SERVICE MANUAL

E45B SR / E50B SR / E55B

Mini Excavator

Part number 47574277B
English
March 2014

NEW HOLLAND CONSTRUCTION

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4TNV84T

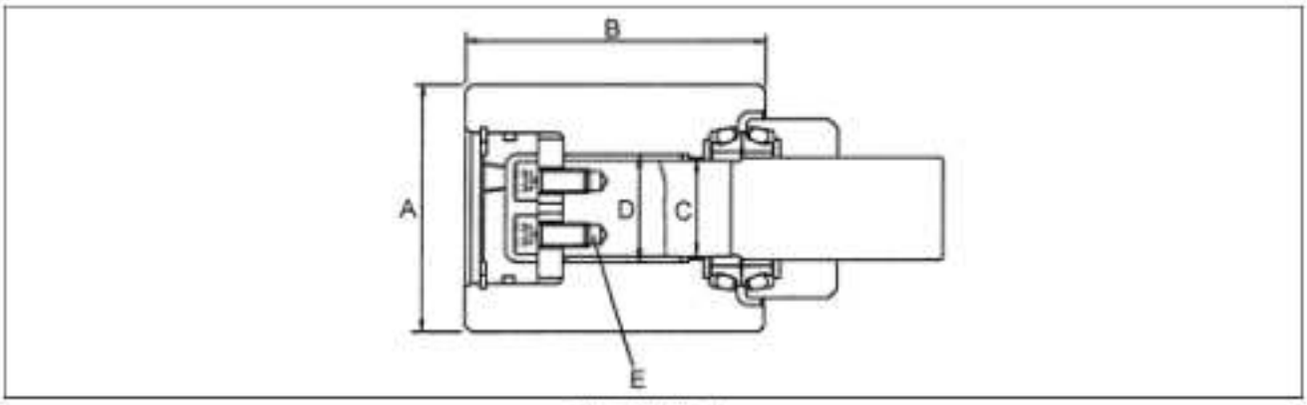
Engine name		**4TNV84T**							
Engine specification class		CL		VL					
Type		Vertical, in-line, 4-cycle, water-cooled diesel engine							
Combustion chamber		Direct injection							
Number of cylinders		4							
Cylinder bore stroke		**84 mm (3.31 in) x 90 mm (3.54 in)**							
Displacement		**1.995 l (0.53 US gal)**							
Continuous rating	Rotation speed	**1500 RPM**	**1800 RPM**	–					
	Output	**19.1 kW (25.97 Hp)**	**24.3 kW (33.0 Hp)**	–					
Rated output	Rotation speed	**1500 RPM**	**1800 RPM**	**2000 RPM**	**2200 RPM**	**2400 RPM**	**2600 RPM**	**2800 RPM**	**3000 RPM**
	Output	**21.3 kW (29.0 Hp)**	**26.9 kW (36.6 Hp)**	**27.9 kW (37.9 Hp)**	**30.5 kW (41.5 Hp)**	**33.5 kW (45.55 Hp)**	**35.7 kW (48.54 Hp)**	**38.6 kW (52.5 Hp)**	**41.2 kW (56.02 Hp)**
Maximum no-load speed (±25)		**1600 RPM**	**1895 RPM**	**2180 RPM**	**2400 RPM**	**2590 RPM**	**2810 RPM**	**2995 RPM**	**3210 RPM**
Order of ignition		1-3-4-2-1(No. 1 cylinder on flywheel side)							
Power take-off		Flywheel							
Rotating direction		Counterclockwise (viewed from flywheel)							
Cooling system		Radiator							
Lubrication system		Forced lubrication with trochoid pump							
Starting system		Electrical system							
Appropriate fuel		**ASTM** fuel No. 2-D type TT							
Applicable lubricant		**NEW HOLLAND AMBRA SUPER GOLD 15W-40**		**NEW HOLLAND AMBRA SUPER GOLD 10W-30**					
Lubricant capacity (oil pan)*	Total	**7.4 l (1.95 US gal)**							
	Effective	**3.4 l (0.90 US gal)**							
Coolant volume (engine only)		**2.7 l (0.70 US gal)**							
Engine dimensions ** (with flywheel housing)	Overall length	**683 mm (26.9 in)**		**649 mm (25.6 in)**					
	Overall width	**498.5 mm (19.6 in)**							
	Overall height	**713 mm (28.1 in)**							
Engine mass (dry) ** (with flywheel housing)		**183 kg (403.4 lb)**		**170 kg (374.8 lb)**					
Fan (standard)		**370 mm (14.6 in)** O/D. 6 blades pusher type							
Crankshaft V pulley diameter and fan V-belt diameter (standard)		**120 mm (4.7 in) x 90 mm (3.5 in)**		**110 mm (4.3 in) x 110 mm (4.3 in)**					

* Engine oil capacity may differ from the above depending on an engine installed on a machine unit.

** Engine mass and dimensions without radiator.

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Track support roller - Service limits



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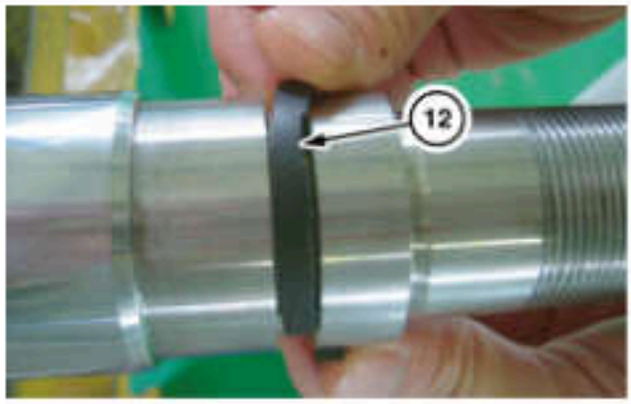
Code	Ref.	Standard value			Repairable level	Service limit	Remedy
A	Tread diameter	ø 82 mm (3.23 in)			ø 73 mm (2.87 in)	ø 70 mm (2.76 in)	Replace
B	Tread width	102 mm (4.02 in)			95 mm (3.74 in)	92 mm (3.62 in)	
C	Clearance between shaft and bushing	Basic dimension	Tolerance		Fit	Fit	Replace bushing
		ø 32 mm (1.26 in)	Shaft	+0.025 - +0.050 mm (+0.001 - +0.002 in)	Play 0.7 mm (0.03 in)	Play 1.0 mm (0.04 in)	
D	Interference between roller and bushing	ø 36 mm (1.42 in)	Hole	+0.03 - 0.00 mm (0 - 0 in)	Interference 0.0 mm (0.0 in)	Play 0.01 mm (0.00 in)	
E	Tightening torque of socket bolt	34 N·m (25.08 lb ft)					Apply LOCTITE® 242
–	Oil	API engine oil grade NEW HOLLAND AMBRA HYPOIDE 90					Replenish
–	Roller rotation	Roller rotates smoothly by hand					Reassemble

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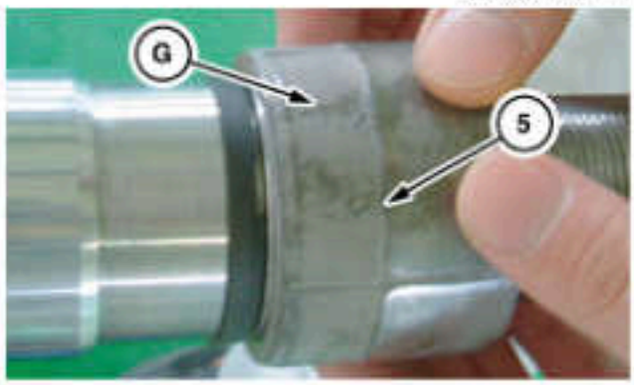
1. Air filter
2. Tightening torque **3.4 - 4.9 N·m** (**2.5 - 3.6 lb ft**)
3. Engine harness
4. Tightening torque **41.2 - 51 N** (**9.3 - 11.5 lb**) (Tighten after checking no paint)
5. Engine ground cable
8. WG (+)
9. P (-)
10. Fix the connector to the plate
11. Install under piloting hoses
12. Fix harness to joint of solenoid valve **T** port
13. Fix to the upper frame

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2. Face the slit of seal ring **(12)** to the thread, and install the seal ring into groove of rod.
   Install the cushion bearing **(5)** on the rod from taper **(G)** side as shown in the photo.
   - Take care of the direction of seal ring and cushion bearing.
     If the direction is mistaken, the cushion effect is not obtained.

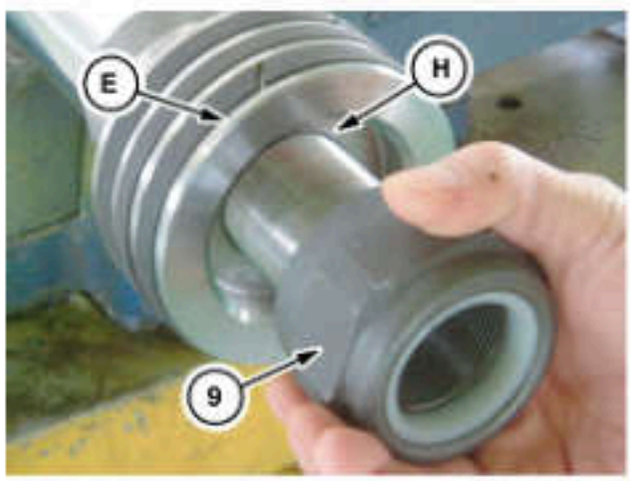


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12

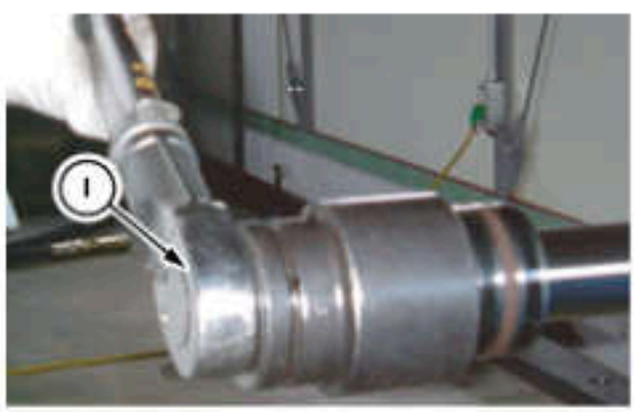
3. Install the piston sub-assembly **(E)** and lock nut **(9)**.
   - Insert the piston from the flat side of piston bore.



13

4. Tighten the lock nut **(9)** with torque wrench **(I)**.

Refer to the table of torque in the maintenance standard about the tightening torque for lock nut.



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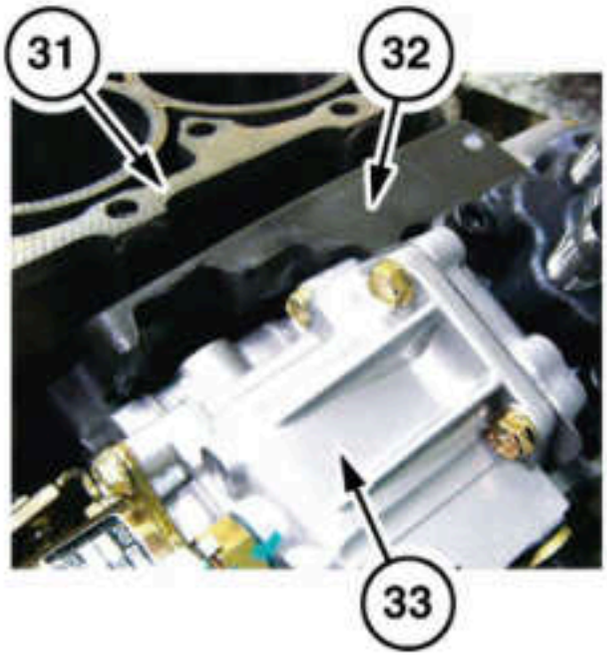
Point 3

Disassembly

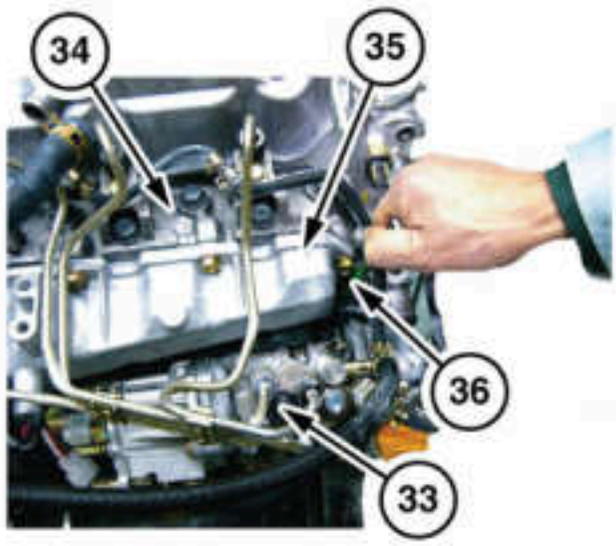
There is an acoustic material part to name as fuel pump spacer **(32)** between the fuel pump **(33)** and the cylinder block **(31)**. Loosen fuel pump mounting screws with a closed wrench **(36)** while disassembling the fuel pump.

NOTE: *An intake manifold may obstruct the disassembly of the fuel pump **(33)** by the engine model. Remove the fuel pump after removing the intake manifold **(35)** first.*

34. Cylinder head



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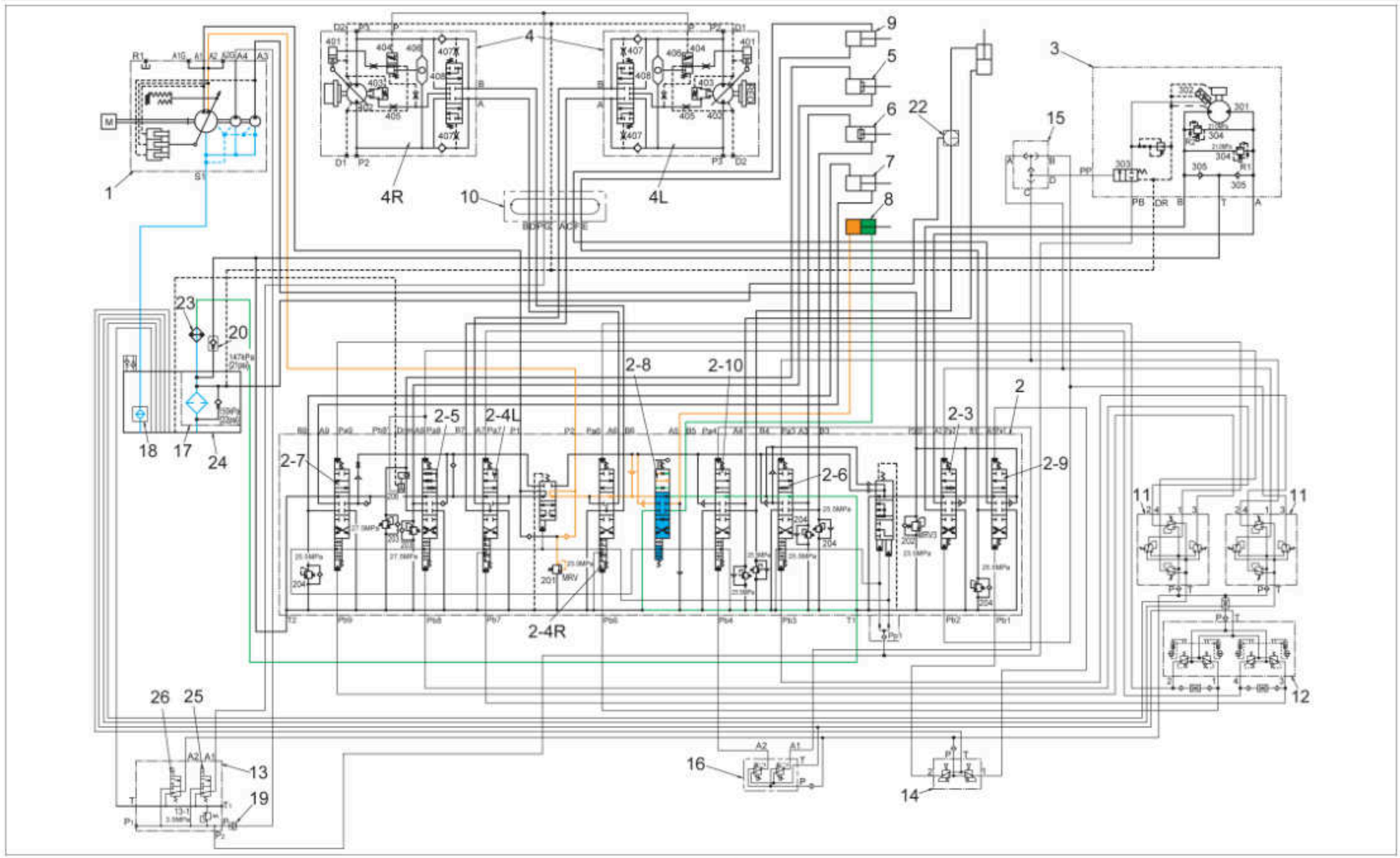


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Reassemble

When installing a fuel pump on the gear case, put a fuel pump spacer between the cylinder blocks, and install it.

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