

Hitachi Power Tools

SERVICE MANUAL

LIST No.
UC 18YFSL: J861
Jun. 2013

PRODUCT NAME

Hitachi Charger

Model UC 18YFSL

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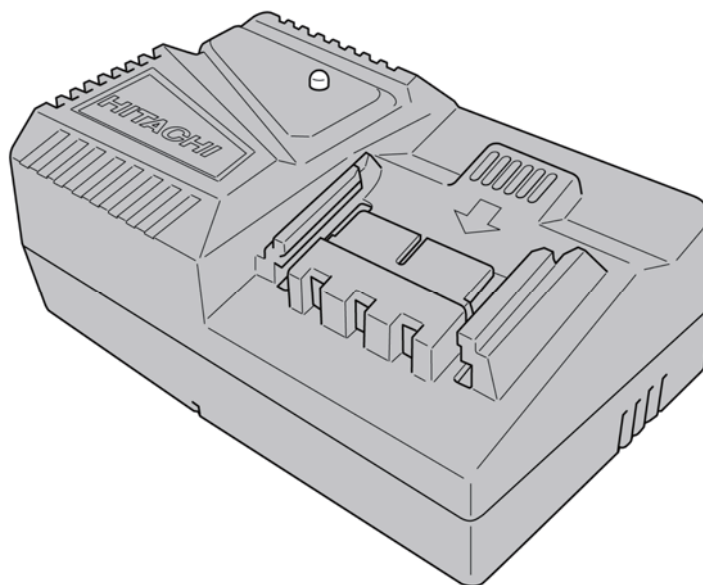
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 **Hitachi Koki Co., Ltd.**
International Sales Division

REPAIR GUIDE

1. Precautions on disassembly and reassembly

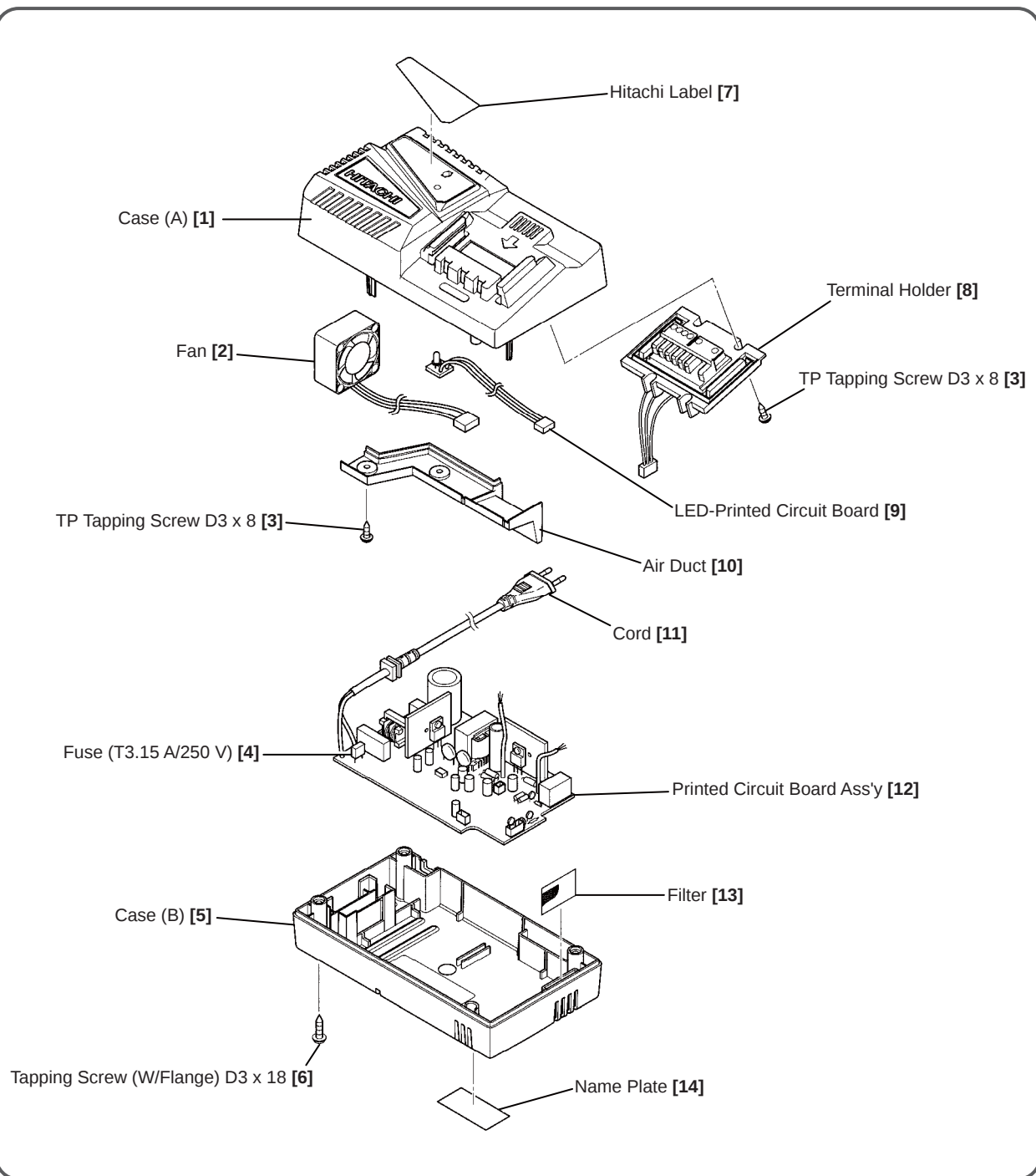
[Bold] numbers in the description below correspond to the item numbers in the Parts List and exploded assembly diagram for the Model UC 18YFSL.

Disassembly

- (1) Remove Case (A) **[1]** after removing the four Tapping Screws (W/Flange) D3 x 18 **[6]**.
- (2) Remove Fan **[2]** after removing the connector of the Fan **[2]** from the Printed Circuit Board Ass'y **[12]**.
- (3) Remove the Air Duct **[10]** and LED-Printed Circuit Board **[9]** from Case (A) **[1]** after removing the two TP Tapping Screws D3 x 8 **[3]**.
- (4) Remove the Terminal Holder **[8]** after removing the four TP Tapping Screws D3 x 8 **[3]** and the connector of the Terminal Holder **[8]** from the Printed Circuit Board Ass'y **[12]**.
- (5) Remove the Cord **[11]** from the Printed Circuit Board Ass'y **[12]** after melting their soldered connections with a soldering iron.
- (6) The Filter **[13]** is stuck to Case (B) **[5]**.

NOTE:

- Ideally, the soldered portions should be freed using a solder absorber. If a soldering iron must be used, use one with a rated power of 35 W.
- As excessive heat may damage the material of the printed circuit board, use of a soldering iron should be limited to less than three seconds at one time.



Reassembly

Reassembly can be accomplished by following the disassembly procedures in reverse; however, special attention should be given to ensure that the cord armor is properly installed in the prescribed groove.

Screw tightening torque

- TP Tapping Screw D3 x 8 [3]-----0.6 to 1.0 N•m (6.0 to 10.0 kgf•cm)
- Tapping Screw (W/Flange) D3 x 18 [6]-----0.6 to 1.0 N•m (6.0 to 10.0 kgf•cm)

Confirmation after reassembly

- (1) Confirm the following after reassembly. The red pilot lamp on the charger lights up when charging is started.
- When charging the BSL 1430 battery, confirm that the red pilot lamp flashes at one-second intervals about 45 minutes after the start of charging.
- (2) Measure the insulation resistance and conduct a dielectric strength test.
- Insulation resistance:
10 MΩ or higher between the plug blade of the cord and the name plate or the case fastening screws, with a DC 500 V megohm tester.
 - Dielectric strength test:
 - (a) Between the plug blade of the cord and the charging terminal blade
 - (b) Between the plug blade of the cord and the name plate or the fastening screws on the case
- Conduct a dielectric strength test based on the voltage listed on the name plate.

Voltage on the name plate	Test voltage
110 V to 120 V	AC 1,240 V (1 minute)
220 V to 240 V	AC 3,750 V (1 minute)

CAUTION: Without fail, insulation resistance must be measured between the plug blade of the cord and the name plate or the fastening screws, and a dielectric strength test must be conducted between the plug blade of the cord and the charging terminal blade or between the plug blade of the cord and the name plate or the fastening screws on the case. Under no circumstances should testing be conducted between both blades of the plug or those of the charging terminal. Doing so may cause the charger to burn out.

TROUBLESHOOTING GUIDE

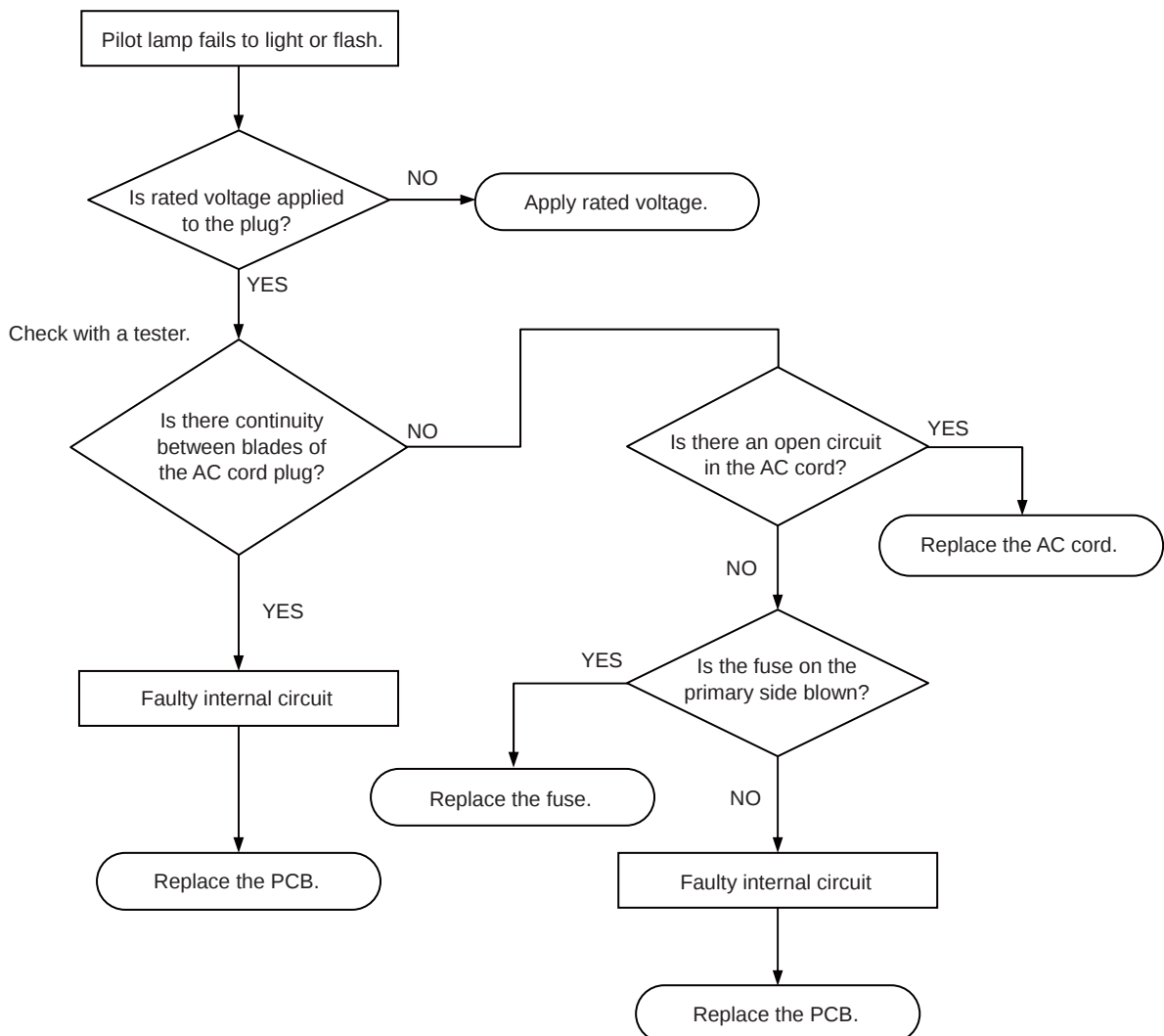
1. Troubleshooting based on pilot lamp indication

Problem	Typical cause	Check procedure
Pilot lamp fails to light or flash.	(1) Faulty AC cord (2) Blown fuse (3.15 A) on primary side	Refer to trouble mode (A).
Red pilot lamp does not stay lit (continues to flicker) after battery has been connected.	(1) Poor connection of (T) or (LS) terminal (2) Faulty battery (open circuit) (3) Faulty PCB*	Refer to trouble mode (B).
Pilot lamp remains flashing (light for 1 second, off for 0.5 second) after battery has been connected.	(1) High ambient temperature (2) Hot battery (3) Poor connection of terminal (4) Faulty battery (open circuit) (5) Faulty PCB*	Refer to trouble mode (C).
Pilot lamp indicates abnormality by flashing red rapidly at 0.2-second intervals.	(1) Faulty battery (short-circuit or open circuit) (2) Faulty PCB*	Refer to trouble mode (D).

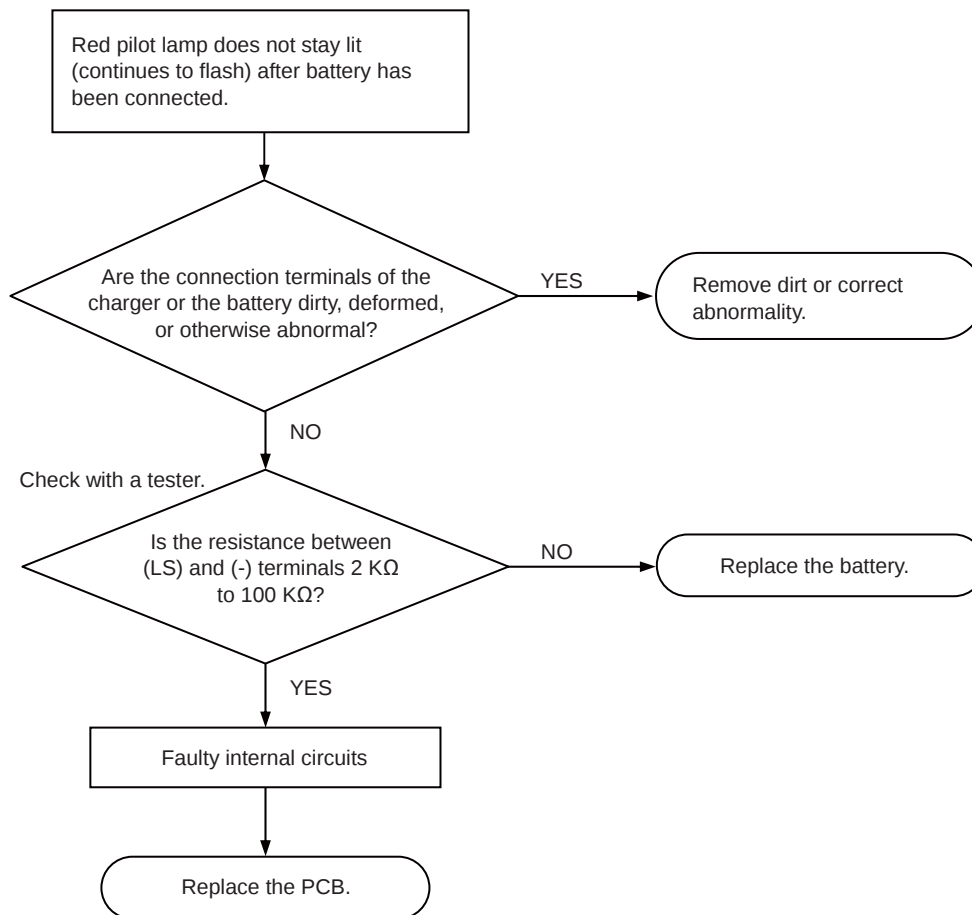
* PCB: Printed Circuit Board

2. Troubleshooting and repair procedures

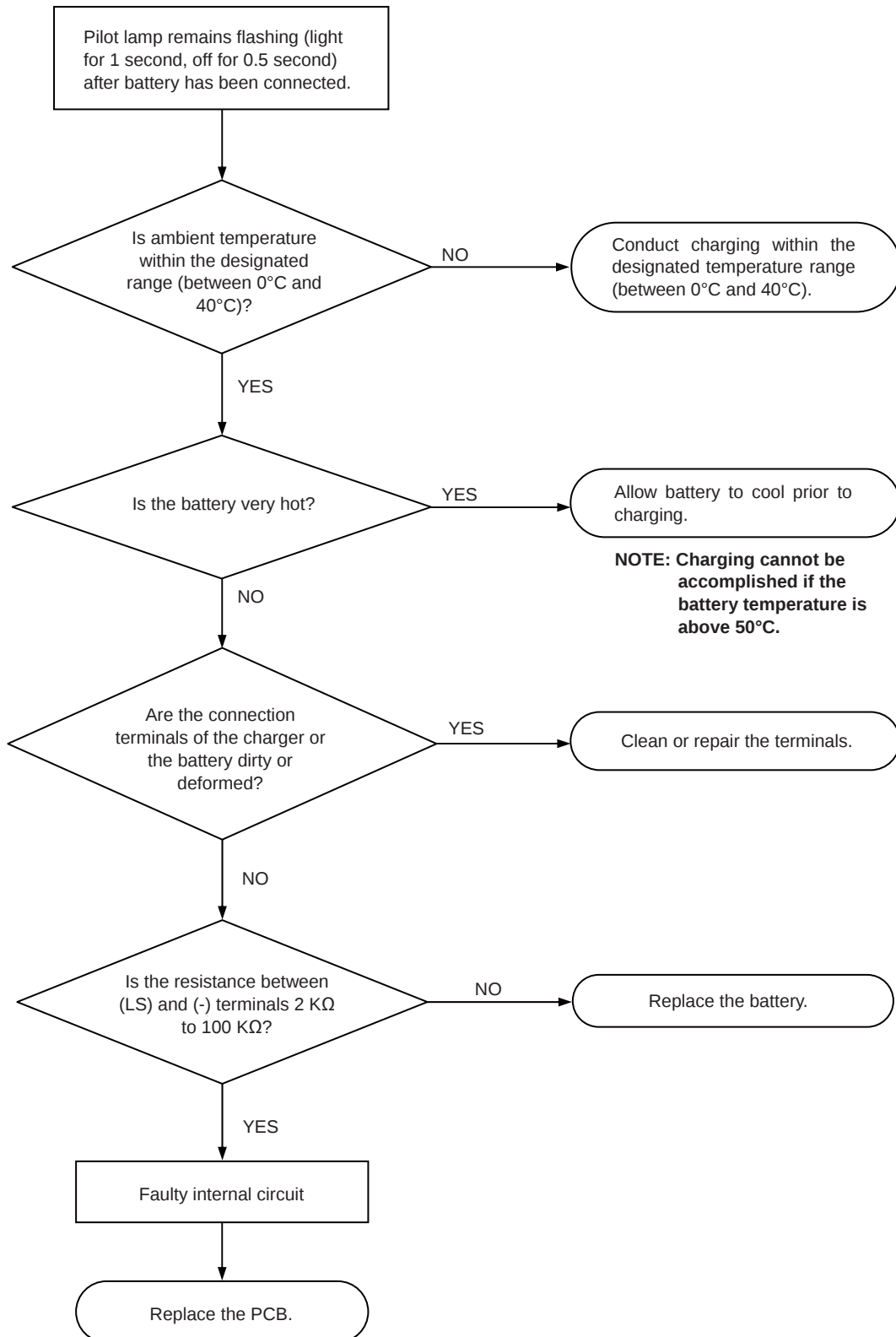
(1) Trouble mode (A)



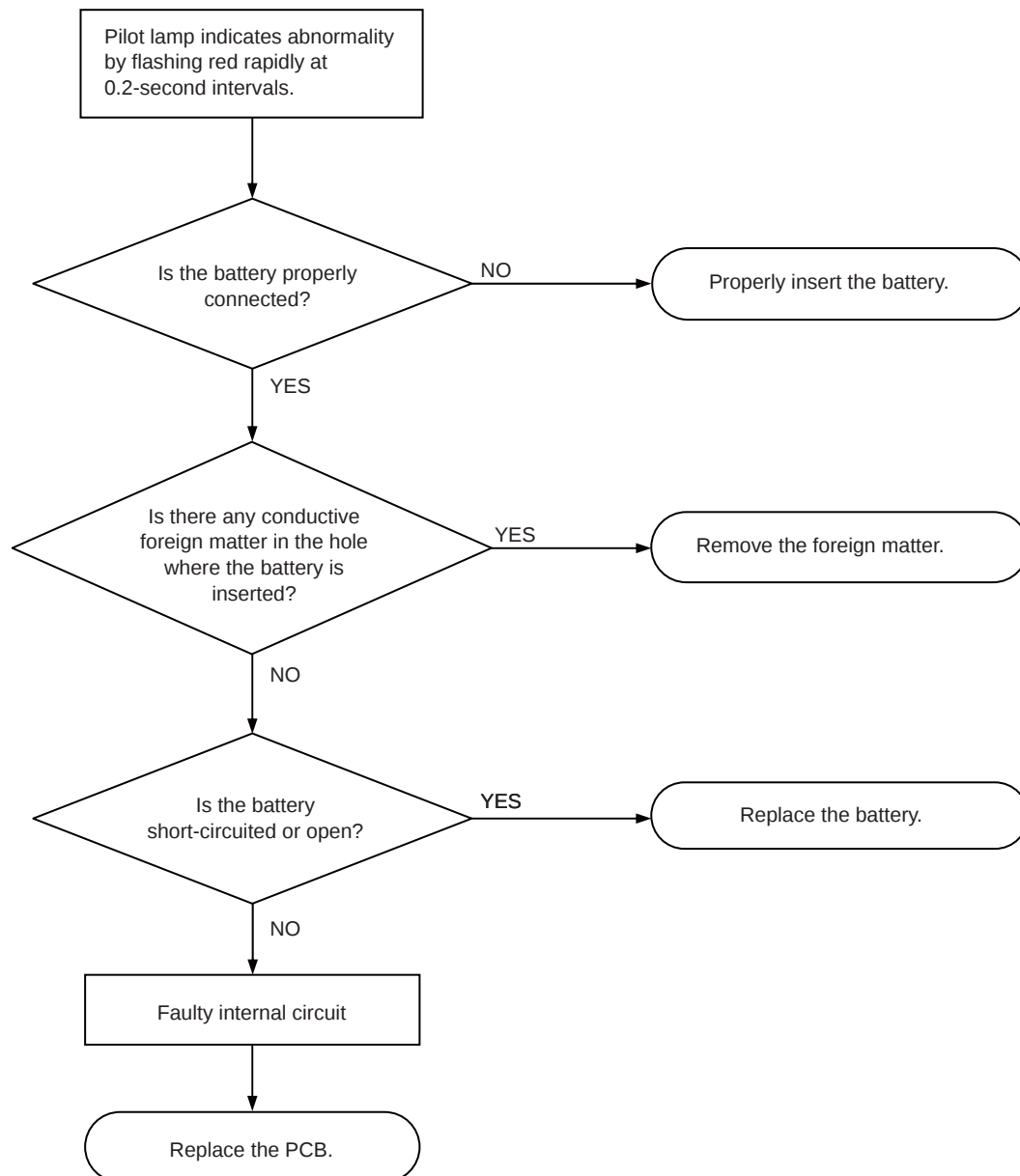
(2) Trouble mode (B)



(3) Trouble mode (C)



(4) Trouble mode (D)



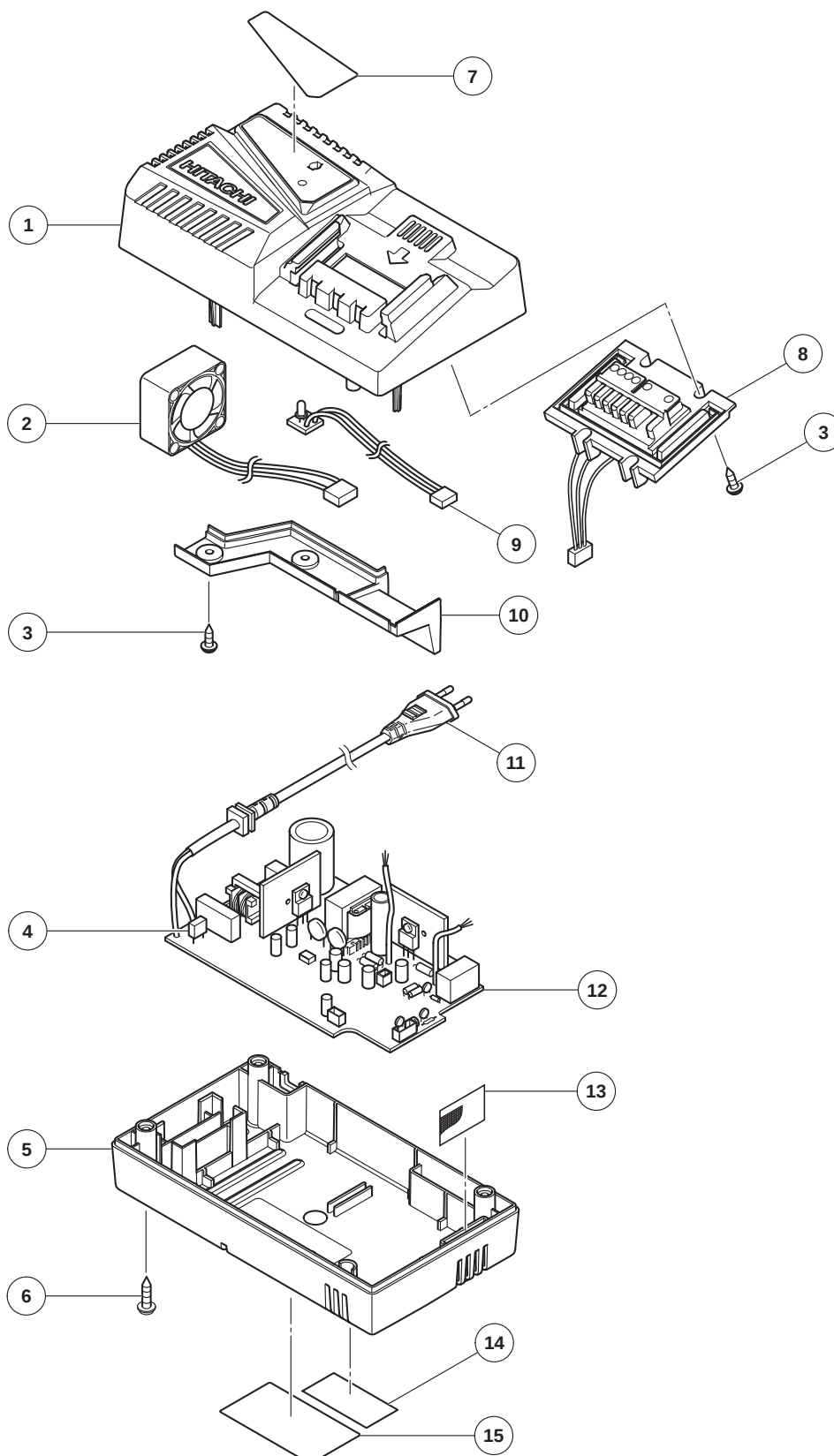
STANDARD REPAIR TIME (UNIT) SCHEDULES

MODEL	Fixed / Variable	10	20	30	40	50	60 min.
UC 18YFSL	General Assembly	Work Flow	Cord Printed Circuit Board Ass'y				
		Case (A) Case (B) Fan Fuse Terminal Holder LED-Printed Circuit Board Air Duct					

ELECTRIC TOOL PARTS LIST

■ CHARGER Model UC 18YFSL

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