7 4 1

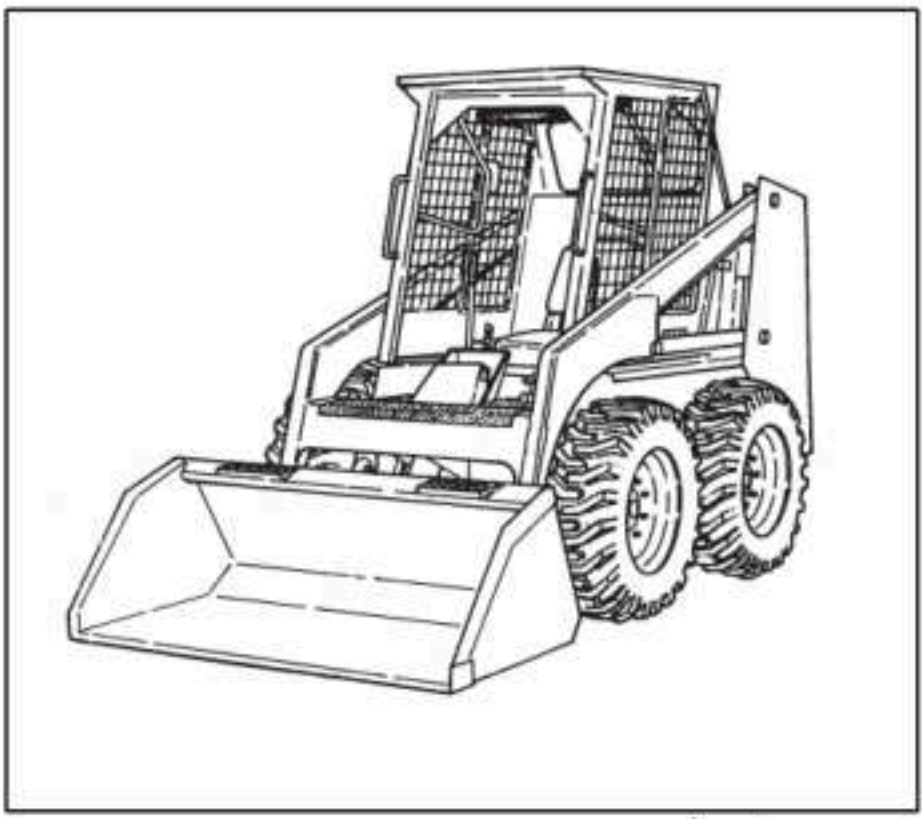
7 4 2

7 4 3

7 4 3 DS

Service Manual

741 (S/N 501720001 & Above),
742 (S/N 501820001 – 501822999),
743 (S/N 501920001 & Above) &
743DS (S/N 502551001 & Above)



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CALIFORNIA
PROPOSITION 65 WARNING

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.

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FLUID FLOW EXPLANATION

The fluid flows by gravity from the reservoir (1) to the port block (12) which is located inside the right fender. Return fluid from the oil cooler by-pass valve (12) joins with the fluid from the oil cooler (32) and hydrostatic pump (6) through the bearing of the pump (6) and supplies fluid to the hydraulic pump (5).

The hydraulic pump (5) is driven by a shaft through the hydrostatic pumps (6). The fluid goes from the hydraulic pump (5) to the hydraulic control valve (27).

The control valve (27) has an adjustable relief valve (24). When all three spools of the control valve are in the neutral position, the fluid goes through the control valve (27) and to the oil cooler (32). If one of the spools is activated, the fluid goes out the respective port and to either the base end, or the rod end of the cylinder(s) (16) (17). ALSO SEE OPTIONAL BUCKET POSITIONING SYSTEM OPERATION. As the fluid goes into one end of the cylinder(s) (16) (17), the fluid from the other side of the cylinder flows back into the control valve (27). When the cylinder(s) (16) (17) reach the end of the stroke, the fluid pressure reaches the setting of the relief valve (24), it will open and let the fluid by-pass the hydraulic circuit (internally) and go back to the oil cooler (32). When the spool goes back to neutral position, then there is fluid available for the other sections of the control valve (27). Two sections of the control valve (27) can be used at the same time if the main relief valve (24) is not open.

The fluid flows from the oil cooler (32) through the filter (29) to the center section of the hydrostatic pumps (6). This fluid is called ''charge supply fluid''. In the center section of the pumps (6) the fluid is against two high pressure relief/replenishing valves (9), two replenishing valves (7) and the charge relief valve (8). When the fluid gets to the pumps (6) it activates the high pressure relief/replenishing valves (9) and replenishing valve (7). The replenishing valves (7) (9) open and let fluid into the pumps (6) for replenishing, lubrication and cooling. The pumps (6) do not need the full volume of fluid flow so there is extra fluid. This extra fluid goes to the charge relief valve (8).

There are two hydrostatic pumps (6) and hydrostatic motors (4). One pump and one motor work together as a pair to drive on one side of the loader. The other pump and motor work as a pair to drive the opposite side of the loader.

When the steering levers are in neutral, the pumps (6) and the motors (4) are not working, but do have charge pressure. When the steering levers are moved, the swashplates in the pumps (6) are angled and the fluid is forced out of the pressure side of the pumps (6) and to the motors (4).

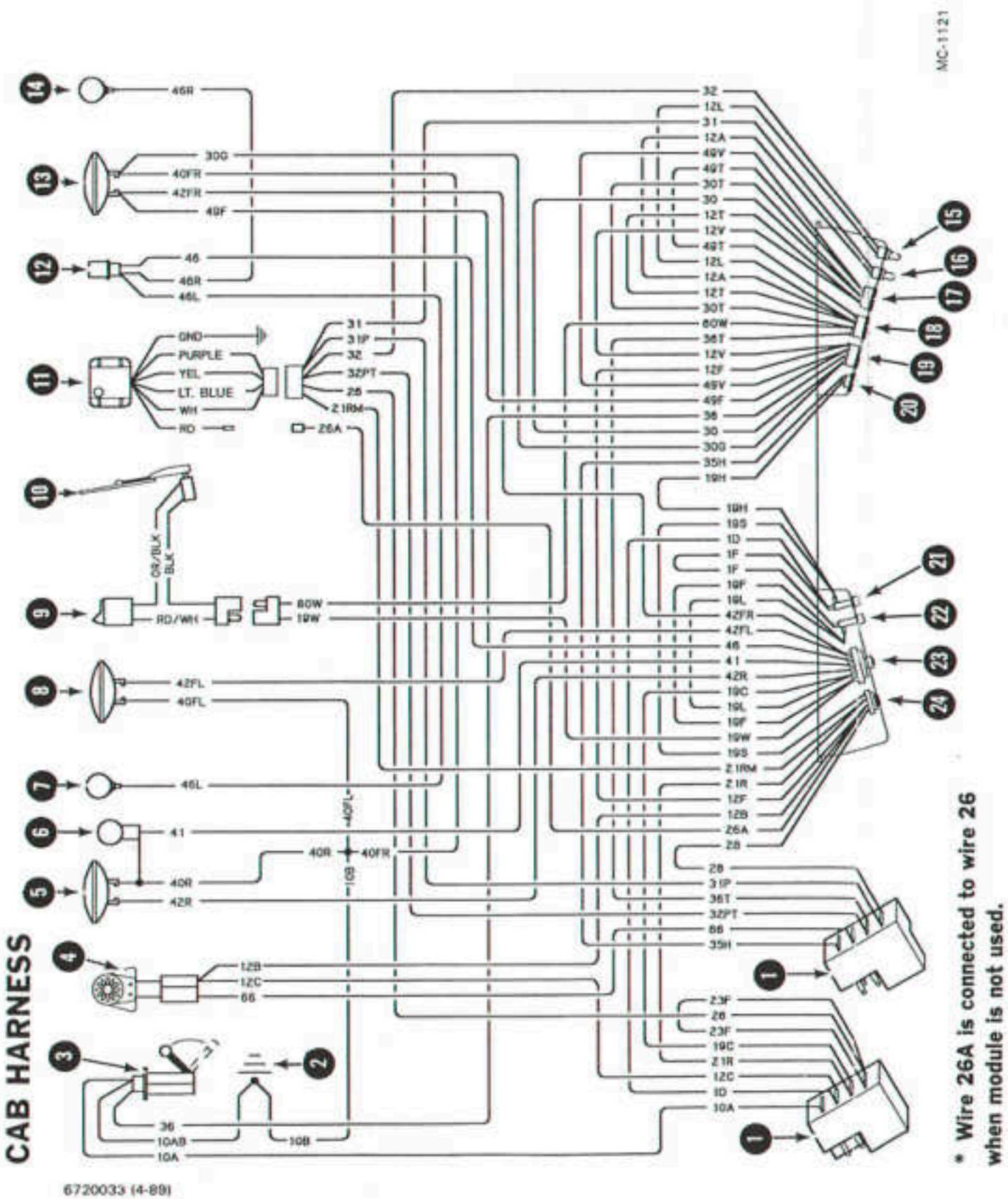
This flow of fluid is called ''drive pressure fluid''. Drive pressure is much higher than charge pressure causing the replenishing valves (7) (9) to close, allowing the flow of fluid to go to the motors (4). There are four replenishing valves (7) (9), two for each pump (6). One

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CAB WIRING DIAGRAM (P/N 6720033)

640, 740

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HYDRAULIC / HYDROSTATIC FLOW CHART

For Models

741, 742, 743, 743 DS (Starting With S/N 15001)

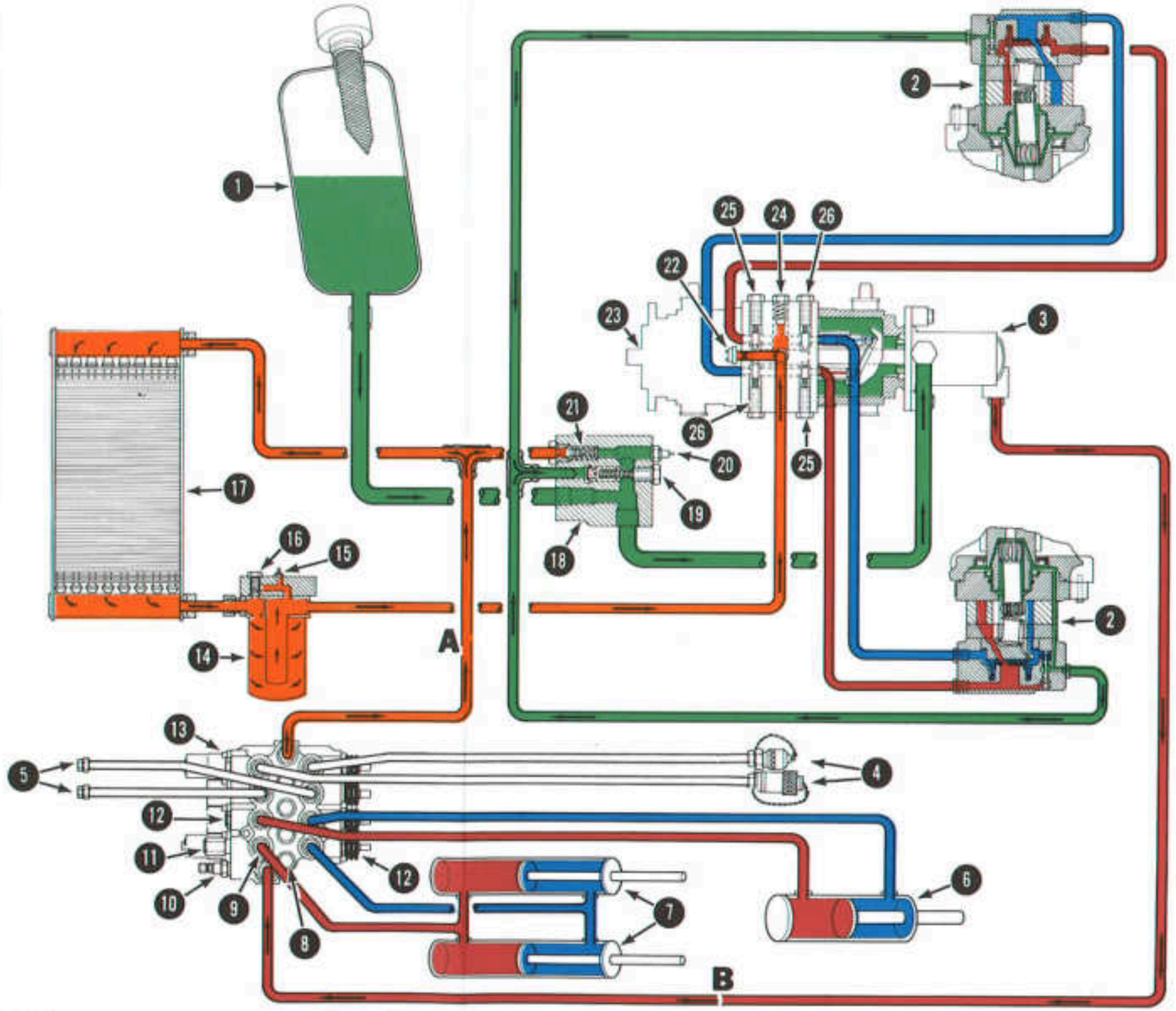
With Charge Line Filter and Melroe Valve

Chart # 6570293 (Printed July 1986)

RED - - - - - - - - High Pressure
BLUE - - - - - - - - Low Pressure
GREEN - - - - - - Case Drain & Reservoir
ORANGE- - - - - Charge Pressure

NOTE
Chart shows oil flow in Forward Drive Position and with Hydraulic Cylinders Partially Extended. For Hydraulic/ Hydrostatic System Operation, refer to Sheet 2 of this publication.

NOTE
Refer to Chart # 6570281 for machines equipped with optional Bucket Positioning Valve. Reference "A" and "B" indicate location of hydraulic circuitry connection.



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