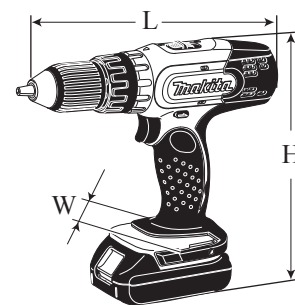




TECHNICAL INFORMATION

Model No. ▶ DHP453

Description ▶ 18V Cordless Hammer Driver Drill 13mm (1/2")



CONCEPT AND MAIN APPLICATIONS

Model DHP453 is a cost-competitive 18V cordless hammer driver drill powered by Li-ion battery of BL1815 (1.3Ah), BL1815N (1.5Ah), BL1820 (2.0Ah), BL1830 (3.0Ah), BL1840 (4.0Ah) and BL1850 (5.0Ah).

Its features are the same as BHP453:

- Single sleeve keyless drill chuck for easy bit installation/removal
- Compact and lightweight design for easy handling
- Ergonomically designed rubberized soft grip
- All metal gear construction

► Specification

Battery	Voltage: V	18
	Capacity: Ah	1.3, 1.5, 2.0, 3.0, 4.0, 5.0
	Energy capacity: Wh	24, 27, 36, 54, 72, 90
	Cell	Li-ion
	Charging time (approx): min	15, 15, 24, 22, 36, 45 with DC18RC
Max output: W		230
No load speed: min ⁻¹ =rpm	High	0 - 1,300
	Low	0 - 400
Impacts per minute: min ⁻¹ =ipm	High	0 - 19,500
	Low	0 - 6,000
Capacity of drill chuck: mm (")		1.5 - 13 (1/16 - 1/2)
Capacity: mm (")	Steel	13 (1/2)
	Wood	36 (1-7/16)
	Masonry	13 (1/2)
Torque setting		16 stage + drill mode
Clutch torque setting: N.m (in.lbs)		1.0 - 4.0 (9 - 35)
Lock torque: N.m (in.lbs)		38 (340)
Max. fastening torque: N.m	Hard joint	42
	Soft joint	27
Electric brake		Yes
Mechanical speed control		Yes (2 speed)
Variable speed control		Yes
Reverse switch		Yes
Weight according to		1.7 (3.7)*3
EPTA-Procedure 01/2003: kg (lbs)		1.9 (4.2)*4

Dimensions: mm (")	
Length (L)	240 (9-7/16)*1
	232 (9-1/8)*2
Width (W)	79 (3-1/8)
Height (H)	227 (8-15/16)*3
	244 (9-5/8)*4

*1: for countries of North America and Latin America

*2: for other countries

*3: with Battery BL1815/BL1815N/BL1820

*4: with Battery BL1830/BL1840/BL1850

► Standard equipment

- + Bit 2-65 (double-end)
- Belt clip*1
- Battery*5
- Charger*5
- Battery cover*6
- Plastic carrying case or Connector plastic case (type 2)*5

*5: Battery, Charger and Plastic carrying case/ Connector plastic case are not supplied with "Z" model.

*6: Supplied with the same quantity of extra Battery

Note: The standard equipment may vary by country or model variation.

► Optional accessories

- | | | |
|------------------------|------------------------|------------------------------------|
| Drill bits for wood | Li-ion Battery BL1850 | Charger DC18SD |
| Drill bits for steel | Li-ion Battery BL1840 | Charger DC24SC |
| Drill bits for masonry | Li-ion Battery BL1830 | Fast charger DC18RC |
| Driver bits | Li-ion Battery BL1820 | Automotive charger DC18SE |
| Keyless drill chuck 13 | Li-ion Battery BL1815N | Four port multi charger DC18SF |
| Belt clip | Li-ion Battery BL1815 | Two port multi fast charger DC18RD |
| Battery protector | | |

► Repair

CAUTION: Remove the battery and the bit from the machine for safety before repair/ maintenance!

[1] NECESSARY REPAIRING TOOLS

Description	Use for
Hex wrench 8	Removing /mounting Keyless drill chuck
Plastic hammer	Removing Keyless drill chuck

[2] LUBRICATION

It is not required to lubricate the gear section. Use Makita genuine Gear assembly that is factory-lubricated when repairing.

[3] DISASSEMBLY/ASSEMBLY

[3] -1. Keyless Drill Chuck

DISASSEMBLING

Note: (1) It is required to remove Keyless drill chuck at first when replacing Gear ass'y.

When parts other than Gear ass'y are related to repair, removing Keyless drill chuck is not required.

(2) If it is impossible to remove Keyless drill chuck in the following manner, use 1R359 (Chuck removing tool) to remove it. Refer to Makita repair tool list.

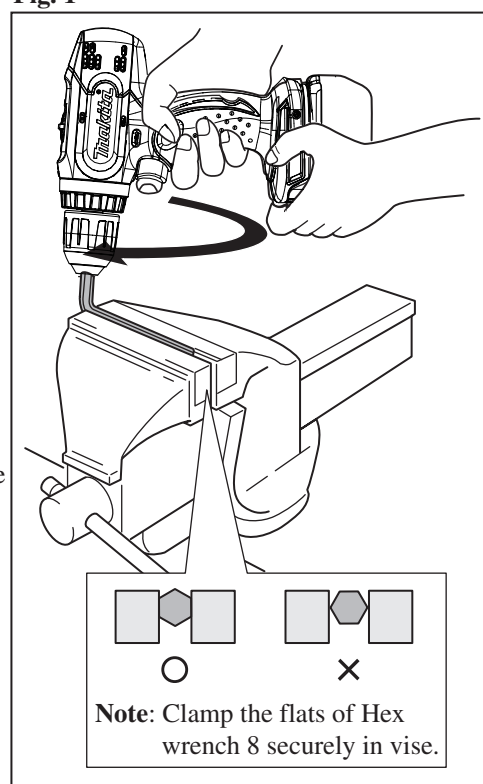
- 1) Open the jaws of Keyless drill chuck fully, and remove M6x22 - Flat head screw (left-handed and threadlocker coated) by turning **clockwise** using cordless impact driver in Forward rotation mode with slotted bit.
- 2) Fix the short leg of a hex wrench 8 in Keyless drill chuck, then clamp the long leg of the Hex wrench 8 securely in vise.
- 3) Set Action mode change lever of the machine in Drill mode, Speed change lever in Low speed, and F/R change lever in Reverse rotation mode.
- 4) Install Battery and hold the machine securely with both hands, then remove Keyless drill chuck from Gear ass'y by pulling Switch trigger slowly to minimize the impact of kickback. (**Fig. 1**)

Important:

The machine rotates in the direction of the arrow with very strong force at the moment when Switch trigger is pulled.

Therefore, be careful not to pinch your hand or finger between the machine and the vise.

Fig. 1



Note: Clamp the flats of Hex wrench 8 securely in vise.

ASSEMBLING

- 1) Turn Keyless drill chuck clockwise until it sits on the end of the threaded portion of spindle of Gear ass'y.
- 2) Hold the short leg of Hex wrench 8 with Keyless drill chuck, and fix the long leg of Hex wrench 8 in vise. Install Battery. Then set Action mode change lever of machine in Drill mode, Speed change lever in Low speed, and F/R change lever in Forward rotation mode.

3) Slowly pull the switch trigger to rotate spindle until the motor is locked.

Important: Be sure to release the switch trigger just after Spindle is locked.

- 4) Secure Keyless drill chuck with M6x22 - Flat head screw by turning **counterclockwise** using cordless impact driver with slotted bit.

Note: If you reuse the removed M6x22 - Flat head screw, apply threadlocker (ThreeBond 1321B/ 1342 or Loctite 242) to the threaded portion.

► **Repair**

[3] DISASSEMBLY/ASSEMBLY

[3] -2. Gear Ass'y and DC Motor

DISASSEMBLING

- (1) Remove Keyless drill chuck.
- (2) Gear ass'y and DC motor can be disassembled in the order of **Figs. 2 to 6**.

Fig. 2

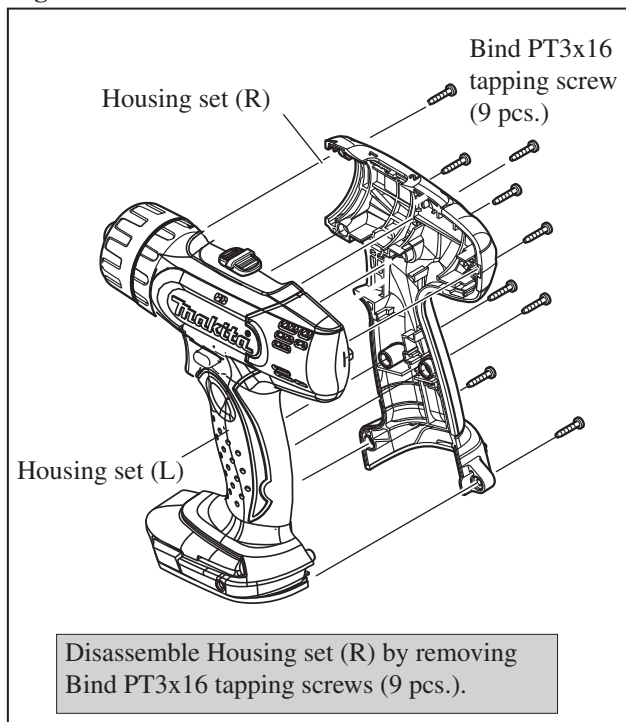


Fig. 3

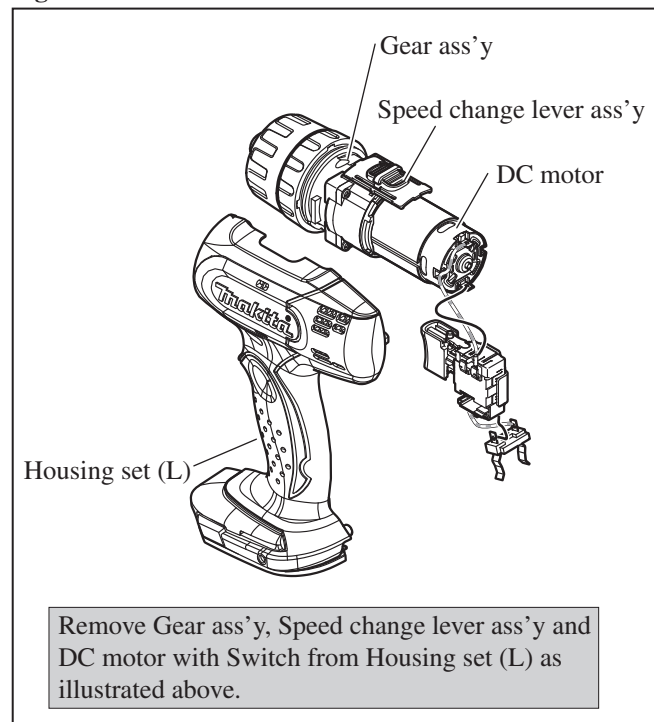


Fig. 4

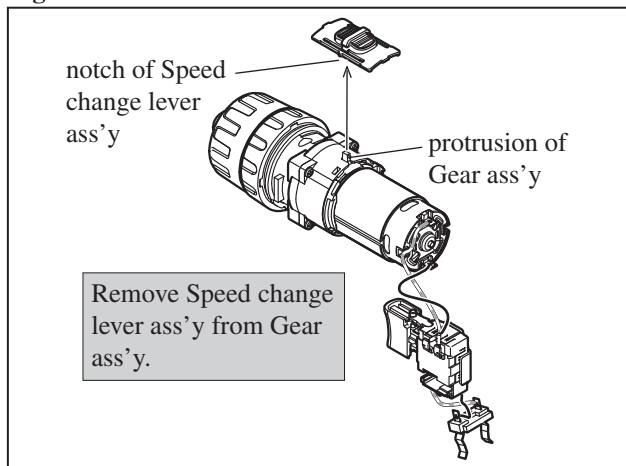


Fig. 5

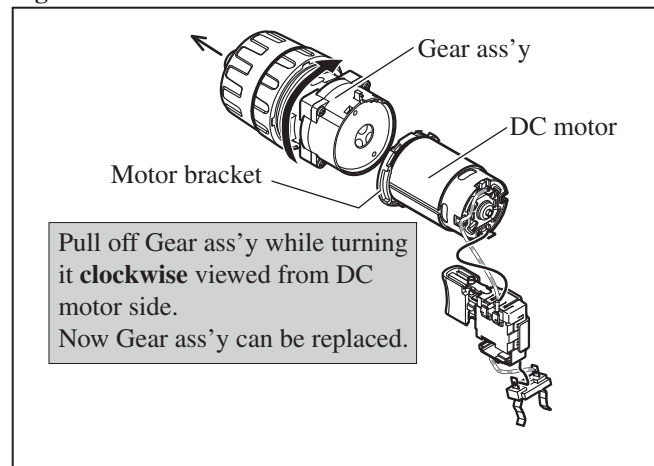
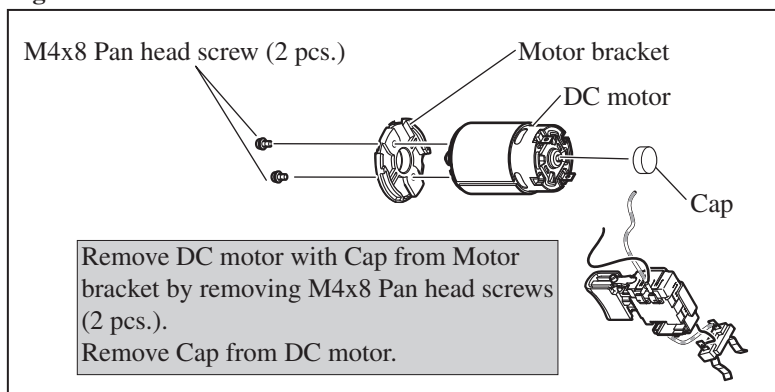


Fig. 6



► Repair

[3] DISASSEMBLY/ASSEMBLY

[3]-2. Gear Ass'y and DC Motor (cont.)

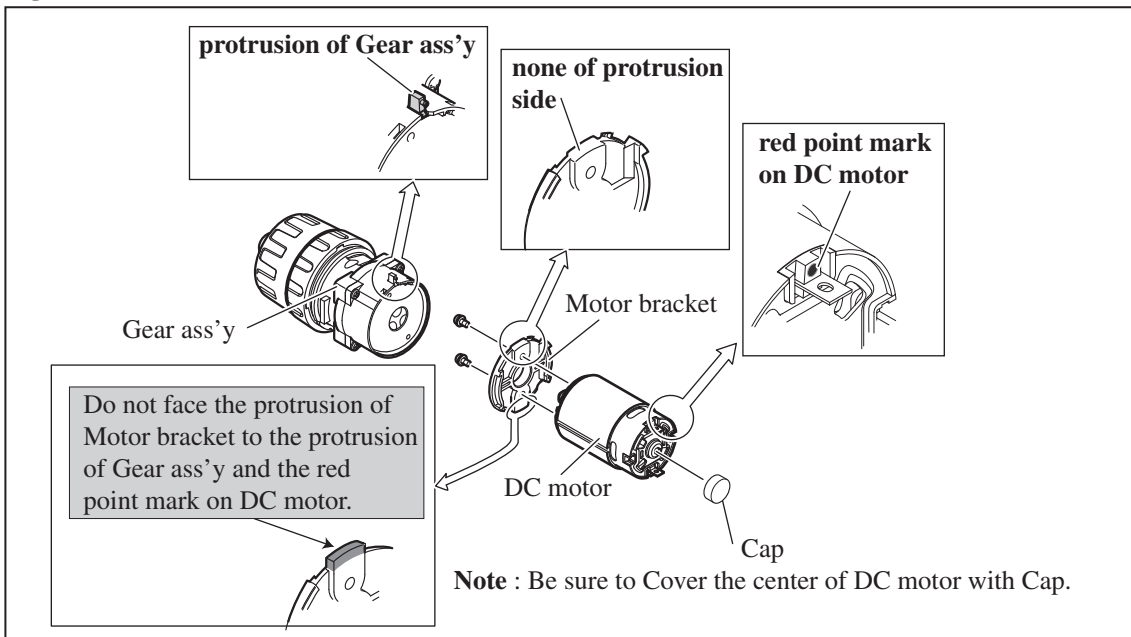
ASSEMBLING

Do the reverse of the disassembling steps.

The following portions of DC motor, Motor bracket and Gear ass'y have to face the same side. (Fig. 7)

- * Red point mark (designated as plus terminal) on DC Motor
- * None of protrusion side of Motor bracket
- * protrusion of Gear ass'y

Fig. 7



[3]-3. Speed Change Lever

ASSEMBLING

- (1) When assembling Speed change lever ass'y, make sure that Compression springs 4 (2 pcs.) are assembled to its bottom in advance. (Fig. 8)
- (2) Fit the protrusion of Gear ass'y into Compression spring 4 in Speed change lever ass'y. (Fig. 9)
- (3) After mounting, set Speed change lever ass'y to low speed mode or high speed mode. (Fig. 10)

Fig. 8

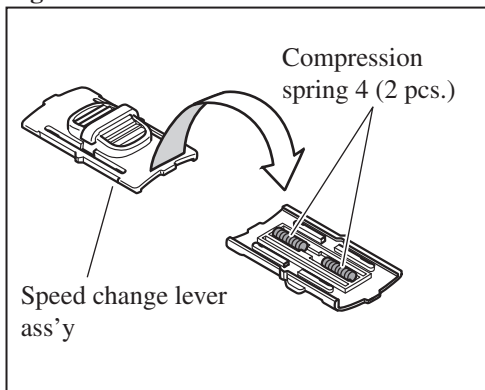


Fig. 9

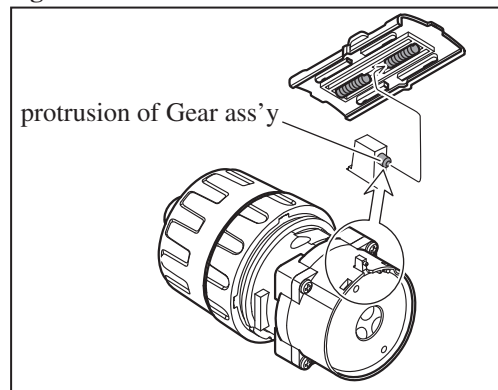
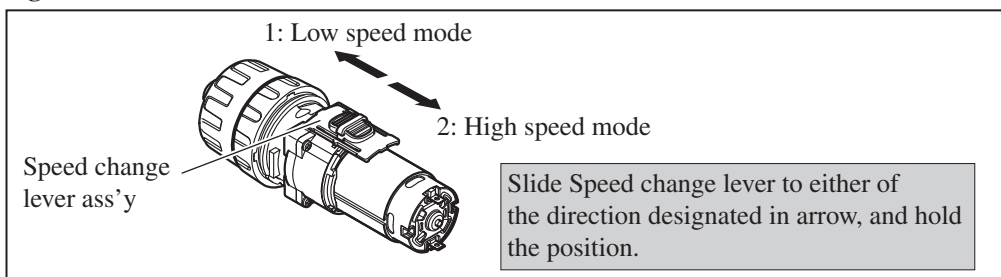


Fig. 10



► Repair

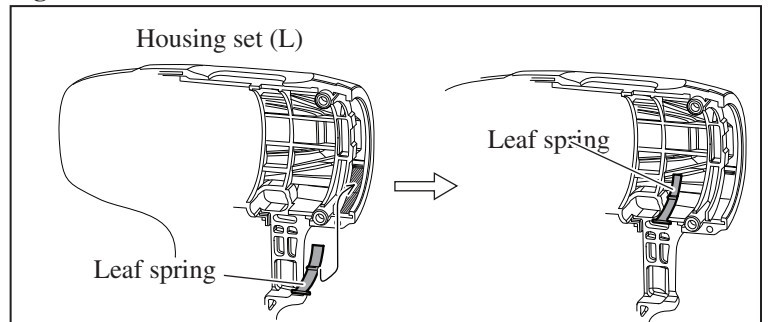
[3] DISASSEMBLY/ASSEMBLY

[3]-4. Leaf Spring

ASSEMBLING

Leaf spring has to be mounted to Housing set (L) as illustrated in **Fig. 11** before assembling Gear ass'y and DC motor.

Fig. 11

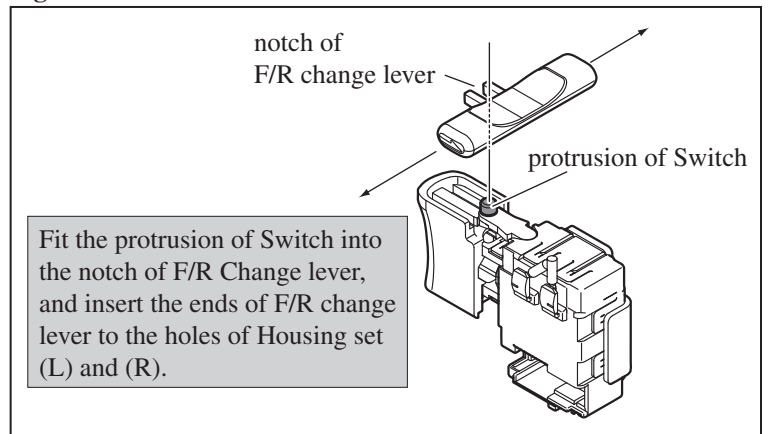


[3]-5. F/R Change Lever

ASSEMBLING

F/R Change lever can be assembled to Switch as illustrated in **Fig. 12**.

Fig. 12



[3]-6. Cushion

ASSEMBLING

Be sure to install Cushion into Housing set (L) as illustrated in **Fig. 13R**.

Note: **Fig. 13F** is the wrong installation. Pay attention to the direction.

Fig. 13R

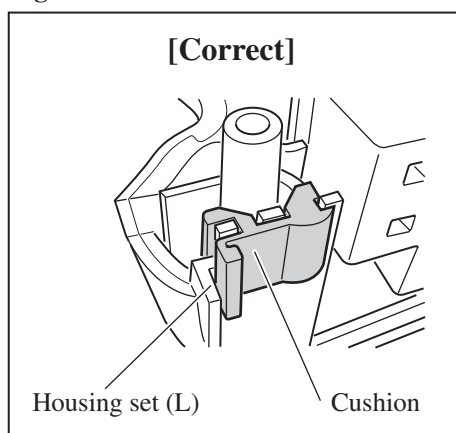
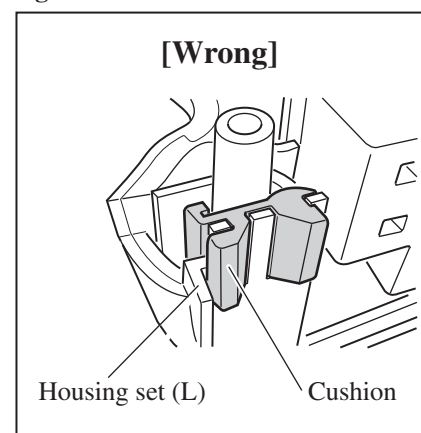
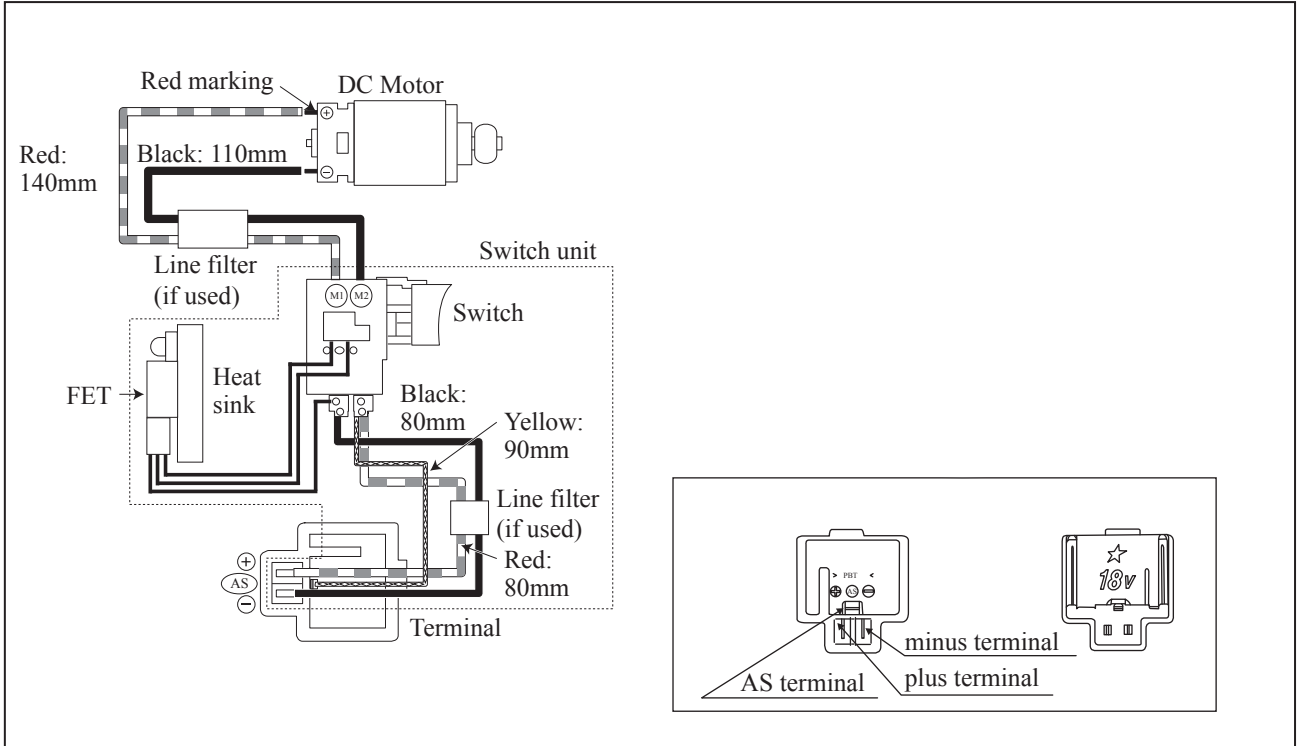


Fig. 19F



Circuit diagram

Fig. D-1



Wiring diagram

Fig. D-2

