

# TECHNICAL INFORMATION



PRODUCT

P 1 / 7

Models No. ► 8270D

Description ► Cordless Percussion Driver Drill

## CONCEPT AND MAIN APPLICATIONS

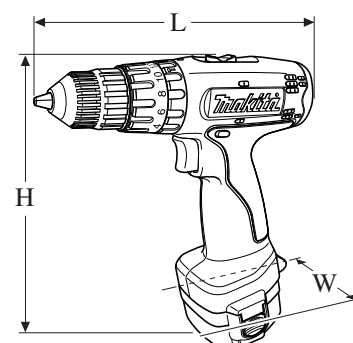
Models 8270D has been developed by adding percussion mechanism to Model 6270D for a compact, yet powerful and durable 12V cordless percussion driver drill. Its brief advantages are;

\*Compact design with an overall length of only 214mm (8-3/8")

\*Very versatile with 3 work modes; Percussion drill, Drill, Screwdriver

\*All metal gear construction for extra-high transmission durability

This new product is available in the variations listed below.



Model No.	Battery		Charger	Rechargeable flashlight
	Type	Q'ty		
8270DZ	without		without	without
8270DWAE	Ni-Cd Battery 1222 (2.0Ah)	2	DC1414	without
8270DWALE		2		ML120
8270DWDE	Ni-MH Battery 1234 (2.6Ah)	2		without
8270DWE	Ni-Cd Battery 1220 (1.3Ah)	2		without
8270DWLE		2		ML120
8270DWPE	Ni-Cd Battery PA12 (1.3Ah)	2		without
8270DWPLE		2		ML120
8270DWPE3		3		without

Dimensions: mm (")	
Length (L)	214 (8-3/8)
Width (W)	94 (3-11/16)
Height (H)	239 (9-3/8)

## ► Specification

Battery	Voltage: (V)		12		
	Cell		Ni-Cd	Ni-Cd	Ni-MH
	Capacity: (Ah)		1.3 Ah (Battery 1220, PA12)	2.0 Ah (Battery 1222)	2.6 Ah (Battery 1234)
No load speed: min-1=rpm		High speed	0 - 1,200		
		Low speed	0 - 350		
Impact per minute: min-1=bpm		High speed	0 - 18,000		
		Low speed	0 - 5,250		
Chuck capacity: mm ( " )			0.8 - 10 (1/32 - 3/8)		
Capacities	Steel: mm ( " )		10 (3/8)		
	Wood: mm ( " )		25 (1)		
	Masonry: mm ( " )		8 ( 5/16 )		
Max. fastening torque: N.m		Hard joint	30		
		Soft joint	18		
Torque adjustment			16 stages plus drill mode		
Net weight: kg (lbs) [includes battery]			1.6 (3.5)		

## ► Standard equipment

Model No.	8270DZ	8270DWAE, 8270DWALE, 8270DWDE, 8270DWE, 8270DWLE, 8270DWPE, 8270DWPLE	8270DWPE3
(+) (-) Bit 2-65	1	1	1
Battery cover	No	2	3
Plastic carrying case	No	Yes	Yes

**Note:** The standard equipment listed above may differ from country to country.

## ► Optional accessories

Battery 1220	Battery 1235	Charger DC1414	Automotive charger DC1422	Assorted drill bits for wood
Battery PA12	Battery 1235A	Charger DC1804	Automotive charger DC1822	Assorted drill bits for steel
Battery 1222	Battery 1235F	Charger DC1439		Assorted driver bits
Battery 1234				Assorted TCT drill bits

## ► Features and benefits

### All Metal Gear Construction

For extra-high transmission durability

### Compact Design with an Overall Length of Only 214mm (8-3/8")

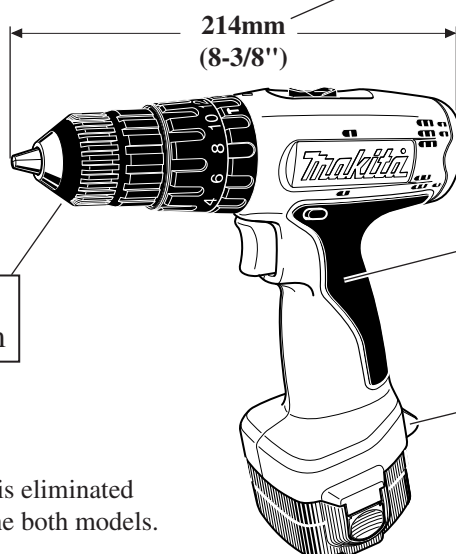
For outstanding maneuverability

### Keyless Chuck with Anti-Loosen Mechanism

### Rubberized Soft Grip

Provides comfortable operation with better control.

### Hand strap is attachable.



**Note:** The boss for set plate is eliminated from the grip end of the both models.

## ► Comparison of products

Model No.		Percussion driver drill	Driver drill		
		Makita	Makita	A	B
Specifications		8270D	6270D	A	B
Battery	Cell	Ni-Cd	Ni-Cd	Ni-Cd	Ni-Cd
	Capacity: (Ah)	1.3	1.3	1.3	1.3
No load speed: min.=rpm	High speed	0 - 1,200	0 - 1,200	0 - 1,400	0 - 1,200
	Low speed	0 - 350	0 - 350	0 - 400	0 - 400
Blows per minute: min.=bpm	High speed	0 - 18,000	—	—	—
	Low speed	0 - 5,250	—	—	—
Lock torque: N.m (in.lbs)		28 (250)	28 (250)	34 (300)	32 (280)
Max. fastening torque: N.m (in.lbs)	Hard joint	30 (260)	30 (260)	—	32 (280)
	Soft joint	18 (156)	18 (156)		19 (165)
Motor		Mabuchi RS-550VC	Mabuchi RS-550VC	Competitor A's own production	Johnson (equivalence to Mabuchi RS-775)
Keyless chuck	Sleeve Type	Dual	Dual	Dual	Single
	Chuck capacity: mm (")	10 (3/8)	10 (3/8)	10 (3/8)	10 (3/8)
Capacities	Steel: mm (")	10 (3/8)	10 (3/8)	10 (3/8)	11 (7/16)
	Wood: mm (")	25 (1)	25 (1)	25 (1)	25 (1)
	Masonry: mm (")	8 (5/16)	—	—	—
Torque adjustment		16 stage + drill mode	16 stage + drill mode	18 stage + drill mode	15 stage + drill mode
Dimensions	Length: mm (")	214 (8-3/8)	192 (7-9/16)	218 (8-5/8)	228 (9)
	Width: mm (")	94 (3-11/16)	94 (3-11/16)	82 (3-1/4)	86 (3-3/8)
	Height: mm (")	239 (9-3/8)	239 (9-3/8)	227 (8-15/16)	252 (9-7/8)
Net weight: kg (lbs) [includes battery]		1.6 (3.5)	1.5 (3.3)	1.8 (3.9)	N/A
Soft grip		Yes	Yes	No	Yes
Bit holder		No	No	Yes	Yes

## ► Comparison of products

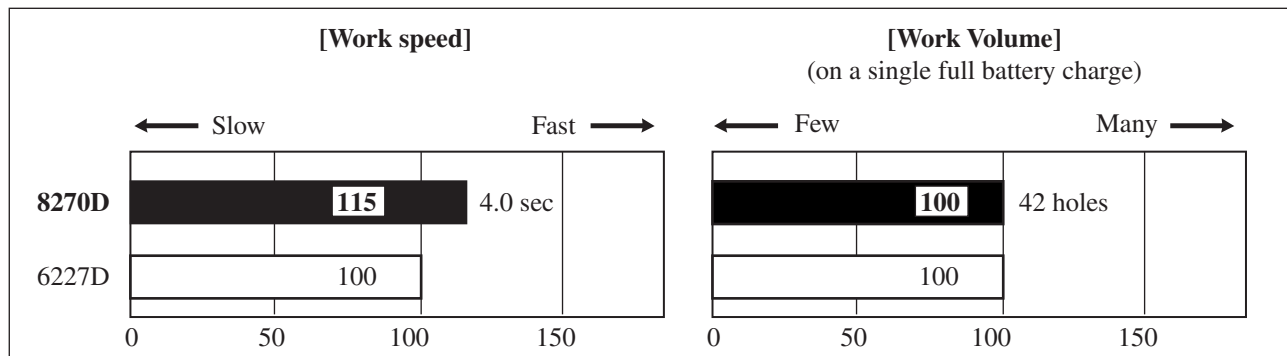
Numbers in chart below are relative values when the capacity of Model 6227D/ 8402VD is indexed at 100.

**Note:** The test results depend to a great extent on the hardness of the material, etc.

### Comparison in Drill Mode (Wood drilling)

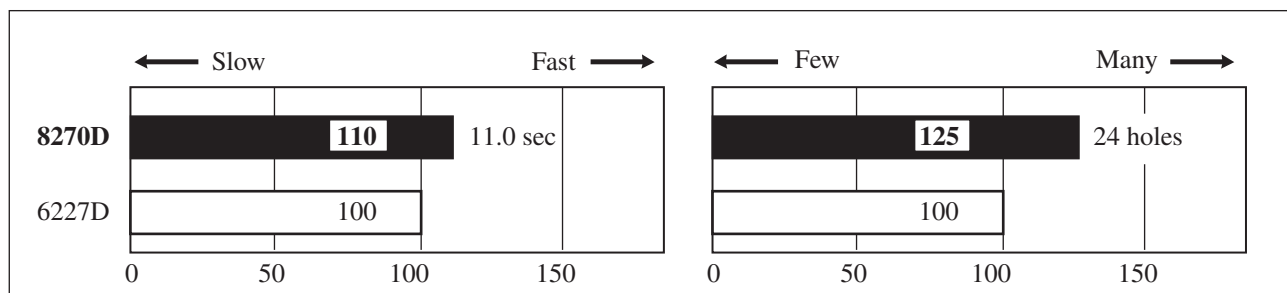
[Test 1]

**Test Conditions:** Drilled holes through 60mm thick Lauan with  $\varnothing 15\text{mm}$  Auger bit at High speed.



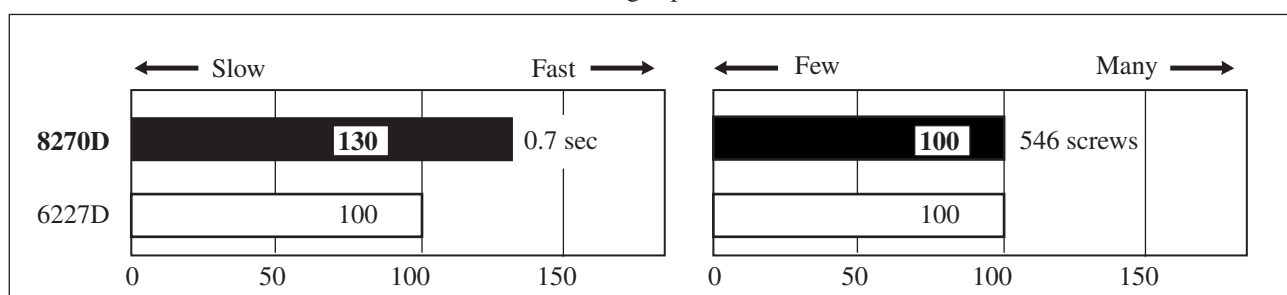
[Test 2]

**Test Conditions:** Drilled holes through 60mm thick Lauan with  $\varnothing 24\text{mm}$  Auger bit at Low speed.



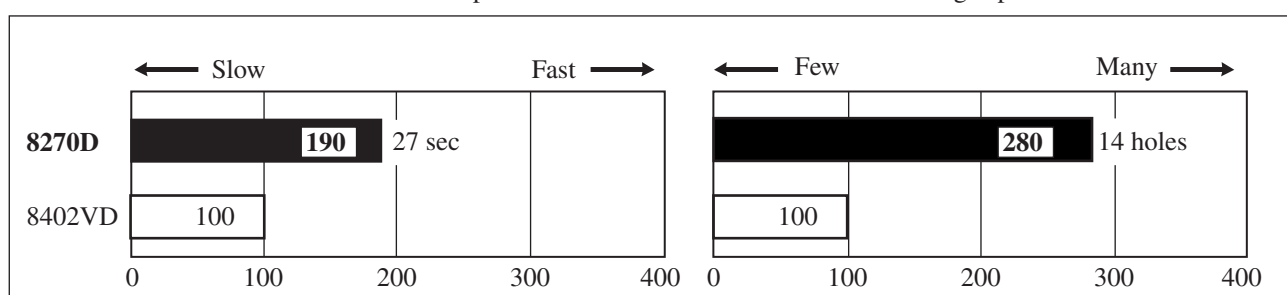
### Comparison in Screwdriver Mode

**Test Conditions:** Drove  $\varnothing 3.5 \times 22$  Screws in Lauan at High speed.



### Comparison in Percussion Drill Mode (Masonry drilling)

**Test Conditions:** Drilled in Mortar to a depth of 50mm with  $\varnothing 6 \text{ mm}$  TCT Drill bit at High speed.



## ► Repair

### [1] Removal/Installation of Drill Chuck

When replacing Gear assembly, remove drill chuck beforehand as described below.  
(It is not necessary to remove Drill chuck when disassembling Housing only.)

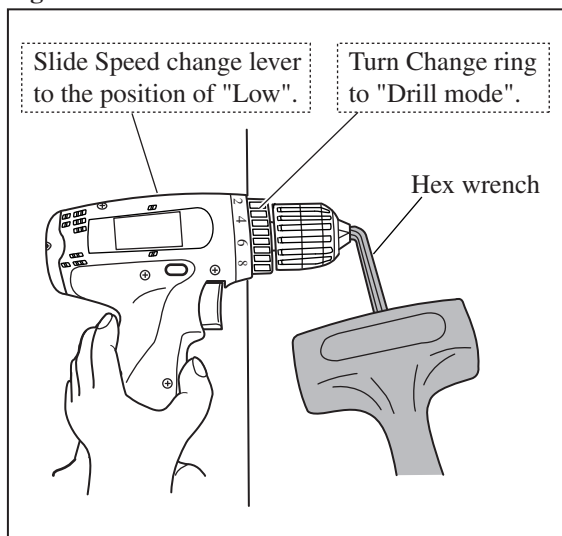
#### REMOVAL

- 1) After fully opening Chuck jaws, remove the chuck screw (M6x22 (-) Flat head screw) by turning it clockwise.  
If it is difficult to remove, use a Makita Impact wrench.
- 2) Slide Speed change lever to the position of "Low", and turn Change ring to "Drill mode".  
And then secure one end of a hex wrench with Chuck jaws. Hold the machine firmly, and then remove Drill chuck by hitting the other end of the hex wrench using plastic hammer to turn Drill chuck counterclockwise. (**Fig. 1**)

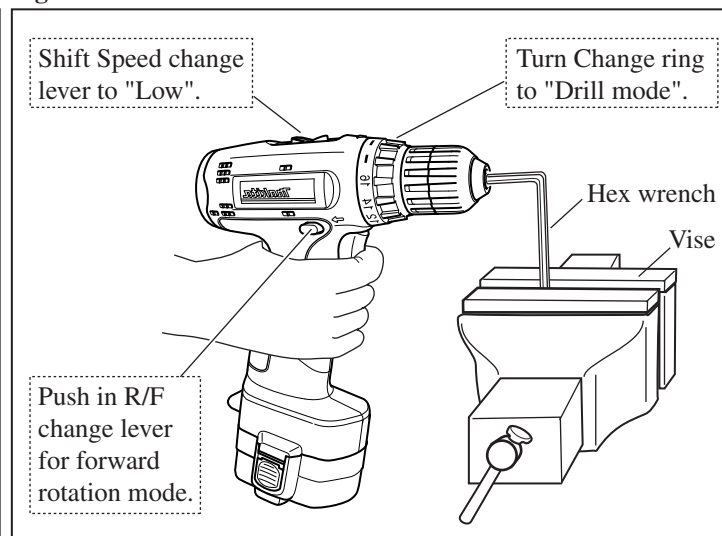
#### INSTALLATION

- 1) Secure one end of a hex wrench with Chuck jaws, and the other with vise.  
Shift Speed change lever to "Low", and set the machine in the mode of drilling in forward rotation. Hold the grip of the machine firmly so that your hand cannot be pulled away by reaction torque. And then fasten Spindle to Drill chuck by pulling the trigger of Switch until Spindle is locked. (**Fig. 2**)  
**Note:** Release the trigger of Switch just after Spindle is locked. Do not keep on pulling the trigger for longer than one second.
- 2) Fasten Drill chuck to Spindle with the chuck screw (M6x22 (-) Flat head screw) by turning it counterclockwise.

**Fig. 1**



**Fig. 2**

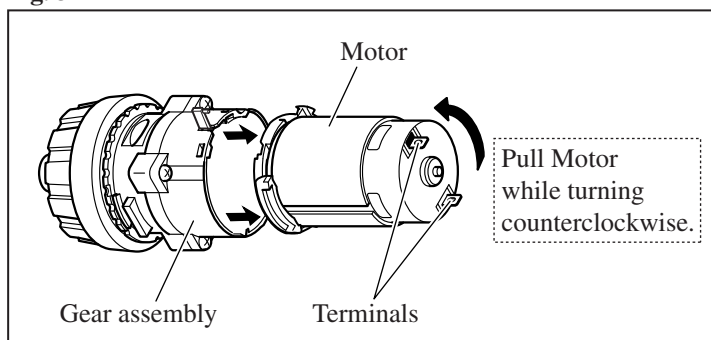


### [2] Removal/Installation of Motor from/on Gear Assembly

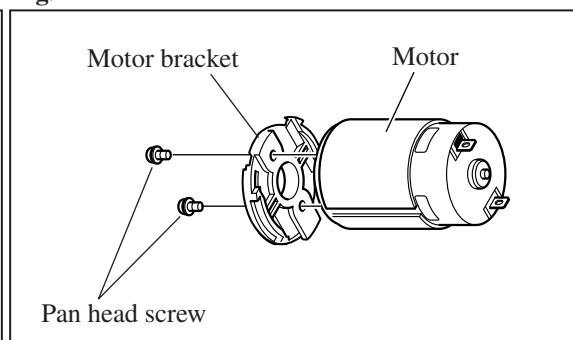
#### REMOVAL

- 1) Pull Motor out of Gear assembly while turning it in the counterclockwise direction when viewed from the terminal end of Motor. (**Fig. 3**)
- 2) Remove Motor bracket from Motor by removing two Pan head screws. Now Motor can be replaced (**Fig. 4**)

**Fig. 3**



**Fig. 4**



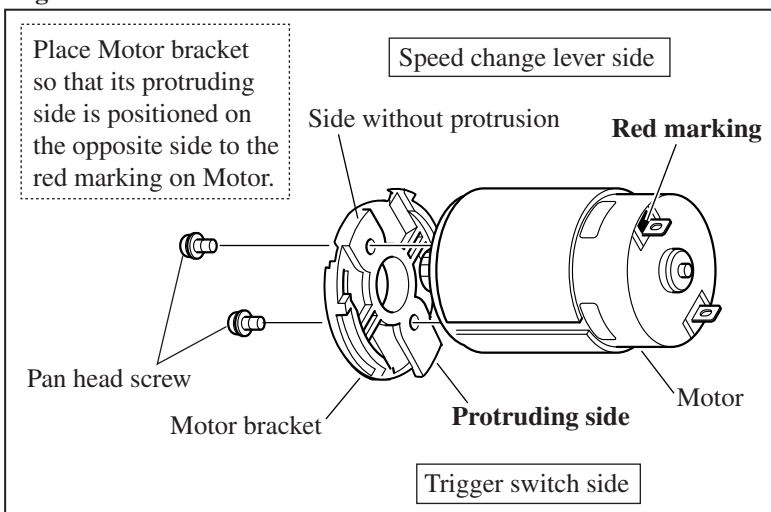
## ► Repair

### [2] Removal/Installation of Motor from/on Gear Assembly (cont.)

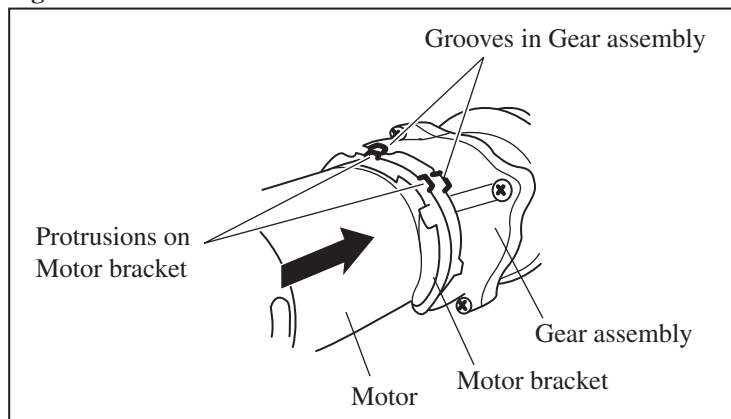
#### INSTALLATION

- 1) Place Motor bracket as illustrated in **Fig. 5**, and fasten it to Motor with two Pan head screws.
- 2) Aligning the protrusions on Motor bracket with the grooves in Gear assembly, assemble Motor to Gear assembly. (**Fig. 6**)
- 3) Assemble Motor to Gear assembly while turning it in the clockwise direction when viewed from the terminal end of Motor. (**Fig. 7**)

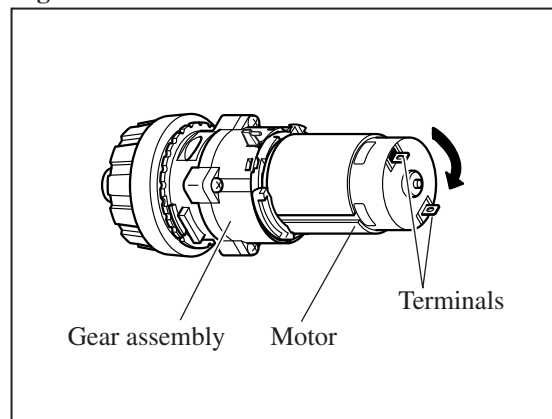
**Fig. 5**



**Fig. 6**



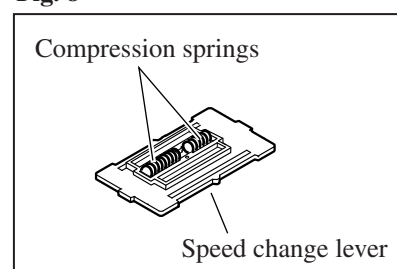
**Fig. 7**



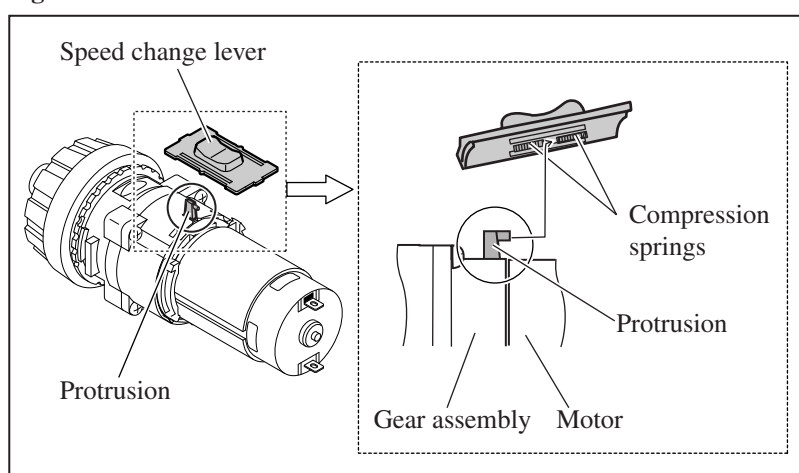
### [3] Installing Speed change Lever

- 1) Make sure that two Compression springs are set in place on Speed change lever as illustrated in **Fig. 8**.
- 2) Install Speed change lever onto the protrusion on Gear assembly as illustrated in **Fig. 9**.  
After installation, slide Speed change lever to either side. (**Fig. 10**)

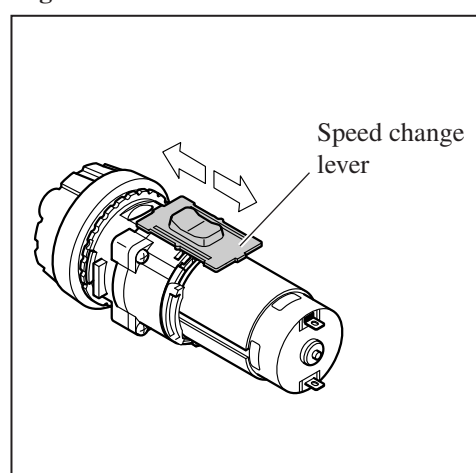
**Fig. 8**



**Fig. 9**



**Fig. 10**

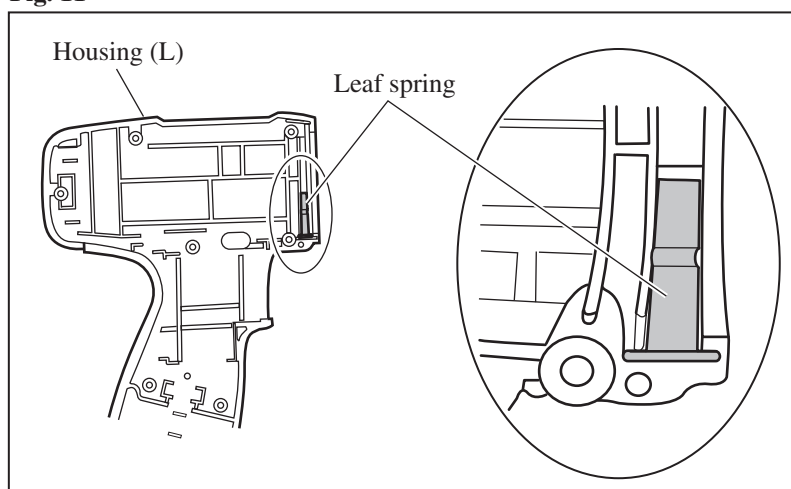


## ► Repair

### [4] Installing Leaf spring Onto Housing (L)

Before installation of inner electrical parts, remember to set Leaf spring in place on housing (L) as illustrated in **Fig. 11**.

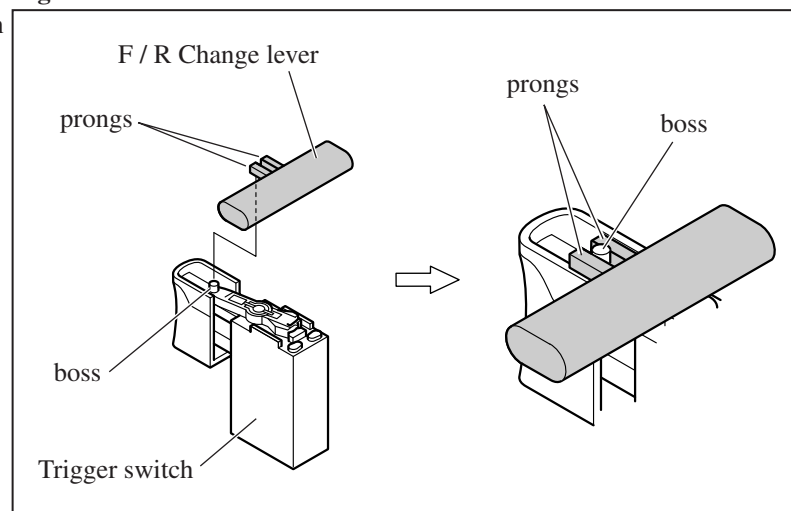
**Fig. 11**



### [5] Installing F/R Change Lever

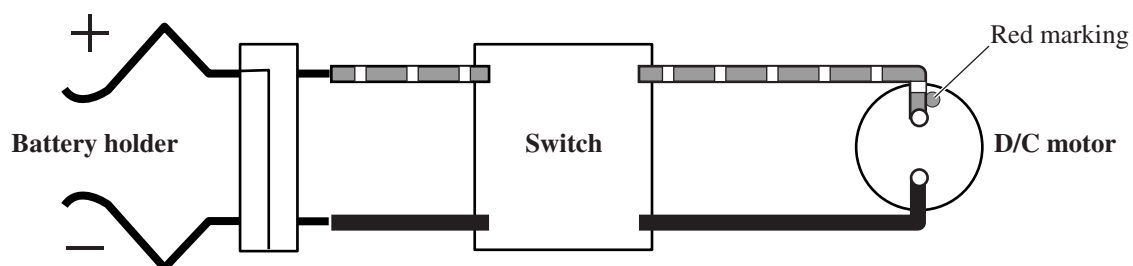
Install F/R change lever onto Trigger switch by placing the boss on Trigger switch between the prongs on F/R change lever as illustrated in **Fig. 12**.

**Fig. 12**



## ► Circuit diagram

Color index of lead wires' sheath	
Black	
Red	



## ► Wiring diagram

### [1] Connecting Lead Wires with Motor

Connect the lead wires with the terminals on Motor so that they are placed on the side of Housing (L). (**Fig. 13**)

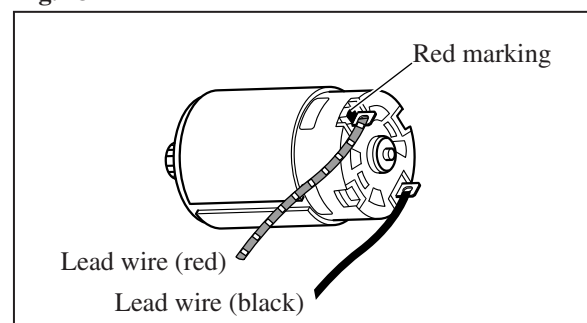
### [2] Wiring in Housing

Route lead wires as illustrated in **Fig. 14**.

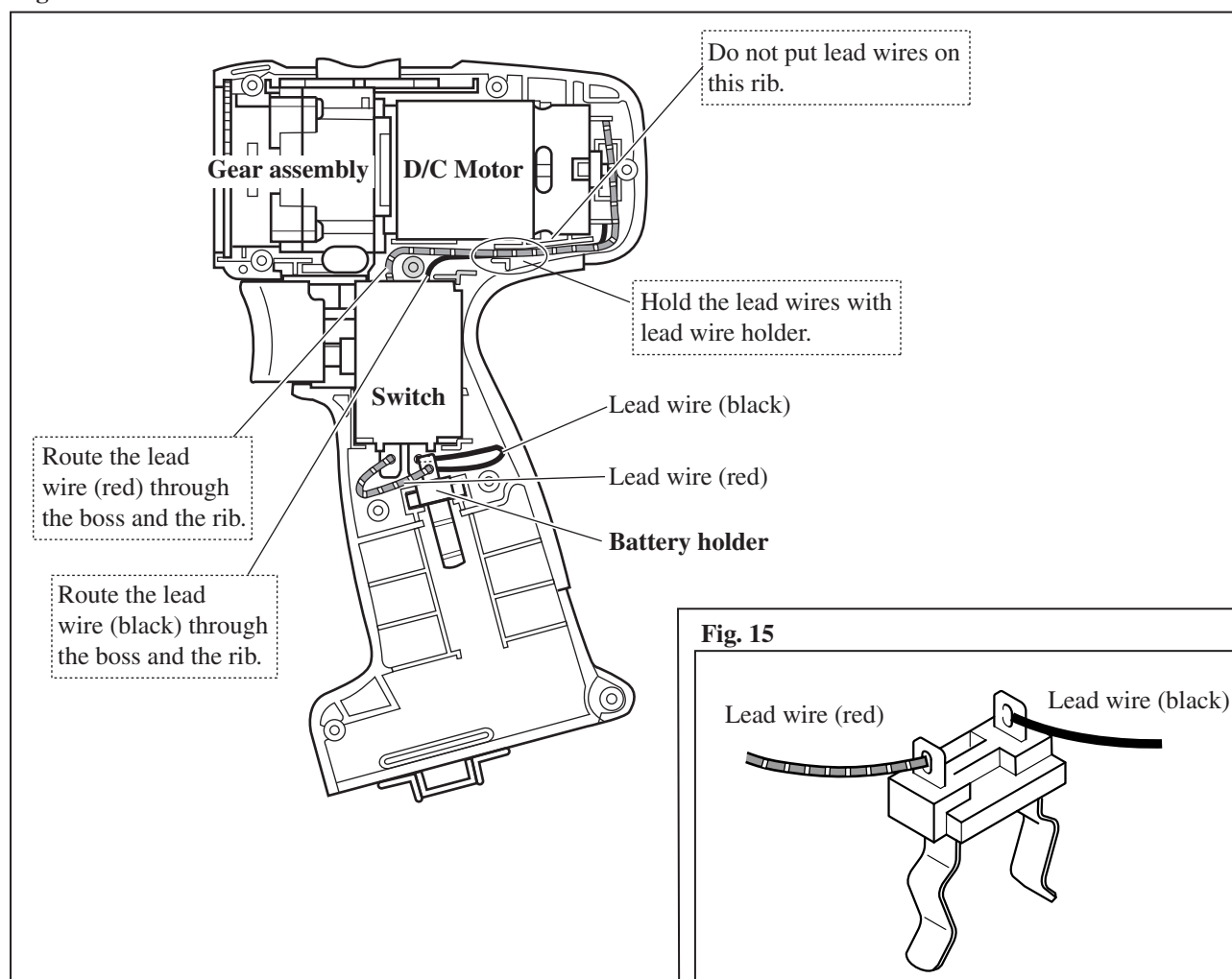
### [3] Connecting Lead Wires with Battery Holder

Connect lead wires with the terminals on Battery holder as illustrated in **Fig. 15**.

**Fig. 13**



**Fig. 14**



**Fig. 15**

