

# TECHNICAL INFORMATION

**Models No.** ▶ DA4030, DA4031

**Description** ▶ Angle Drill 13mm (1/2")

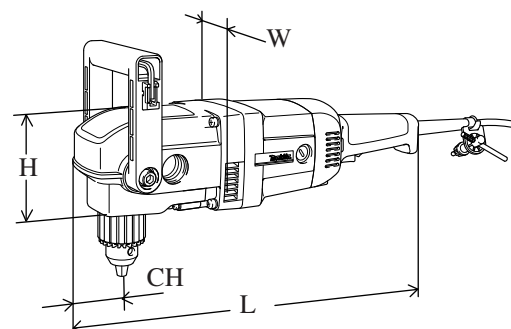
## CONCEPTION AND MAIN APPLICATIONS

These models are Makita's new 13mm (1/2") Angle Drills. And they are optimum for pro's close-quarter works in corners, between joists or studs.

\* Model DA4030 is a single-speed drill; features superb drilling capacities, and targets electricians who drill more than 300 holes a day.

\* Model DA4031 is a two-speed drill.

While having the same benefits as DA4030, DA4031 features torque limiter in low speed, and targets plumbers; in low speed, powerful enough to smoothly drill large holes for pipe or conduit.



Dimensions: mm (")		
Model No.	DA4030	DA4031
Length (L)	417 (16-3/8)	462 (18-1/4)
Width (W)	102 (4)	102 (4)
Height (H)	148 (5-7/8)	148 (5-7/8)
Center height (CH)	40 (1-9/16)	40 (1-9/16)

## ► Specifications

Voltage (V)	Current (A)	Cycle (Hz)	Continuous Rating (W)		Max. Output(W)
			Input	Output	
110	10.0	50 / 60	1,050	400	1,200
120	10.0	50 / 60	(1,150)	400	1,200
230	4.8	50 / 60	1,050	400	1,200
240	4.6	50 / 60	1,050	400	1,200

Specifications		Model	DA4030	DA4031
Chuck capacity: mm (")			2 - 13 (1/16 - 1/2)	2 - 13 (1/16 - 1/2)
No load speed: (min-1=rpm)			1,200	300/1,200
Cutting capacities: mm (")	Wood	Auger bit	38 (1-1/2)	38 (1-1/2)
		Selfeed bit	65 (2-9/16)	in high speed mode 118 (4-5/8) in low speed mode 65 (2-9/16)
		Hole saw	———	152 (6) only in low speed mode
	Steel		13 (1/2)	13 (1/2)
Max. torque: (N.m)		80		in high speed mode 80 in low speed mode 145
Torque limiter		No	Yes ( only in low speed)	
Reversing switch		Yes	Yes	
Swivel-type rear handle		Yes	Yes	
Protection from electric shock		Double insulation	Double insulation	
Cord length: m (ft.)		2.5 (8.2)	2.5 (8.2)	
Net weight: Kg (lbs)		4.8 (10.6)	5.6 (12.3)	

## ► Standard equipment

- \* Chuck key .....1 pc.
- \* Hex wrench..... 1 pc.
- \* Grip 27..... 1 pc.
- \* Key holder 13 ..... 1 pc.
- \* Plastic carrying case ..... 1 pc.

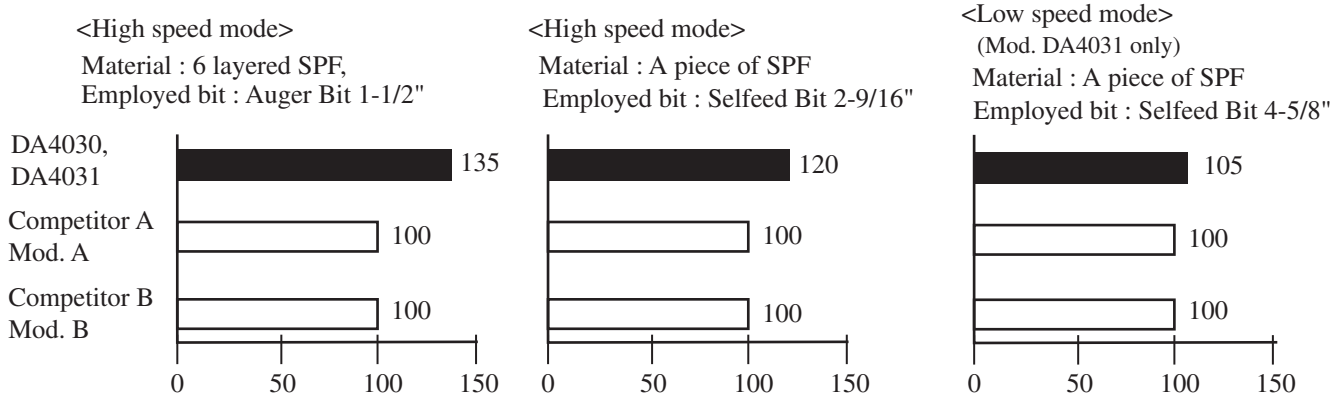
## ► Optional accessories

- \* Drill chuck S13
- \* Chuck key
- \* Grip 27
- \* Hex wrench
- \* Plastic carrying case

**Model DA4030, DA4031**

**Superiority to competitors  
in drilling capacity**

Numbers in chart below are relative values  
when setting the capacity of Competitor's Mod. B as 100.



**Torque limiter (only Mod.DA4031)**

The shock can be suppressed, when the drill bit is locked.

Front handle with space for storing hex wrench with which the front handle can be detached.

< View from drill chuck side >  
Easy speed change thanks to the big change lever.

Only for Model DA 4031

**Palm-fitting soft grip**

**Toolless swivel handle**

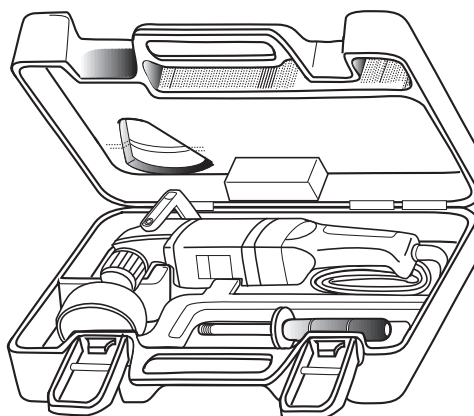
Handle can be swiveled without any tool at 90° both to left and right side with pushing lock button.

Lock button

The reverse switch can be operated, while gripping the handle.

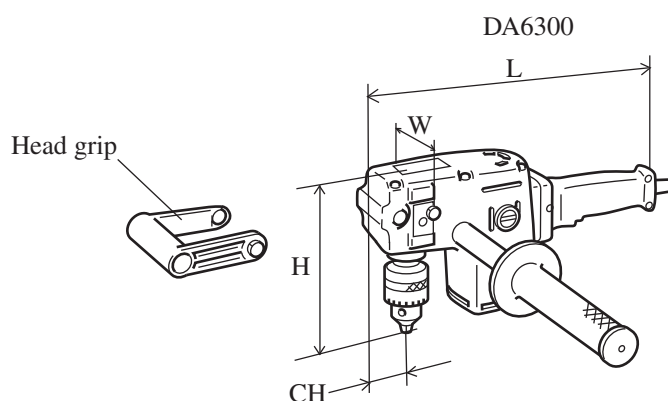
Main switch with big trigger for easy operation

**Big capacity plastic carrying case has enabled to store the machine without detaching 1/4" selffeed bit or hole saw.**



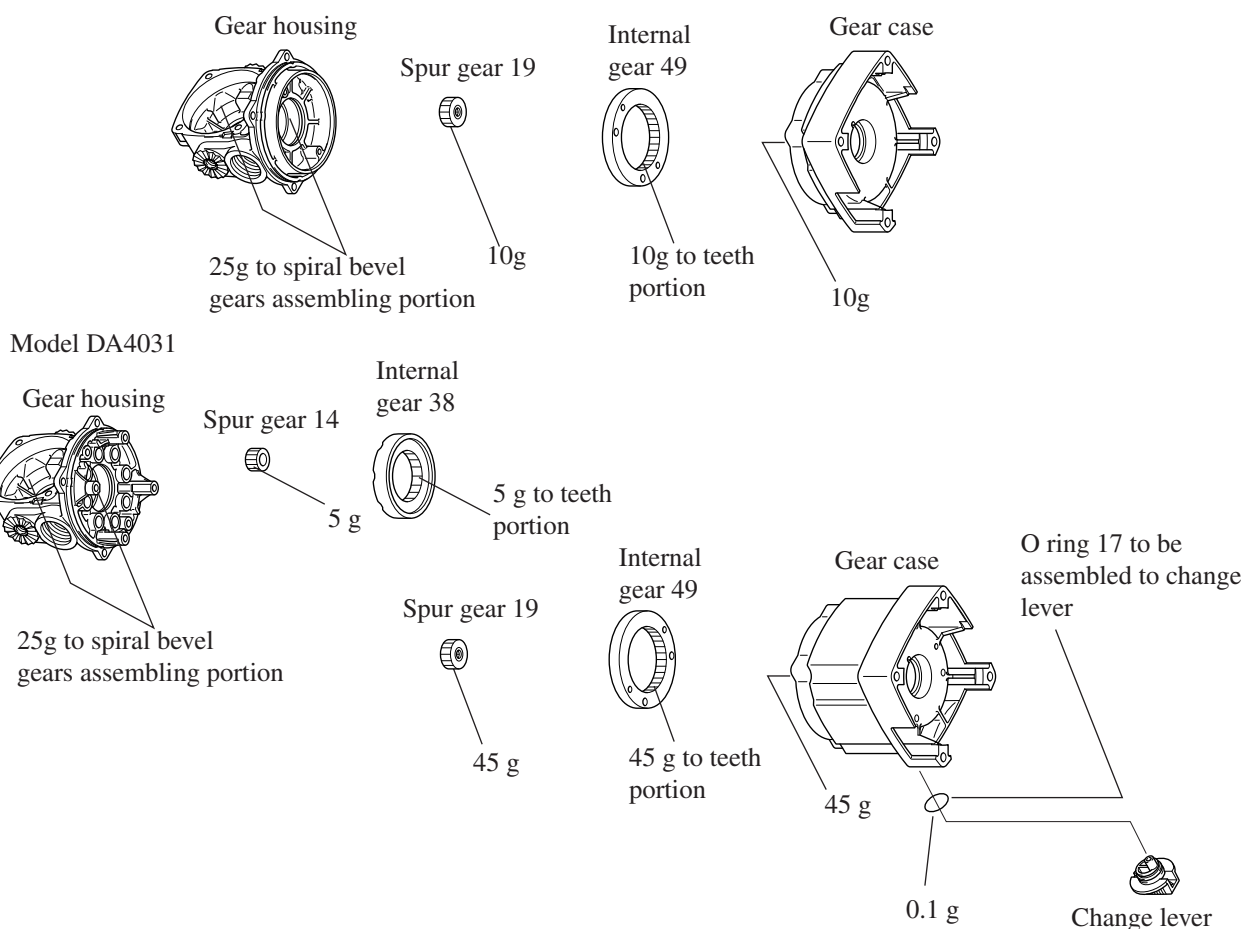
Model No. Specifications				MAKITA			Competitor B	Competitor A
				DA4030	DA4031	DA6300	B	A
Chuck ability : mm ( " )				13 (1/2)	13 (1/2)	13 (1/2)	13 (1/2)	13 (1/2)
Rated Ampere under 120V : A				10.0	10.0	7.5	7.5	8.0
Power input : W				1,050	1,050	810	—	—
No load speed: (min-1=rpm)				1,200	300 / 1,200	300 / 1,200	300 / 1,200	300 / 1,200
Cutting capacities : mm (")	Wood working	Auger bit	300 min-1		38 (1-1/2)	38 (1-1/2)	38 (1-1/2)	—
			1,200 min-1	38 (1-1/2)	38 (1-1/2)	29 (1-1/8)	29 (1-1/8)	38 (1-1/2)
		Selffeed bit	300 min-1		118 (4-5/8)	118 (4-5/8)	118 (4-5/8)	118 (4-5/8)
			1,200 min-1	65 (2-9/16)	65 (2-9/16)	35 (1-3/8)	35 (1-3/8)	65 (2-9/16)
		Hole saw	300 min-1		152 ( 6 )	—	—	—
			Steel			13 (1/2)	13 (1/2)	13 (1/2)
Max. torque: (N.m)	300 min-1				145	139	144	125
	1,200 min-1			80	80	34	36	42
Torque limiter				No	Yes(low speed)	No	No	Yes(low speed)
Reverse switch				Yes	Yes	Yes	Yes	Yes
Soft grip				Yes	Yes	No	No	No
Swivel handle				Yes	Yes	No	No	No
Protection from electric shock				by Double Insulation		by Grounding	by Grounding	by Grounding
Cord length: m (ft.)				2.5 (8.2)	2.5 (8.2)	2.5 (8.2)	2.5 (8.2)	3.0 (9.8)
Dimensions : mm (")		Length (L)		417 (16-3/8)	462 (18-1/4)	** 324 (12-3/4)	350 (13-3/4)	515 (20-1/4)
		Width (W)		102 (4)	102 (4)	** 85 (3-3/8)	85 (3-3/8)	102 (4)
		Height (H)		148 (5-7/8)	148 (5-7/8)	** 162 (6-3/8)	162 (6-3/8)	132 (5-3/16)
		Center height (CH)		40 (1-9/16)	40 (1-9/16)	** 36 (1-7/16)	32 (1-1/4)	40 (1-9/16)
Net weight : Kg (lbs)		on catalog		4.8 (10.6)	5.6 (12.3)	4.3 (9.5)	4.8 (10.6)	6.1 (13.5)
		measured		4.8 (10.6)	5.6 (12.3)	4.3 (9.5)	5.2 (11.5)	5.5 (12.1)
Material of carrying case				Plastic	Plastic	Steel	Steel	Steel
Standard equipments	Chuck key			○	○	○	○	○
	Hex wrench			○	○			
	Wrench						○	○
	Side handle			○	○	○	○	○

The figures marked with \*\* mean the dimensions illustrated below.



## < 1 > Lubrication

Apply MAKITA grease SG No.0 to the following parts.  
Model DA4030



## < 2 > Disassembling gear housing cover and gear housing [ Model DA4030 and DA4031]

( 1 ) Disassemble top cover from gear housing by unscrewing two CT4 tapping screws as illustrated in Fig. 1.

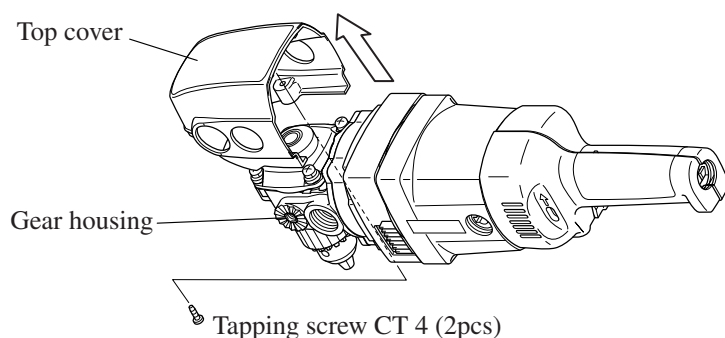


Fig. 1

( 2 ) Take off 4 pcs. of pan head screws M5 x 16, and disassemble gear housing cover by inserting slotted screwdrivers into the slit between gear housing cover and gear housing as illustrated in Fig. 2.

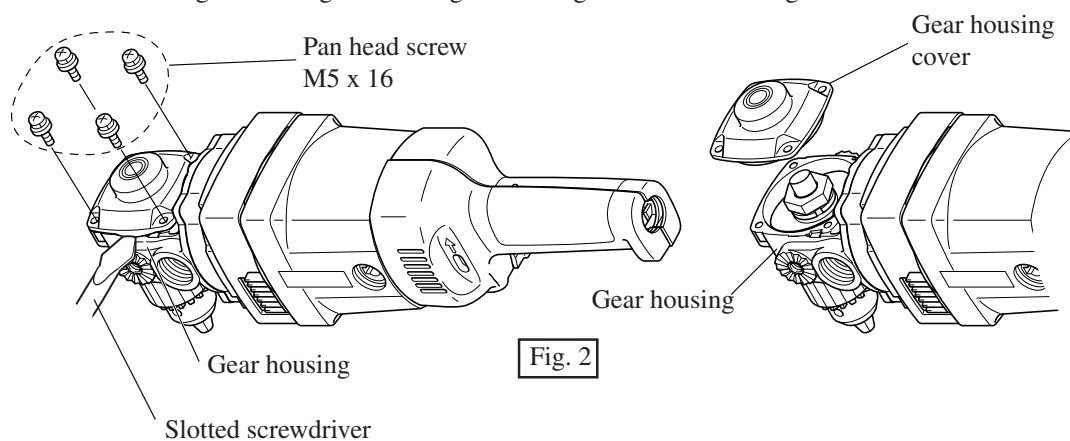
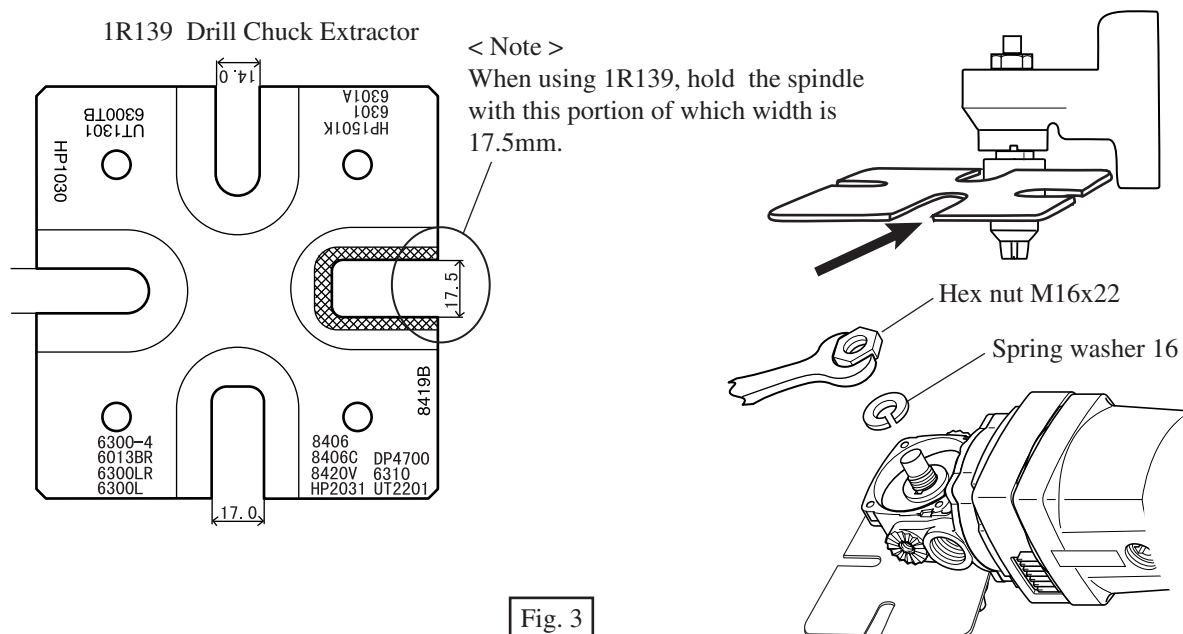
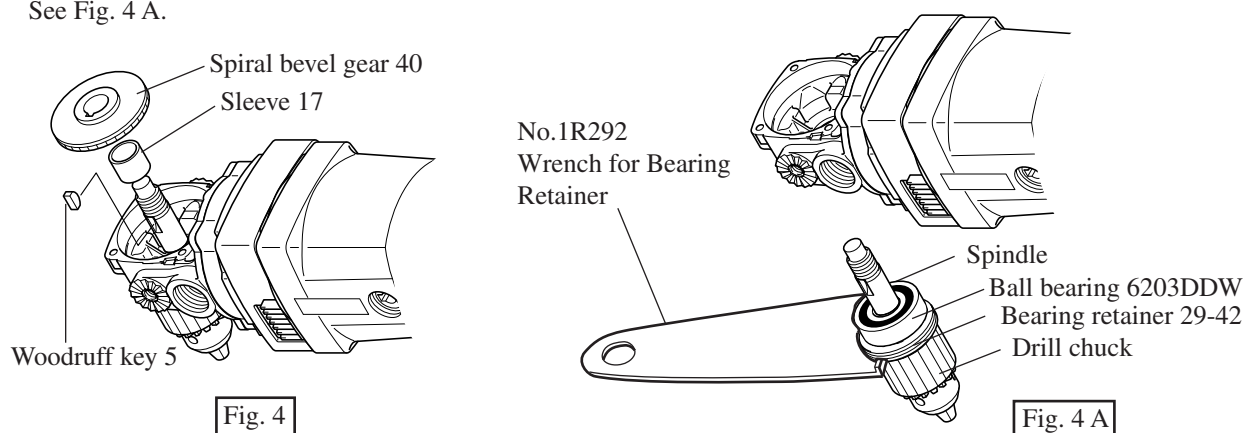


Fig. 2

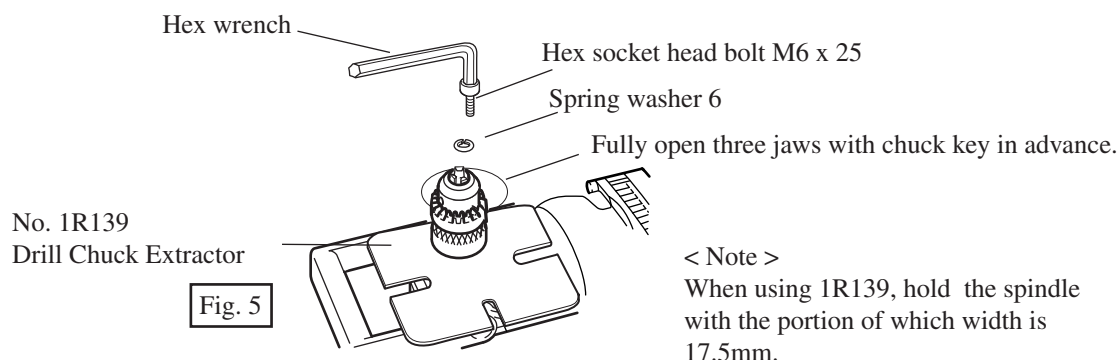
- ( 3 ) Insert No. 1R139 " Drill Chuck Extractor into the space between drill chuck and bearing retainer to hold spindle, And unscrew hex nut M16x22. So, spring washer 16 can be disassembled from spindle. See Fig. 3.



- ( 4 ) Take off spiral bevel gear 40, woodruff key 5 and sleeve 17 from spindle. See Fig. 4.  
And then, insert No.1R292 "Wrench for bearing retainer" into the space between drill chuck and bearing retainer 29-42 in order to remove the bearing retainer. And disassemble bearing retainer 29-42 by turning clockwise, in stead of anti-clockwise. See Fig. 4 A.  
Spindle, ball bearing 6203DDW and drill chuck can be disassembled as an assembly, from gear housing. See Fig. 4 A.



- ( 5 ) If you remove drill chuck S13 from spindle, before removing hex nut M16 and spring washer 16 from spindle; Hold spindle with No. 1R139 " Drill Chuck Extractor ". Open three jaws of drill chuck to the full. And then, take off hex socket head bolt M6 x 25 by loosening with hex wrench, from drill chuck . So, drill chuck and spring washer 6 can be separated from spindle. See Fig. 5.



**< 3 > Assembling gear housing cover and gear housing [ Model DA4030 and DA4031]**

- ( 1 ) Hold spindle with No. 1R139 " Drill Chuck Extractor ", and open three jaws of drill chuck to the full with chuck key.  
Screw hex socket head bolt M6 x 25 through spring washer 6 as illustrated in Fig. 6.  
Employ the following tools for screwing hex socket head bolt M6 x 25.

No.1R219 Torque wrench  
No.1R220 Ratchet head for torque wrench  
No.134873-0 Bit adaptor  
No.1R230 1/4" Hex shank bit Multi-purpose M6  
No.1R222 Socket adaptor

The assembled drill chuck is as per Fig. 6 A.

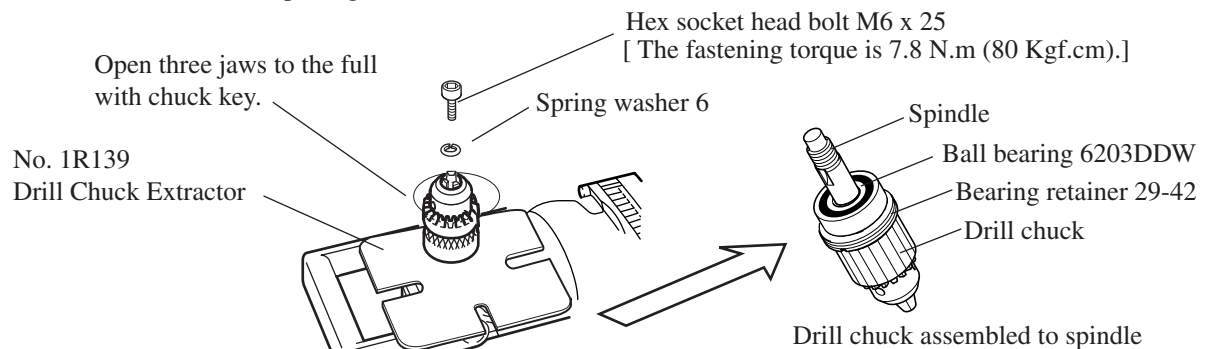


Fig. 6

Fig. 6 A

**< Note >**

- 1.When using 1R139, hold spindle with the portion of which width is 17.5mm.
- 2.When replacing drill chuck, also replace hex socket head bolt M6 x 25 by new one.

- ( 2 ) Mount the assembled drill chuck into gear housing, and then, assemble bearing retainer 29-42 by turning it with 1R292 "Wrench for Bearing Retainer", anti-clockwise, in stead of clockwise. See Fig. 7.  
And then, assemble sleeve 17, woodruff key 5 and spiral bevel gear 40 to spindle as per Fig. 7 A.

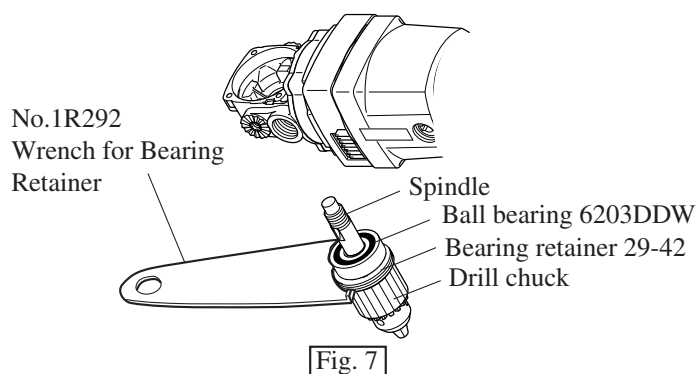


Fig. 7

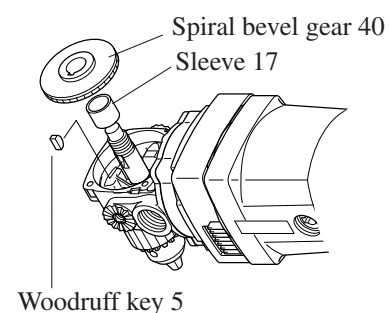


Fig. 7A

- ( 3 ) Holding spindle with No. 1R139 " Drill Chuck Extractor ", assemble spring washer 16, and fasten them with hex nut M6 x 22 as illustrated in Fig. 8. and Fig. 8 A.

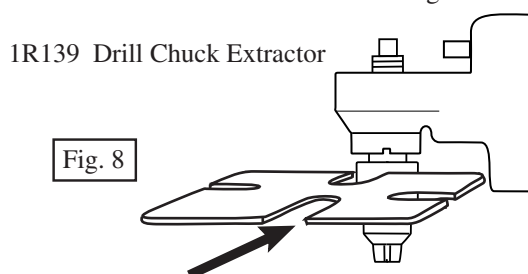


Fig. 8

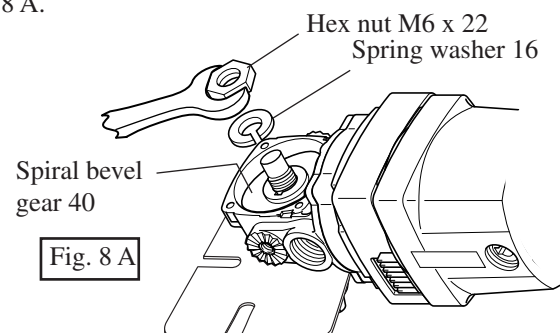
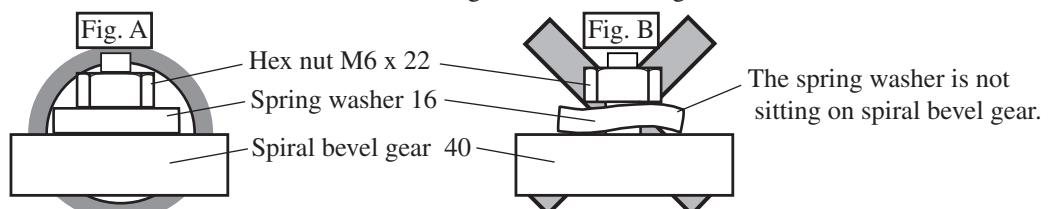


Fig. 8 A

**< Note >**

Hex nut M6 x 22 has to be fastened as illustrated in Fig. A, in stead of Fig.B.





- ( 4 ) Assemble gear housing cover by fastening with 4 pcs. of pan head screws M5 x 16 as illustrated in Fig. 9.  
And then, assmble top cover by fastening tapping screw CT 4 as illustrated in Fig. 9 A.

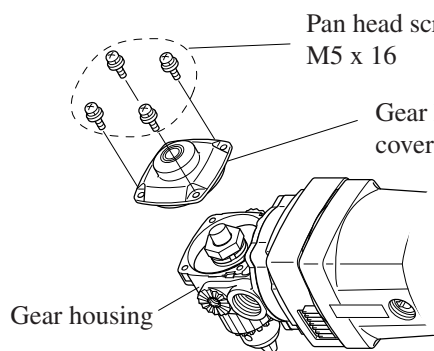


Fig. 9

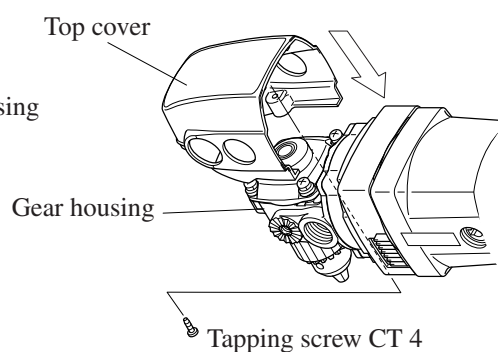


Fig. 9 A

#### < 4 > Disassembling gear housing and gear case (Model DA4030)

- ( 1 ) After taking off spur gear 40 as illustrated in Fig. 3 and Fig. 4, unscrew 4 pcs. of pan head screws M5 x 16 and separate gear case from gear housing as illustrated in Fig. 10.

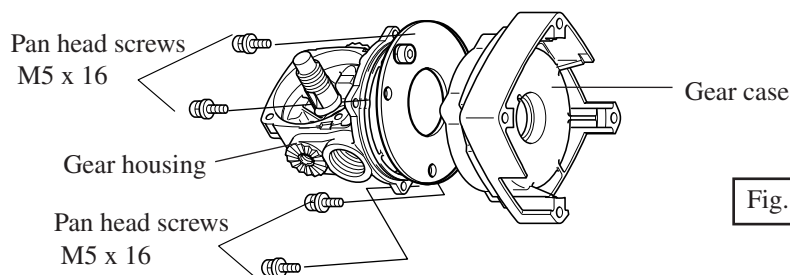


Fig. 10

- ( 2 ) Take off 2 pcs. of hex socket head bolts M4 x 20 which is fastening internal gear 49 and plate as illustrated in Fig. 11.  
And then, take off spur gears 19, carrier and ring 15 from gear housing as illustrated in Fig. 11 A.

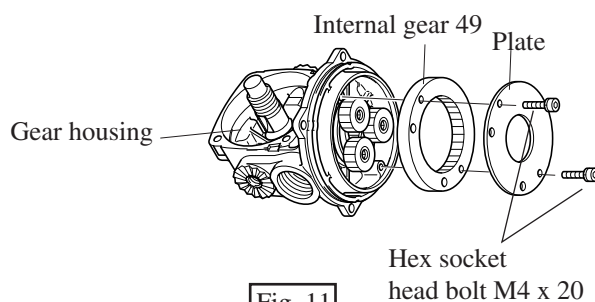


Fig. 11

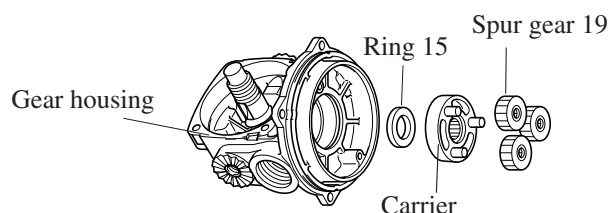


Fig. 11 A

- ( 3 ) Take off retaining ring R-15. Then, spiral bevel gear 13 and flat washer 6 can be disassembled from gear housing as illustrated in Fig. 12.

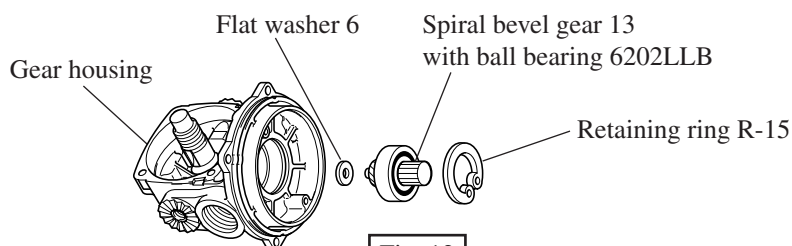


Fig. 12

#### < 5 > Assembling gear housing and gear case (Model DA4030)

Take the following step for assembling.

Fig. 12, Fig. 11 A, Fig. 11 and Fig. 10.

**< 6 > Disassembling gear housing and gear case (Model DA4031)**

- ( 1 ) After taking off spur gear 40 as illustrated in Fig. 3 and Fig. 4, unscrew 4 pcs. of pan head screws M5 x 16 and separate gear case from gear housing as illustrated in Fig. 13.

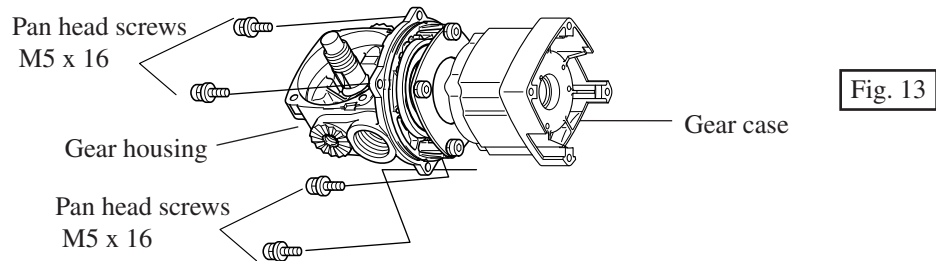


Fig. 13

- ( 2 ) Take off 4 pcs. of pan head screws M5 x 16 which is fastening retainer plate. And then, disassemble retainer plate and cam as illustrated in Fig. 14.

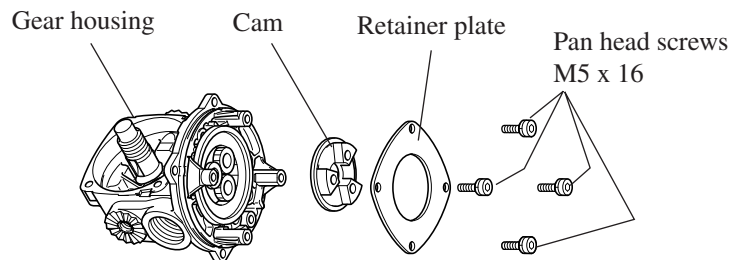


Fig. 14

- ( 3 ) Take off the gear section as per the following order. See Fig. 15.

1. Internal gear 38,
2. Spur gear 14,
3. Needle gauge 6910,
4. Carrier A,
5. Ring 15

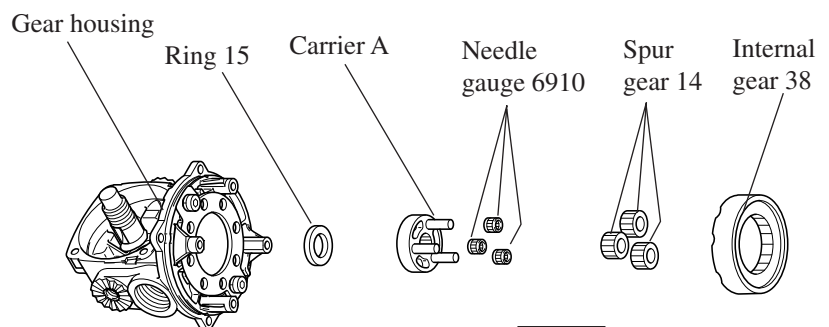


Fig. 15

- ( 4 ) Take off 2 pcs. of hex socket head bolts M5 x 16 which is fastening guide plate. And then, disassemble steel ball 7.0 and compression springs 5 from gear housing as illustrated in Fig. 16.

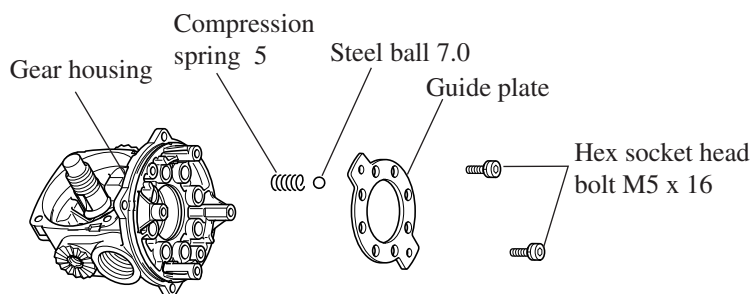


Fig. 16

Note:  
Steel balls 7.0 and compression springs 5 are used (8 pcs each) respectively in accordance with punched holes of guide plate.

**< 7 > Assembling gear housing and gear case (Model DA4031)**

Take the following step for assembling.  
Fig. 16, Fig. 15, Fig. 14, Fig 13

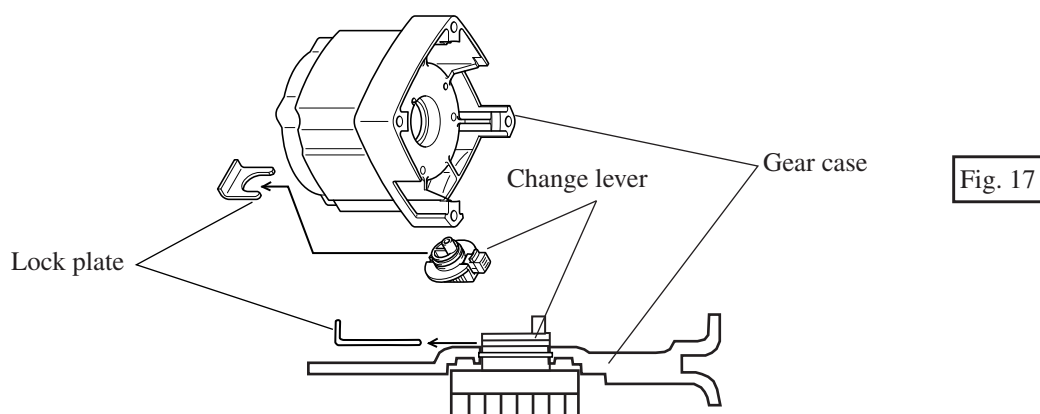
< Note in assembling >

The fastening torque of hex socket head bolts M5 x 16 has to be 4.9 N.m (50 Kgf.cm) for assembling guide plate and retainer plate



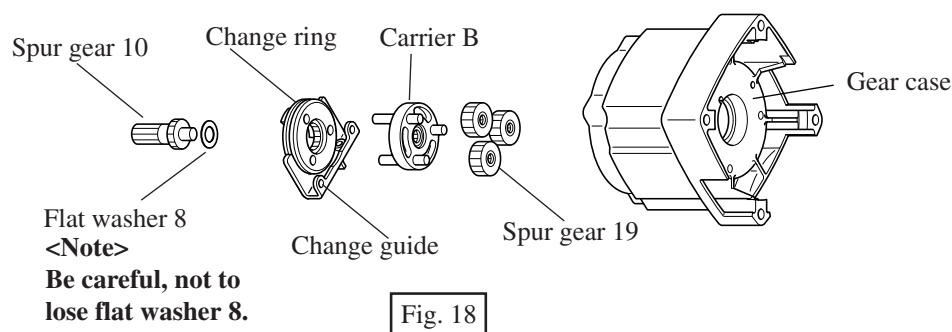
### < 8 > Disassembling gear case and installation for speed change (Model DA4031)

(1) After taking off lock plate, disassemble change lever from gear case as illustrated in Fig. 17.

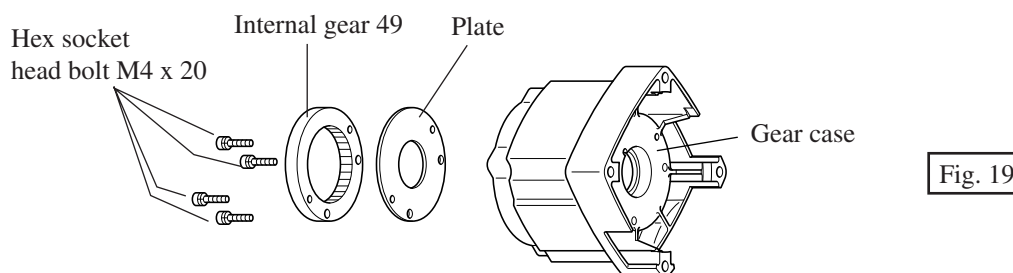


(2) Disassemble the parts in the following order from gear case as illustrated in Fig. 18.

1. Spur gear 10 with flat washer 8,
2. Change ring with change guide,
3. Carrier B,
4. Spur gear 19

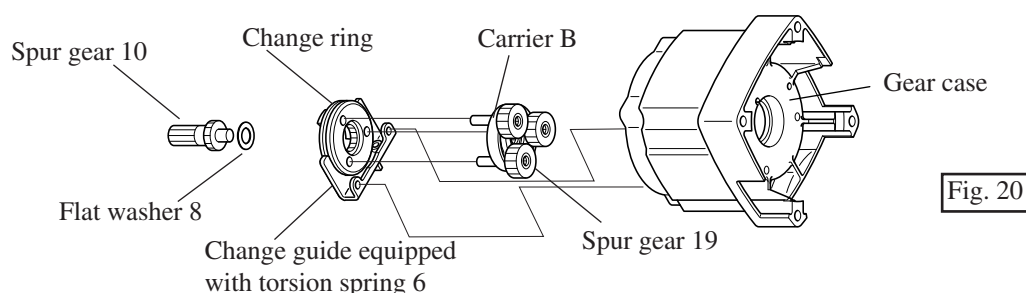


(3) After taking off 4 pcs. of hex socket head bolt M4 x 20, disassemble internal gear 49 and plate as illustrated in Fig. 19.



### < 9 > Assembling gear case and installation for speed change (Model DA4031)

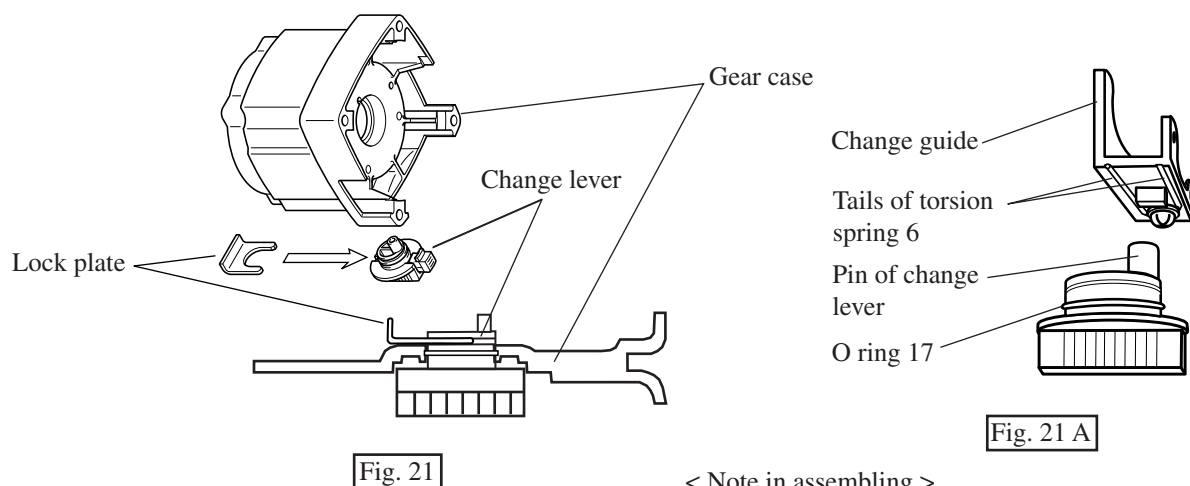
- (1) Assemble plate and internal gear 49 into gear case. And then, fasten them with hex socket head bolt M4 x 20. Refer to Fig. 19.
- (2) After assembling spur gear 19 to carrier B, install them into gear case, engaging spur gears 19 with internal gear 49. And then, assemble change ring to which change guide has been assembled in advance, and spur gear 10 together with flat washer 8. See Fig. 20.



< Note in assembling >

1. Fitting 3 holes of change guide to 3 pins of carrier B, and fitting 2 holes of change guide to the pin in gear case respectively, assemble change ring and change guide as illustrated in Fig. 20.

( 3 ) After assembling change lever to gear case, assemble lock plate to change lever as illustrated in Fig. 21.



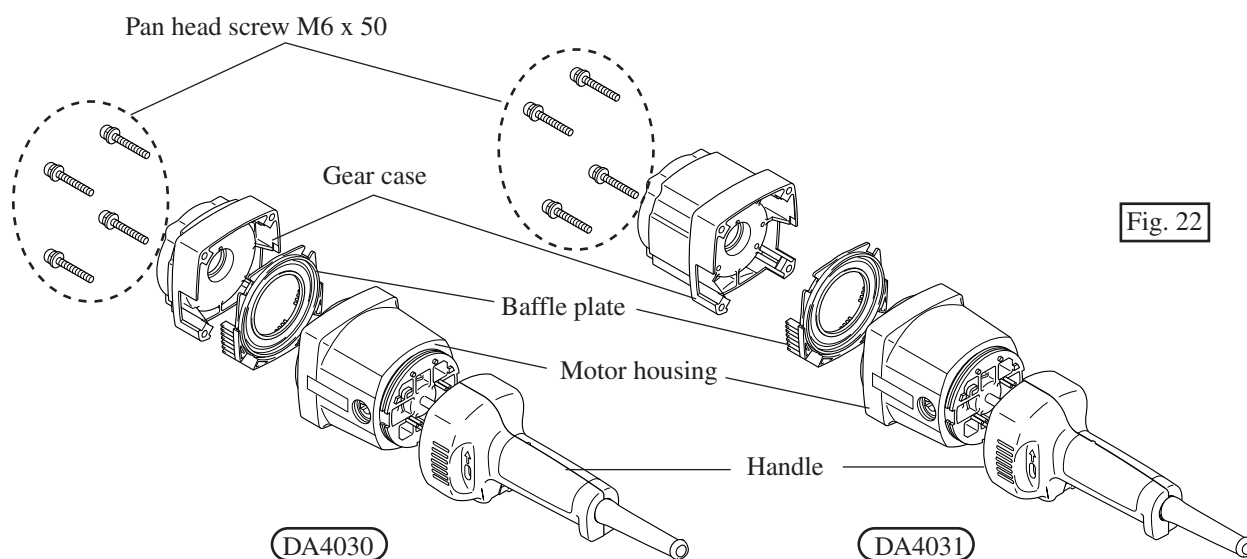
< Note in assembling >

1. The pin of change lever has to come between the tails of torsion spring 6 as illustrated in Fig. 21 A.
2. Before assembling, make sure, if O ring 17 is installed on change lever as illustrated in Fig. 21 A.

#### < 10 > Assembling gear case and motor housing (Model DA4030 and DA4031)

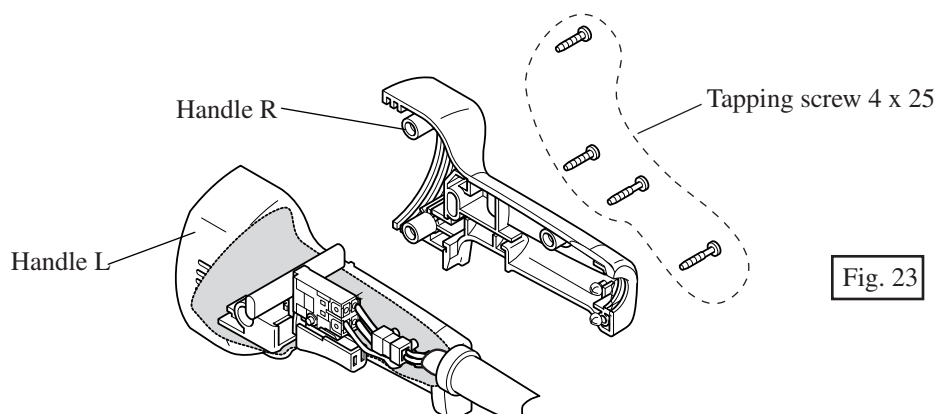
Assemble gear case and motor housing as illustrated in Fig. 22.

Use screwdriver bit No.3 for pan head screw M6 x 50.



#### < 11 > Disassembling handle and switch (Model DA4030 and DA4031)

1. Separate handle R from handle L by unscrewing 4 pcs. of tapping screws 4 x 25 as illustrated in Fig 23.



**< 12 > Assembling handle and switch (Model DA4030 and DA4031)**

After installing the inner parts illustrated in Fig. 23, into handle L, assemble handle R to handle L by screwing 4 pcs. of tapping screws M4 x 25.

< Note in assembling >

Assemble F.R. change lever to switch as illustrated in Fig. 24.

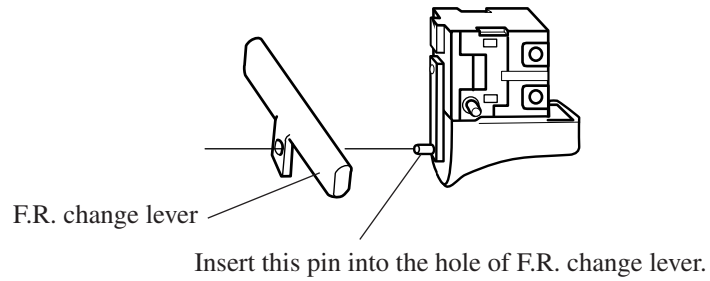
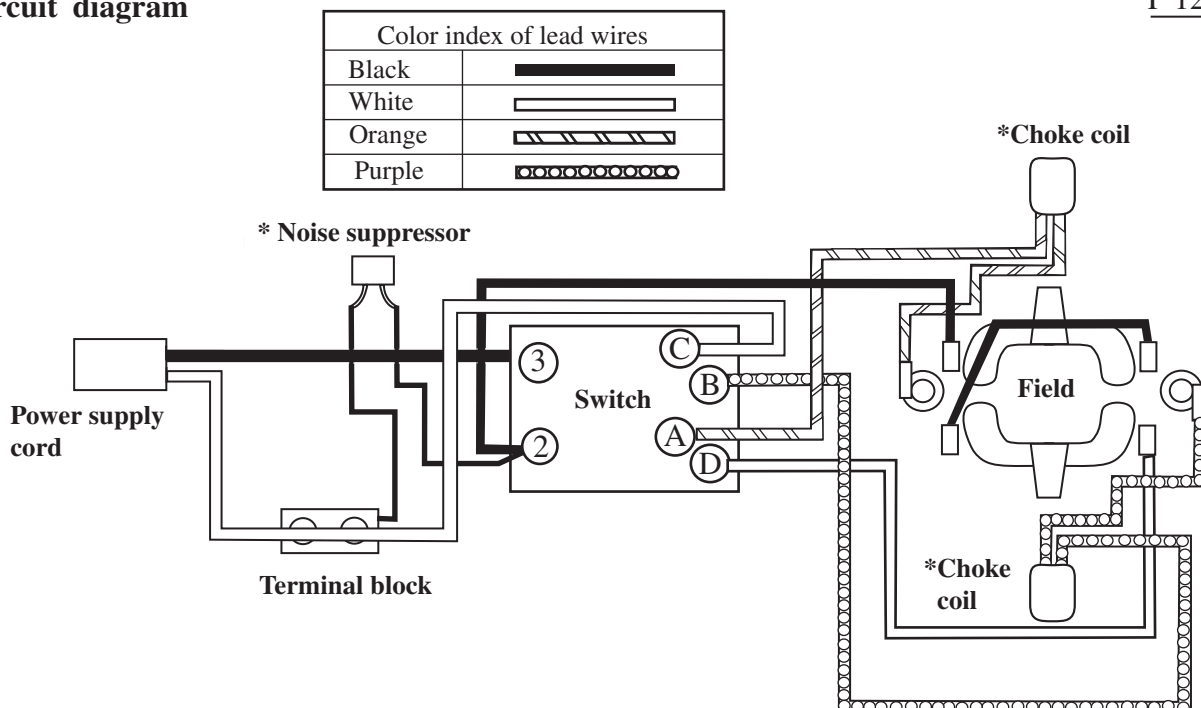
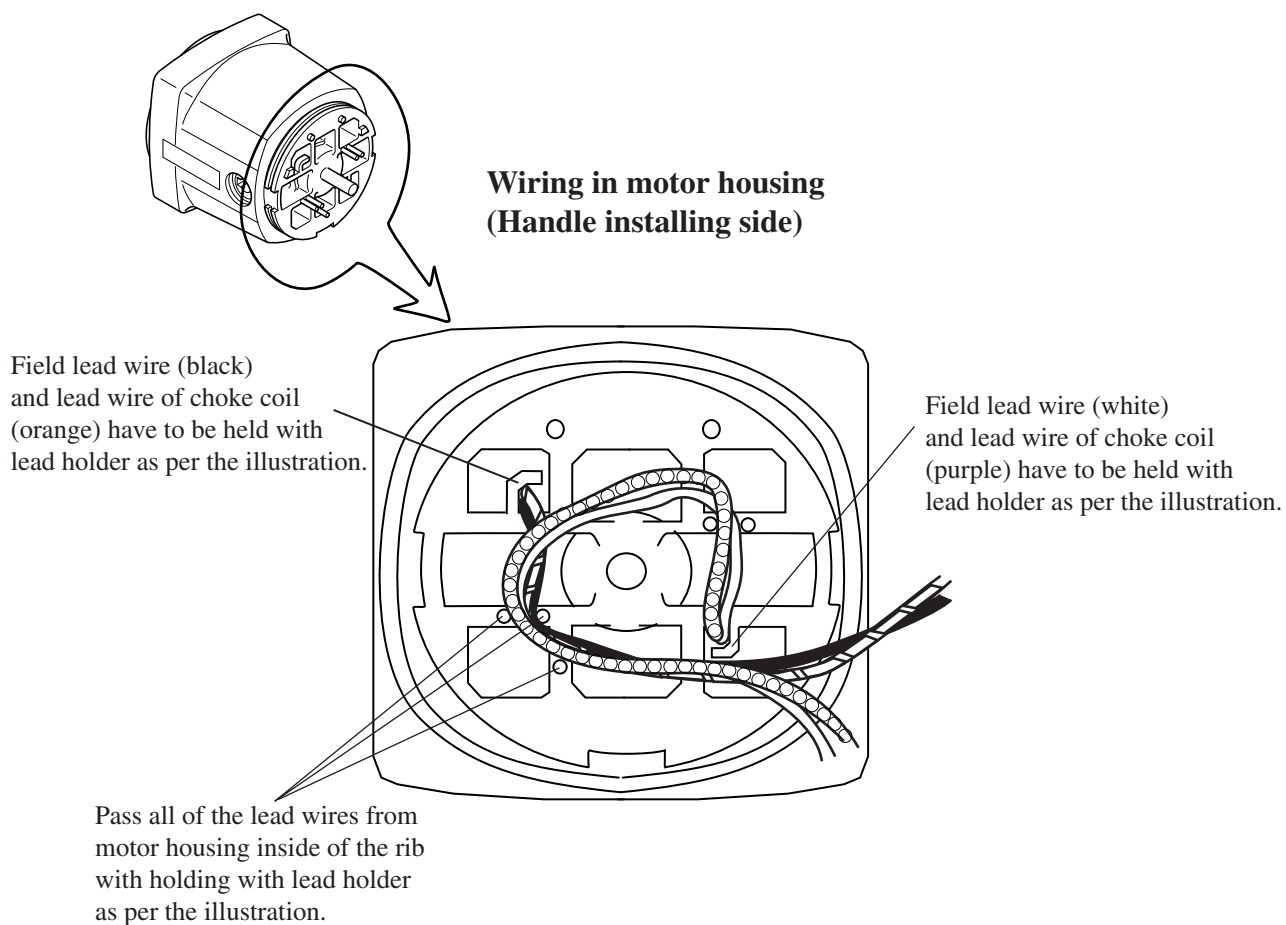


Fig. 24

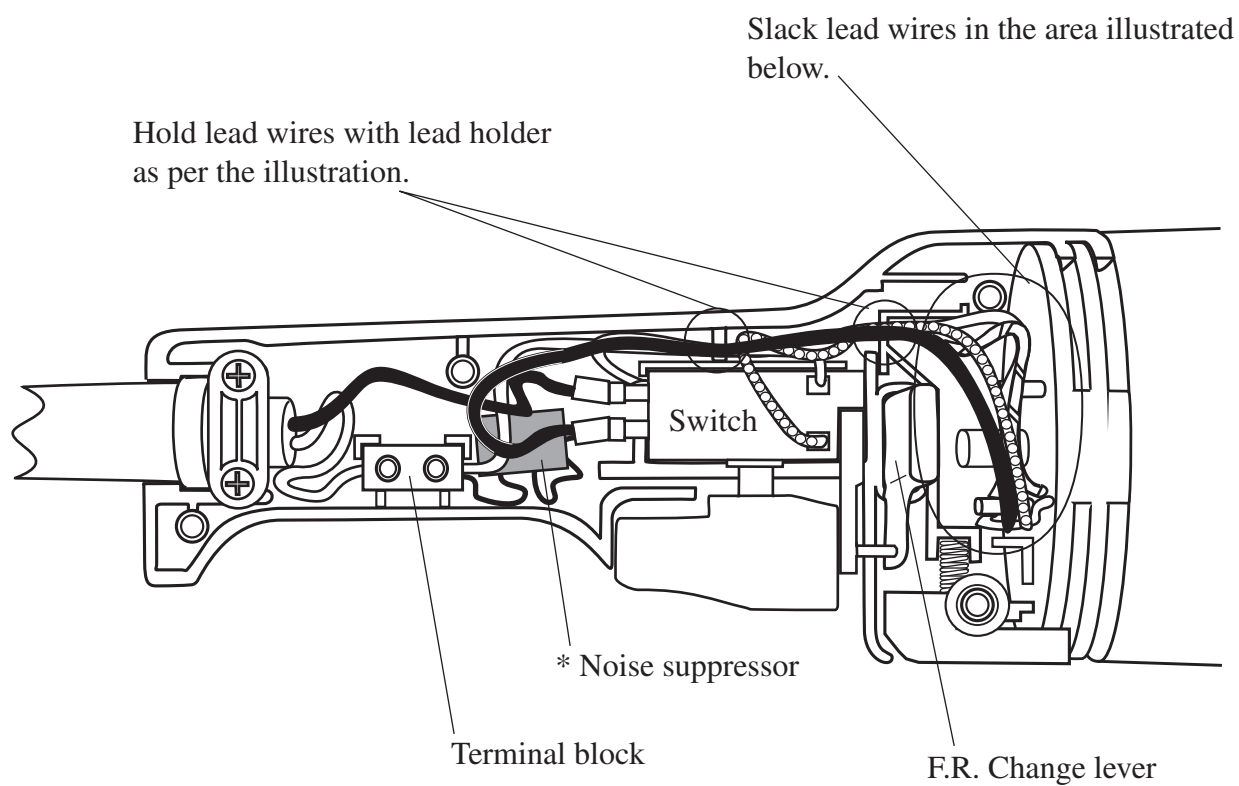


\* Connect noise suppressor and choke coil as illustrated above, if they are needed.

► **Wiring diagram**



**Wiring in handle**  
( Handle L )



\* Put noise suppressor in the position as illustrated above, if it is used.