

# TECHNICAL INFORMATION



**Models No.** ▶ 8443D, 8433D, 8413D

**Description** ▶ Cordless Percussion Driver drill

## CONCEPTION AND MAIN APPLICATIONS

Mod.8443D: 18V percussion version of existing Mod.6343D.

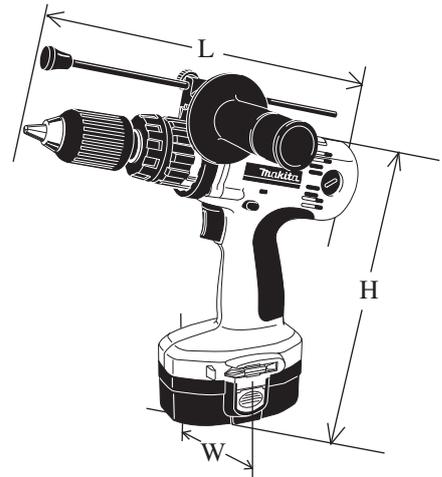
Its action mode change ring (screwdriver - drill- percussion) can be operated independently of torque adjusting ring for easy operation. Equipped with one sleeve chuck.

Mod.8433D: 14.4V version of Mod.8443D. Its features are same as Mod.8443D.

Mod.8413D: 12V version of Mod.8443D. Its features are same as Mod.8443D.

\* Variation of Mod. 8443D, 8433D and 8413D

Model No.	Battery	Charger
8443DWAE	1822 : 2 pcs	DC1801
8443DWDE	1834 : 2 pcs.	DC1801
8443DWFE	1835 : 2 pcs.	DC1801
8433DWAE	1422 : 2 pcs.	DC1411
8433DWDE	1434 : 2 pcs.	DC1411
8433DWFE	1435 : 2 pcs.	DC1411
8413DWAE	1222 : 2 pcs.	DC1411
8413DWDE	1234 : 2 pcs.	DC1411
8413DWFE	1235 : 2 pcs.	DC1411



Dimensions in mm (")

Model No.	L	H	W
8443D	267 (10-1/2)	249 (9-13/16)	95 (3-3/4)
8433D	267 (10-1/2)	244 (9-5/8)	94 (3-11/16)
8413D	267 (10-1/2)	240 (9-1/2)	94 (3-11/16)

## ► Specification

Model No.	8443D	8433D	8413D
Voltage ( V )	18	14.4	12
Chuck ability (mm)	1.5 (1/16") - 13 (1/2")		
No load speed (min. = rpm.)	High	0 - 1,400	0 - 1,300
	Low	0 - 450	0 - 400
Blows per min. (bpm.)	High	0 - 21,000	0 - 19,500
	Low	0 - 6,750	0 - 6,000
Drilling capacity	in Steel	13 mm (1/2")	13 mm (1/2")
	in Wood	38 mm (1-1/2")	36 mm (1-7/16")
	in Stone	16mm (5/8")	14 mm (9/16")
Torque adjustment	16 stage and drill mode		
Max.fastening torque	45Nm (460Kgfc (33ft.lbs)	38Nm (390Kgfc (28ft.lbs)	32Nm (330Kgfc (24ft.lbs)
Adjustable torque in 16 stage	1Nm - 6 Nm (10Kgfc - 60Kgfc) (0.7ft.lbs - 4.4ft.lbs)		

## ► Standard equipment

- \* Battery cover ..... 2 pcs.
- \* Grip assembly..... 1 pc.
- \* 18 V battery ..... 2 pcs.
- \* Stopper pole assembly..... 1 pc.
- \* + - Bit 2-45 .....2 pcs.
- \* Carrying case ..... 1 pc.

< Note > The standard equipment for the tool shown may be differ from country to country.

## ► Optional accessories

- \* Various TCT. bits
- \* Safety goggle
- \* Blow-out bulb
- \* Battery 1834 (NiMH, 2.6Ah)
- \* Battery 1835 (NiMH, 3.0Ah)

## ► Benefits and features

8443D, 8433D, 8413D

**High power and newly added Percussion mode**

**One sleeve keyless chuck with shaft lock**

When switch off, spindle is to be locked automatically. Bits can be thus replaced with another one hand.

**Action mode change ring** can be operated independently of torque adjustment ring for easy operation.

**Variable switch easy for control**

**Adjusting ring** for adjusting tightening torque in 16 stage

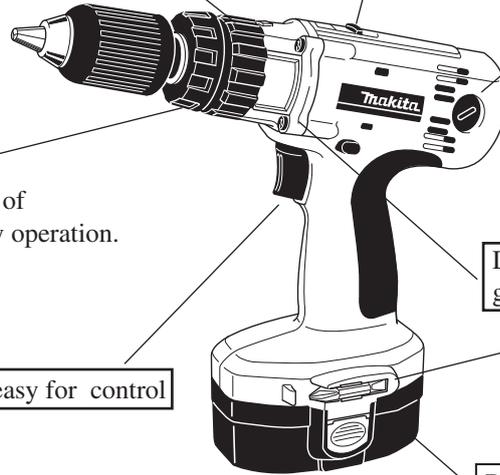
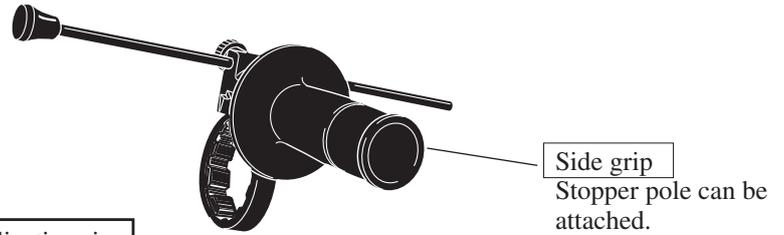
**Mechanic 2 speed change lever**

**High power long life motor D34 type w/externally accessible brush**

**Durable aluminum gear housing**

**W/ Bit holder**

**Batteries 12V, 14.4V and 18V**



## ► Comparison of products

18V class models

Manufacturer	MAKITA	CompetitorA	Competitor B
Model No.	8443D	Model A-18	Model B-18
Voltage ( V )	18	18	18
Chuck ability : mm ( " )	13 (1/2)	13 (1/2)	13
No Load Speed (min. = rpm.)	High	0 - 1,400	0 - 1,800
	Low	0 - 450	0 - 650
Blows per min. (min. = bpm.)	High	0 - 21,000	0 - 19,800
	Low	0 - 6,750	0 - 7,150
Drilling capacity : mm ( " )	in Steel	13 (1/2)	13
	in Wood	38 (1-1/2)	35
	in Stone	16 (5/8)	16
Max. fastening torque : Nm (in.lbs)	45 (400)	37 (325)	50
Equipped motor	D34-30	—	—
One sleeve chuck (shaft lock)	Yes	No	Yes
Aluminum gear housing	Yes	No	No
Side grip assembly	Yes	No	No
Weight (including battery)	2.6	2.5	2.3
Kg (lbs.)	(5.7)	(5.6)	
Carrying case	Yes	Yes	Yes
Standard equipment	*Side grip assembly *2 bits	*2 bits	*2 bits

## ► Comparison of products

### 14.4V class models

Manufacturer		MAKITA	Competitor A	Competitor B	Competitor C	Competitor D
Model No.		8433D	Model A-14	Model B-14	Model C-14	Model D-14
Voltage ( V )		14.4	14.4	14.4	14.4	15.6
Chuck ability : mm ( " )		13 (1/2)	13 (1/2)	13	13	13
No Load Speed (min.= rpm.)	High	0 - 1,300	0 - 1,750	0 - 1,750	0 - 1,200	270 - 2,000
	Low	0 - 400	0 - 600	0 - 600	0 - 350	70 - 570
Blows per min. (min.= bpm.)	High	0 - 19,500	0 - 19,500	0 - 19,800	0 - 21,600	4,050 - 30,000
	Low	0 - 6,000	0 - 6,600	0 - 6,600	0 - 6,300	1,050 - 8,850
Drilling capacity :mm ( " )	in Steel	13 (1/2)	13 (1/2)	13	13	—
	in Wood	36 (1-7/16)	25 (1)	30	36	—
	in Stone	14 (9/16)	6 (1/4)	14	14	—
Max. fastening torque : Nm (in.lbs)		38 (340)	33 (290)	49	31	23
Equipped motor		D34-30	—	—	—	—
One sleeve chuck(shaft lock)		Yes	No	Yes	No	Yes
Aluminum gear housing		Yes	No	No	No	No
Side grip assembly		Yes	No	No	Yes	No
Weight including battery Kg (lbs.)		2.4 (5.3)	2.3 (5.1)	2.1	2.3	2.3
Carrying case		Yes	Yes	Yes	Yes	Yes
Standard equipment		*Side grip assembly *2 bits	*2 bits	*2 bits	*Side grip	*1 bit

### 12V class models

Manufacturer		MAKITA		Competitor A	Competitor B
Model No.		8413D	8412D	Model A-12	Model B-12
Voltage ( V )		12	12	12	12
Chuck ability : mm ( " )		13 (1/2)	13 (1/2)	10 (3/8)	13
No Load Speed (min.= rpm.)	High	0 - 1,300	0 - 1,150	0 - 1,400	0 - 1,400
	Low	0 - 400	0 - 370	0 - 450	0 - 460
Blows per min.	High	0 - 19,500	0 - 12,700	0 - 15,400	0 - 15,400
	Low	0 - 6,000	0 - 4,100	0 - 4,950	0 - 5,100
Drilling capacity :mm ( " )	in Steel	13 (1/2)	13 (1/2)	10 (3/8)	13
	in Wood	30 (1-3/16)	24 (15/16)	25 (1)	25
	in Stone	13 (1/2)	10 (3/8)	6 (1/4)	12
Max. fastening torque : Nm (in.lbs)		32 (280)	21 (190)	30 (270)	47
Equipped motor		D34-30	RS775	—	—
One sleeve chuck(shaft lock)		Yes	No	No	Yes
Aluminum gear housing		Yes	No	No	No
Side grip assembly		Yes	No	No	No
Weight including battery Kg (lbs.)		2.3 (5.1)	2.2 (4.8)	1.9 (4.3)	1.9
Carrying case		Yes	Yes	Yes	Yes
Standard equipment		*Side grip assembly *2 bits	*1 bits	*2 bits	*2 bits

## ► Comparison of products

Testing condition

\* Drilling depth : 30mm \* Capacity of testing battery : 2.0 Ah

Working Speed  
Slow ← → Fast

Performance examples  
one battery pack charge  
Few ← → Many

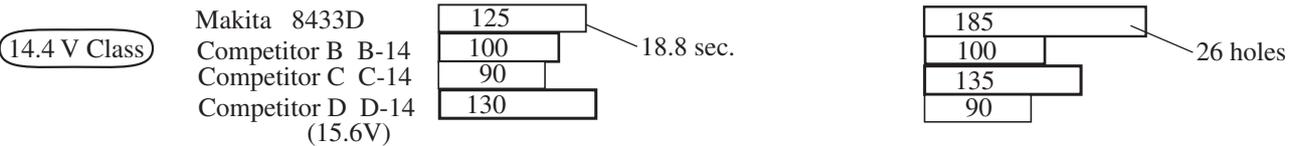
Numbers in chart below are relative values when setting Model B-18 's capacity as 100.

\* Material : Mortar \* Bit diameter : 16mm



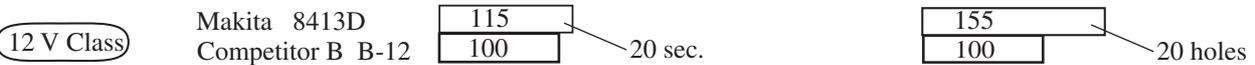
Numbers in chart below are relative values when setting Model B-14 's capacity as 100.

\* Material : Mortar \* Bit diameter : 14mm



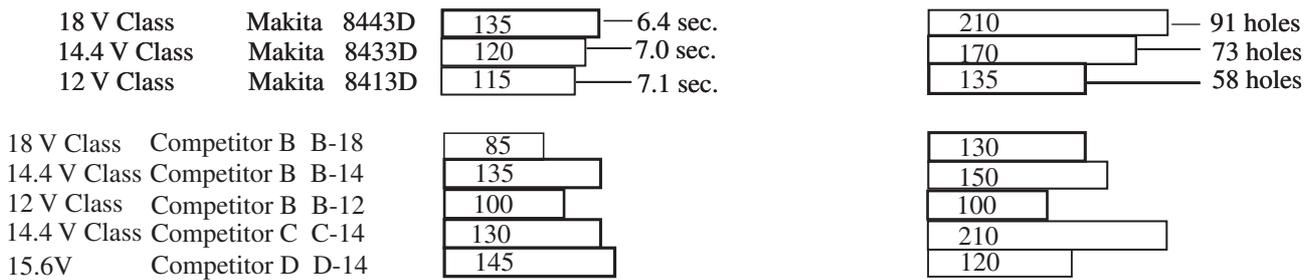
Numbers in chart below are relative values when setting Model B-12 's capacity as 100.

\* Material : Mortar \* Bit diameter : 12.5mm



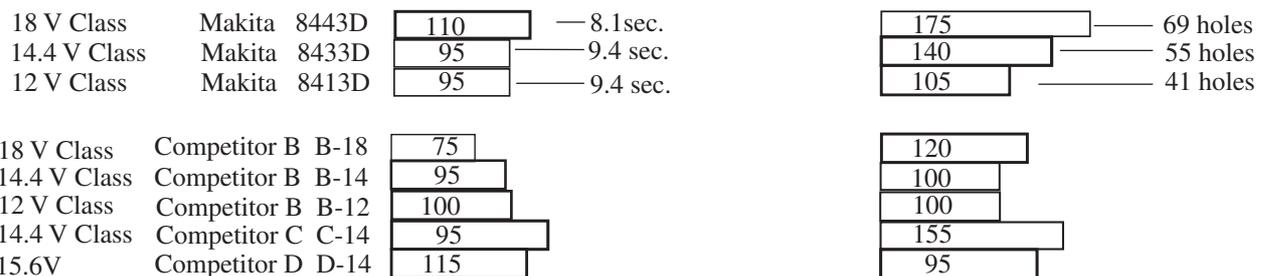
Numbers in chart below are relative values when setting Model B-12 's capacity as 100.

\* Material : Mortar \* Bit diameter : 9.5mm



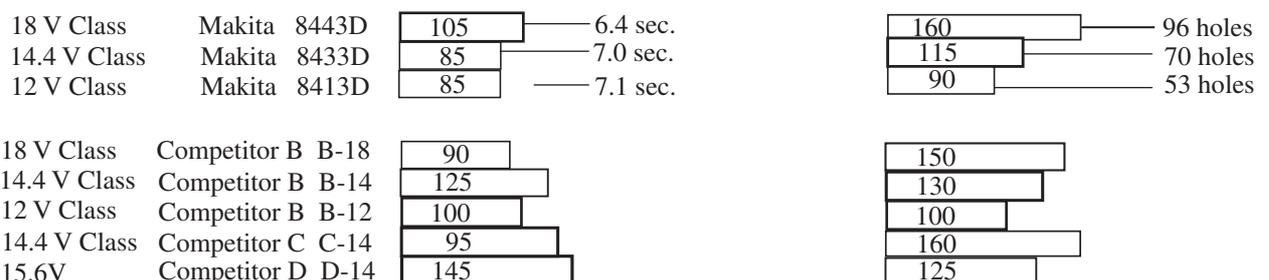
Numbers in chart below are relative values when setting Model B-12 's capacity as 100.

\* Material : Brick \* Bit diameter : 11mm



Numbers in chart below are relative values when setting Model B-12 's capacity as 100.

\* Material : Brick \* Bit diameter : 6 mm



## ► Comparison of products

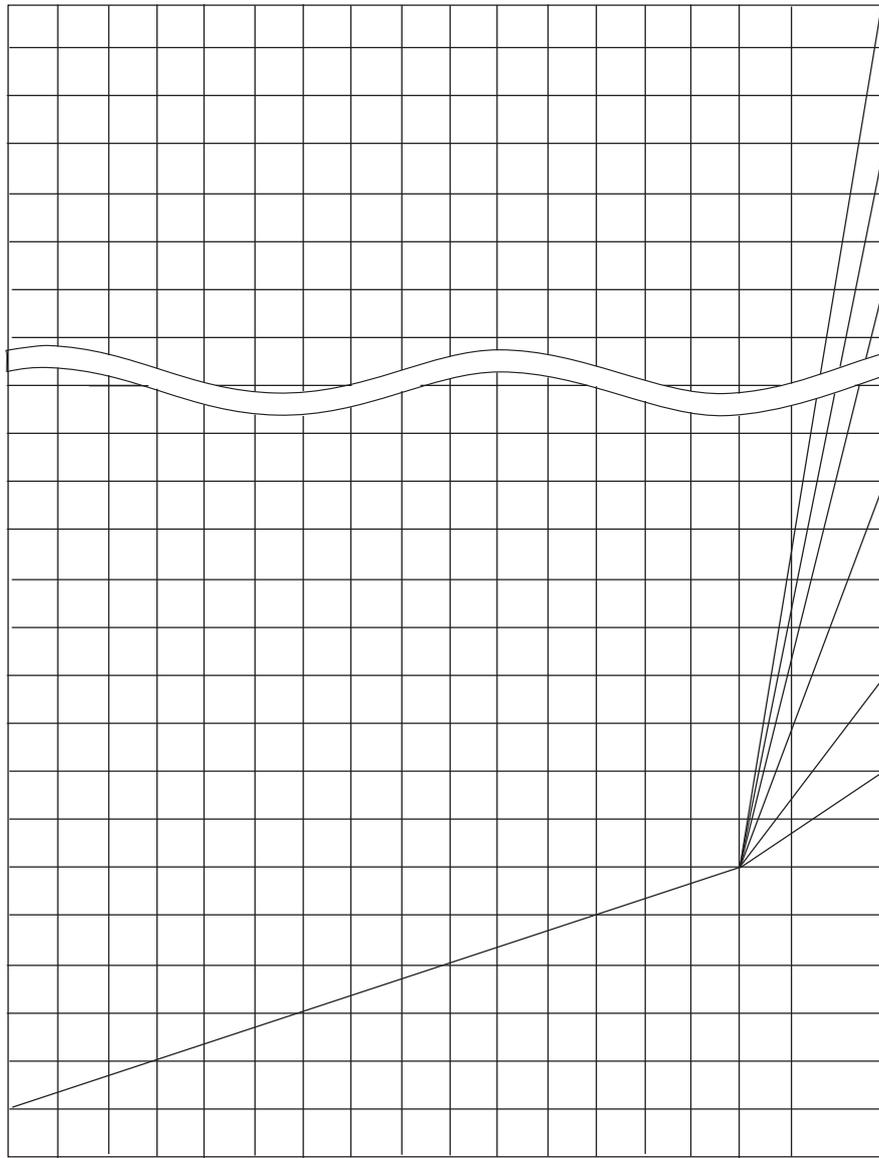
Fastening torque for every graduations on adjusting ring and action mode change ring

Fastening torque

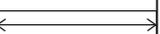
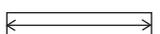
ft.lbs Kgfcm Nm

33.3 460 45  
 31.1 430 42  
 29.6 410 40  
 28.1 390 38  
 26.6 370 36  
 25.1 350 34  
 23.6 330 32

10.3 140 14  
 8.9 120 12  
 7.4 100 10  
 5.9 80 8  
 4.4 60 6  
 3.0 40 4  
 1.5 20 2  
 0 0 0



8443D  
 Low speed  
 8443D  
 Low speed  
 8413D  
 Low speed  
 8443D  
 High speed  
 8433D  
 High speed  
 8413D  
 High speed

Graduations on adjusting ring	1	2	4	6	8	10	12	14	16	Engaged mode
Action mode change ring										
Machine screws and the graduations 1 - 16	M4	M5			M6					
Wood screws and the graduations 1 - 16	Ø3.5x22 		Ø4.1x38 			Ø5.1x50 				Fastening on soft wood. (Pine etc.)
	Ø3.5x22 		Ø4.1x38 			Ø5.1x50 				Fastening on hard wood. (Lauan etc.)

16 stage adjusting ring

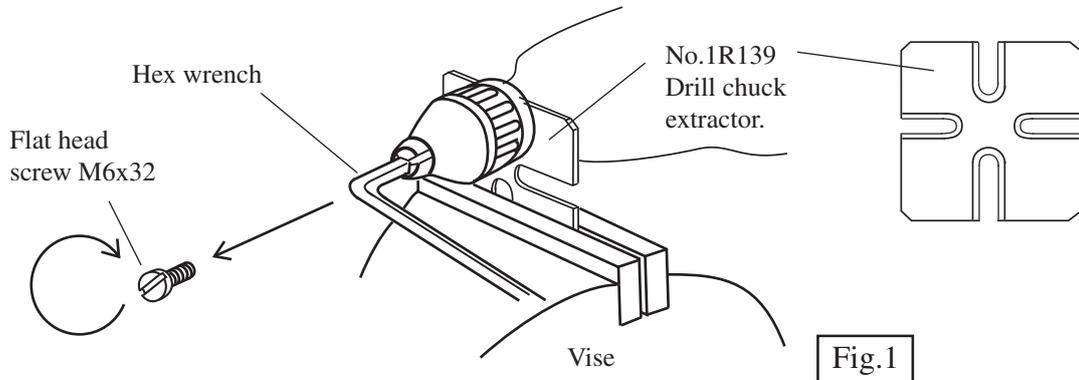
16 setting position of torque graduations can be precisely adjusted into work piece.

## ▶ Repair

### (1) Removing of drill chuck

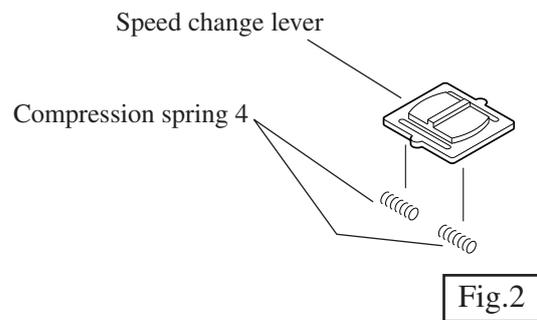
Drill chuck has to be removed as follows.

1. Take off flat head screw M6x32 by turning it clockwise. See Fig.1.  
(In case of removing housing, it is not necessary to take off it.)
2. Hold the flat part of spindle with spanner 14 (No.781007-2) or drill chuck extractor No.1R139. See Fig.1.
3. Turn the hex wrench fastened with drill chuck anti-clockwise.



### (2) Removing housing

In removing, be careful not to lose compression spring 4 in speed change lever, because it easily goes away.



### (3) Note in Assembly

#### 1 Assembly of Motor and Gear assembly

- 1) Motor bracket is, in advance, assembled to gear assembly for spare parts.

First, take off the motor bracket.

Be careful that the inner parts do not come out from gear assembly, when taking off motor bracket.

- 2) Fasten the above motor bracket to motor with screw. See Fig.3A.

- 3) Assemble the motor equipped with motor bracket to gear assembly.

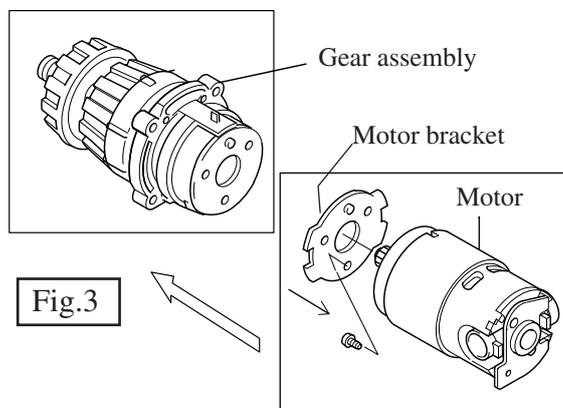


Fig.3A

## 2. Installing of Speed change lever

- 1) Place two Compression spring 4s into Speed change lever.
- 2) Being careful that Compression spring 4 may not comes out , install Speed change lever assembly in the projection of change lever as shown in Fig. 4.

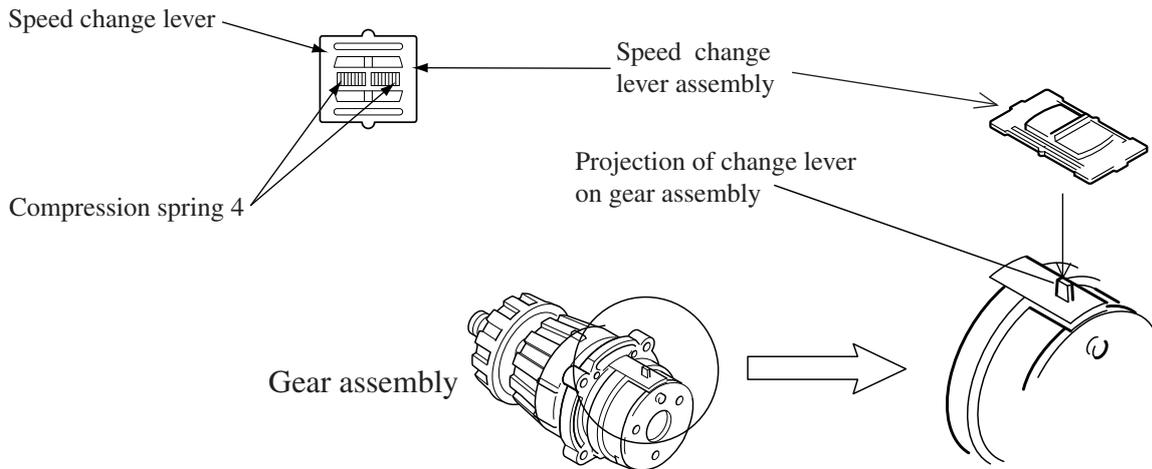


Fig. 4

## 3 Attaching to Housing

- 1) When attaching a unit of gear assembly and motor, etc. to housing L, place speed change lever in the position as shown in Fig. 5.

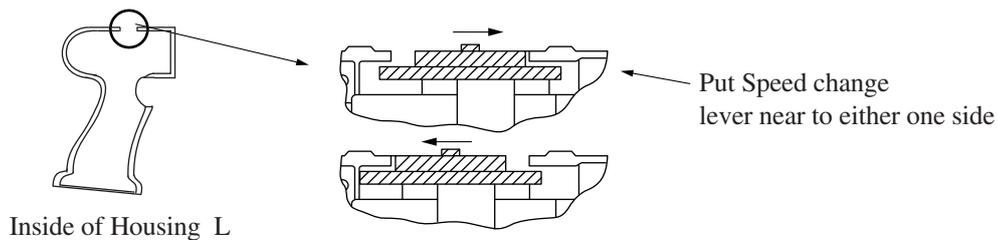


Fig.5

## 4 Assembling chuck

- 1) Tighten short cut hex wrench with drill chuck and hold the flat part of spindle with drill chuck extractor No.1R139 as illustrated in Fig.6.
- 2) Tighten drill chuck with ratchet head No.1R224 and torque wrench No.1R223 as illustrated in Fig.6.  
< Note > The fastening torque of torque wrench No.1R223 has to be adjusted to 50 - 60 Nm in advance.  
In case of smaller than 50Nm, drill chuck will fall, damaging flat head screw M6x32.
- 3) Take off short cut hex wrench by loosening drill chuck. And fasten flat head screw M6x32 anti-clockwise

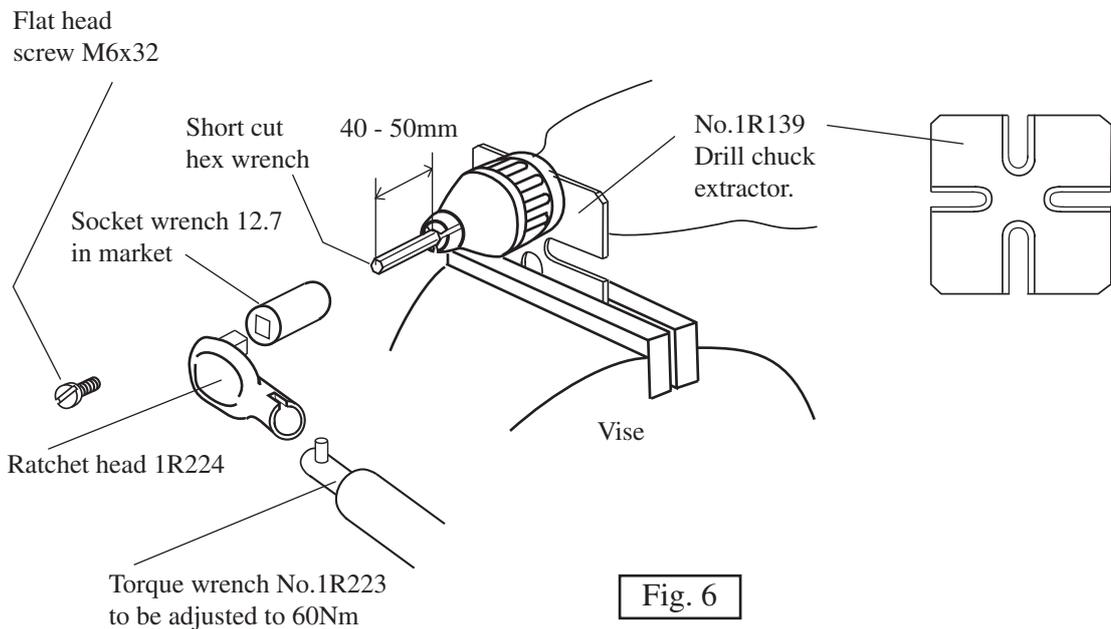
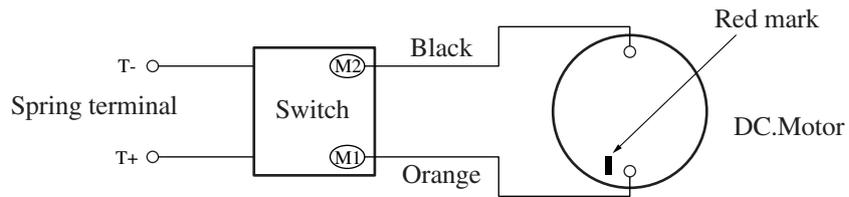


Fig. 6

## ► Circuit diagram



## ► Wiring diagram

Inside of Housing L

