSEMBLY	1	
	25	WER217L0977	O-RING	2	(2PCS/PK)
	26	WERGB80L2508	RECHARGEABLE BATTERY	1	NI-MH TYPE
	27	WES7025L0977	O-RING AND WASHER	1	(2PCS/PK)
	28	WERGB80K3068	HOUSING B	1	
	29	WERGB70K3848	BOTTOM COVER	1	
	29	WERGB70K3849	BOTTOM COVER	1	only for CIS
	30	WESRT64L6058	TAPPING SCREW	8	K2-10
	31	WERGB80L6068	TAPPING SCREW	1	K2-8
	32	WERGC70K7664	ADAPTOR	1	C-2 PLUG
	32	WERGB80K7661	ADAPTOR	1	C-2 PLUG only for CIS
	33	WER203X7918	OIL	1	
	34	WES76806761	CLEANING BRUSH	1	
	35	WER217K7007	SOFT CASE	1	
	-	WERGB80S8008	INDIVIDUAL BOX	1	
	-	WERGB70S8009	INDIVIDUAL BOX	1	only for CIS
	-	WERGB80S8108	OPERATING INSTRUCTIONS	1	
	-	WERGB80S8109	OPERATING INSTRUCTIONS	1	only for CIS

7.5. Exploded View For ER-GB60
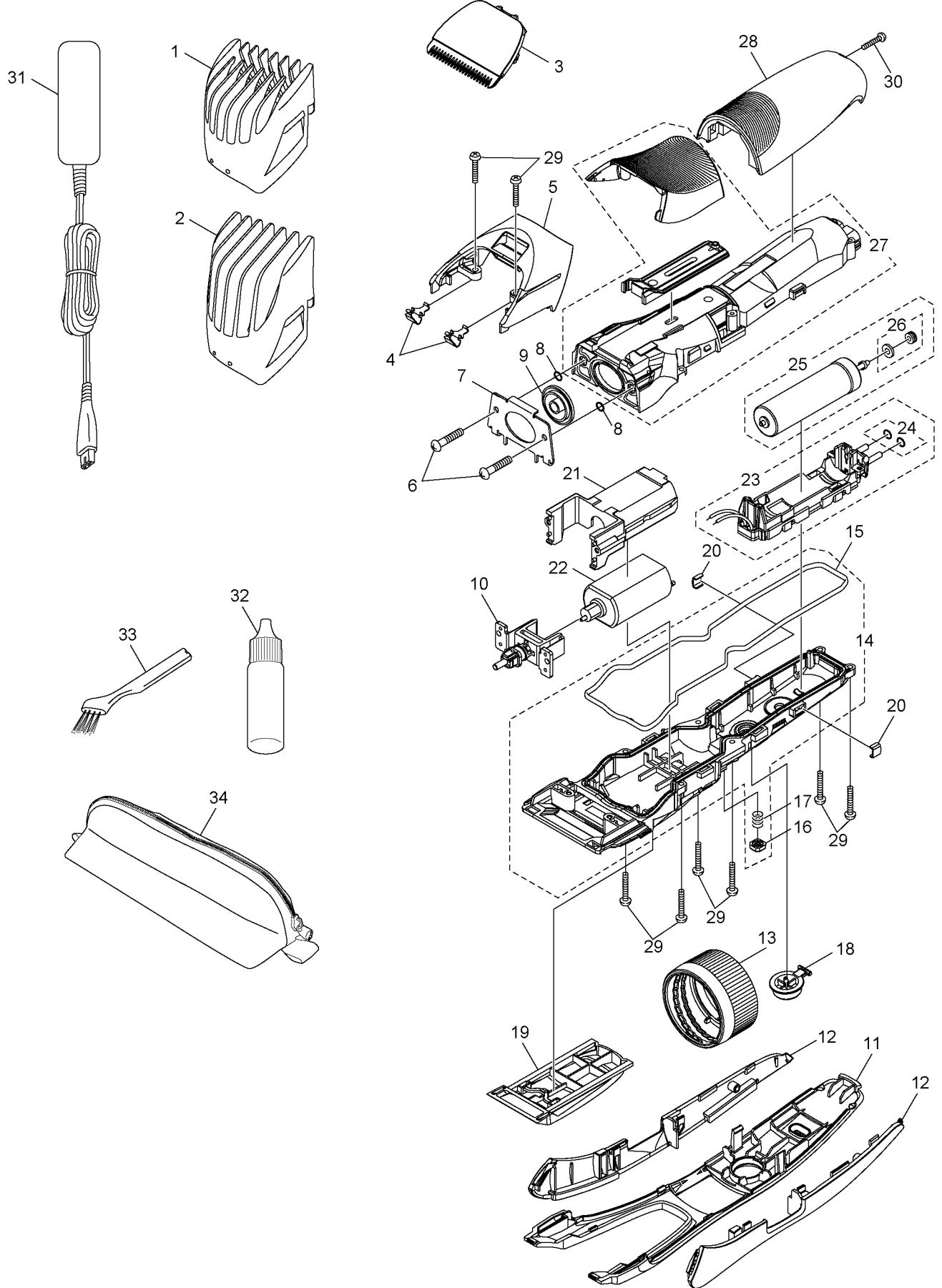
7.6. Replacement Parts List For ER-GB60

Safety	Ref. No.	Part No.	Part Name & Description	Quan- tity	Remarks
	1	WERGB80K7458	COMB ATTACHMENT	1	
	2	WERGB80K7468	COMB ATTACHMENT	1	
	3	WER9602Y	BLADE BLOCK	1	
	4	WER504L0167	SPRING FOR CUTTER	2	(2PCS/PK)
	5	WERGB80K1588	BLADE HOLDER	1	
	6	WES7025L9707	SCREW	2	
	7	WER223L0207	RETAINING PLATE	1	
	8	WER217L0967	O-RING	2	(6PCS/PK)
	9	WES366L0326	WATERPROOF RUBBER	1	
	10	WER223L1247	DRIVING HEADS	1	
	11	WERGB60K3858	FRONT PANEL	1	
	12	WERGB80K3368	SIDE PANEL SET	1ST	
	13	WERGB80K3338	DIAL	1	
	14	WERGB60K3058	HOUSING A	1	
	15	WERGB80L0588	HOUSING O-RING	1	
	16	WERGB40L0458	CLICK BUTTON	1	
	17	WERGB40L0178	SPRING A	1	
	18	WERGB60K3208	SWITCH BUTTON	1	
	19	WERGB60K1508	TRIMMER PLATE	1	
	20	WES8176L0166	HOUSING CLIP	1	
	21	WER223L2107	MOTOR HOLDER	1	
	22	WERGB80L1008	MOTOR	1	
	23	WERGB80L2108	MODULE ASSEMBLY	1	
	24	WER217L0977	O-RING	2	(2PCS/PK)
	25	WERGB80L2508	RECHARGEABLE BATTERY	1	NI-MH TYPE
	26	WES7025L0977	O-RING AND WASHER	1	(2PCS/PK)
	27	WERGB80K3068	HOUSING B	1	
	28	WERGB60K3848	BOTTOM COVER	1	
	28	WERGB60K3849	BOTTOM COVER	1	only for CIS
	29	WESRT64L6058	TAPPING SCREW	8	K2-10
	30	WERGB80L6068	TAPPING SCREW	1	K2-8
	31	WERGC70K7664	ADAPTOR	1	C-2 PLUG
	31	WERGB80K7661	ADAPTOR	1	C-2 PLUG only for CIS
	32	WER203X7918	OIL	1	
	33	WES76806761	CLEANING BRUSH	1	
	34	WER217K7007	SOFT CASE	1	
	–	WERGB60K8008	INDIVIDUAL BOX	1	
	–	WERGB60K8009	INDIVIDUAL BOX	1	only for CIS
	–	WERGB80S8108	OPERATING INSTRUCTIONS	1	
	–	WERGB80S8109	OPERATING INSTRUCTIONS	1	only for CIS