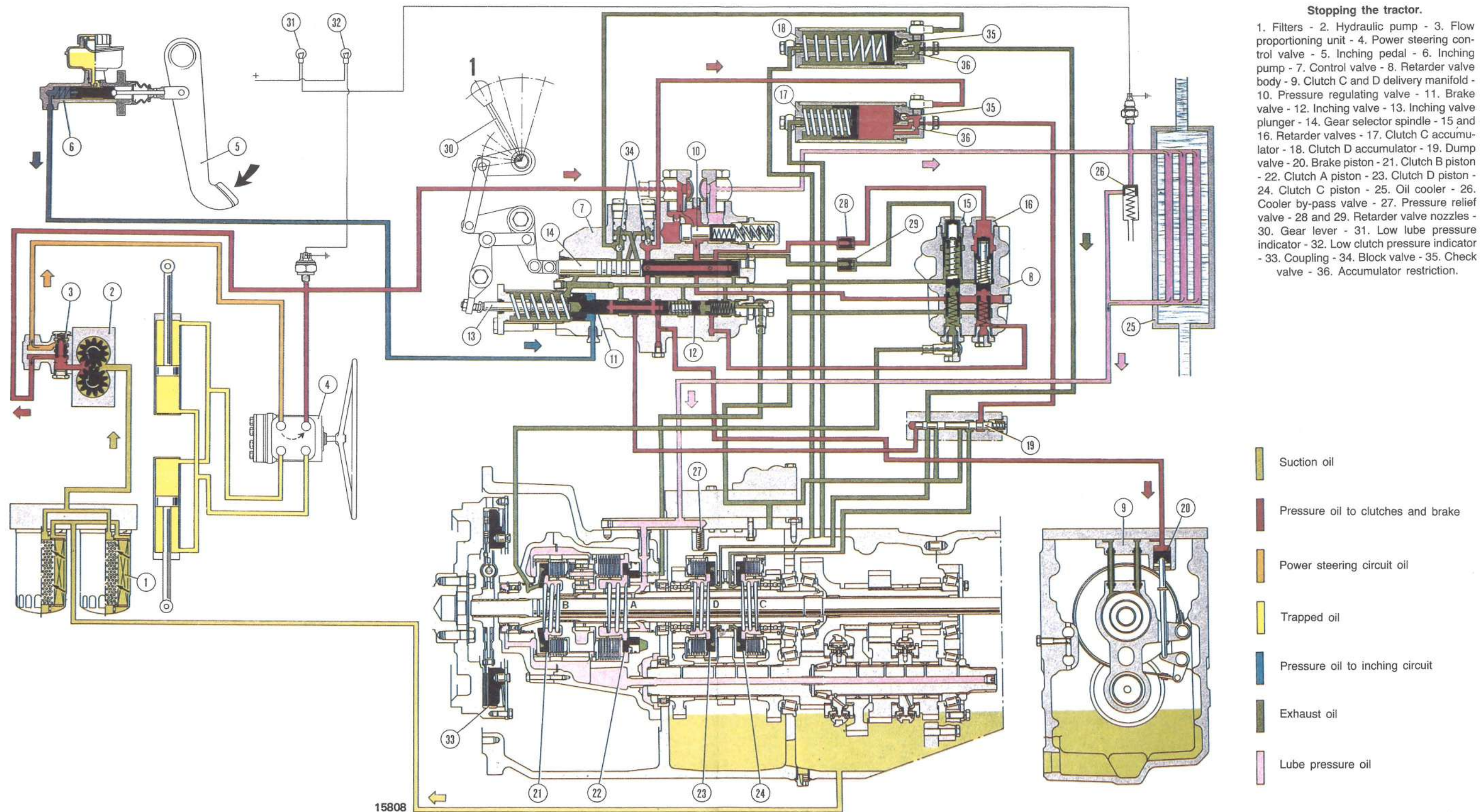


POWER TRAIN: POWER SHIFT transmission



Stopping the tractor.

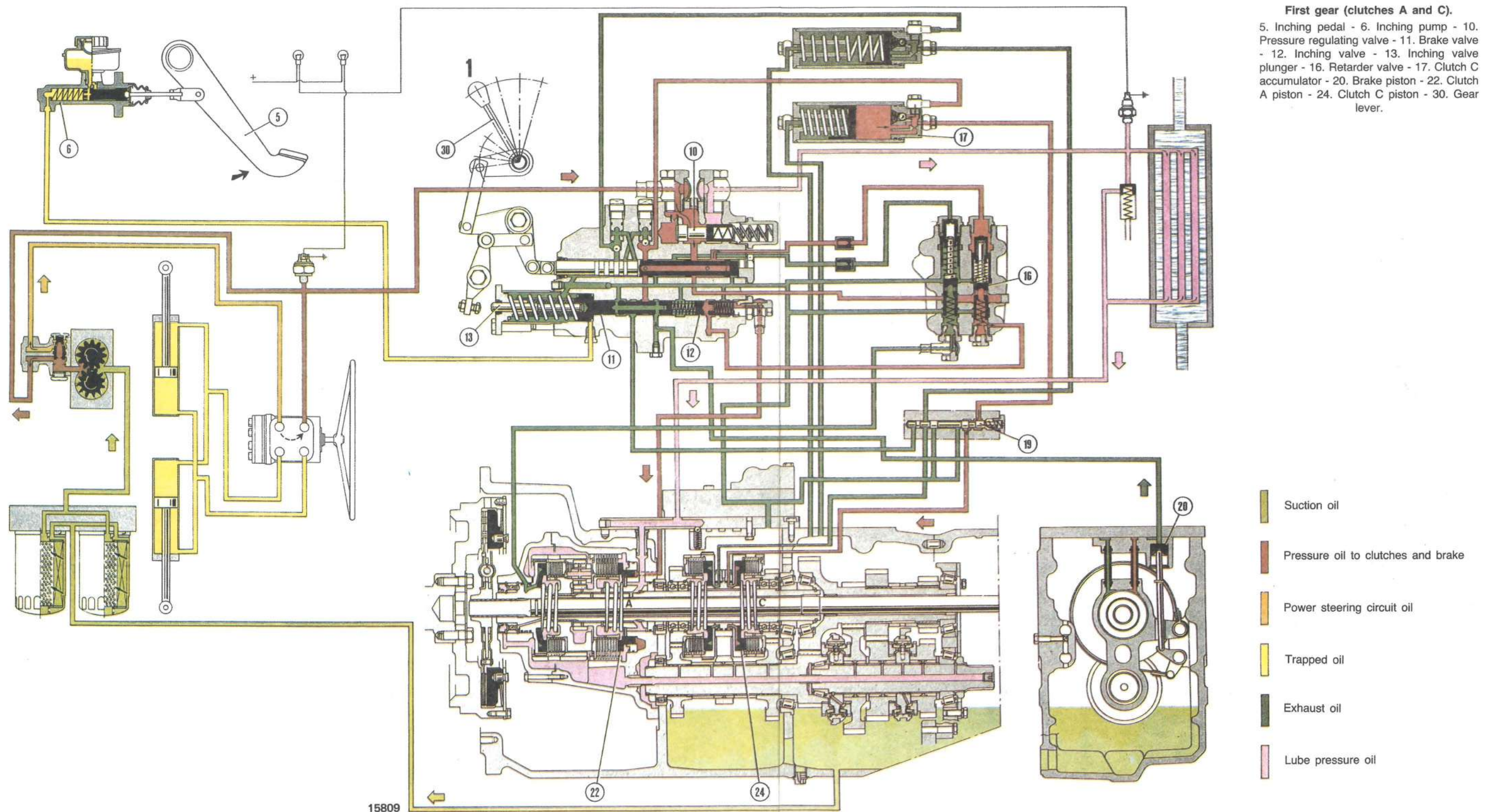
1. Filters - 2. Hydraulic pump - 3. Flow proportioning unit - 4. Power steering control valve - 5. Inching pedal - 6. Inching pump - 7. Control valve - 8. Retarder valve body - 9. Clutch C and D delivery manifold - 10. Pressure regulating valve - 11. Brake valve - 12. Inching valve - 13. Inching valve plunger - 14. Gear selector spindle - 15 and 16. Retarder valves - 17. Clutch C accumulator - 18. Clutch D accumulator - 19. Dump valve - 20. Brake piston - 21. Clutch B piston - 22. Clutch A piston - 23. Clutch D piston - 24. Clutch C piston - 25. Oil cooler - 26. Cooler by-pass valve - 27. Pressure relief valve - 28 and 29. Retarder valve nozzles - 30. Gear lever - 31. Low lube pressure indicator - 32. Low clutch pressure indicator - 33. Coupling - 34. Block valve - 35. Check valve - 36. Accumulator restriction.

- Suction oil
- Pressure oil to clutches and brake
- Power steering circuit oil
- Trapped oil
- Pressure oil to inching circuit
- Exhaust oil
- Lube pressure oil

STOPPING THE TRACTOR

Depressing pedal (5) activates pump (6), which increases inching circuit pressure to move brake valve (11) and plunger (13) to the left. Under the action of plunger (13), lever (30) moves to first gear position, and selector spindle (14) takes up position shown.

Circuit pressure, which is maintained at approximately 16 bar-kg/cm² or 228 psi by valve (10), acts on brake piston (20), dump valve (19) retarder valve (16) and clutch C accumulator (17). The four clutches (B,A,D and C) are connected to exhaust, and are thus disengaged.

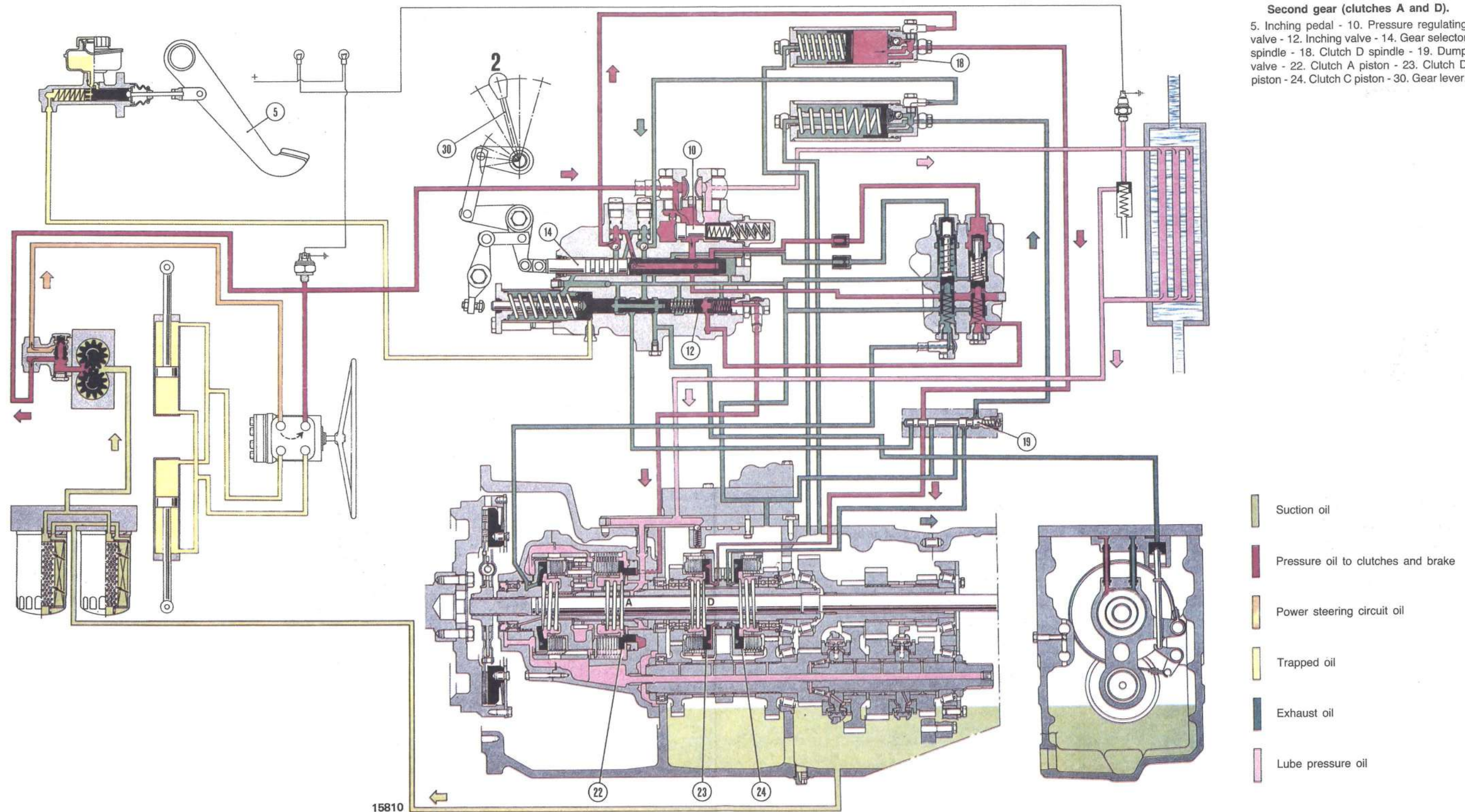


FIRST GEAR (CLUTCHES A AND C)

When pedal (5) is released, pump (6) piston returns to rest position under spring load, thus exhausting inching circuit oil pressure to associated reservoir. Brake valve (11) and plunger (13) are pushed by the associated springs into the positions

shown, thus connecting brake piston (20) to exhaust. Circuit pressure, which is maintained at approximately 16 bar-kg/cm² or 228 psi by valve (10), acts on clutch A piston (22) through retarder valve (16). Clutches (B and D, page 38) are connected to exhaust and are thus disengaged.

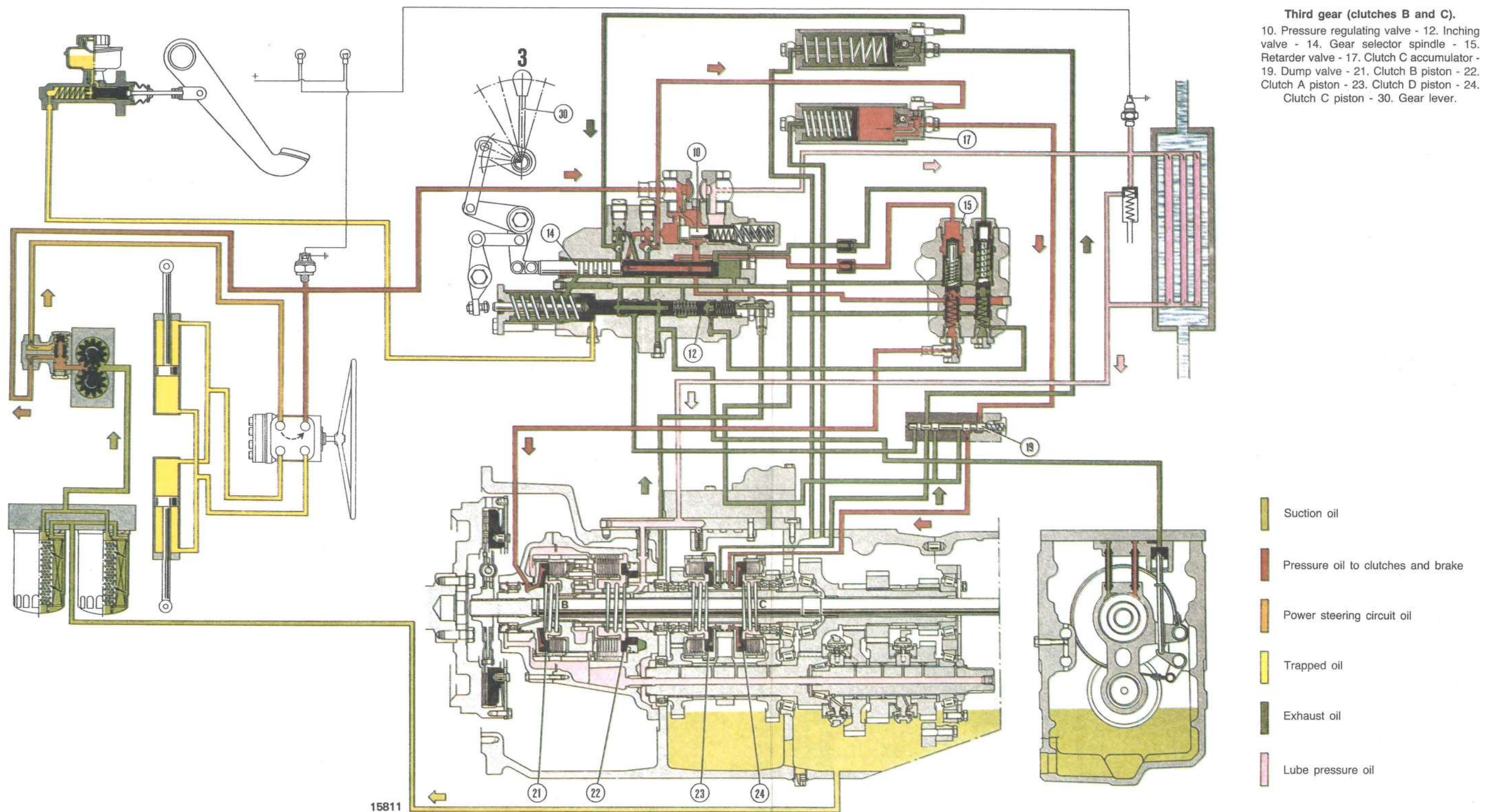
POWER TRAIN: POWER SHIFT transmission



SECOND GEAR (CLUTCHES A AND D)

When gear lever (30) is shifted to second, spindle (14) takes up position shown to connect clutch C piston (24) with exhaust through dump valve (19) and accumulator (17, page 38). At the same time, 16 bar-kg/cm² (228 psi) pressure oil acts on clutch D piston (23), passing through pressure regulating valve (10), gear selector spindle (14), clutch D piston (18) and valve (19).

Clutch A is still engaged as in first gear (see page 39), while clutch B (page 38) is connected with exhaust and is thus disengaged.

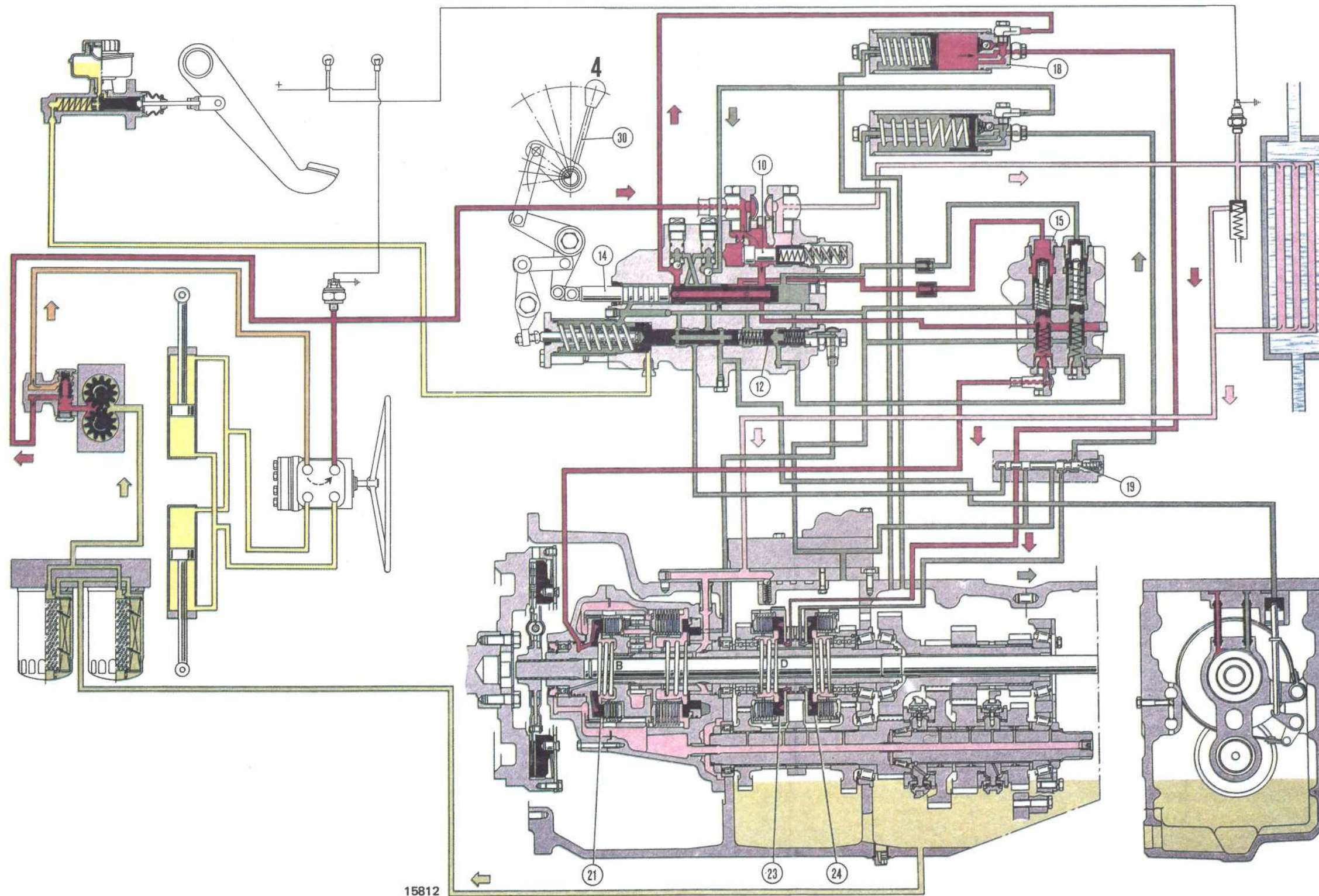


THIRD GEAR (CLUTCHES B AND C)

When gear lever (30) is shifted to third, spindle (14) takes up position shown to connect clutch piston D (23) to exhaust through dump valve (19) and accumulator (18, page 38) and to connect top chamber of retarder valve (16, page 38) to exhaust through moving nozzle (28). Consequently, clutch A piston (22) is connected to exhaust through inching valve (12) and

retarder valve (16, page 38). At the same time, pressure oil at 16 bar-kg/cm² or 228 psi acts on clutch B piston (21) through spindle (14) and retarder valve (15) and on clutch C piston (24) through spindle (14), accumulator (17) and valve (19).

POWER TRAIN: POWER SHIFT transmission



Fourth gear (clutches B and D).

10. Pressure regulating valve - 12. Inching valve - 14. Gear selector spindle - 15. Retarder valve - 18. Clutch D piston - 19. Dump valve - 21. Clutch B piston - 23. Clutch D piston - 24. Clutch C piston - 30. Gear lever.

Note - In all five transmission operation phases, hydraulic pump output passes through a flow proportioning unit (3, page 38), which provides constant pressure for the power steering circuit, and directs the rest of pump output to the POWER SHIFT transmission.

Lubrication oil is cooled by oil cooler (25, page 38) protected by-pass valve (26), while entire lube circuit is protected by pressure relief valve (27).

When inching pedal (5, page 38) is depressed with tractor in any gear, transmission returns automatically to first.

FOURTH GEAR (CLUTCHES B AND D)

When gear lever (30) is shifted to fourth, spindle (14) takes up the position shown to connect clutch C piston (24) with exhaust through dump valve (19) and accumulator (17, page 38). At the same time, pressure oil at 16 bar/kg/cm² or 228 psi acts on clutch D piston (23) through

accumulator (18) and valve (19).

As in the preceding phase, clutch B is engaged and clutch A is disengaged.