

SERVICE MANUAL

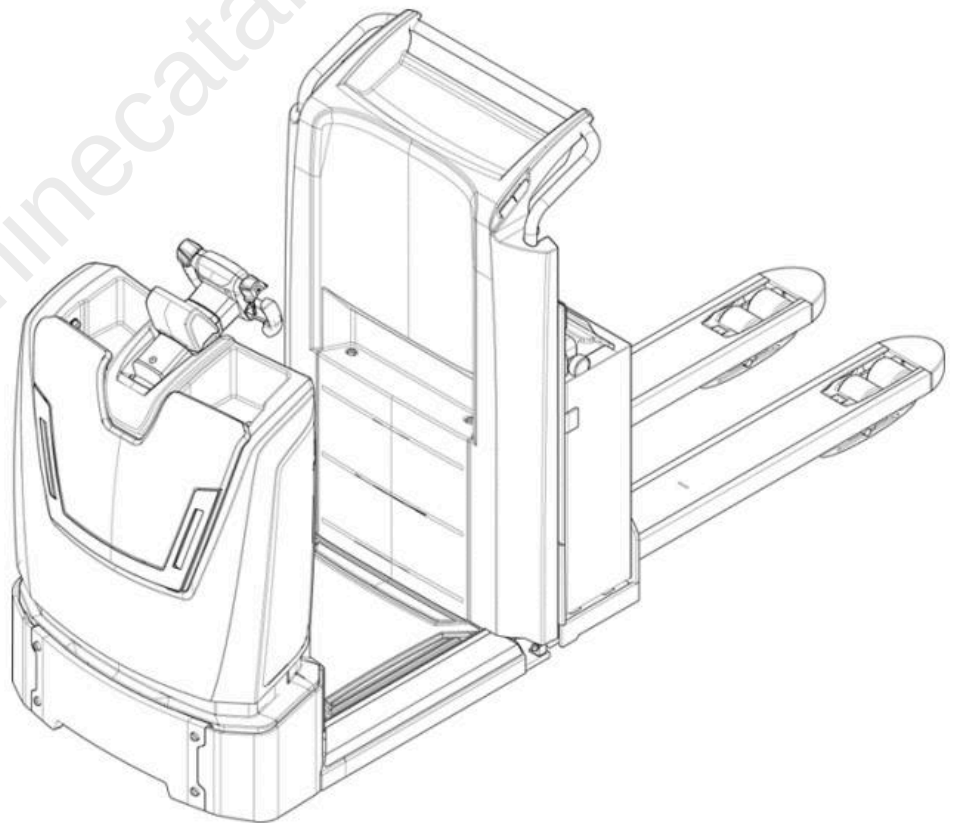
NO

20NE/20NEP

10NEF/10NEFP

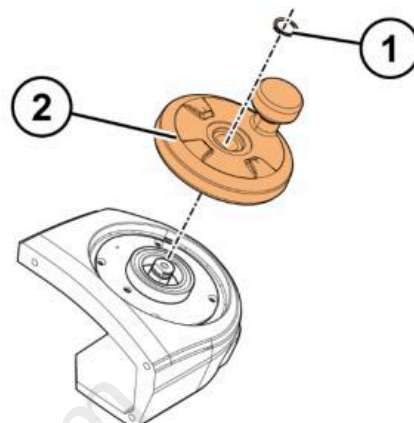
20NEX/20NEXP

NTR30N

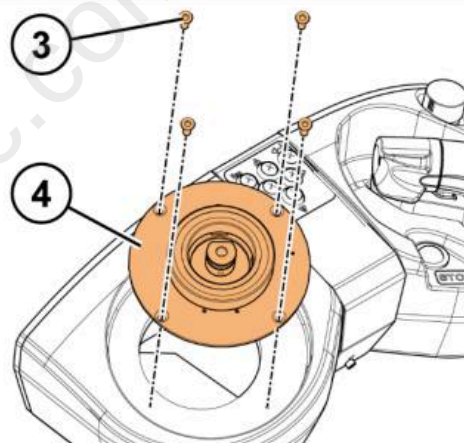


5.13.4 Replace the sensor of the 360° steering wheel

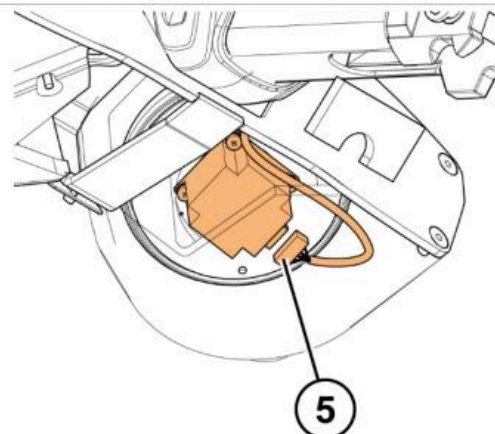
1. Remove the circlip.
2. Remove the steering wheel.



3. Remove the 4 screws.
4. Remove the sensor bracket.



5. Disconnect the steering wheel sensor connector.



9.2.2 Insulation tester check

Connect the test probe to the frame of the truck (for example, to a non-painted bolt or bracket) and the other test probe to another bolt or bracket. The tester must show a zero value.

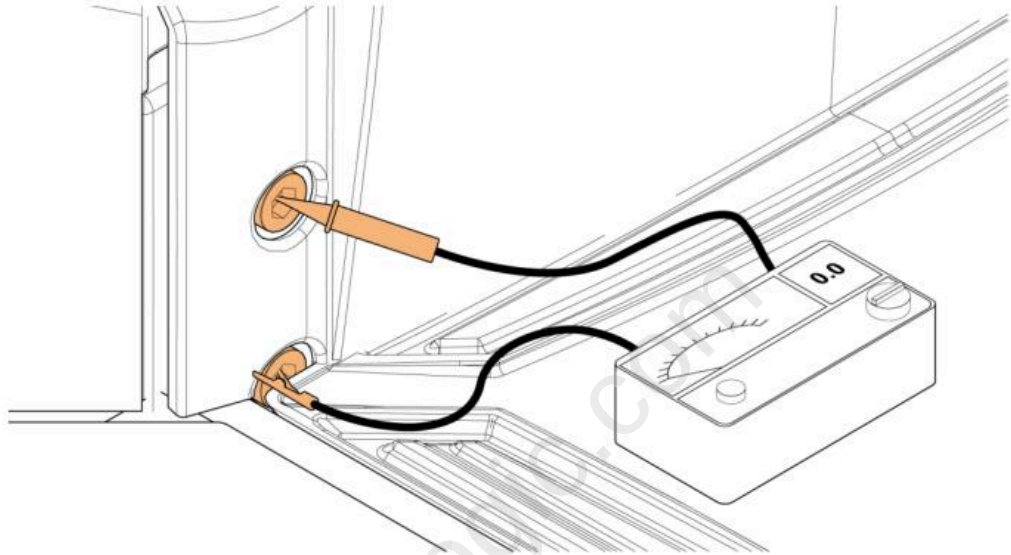


Figure 120. Insulation tester check

9.2.3 Measure the insulation resistance

The test is done with the battery disconnected from the truck. All the electrical components must be in place.

1. Release the emergency stop and set the key switch to the ON position.
2. Connect the test probe to the frame of the truck (for example, to a non-painted bolt or bracket) and the other test probe to the positive terminal of the battery connector.
3. Read the resistance value.
4. Measure and read the negative terminal of the battery connector in the same way.

	BEFORE DAILY USE (USER)	MONTHLY (OWNER)	600 h OR ONCE A YEAR (SERVICE)	1,200 h OR EVERY SECOND YEAR (SERVICE)
Lifting and lowering speed			C	C
Chain lubrication, clean and lubricate if needed			C	C
Lubrication of the mast contact surfaces			G	G
Functionality of the lift sensors in the mast, possible damages			C	C
Test lift with rated load, and with a customer specific load if needed			C	C
Cracking and welding in the mast			C	C
Mounting of any attachments and load carrying components			C	C
Cracking and wear in the fork base			C	C
Cracking in the welds of the masts			C	C
Cracking in the welds of the outer masts and cylinder support			C	C
Cracking in the lift bracket welds			C	C
Cracking and damage in the rollers, roller pins and welds			C	C
Fork carriage				
Cracking and welding in the fork carriage			C	C
Mounting, wear and damage of the forks and the load handling device			C	C
Fork thickness and locking			C	C
Linkage				
Bearings			C	C
Linkage			C	C
Wheels				
Damage and wear in the wheels			C	C
Traction wheel	C	C	C	C
Traction wheel has to be replaced when its diameter reaches 230 mm			C	C

IDENTIFIER	DESCRIPTION
M#	Motor
V#	Diode
A#	Controllers and displays
K#	Contactors and relays
X#	Connector. Contact numbers are marked on individual wires.
XX#	Splice. Multiple wires are connected together at this point.

Figure 79 shows the reference to which Figure 78 referred.



Figure 79. Page 8, zone 16, wiring reference J14

Note the numbers below the wiring reference J14. These numbers (1/13) direct you back to the page (and zone) shown in Figure 78.

INPUTS & OUTPUTS	4 / 9	REV H
	3-7109	

Figure 80. Page numbers (4/9), circuit diagram number (3-7109) and revision letter (H)

11.2 Select the controller

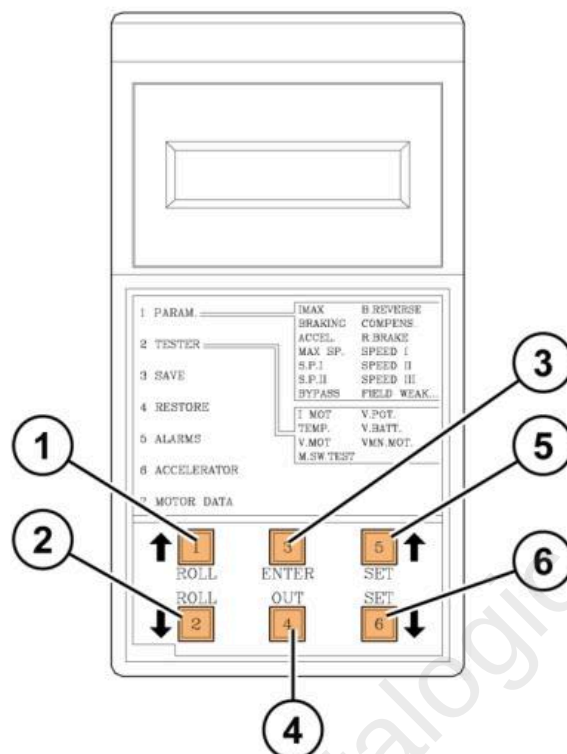


Figure 133. Digital console buttons

- | | |
|------------------|-----------------|
| 1. 1 / Roll up | 4. 4 / Out |
| 2. 2 / Roll down | 5. 5 / Set up |
| 3. 3 / Enter | 6. 6 / Set down |

By default, the digital console connects with the traction controller. You can also connect the digital console with the pump controller or the steering controller.

To select the controller:

- In the home display of the digital console, push the **1 / Roll up** and **5 / Set up** buttons at the same time to open the **Config** menu.
The display panel shows the text SET MODEL.
- Push **3 / Enter** button to open the **Set Model** menu.
The display panel shows the text CONNECTED TO = 2.
- To adjust the value, push **5 / Set up** or **6 / Set down** button.
To select the traction controller, select number 2.
To select the pump controller, select number 5.
To select the steering controller, select number 6.
- To confirm the selection, push **4 / Out** button.
The display panel shows the home display.

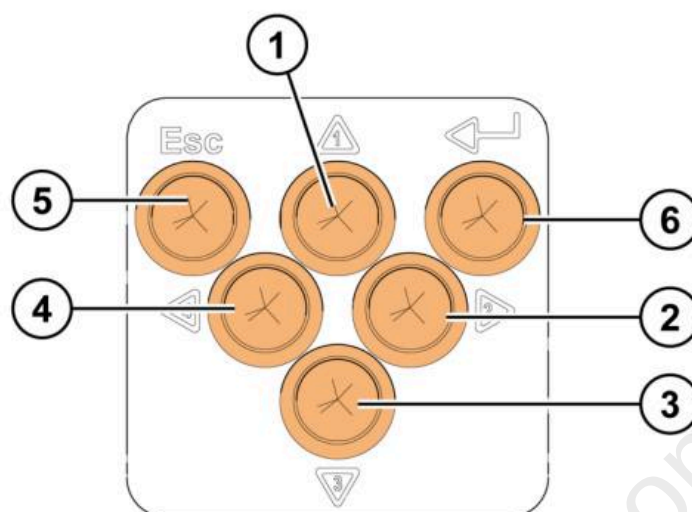
360° steering display control buttons

Figure 16. 360° steering display control buttons overview

- | | |
|-------------------------------------|------------------------------------|
| 1. Browse up / PIN code 1 button | 4. Browse left / PIN code 4 button |
| 2. Browse right / PIN code 2 button | 5. Exit / Esc button |
| 3. Browse down / PIN code 3 button | 6. Enter button |



NOTE: If there is an emergency, the truck can be operated at a slow speed. The truck always accepts the safety PIN code 1111.

Warning light

The warning light on the right side of the truck display can show a red or yellow light:

- Red light indicates an alarm.
- Yellow light indicates a warning.

- The voltage of the battery
- The condition of the motor.

If it is necessary, operator identification can be included with Abbot2. The operator identification prevents unauthorised operation of the truck and records who operated the truck and when.

With the collected information, one can see how much the trucks are used, how they are used, and how is truck operation culture in the work environment. The condition of the motor and battery give information of a possible need for servicing or repairs.

The equipment to be installed to the truck:

- A central unit
- A potential external collision sensor
- An iButton operator identification module.

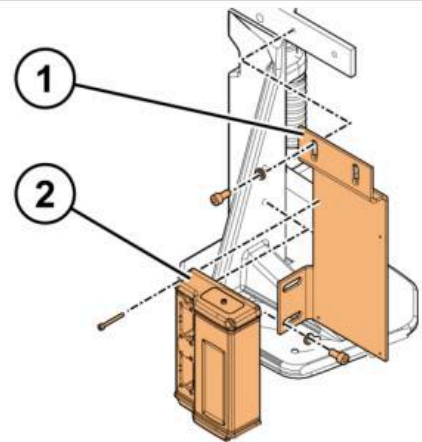
The information collected of the forklift trucks is sent automatically to the Abbot2 server through the GPRS or WLAN network. You can browse the information on the Abbot2 server in real-time with an Internet browser.

There are 6 variations of the Abbot2 option:

- WLAN
- WLAN iButton
- GPRS
- GPRS iButton
- WLAN + GPRS
- WLAN + GPRS iButton

15.15.1 Install the Abbot2

1. Install the mounting plate of the Abbot2 to the truck frame.
2. Install the Abbot2 onto the mounting plate with screws.



3. Connect the wires. See the schematic diagram of the truck model.

Full Version Available

Caterpillar NO20NEP Order Picker Service and Operator Manual (624877)

Caterpillar NO20NEP Order Picker service manual, covers hydraulics, mast, wiring, drive and battery service. Downloadable PDF format.

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