

T ECHNICAL INFORMATION



PRODUCT

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Model No. ▶ TW1000

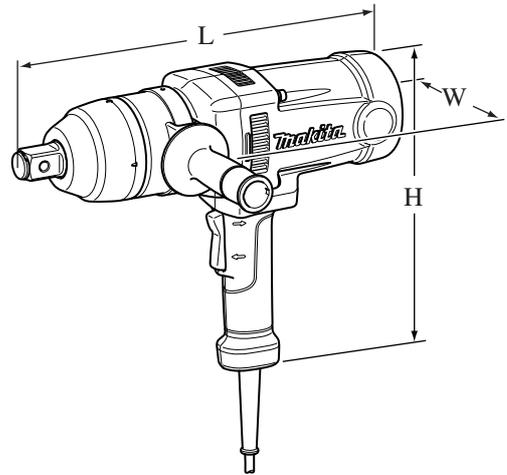
Description ▶ Impact Wrench

CONCEPT AND MAIN APPLICATIONS

Model TW1000 has been developed as a 1000N.m class impact wrench conforming to the European and North American standards.

Its brief advantages are;

- *Lightweight with plastic motor housing and handle
- *Bumpers protecting tool at the front and the rear of the tool and the bottom of handle
- *Rubberized soft grip for comfortable operation



Dimensions : mm (")	
Length (L)	382 (15)*
Width (W)	121 (4-3/4)
Height (H)	290 (11-3/8)

*Taiwan: 375 (14-3/4)

▶ Specification

Voltage (V)	Current (A)	Cycle (Hz)	Continuous Rating (W)		Max. Output(W)
			Input	Output	
100	15	50/ 60	1300	530	750
110	13	50/ 60	1200	530	750
120	12	50/ 60	-	530	750
200	7.5	50/ 60	1200	530	750
220	6.7 (6.3)	50/ 60	1200 (1100)	530 (470)	750
240	6.3	50/ 60	1200	530	750

Continuous rating input: W	1,200
Square drive: mm (")	25.4 (1)
Capacity	Standard bolt: M24 - M30 High tensile bolt: M22 - M24
Impacts per minute	1,500
No load speed: min-1=rpm.	1,400
Max. fastening torque: N.m (ft.lbs)	1,000 (738)
Protection against electric shock	Double insulation
Power supply cord: m (ft)	2.5 (8.2) [Australia/ New Zealand: 2.0 (6.6)]
Net weight: kg (lbs)	8.4 (18.5)

▶ Standard equipment

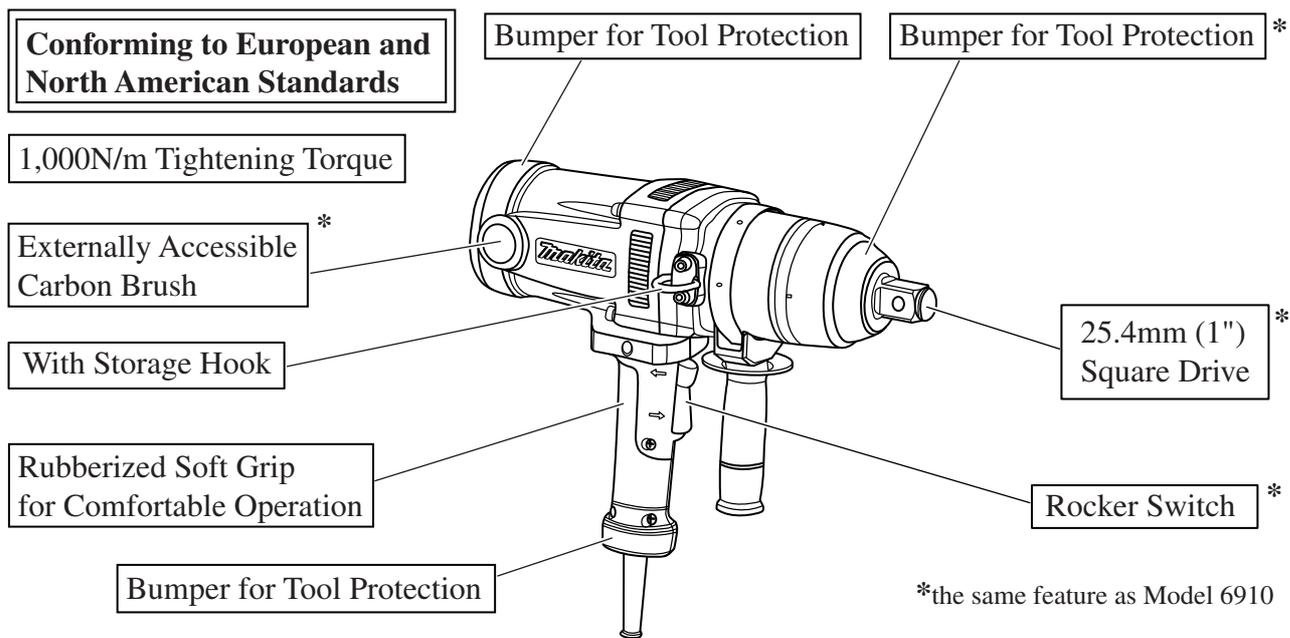
- Socket 41-80 1 pc.
- Side grip 1 pc.
- Plastic carrying 1 pc.

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

▶ Optional accessories

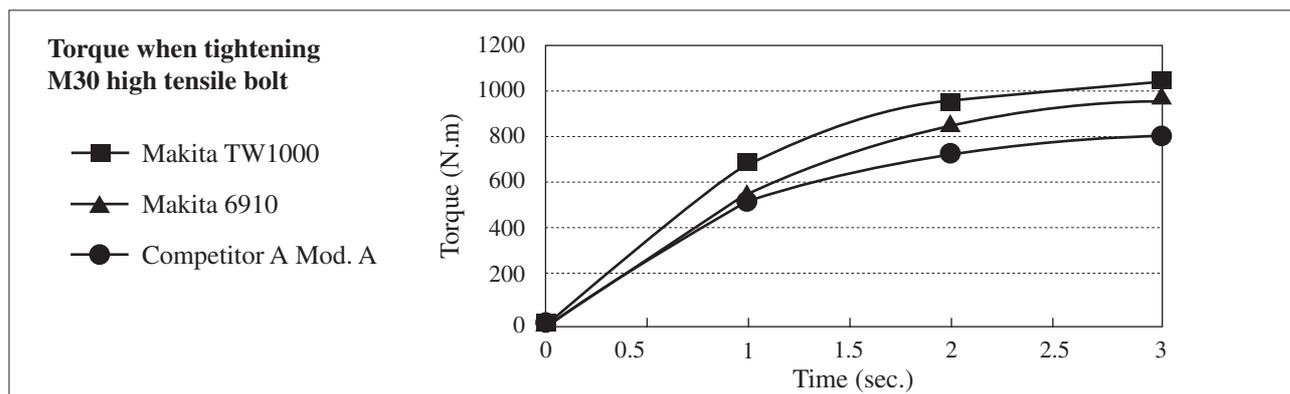
- Socket 35-80
- Socket 36-80
- Extension bar 25.4

► Features and benefits



► Comparison of products

Performance Comparison



Specification Comparison

Model No.	Makita		Competitor A	
	TW1000	6910	A	B (discontinued)
Max.fastening torque: N.m (ft.lbs)	1,000 (738)	980 (722)	1,000 (738)	1,018 (750)
Square drive: mm (")	25.4 (1)	25.4 (1)	25.4 (1)	25.4 (1)
Continuous rating input: W	1,200	1,300	920	N/A
Rated amperage in North America: A	12	15	*3	10.5
No load speed: min-1=rpm.	1,400	1,400	1,260	1,260
Impacts per minute	1,500	1,500	2,300	1,720
Motor	S94-45	84-65	71-55	N/A
Hammer Case	aluminum	aluminum	aluminum	aluminum
Externally accessible brush	Yes	Yes	Yes	Yes
Soft grip	Yes	No	No	No
Bumper for tool protection	Yes	Yes	No	No
Protection against electric shock	Double insulation	Grounding	Double insulation	Double insulation
Power supply cord: m (ft)	2.5 (8.2)*1	2.5 (8.2)	2.5 (8.2)	N/A
Dimensions	Length: mm (")	382 (15)*2	388 (15-1/4)	431 (17)
	Width: mm (")	110 (4-5/16)	105 (4-1/8)	95 (3-3/4)
	Height: mm (")	290 (11-3/8)	245 (9-5/8)	290 (11-3/8)
Net weight: kg (lbs)	8.4 (18.5)	9.0 (19.8)	7.3 (16.1)	7.4 (16.3)

*1 Australia/ New Zealand: 2.0m (6.6ft) *2 Taiwan: 375mm (14-3/4") *3 Not manufactured for use in North America

► Repair

CAUTION: Be sure to unplug the tool before maintenance or repair.
See the instruction manual on how to handle the tool.

[1] NECESSARY REPAIRING TOOLS

Item No.	Description	Purpose
1R045	Gear extractor (large)	For disassembling hammer
1R346	Center attachment	
1R230	1/4" Hex shank bit for M6	For unscrewing/ screwing hex socket bolts that fasten hammer
1R288	Screwdriver magnetizer	For removal/ installation of steel balls

[2] LUBRICATION

See **Fig. 1** below.

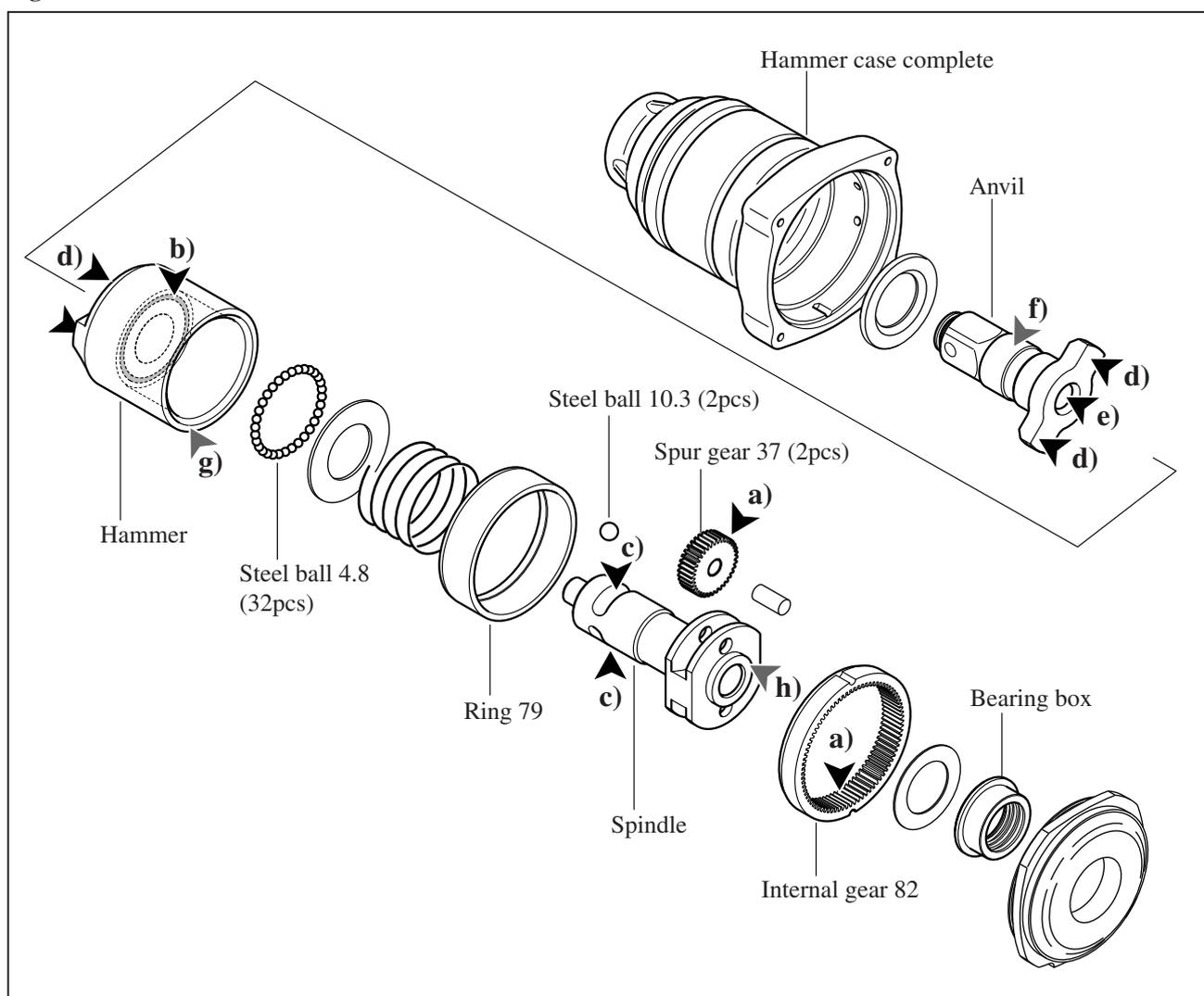
1) Put Makita Grease N. No.1 in/on the portions designated with the mark of ▼ .

- a) 5g on the gear portion
- b) 1g in the steel ball 4.8 installation groove inside hammer
- c) 2g in the steel ball 10.3 installation grooves on spindle
- d) 5g on the impact surfaces of anvil and hammer
- e) 5g in the hole of anvil

2) Lubricate the following slide surfaces (designated with the mark of ▼) with a little amount of Makita Grease N. No.1

- f) Slide surface of anvil and hammer case
- g) Slide surface of hammer and ring 79
- h) Slide surface of hammer and spindle

Fig. 1



► Repair

[3] DISASSEMBLY/ASSEMBLY

DISASSEMBLING

[3] -1. Separating Hammer Case from Motor Housing/ Removing Armature

- 1) Remove rear bumper with slotted screwdriver (Fig. 2), then remove brush holder caps and carbon brushes.
- 2) Remove four M6x60 hex socket head bolts using 1/4" Hex shank bit (1R230) attached to impact driver. (Fig. 3)

Fig. 2

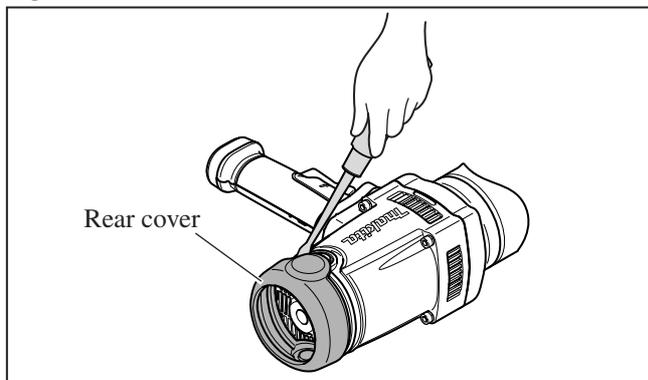
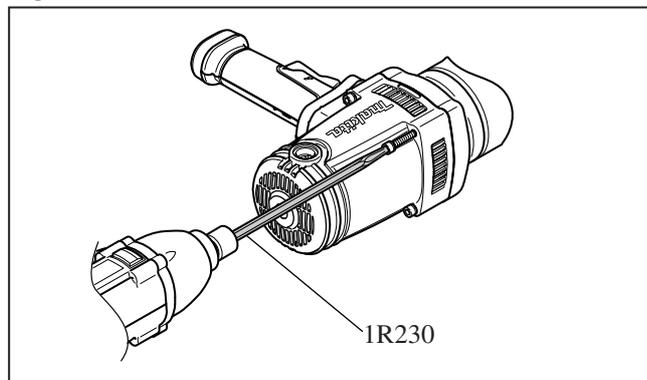


Fig. 3



- 3) Separate the assembled unit of hammer case, hammer case cover and armature from motor housing section. (Fig. 4)
Now armature can be removed from hammer case cover by hand. If armature remains on motor housing side, remove by tapping the edge of motor housing with plastic hammer. (Fig. 5)

Fig. 4

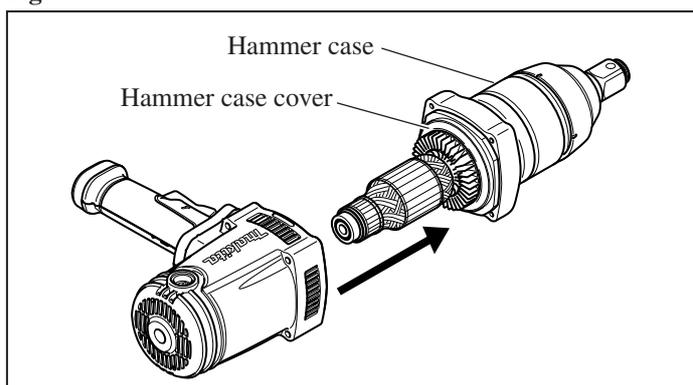
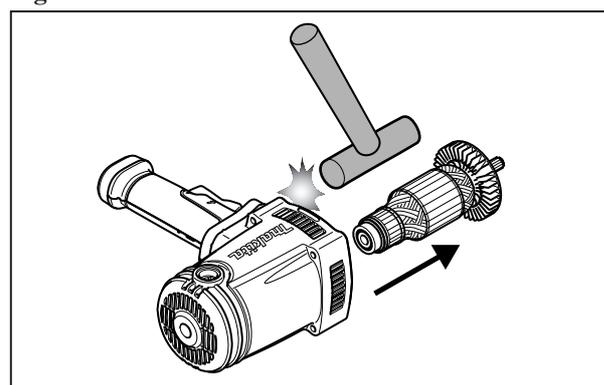


Fig. 5



- 4) Put the assembled unit (of hammer case and hammer case cover) on a workbench as illustrated in Fig. 6. Push down hammer case till it gets loose.

Then turn the assembled unit upside down, and remove hammer case.

Important: Be sure to turn the assembled unit upside down before removing hammer case, or the parts inside hammer case will fall down and scatter.

- 5) Remove flat washer 35 from anvil. (The washer can be sticking to the grease in hammer case.) (Fig. 7)

- 6) Internal gear 82 can be removed by tapping the edge of hammer case with plastic hammer. (Fig. 8)

Note: Be careful not to lose flat washer 34 installed on the rear end of spindle.

Also do not forget to install the washer in place when assembling. (Fig. 7)

Fig. 6

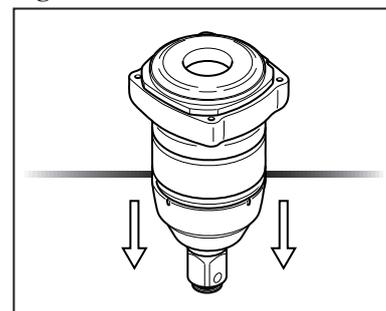


Fig. 7

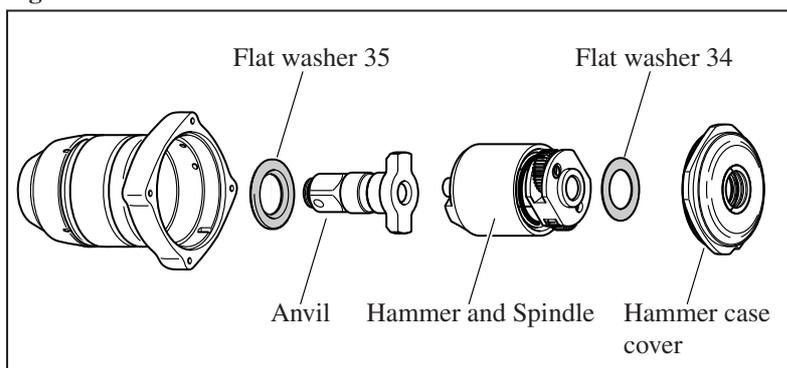
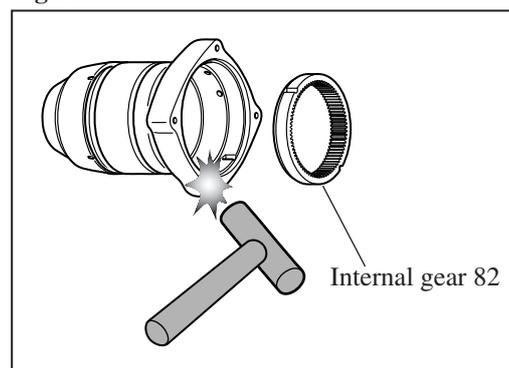


Fig. 8



► Repair

[3] -2. Disassembling Hammer Section

1) Install Center Attachment (No.1R346) on Gear Extractor, large (1R045). (Fig. 9)

2) Set the Gear Extractor on the assembled unit of hammer and spindle as illustrated in Fig. 10.

Then turn the handle of the Gear Extractor clockwise to raise spindle.

Important: At this time, be sure to securely grasp the legs of the Gear Extractor so that its claws cannot be pushed out of position by the force of compression spring.

3) Align the notch in hammer with the top of the cam groove on spindle. Then take steel ball 10.3 (2 pcs) out of spindle using a slotted screwdriver or tweezers magnetized with Screwdriver Magnetizer (No.1R288). (Fig. 11)

Fig. 9

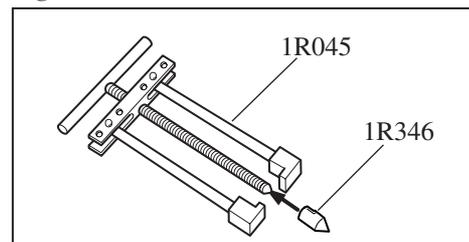


Fig. 10

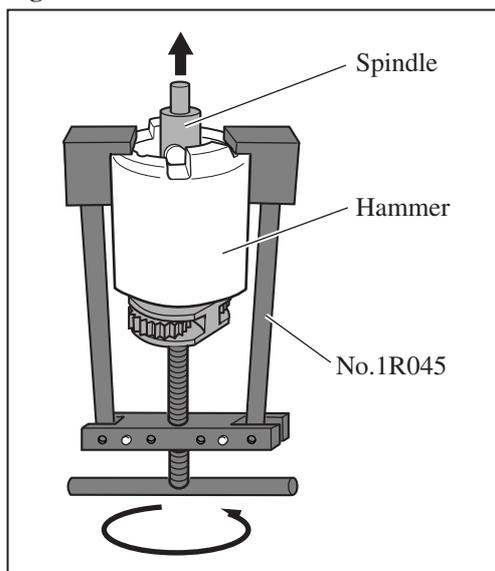
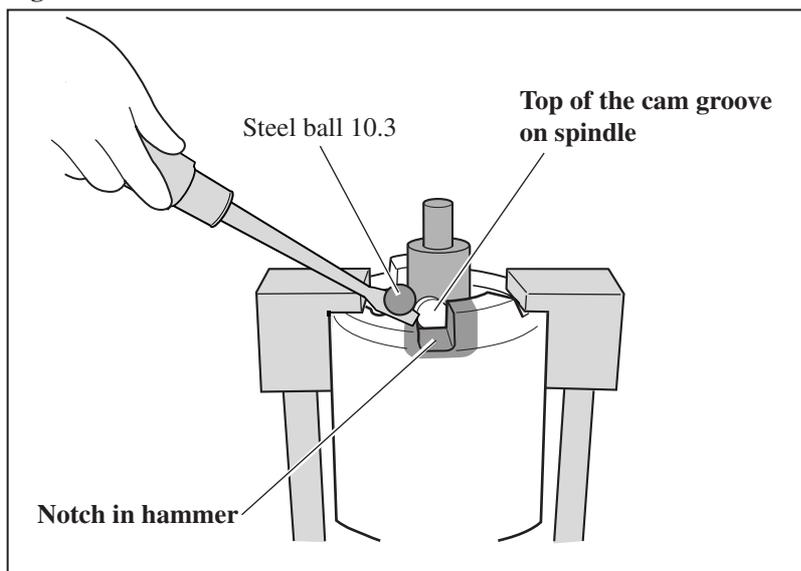


Fig. 11



4) Remove the Gear Extractor by turning the handle counterclockwise.

5) Remove spindle and compression spring 45 from hammer as illustrated in Fig. 12.

Important: Be sure to lower the hammer side so that steel balls in hammer cannot fall down and scatter.

6) Now steel ball 4.8 can be removed from hammer. There are 32 steel balls in the groove on the inside of hammer. (As illustrated in Fig. 13, the groove is designed to have a space equivalent to five steel balls.)

Fig. 12

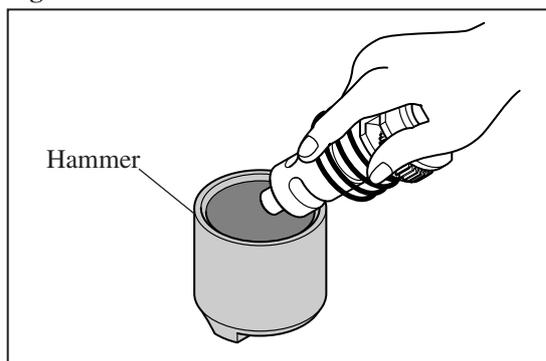
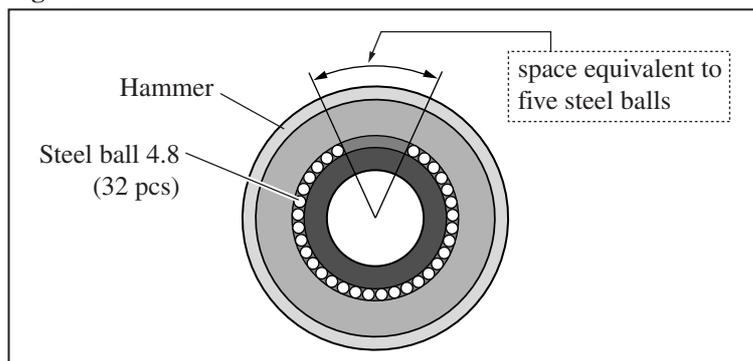


Fig. 13



ASSEMBLING

Do the reverse of the disassembling steps.

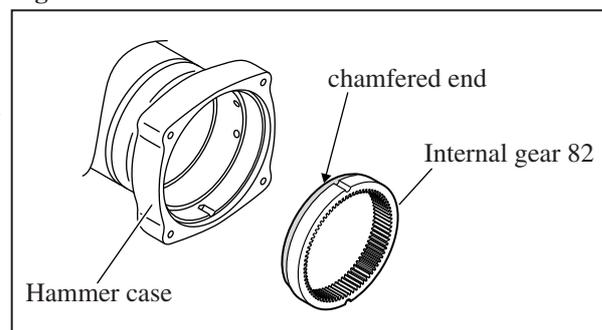
Note:

1) Refer to the parts breakdown for the order of assembling steps.

2) When assembling internal gear 82 to hammer case, place so that its chamfered end faces the top of hammer case. (Fig. 14)

3) Assemble hammer case to motor housing so that storage hook on hammer case is positioned on right.

Fig. 14



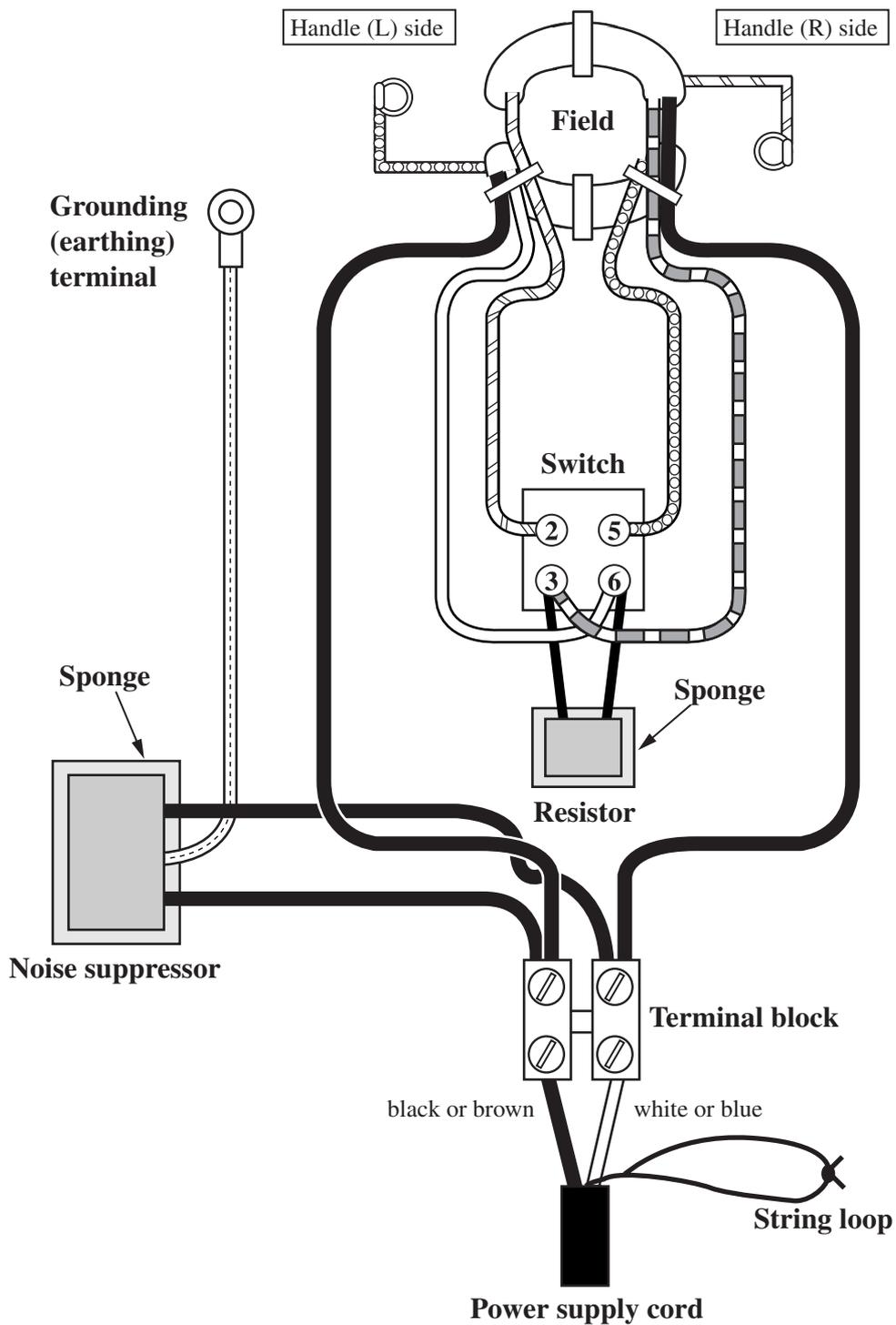
► **Circuit diagram**

Fig. 15

Color index of lead wires' sheath	
Black	
White	
Red	
Orange	
Purple	
Clear	

Note:

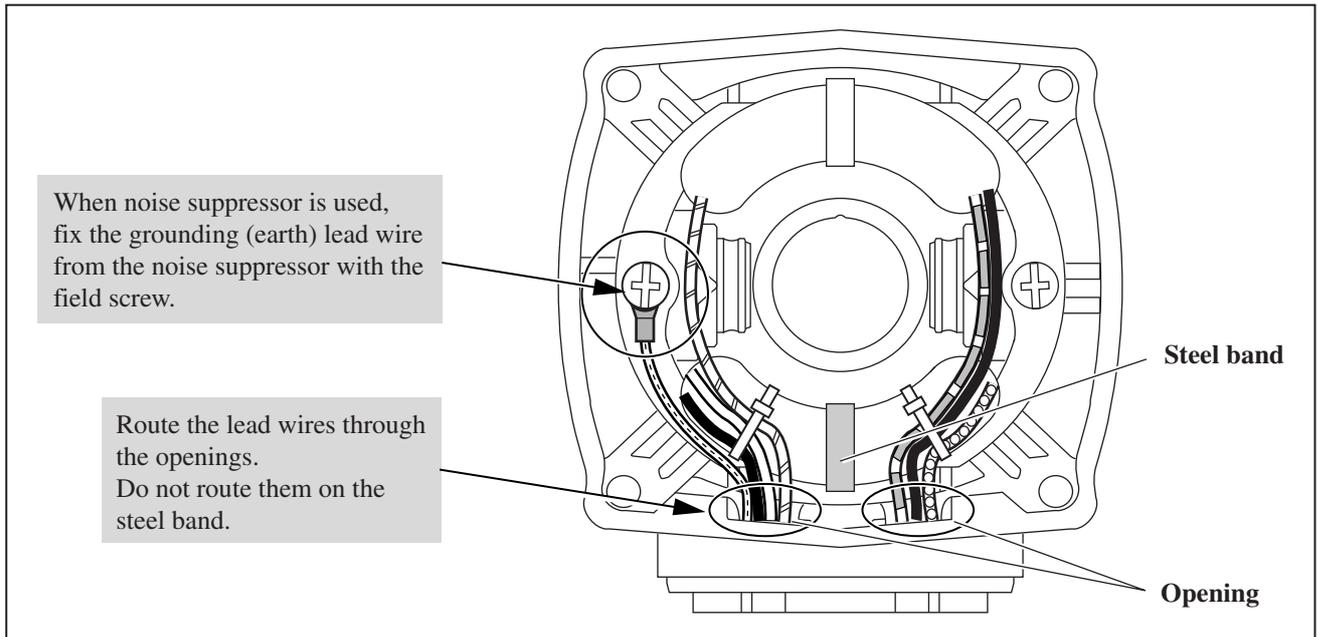
- 1) Some countries do not use Noise suppressor, Resistor and Sponge.
- 2) North American countries use String loop.



► **Wiring diagram**

[1] Wiring on Field

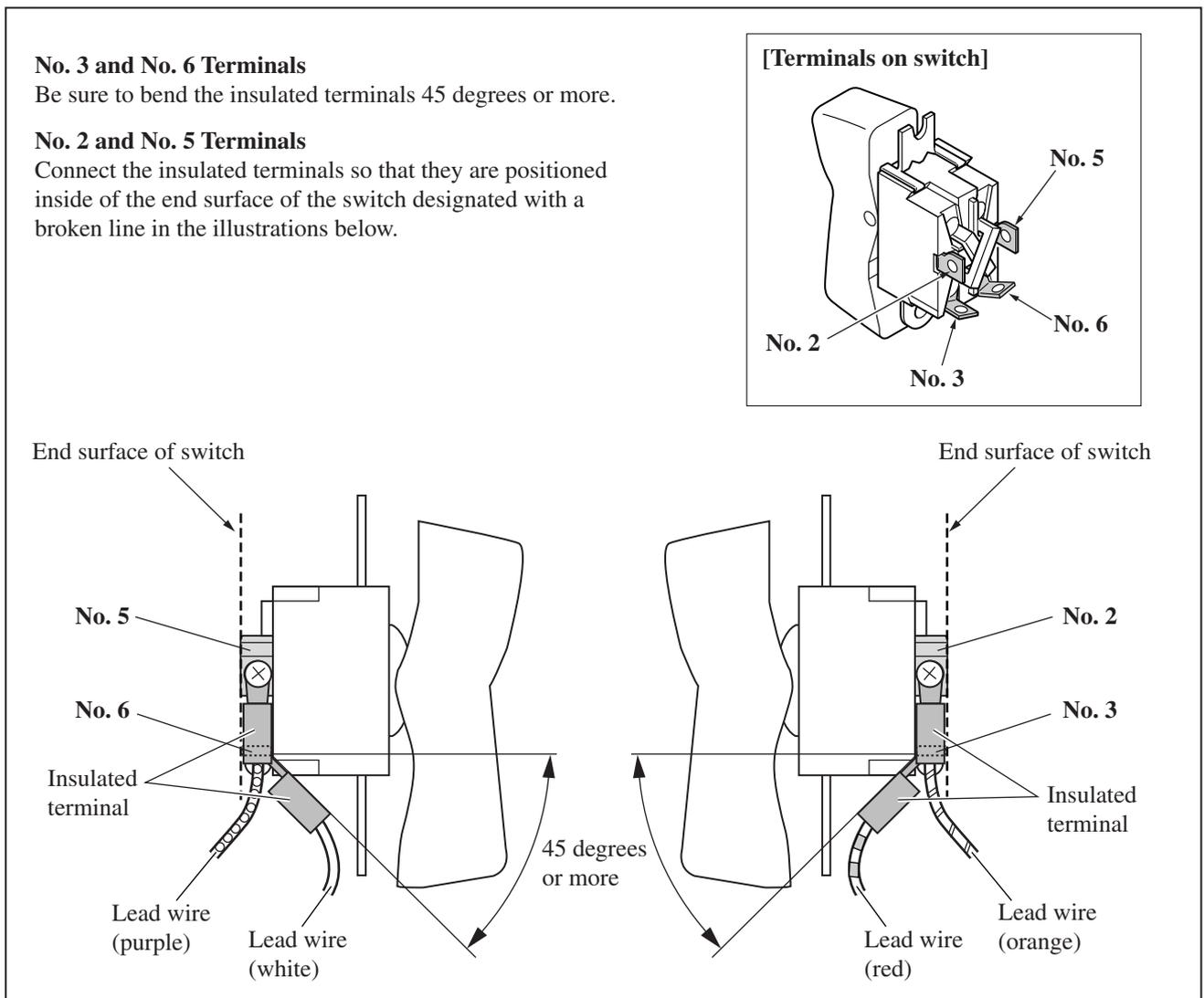
Fig. 16



[2] Connecting Insulated Terminals with the Terminals on Switch

Connect the insulated terminals with the terminals on the switch as illustrated in Fig. 17.

Fig. 17



► **Wiring diagram**

[3] **Wiring in Handle**

Fig. 18

