SERVICE MANUAL

E175C
Crawler Excavator

Part number 47494131A
English
February 2013

NEW HOLLAND CONSTRUCTION

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Engine - General specification

Performance

Maximum climbable gradient : 70%
Swing speed : **11.5 RPM**

Travel speed

Slow	**2.9 km/h (1.80 mph)**
Fast	**4.9 km/h (3.04 mph)**

Engine specifications

Main specifications

Maker	**FPT**
Model	**F4GE9484D*JG**
Type	Water-cooled, 4 cycle direct injection type, diesel engine with intercooler turbo-charger
Number of cylinders	4 in-line
Bore	**104 mm (4.09 in)**
Stroke	**132 mm (5.20 in)**
Total displacement	**4.5 l (275 in³)**
Compression ratio	17.5:1
Rated output power (at **2200 RPM**) (**ISO 14396**: without fan)	**93 kW (131 Hp)**
Maximum torque (at **1250 RPM**) (**ISO 14396**)	**525 N·m (387.2 lb ft)**
High idling	**2380 RPM - 2480 RPM**
Low idling	**750 RPM - 850 RPM**
Fuel consumption rate	**231 g/kWh**
Engine oil quantity	**12 l (3.2 US gal)**
Weight	**392 kg (864 lb)**

Feeding

Type	Direct injection from rotary pump
Injection sequence	1-3-4-2

Battery

Voltage	2 x **12 V**
Capacity	2 x **100 A·h**

Starter motor

Maker	BOSCH
Voltage	**24 V**
Output	**4 kW (5.4 Hp)**

Alternator

Maker	BOSCH
Voltage	**24 V**
Output	**70 A**

Engine characteristic curve

Condition to be measured: The net value is indicated, measuring without cooling fan.

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Hydraulic systems - Hydraulic schematic frame 06

Color coding standard for hydraulic circuits

Blue
Feed, drain circuit less than **0.44 MPa** (**64 psi**)

Green
Return, make up circuit, **0.44 - 0.59 MPa** (**64 - 86 psi**)

Purple
Secondary pilot pressure, (including proportional valve) **0.59 - 5 MPa** (**86 - 725 psi**)

Red
Primary pilot pressure, (including proportional valve) **5 MPa** (**725 psi**)

Orange
Main pump drive pressure, **5 - 34.3 MPa** (**725 - 4975 psi**)

Blue tone
At valve operation

Red valve
When solenoid proportional valve (reducing) is operating

Red solenoid
In active and exciting

Displaying the flow circuit and standby circuit when operating.
Regarding the electrical symbols in this manual, refer to the electric circuit diagram.

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R024-Failure of wiper motor normal rotation relay.

Cause:

Symptom: Wiper does not move.
Condition: The Mechatro controller output to the wiper motor forward rotation relay is short-circuited with the power source.

1. Failure of the Wiper motor forward rotation relay **R-29** .
2. Faulty wiring or bad connection between **R-29** and the Mechatro controller.
3. Faulty Fuse and relay box.
4. Faulty Mechatro controller.

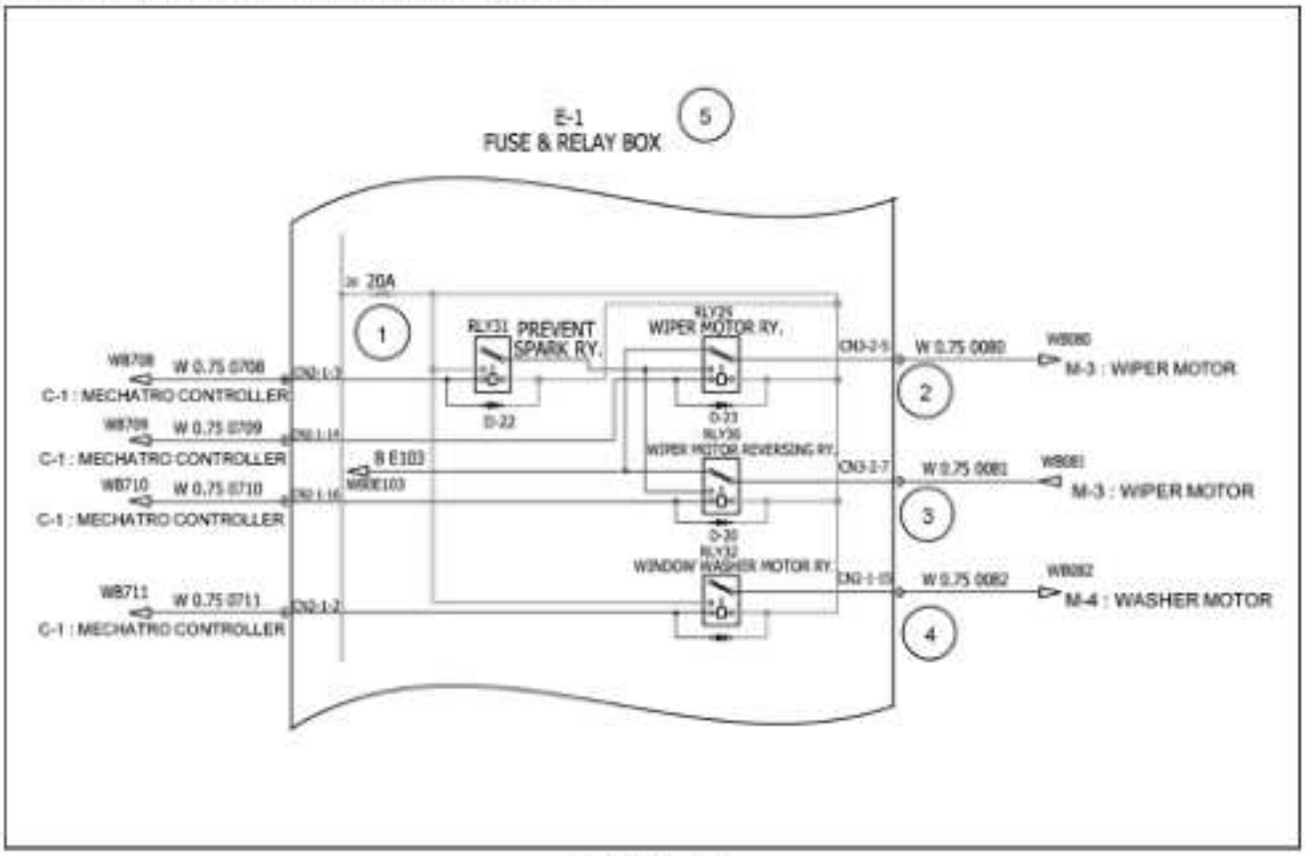
Solution:

1. Verify the fault code is still active on the Gauge Cluster Display. Refer to the Trouble History section in the Service Diagnosis screen if the fault is not currently active. To access the Service Diagnosis screen hold down the buzzer stop switch and turn the key switch ON. Hold down the menu switch and press the buzzer stop switch 3 times to access the Service Menu. Use the UP and DOWN keys to highlight Trouble History and press the NEXT key.

   A. If the fault code is still actively displayed, turn the key switch OFF and back ON. If the fault code is still active go to step **2**.

   B. If the fault code is not displayed return the unit to service.

2. Check the Wiper motor forward rotation relay. **R-29**.



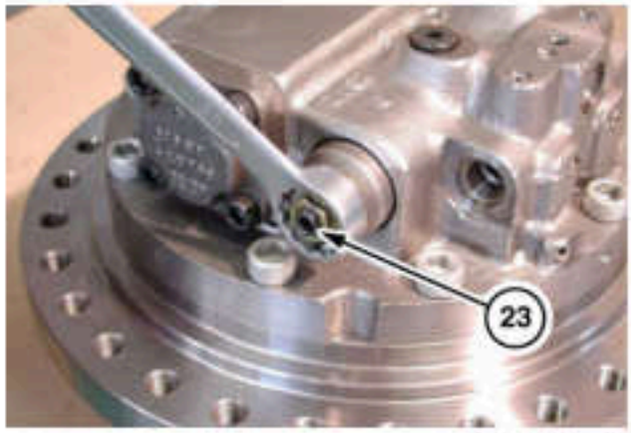
Schematic legend

(1)	RLY-31: Prevent spark relay (arc prevention)
(2)	RLY-29: Wiper motor relay (forward rotation)
(3)	RLY-30: Wiper motor reversing relay
(4)	RLY-32: Window washer motor relay

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Disassembly of the relief valve assy

27. Unscrew the nos.2 relief valve kits **(23)**.



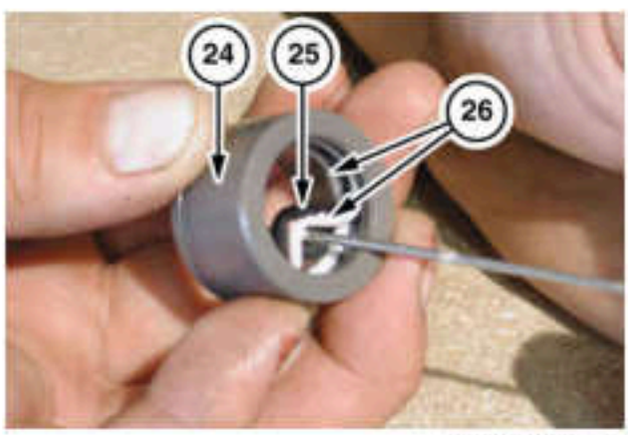
T3PH13ECK1616N8 47

28. Take out the free piston **(24)** from the relief valve **(23)**.



T3PH13ECK1617N8 48

29. Remove the O-ring seal **(25)** and the backup rings **(26)** from their seats in the free piston **(24)**.



T3PH13ECK1627N8 49

30. Remove the O-ring seal **(27)** from relief valve **(23)**. Repeate the same steps for the 2nd relief valve disassembly.



T3PH13ECK1628N8 50

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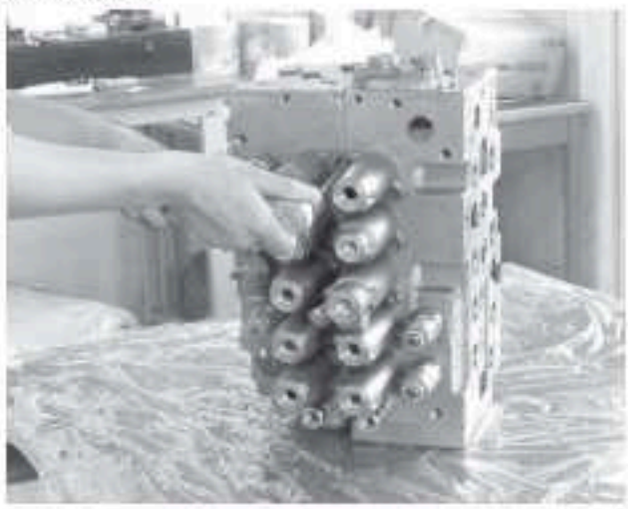
3. Fix the **P1** unload spool assy with vise via a protective plate (aluminum plate, etc.) and remove bolt **(333)**. Then separate spring seat **(331)**, springs **(325)**, **(328)** and stopper **(336)** from **P1** unload spool **(309)**.



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Disassembling the travel spool (left travel and right travel)

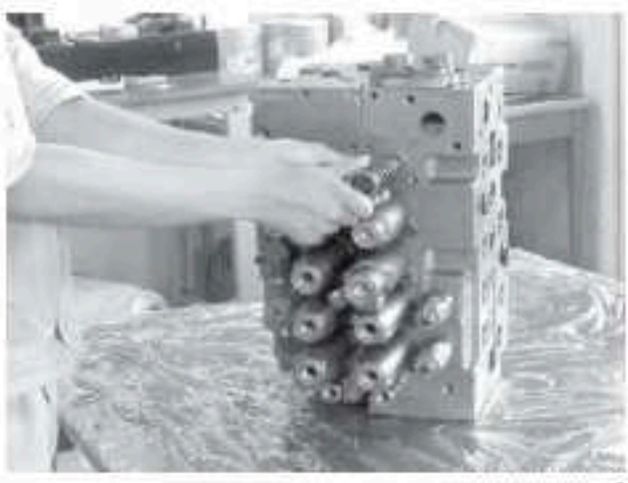
1. Loosen the socket bolts **(273)** and remove the spring cover **(201)** and the O-ring **(261)** for travel.



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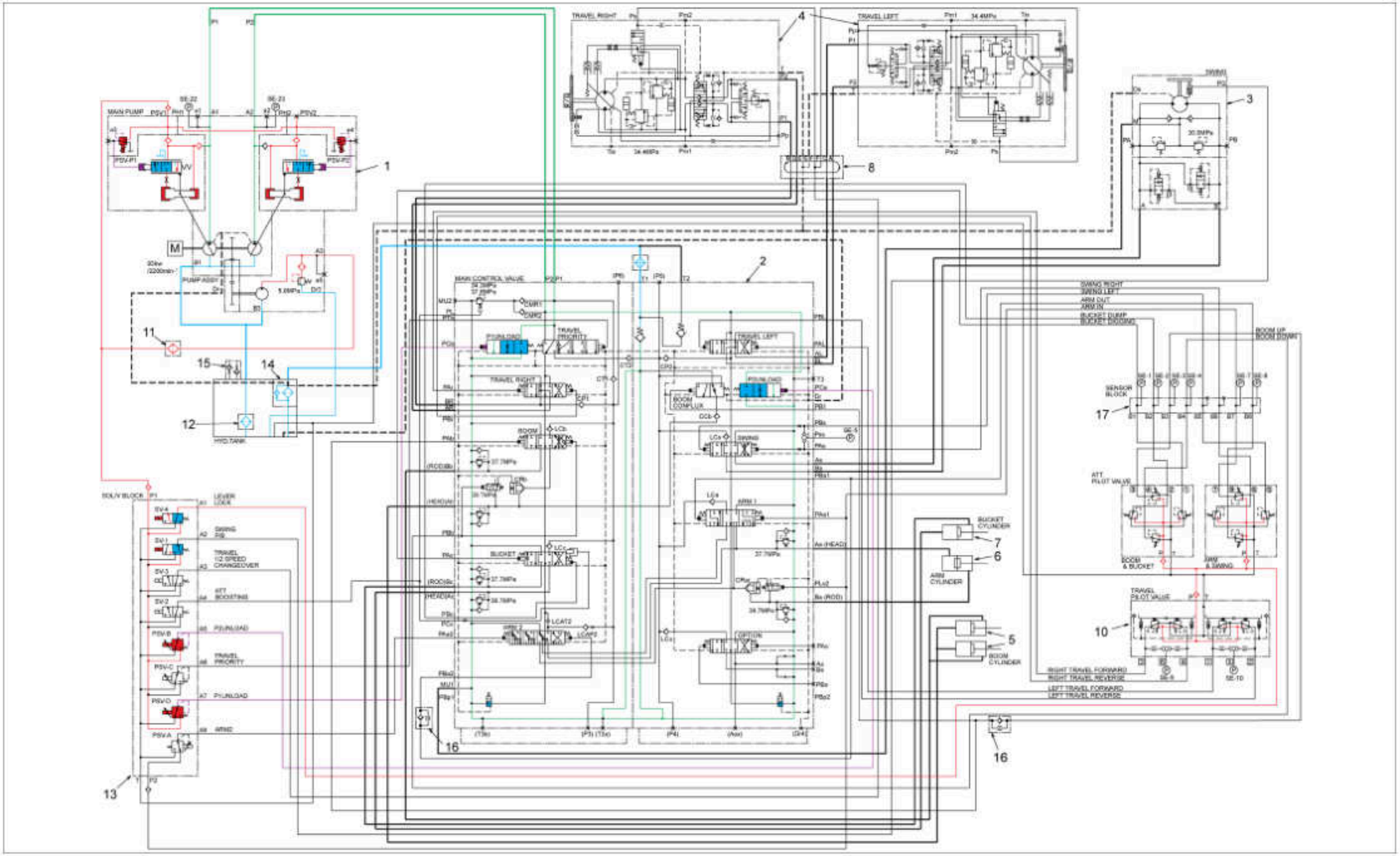
2. Draw out the assy of travel spool **(306)**, spring seat **(331)**, springs **(325)**, **(327)**, stopper **(339)** and bolt **(333)** from casing A **(101)** or casing B **(102)**.

NOTICE: *When drawing out the spool assy, take care so as not to score the casing A **(101)** or the casing B **(102)**.*



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