CAT® Lift Trucks

Service Manual

Controller

FC/MC

EP13PNT	ETB21-00011-up
EP15PNT	ETB21-50011-up
EP16CPNT	ETB22-00011-up
EP18CPNT	ETB22-50011-up
EP16PNT	ETB23-00011-up
EP18PNT	ETB23-50011-up
EP20PNT	ETB24-00011-up

EP16CPN	ETB27-00011-up
EP18CPN	ETB27-50011-up
EP16PN	ETB28-00011-up
EP18PN	ETB28-50011-up
EP20PN	ETB29-00011-up

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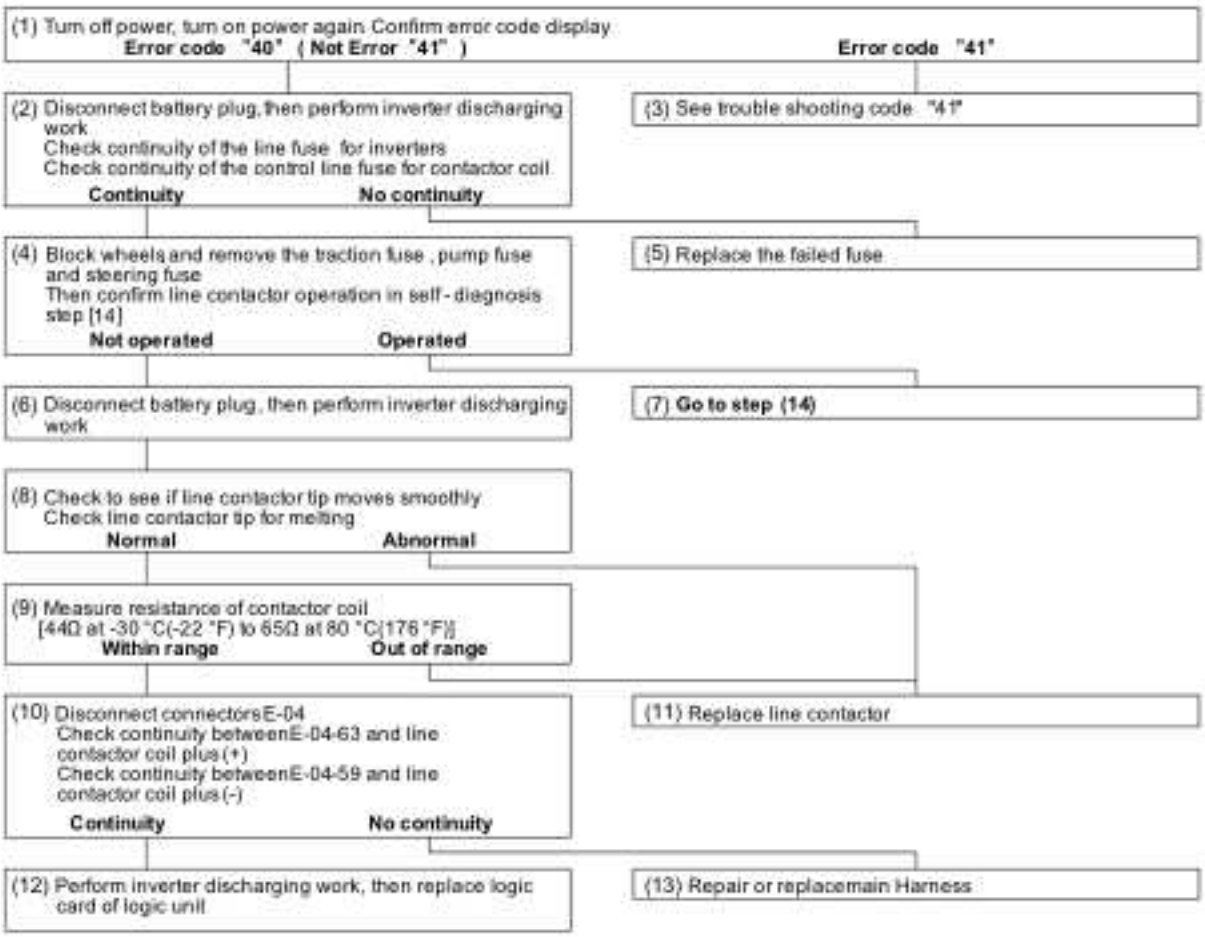
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3.16 Line Contactor Fault (40)

Error code: 40	
Situation	Display: "40". Traction motor and pump motor operation inhibited. Line and steering contactor HOLD. If this fault occurs before steering contactor CLOSE, all operations inhibited except mast lowering operation.
Possible cause	Break of line fuse. Faulty line contactor. Faulty right, left traction inverter or pump inverter. Faulty DSP card in right, left traction inverter. Faulty main harness. Faulty logic unit.
Trigger of the error code	Inverter voltage data is checked when contactor is closed (400 ms).

Checks



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2. Specifications

Truck model		Specification	
Traction motor	Type	Induction, three-phase AC	
	Voltage V	48 V	
	Output W	4.5 kW	
	Weight	37 kg (82 lb)	
Pump motor	Type	Induction, three-phase AC	
	Voltage V	48 V	
	Output W	11.5 kW	
	Weight	40 kg (88 lb)	
EPS motor	Type	DC	
	Voltage V	48 V	
	Output W	300 W	600 W

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Chapter 4 HOW TO READ CIRCUIT DIAGRAMS

1. Description of Circuit Diagrams

The Circuit diagrams consist of the schematic diagrams and connector diagrams.

1.1 Schematic diagram

All circuits including the power supply and ground are divided into the power circuit, GND circuit and system circuits.

Power circuit diagram

The power circuit diagram indicates the power circuit including the battery, fuse, ignition switch, etc.

GND circuit diagram

The GND circuit diagram indicates the circuits from each electric component to the body ground or from each component to the battery negative terminal.

System circuit diagrams

The system circuit diagrams indicate the circuits of each system from fuse to GND (earth) excluding the above power supply and GND circuit portions.

1.2 Connector Diagrams

The connector shapes, terminal shapes and terminal arrangements of all connectors in the circuit diagrams are indicated.

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4.6 Hour Meter

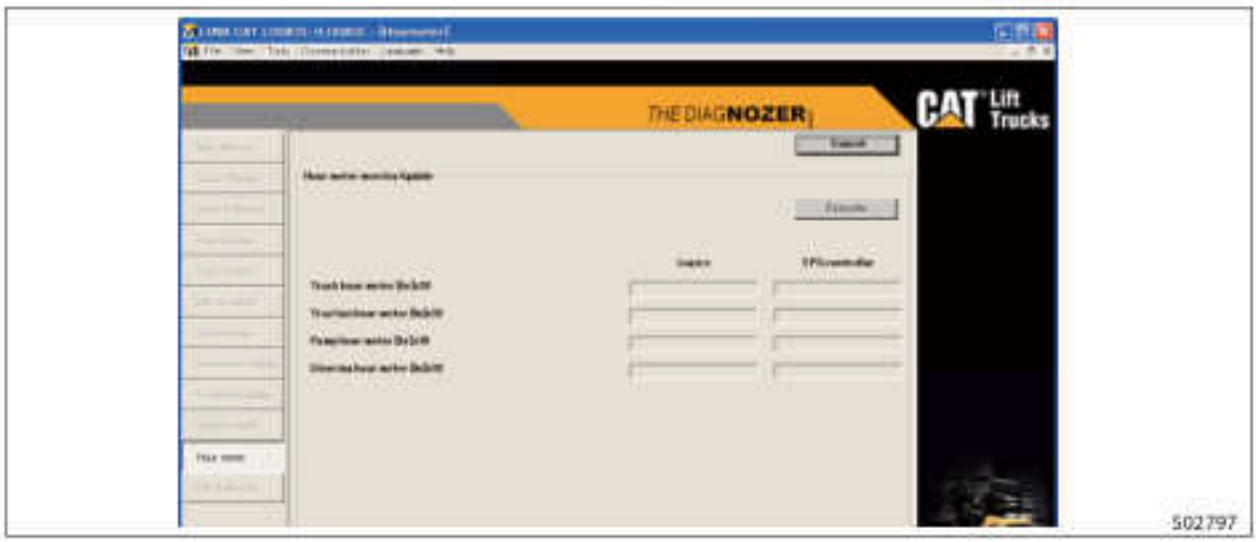
The truck hour meter reading is indicated on the display.

Also, the traveling/load, handling/steering hour meter readings can be confirmed using service tool.

When a difference of the hour meter reading between the logistics and EPS controller exceeds 1 hour, "HR NG" will be indicated on the display.

Upon receiving a request of hour meter adjustment from the service tool, the smaller hour meter reading will be rewritten to longer service hour reading so that the hour meter readings between the logics and EPS controller will be matched.





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