

TECHNICAL INFORMATION



PRODUCT

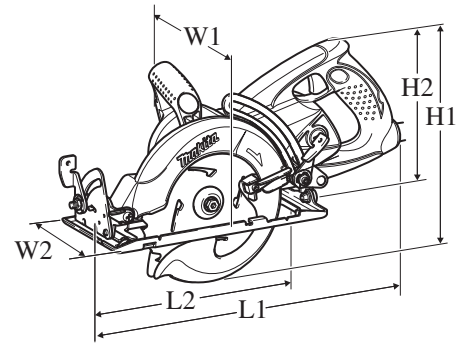
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Models No. ▶ 5477NB

Description ▶ Hypoid Saw 185mm (7-1/4")

CONCEPT AND MAIN APPLICATIONS

Model 5477NB has been developed as the cost-competitive successor tool of the current 5277NB.



Dimensions: mm (")	
Length (L1)	442 (17-3/8)
Width (W1)	183 (7-1/4)
Height (H1)	254 (10)
Height (H2)	186 (7-3/8)

Base Size: mm (")	
Length (L2)	295 (11-5/8)
Width (W2)	132 (5-3/16)

► Specification

Voltage (V)	Current	Cycle (Hz)	Continuous Rating (W)		Max. Output (W)
			Input	Output	
120	15	50 - 60	—	1,000	2,300

No load speed: rpm=min.-1		4,500
Saw blade: mm (")	Diameter	185 (7-1/4)
	Hole diameter	15.88 (5/8)
Max. cutting capacities: mm (")	at 90 degrees	60 (2-3/8)
	at 45 degrees	44 (1-3/4)
	at 50 degrees	40 (1-9/16)
Protection from electric		Double insulation
Cord length: m (ft)		3.0 (9.8)
Net weight: kg (lbs)		6.3 (13.9)

► Standard equipment

TCT saw blade 1
Hex wrench 1

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

► Optional accessories

Circular saw blades
Guide rule
Tool hook

► Repair

CAUTION: Unplug the machine and remove the saw blade from the machine for safety before repair/ maintenance !

[1] NECESSARY REPAIRING TOOLS

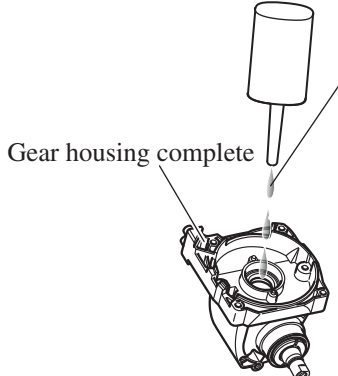
Code No.	Descriptions	Use for
1R003	Retaining ring S pliers ST-2N	Removing Retaining ring S-42 to separate Safety cover from Gear housing complete
1R207	45 degrees set square	Adjusting Saw blade to be at right angle with Base
1R208	90 degrees set square	
1R269	Bearing extractor	Removing Ball bearings
1R291	Retaining ring S and R pliers	Disassembling / Assembling Retaining rings
1R316	Bearing retainer wrench	Disassembling / Assembling Bearing retainers

[2] LUBRICATION

When assembling Gear section;

- 1) Wash the inside of Gear housing complete clean with kerosene.
- 2) Put **30cc** Lubricant oil VG220 (Makita part No. 041005-1A: 20 liters per tank) as illustrated in **Fig. 1** to protect parts and product from unusual abrasion.

Fig. 1



Put Lubricant oil VG220 or the following API (American Petroleum Institute) GL-4 vehicle gear oil into Gear room from the Armature gear shaft installation side.

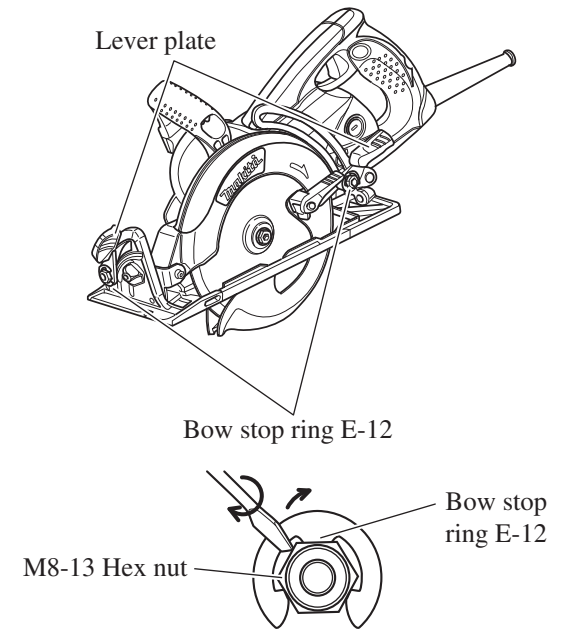
Nippon Oil	Idemitsu	COSMO	Shell
Hypoid Gear 80, 90, 140	Apollo Gear HE-80W, 90	Gear GL-4 80, 90, 140	Shell Spirax EP75W- 85, 80, 90, 140
Castrol	BP	ELF	TOTAL
TAF-X 75W-90 MTF-S 75W-90 MTF 80W-90	Gear Oil 80W-90	Gearelf HTX 740 Retro G 80W	TOTAL EP 80W85, 80W90 TOTAL Transmission X1 75W90, T1 75W80

[3] DISASSEMBLY/ ASSEMBLY OF BASE

DISASSEMBLING

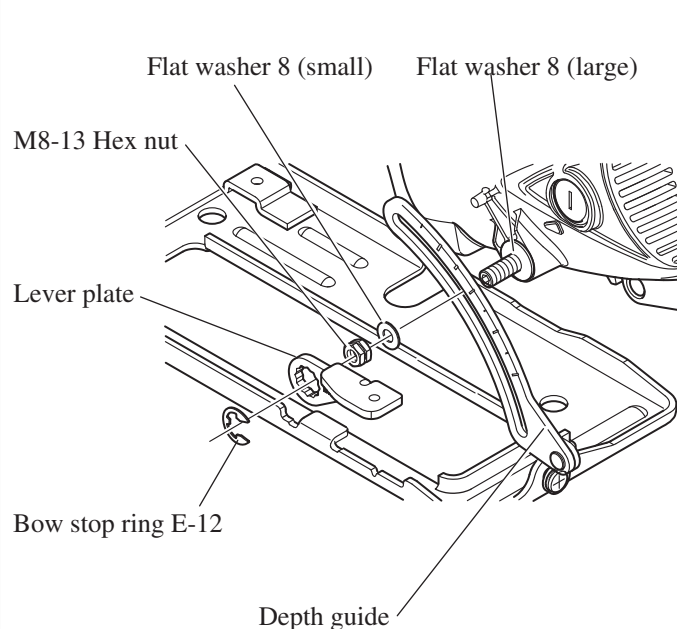
Remove Bow stop rings E-12 on Depth guide. (**Fig. 2**) Lever plate, M8-13 Hex nut, Flat washer 8 (small) and Flat washer 8 (large) can be removed as illustrated in **Fig. 3**.

Fig. 2



Twist the Bow stop ring E-12 using slotted screw-driver to remove it from a groove of M8-13 Hex nut.

Fig. 3



► Repair

[3] DISASSEMBLY/ ASSEMBLY OF BASE (cont.)

DISASSEMBLING

- 2) Remove the other Bow stop ring E-12, Lever plate, M8-13 Hex nut, Flat washer 8 (small) and M8x24 Cap square neck bolt on the angular guide of Base. **(Fig. 4)**
- 3) Remove M8 Flat head screw on the angular guide. **(Fig. 5)** Base can be removed.

Fig. 4

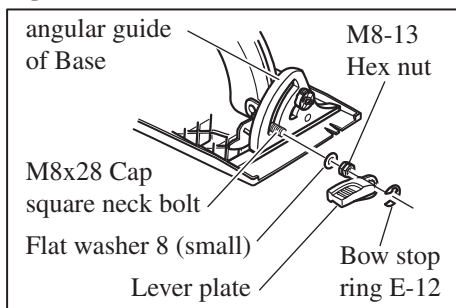
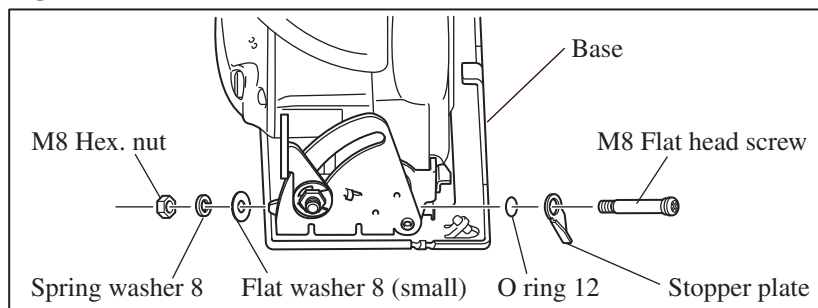


Fig. 5



ASSEMBLING

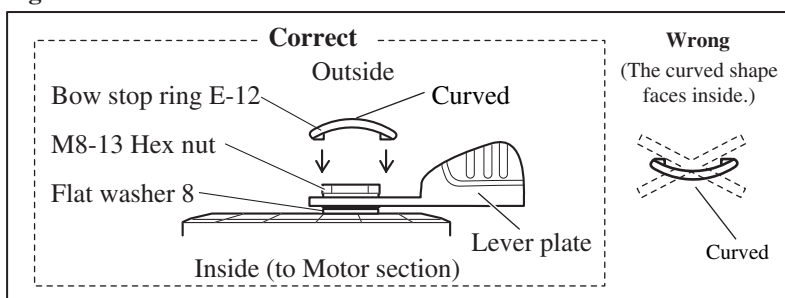
Do the reverse of the disassembling steps.

Note: 1) Be sure to set Flat washer 8 (large) in place when assembling Depth guide and the relative parts.

2) Secure Lever plate with Bow stop ring E-12. Bow stop ring E-12 isn't reversible when assembled.

Be sure to face the curved shape toward outside. **(Fig. 6)**

Fig. 6



[4] DISASSEMBLY/ASSEMBLY OF GEAR SECTION

DISASSEMBLING

- 1) Remove Base from Motor section.
- 2) Safety cover and Spacer can be removed by extracting Retaining ring S-42 with 1R003. **(Fig. 7)** Spacer and Tension spring 4 can also be removed. **(Fig. 8)**
- 3) Remove M5x18 Pan head screws (2pcs.) and M6x16 Pan head screw. **(Fig. 8)**
Grip, Hook assembly and Cover complete can be removed from Gear housing complete.

Fig. 7

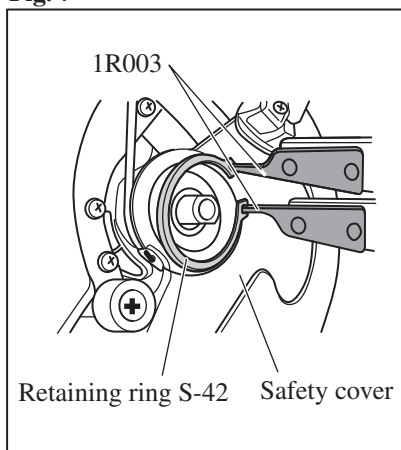
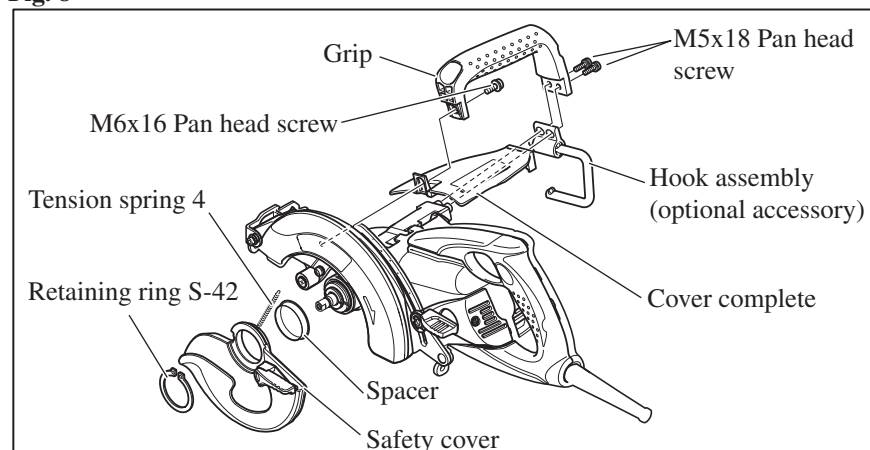


Fig. 8



► Repair

[4] DISASSEMBLY/ ASSEMBLY OF GEAR SECTION (Cont.)

DISASSEMBLING

4) Gear housing complete is secured with M5x35 Pan head screws (2pcs.) on Spindle lock button side and with the other M5x35 Pan head screws (2pcs.) on Blade case side.

First, remove M5x35 Pan head screws (2pcs.) on Spindle lock button side. (Fig. 9)

5) Bearing box can be removed by removing M5x18 Pan head screws (3pcs.). (Fig. 10)

6) Put Gear housing complete onto the vessel for collecting lubricant oil with its Bearing assembly side down.

Hypoid gear 36, Flat washer 12 and Lubricant oil are fallen down from Gear housing complete. (Fig. 11)

Note: Pay attention not to lose Woodruff key in this step.

7) Remove Depth guide and remove Brush holder cap.

Carbon brush on Blade case side can be removed from Motor housing complete. (Fig. 12)

8) Remove M5x35 Pan head screws (2pcs.) on Blade case side. (Fig. 12)

9) Temporarily fix Gear housing complete to Motor housing complete with M5x35 Pan head screws (2pcs.) screwed halfway in the screw holes as illustrated in Fig.13. Strike the screws head gently with plastic hammer.

Gear housing complete is removed from Motor housing complete as illustrated in Fig.14.

Fig. 9

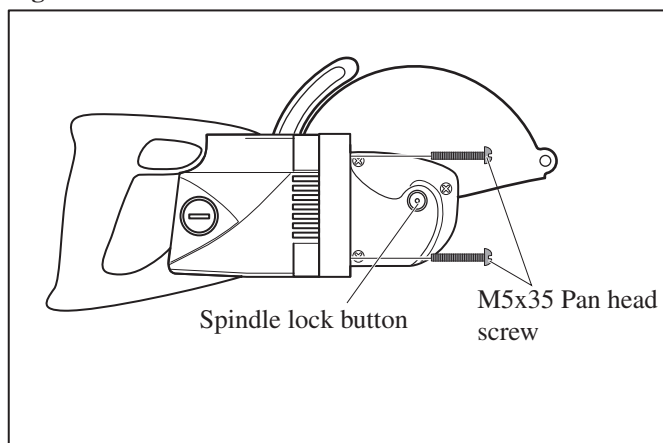


Fig. 10

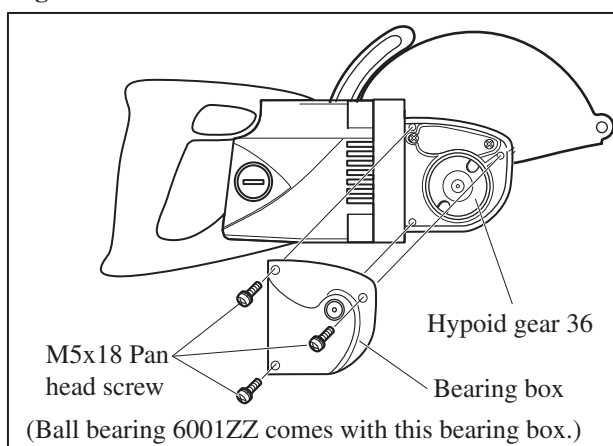


Fig. 11

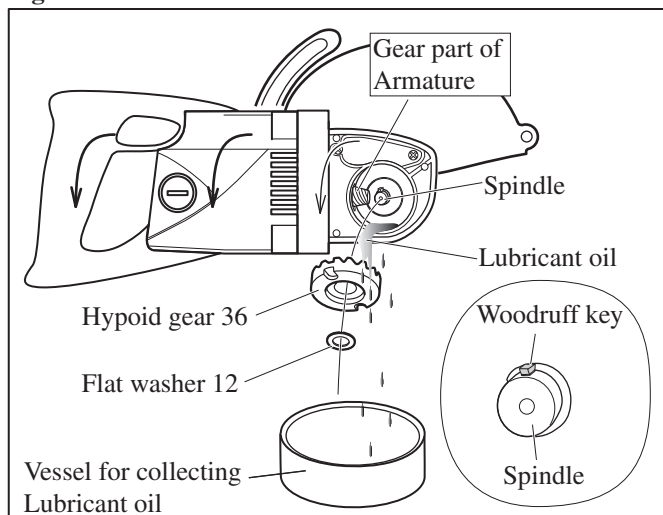


Fig. 12

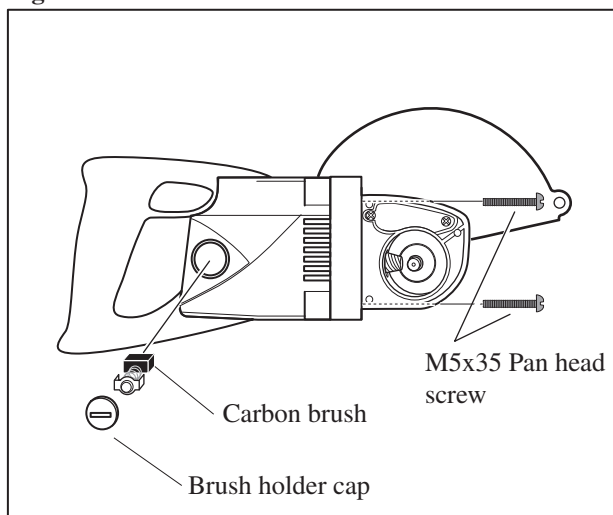


Fig. 13

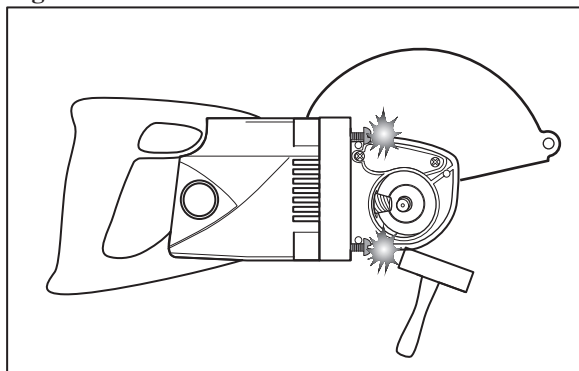
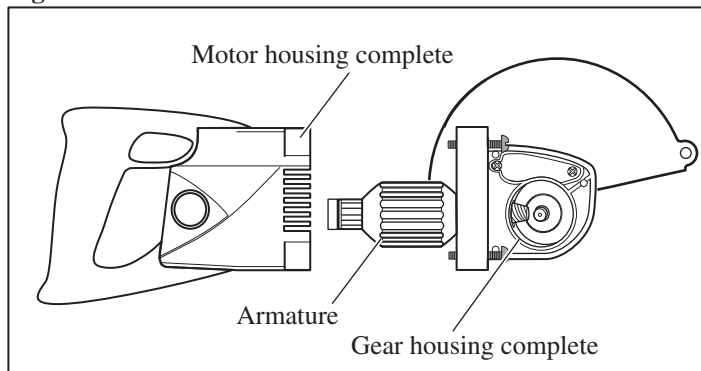


Fig. 14



► Repair

[5] DISASSEMBLY/ASSEMBLY OF GEAR SECTION (cont.)

DISASSEMBLING

10) Remove M5x18 Pan head screws (2pcs.).

Remove Armature with Bearing retainer not to cause damage to Fan 45 in Gear housing complete. (Fig. 15)

11) Disassemble Spindle with Fan 45 by striking the Spindle end from Blade installation-side with plastic hammer. (Fig. 16)

12) Remove Bearing retainer 23-36 from Gear housing complete by turning it counterclockwise with 1R316. (Fig. 17)

Fig. 15

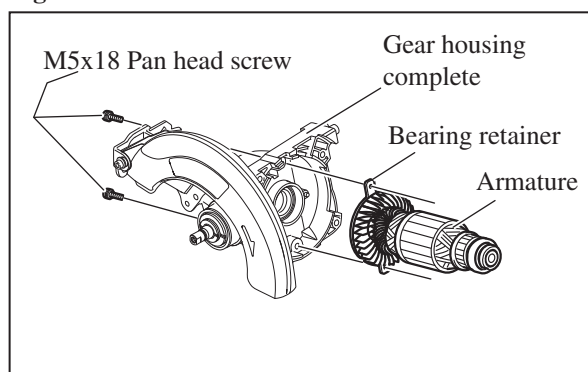


Fig. 16

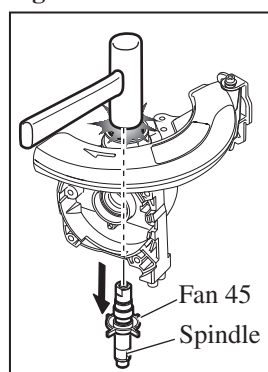
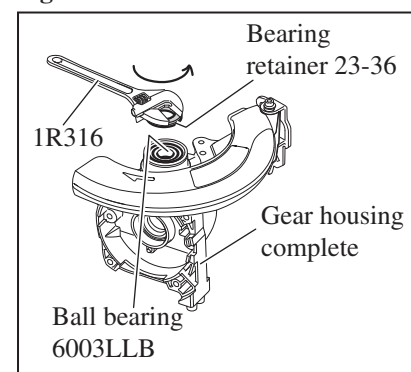


Fig. 17



ASSEMBLING

1) Clean the Gear room thoroughly before assembling the Gear section.

2) Press-fit Ball bearing 6003LLB into Gear housing complete and tighten Bearing retainer 23-36 with 1R316 by turning it clockwise.

3) Press-fit Spindle into Fan 45 from Shaft lock button side.

4) While holding Woodruff key in the groove of Spindle by hand, assemble Hypoid gear 36 and Flat washer 12 to Spindle with Woodruff key. (Fig. 18)

5) Mount O ring 53 to Bearing box and then assemble Bearing box with Ball bearing 6001ZZ to Gear housing complete. (Fig. 18)

6) Apply the Lubricant oil as illustrated in Fig. 19. (Refer to Fig. 1 for the details.)

7) Assemble Armature section to Gear housing complete.

Fig. 18

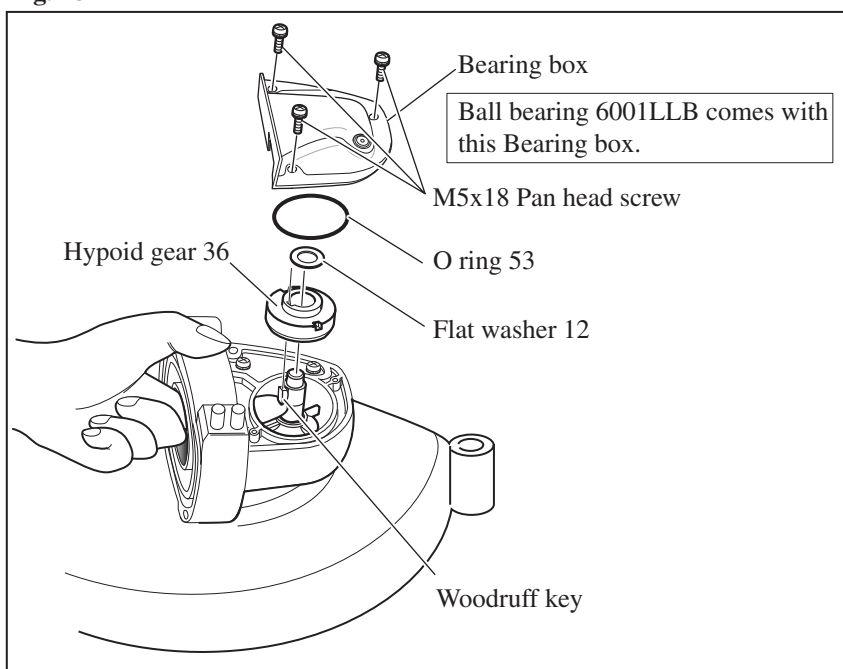
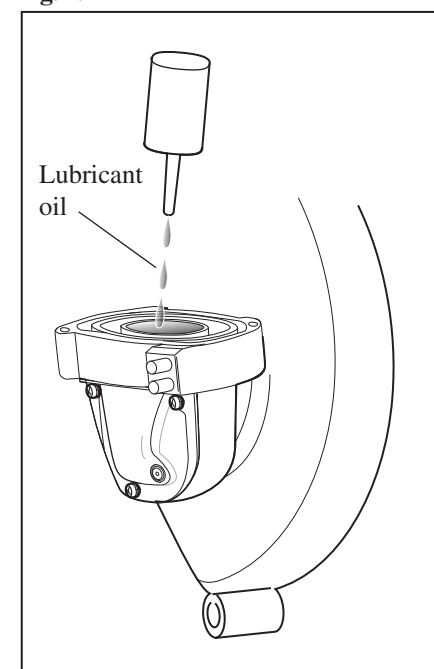


Fig. 19



► Repair

[6] DISASSEMBLY/ ASSEMBLY OF ARMATURE SECTION

DISASSEMBLING

Note: It is not necessary to remove Bearing box from Gear housing complete when replacing Armature.

- 1) Separate Base from Motor section. (Figs 2 to 5)
- 2) After Removing Depth guide from Motor housing complete, remove Carbon brush.
- 3) Separate Gear housing complete from Motor housing complete after removing M5x35 Pan head screws (4pcs.). (Figs. 9, 12, 14 and 15)
- 4) Remove Armature section upward from Gear housing complete while holding Gear housing complete with Armature section positioned in Fig. 20L.

Note: Do not remove Armature section downward and horizontally from Gear housing complete (Fig. 20R).

Because Gear oil remaining inside is drained out from Gear housing complete.

- 5) Remove Retaining ring S-17 using 1R291. (Fig. 21)
- 6) Remove Ball bearing 6003LLB, O ring 16 and Ring 17 using 1R269 and water pump pliers. (Fig. 22)
- 7) Bearing retainer can be removed from Armature. (Fig. 23)

Fig. 20L

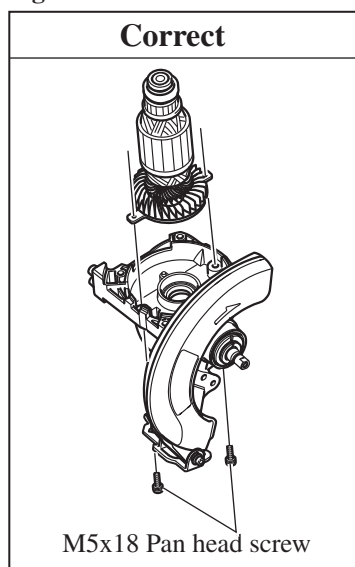


Fig. 20R

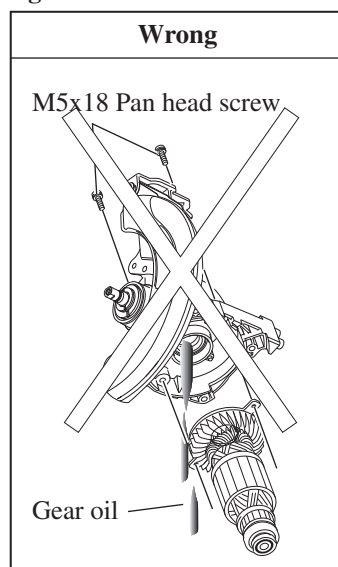


Fig. 21

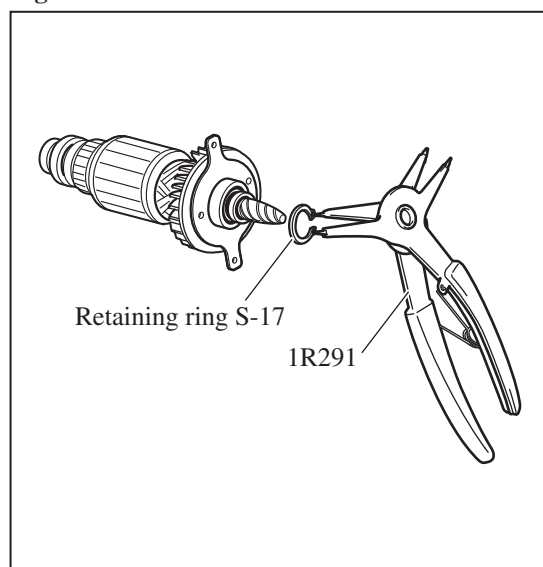


Fig. 22

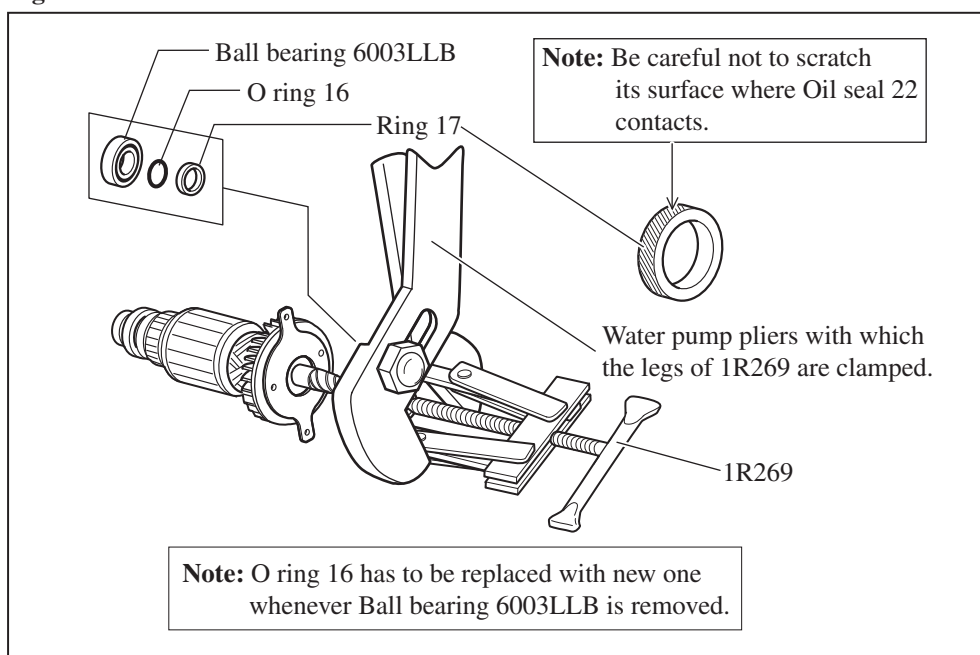
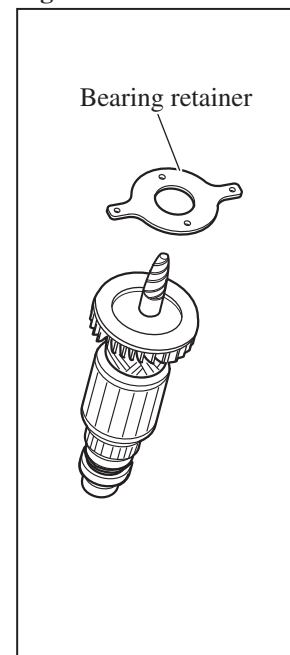


Fig. 23



► Repair

[6] DISASSEMBLY/ASSEMBLY OF ARMATURE SECTION (Cont.)

ASSEMBLING

- 1) Mount Bearing retainer to Armature. Press-fit Ball bearing 6003LLB into Armature shaft.
- 2) Push new O ring 16 by hand until it contacts to the inner ring of Ball bearing 6003LLB as illustrated in **Fig. 24**.
- 3) Press-fit Ring 17 as illustrated in **Fig.25**. Pay attention to the direction of Ring 17.
- 4) Secure the their assembled parts by installing Retaining ring S-17 into the groove of Armature shaft.
- 5) Assemble the armature section while holding gear housing complete as illustrated in **Fig. 20L**.

Fig. 24

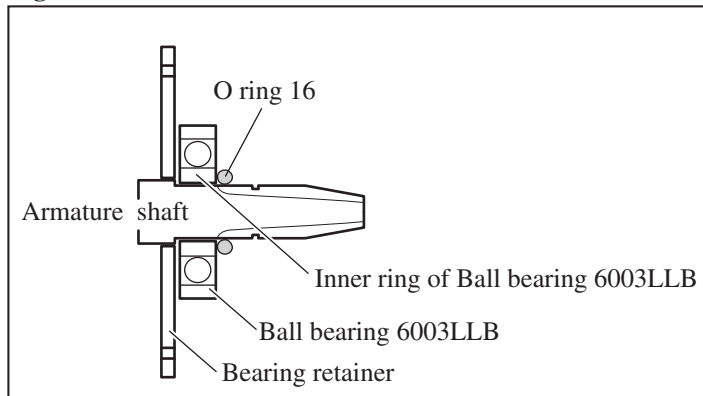
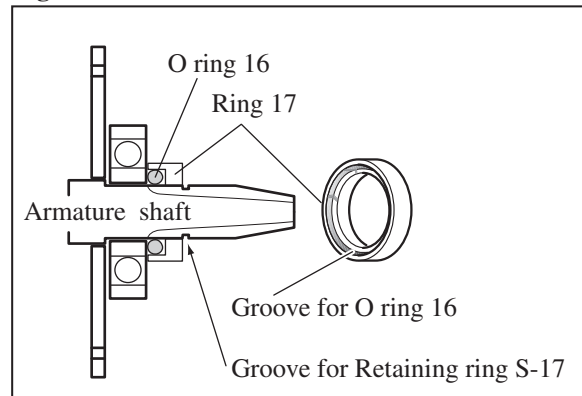


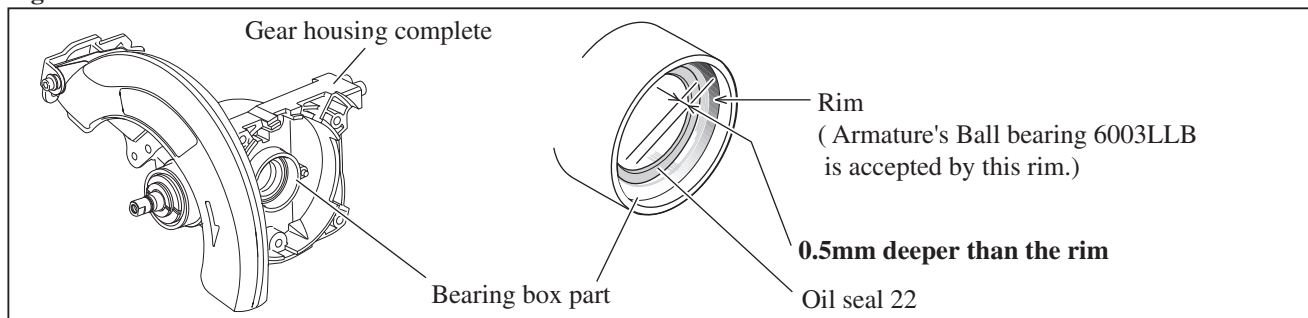
Fig. 25



[7] ASSEMBLY OF OIL SEAL 22 IN GEAR HOUSING COMPLETE

When assembling Oil seal 22 to Gear housing complete, press-fit it for 0.5mm deeper than the rim for accepting Ball bearing 6003LLB using 0.5mm thickness flat washer. Be sure to remove the 0.5mm thickness flat washer from Bearing box after setting Oil seal 22 in place. (**Fig. 26**)

Fig. 26

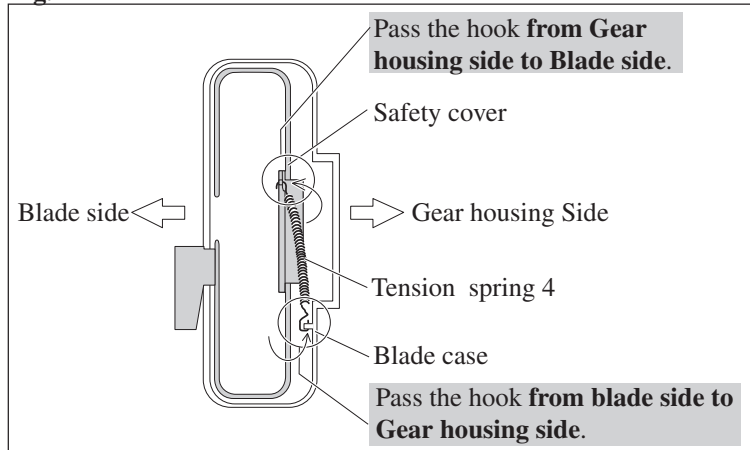


[8] ASSEMBLY OF TENSION SPRING 4 FOR SAFETY COVER

ASSEMBLING

When connecting Safety cover to Blade case with Tension spring 4, hook the end of Tension spring 4 as illustrated in **Fig. 27**.

Fig. 27



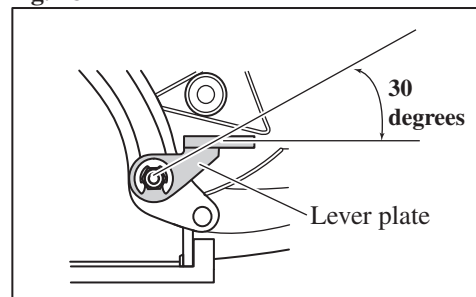
[9] FINE ADJUSTMENT OF BASE TO SAW BLADE AT 90 DEGREES

Adjust the angular deviation by loosening/tightening M5x8 Hex. socket set screw for adjusting bevel angle and by using 1R208. See the instruction manual for the details.

[10] ADJUSTMENT IN POSITION OF LEVER PLATE FOR DEPTH GUIDE

The assembled angle of Lever plate and Depth guide has to be adjusted in the zone from 0 degree to 30 degrees as illustrated in Fig. 28.

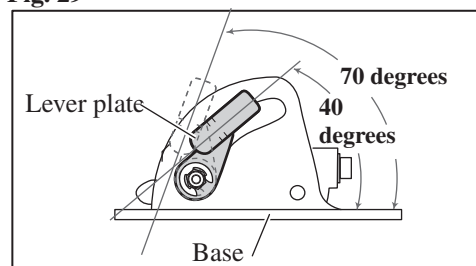
Fig. 28



[11] ADJUSTMENT IN POSITION OF LEVER PLATE FOR ANGULAR GUIDE

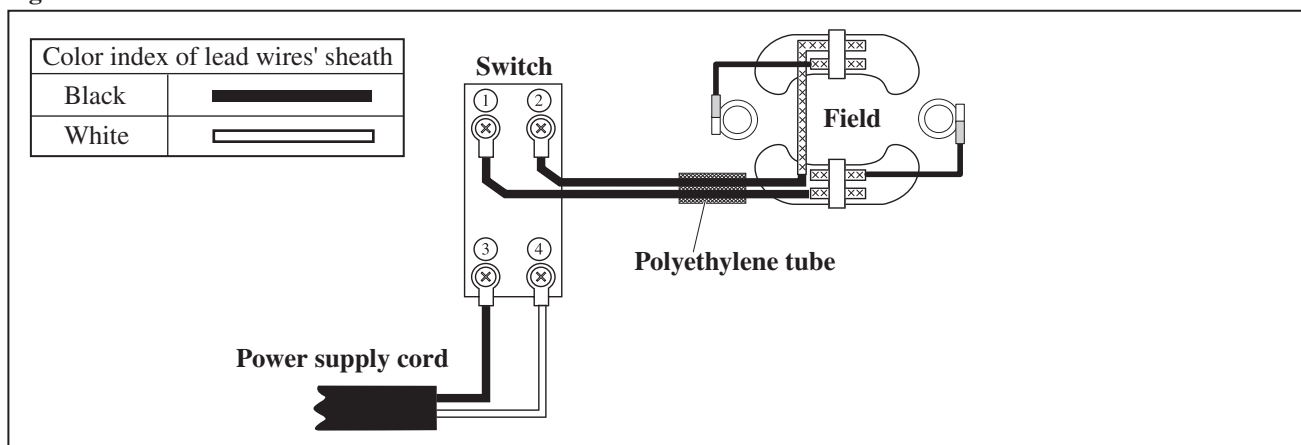
The assembled angle of Lever plate and Base has to be adjusted in the zone from 40 degrees to 70 degrees as illustrated in Fig. 29 when blade angle to Base is set at 90 degrees.

Fig. 29



► **Circuit diagram**

Fig. D-1



► **Wiring diagram**

Fig. D-2

