SERVICE MANUAL

WE150B
Wheeled Excavator

Part number 47500165
English
January 2013

NEW HOLLAND
CONSTRUCTION

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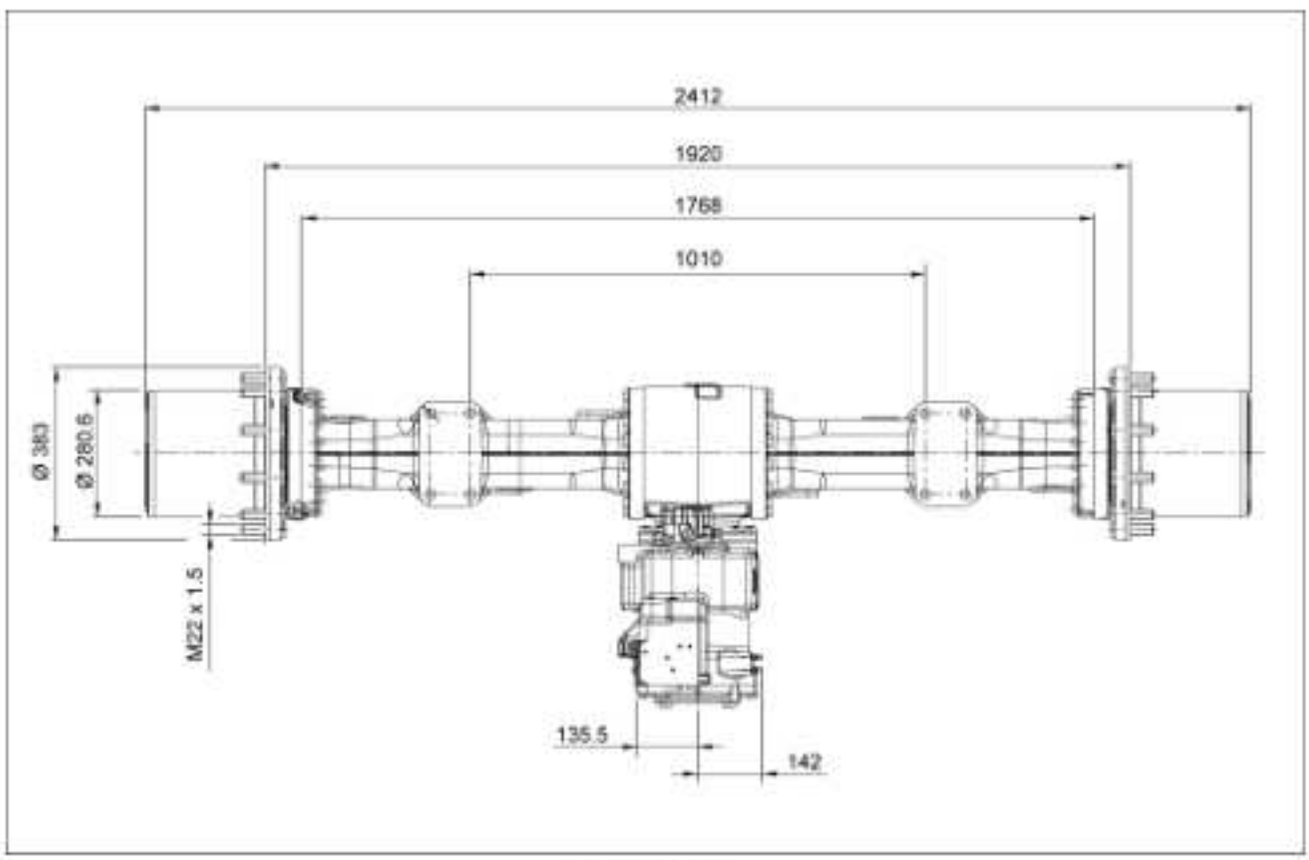
Rear axle - General specification – Rigid

Technical data

Model	4472 047 212
Axle total ratio	18.667
Steering ration	4.503 - 1.106
Max static axle load	**25500 daN (57326.295 lbf)**
Max dynamic axle load at max speed	**10000 daN (22480.900 lbf)**
Max operating torque at wheel (per axle)	**2580 daN (5800.072 lbf)**
Peak of input axle torque (at pinion)	**250 daN (562.023 lbf)**
Pinion direction of rotation in forward travel	Counterclockwise
Max hydraulic pressure admitted on brakes	**85 bar (1233 psi)**
Max braking torque at operating pressure	**23570 N·m (17384.3 lb ft) at 75 bar (1088 psi)**
Brake clearance (no wear / max wear) (check at every change of oil)	**1.3 mm (0.1 in) / 7.0 mm (0.3 in)**
Brake oil minimum volume required	**15.8 cm³ (1.0 in³)**
Weight	**550 kg (1212.5 lb)**
Max noise at max vehicle speed	**90 dB**

Rear axle - Dimension – Rigid

Dimensions



SML12WE0138PA 1

Rear axle - Special tools

Code(P/N ZF)	Nomenclature	Use
380200284	Mounting tool	To install shaft seal ring into the hub
380200288	Tool	To install the bearing outer ring into the transmission housing

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Hydraulic systems - Hydraulic schematic frame 02

Description

1. Diesel engine
2. Variable flow-rate twin pump
3. Rotation pump
4. Double gear pump
5. Check valve (anti-cavitation) (only **35 km/h** (**22 mph**) axle)
6. Anti-cavitation valve **Y295** (only **35 km/h** (**22 mph**) axle)
7. Slewing gearbox
8. Slewing gearbox motor speed sensor (**B35.2**)
9. Hydraulic oil tank
10. Return filter
11. Breather valve
12. Hydraulic oil temperature sensor
13. Power steering
14. Pedal brake valve
15. Pressure sensor **B62** (**60 bar** (**870 psi**)) - automatic floating axle lock/rear stop lights
16. Pressure sensor **S18.1** (**90 bar** (**1305 psi**)) - accumulators charge
17. Pedal brake valve accumulators
18. Steering priority valve
19. Pressure sensor **S17** (**2 bar** (**29 psi**)) - steering system
20. Upper structure main valve
21. Pressure sensor (**B211**) - main pump **P1**
22. Pressure sensor (**B210**) - main pump **P2**
23. Pilot control assy.
24. Pilot control accumulator
25. Pilot control pressure relief valve (**45 bar** (**653 psi**) bar)
26. Pressure sensor (**S113.4**) - pilot control activation (**3.5 bar** (**51 psi**) bar)
27. Pressure sensor (**S290**) - travel pilot control (**3.5 bar** (**51 psi**) bar)
28. Pressure sensor (**S291**) - slewing pilot control (**3.5 bar** (**51 psi**) bar)
29. Boom cylinders pressure sensor **B74** (only with regeneration function or with optional loading hook installed)
30. Swivel joint
31. Pressure sensors (**8.8 bar** (**128 psi**) bar) (upper structure rotation) (**S94.1** and **S94.2**)
32. Pressure sensor **B212** (upper structure rotation)
33. Boom cylinders
34. Hose break protection valves on boom cylinder bottom
35. Dipper cylinder
36. Bucket cylinder
37. Positioning cylinder
38. Positioning cylinder safety valve
39. Pressure sensor (**B10**) (on travel circuit - automatic gearshift engagement)
40. Pressure sensor (**B239**) (load senging signal)
41. Thermal bypass valve

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Troubleshooting related to diagnostic code 8006

Type of error	Error caused by	Possible cause	Remedy
Mechanical	Over temperature	Coolant over temperature	Switch-off the machine and leave to cool the coolant
Electrical	Over temperature	Internal resistance of sensor **B13.1** less than **155 - 160 Ω**	Disconnect the sensor and check the internal resistance between pins **2** and **3** of sensor. If necessary, replace the sensor **B13.1**
	No voltage signal on pin **RIN_1** of UCM with engine On	Open circuit on sensor **B13.1**	Replace the sensor **B13.1**
		Wiring **8B** damaged	Replace the wiring
		UCM faulty	Replace the UCM

Diagnostic code: 8007

Light	Description	Condition
Red	Coolant over temperature	Error is activated if temperature detected by sensor **B13.1** is greater than **110 °C** (**230 °F**). (signal on pin **RIN_1** of UCM, connector **4A**, pin **12**)
Note:	Check fault code **8000** and, if necessary, replace sensor **B13.1** and check the correct operation of the machine	

Troubleshooting related to diagnostic code 8007

Type of error	Error caused by	Possible cause	Remedy
Mechanical	Over temperature	Coolant over temperature	Switch-off the machine and leave to cool the coolant
Electrical	Over temperature	Internal resistance of sensor **B13.1** less than **135 - 140 Ω**	Disconnect the sensor and check the internal resistance between pins **2** and **3** of sensor. If necessary, replace the sensor **B13.1**
	No voltage signal on pin **RIN_1** of UCM with engine On	Open circuit on sensor **B13.1**	Replace the sensor **B13.1**
		Wiring **8B** damaged	Replace the wiring
		UCM faulty	Replace the UCM

Diagnostic code: 8008

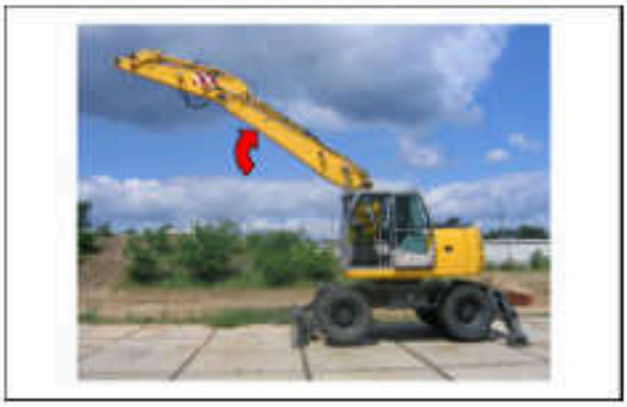
Light	Description	Condition
Yellow	Warning of hydraulic oil over temperature	Error is activated if temperature detected by sensor **R14** is higher than **85 °C** (**185 °F**). (signal on pin **RIN_3** of UCM, connector **4A**, pin **11**)

Troubleshooting related to diagnostic code 8008

Type of error	Error caused by	Possible cause	Remedy
Mechanical	Over temperature	Hydraulic oil over temperature	Switch-off the engine and leave to cool the hydraulic oil
Electrical	Over temperature	Internal resistance of sensor **R14** less than **77 - 82 Ω**	Disconnect the sensor and check the internal resistance between pins **1** and **2** of sensor. If necessary, replace the sensor **R14**
	No voltage signal on pin **RIN_3** of UCM with engine On	Open circuit on sensor **R14**	Replace the sensor **R14**
		Wiring **8D** damaged	Replace the wiring
		UCM faulty	Replace the UCM

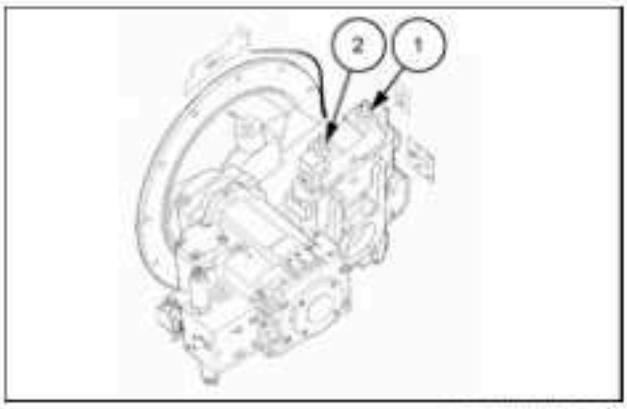
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- extend the boom: retract the positioning cylinder and dipper cylinder;



SME12WE00310AA 29

- start the operation of boom raising. Increase right control lever angle until the pilot pressure of command pressure (Y241_1) displayed is **10 bar** (**145.0 psi**) and the value of pressure signal (B211) is between **120 bar** (**1740.0 psi**) and **200 bar** (**2900.0 psi**);
- observe the value of the first row of EST screen ("pump pressure" screen): if pump 1 pressure is less than **120 bar** (**1740.0 psi**), increase the flow acting on adjusting screw (1), loosening the screw of 1/2 turn. If pump 1 pressure is greater than **200 bar** (**2900.0 psi**), reduce the flow acting on adjusting screw (1), tightening the screw of 1/2 turn. If pressure is within **120 bar** (**1740.0 psi**) and **200 bar** (**2900.0 psi**), no adjusting is required.



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Pump 2 - Boom

- Extend dipper cylinder but do not reach the end stroke (horizontal position);



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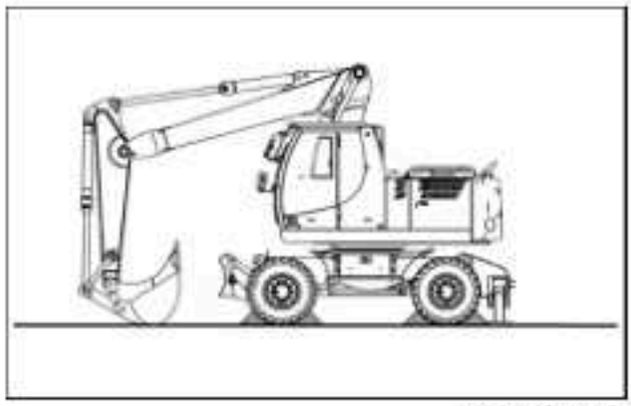
- start the operation of boom raising. Increase left control lever angle until the pilot pressure of command pressure (Y242_1) displayed is **10 bar** (**145.0 psi**) and the value of pressure signal (B210) is between **120 bar** (**1740.0 psi**) and **200 bar** (**2900.0 psi**);

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Hydraulic swing system - Remove – Slewing gearbox

Removal and installation of slewing gearbox

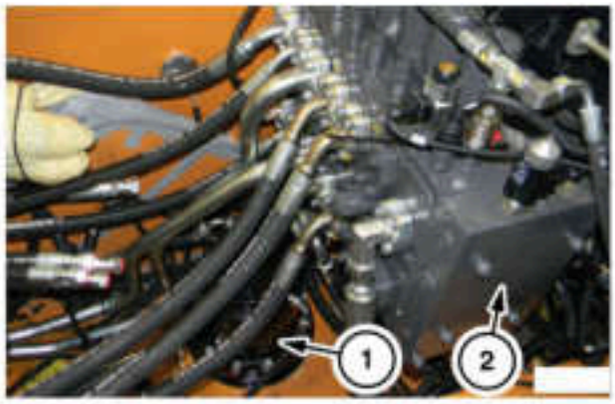
Park the machine on a level and firm surface.
Lower the attachment to the ground.
Lower the blade and the stabilizers to the ground.
Engage the parking brake.
Lock the upper structure.
Stop the engine.
Move both hydraulic control levers in all directions, to release possible residual pressure inside the hydraulic system.



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In order to remove the slewing gearbox **(1)** from its seat, it is necessary to remove the main valve **(2)**.
Gain access to the main valve by climbing the relevant machine plate from the left.
Remove any residual pressure from the hydraulic tank by using the breather valve.

ATTENTION: *The procedure provides for the disconnection of the hydraulic lines which can contain a certain amount of hydraulic oil. Adequately protect yourself from contact.*

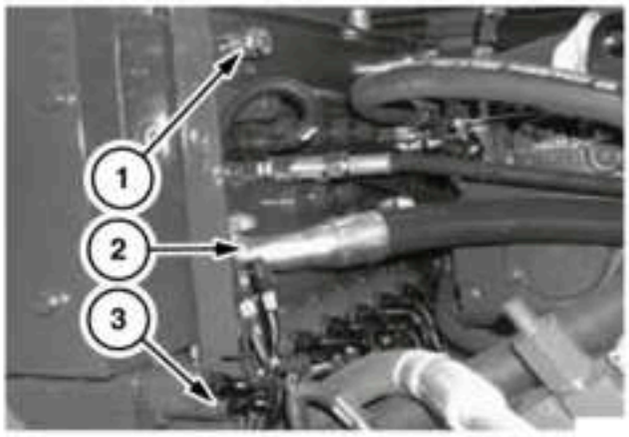


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Adequately mark the lines to be disconnected from the main valve for a subsequent reassembly.

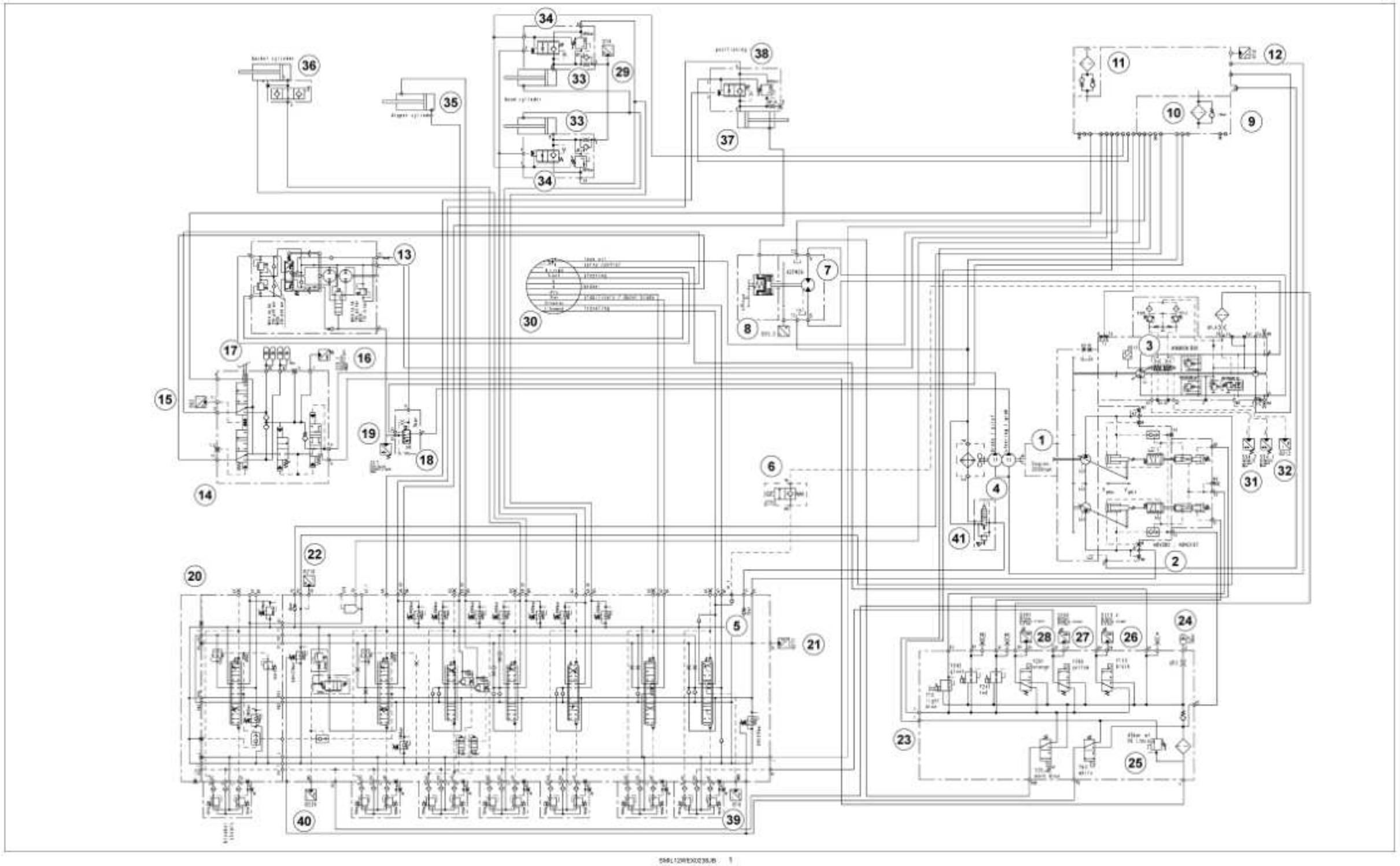
Disassemble all hydraulic lines **(2)** from the main valve installed on the upper side, on the arm's side and on the engine's side. Install plugs to prevent the escape of the oil trapped inside the main valve and a possible introduction of dust and/or dirt.
Moreover, on the engine side, disconnect all electric connections **(3)** after adequately marking them for a subsequent reassembly. Sling the main valve and loosen the 3 screws **(1)** which fasten it to the supporting bracket. After checking that no lines or electric cables interfere with the assembly to be removed, lift the assembly.

NOTICE: *Slowly lift the main valve, and avoid hitting the surrounding components.*



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