

A/S Manual



(KH-5000M Disassembly/Assembly)

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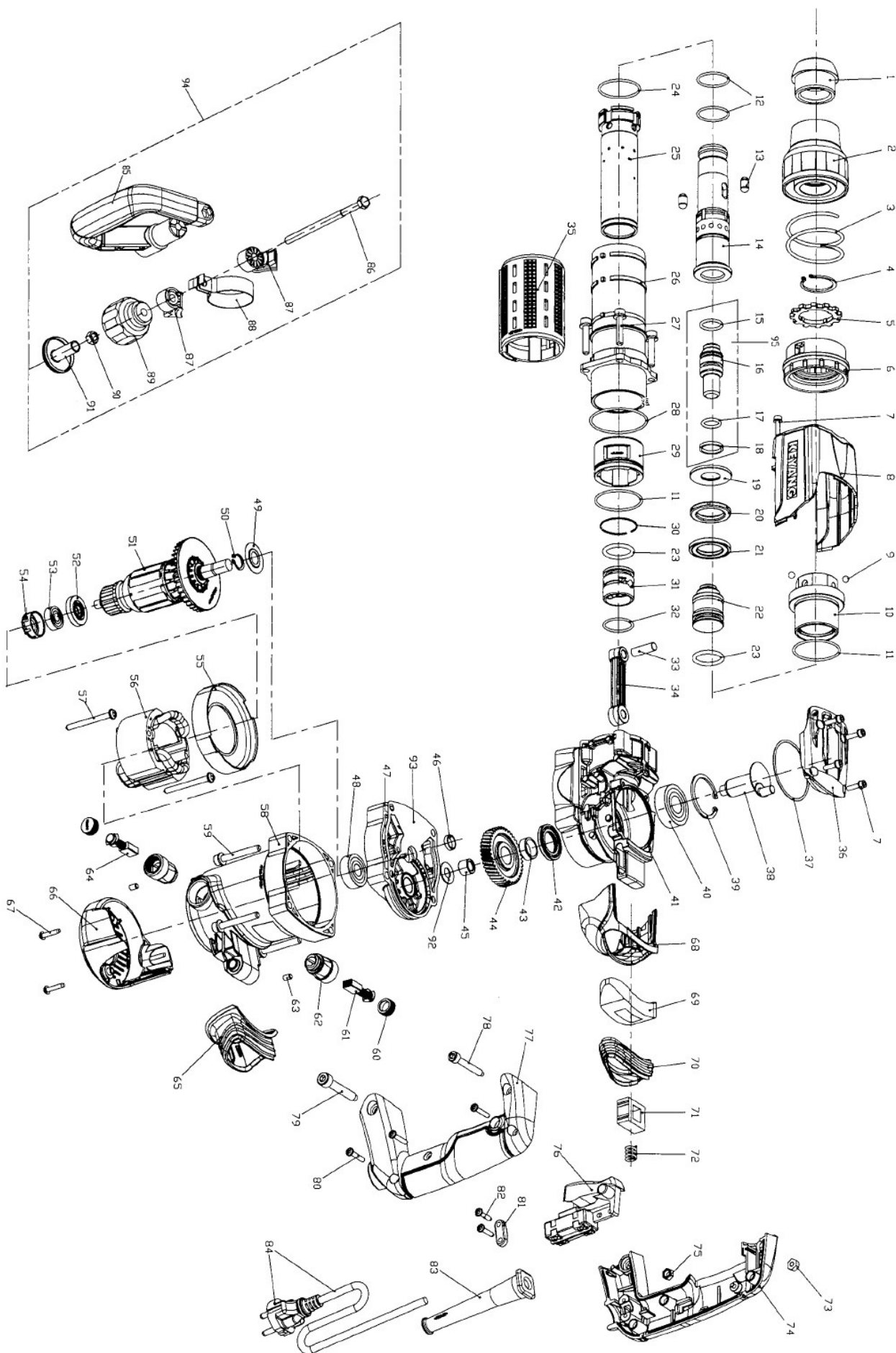
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EXPLODE VIEW



PART LIST

No	Code No	PART NAME	SPEC	Q,ty
1	2072614	DUST CAP, KH-50M		1
2	2135072	RETAINER, KH-50M		1
3	2411818	SPRING, KH-50M		1
4	2412027	RETAINING RING(D32, C Type, Axis)	(D32, C Type, Axis)	1
5	2110024	SELECTOR GUIDE, KH-50M		1
6	2110025	SELECTOR, KH-50M		1
7	2400816	HEX SOC HD B & PW(M4*16,COAT, Combination type)	M4*16	5
8	2141514	CRANK CASE COVER(B), KH-5000		1
9	2416024	STEEL BALL(D6), KHD-50M	D6	4
10	2032118	FRONT COVER, KH-50M		1
11	2412428	O-RING(C)(D2*42,NBR), KH-50H	(D2*42, NBR)	2
12	2412398	O-RING(S28)		2
13	2032519	GUIDE PIN, KH-50M		2
14	2030210	BIT GUIDE, KH-5000M		1
15	2412447	O-RING(P18, FKM), KH-5000		1
16	2038195	ANVIL, KH-5000		1
17	2412445	O-RING(B), PHD-40M	(D2.65*14.2)	1
18	2412903	ANVIL RING, PHD-40M		1
19	2031309	DAMPER WASHER, KH-5000M		1
20	2070530	DAMPER(B), KH-50H		1
21	2036602	CATCHER, KH-50H		1
22	2036018	STRIKER, KH-5000		1
23	2412426	O-RING(F)(D3.5*23.5,FKM), KH-50H	(D3.5*23.5, FKM)	2
24	2412365	O-RING(A)(D2*32, Class 1- A), KH-42H	(D2*32, Class 1- A)	1
25	2031013	CYLINDER(R1), KH-50H		1
26	2042018	CYLINDER CASE, KH-5000		1
27	2400912	HEX SOC HD B & SW(SCM4, M6*30,COAT)	(SCM4,M6*30, COAT)	4
28	2412429	O-RING(D)(D2*52, NBR), KH-50H	(D2*52, NBR)	1
29	2048085	SLEEVE, KH-50H		1
30	2064257	RING SPRING, KH-50H		1
31	2112709	PISTON, KH-5000		1
32	2412427	O-RING(E)(D2*22,NBR), KH-50H	(D2*22, NBR)	1
33	2033811	PISTON PIN, KH-50H		1
34	2131385	CONNECTING ROD(R1), KH-50H		1
35	2074111	JACKET, KH-50M		1
36	2155053	GREASE COVER, KH-5000		1
37	2412310	O-RING(B, Red), PHD-3800		1

38	2021259	CRANK SHAFT,KH-5000		1
39	2412041	RETAINING RING(D40, For the hole)	(D40, For the hole)	1
40	2417030	BALL BEARING(6203DDCMM)	(6203DDCMM)	1
41	2041315	CRANK CASE, KH-5000		1
42	2413001	OIL SEAL(A)(D20.2*D35*4.5), PHD-3800	(D20.2*D35*4.5)	1
No	Code No	PART NAME	SPEC	Q,ty
43	2035001	SEAL BUSH(A), PHD-3800		1
44	2024356	GEAR, KH-5000		1
45	2417320	NEEDLE BEARING(M661)	M661	1
46	2030347	BUSH, KH-5000		1
47	2043401	GEAR COVER, KH-5000		1
48	2417179	BALL BEARING(KBC, 6201DDHSAG)	(KBC, 6201DDHSAG)	1
49	2051019	DUST PLATE(A), KH-50H		1
50	2412009	RETAINING RING(D14, C Type, Axis)	(D14, C Type, Axis)	1
51	3004304	ARMATURE ASS'Y (LU, BMC), 220V, KH-5000	(220V)	1
52	2170206	DUST PLATE(B), KH-50H		1
53	2417156	BALL BEARING(NSK, 608ZZC2)	(NSK, 608ZZC2)	1
54	2072332	RUBBER PACKING, PHD-40M		1
55	2130920	FAN GUIDE, KH-50H		1
56	3012259	STATOR ASS'Y,220V(DONGIL),KH-5000	(220V)	1
57	2405120	+PAN HD TAP S & PW(M5*55)	(M5*55)	2
58	2141144	HOUSING, KH-50H		1
59	2400406	HEX SOC B & SW & PW(M6*35, COAT)	(M6*35, COAT)	4
60	2100003	BRUSH CAP,D-13		2
61	2011113	CARBON BRUSH(AS,#45,118B10),KH-50H	(AS, #45, 118B10)	1
62	2100108	BRUSH HOLDER,CS-7CA		2
63	2406012	HEX SOC SET SCREW(M5*8)	(M5*8)	2
64	2011114	CARBON BRUSH(AS, #45, 118B10), KH-50H	(AS, #45, 118B10)	1
65	2070532	BELLOWS(B), KH-50H		1
66	2155047	END COVER, KH-50H		1
67	2405140	+PAN HD TAP S&PW(M4*20, Black, Class 2)	(M4*20, Black, Class 2)	2
68	2141513	CRANK CASE COVER(A), KH-50H		1
69	2065108	SPONGE CUSHION, KH-50H		1
70	2070531	BELLOWS(A), KH-50H		1
71	2070533	DAMPER(A), KH-50H		1
72	2411111	DAMPER SPRING, KH-50H		1
73	2403837	DAMPER NUT, KH-50H		1
74	3141037	HANDLE ASS'Y, KH-50H		1
77				
75	2403025	HEX NUT(M6, Black)	(M6, Black)	1
76	2008479	[SZ]TRIG.S/W(L/ON, 250V, 13A, JIABEN)	(L/ON, 250V, 13A, JIABEN)	1

78	2402850	DAMPER BOLT, KH-50H		1
79	2402847	HINGE BOLT, KH-50H		1
80	2405131	+PAN HD TAP S & PW(M4*25, Black)	(M4*25, Black)	3
81	2130504	CORD CLIP, PP-5B		1
82	2405105	+PAN HD TAP S & PW(M4*20)	(M4*20)	2
83	2070333	CORD ARMOR(ID9), KH-50H	(ID9)	1
84	3115680	CORD ASS'Y, 220(HO7RN-F, 2C*1.0*IEC66), KH-5000	(HO7RN-F2C*1.0, IEC66)	1
92	2060724	WASHER(B),PHD-40M		1
93	2058808	SEAL PACKING,KH-5000		1

94	325170 3	SIDE HANDLE ASS'Y,KH-50H		1
85	2073203	SIDE HANDLE,KH-42H		1
86	2400339	HEX HD BOLT(M8*140,Black)	(M8*140,Black)	1
87	2110904	HOLDER,KH-50H		2
88	2038179	HOLDER BAND,KH-50H		1
89	2110851	CLAMPING NUT,KH-42H		1
90	2403031	HEX NUT(M8,Black)	(M8,Black)	1
91	2110801	CLAMPING NUT CAP,KH-42H		1

Diagnoses and solutions to each type of problem

Symptoms of Problem	Location of Problem	Inspection Method	Cause of Problem	How to deal with problem	What to do
No operation possible	Switch	<ul style="list-style-type: none"> Check if contact(break) is established when switched on/off. 	<ul style="list-style-type: none"> Infiltration of foreign matter Overuse exceeding the durable life Damage by impact Wear of contact point Damaged terminal in the lead wire connection section 	<ul style="list-style-type: none"> Clean and remove the foreign matters Replace the switch 	<ul style="list-style-type: none"> Refer to AS Manual
		<ul style="list-style-type: none"> Check for connection state in the switch 	<ul style="list-style-type: none"> Incorrect connection 	<ul style="list-style-type: none"> Reconnect 	<ul style="list-style-type: none"> Refer to AS Manual
	Cord	<ul style="list-style-type: none"> Check for any break in the cord 	<ul style="list-style-type: none"> Breakage of wire near the cord clip due to repetitive bending during transit Cord was nipped or damaged by careless handling during operation 	<ul style="list-style-type: none"> Replace the cord 	<ul style="list-style-type: none"> Refer to AS Manual
	Armature	<ul style="list-style-type: none"> Check if the armature coil has been broken or burnt 	<ul style="list-style-type: none"> Overload occurred during stressful operation Coil was damaged due to infiltration of foreign matter 	<ul style="list-style-type: none"> Replace the armature Clean & Replace 	<ul style="list-style-type: none"> Refer to AS Manual
	Stator	<ul style="list-style-type: none"> Check if the stator coil has been broken or burnt 	<ul style="list-style-type: none"> Overload occurred during stressful operation Coil was damaged due to infiltration of foreign matter 	<ul style="list-style-type: none"> Replace the stator Clean & Replace 	<ul style="list-style-type: none"> Refer to AS Manual
	Carbon brush	<ul style="list-style-type: none"> Check if the carbon brush makes contact with armature commutator 	<ul style="list-style-type: none"> Carbon worn off in excess of the limit Effective contact is not made in the armature commutator due to infiltration of foreign matter into brush holder 	<ul style="list-style-type: none"> Replace the carbon brush Clean & Replace 	<ul style="list-style-type: none"> Refer to AS Manual
	Brush holder	<ul style="list-style-type: none"> Check the mounting state of the brush holder 	<ul style="list-style-type: none"> Damaged brush holder due to incorrect assembling Brush holder fell off 	<ul style="list-style-type: none"> Replace the brush holder 	<ul style="list-style-type: none"> Refer to AS Manual
Vibration/Nois	Armature	<ul style="list-style-type: none"> Check the teeth of A/R Check for any damage in armature fan 	<ul style="list-style-type: none"> Wear of the teeth due to overuse exceeding durable life Occurrence of damage of fan during repair works 	<ul style="list-style-type: none"> Replace the armature 	<ul style="list-style-type: none"> Refer to AS Manual
	Bearing	<ul style="list-style-type: none"> Check for wear or damage of bearing 	<ul style="list-style-type: none"> Wear due to aging of bearing Slip due to wear of bearing mounting section Incorrect distance of pressed insertion part of the bearing 	<ul style="list-style-type: none"> Replace the bearing Replace the incorrect part 	<ul style="list-style-type: none"> Refer to AS Manual
	Gear	<ul style="list-style-type: none"> Check for wear or damage of gear & teeth Abnormal noise is generated Check the state of pushed-in gear 	<ul style="list-style-type: none"> Wear and damage due to overuse in excess of durable life Defective teeth in teeth section Incorrect insertion of the gear Worn off gear due to lack of lubricating Grease 	<ul style="list-style-type: none"> Replace the gear Correct the pushed-in state Grease supplying 	<ul style="list-style-type: none"> Refer to AS Manual
	Rubber packing	<ul style="list-style-type: none"> Check the rubber packing to see if it is missing or damaged 	<ul style="list-style-type: none"> Generation of noise/vibration from the shaky armature 	<ul style="list-style-type: none"> Assemble the rubber packing 	<ul style="list-style-type: none"> Refer to AS Manual

Bad flame	Carbon brush	<ul style="list-style-type: none"> ■ Check for correctness of brush holder assembly mounting ■ Check for wear or damage of the carbon brush 	<ul style="list-style-type: none"> ◆ Brush holder is unstable (shaky) ◆ Overuse exceeding the wear limit ◆ Generation of flame due to use of incorrect part 	<ul style="list-style-type: none"> ▶ Replace the brush holder ▶ Replace the armature ▶ Replace the carbon brush, 	<ul style="list-style-type: none"> ☞ Refer to AS Manual
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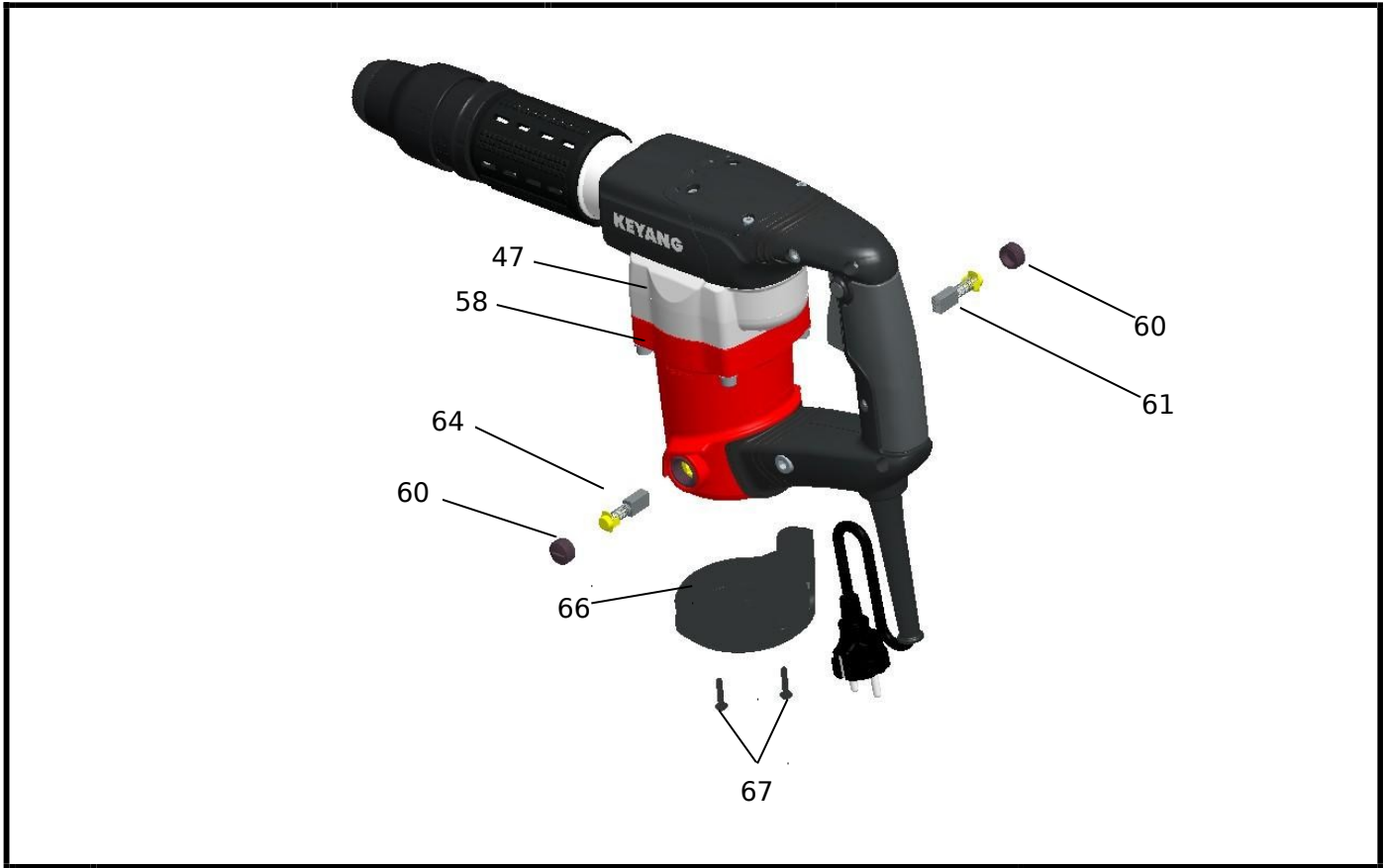
Symptoms of Problem	Location of Problem	Inspection Method	Cause of Problem	How to deal with problem	What to do
Bad flame	Carbon brush	<ul style="list-style-type: none"> ■ Check for correctness of brush holder assembly mounting ■ Check for wear or damage of the carbon brush 	<ul style="list-style-type: none"> ◆ Brush holder is unstable (shaky) ◆ Overuse exceeding the wear limit ◆ Generation of flame due to use of incorrect part 	<ul style="list-style-type: none"> ▶ Replace the brush holder ▶ Replace the armature ▶ Replace the carbon brush, 	<ul style="list-style-type: none"> ☞ Refer to AS Manual
	Vibration	<ul style="list-style-type: none"> ■ Check for damage in the bearing ■ Check for wear in the gear 	<ul style="list-style-type: none"> ◆ Damage in bearing due to overuse exceeding durable life ◆ Wear of gear due to overuse exceeding durable life 	<ul style="list-style-type: none"> ▶ Replace the bearing ▶ Replace the gear 	<ul style="list-style-type: none"> ☞ Refer to AS Manual
	Armature	<ul style="list-style-type: none"> ■ Check for scratch on the surface of the commutator ■ Check for wear of the surface of the commutator ■ Check for break or burn out of the armature coil 	<ul style="list-style-type: none"> ◆ Scratch in the commutator due to wear of carbon brush ◆ Wear of commutator due to overuse exceeding durable life ◆ Damaged coil or broken insulating paper due to infiltrated foreign matter (powder dust) 	<ul style="list-style-type: none"> ▶ Replace the A/R 	<ul style="list-style-type: none"> ☞ Refer to AS Manual
	Stator	<ul style="list-style-type: none"> ■ Check for damage in insulating paper of the stator coil ■ Check for break or burn out in the stator coil 	<ul style="list-style-type: none"> ◆ Damaged coil or broken insulating paper due to infiltrated foreign matter (powder dust) 	<ul style="list-style-type: none"> ▶ Replace the stator 	<ul style="list-style-type: none"> ☞ Refer to AS Manual
	Rubber packing	<ul style="list-style-type: none"> ■ Check for missing the rubber packing 	<ul style="list-style-type: none"> ◆ Generation of sparks due to shaky armature 	<ul style="list-style-type: none"> ■ Assemble rubber packing 	<ul style="list-style-type: none"> ☞ Refer to AS Manual
Damage	Incorrect part (painting part)	<ul style="list-style-type: none"> ■ Check for any dent or damage in the gear cover/cylinder case/crankcase 	<ul style="list-style-type: none"> ◆ Material is defective ◆ When the gear is disassembled or assembled ◆ Deformed shape 	<ul style="list-style-type: none"> ▶ Replace the incorrect part 	<ul style="list-style-type: none"> ☞ Refer to AS Manual
	Injection molding	<ul style="list-style-type: none"> ■ Check for any damage in the housing and the handle assembly ■ Check for any damage in the end cover 	<ul style="list-style-type: none"> ◆ Inappropriate handling by the user ◆ A crack was created during forming 	<ul style="list-style-type: none"> ▶ Replace the housing, handle assembly ▶ Replace the end cover 	<ul style="list-style-type: none"> ☞ Refer to AS Manual
Overheating	Armature/Stator	<ul style="list-style-type: none"> ■ Check for interference of the armature or the stator 	<ul style="list-style-type: none"> ◆ Incorrect fastening of the stator fixing bolt ◆ Wear and damage in the bearing 	<ul style="list-style-type: none"> ▶ Correct or replace 	<ul style="list-style-type: none"> ☞ Refer to AS Manual
	Bearing	<ul style="list-style-type: none"> ■ Check for damage or wear of the bearing 	<ul style="list-style-type: none"> ◆ Use of incorrect bearing fixture ◆ Missing bearing assembly part ◆ Wear or damage due to overuse of bearing section exceeding durable lift 	<ul style="list-style-type: none"> ▶ Replace the bearing 	<ul style="list-style-type: none"> ☞ Refer to AS Manual
	Grease	<ul style="list-style-type: none"> ■ Check the injected amount of grease(35g) 	<ul style="list-style-type: none"> ◆ Generation of heat by friction due to insufficient grease (piston, striker) 	<ul style="list-style-type: none"> ▶ Grease supplying 	<ul style="list-style-type: none"> ☞ Refer to AS Manual
	Incorrect part	<ul style="list-style-type: none"> ■ Check the wear state at the mounting section of the gear (Crank case) 	<ul style="list-style-type: none"> ◆ Wear of pressed insertion part of the bearing due to overuse exceeding durable life 	<ul style="list-style-type: none"> ▶ Replace the incorrect part 	<ul style="list-style-type: none"> ☞ Refer to AS Manual

	<ul style="list-style-type: none"> ■ Check if the gear rotates unengaged 	<ul style="list-style-type: none"> ◆ Dimensions of the part are incorrect (e.g. distance between axis) ◆ Foreign matter or burr caught in between 	<ul style="list-style-type: none"> ▶ Replace the part ▶ Remove the foreign matter or burr 	<ul style="list-style-type: none"> ☞ Refer to AS Manual
Others	<ul style="list-style-type: none"> ■ Check the voltage of the power source (V) 	<ul style="list-style-type: none"> ◆ Increased RPM of the motor due to the use of excessively high voltage 	<ul style="list-style-type: none"> ▶ Use appropriate voltage 	<ul style="list-style-type: none"> ☞ Refer to the user manual

How to deal with each type of defective impact (KH-5000M)

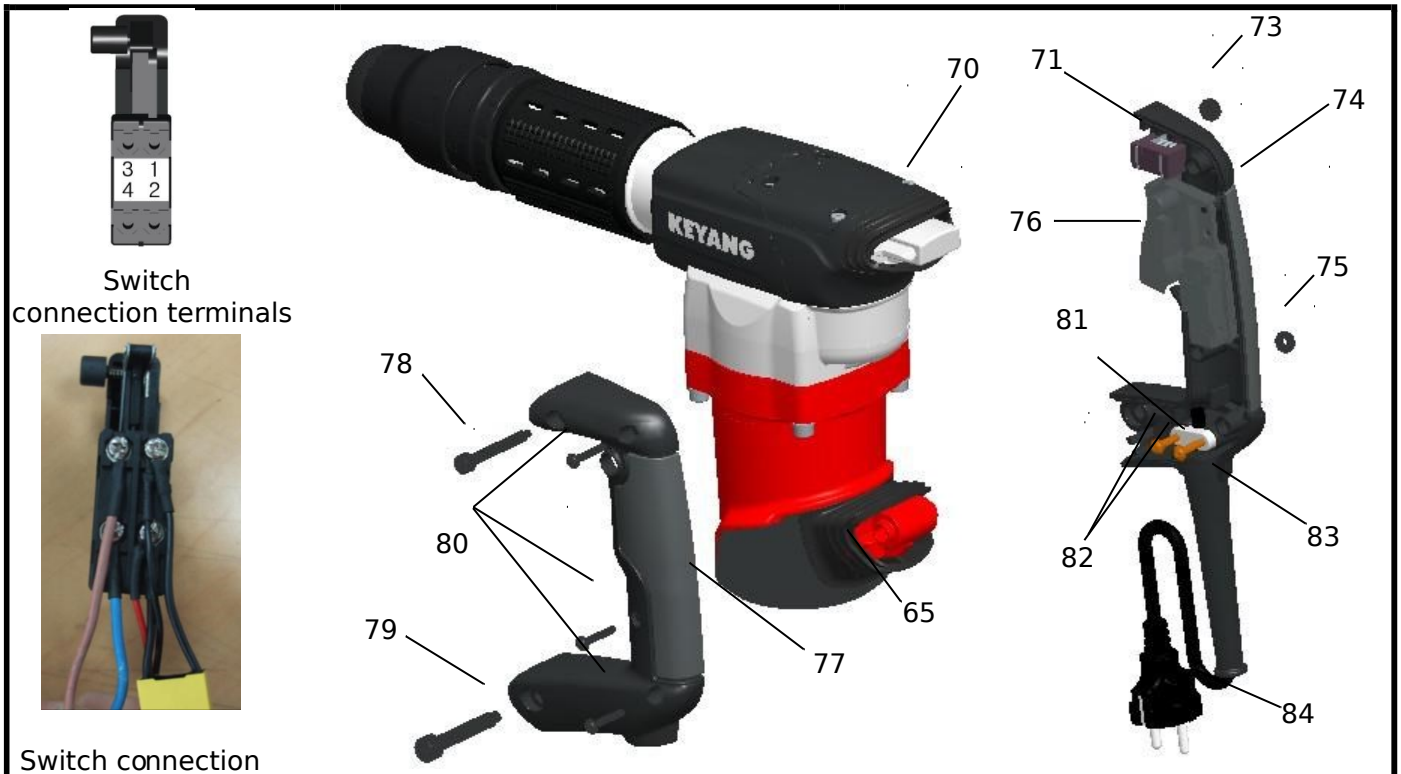
Symptoms of Problem	Location of Problem	Inspection Method	Cause of Problem	How to deal with problem	What to do
Striking does not occur	Damaged parts	<ul style="list-style-type: none"> ■ Check for damage in the piston ■ Check for damage in the connecting rod 	<ul style="list-style-type: none"> ◆ Overuse in excess of durable life ◆ Incorrect assembling ◆ Sticking occurs due to lack of lubricating oil 	<ul style="list-style-type: none"> ▶ Replace the piston ▶ Replace the connecting rod ▶ Grease supplying 	<ul style="list-style-type: none"> ☞ Refer to AS Manual
		<ul style="list-style-type: none"> ■ Damage in the crankshaft 	<ul style="list-style-type: none"> ◆ Overuse in excess of durable life 	<ul style="list-style-type: none"> ▶ Replace the crankshaft 	<ul style="list-style-type: none"> ☞ Refer to AS Manual
		<ul style="list-style-type: none"> ■ Check for wear or damage of anvil 	<ul style="list-style-type: none"> ◆ Overuse in excess of durable life ◆ Lack of lubricating oil 	<ul style="list-style-type: none"> ▶ Replace the anvil assembly 	<ul style="list-style-type: none"> ☞ Refer to AS Manual
	RPM abnormal	<ul style="list-style-type: none"> ■ Check for the RPM 	<ul style="list-style-type: none"> ◆ Control of motor RPM is not possible due to incorrect assembling of the motor 	<ul style="list-style-type: none"> ▶ Replace the motor 	<ul style="list-style-type: none"> ☞ Refer to the product nameplate and user manual
	O-ring	<ul style="list-style-type: none"> ■ Check for missing Oring 	<ul style="list-style-type: none"> ◆ Incorrect assembling 	<ul style="list-style-type: none"> ▶ Assemble the piston, striker oring 	<ul style="list-style-type: none"> ☞ Refer to AS Manual
	Incorrect assembling	<ul style="list-style-type: none"> ■ Check the assembled direction of the damper washer 	<ul style="list-style-type: none"> ◆ Assemble the damper washers in the opposite directions 	<ul style="list-style-type: none"> ▶ Reassemble the damper washer 	<ul style="list-style-type: none"> ☞ Refer to AS Manual
		<ul style="list-style-type: none"> ■ Check the assembled direction of the striker 	<ul style="list-style-type: none"> ◆ Assemble in the opposite direction of the striker 	<ul style="list-style-type: none"> ▶ Reassemble the striker 	<ul style="list-style-type: none"> ☞ Refer to AS Manual
Weak strength	Power supply	<ul style="list-style-type: none"> ■ Check the voltage of the power source 	<ul style="list-style-type: none"> ◆ Decreased SPM due to use of incorrect voltage ◆ Dropped voltage due to excessive use of lead wire 	<ul style="list-style-type: none"> ▶ Use correct voltage 	<ul style="list-style-type: none"> ☞ Refer to the product nameplate and user manual
	Bit	<ul style="list-style-type: none"> ■ Check the wear of bit 	<ul style="list-style-type: none"> ◆ Dislocation from its original position due to wear of the contact surface of the anvil 	<ul style="list-style-type: none"> ▶ Replace the bit 	<ul style="list-style-type: none"> ☞ Refer to User Manual
	O-ring	<ul style="list-style-type: none"> ■ Check for wear or damage of O-ring 	<ul style="list-style-type: none"> ◆ Wear of the O-ring due to overuse ◆ Incorrect assembling 	<ul style="list-style-type: none"> ▶ Replace the piston, striker oring 	<ul style="list-style-type: none"> ☞ Refer to AS Manual
	Motor Carbon brush	<ul style="list-style-type: none"> ■ Check the Decreased SPM 	<ul style="list-style-type: none"> ◆ Decreased SPM due to burned out motor ◆ Decreased SPM due to assembling with incorrect motor ◆ Defective contact of commutator due to worn carbon 	<ul style="list-style-type: none"> ▶ Replace the motor ▶ Replace the carbon 	<ul style="list-style-type: none"> ☞ Refer to the product nameplate and user manual
	Incorrect part	<ul style="list-style-type: none"> ■ Check if the gear rotates unengaged 	<ul style="list-style-type: none"> ◆ Dimensions of the part are incorrect (e.g. distance between axis) ◆ Foreign matter or burr caught in between 	<ul style="list-style-type: none"> ▶ Replace the part ▶ Remove the foreign matter or burr 	<ul style="list-style-type: none"> ☞ Refer to AS Manual

Disassembly/ Assembly No.	01	Disassembly/ Assembly Name	Clean and replace the carbon brush
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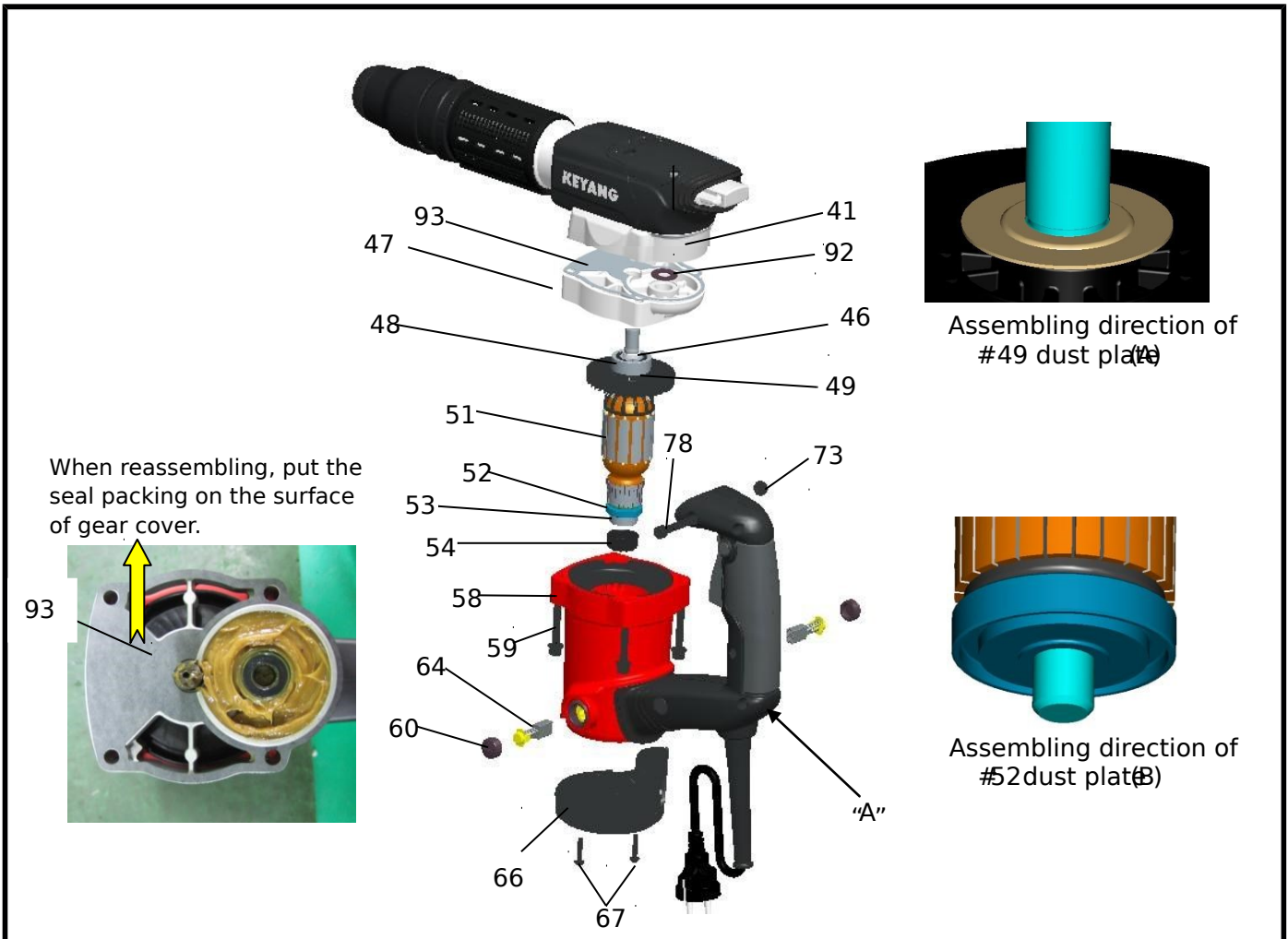
NO.	Disassembly order and method	Remark
1	<p>★ Replace the carbon brush</p> <p>☞ Pull out the two #67 screws (M4*20) by turning them to the left with a (+) screwdriver and detach the #66 end cover.</p>	<p>[Note 1]</p> <p>♠ General carbon brush in the number 45 stamped.</p>
2	<p>☞ Pull out the two #60 brush caps by turning them to the left with a (-) screwdriver and detach the carbon brush. (Do the same for the opposite side)</p>	<p>Auto stop carbon brush in the number 46 stamped.</p>
3	<p>☞ Insert #64 carbon brush (general) and #61 carbon brush (auto stop) and assemble #60 brush cap.</p> <p>★ Clean</p>	<p>[Caution 1]</p> <p>♠ Be careful not to destroy the screw thread when reassembling the #66 screw (M4*20)</p>
4	<p>☞ (Proceed with disassembling procedures 1 and 2.) Blow the air through air outlet between #58 housing and #47 gear cover to remove foreign matters and dust.</p>	<p>[Caution 2]</p> <p>♠ When reassembling, be careful not to damage #60 brush cap.</p>
5	<p>☞ Blow the air to the carbon brush holder to remove foreign matters and dust. (Do the same for the opposite side)</p>	

Disassembly / Assembly No.	/ 02	Disassembly/ Assembly Name	How to replace the cord/handle/switch
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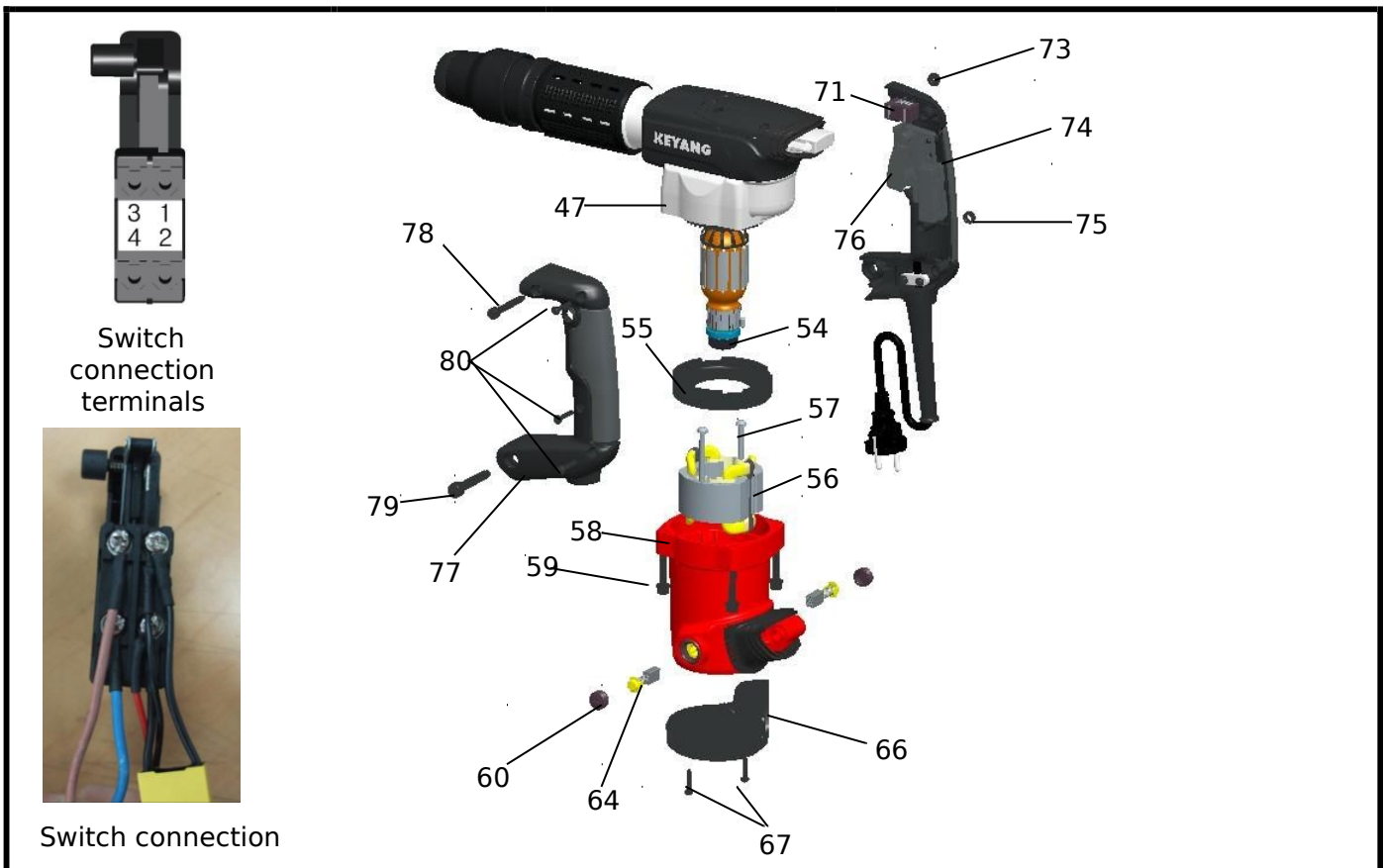


NO.	Disassembly order and method	Remark
1	<p>★ How to replace the handle</p> <ul style="list-style-type: none"> ☞ Pull out the three #80 screws (M4*25) by turning them to the left with a (+) screwdriver. Remove #78 bolt by turning it to the left with a 5mm L-wrench and #79 bolt by turning it to the left with a 6mm L-wrench and detach #74, #77 handle. 	<p>[Caution 1]</p> <ul style="list-style-type: none"> ♠ Be careful not to lose assembly, capacitor and #71 damper (A)
2	<ul style="list-style-type: none"> ☞ Pull out the two #82 screws (M4*20) by turning them to the left with a (+) screwdriver and detach the #81 cord clip. 	<p>#73, #75 nut.</p>
3	<ul style="list-style-type: none"> ☞ After replacing the handle, proceed with reassembling in reverse order of disassembling. 	<p>[Caution 2]</p> <ul style="list-style-type: none"> ♠ Careful assembling, be to avoid #70
4	<p>★ How to replace the cord</p> <ul style="list-style-type: none"> ☞ (Proceed with disassembling procedures 1 and 2.) Pull out the brown line from the #3 terminal of the #76 switch by turning them to the left with a (+) screwdriver. Detach the blue line from the #4 terminal of the #76 switch by turning the terminal with a (+) screwdriver. (See the connection terminals of the upper switch) 	<p>♠ bellows (B) from being careful bellows (A) and #65</p> <p>When reassembling the pinched.</p>
5	<ul style="list-style-type: none"> ☞ Detach the #83 cord armor from #84 cord. ☞ After replacing the cord, proceed with reassembling in reverse order of disassembling. 	<p>[Caution 3]</p> <ul style="list-style-type: none"> ♠ switch picture.
6	<p>★ How to replace the switch</p> <ul style="list-style-type: none"> ☞ (Proceed with disassembling procedures 1,2 and 4) Pull out the black stator lead wire and capacitor from the #1 terminal of the #76 switch by turning them to the left with a (+) screwdriver. Detach red stator lead wire and capacitor from the #2 terminal of the #76 switch by turning the terminal with a (+) screwdriver. 	<p>♠ handle, be careful to avoid the wire from being pinched.</p>
7	<ul style="list-style-type: none"> ☞ After replacing the switch, proceed with reassembling in reverse order of disassembling. 	<p>♠ See the connection</p>

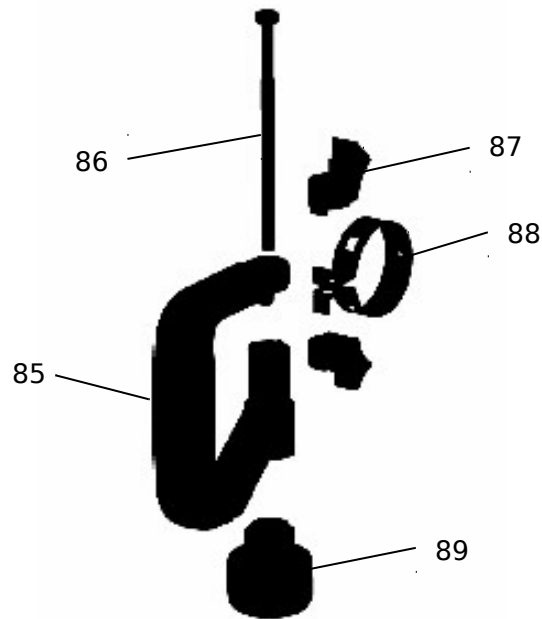
8			
Disassembly Assembly No.	03	Disassembly/ Assembly Name	How to replace the armature



NO.	Disassembly order and method	Remark	
1	☞ Remove #78 damper bolt by turning it to the left with a 5mm L-wrench and remove it from #41 crank case by pulling the handle backward.	[Caution 1]	
2	☞ Pull out the two #67 screws (M4*20) by turning them to the left with a (+) screwdriver and detach the #66 end cover.	♠ Be careful not to damage #60 brush cap.	
3	☞ Pull out the two #60 brush caps by turning them to the left with a (-) screwdriver and detach the carbon brush. (Do the same for the opposite side)	[Caution 2]	
4	☞ Pull out the four #59 bolts (M6*55) by turning them to the left and detach from the #47 gear cover.	♠ Be careful not to lose the damper assembly in the inside of the handle assembly.	
5	☞ Using a hand press, remove #51 armature assembly from #47 gear cover.	[Caution 3]	
6	☞ After removing #48 bearing (6201) and #46 bush together with a bearing puller, remove #54 rubber packing and remove #53 bearing (608ZZ) with a bearing puller.	♠ When reassembling, be careful not to lose #49 dust plate(A), #52 dust plate(B) and direction of assembly.	
7	☞ Detach the #49 dust plate(A) and the #52 dust plate(B) from the #51 armature assembly.	[Caution 4]	
8	☞ After replacing the armature, proceed with reassembling in reverse order of disassembling.	♠ When reassembling, be careful not to lose #54 rubber packing, #92 washer(B) packing.	
	♠ When assembling the handle, striking the "A" side of the handle will make the assembling easier.		
Disassembly Assembly No.	04	Disassembly/ Assembly Name	How to replace the stator/housing

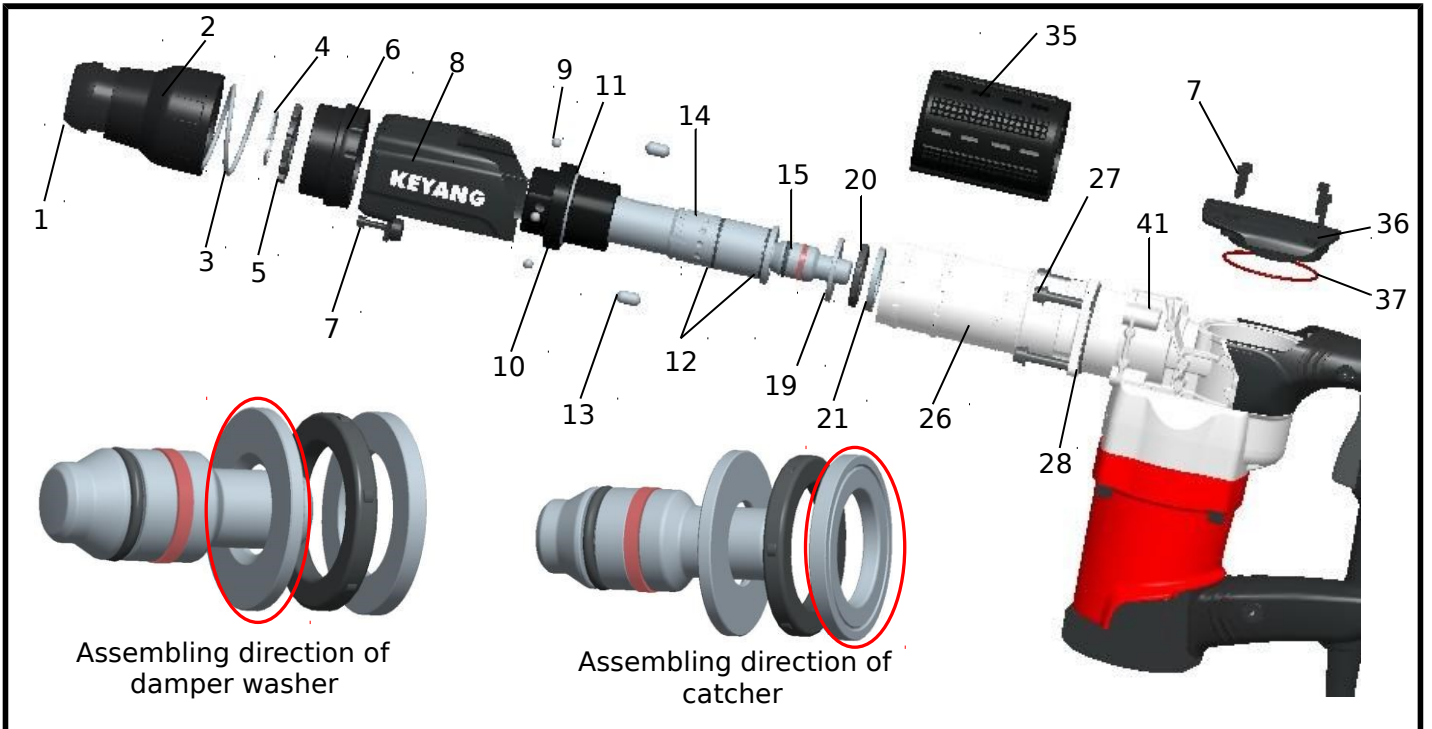


NO.	Disassembly order and method	Remark
1	<ul style="list-style-type: none"> ☞ Pull out the three #80 screws (M4*25) by turning them to the left with a (+) screwdriver. Remove #78 bolt by turning it to the left with a 5mm L-wrench and #79 bolt by turning it to the left with a 6mm L-wrench and detach #74, #77 handle. 	<p>[Caution 1]</p> <ul style="list-style-type: none"> ♠ When reassembling the handle, be careful to avoid the wire from being pinched.
2	<ul style="list-style-type: none"> ☞ Pull out the black stator lead wire and capacitor from the #1 terminal of the #76 switch and red wire and capacitor from #2 terminal by turning with a (+) screwdriver. (See the picture of the connection terminals of the upper switch) 	<ul style="list-style-type: none"> ♠ See the switch connection picture.
3	<ul style="list-style-type: none"> ☞ Pull out the two #67 screws (M4*20) by turning them to the left with a (+) screwdriver and detach the #66 end cover. 	<p>[Caution 2]</p> <ul style="list-style-type: none"> ♠ Be careful not to damage #60 brush cap.
4	<ul style="list-style-type: none"> ☞ Pull out the #60 brush cap by turning it to the left with a (-) screwdriver and detach the #74 carbon brush. (Do the same for the opposite side) 	<p>[Caution 3]</p> <ul style="list-style-type: none"> ♠ When reassembling, be careful not to lose #54 rubber packing.
5	<ul style="list-style-type: none"> ☞ Pull out the four #59 screws (M6*55) by turning them to the left and detach the #58 housing from the #47 gear cover. ☞ Detach the # 55 fan guide from the #58 housing. 	<p>[Caution 4]</p> <ul style="list-style-type: none"> ♠ Be careful not to lose #71 damper (A) assembly, capacitor and #73, #75 nut.
6	<ul style="list-style-type: none"> ☞ Pull out the two #57 screws (M5*55) by turning them to the left with a (+) screwdriver and detach the #56 stator from the #58 housing. (As the stator is pressed hot, reassembling must be done after heating the housing with a hot air blower) 	
8	<ul style="list-style-type: none"> ☞ After replacing the stator or housing, proceed with reassembling in reverse order of disassembling. 	



NO.	Disassembly order and method	Remark
1	☞ Detach the #89 clamping nut from the #85 side handle by turning the side handle to the left.	[Caution 1] ♣ When assembling, be careful of the orientation of the holder.
2	☞ Remove #86 bolt (M8*140).	[Caution 2] ♣ When mounting/removing the holder, remove the rubber jacket first as the tension of the holder is very high.
3	☞ Remove #88 holder and #87 holder band by turning #85 side handle to the left.	

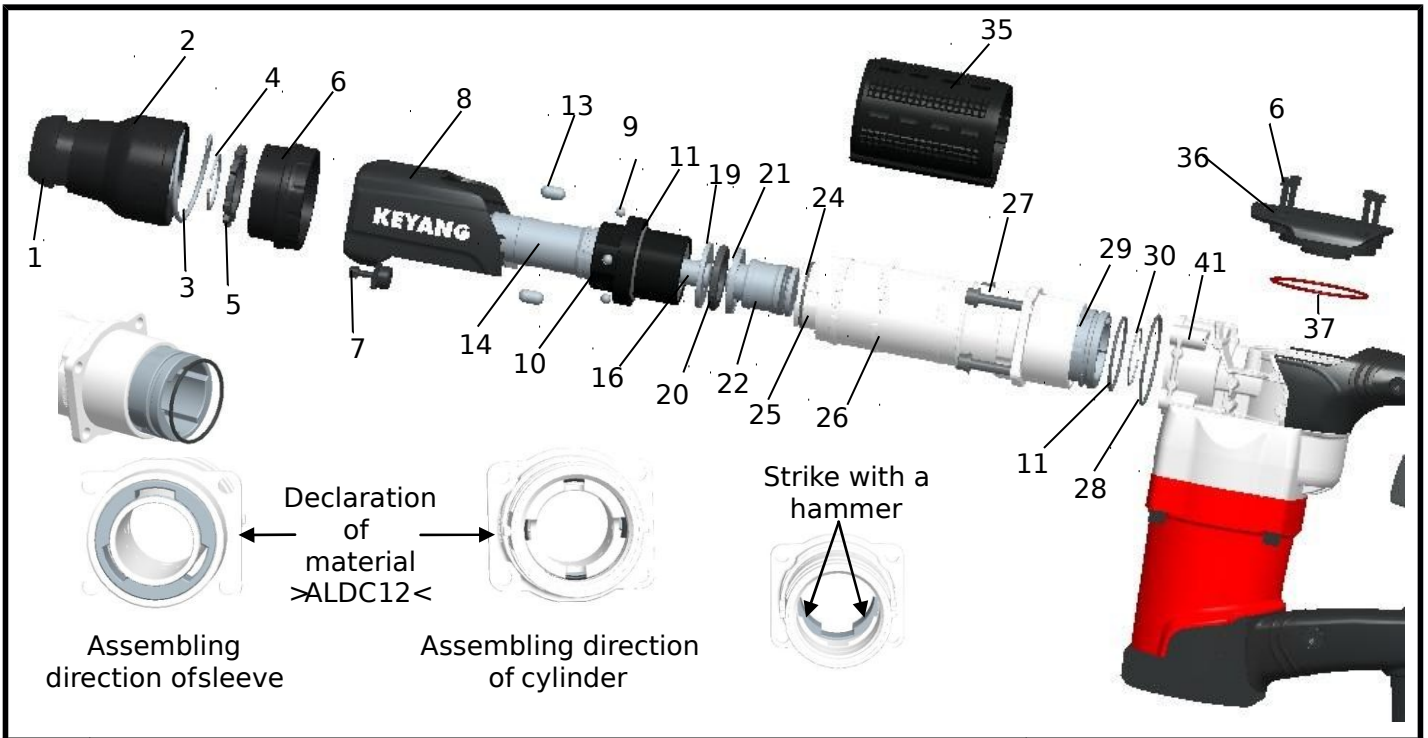
Disassembly Assembly No.	/ 06	Disassembly/ Assembly Name	How to replace the front cover/bit guide
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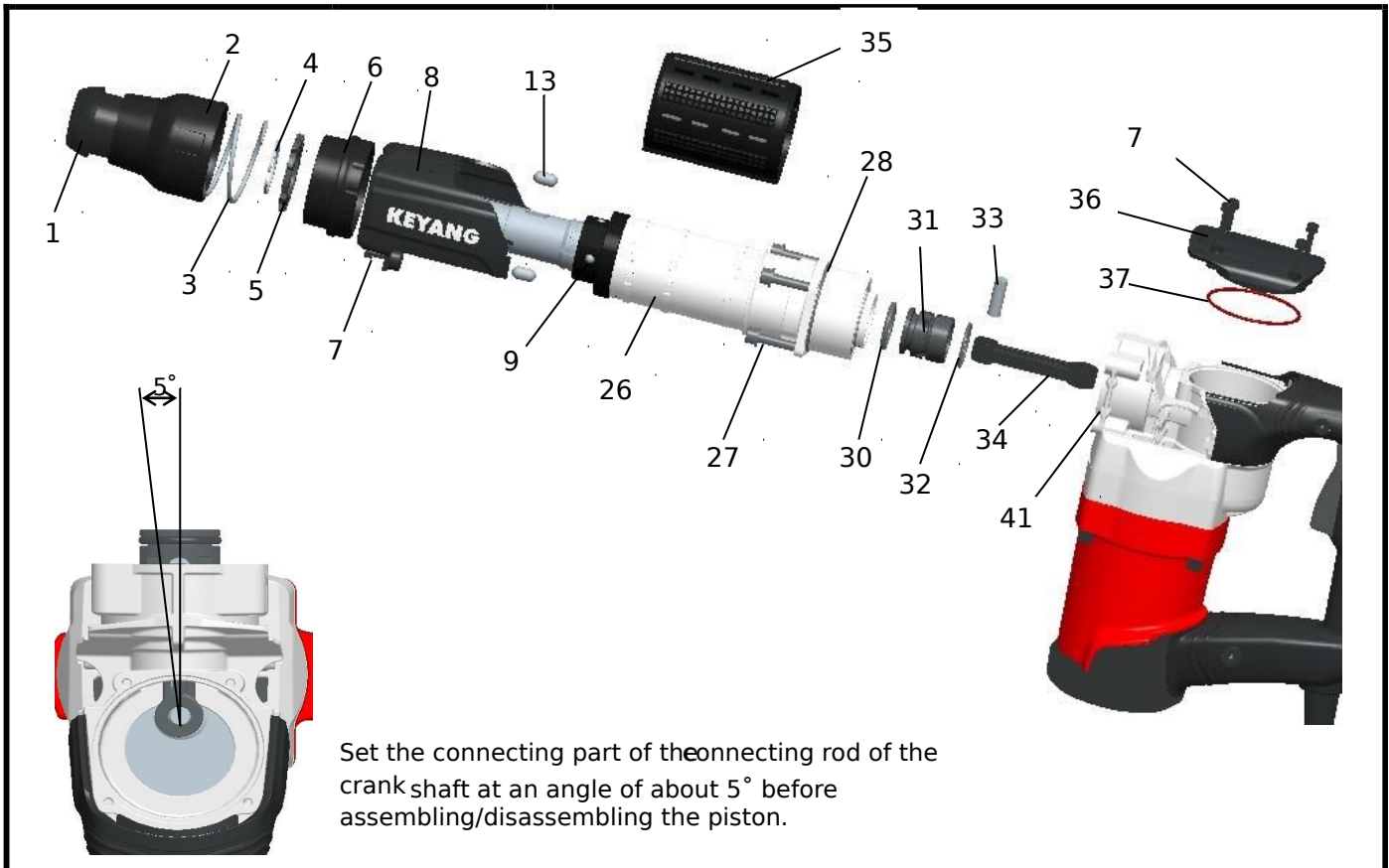
NO.	Disassembly order and method	Remark
	★How to replace the front cover	[Caution 1]

1	☞ Detach the #35 jacket from the #26 cylinder case.	<p>♣ When removing #4 retaining ring, be careful to avoid it from losing elasticity.</p> <p>[Caution 2]</p> <p>♣ When removing #6 selector, be careful not to lose #9 steel ball. When reassembling, coating the balls with grease will make the assembling easier.</p> <p>[Caution 3]</p> <p>♣ When reassembling, be careful to assemble #11 O-ring (D).</p> <p>20</p> <p>When reassembling #19, and 21, make sure that they are assembled in the right direction and in right sequence. The edged plane of #19 damper washer must face toward the slanted plane of the anvil. The grooved section of #21 catcher must face crank</p>
2	☞ Remove #1 dust cap with a (-) screwdriver. Once #1 dust cap has been removed, #2 retainer, #3 spring and #13 guide pin can be removed.	
3	☞ Using a ring pincer, remove #4 retaining ring from #14 bit guide. Once the retaining ring has been removed, #5 selector guide, #6 selector and #9 steel ball can be removed.	
4	☞ Pull out the four #7 bolts (M4*16) by turning them to the left and detach #36 grease cover and #37 O-ring (B).	
5	☞ Pull out the one #7 bolt (M4*16) by turning it to the left. Using a rubber hammer, remove #8 crank case cover (B) from #41 crank case.	
6	☞ Pull out the four #27 bolts (M6*30) by turning them to the left and detach #26 cylinder case and #41 crank case.	
7	☞ After fixing #26 cylinder case to the fixing device, detach #10 front cover from #41 crank case by turning the front cover to the left.	
8	☞ Remove #10 front cover and #14 bit guide.	
9	☞ Detach the #11 O-ring(C) from the front cover.	
10	☞ After replacing the front cover, proceed with reassembling in reverse order of disassembling.	
11	★How to replace the bit guide ☞ (Proceed with disassembling procedures No.1~No.8) Detach the #15 anvil from the #14 bit guide and detach the two #12 O-rings (S28).	
12	☞ After replacing the bit guide, proceed with reassembling in reverse order of disassembling.	

Disassembly / Assembly No.	/	07	Disassembly / Assembly Name	How to replace the cylinder case
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NO.	Disassembly order and method	Remark
1	☞ Detach the #35 jacket from the #26 cylinder case.	[Caution 1]
2	☞ Remove #1 dust cap with a (-) screwdriver. Once #1 dust cap has been removed, #2 retainer, #3 spring and #13 guide pin can be removed.	♠ When re assembling, heat the a hot cylinder case with assembling heater before
3	☞ Using a ring pincer, remove #4 retaining ring from #14 bit guide. Once the retaining has been removed, #5 selector guide, #6 selector and #9 steel ball can be removed.	♠ The sleeve.
4	☞ Pull out the four #7 bolts (M4*16) by turning them to the left and detach #36 grease cover and #37 O-ring (B).	[Caution 2]
5	☞ Pull out the one #7 bolt (M4*16) by turning them to the left. Using a rubber hammer, remove #8 crank case cover (B) from #41 crank case.	♠ 20
6	☞ Pull out the four #27 bolts (M6*30) by turning them to the left and detach #26 cylinder case and #41 crank case.	When reassembling #19, and 21, make sure that they are assembled in the right direction and in right sequence. The edged plane of #19 damper
7	☞ After fixing #41 cylinder case to the fixing device, detach #10 front cover from #41 crank case by turning the front cover to the left.	and the first face toward
8	☞ Remove #19 damper washer, #20 damper (B), #21 catcher and #22 striker in the right sequence and direction.	♠ The slanted plane of the #22 slanted
9	☞ Detach the #30 ring spring and detach #25 cylinder from #26 cylinder case.	♠ The grooved section
10	☞ Remove #29 sleeve by striking the sleeve side of the inside #26 cylinder case with a rubber hammer. (See upper picture) (When disassembling, heat up the cylinder case with a hot air heater)	[Caution 3]
11	☞ After replacing the cylinder case, proceed with reassembling in reverse order of disassembling.	♠ When reassembling #19, and 21, make sure that they are assembled in the right direction and in right sequence. The edged plane of #19 damper and the first face toward the slanted plane of the grooved section
]	♠ When reassembling the cylinder and the sleeve, make sure that they are assemble in the right direction!(See upper picture)	[Caution 4]
]		♠
]		When reassembling, be careful not to omit #11 O8 O-ring (D).



Set the connecting part of the connecting rod of the crank shaft at an angle of about 5° before assembling/disassembling the piston.

NO.	Disassembly order and method	Remark
1	☞ Detach the #35 jacket from the #26 cylinder case.	<p>[Caution 1]</p> <p>♠ Supplement appropriate amount of grease (1015g) as loss of some grease may occur during replacement work.</p> <p>[Caution 2]</p> <p>♠ When reassembling select, be careful not to lose #9 steel ball.</p> <p>[Caution 3]</p> <p>♠ When reassembling, be careful not to lose #28 O-ring(D).</p> <p>[Caution 3]</p> <p>♠ When reassembling, orient the crank shaft as shown in the picture above before mounting the piston assembly.</p>
2	☞ Remove #1 dust cap with a (-) screwdriver. Once #1 dust cap has been removed, #2 retainer, #3 spring and #13 guide pin can be removed.	
3	☞ Using a ring pincer, remove #4 retaining ring from #14 bit guide. Once the retaining has been removed, #5 selector guide, #6 selector and #9 steel ball can be removed.	
4	☞ Pull out the four #7 bolts (M4*16) by turning them to the left and detach #36 grease cover and #37 O-ring (B).	
5	☞ Pull out the one #7 bolt (M4*16) by turning it to the left. Using a rubber hammer, remove #8 crank case cover (B) from #41 crank case.	
6	☞ Pull out the four #27 bolts (M6*30) by turning them to the left and detach #26 cylinder case and #41 crank case.	
7	☞ Remove #31 piston assembly (#11 O-ring 30 (F), #32 O-ring (E), #33 piston pin, #34 connecting rod) from the crank shaft as shown in the picture on the left.	
8	☞ After removing #32 O-ring (E), detach #33 piston pin from #31 piston.	
9	☞ Detach the #30 O-ring (F) from the #31 piston.	
10	☞ After replacing the connecting rod/piston, proceed with reassembling in reverse order of disassembling.	

Disassembly / Assembly No.	/	09	Disassembly / Assembly Name	How to replace the crank case
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When replacing the crank case, supplement 35g of grease.

Set the connecting part of the connecting rod of the crank shaft at an angle of about 5° before assembling/disassembling the piston.

When reassembling, put the seal packing on the surface of gear cover.

When replacing the crank case, remove the remaining grease of crankcase and gear cover completely and supplement 14~15g of grease.

Inserting direction of bellows (A)

NO.	Disassembly order and method	Remark
1	☞ Detach the #35 jacket from the #26 cylinder case.	[Caution 1]
2	☞ Remove #1 dust cap with a (-) screwdriver. Once #1 dust cap has	

3	<p>been removed, #2 retainer, #3 spring and #13 guide pin can be removed.</p> <p>☞ Using a ring pincer, remove #4 retaining ring from #14 bit guide. Once the retaining ring has been removed, #5 selector guide, #6 selector and #9 steel ball can be removed.</p>	<p>♠ Be careful not to lose #73 damper nut in the damper assembly in the inside of the handle assembly.</p> <p>[Caution 2]</p> <p>♠ When reassembling select, be careful not to lose #9 steel ball.</p> <p>[Caution 3]</p> <p>♠ When reassembling, be careful not to lose #28 o-ring (D), #92 washer(b).</p> <p>♠ When reassembling, be careful of the direction of the damper nut (A) and to avoid it from being pressed. (See the picture)</p>
4	<p>☞ Pull out the four #7 bolts (M4*16) by turning them to the left and detach #36 grease cover and #37 O-ring (B).</p>	
5	<p>☞ Pull out the one #7 bolt (M4*16) by turning it to the left. Using a rubber hammer, remove #8 crank case cover (B) from #41 crank case.</p>	
6	<p>☞ Pull out the four #27 bolts (M6*30) by turning them to the left and detach #26 cylinder case and #41 crank case.</p>	
7	<p>☞ Remove #31 piston assembly (#11 O-ring (F), #32 O-ring (E), #33 piston pin, #34 connecting rod) from the crankshaft as shown in the picture on the left.</p>	

NO.	Disassembly order and method	Remark
8	<p>☞ Remove #78 damper bolt by turning it to the left with a 5mm L-wrench and remove it from #41 crank case by pulling the handle backward.</p>	<p>[Caution 5]</p> <p>♠ When reassembling, supplement 35g of grease UREKA 114 #00 to the connecting rod(See the picture) in advance</p> <p>[Caution 6]</p> <p>♠ When reassembling, #60 damper bolt to adjust the tightness allow the handle to back and forth.</p> <p>[Caution 7]</p> <p>♠ supplement grease LUBMAXIA 122 When reassembling, section(of 14~15g of the advance) to the gear (See the picture)</p>
9	<p>☞ Pull out the four #58 bolts (M6*35) by turning them to the left and detach #41 crank case from #47 gear cover.</p>	
10	<p>☞ Detach the #68 crank case cover (A), #69 sponge cushion, #70 bellows (A) from the #41 crank case.</p>	
11	<p>☞ Place the crank case in parallel in the direction toward #44 gear, press #38 crankshaft using a hand press and remove the #38 crankshaft, #43 seal bush (A) and #44 gear.</p> <p>☞ Using a ring pincer, detach #39 retaining ring.</p> <p>☞ Remove #40 ball bearing(6203DD) after heating #41 crank case sufficiently with a hot air blower.</p> <p>☞ After replacing the crank case, proceed with reassembling in reverse order of disassembling.</p> <p>♠ When assembling the handle, striking the "A" side of the handle will make the assembling easier.</p>	

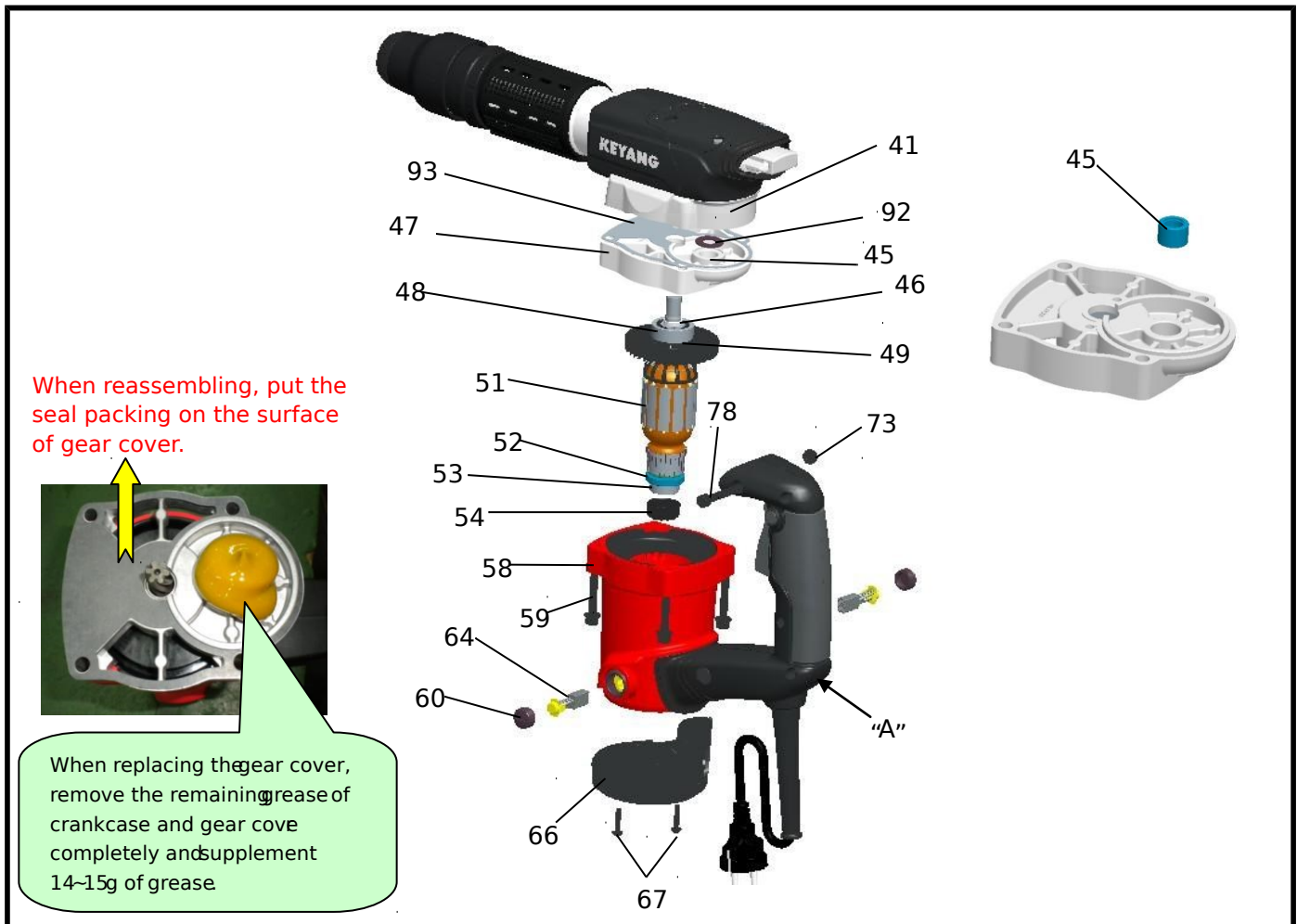
crank case in

Disassembly /
Assembly No.

10

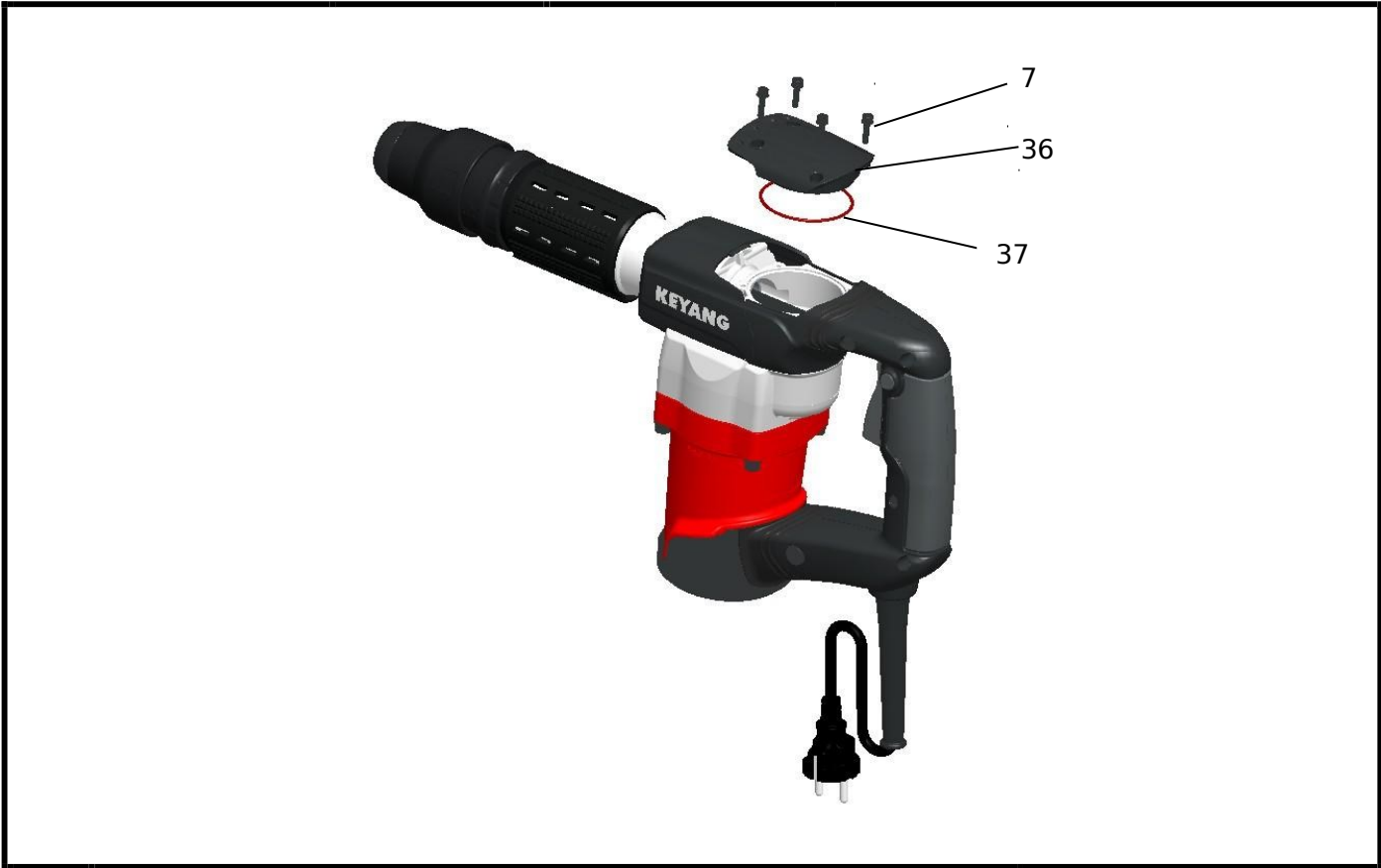
Disassembly /
Assembly Name

How to replace the gear cover



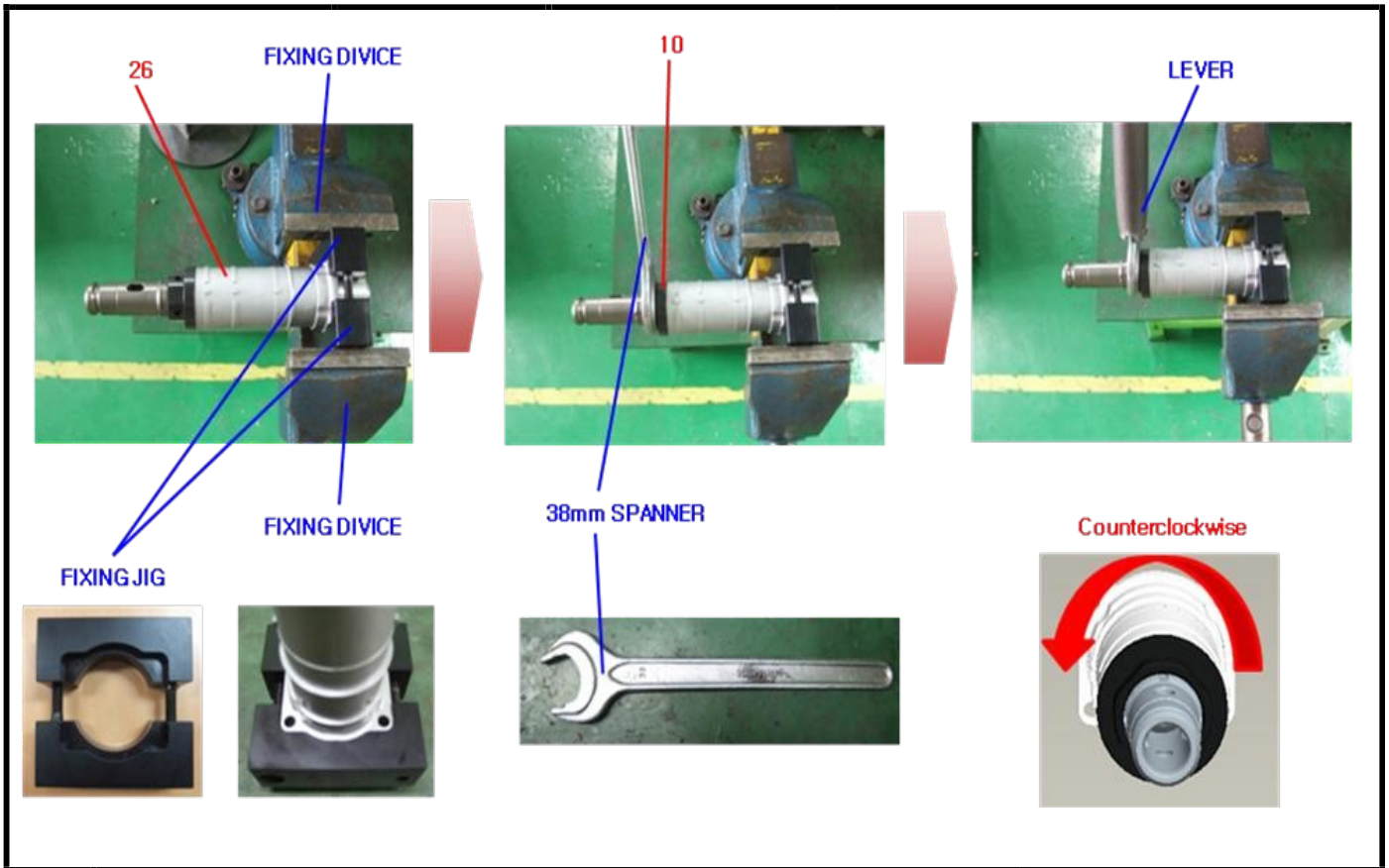
NO.	Disassembly order and method	Remark
1	☞ Remove #78 damper bolt by turning it to the left with a 5mm L-wrench and remove it from #41 crank case by pulling the handle backward.	[Caution 1] ♠ Be careful not to damage #60 carbon brush cap.
2	☞ Pull out the two #67 screws (M4*20) by turning them to the left with a (+) screwdriver and detach the #66 end cover.	[Caution 2] ♠ Be careful not to lose #73 damper nut in the damper assembly in the inside of the handle assembly.
3	☞ Pull out the two #60 brush caps by turning them to the left with a (-) screwdriver and detach the #64 carbon brush. (Do the same for the opposite side)	[Caution 3] ♠ When reassembling, be careful not to lose #54 lubber packing.
4	☞ Pull out the four #59 bolts (M6*55) by turning them to the left and detach the #58 housing from #47 gear cover.	[Caution 4] ♠ When reassembling, be careful not to lose #92 washer(B).
5	☞ Using a hand press, detach #51 armature assembly from #47 gear cover.	
6	☞ Using a hand press, remove #45 needle bearing(M661) from gear cover.	
7	☞ After replacing the gear cover, proceed with reassembling in reverse order of disassembling. ♠ When assembling the handle, striking the "A" side of the handle will make the assembling easier.	

Disassembly / Assembly No.	11	Disassembly / Assembly Name	Grease supplying
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NO.	Disassembly order and method	Remark
1	☞ Pull out the four #7 bolts (M4*16) by turning them to the left and detach the #36 grease cover.	<p>[Caution 1]</p> <p>♠ Injecting too much grease may cause decreased striking power due to overload.</p> <p>[Caution 2]</p> <p>♠ When assembling #36 grease cover, be careful to avoid #37 O-ring (B) being pressed.</p>
2	☞ Supplement 10g of grease. (When replacing the entire grease, first remove the remaining grease and foreign matters completely before supplement 35g of grease.) ♠ Injecting too much grease will cause decrease impact power.	
♠ Grease's specification : EUREKA 114 #00		

Disassembly / Assembly No.	12	Disassembly / Assembly Name	Disassembling the cylinder case ass'y
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NO.	Disassembly order and method	Remark
1	<ul style="list-style-type: none"> ☞ Placed the #26 cylinder case on the fixing jig, fixing #26 cylinder case to the fixing device. 	<p>[Caution 1]</p> <ul style="list-style-type: none"> ♠ When disassembling and assembling, be careful not to damage screw holes of #26 cylinder case.
2	<ul style="list-style-type: none"> ☞ Placed 38mm spanner on the flat surface of the #10 front cover. 	
3	<ul style="list-style-type: none"> ☞ After connecting the lever to spanner, turning to the counterclockwise. 	
4	<ul style="list-style-type: none"> ☞ Detach #10 front cover from #26 cylinder case. 	