NEW HOLLAND CONSTRUCTION

LM840
LM850
LM860



SERVICE MANUAL

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March, 2000

NEW HOLLAND

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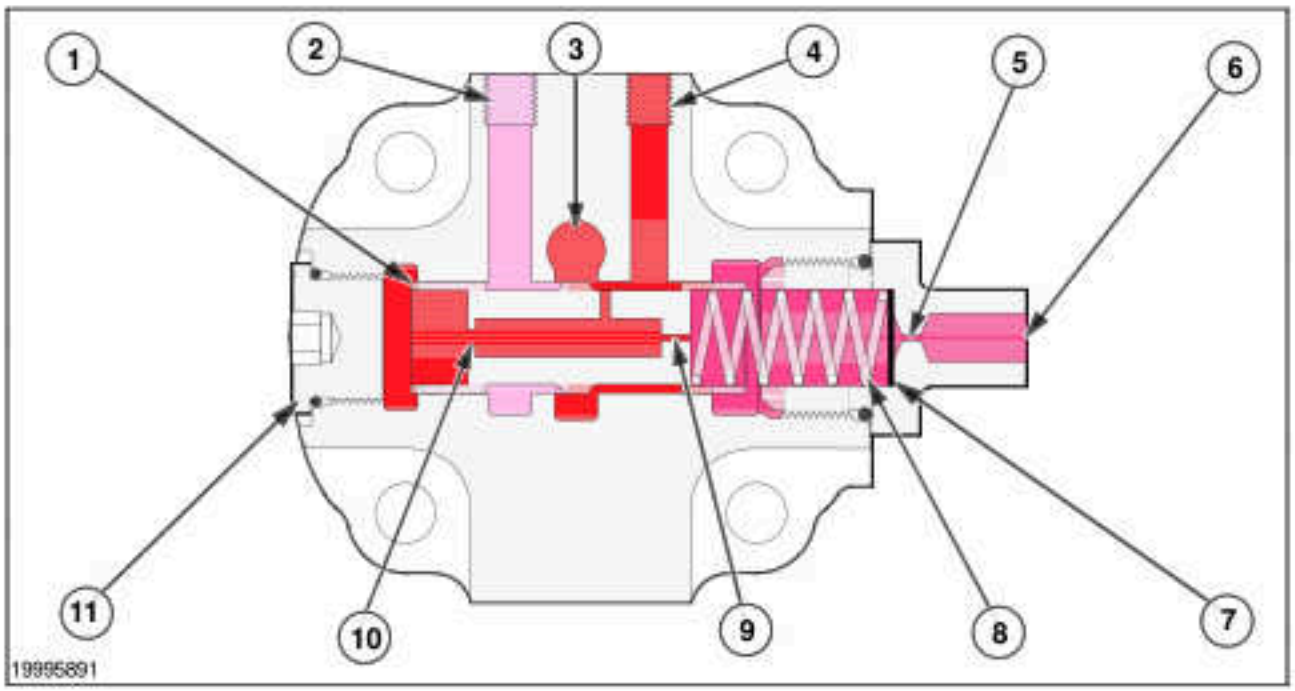
SECTION 21

TRANSMISSIONS

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Flow Divider Valve Operation

Flow to Steering/Braking Circuit

Flow to Loader Arm Circuit

Steering and Braking Circuit Load Sense Signal

1. Spool
2. To Loader Arm Circuit
3. Inlet Port from Hydraulic Pump
4. To Steering/Braking Circuit
5. Orifice
6. Load Sense Connector
7. Shim (where fitted)
8. Spring
9. Balancing Orifice
10. Orifice
11. Plug

The load sensing flow valve ensures priority flow according to demand is always given to the steering and braking circuits (Priority Circuit) while remaining flow is directed to the loader arm circuits (Secondary Circuits).

When the engine is started the spool in the load sensing valve is held to the left by the spring, 8, allowing pump flow entering the valve at port, 3, to have priority flow to the steering and braking circuits. Pump pressure is also applied through the center of the spool and communicated through the orifice, 10, to the left hand end of the spool. The balancing orifice, 9, also senses pressure but acts as a damper to prevent erratic movement of the spool.

Assuming that during engine start up the brake and steering circuits are not operated the load sense line is open to reservoir and the pump pressure sensed on the left hand end of the spool moves the spool to the right directing pump flow to the loader arm circuit while maintaining 7 bar (100 PSI) standby pressure to the steering and braking systems.

As the steering or brakes are operated the pressure generated in these circuits is sensed in the load sense line and applied to the right hand end of the spool. When the combined load sense and spring pressure at the right hand end of the spool overcomes the pressure on the left hand end of the spool the spool will move to the left increasing flow to the steering and brake circuits.

Because oil in the load sense line flows through the control orifices in the steering motor and brake valve before being transmitted to the flow divider valve the load sense pressure is always proportional to demand. This ensures that the flow valve only directs the required amount of oil to the steering and brake circuits with remaining pump flow directed to the loader arm circuit.

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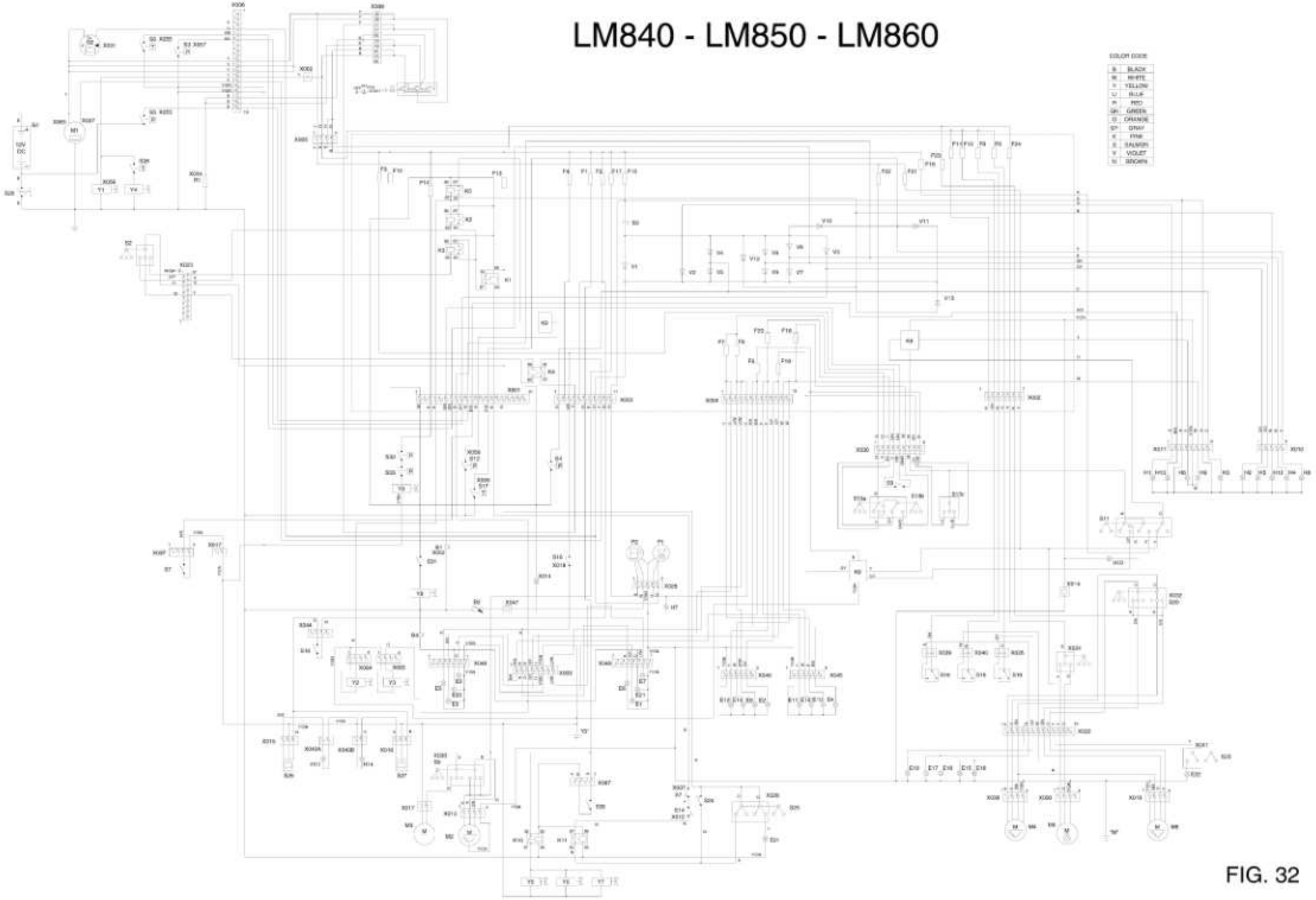


FIG. 32

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