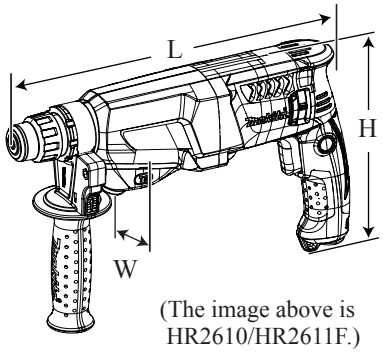
TECHNICAL INFORMATION

Model No. ► HR2610/ HR2611F/ HR2610T/ HR2611FT

Description ► Combination Hammers 26mm (1")

CONCEPT AND MAIN APPLICATIONS

HR2610 series models are 26mm (1") combination hammers adapted for SDS-PLUS bits, featuring compact and lightweight design, enhanced comfort and better control with ergonomic handle. Model HR2610T/HR2611FT are equipped with quick change drill chuck while Model HR2611/HR2611FT are with AVT; Anti Vibration Technology consisting of Active dynamic vibration absorber with counterweight and Damper spring. AVT ensures operation with extremely low vibration, which is much superior to the competitors.
HR2610 series models are available in the variations listed below, including HR2300 and HR2600 series models developed on the same concept.



(The image above is HR2610/HR2611F.)

Model	Capacity	Operation Mode	AVT	LED	Chuck type
HR2300	23mm	2 modes (Rotation only/ Rotation with hammering)	No	No	Adapted for SDS-PLUS shank bits
HR2600	26mm		No	No	
HR2601			Yes	No	
HR2610		3 modes (Rotation only/ Rotation with hammering/ Hammering only)	No	No	
HR2611F			Yes	Yes	
HR2310T	23mm		No	No	Adapted for SDS-PLUS shank bits and Round shank bits*
HR2610T	26mm		No	No	
HR2611FT			Yes	Yes	

Dimensions: mm (")		
	HR2610 HR2611F	**HR2610T HR2611FT**
Length (L)	361 (14-1/4)	385 (15-1/8)
Width (W)	77 (3)	
Height (H)	209 (8-1/4)	

*Round shank bits can also be used by replacing the factory-mounted chuck with **Quick change drill chuck** (keyless).

For information of HR2300 and HR2600 series models, see "TECHNICAL INFORMATION" of each series.

► Specification

Voltage (V)	Current (A)	Cycle (Hz)	Continuous Rating (W)		Max. Output (W)
			Input	Output	
110	7.7	50/ 60	800	400	550
120	7	50/ 60	---	400	550
127	6.6	50/ 60	800	400	550
220	3.8	50/ 60	800	400	550
230	3.7	50/ 60	800	400	550
240	3.5	50/ 60	800	400	550

Specification \ Model			**HR2610/ HR2611F**	**HR2610T/ HR2611FT**
No load speed: min^{-1}= rpm			0 - 1,200	
Impacts per minute= min^{-1}			0 - 4,600	
Chuck type			Adapted for SDS-PLUS shank bits	Adapted for SDS-PLUS shank bits and Round shank bits*1
Capacities: mm (")	Concrete	TCT bit	26 (1)	
		Core bit	68 (2-11/16)	
		Diamond core bit	80 (3-1/8)	
	Steel		13 (1/2)	
	Wood		32 (1-1/4)	
Operation mode			3 modes (Rotation only/ Rotation with hammering/ Hammering only)	
Vibration absorption			No/ Yes (AVT*2)	No/ Yes (AVT*2)
Variable speed control			Yes (by trigger)	
Rotation reversing facility			Yes	
Torque limiter			Yes	
LED Job light			No/ Yes	No/ Yes
Double insulation			Yes	
Power supply cord: m (ft)			Europe, North America: 4.0 (13.1), Australia, Brazil: 2.0 (6.6), Other countries: 2.5 (8.2)	
Weight according to EPTA-Procedure 01/2003*3: kg (lbs)			2.8/ 2.9 (6.1/ 6.4)	2.9/ 3.0 (6.4/ 6.6)

***1** Round shank bits can also be used by replacing the factory-mounted chuck with Quick change drill chuck (keyless).
***2** AVT (Anti Vibration Technology); Counterweight mechanism + Damper spring
***3** with side grip

Standard equipment

Depth gauge 1
Side grip 1
Dust cup set ..... 1 (**for some countries** only)
Quick change drill chuck (keyless) ..... 1 (**HR2610T/ HR2611FT** only)
Carrying case ..... 1 (plastic or aluminum)

Note: The standard equipment for the tool shown above may vary by country.

Optional accessories

SDS-PLUS shank TCT hammer drill bits
Taper shank TCT hammer drill bits
Taper shank adaptor
Cotter
Core bits
Center bits
Core bit adaptor
Rod
Drill chuck ass'y
Chuck adapter assembly
Drill chuck S13
Chuck key S13
Tool holder set
Scraper assembly
Waterproof cover
Quick change drill chuck (keyless)
Dust cups 5 and 9
Hose
Joint 25
Dust cup set
Plastic carrying case
Hammer grease (30g)
Bit grease
Depth gauge
Blow out bulb
Safety goggles
Bull points
Cold chisels
Scaling chisels
Grooving chisels
Hammer service kit

Repair

CAUTION: Repair the machine in accordance with “Instruction manual” or “Safety instructions”.

[1] NECESSARY REPAIRING TOOLS

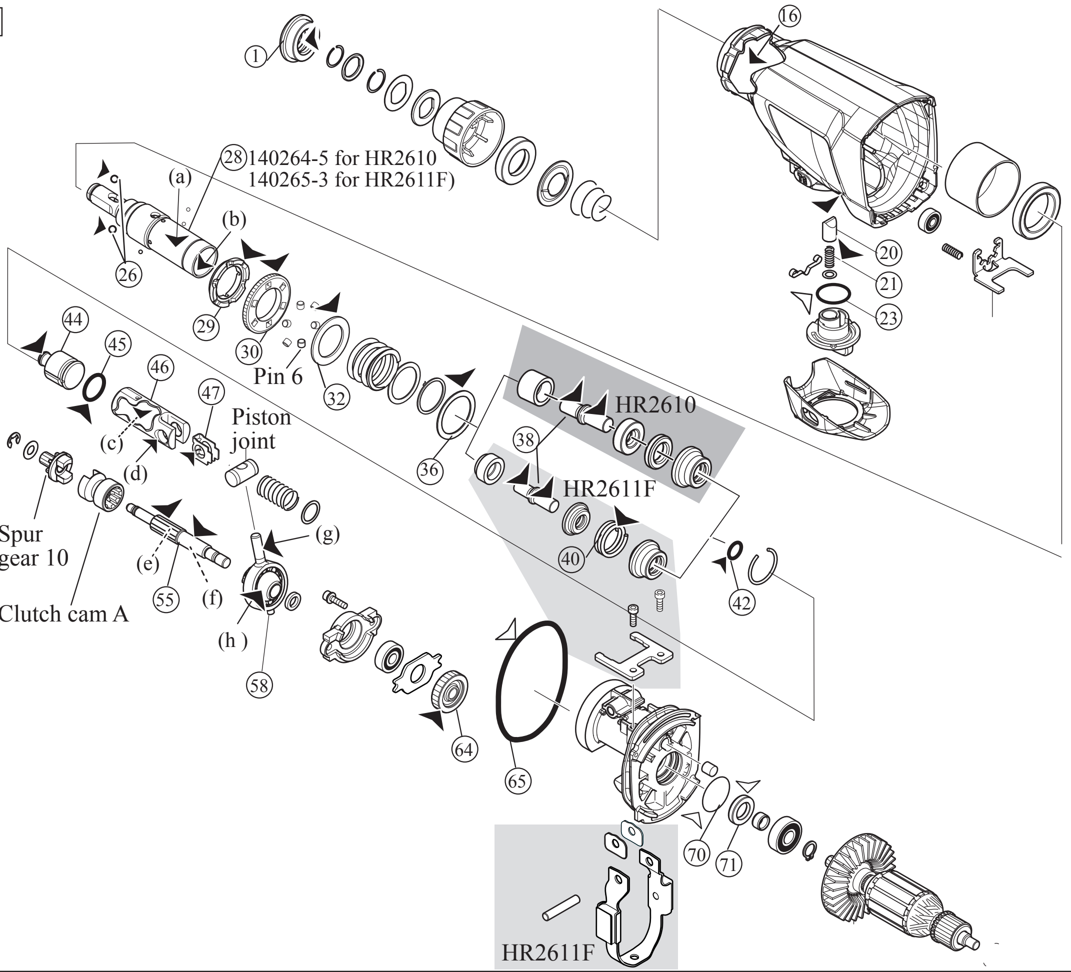
Code No.	Description	Use for
1R003	Retaining ring S pliers ST-2N	removing Ring spring 14 and 15 from Tool holder complete for HR2610/ HR2611F
		removing Ring spring 19 from Tool holder for HR2610T/ HR22611FT
1R004	Retaining ring S pliers ST-2	removing Ring spring 21 from Tool holder for HR2610T/ HR22611FT
1R026	Bearing setting pipe 16-8.2	assembling Bearing box
1R028	Bearing setting pipe 20-12.2	assembling Helical gear 26
1R032	Bearing setting plate 8.2	assembling Helical gear 26 for HR2610T/ HR2611FT
1R033	Bearing setting plate 10.2	assembling Helical gear 26 for HR2610/ HR2611F
1R034	Bearing setting plate 12.2	removing Helical gear 26 for HR2610T/ HR2611FT
1R035	Bearing setting plate 15.2	removing Helical gear 26 for HR2610/ HR2611F
1R045	Gear extractor (large)	removing/ assembling Spiro lock washer 30
1R164	Ring spring setting tool A	assembling Oil seal 25
1R212	Tip for retaining ring pliers	Use with 1R003
1R228	1/4" Hex. shank bit for M4	removing M4 Hex socket head bolt
1R232	Pipe 30	assembling Oil seal 25
1R252	Round bar for arbor 30-100	removing Oil seal 25
1R258	V block	assembling Oil seal 25
1R269	Bearing extractor	removing Ball bearing 6000LLB / 627DDW
1R273	Ring spring 26 setting tool B	removing Cup sleeve / Ball bearing 6806LLU
1R281	Round bar for arbor 7-50	removing Helical gear 26
1R369	Jig for Spiro lock washer	removing/ assembling Spiro lock washer 30
1R388	Ring spring extractor	removing Ring spring 28

[2] LUBRICATION (for HR2610/ HR2611F)

Apply the following grease/ lubricant to protect parts and product from unusual abrasion.

Item No.	Description	Portion to lubricate	Grease/ Lubricant	Amount
1	Cap 35	Lip portion where Bit is to be inserted	Makita grease RB No. 00	a little
16	Gear housing complete	Oil seal 25 on the inside of Gear housing complete		
20	Push corn	Portion that contacts Clutch cam A		
21	Compression spring 5	Periphery		
26	Steel ball 7.0 (2 pcs.)	Entire surface		
28	Tool holder complete (140264-5/ 140265-3)	(a) Periphery that contacts 29 Driving flange / 30 Spur gear 51		
		(b) Inside where 46 Piston cylinder reciprocates		
29	Driving flange	Portion that contacts 30 Spur gear 51/ Pins 6 (6 pcs.)		2g
32	Flat washer 30	Portion that contacts 30 Spur gear 51/ Pins 6 (6 pcs.)		a little
36	Flat washer 30	Portion that contacts Inner housing complete		
38	Impact bolt A	Entire surface		
HR2611F 40	Compression spring 20	Outer periphery that contacts 28 Tool holder complete		
42	O ring 9	Entire surface		
44	Striker			
45	O ring 17.5			
30	Spur gear 51	Gear portion to engage with Spur gear 10/ 55 Cam shaft		19g in total
46	Piston cylinder	(c) Inside where 44 Striker moves		
		(d) Periphery that 28 Tool holder complete contacts		
47	Guide plate	Inside that contacts Piston joint		
55	Cam shaft	(e) Gear portion that engages 30 Spur gear 51		3g
		(f) Portion that contacts 58 Swash bearing 10		a little
58	Swash bearing 10	(g) Pole portion to be inserted into Piston joint		
		(h) Ball bearing portion		3g
64	Helical gear 26	Gear portion that engages with Armature gear shaft		3g
23	O ring 21	Whole portion	Makita lubricating oil VG100	a little
65	O-ring 68			
70	O ring 26			
71	Oil seal 12	Portion that contacts Sleeve 9		

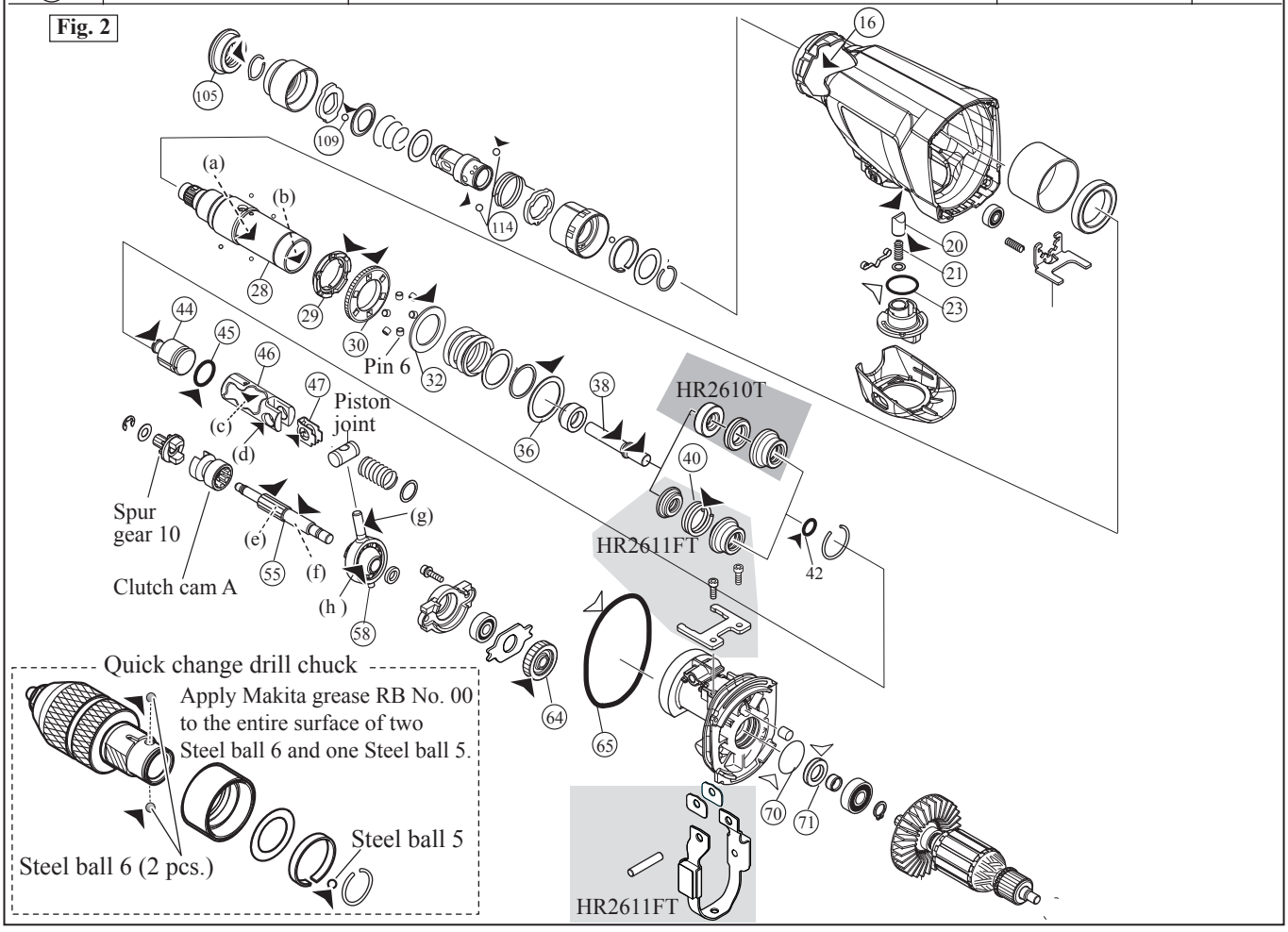
Fig. 2



[2] LUBRICATION (for HR2610T/ HR2611FT)

Item No.	Description	Portion to lubricate	Grease/ Lubricant	Amount
105	Cap 35	Lip portion where Bit is to be inserted	Makita grease RB No. 00 ◀	a little
16	Gear housing complete	Oil seal 25 on the inside of Gear housing complete		
20	Push corn	Portion that contacts Clutch cam A		
21	Compression spring 5	Periphery		
109	Steel ball 7.0	Entire surface		
28	Tool holder guide complete	(a) Periphery that contacts 29 Driving flange / 30 Spur gear 51		
		(b) Inside where 46 Piston cylinder reciprocates		
114	Steel ball 6 (2 pcs)	Entire surface		
29	Driving flange	Portion that contacts 30 Spur gear 51/ Pins 6 (6 pcs.)		2g
32	Flat washer 30	Portion that contacts 30 Spur gear 51/ Pins 6 (6 pcs.)		a little
36	Flat washer 30	Portion that contacts Inner housing complete		
38	Impact bolt B	Entire surface		
HR2611FT 40	Compression spring 20	Outer eriphery		
42	O ring 9	Entire surface		
44	Striker			
45	O ring 17.5			
30	Spur gear 51	Gear portion to engage with Spur gear 10/ 55 Cam shaft		19g in total
46	Piston cylinder	(c) Inside where 44 Striker moves		
		(d) Periphery that 28 Tool holder guide complete contacts		
47	Guide plate	Inside that contacts Piston joint		
55	Cam shaft	(e) Gear portion that engages 30 Spur gear 51		3g
		(f) Portion that contacts 58 Swash bearing 10		a little
58	Swash bearing 10	(g) Pole portion to be inserted into Piston joint		
		(h) Ball bearing portion		3g
64	Helical gear 26	Gear portion that engages with Armature gear shaft		3g
23	O ring 21	Whole portion	Makita lubricating oil VG100 ◁	a little
65	O-ring 68			
70	O ring 26			
71	Oil seal 12	Portion that contacts Sleeve 9		

Fig. 2



Repair

[3] DISASSEMBLY/ASSEMBLY

[3]-1A. Bit holder section for HR2610/ HR2611F

DISASSEMBLING

(1) Remove Cap 35.
(2) Separate Ring spring 14 from the groove of Tool holder complete using 1R003 with 1R212. (**Fig. 3**)
Washer 16 on Ring spring 15 is removed.
(3) Remove Ring spring 15 in the same way while pressing down Chuck cover. (**Fig. 4**) Then pick up Flat washer 17 and Rubber washer 16 from the space between Chuck cover and Tool holder complete.
Chuck cover is removed.
(4) Remove two Steel balls 7.0 while pressing down Ring 21. (**Fig. 5**)
Ring 21, Guide washer and Conical compression spring 21-29 are removed.

Fig. 3

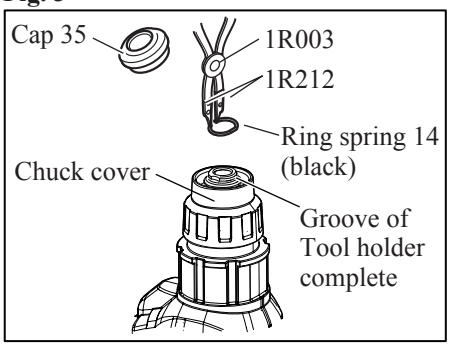


Fig. 4

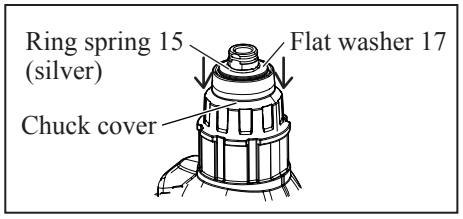
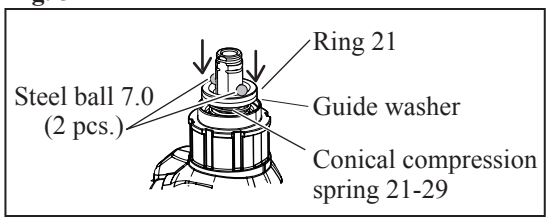


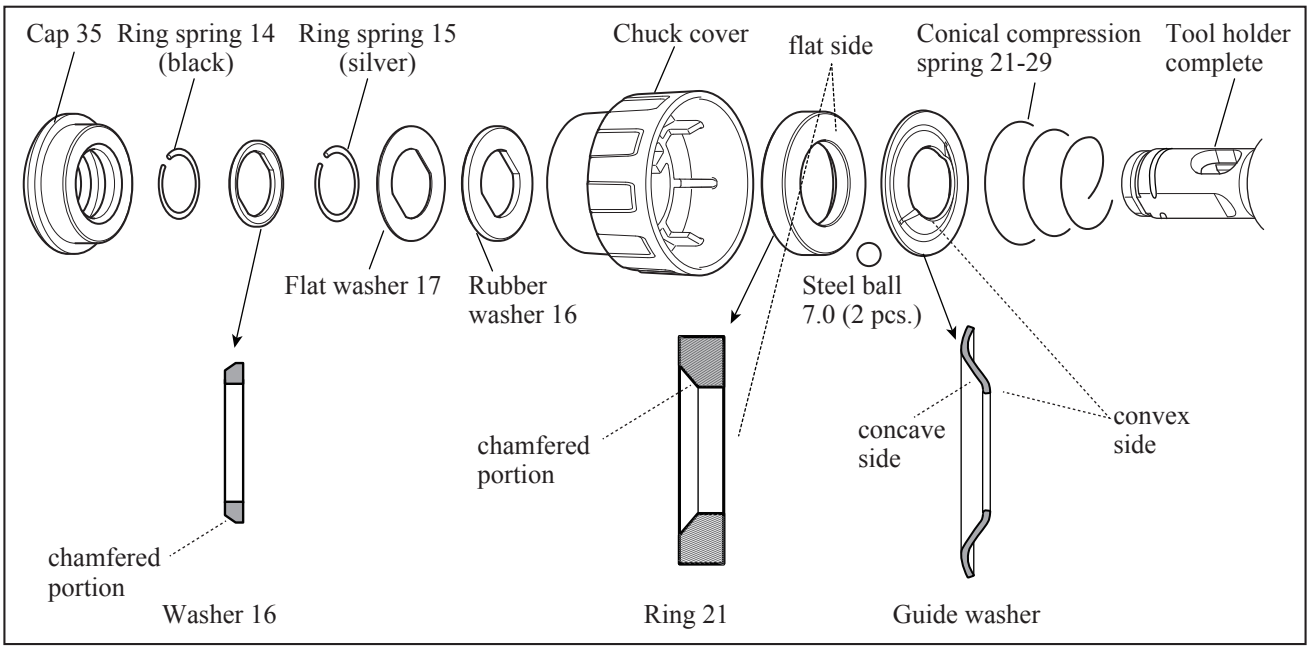
Fig. 5



ASSEMBLING

Assemble in the reverse order of disassembly. Refer to **Fig. 6** for the directions of the components.

Fig. 6



Repair

[3] DISASSEMBLY/ASSEMBLY

[3]-1B. Holder section for Drill chuck for HR2610T/ HR2611FT

DISASSEMBLING

(1) Remove Tool holder set from Tool holder guide complete. (**Fig. 7**)
(2) Remove Cap 35, then separate Ring spring 19 from the groove of Tool holder using 1R003 with 1R212. (**Fig. 8**)
(3) Remove Chuck cover, then remove Steel ball 7.0 while pressing down Stopper. (**Fig. 9**)
Stopper, Guide washer, Conical compression spring 21-29 and Flat washer 21 are removed. (**Fig. 10**)
(4) Remove Ring spring 21 with 1R004 from Tool holder guide complete side.
Flat washer 24, Leaf spring and Steel ball 5 are removed. (**Fig. 11**)
(5) Remove two Steel balls 6, Torsion spring 31 and Change ring from Tool holder.(**Fig. 12**)

Fig. 7

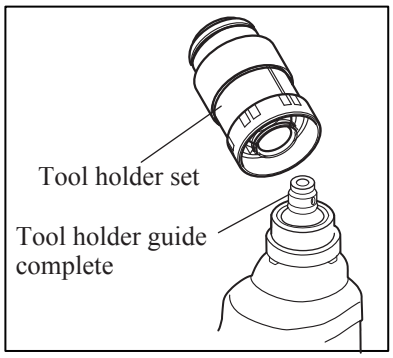


Fig. 8

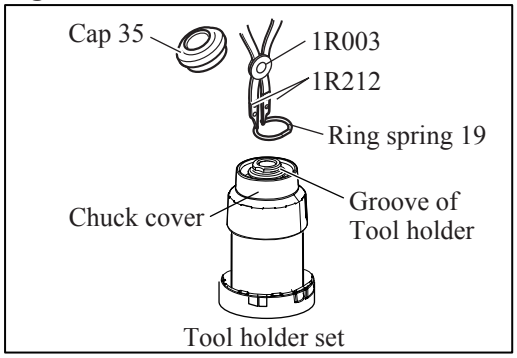


Fig. 9

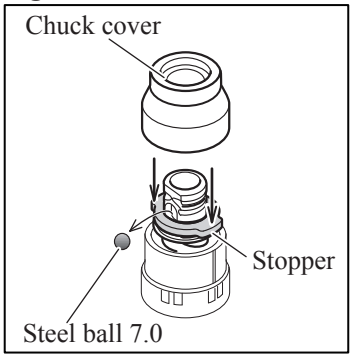


Fig. 10

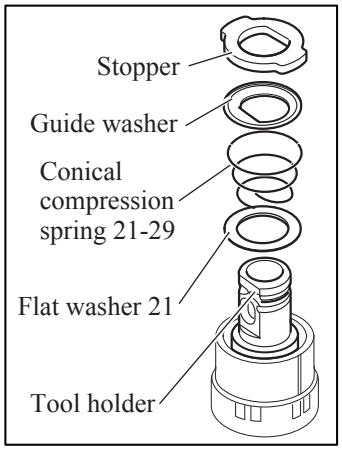


Fig. 11

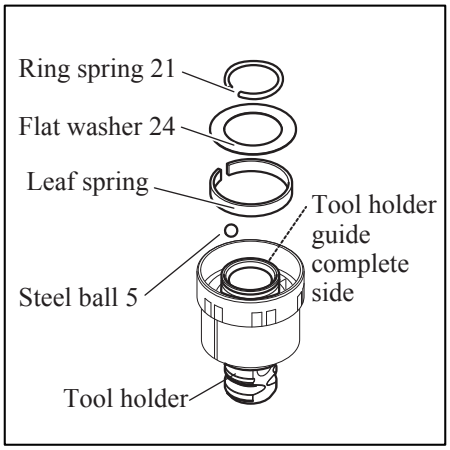
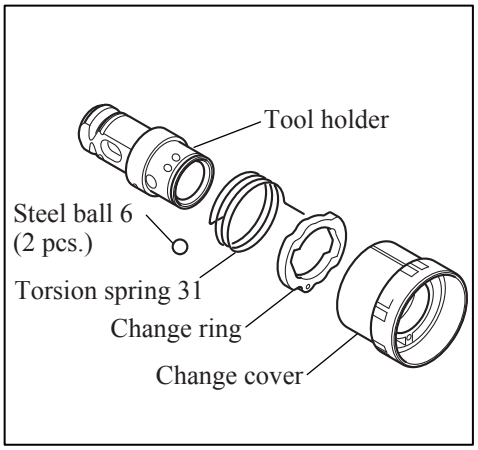


Fig. 12



Repair

[3] DISASSEMBLY/ASSEMBLY

[3]-1B. Bit holder section for HR2610T/ HR2611FT (cont.)

ASSEMBLING

(1) Assemble Torsion spring 31 to Tool holder as follows:
- Set two Steel balls 6 on the holes of Tool holder.
- Insert the short arm of Torsion spring 31 into the hole of Tool holder.

Note: Apply Makita grease No. RB No. 00 to two Steel balls 6 to prevent them from falling. (**Fig. 13**)

(2) Assemble Change ring to Change cover. (**Fig. 14**)

(3) Assemble Tool holder to Change cover. (**Fig. 15**)

Fig. 13

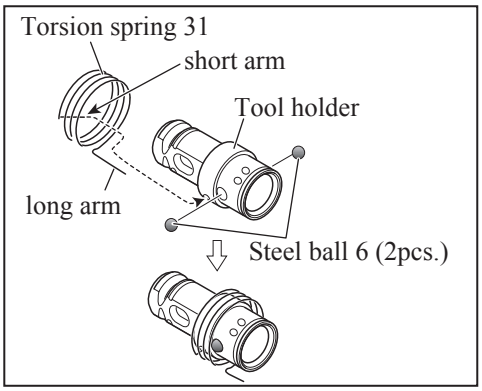


Fig. 14

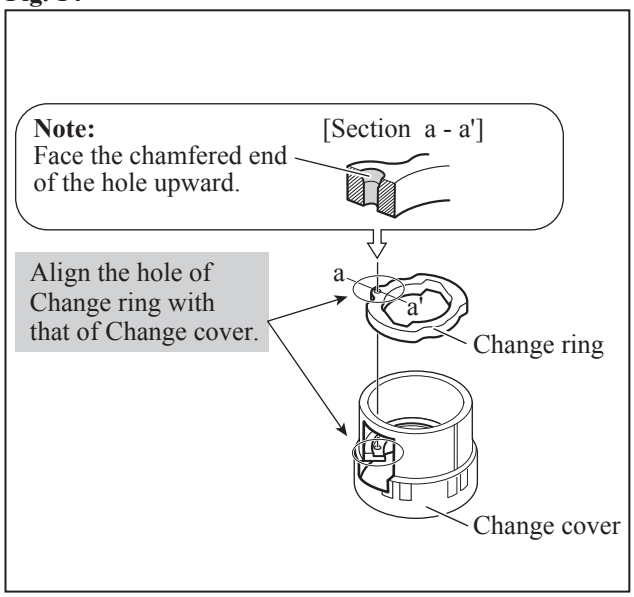
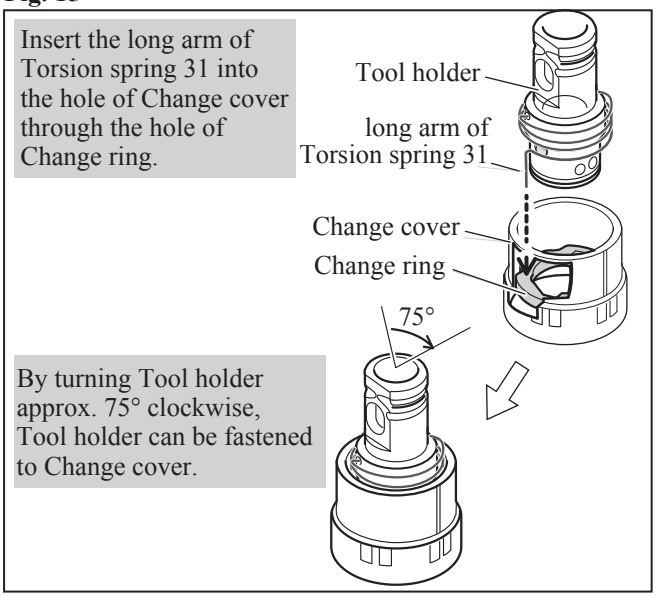


Fig. 15

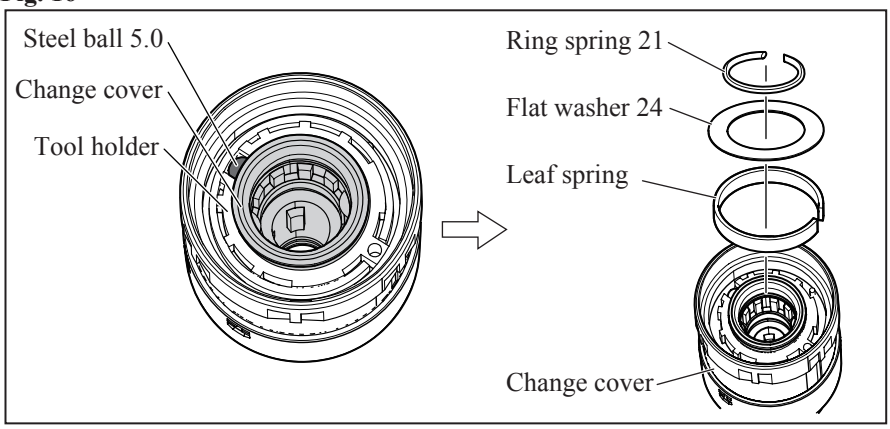


(4) Put Steel ball 5.0 in the groove surrounded by Change cover and Tool holder. (left in **Fig. 16**)

(5) Set Leaf spring and Flat washer 24 in change cover, then secure them with Ring spring 21. (right in **Fig. 16**)

(6) As for Cap 35 side, assemble the components in the reverse order of disassembly. Refer to **the previous page.**

Fig. 16



Repair

[3] DISASSEMBLY/ASSEMBLY

[3]-2. Drill chuck assembly for HR2610T/ HR2611FT

DISASSEMBLING

Drill chuck assembly can be disassembled as drawn in **Figs. 17 to 21**.

Fig. 17

After Removing Ring spring 21, strike Drill chuck assembly against workbench which is covered with a cloth as a cushion.
Flat washer 24, Leaf spring and Steel ball 5.0 can be removed.

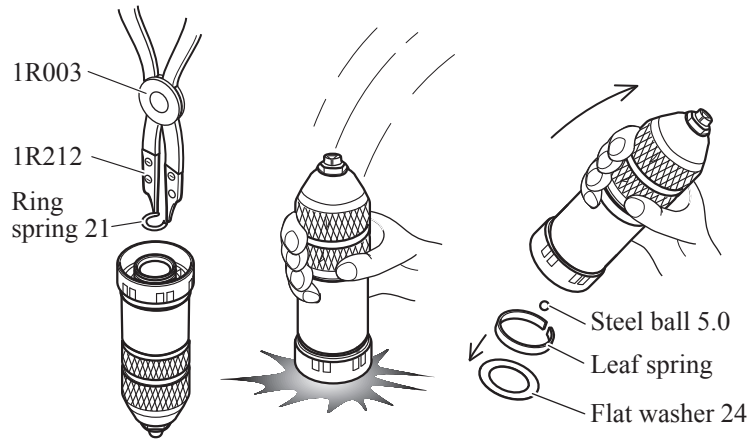


Fig. 18

Pull off Change cover.
Change ring and Torsion spring 31 can be removed.

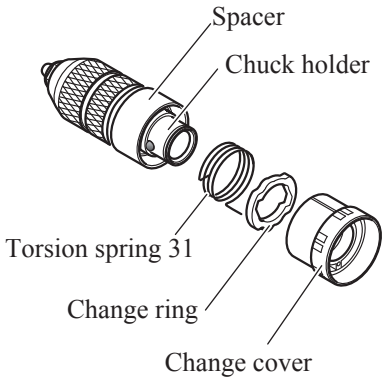


Fig. 19

Remove Spacer and two Steel balls 6 from Chuck holder.

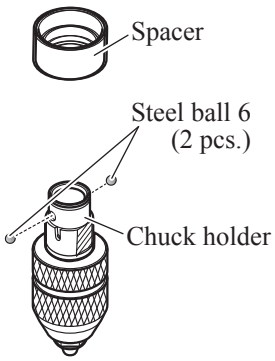


Fig. 20

Clamp the flats of Chuck holder in vise, then unscrew M6x22 Flat head screw by turning it clockwise using Impact driver.

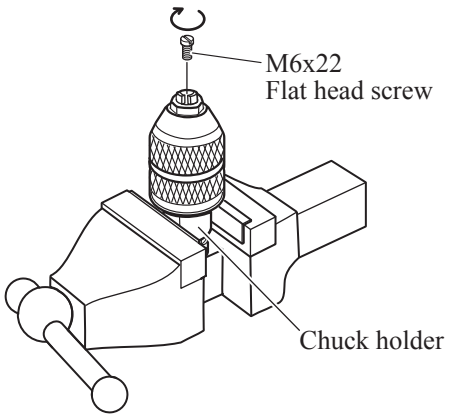
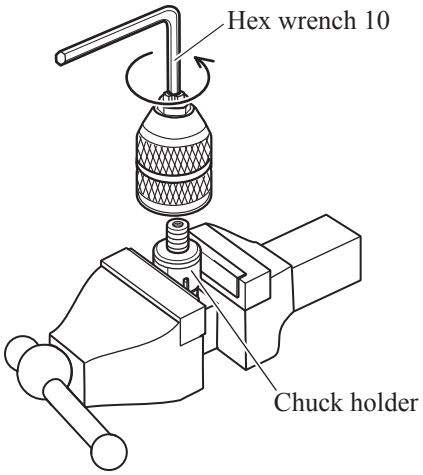


Fig. 21

Clamp the flats of Chuck holder in vise, then separate Drill chuck from Chuck holder by turning it counterclockwise using Hex wrench 10.



Repair

[3] DISASSEMBLY/ASSEMBLY

[3]-2. Drill chuck assembly for HR2610T/ HR2611FT (cont.)

ASSEMBLING

(1) Holding Chuck holder's flat portions in vise, assemble Drill chuck to Chuck holder by turning it **clockwise** using Hex wrench 10.
(2) Secure Drill chuck with M6x22 Flat head screw by turning it **counterclockwise** using Impact driver.
(3) Assemble Drill chuck to Spacer. (**Fig. 22**) Then mount two Steel balls 6. (**Fig. 23**)
(4) Mount Torsion spring 31. Then assemble Drill chuck to Change cover. (**Fig. 24**)
(5) Mount Steel ball 5, Leaf spring and Flat washer 24 to Chuck holder, then secure them with Ring spring 21. (**Fig. 25**)

Fig. 22

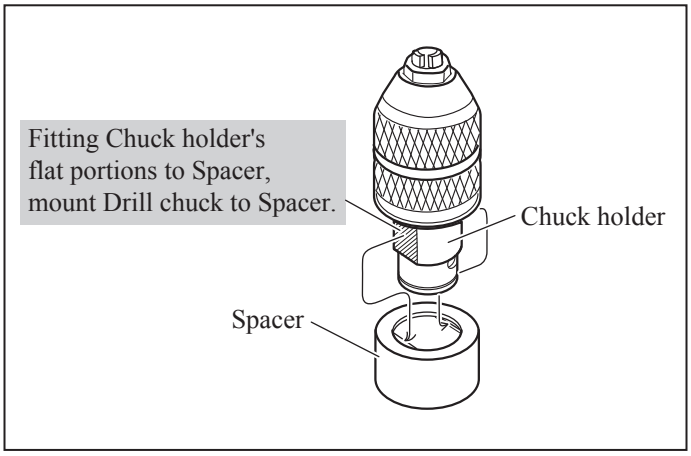
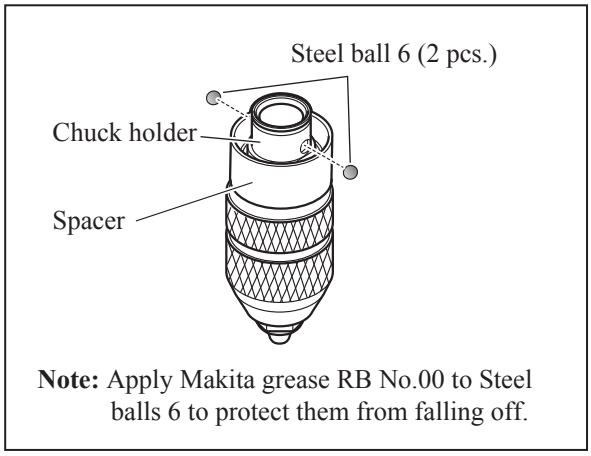


Fig. 23



Note: Apply Makita grease RB No.00 to Steel balls 6 to protect them from falling off.

Fig. 24

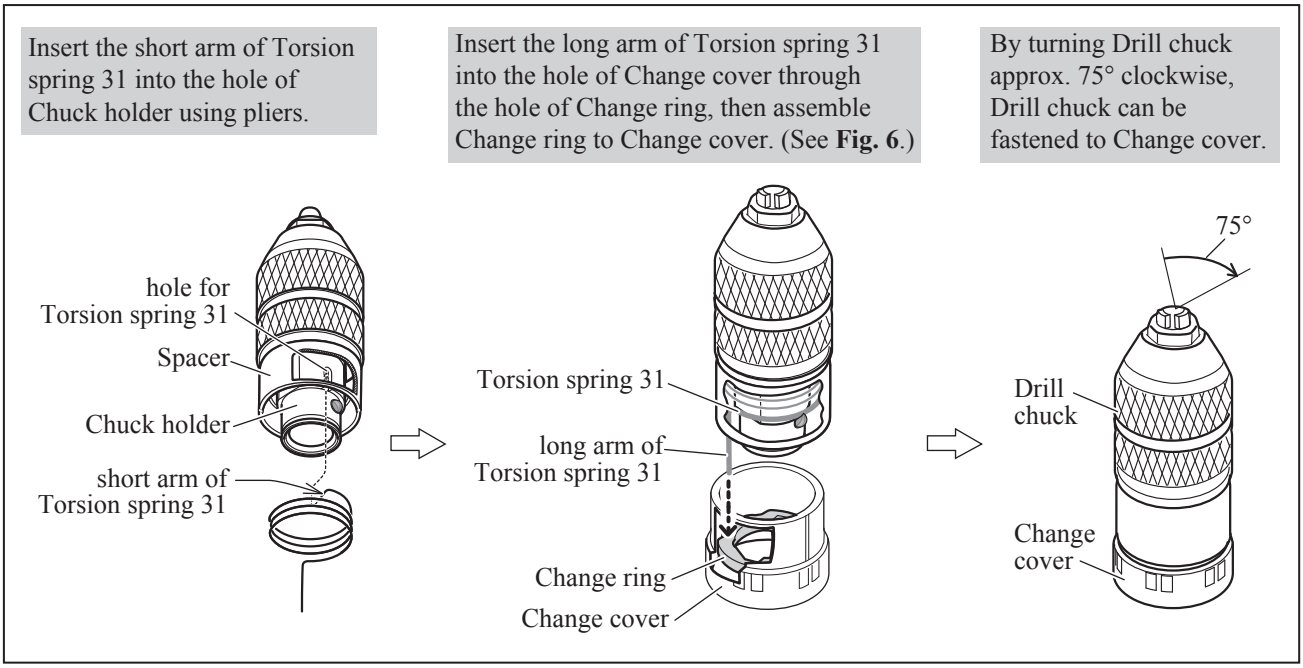
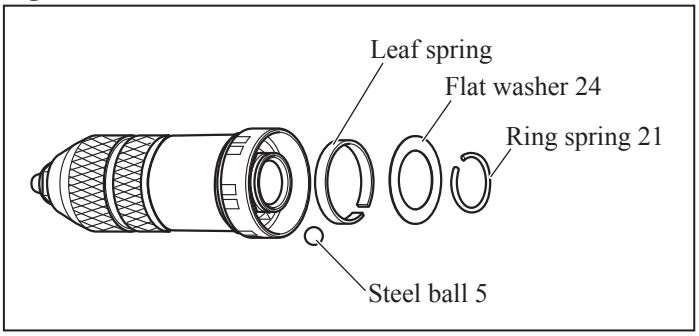


Fig. 25



Repair

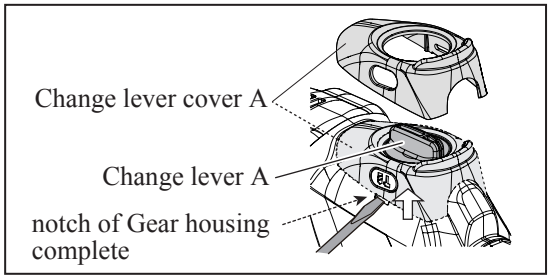
[3] DISASSEMBLY/ASSEMBLY

[3]-3. Change lever section

DISASSEMBLING

Insert the tip of thin slot screwdriver into the notch of Gear housing complete, then lever up one side of Change lever cover A. (**Fig. 26**) Lever up the other side of Change lever cover A in the same way, then remove Change lever cover A. Change lever A can be removed.

Fig. 26



ASSEMBLING

(1) Set Change lever A to hammer mode as drawn in **Fig. 27**.
(2) While checking the V-edge of Push corn fits into V-groove of Catch cam A, insert Change lever A into Gear housing.
Note: The V-groove of Change lever A has to come on the center of Leaf spring. (**Fig. 28**)
(4) Be sure to check Change lever A works properly after assembling.

Fig. 27

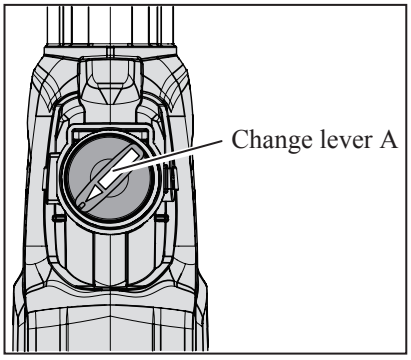
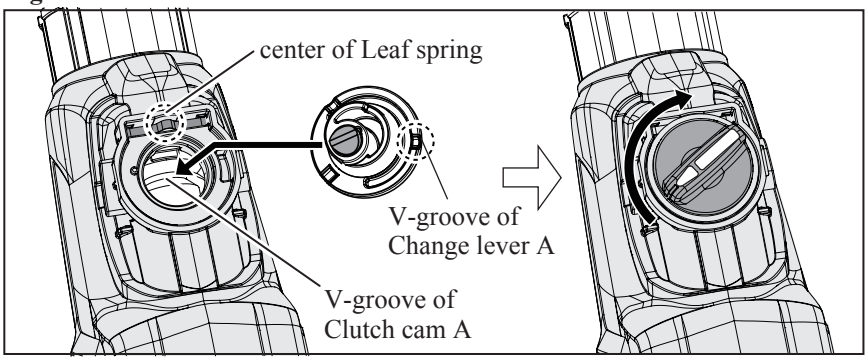


Fig. 28



[3]-4. Armature

REPLACING

(1) Remove three 4x18 Tapping screws and Handle cover.
(2) Slide Brush holder unit to the best position to repair, and move the arms of Spiral springs aside, then separate Carbon brushes from Commutator. (**Fig. 29**)
(3) Remove four 4x30 Tapping screws, then separate Motor housing complete from Gear housing complete. Armature is left on Gear housing complete at that time. (**Fig. 30**)
Note: Do not lose Wave washer 15 on the bottom of Motor housing. Do not fail to set it in place when assembling.
(4) Remove Armature ass'y from Gear housing complete by pulling by hand.
Note: Ball bearing 6000LLB of Armature ass'y is held in Inner housing complete with O ring 26. Therefore, it is not necessary to tap Gear housing with Plastic hammer to remove Armature ass'y.
(5) Remove Ball bearings 6000LLB with 1R269.
Remove 627DDW and Insulation washer together at one time with 1R269.
(6) Assemble the components in the reverse order of disassembly after replacing the damaged parts.

Fig. 29

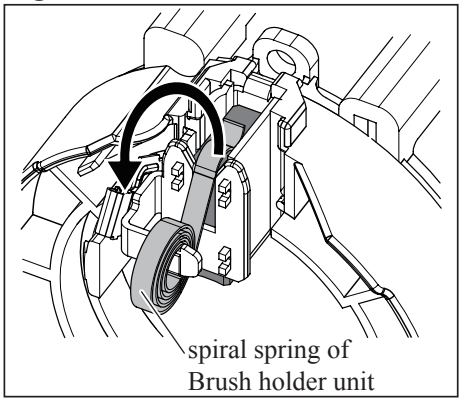
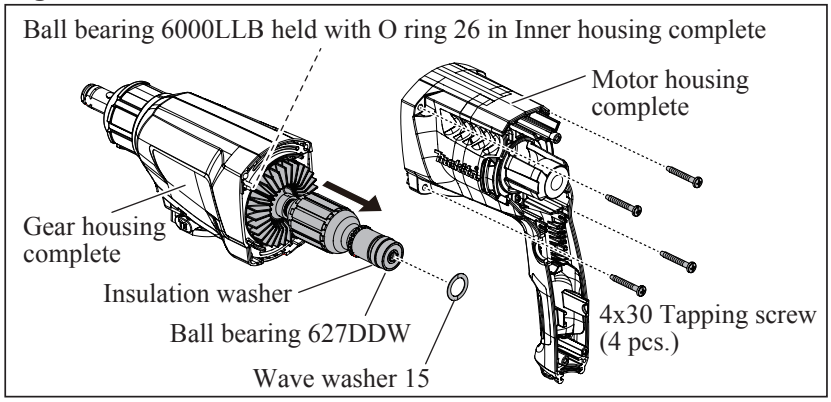


Fig. 30



Repair

[3] DISASSEMBLY/ASSEMBLY

[3]-5. Torque limiter section

DISASSEMBING

(1) Remove Bit holder section (HR2610, HR2611F) / Holder section (HR2610T, HR2611FT).
(2) Remove Change lever section.
(3) Separate Gear housing complete from Motor housing complete.
(4) Remove Tool holder complete (HR2610, HR2611F) / Tool holder guide complete (HR2610T, HR2611FT) by tapping the top as drawn in **Fig. 31**.

Note: Flat washer 30 is located between Tool holder (guide) complete and Inner housing complete. Be careful not to lose it.

(5) Set 1R045 and 1R369 to Tool holder (guide) complete. (**Fig. 32**)
(6) Compress Compression spring 32 (**Fig. 33**), then separate Spiro lock washer 30 from Tool holder (guide) complete by sliding a thin slotted screwdriver from the upper end as drawn in **Fig. 34**. The components are disassembled. (**Fig. 35**)

Fig. 31

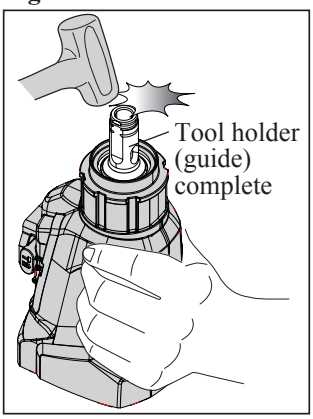


Fig. 32

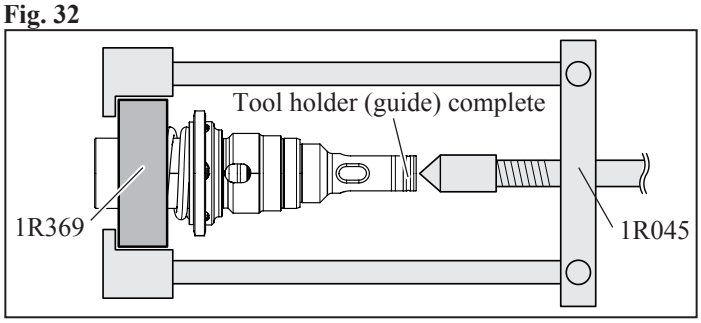


Fig. 33

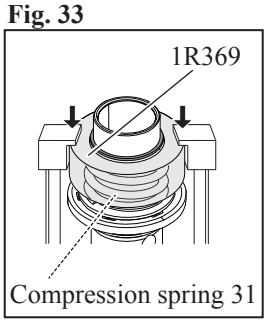


Fig. 34

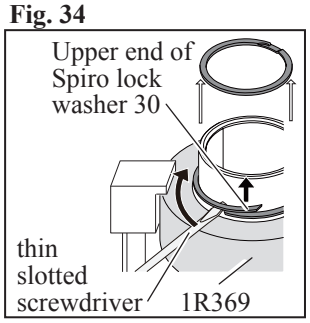
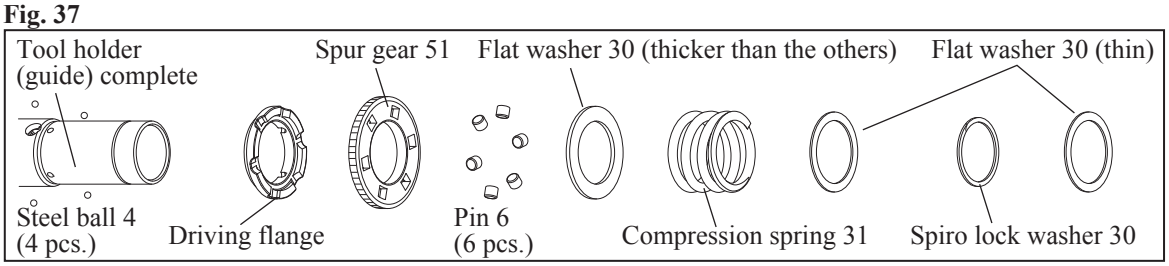


Fig. 37



Repair

[3] DISASSEMBLY/ASSEMBLY

[3]-6. Impact bolt in Tool holder complete for HR2610/ HR2611F
Tool holder guide complete forHR2610T/ HR2611FT

DISASSEMBLING

(1) Put 1R388 into Tool holder (guide) complete, then push 1R388 in vise with the access holes on Tool holder (guide) complete parallel to Vise. (**Fig. 38**)
O-ring case A (HR2610, HR2610T) / O-ring case B (HR2611F, HR2611FT) is moved toward the top of Tool holder (guide) complete, and therefore, Ring spring 28 can be relieved from O-ring case A/ B.
(2) When the end gap of Ring spring 28 is in the access hole, slide it with slotted screwdriver until it is completely hidden.
(3) Using slotted screwdriver, tap Ring spring 28 through the two access holes alternately to push it out of the inner groove of Tool holder (guide) complete.
(4) The components are removed by tapping with Phillips screwdriver and plastic hammer from bit installation side of Tool holder (guide) complete. (**Fig. 39**)

Fig. 38

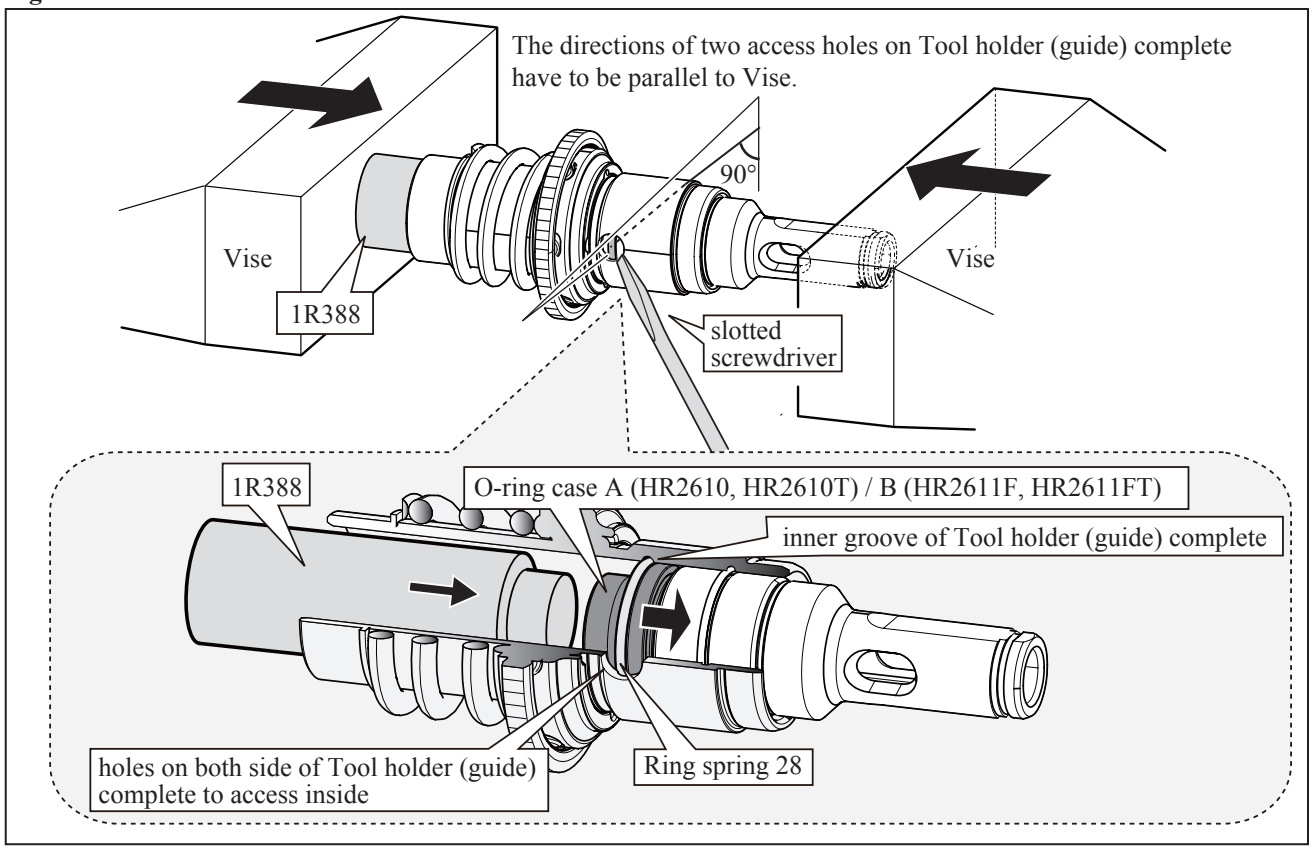
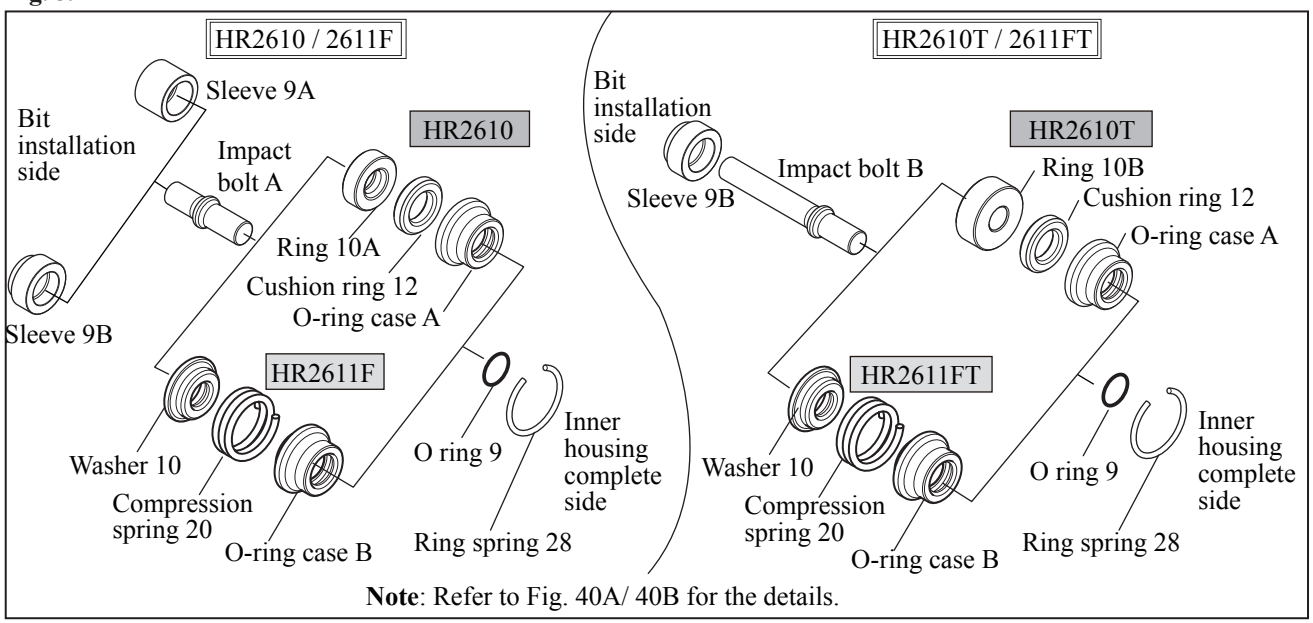


Fig. 39



Note: Refer to Fig. 40A/ 40B for the details.

Repair

[3] DISASSEMBLY/ASSEMBLY

[3]-6. Impact bolt section in Tool holder complete for HR2610/ HR2610F Tool holder guide complete for HR2610T/ HR2611FT (cont.)

ASSEMBLING

(1) Assemble Impact bolt section to Tool holder (guide) complete as drawn in **Fig. 40A/ 40B**.
Note: Be careful to the direction of each component.

Fig. 40A

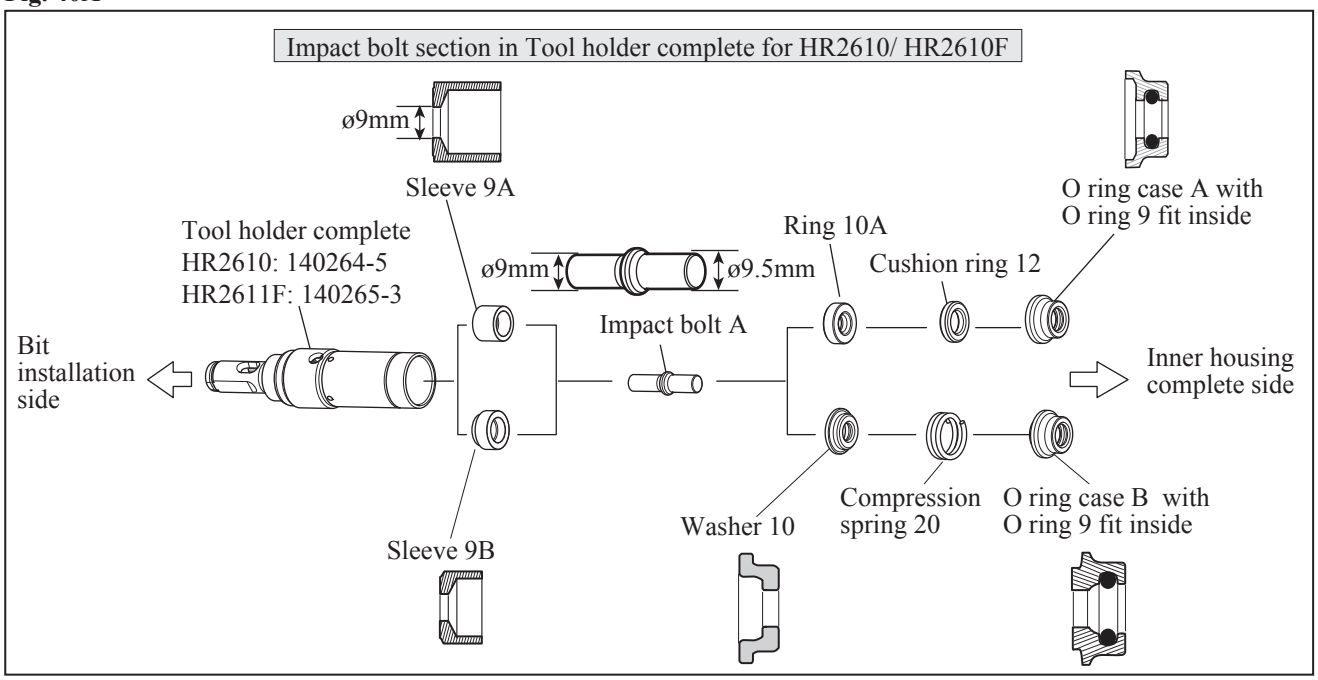
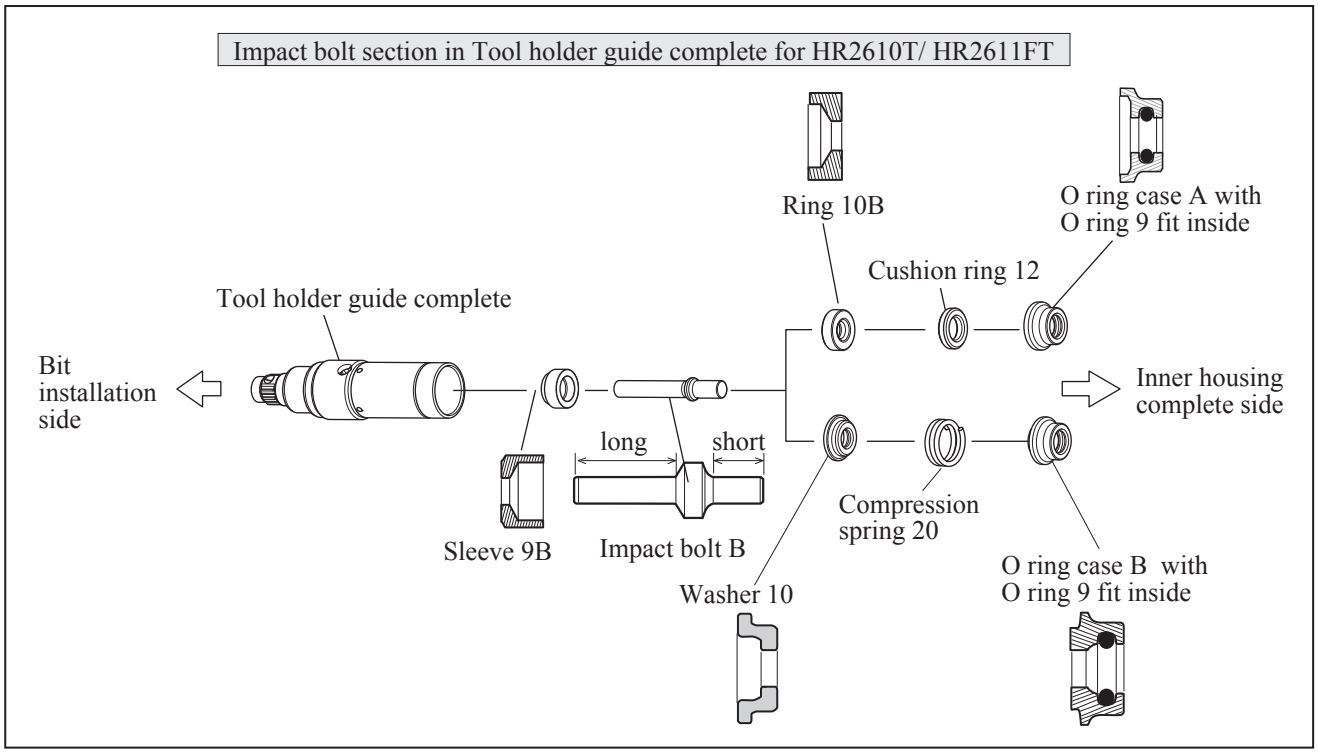


Fig. 40B



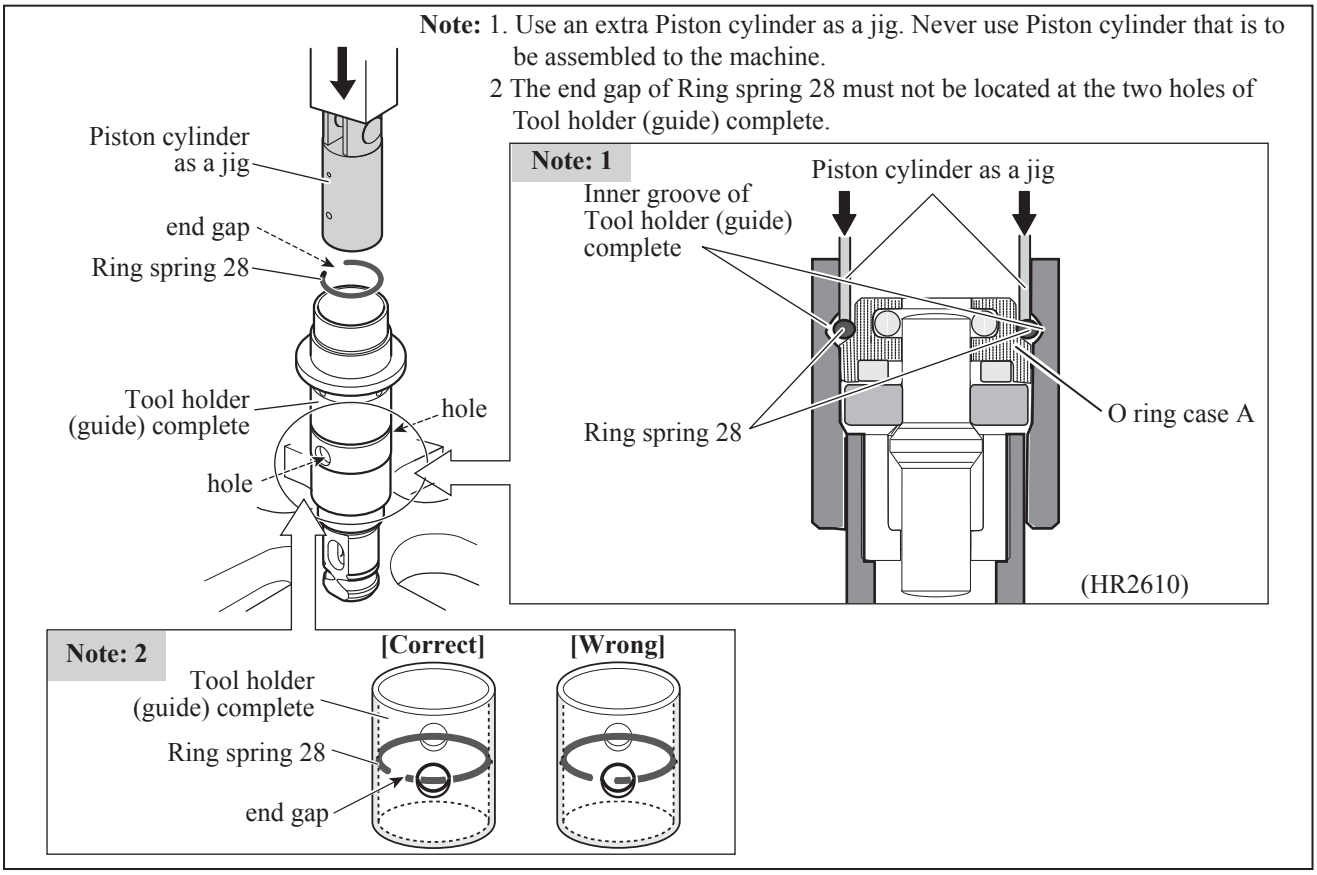
Repair

[3] DISASSEMBLY/ASSEMBLY

[3]-6. Impact bolt section in Tool holder complete for HR2610/ HR2610F Tool holder guide complete for HR2611FT (cont.)

(2) Push Ring spring 28 into the inner groove of Tool holder (guide) complete as drawn in **Fig. 41.**
Note: Do not reuse the removed Ring spring 28 if it is deformed or damaged.

Fig. 41



Repair

[3] DISASSEMBLY/ASSEMBLY

[3]-7. Swash bearing section

DISASSEMBLING

(1) Disassemble Motor housing section, Gear housing section and Inner housing section. As for HR2610F and HR2611F, remove two M4x12 Hex socket head bolts. And then separate Counter weight section from Inner housing complete. (**Fig. 43**)

(2) Remove two M4x16 Hex socket head bolts with hex wrench 3 and 1R228. (**Fig. 44**)
Then pull Swash bearing section out of Inner housing complete. (**Fig. 45**)

(3) Remove Ball bearing 606ZZ from Gear housing complete using the removed Swash bearing section. (**Fig. 46**)

(4) Remove Stop ring E-6 from Can shaft, then separate Flat washer 7, Spur gear 10 and Clutch cam A from Can shaft.
Receive Swash bearing 10 on 1R034 and press out Cam shaft with Arbor press.
The swash bearing section can be removed as drawn in **Fig. 47**.

Fig. 43

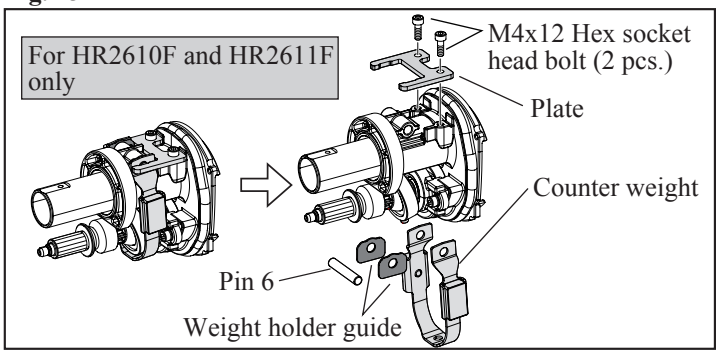


Fig. 44

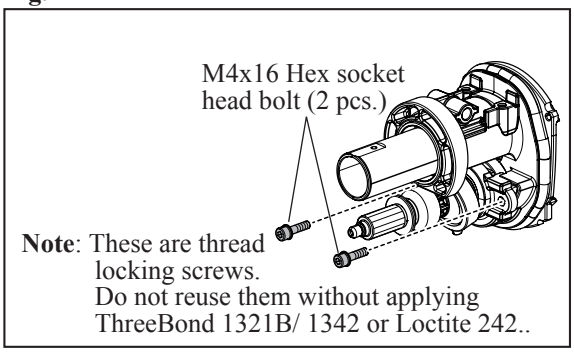


Fig. 45

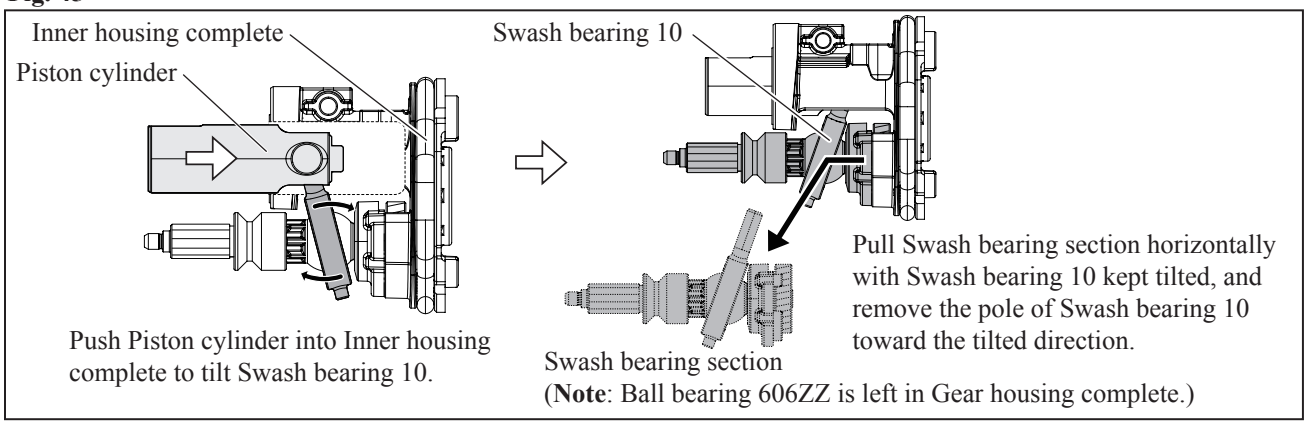


Fig. 46

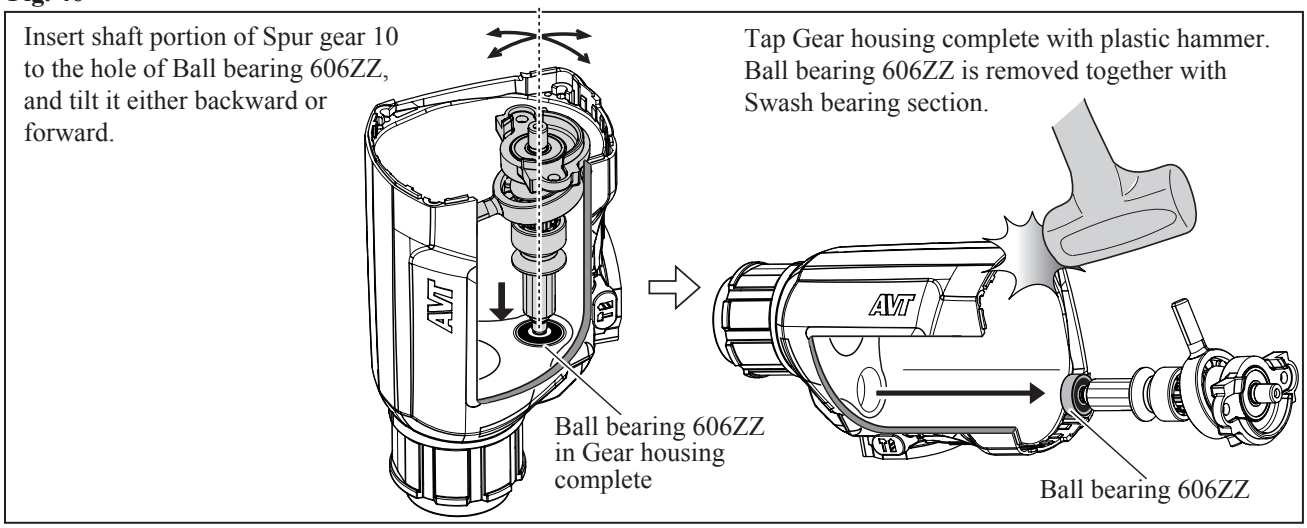
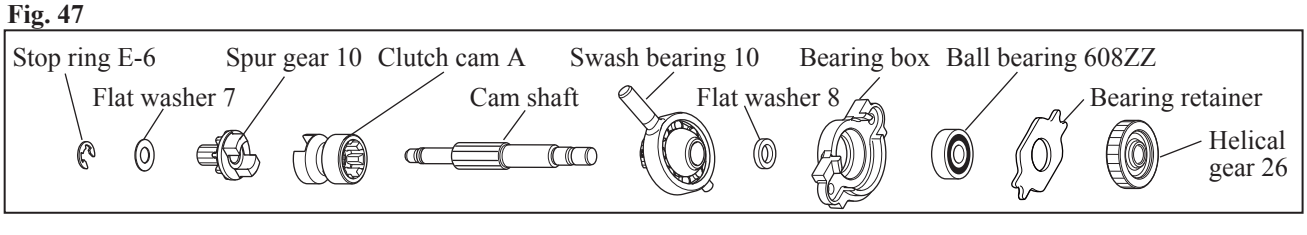


Fig. 47



Repair

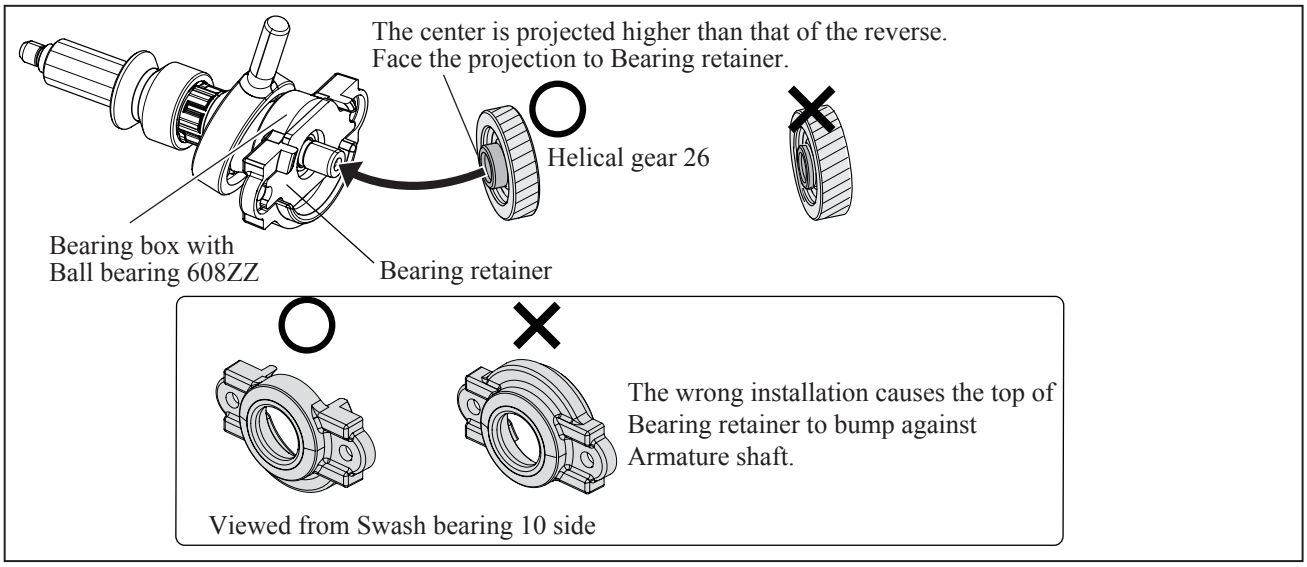
[3] DISASSEMBLY/ASSEMBLY

[3]-7. Swash bearing section (cont.)

ASSEMBLING

(1) Pressfit Ball bearing 608ZZ into Bearing box.
(2) Put Swash bearing 10, Flat washer 8 and Bearing box to Cam shaft in order, then secure them using 1R032, 1R026 and arbor press.
Assemble Clutch cam A, Spur gear 10 and Flat washer 7 to Cam shaft, then fit Stop ring E-6 into the groove of Cam shaft.
(3) Fit Bearing retainer in Bearing box, then pressfit Helical gear 26 to the shaft of Swash bearing section.
Be careful of the directions of Bearing box and Helical gear 26. (**Fig. 48**)

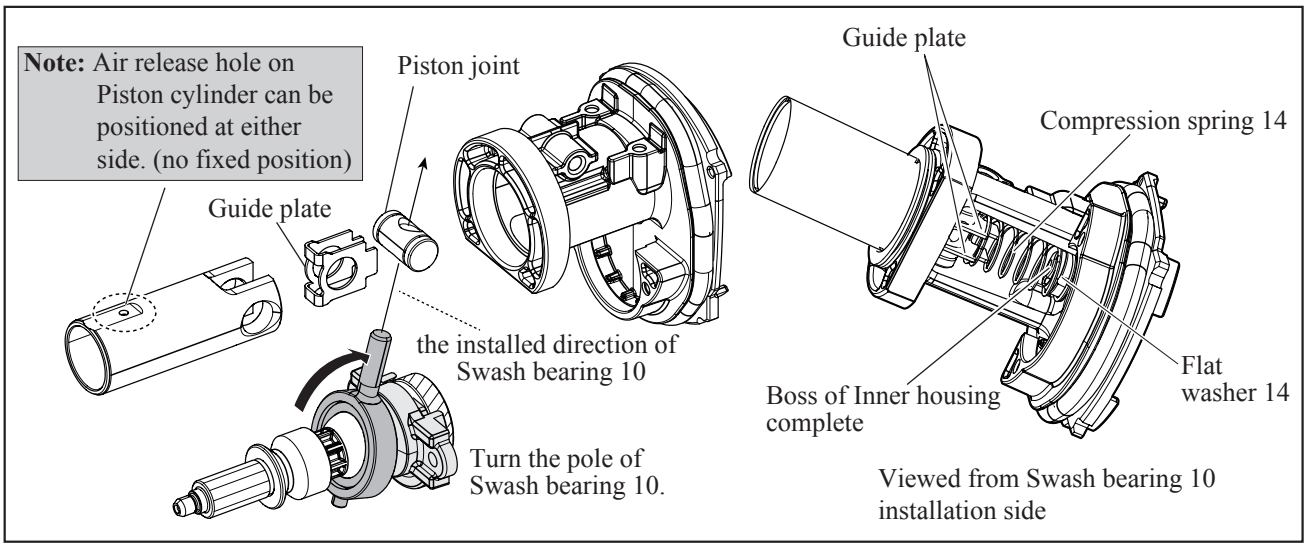
Fig. 48



[3]-8. How to assembly of Piston cylinder section to Swash bearing section

(1) Assemble Guide plate and Piston joint to Piston cylinder. Align the holes of Piston joint to the installed direction of Swash bearing 10. (**Fig. 49**)
(2) Set Flat washer 14 and Compression spring 14 on the boss of Inner housing complete. (**Fig. 49**)
(3) Put the opposite end of Compression spring 14 on Guide plate, then push Piston cylinder into the bottom of Inner housing complete, and insert the pole of Swash bearing 10. (**Fig. 49**)
(4) Assemble Striker with O ring 17.5 to Piston cylinder. Refer to **Figs 1/ 2**.

Fig. 49



Repair

[3] DISASSEMBLY/ASSEMBLY

[3]-9. How to assemble Gear housing to Inner housing

(1) Check that Clutch cam A is engaged with Swash bearing 10. (**Fig. 50**)
(2) Assemble Compression spring 4 and Lock plate to Gear housing complete. (**Fig. 51**)
Note: Apply grease to the end of Compression spring 4 on Lock plate mating side in order to do the next step smoothly.
(3) While holding Lock plate by a finger so as not to drop from the guide of Gear housing complete, Assemble Gear housing complete to Inner housing complete. (**Fig. 52**)

Fig. 50

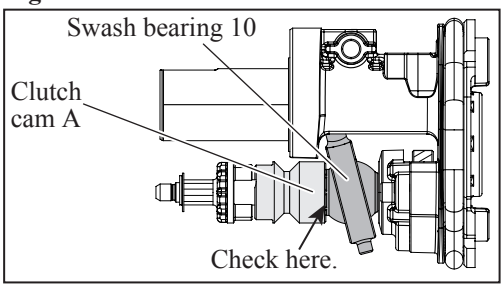


Fig. 51

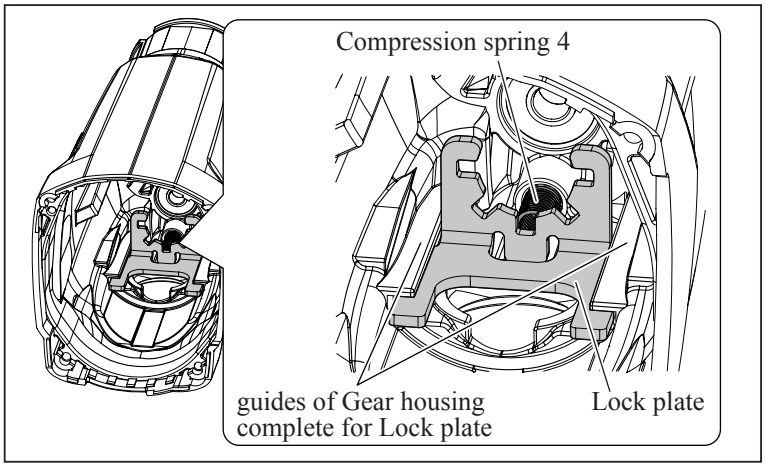
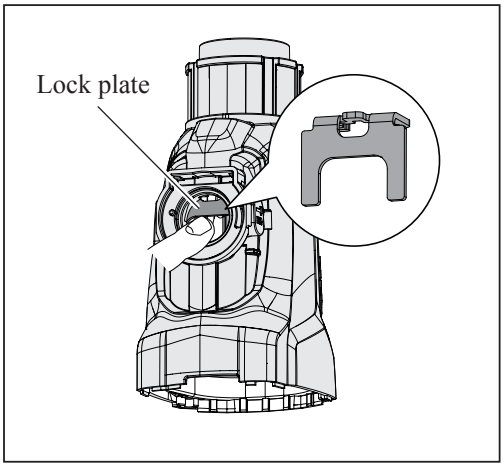


Fig. 52



Repair

[3] DISASSEMBLY/ASSEMBLY

[3]-10. Oil seal 25, Cup sleeve, Ball bearing 6806LLU

DISASSEMBLING

(1) Assemble Inner housing complete to Gear housing complete.
(2) Put Inner housing complete on U-groove table portion of arbor press, then press Oil seal 25, Cup sleeve and Ball bearing 6806LLB out of Gear housing complete using 1R252.

ASSEMBLING

(1) Pressfit Ball bearing 6806LLU into Cup sleeve. (**Fig. 53**)
(2) Receive the stepped collar of Gear housing complete on 1R258 as drawn in **Fig. 54**, pressfit Oil seal 25 with 1R232 until it stops. (**Fig. 55**)
Oil seal 25 is not yet inserted completely because the outer diameter of 1R232 is larger than that of Oil seal setting hole.
(3) Pressfit Oil seal 25 to the original position with 1R164 until it stops. (**Fig. 56**)
(4) Pressfit Cup sleeve with Ball bearing 6806LLU into place using 1R273. (**Fig. 57**)

Note: Too much pressure will deform Oil seal 25 and Cup sleeve. Pressfit them **with gentle pressure**.

Fig. 53

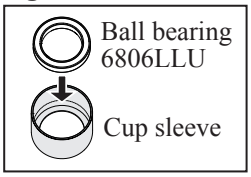


Fig. 54

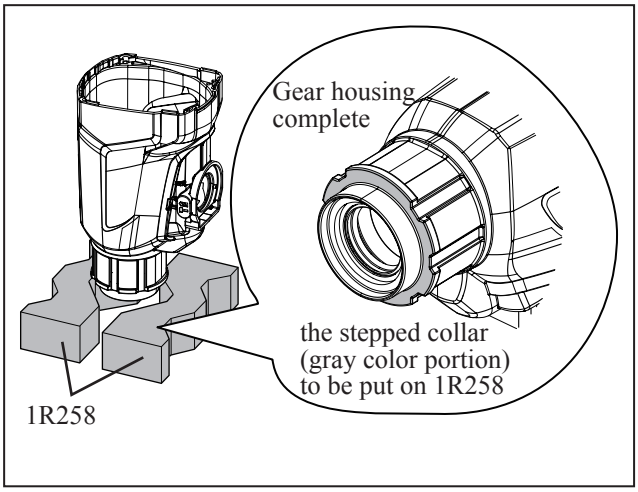


Fig. 55

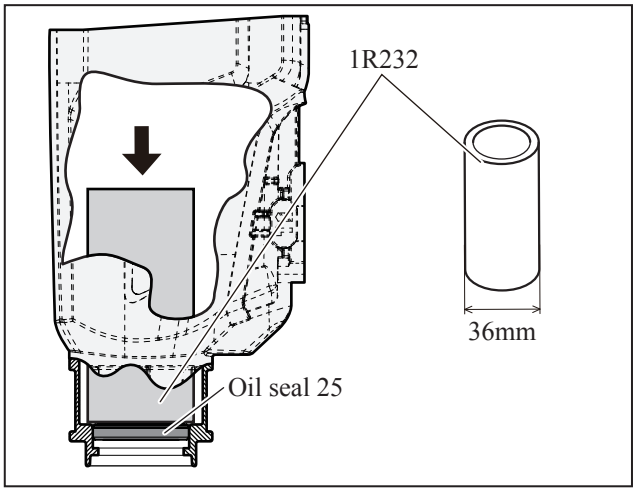


Fig. 56

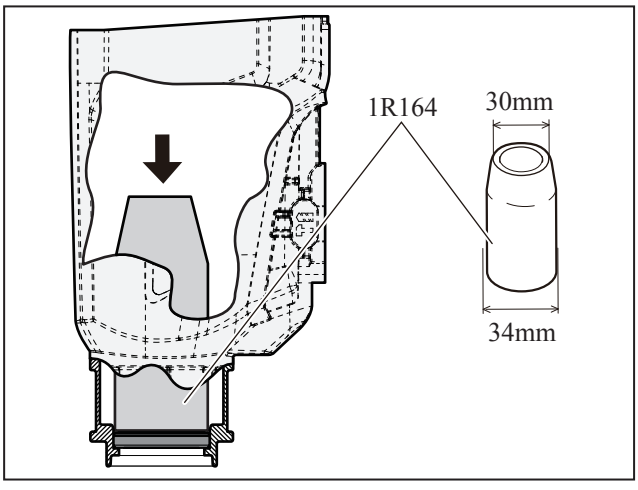
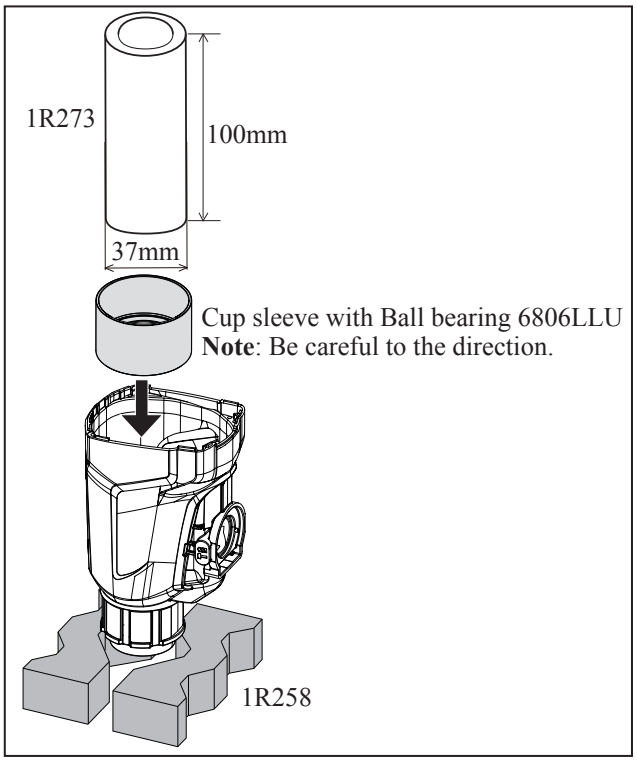


Fig. 57

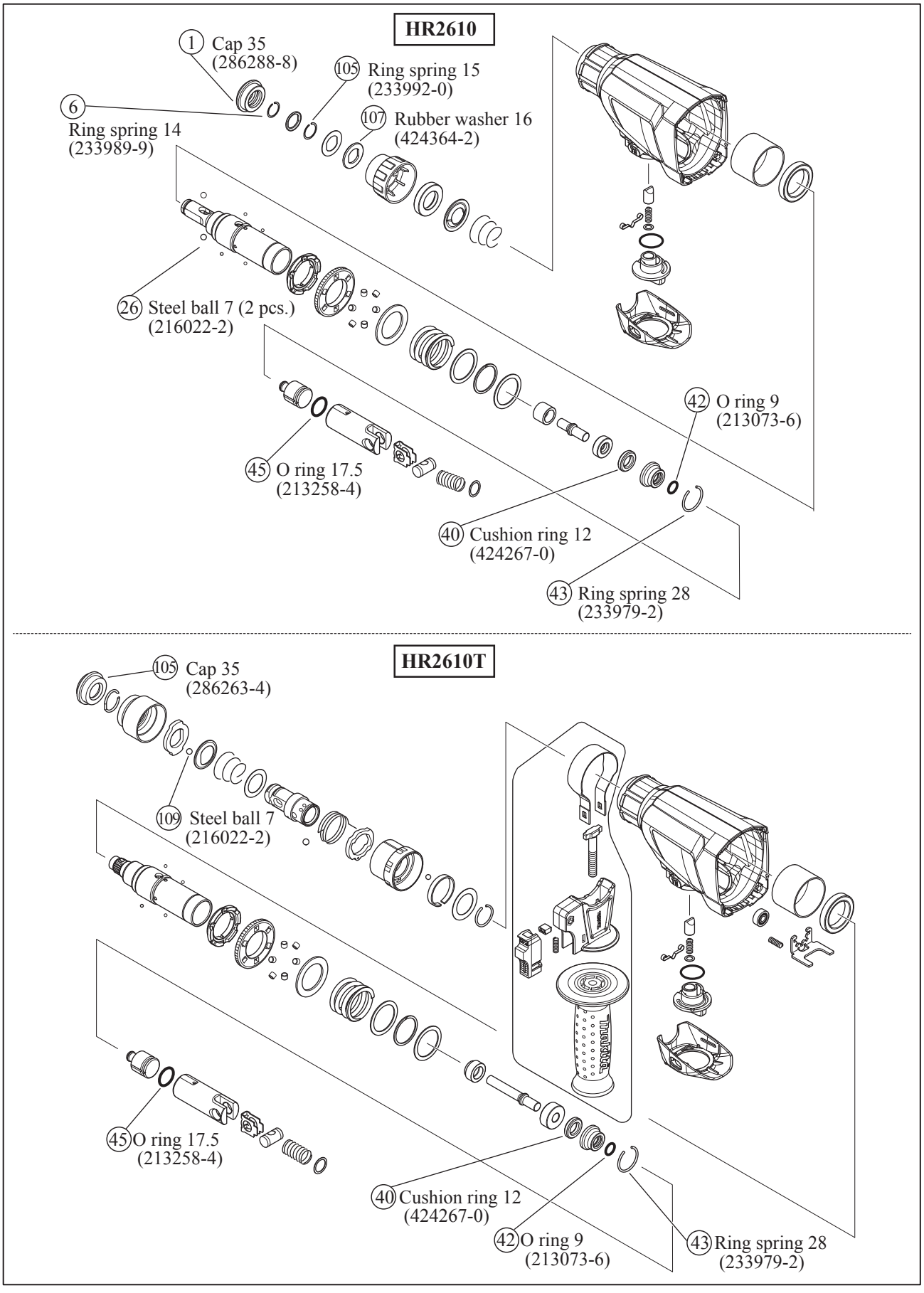


Repair

[4] Maintenance program

It is recommended to replace the following parts at the same time when replacing Carbon brushes. (**Figs. 58 and 59**)
Note: Be sure to put Makita grease RB No. 00 to the specific portions. (**Figs. 1 and 2**)

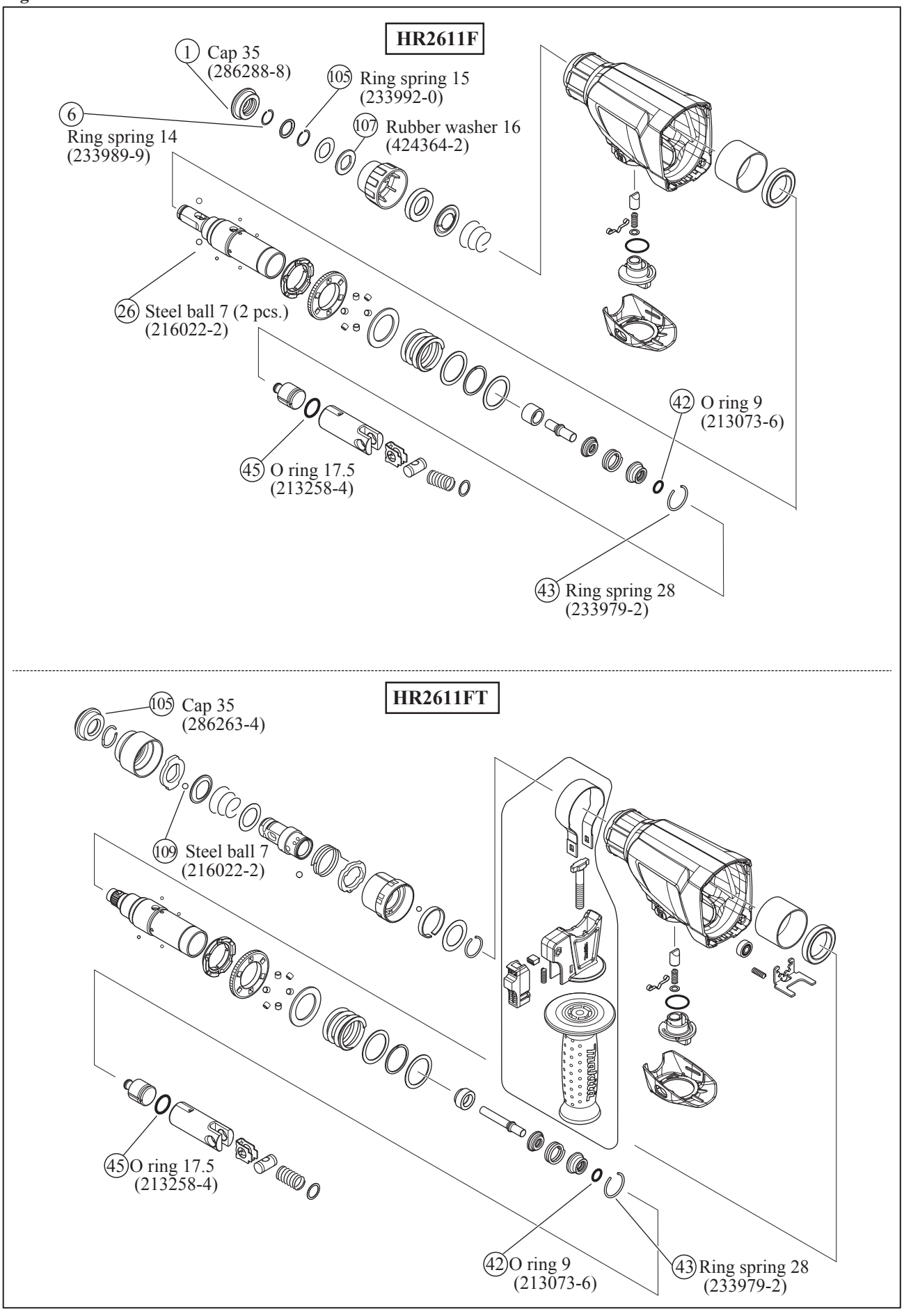
Fig. 58



Repair

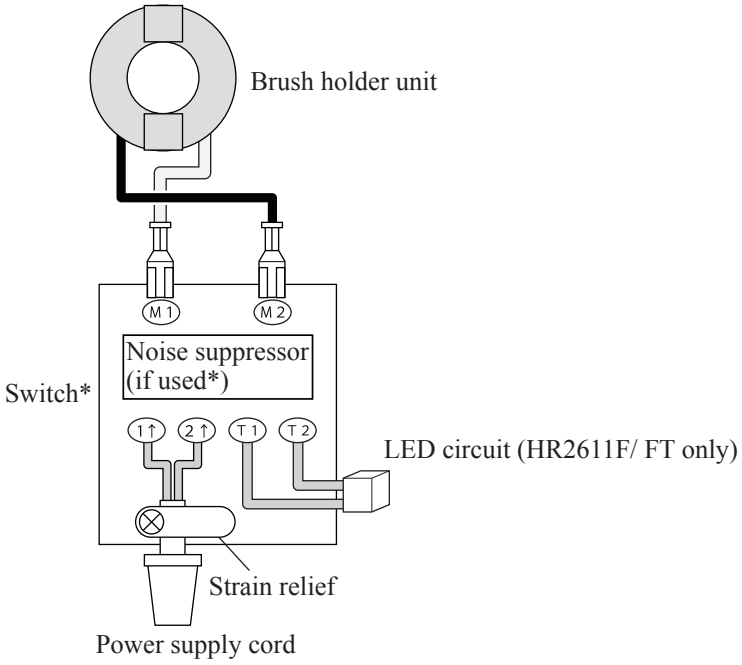
[4] Maintenance program (cont.)

Fig. 59



Circuit diagram

Fig. D-1



* To comply with the electromagnetic compatibility-requirement, Switch equipped with Noise suppressor is used for some countries.

Wiring diagram

Fig. D-2