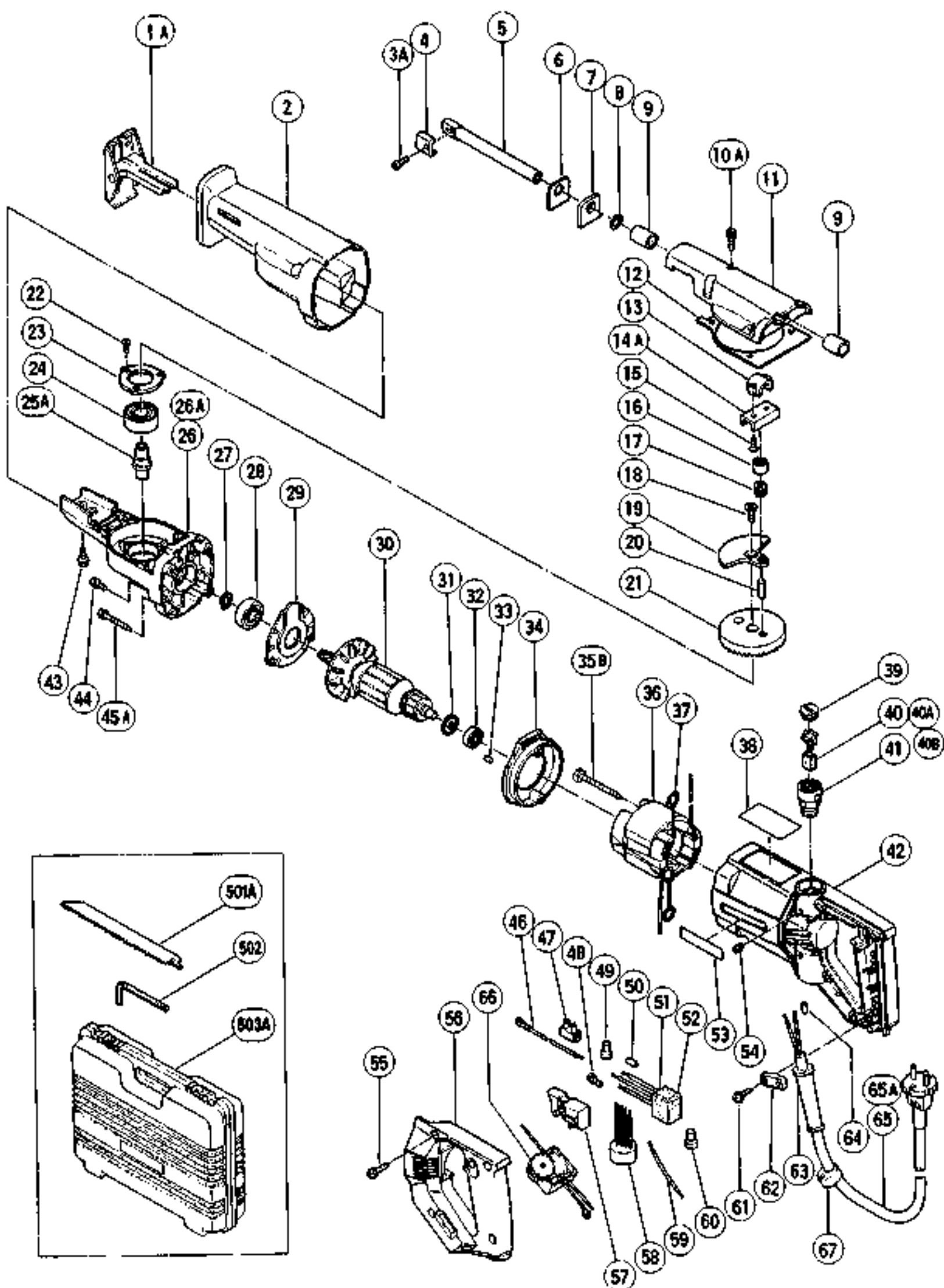


## ELECTRIC TOOL PARTS LIST

■ SABER SAW  
Model CR 12V

2000-6-1  
(E4-1)





# MODELS CR 12V/CR 12

## 1. NOTES ON DISASSEMBLY AND REASSEMBLY:

The circled numbers in the descriptions below correspond to the item numbers in the Parts Lists and exploded assembly diagrams.

### 1-1. Disassembly:

#### (1) Disassembly of the Upper Cover Ass'y (11):

After removing the Base (1) and the Saw Blade (50), take off the Insulation Cover (2) by pulling it forward (toward the blade mounting end). Then, shift the Plunger (5) forward (toward the blade mounting end) and loosen the four M5 x 16 Machine Screws (10) which secure the Upper Cover Ass'y (11). The Upper Cover Ass'y can then be removed by lifting it upwards.

#### (2) Disassembly of the Plunger (5) from the Upper Cover Ass'y (11):

First remove the two M5 x 12 Hexagon Socket Flat Hd. Screws (15) which secure the Connector (14). As these are seal lock screws which are secured by an adhesive agent, it may be necessary to heat the Upper Cover Ass'y (11) to a temperature of 100°C - 150°C to permit their removal. The Plunger (5) can then be removed from the Upper Cover Ass'y (11) by pulling it out toward the front (toward the blade mounting end).

#### (3) Disassembly of the Gear Cover (26) from the Housing Ass'y (42):

Remove the Brush Caps (39), and take out the Carbon Brushes (40). Next, remove the four D5 x 35 Tapping Screws (45). The Gear Cover (26) (together with the Armature (30) and related parts) can then be removed from the Housing Ass'y (42).

#### (4) Disassembly of the Armature (30) from the Gear Cover (26):

Remove the three M4 x 12 Machine Screws (44). The Armature (30) (together with the Bearing Cover (29)) can then be removed from the Gear Cover (26).

#### (5) Disassembly of the Bearing Cover (29) from the Armature (30):

First, remove the C-Type Retaining Ring (27) from the Armature (30). Then, as illustrated in Fig.5, mount the Armature on a J-173 Puller Attachment (special repair tool, Code No. 970954), and secure it in position with the three M4 x 12 Machine Screws (44). Next, support the J-173 Puller Attachment with an appropriate tubular jig (inner diameter of 80 mm or more, outer diameter of 130 mm or less), and push down on the Pinion end of the Armature with a hand press to loosen and remove the Armature (30) from the Bearing Cover (29).

#### (6) Disassembly of the Gear Ass'y (21) and

Spindle (25) from the Gear Cover (26):

Remove the M6 x 16 Hexagon Socket Flat Hd. Screw (18) which secures the Balance Weight (19), and remove the Balance Weight from the Gear Cover (26). As this screw is a seal lock screw which is secured by an adhesive agent, it may be necessary to heat the Gear Cover (26) to a temperature of 100°C - 150°C to permit its removal. Then, through the hole provided in the Gear Ass'y (21), remove the three M4 x 12 Flat Hd. Screws (22). The Gear Ass'y (21), Bearing Cover (A) (23), 6202VVC Ball Bearing (24) and Spindle (25) can be taken out of the Gear Cover (26) in a single body. Finally, push down on the gear-side end of the Spindle to separate the Spindle (25) from the Gear Ass'y (21).

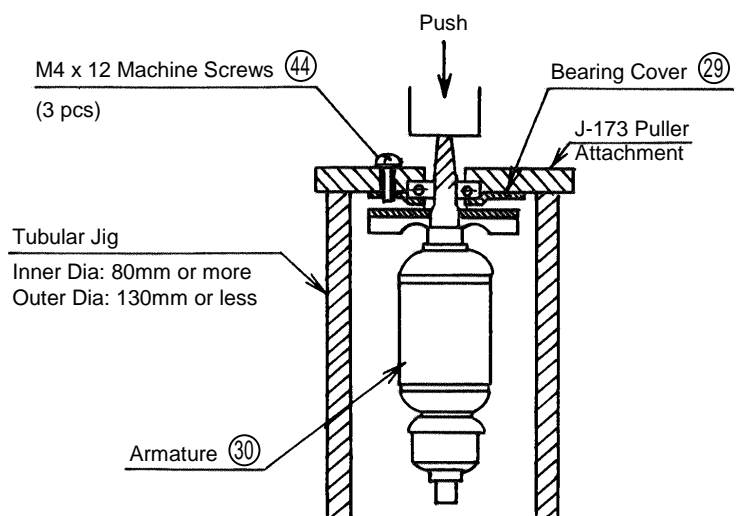


Fig. 5

**1-2. Reassembly:**

Reassembly can be accomplished by following the disassembly procedures in reverse. However, special attention should be given to the following items.

(1) Insert 30 g of grease (Molub-Alloy #1) into both the Gear Cover and Upper Cover. Also apply a liberal amount of grease to the following parts:

The 6202VVCM Ball Bearing (24) in the Gear Cover (26), the Needle Roller (17), Connecting Piece (A) (16), the teeth portion of the Gear Ass'y (21), the inside of the Connector (14), the Connector sliding portion in the Upper Cover Ass'y (11), and the metal sliding portion of the Plunger (5).

(2) When pressure fitting the Gear Ass'y (21) onto the Spindle (25), do not forget to assemble Bearing Cover (A) (23).

(3) Prior to reinstalling the Plunger (5) into the Upper Cover Ass'y (11), ensure without fail that the Felt Packing (7), Packing Washer (6) and 1AP12 O-Ring (8) are properly assembled.

(4) The screws listed below are seal lock screws. Once they have been removed, they must be treated with Cemedine 1500 or ThreeBond TB2410 adhesive as indicated if they are to be used again.

- M6 x 16 Hexagon Socket Flat Hd. Screws (18) } .....
- M5 x 12 Hexagon Socket Flat Hd. Screws (15) } ..... Cemedine 1500
- M5 x 16 Machine Screws (10) } .....
- M4 x 12 Machine Screws (44) } ..... ThreeBond TB2410
- M4 x 12 Flat Hd. Screws (22) }

(5) When reassembling the Upper Cover Ass'y (11) onto the Gear Cover (26), do not forget to assemble the Seal Packing (12).

(6) When reassembling the Handle Cover (56) onto the Housing Ass'y (42), ensure without fail that none of the leadwires are pinched between them.

(7) Tightening Torques:

D4 Tapping Screw .....	20 ± 5kgf-cm (17.4 ± 4.34 in-lb)
D5 Tapping Screw .....	30 ± 5kgf-cm (26 ± 4.34 in-lb)
M4 Machine Screw, Flat Hd. Screw .....	15 - 20kgf-cm (13.02 ± 17.4 in-lb)
M5 Machine Screw .....	30 - 55kgf-cm (26 ± 47.75 in-lb)
M5 Hexagon Socket Flat Hd. Screw .....	50 - 60kgf-cm (43.41 ± 52.09 in-lb)
M6 Hexagon Socket Flat Hd. Screw .....	80 ± 10kgf-cm (69.45 ± 8.68 in-lb)

### 1-3. Wiring Diagram and Internal Wire Arrangements:

(1) Model CR12V

For European countries:

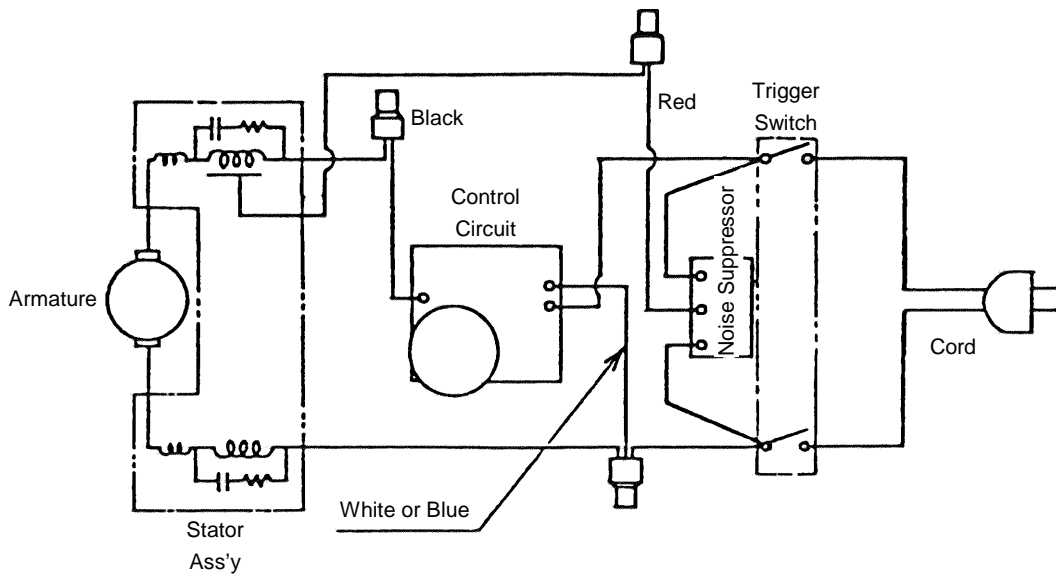


Fig. 6

For N.Z.:

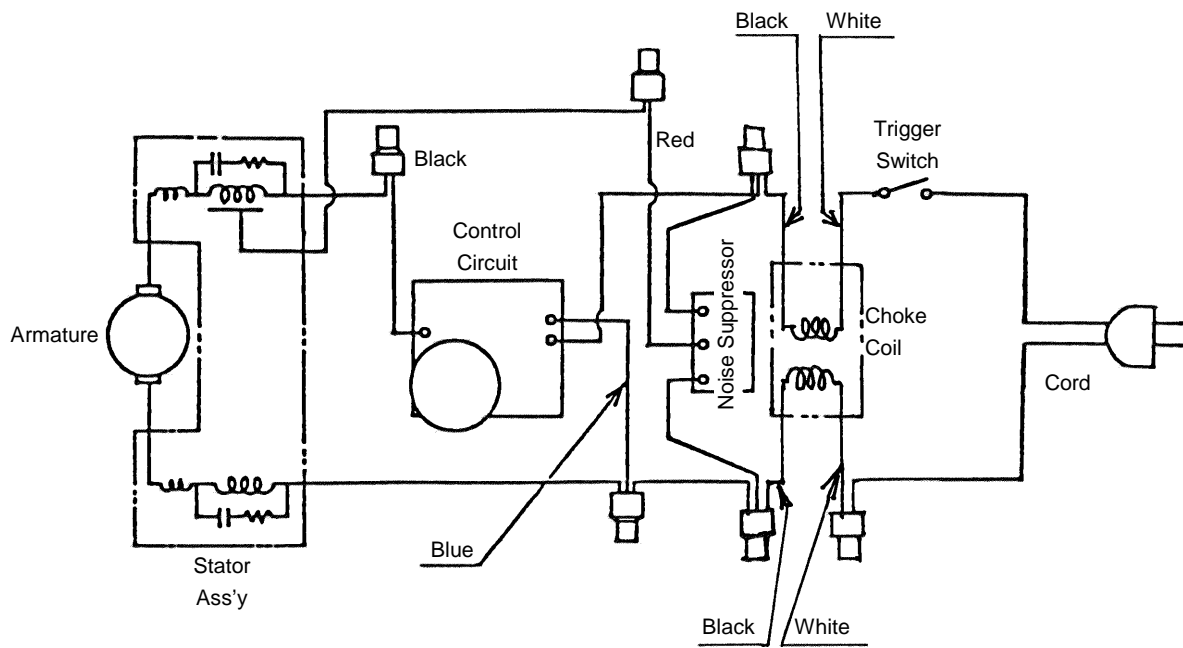


Fig.7

For Australia:

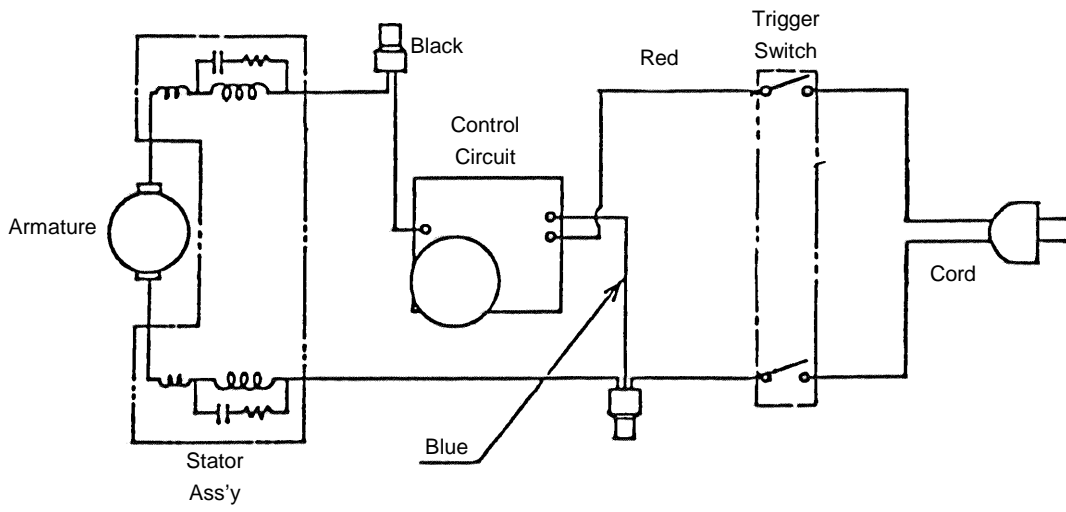


Fig. 8

For other countries:

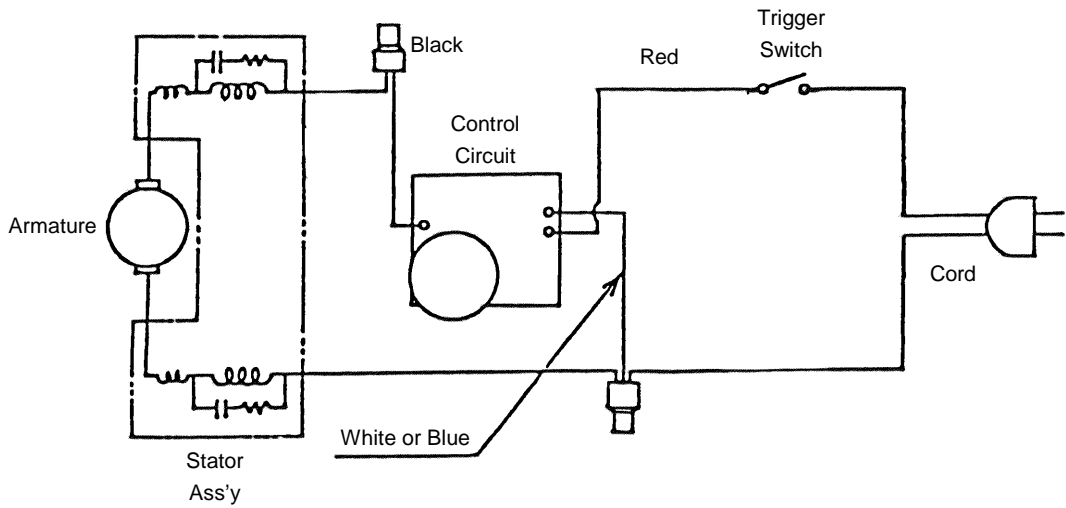


Fig. 9

For European countries:

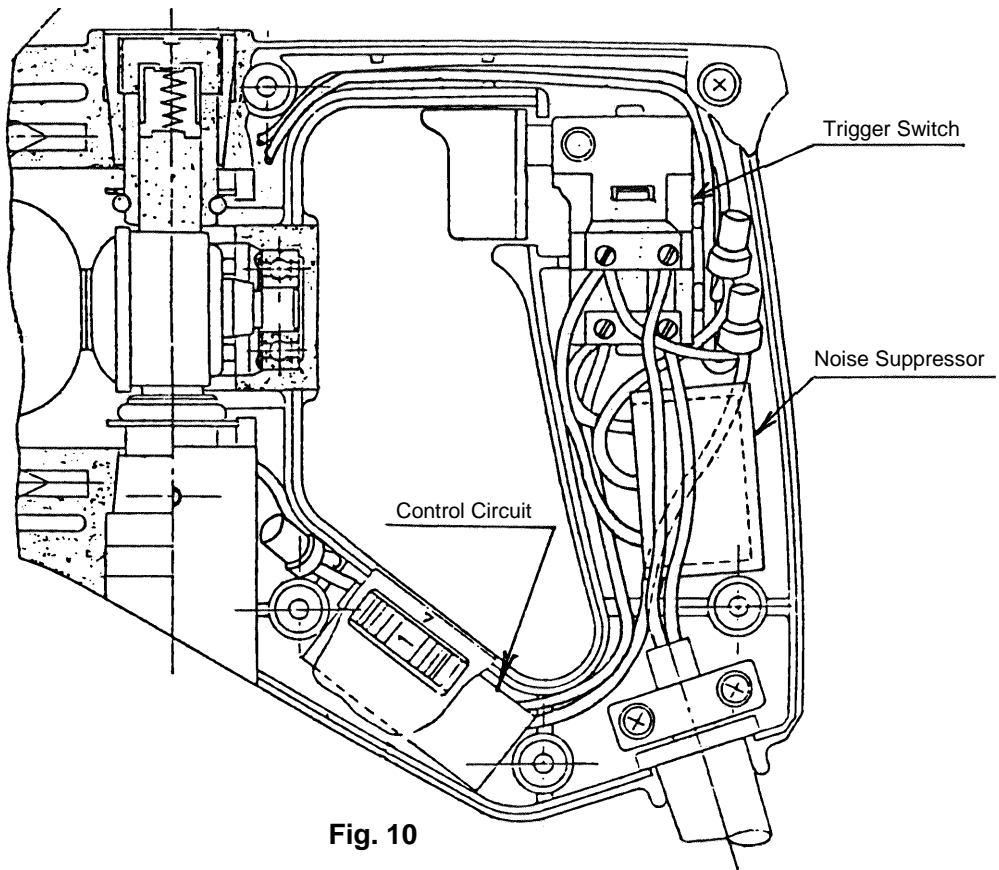


Fig. 10

For N.Z.:

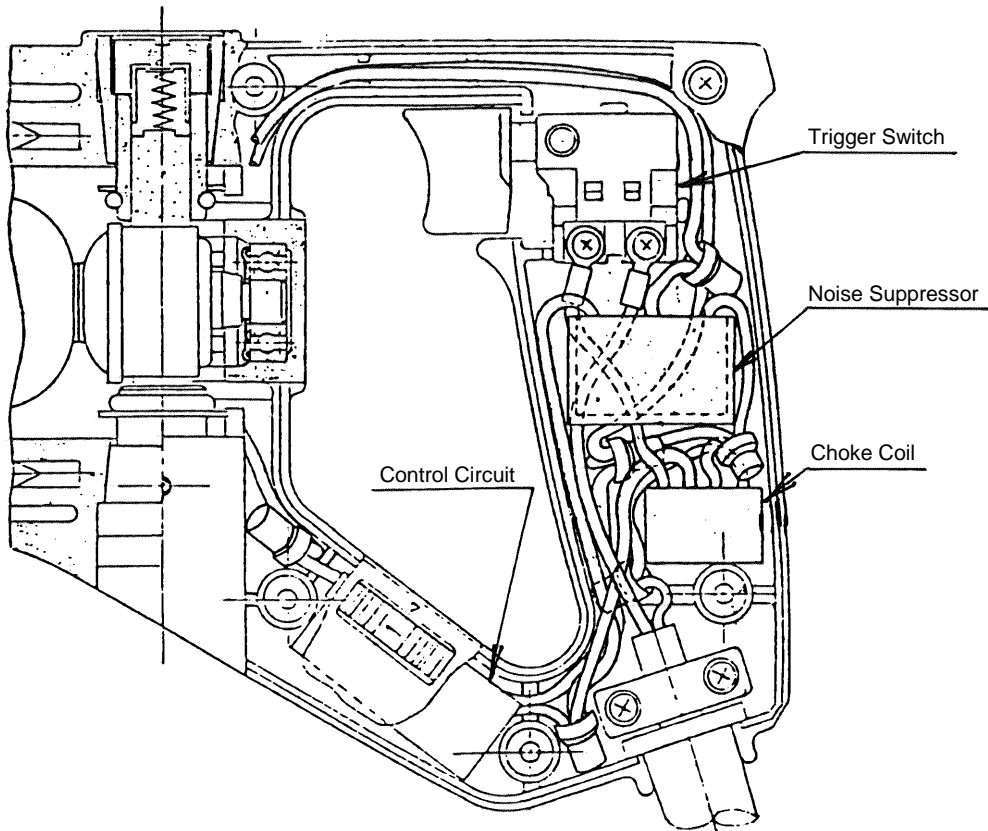


Fig. 11

(2) Model CR12  
 For European contries:

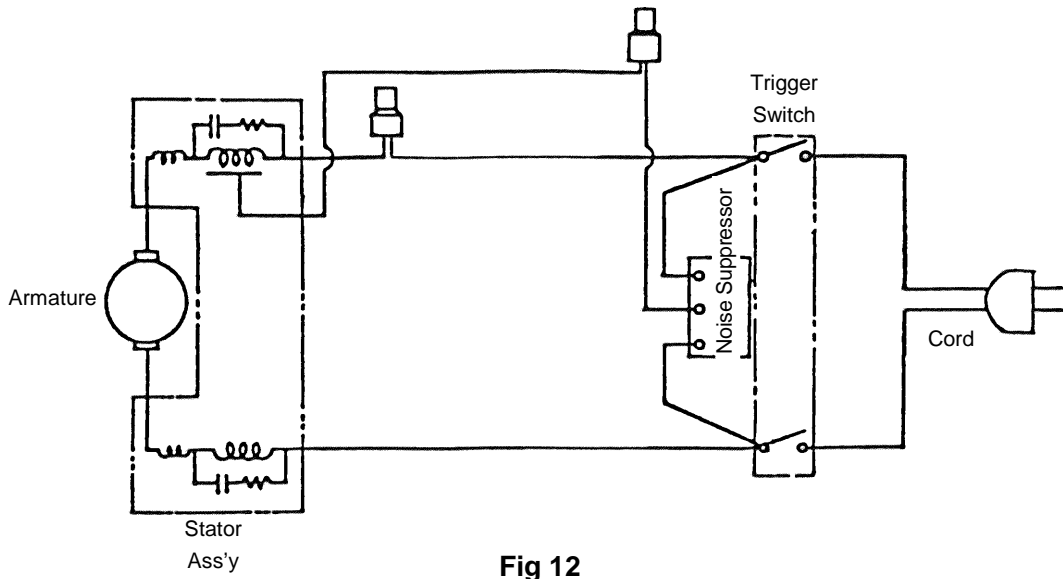


Fig 12

For N.Z.:

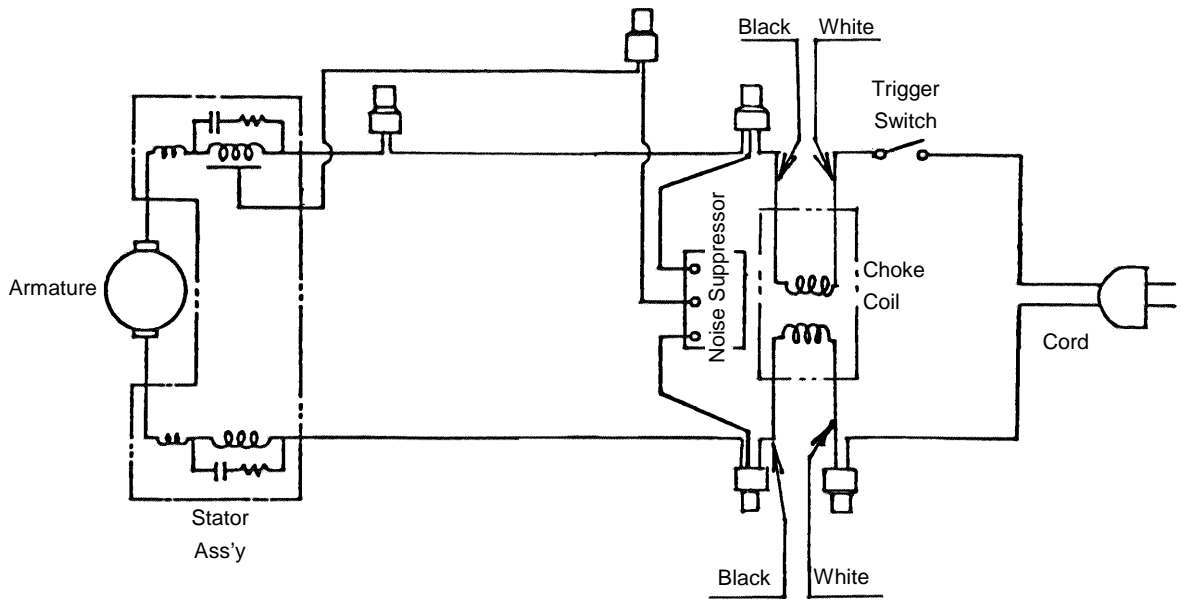


Fig 13

For Australia:

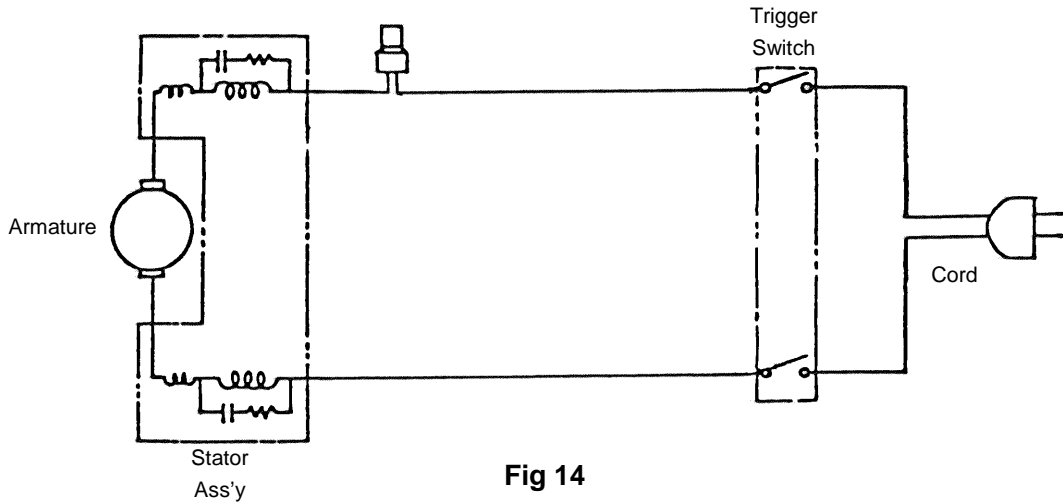


Fig 14

For other countries

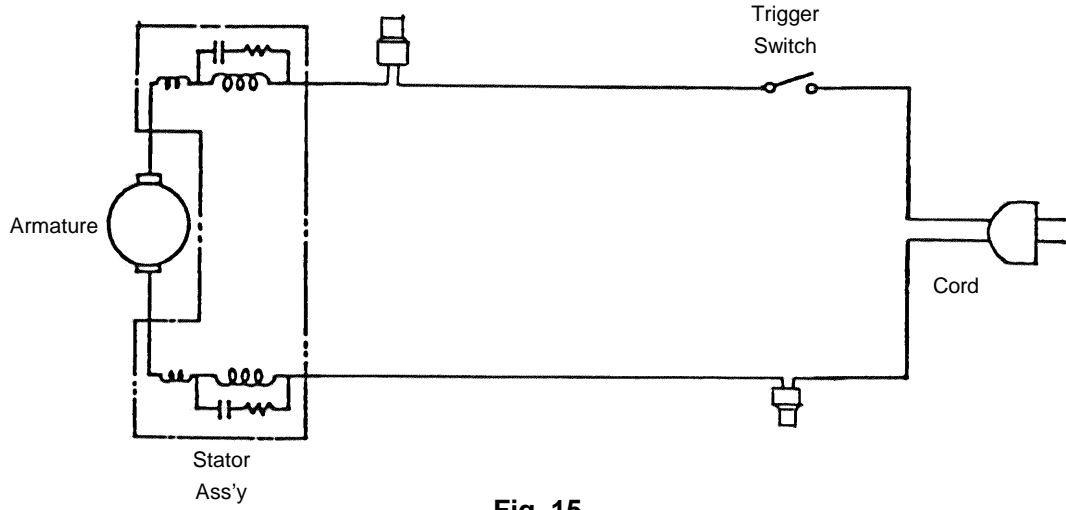


Fig. 15

For European countries:

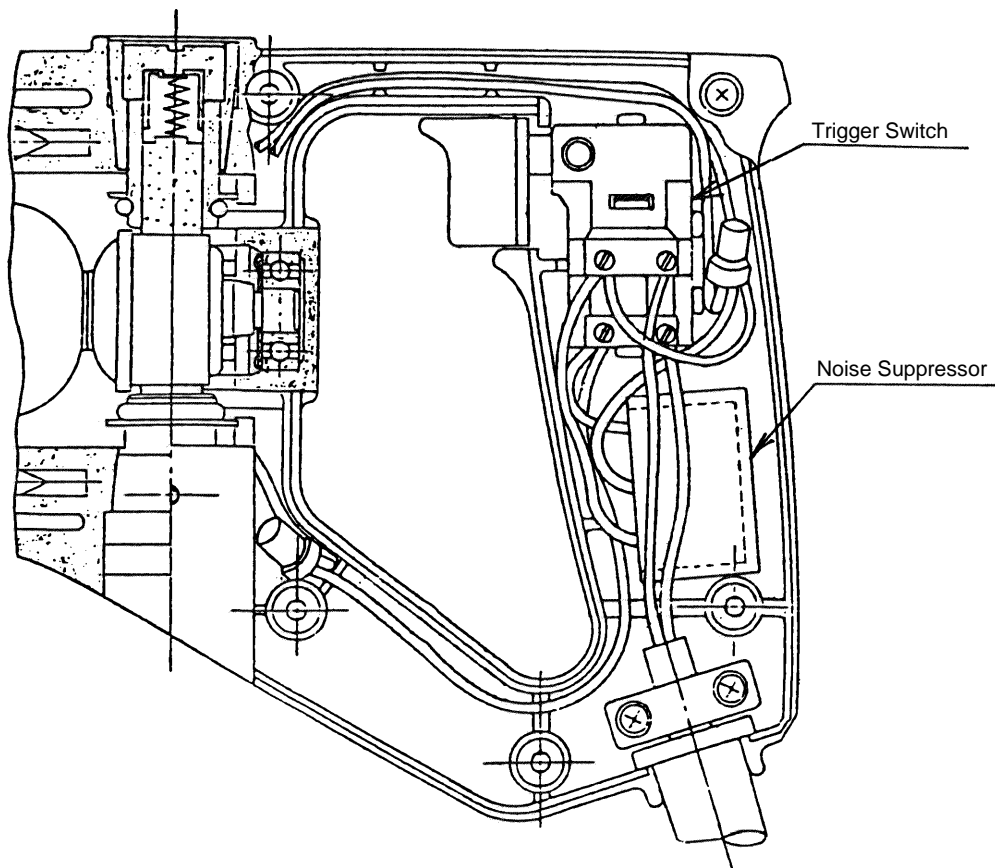


Fig. 16



For N.Z.:

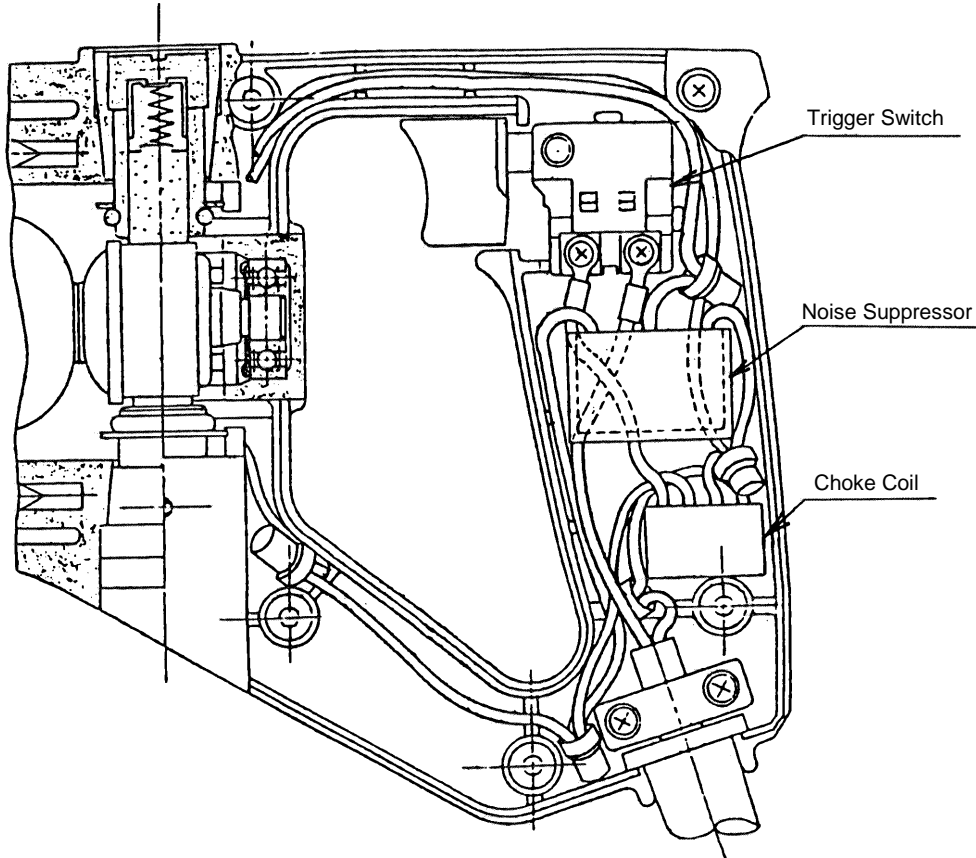


Fig. 17

**1-4. Remaining Reassembly:**

Remaining reassembly can be accomplished by following the disassembly procedures in reverse.

**1-5. Insulation Tests:**

On completion of disassembly and repair, carefully measure the insulation resistance and conduct dielectric strength test.

Insulation Resistance:  $7M\Omega$  or more with 500V DC Megohm Tester

Dielectric Strength:	AC 4000V/1 minute, with no abnormalities .....	220V - 240V (and 110V for U.K. products)
	AC 2500V/1 minute, with no abnormalities .....	110V - 127V (except U.K. products)