NEW HOLLAND

LOADER BACKHOE

B110
B115
TIER 3

REPAIR MANUAL

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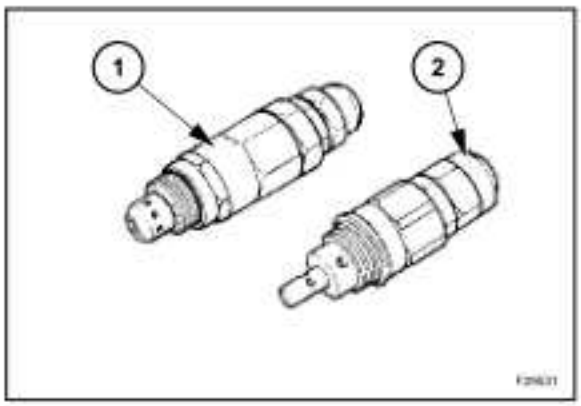
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3.6 CIRCUIT RELIEF VALVES

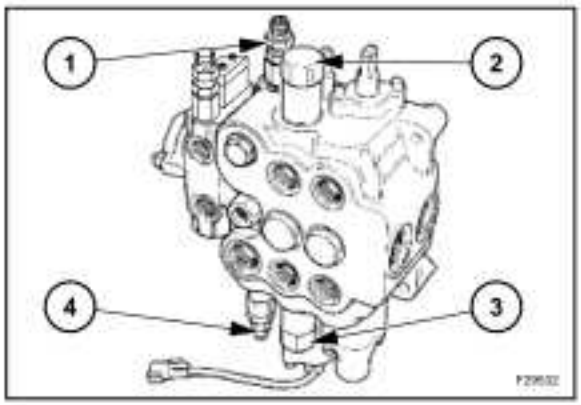
The relief valves may be either pilot operated with anti-cavitation feature (1) or direct acting (2) and protect individual circuits from excessive pressure created by external cylinder overload.



Relief valves (on "HUSCO" control valves)

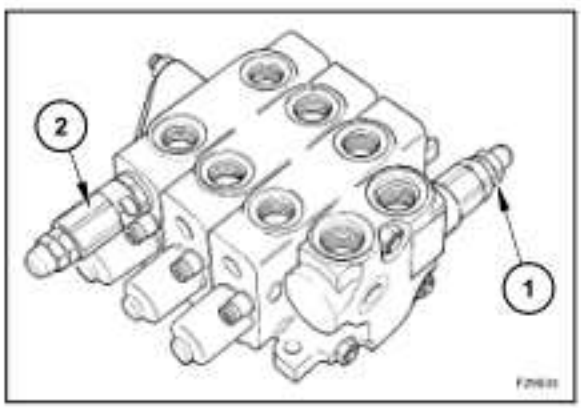
The backhoes, having this kind of control valves installed, are equipped with different relief valves.
Some of them are installed on the loader control valve:

1. Rear pump unload valve 170 bar (2465 psi)
2. Loader bucket relief valve rod end 227 bar (3300 psi)
3. Loader bucket relief valve piston end 160 bar (2300 psi)
4. System pressure relief valve 204 bar (2958 psi)



Some of them are installed on the stabilizer and telescopic dipper (HED) control valve:

1. Rear pump relief valve - pilot operated 196 bar (2842 psi)
2. Telescopic dipper (HED) (piston end) relief valve - pilot operated 124 bar (1800 psi)

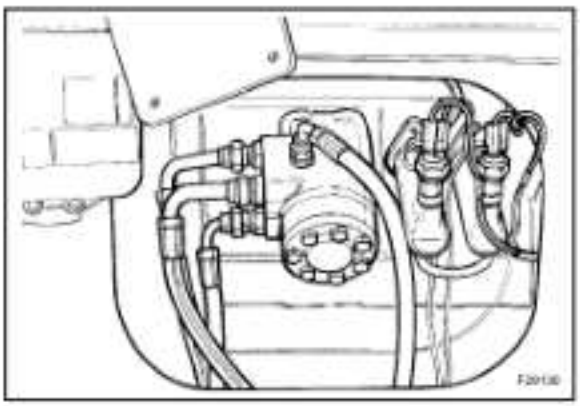


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3.3 DISASSEMBLY AND ASSEMBLY

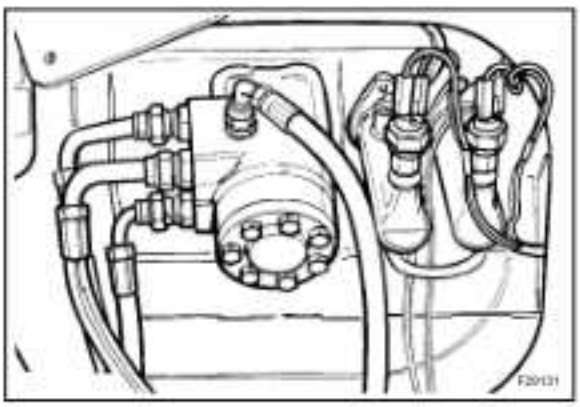
DISASSEMBLY

To gain access to the steering motor the bonnet and air cleaner should be removed.

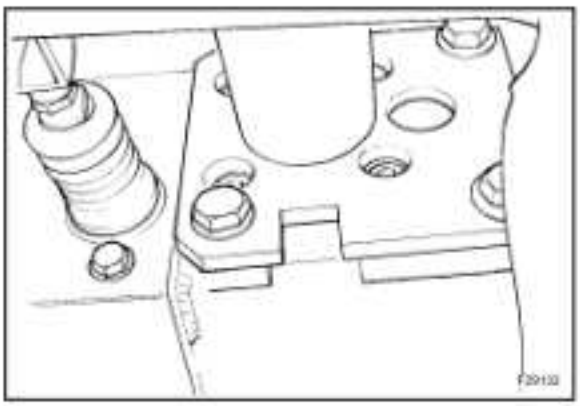


Removing steering motor

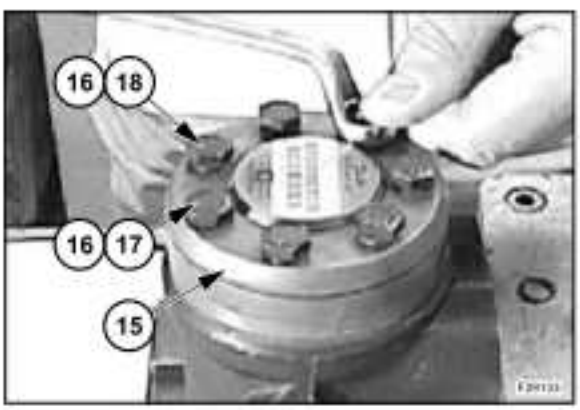
Disconnect the four connectors and collect the O-ring seals, noting the connector positions.



Remove the four Allen screws from within the cab. The motor can be removed from the front of the cab through the engine compartment. Place the steering unit in the holding tool.

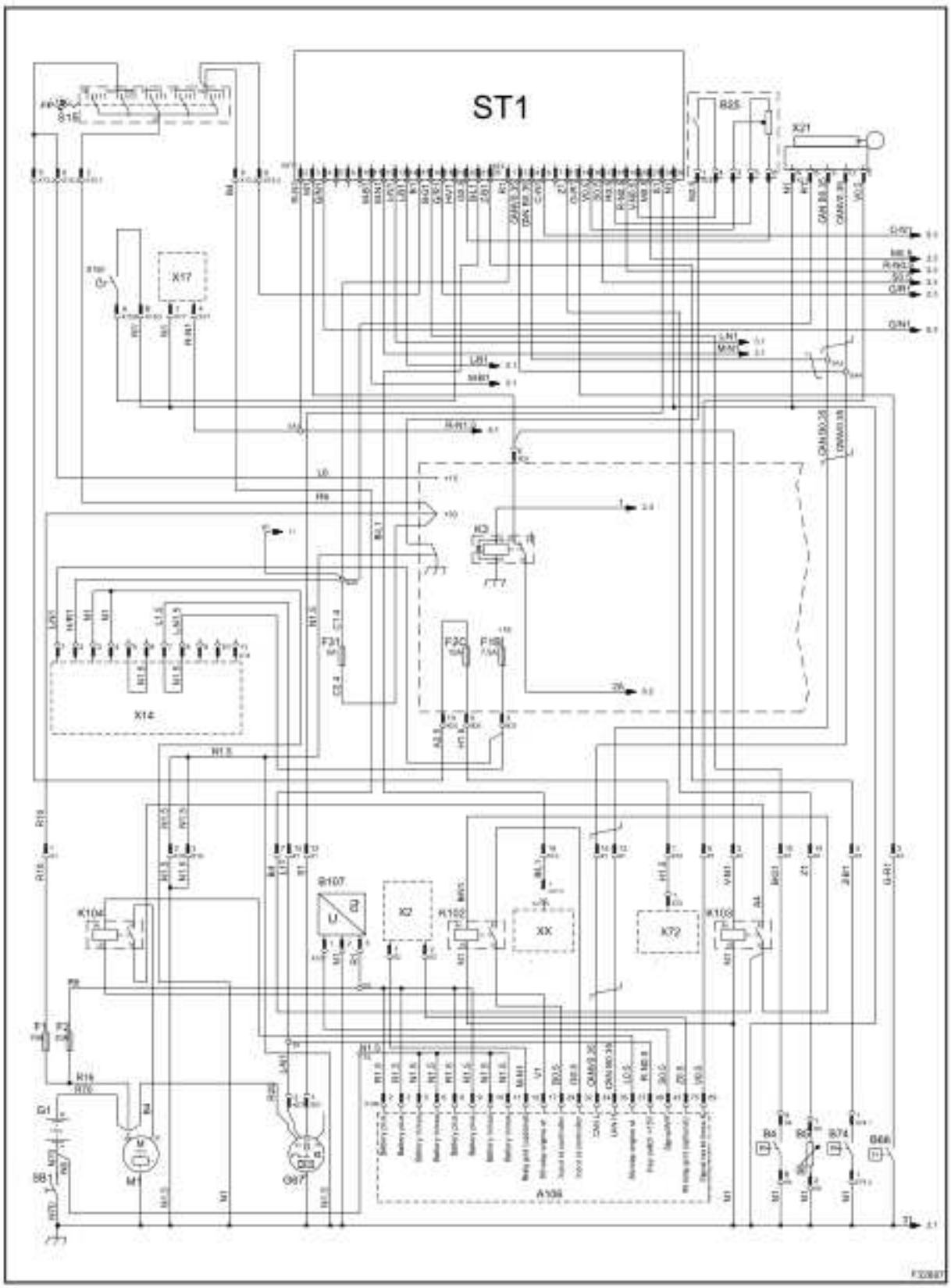


Screw out the screws (18), the screw (17) and the washers (16) from the end cover (15).



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START CIRCUIT ENGINE SCHEMATIC



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CONDENSER

The condenser (1), located at the front of the machine in front of the engine radiator consists of a number of turns of continuous coil mounted in a series of thin cooling fins to provide a maximum of heat transfer in a minimum amount of space.

NOTE: the condenser after removal of the attaching bolts can be slid out for cleaning.

The condenser receives the hot, high pressure refrigerant vapour from the compressor. The hot vapour passes through the condenser coils and outside air is drawn through the condenser by the engine cooling fan.
Heat moves from the hot refrigerant vapour into the cooler outside air flowing across the condenser coils and fins.
When the refrigerant vapour reaches the pressure and temperature that will induce a change of state, a large quantity of heat is transferred to the outside air and the refrigerant changes to a high pressure warm liquid.
The warm liquid refrigerant continues onto the receiver/drier where it is filtered and desiccated, to remove any moisture, before passing through an outlet line to the thermostatic expansion valve.

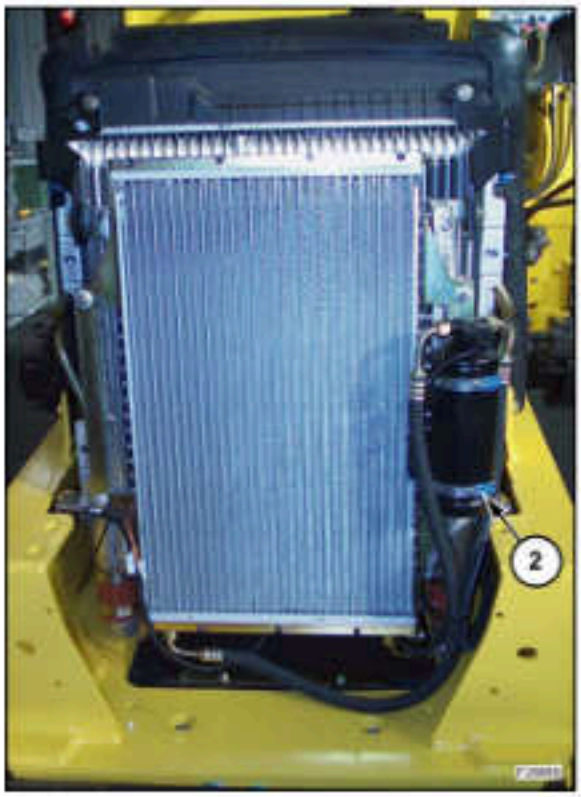


RECEIVER DRYER

The receiver/dryer (2) situated behind the battery stores the liquid refrigerant to be sure a steady flow to the thermostatic expansion valve is maintained under widely different operating conditions.
The drier section contains a desiccant (Molecular sieve) to absorb any moisture within the system and a filter prevents the entry of foreign particles.

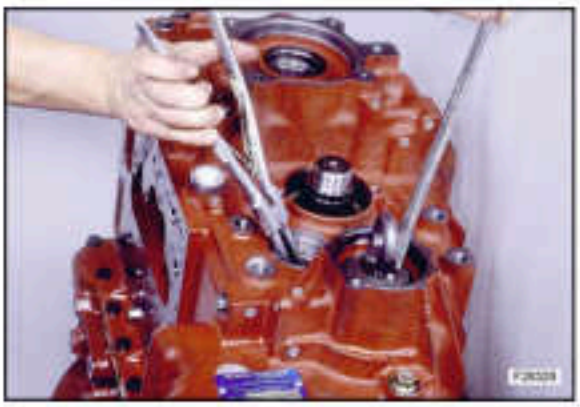
NOTE: any moisture in the air conditioning system is extremely harmful. Moisture not absorbed by the dehydrator will circulate with the refrigerant and droplets may collect and freeze in the thermostatic expansion valve orifice. This action will block the refrigerant flow and stop the cooling action. Moisture will also react with refrigerant HFC 134a and the lubricant to form a corrosive acid.

The desiccant can only absorb a limited amount of moisture before reaching saturation point. Because of this, after any system component replacement or repairs requiring entry into the system, the receiver/dryer should be replaced.



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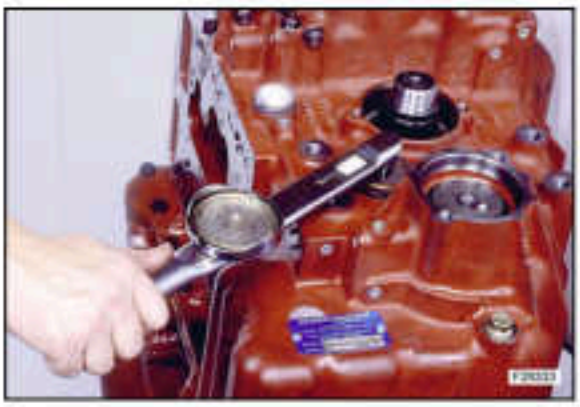
Using the spreading type snap ring plier, the spread ears on output shaft rear bearing retaining ring. Hold snap ring open, pry or lift output shaft. Be sure retaining ring is complete in bearing groove. (Using a lifting eye or screw M12).



Install the hole plug and the gasket.



Tighten the plug to 13.6 - 20.3 Nm (10 -15 lbf·ft).

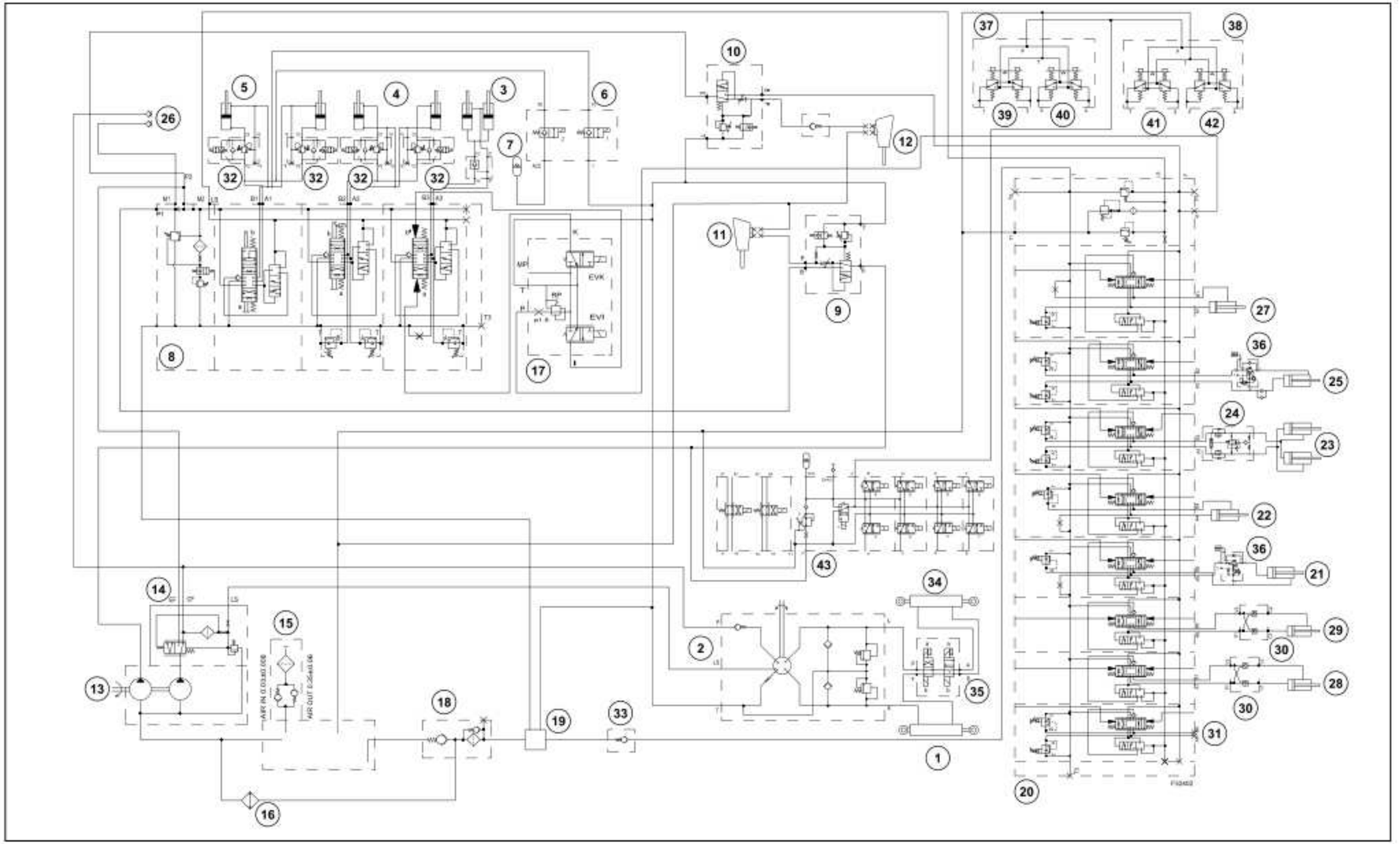


Position the lower output bore plug and tap the bore plug into the place.



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1.4 HYDRAULIC DIAGRAM - 4WS PILOT MODELS



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