

Description

Hydraulic Flow

General Chart of Hydraulic Pressure

Oil Pump → Regulator Valve → { Line Pressure
Torque Converter Pressure
Lubrication Pressure

Distribution of Hydraulic Pressure

- Manual Valve → To Select Line Pressure
- Throttle Valve B → Throttle B Pressure
- 1-2 Shift Valve }
● 2-3 Shift Valve } → Clutch Pressure
● 3-4 Shift Valve }
- Line Pressure → Throttle Valve

NO.	DESCRIPTION OF PRESSURE	NO.	DESCRIPTION OF PRESSURE	NO.	DESCRIPTION OF PRESSURE
1	LINE	7	LINE	71	1ST-HOLD CLUTCH
2	LINE	10	1ST CLUTCH	72	1ST-HOLD CLUTCH
3	LINE	10'	1ST CLUTCH	90	TORQUE CONVERTER
4	LINE	11	1ST CLUTCH	91	TORQUE CONVERTER
4'	LINE	20	2ND CLUTCH	92	TORQUE CONVERTER
4''	LINE	25	LINE	93	OIL COOLER
5	LINE	30	3RD CLUTCH	94	TORQUE CONVERTER
5'	LINE	40	4TH CLUTCH	95	LUBRICATION
6	MODULATOR	50	REVERSE CLUTCH	96	TORQUE CONVERTER
6A	MODULATOR	55	THROTTLE B	99	SUCTION
6B	MODULATOR	56	THROTTLE B	X	BLEED
6C	MODULATOR	57	THROTTLE B		
6D	MODULATOR	70	1ST-HOLD CLUTCH		

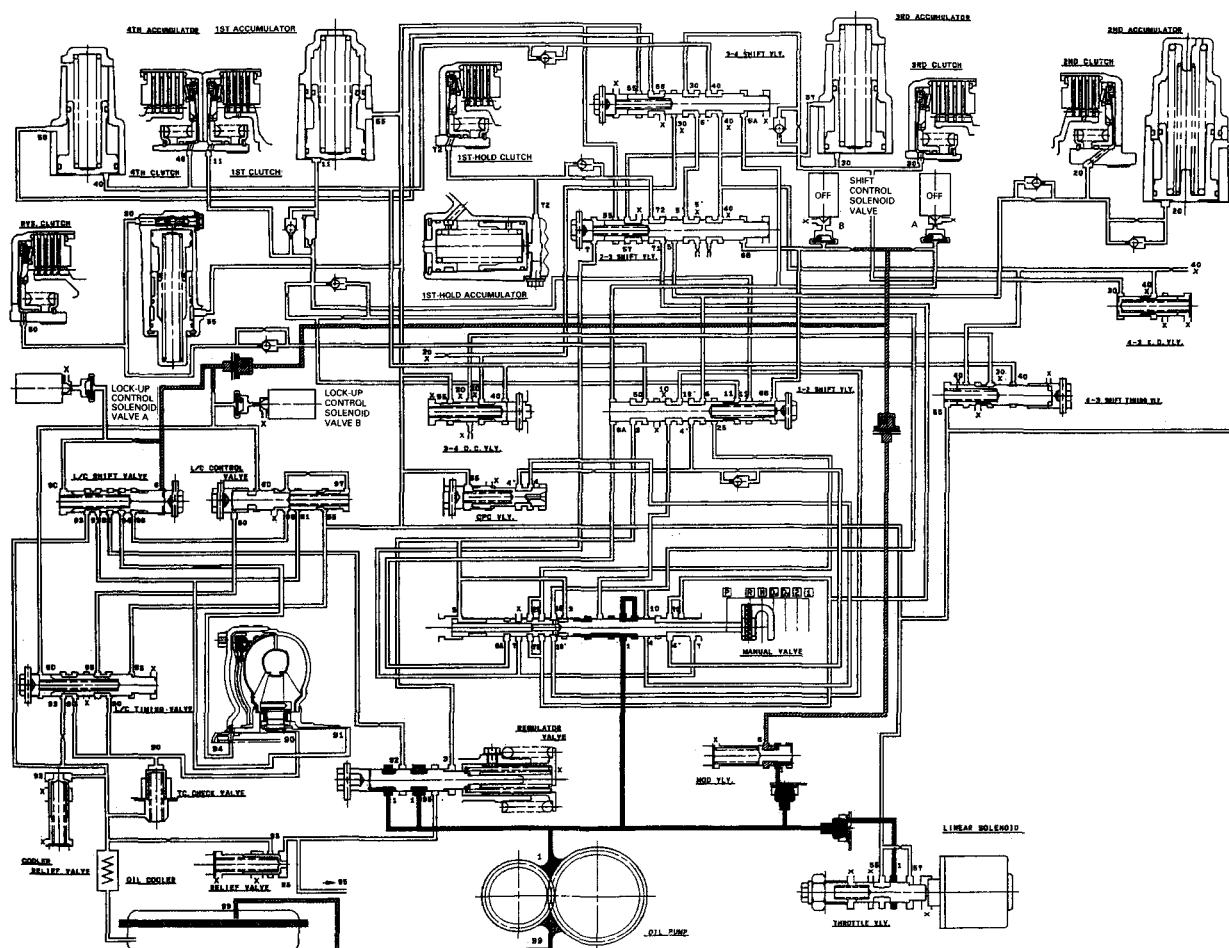


N Position

As the engine turns, the oil pump also starts to operate. Automatic transmission fluid (ATF) is drawn from (99) and discharged into (1). Then, ATF pressure is controlled by the regulator valve and becomes line pressure (1). The torque converter inlet pressure (92) enters (94) of torque converter through the orifice and discharges into (90).

The torque converter check valve prevents the torque converter pressure from rising.

Under this condition, hydraulic pressure is not applied to the clutches.



(cont'd)

Description

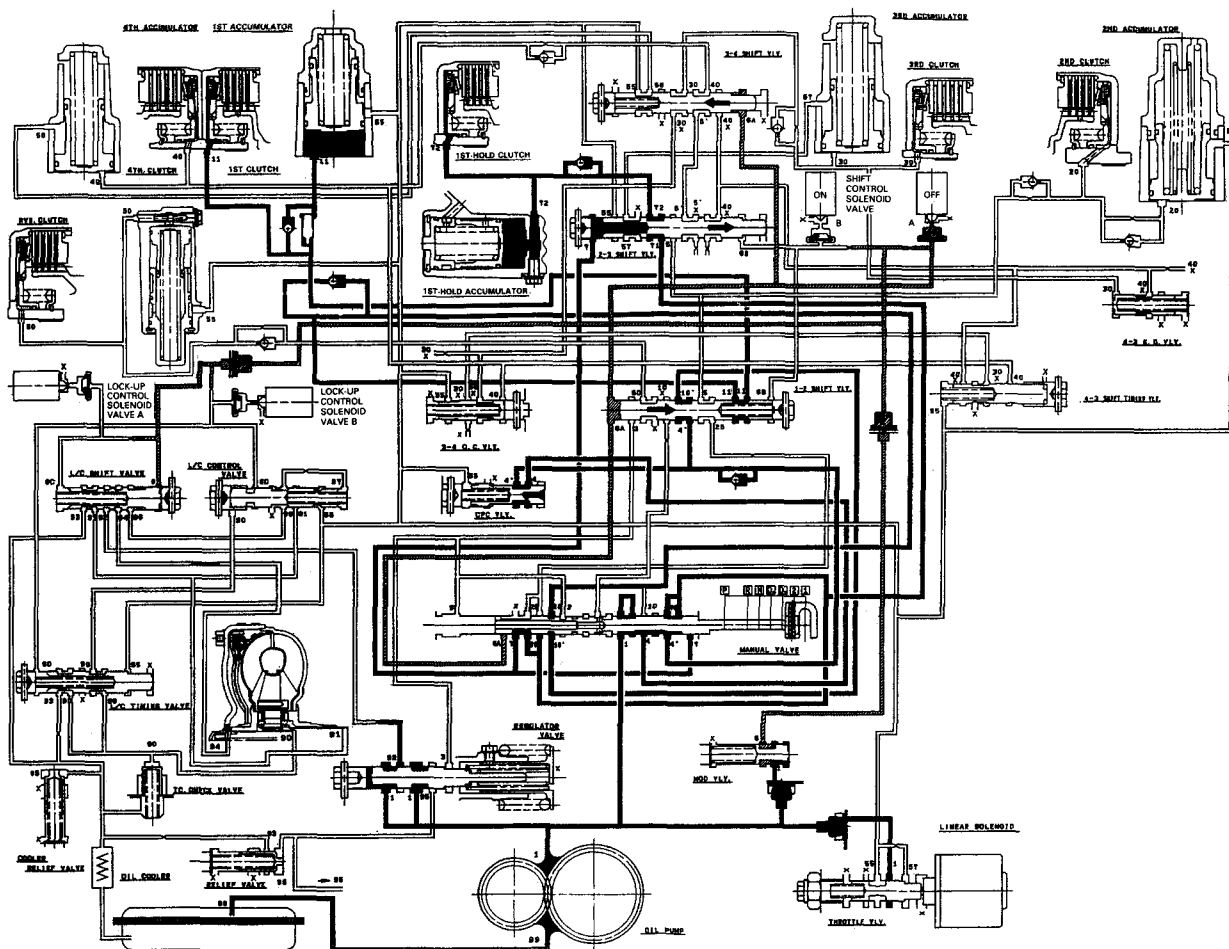
Hydraulic Flow (cont'd)

1 Position

The line pressure (1) becomes the line pressure (4), (4'), (70) as it passes through the manual valve. Also, the line pressure (1) goes to the modulator valve through the filter and becomes the modulator pressure (6). The modulator pressure (6) is supplied to the 1-2 shift valve and 3-4 shift valve. The 1-2 shift valve is moved to the right side and the 3-4 shift valve is moved to the left side because the shift control solenoid valve A is turned OFF and B is turned ON by the PCM.

The line pressure (4') becomes the 1st clutch pressure (10) via the 1-2 shift valve. The 1st clutch pressure (10) passes through the manual valve to the 1st clutch, then the 1st clutch is engaged. The 1st-hold clutch pressure (70) goes to the 1st-hold clutch via the 2-3 shift valve, then the 1st-hold clutch is engaged.

NOTE: When used, "left" or "right" indicates direction on the flowchart.



Description

Hydraulic Flow (cont'd)

D₄ or **D₃** Position

1. 1st speed

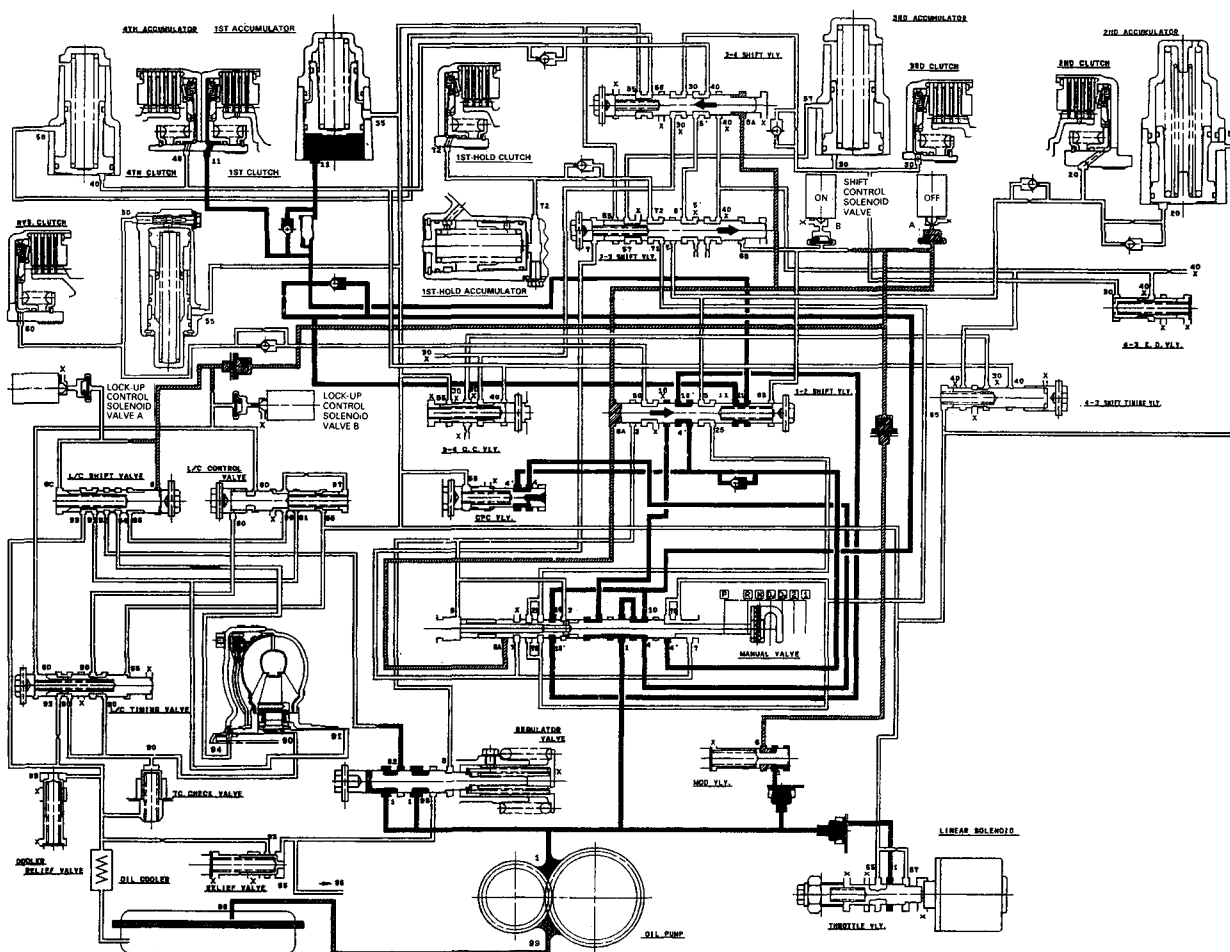
The flow of fluid through the torque converter circuit is the same as in **N** position.

The line pressure (1) becomes the 1st clutch pressure (10), as it passes through the manual valve. The 1st clutch pressure is applied to the 1st clutch and the 1st clutch accumulator, consequently the vehicle will move as the engine power is transmitted.

The line pressure (1) becomes the modulator pressure (6) by the modulator valve and travels to 1-2 and 3-4 shift valves. The 1-2 shift valve is moved to the right side and the 3-4 shift valve is moved to the left side because the shift control solenoid valve A is turned OFF and valve B is turned ON by the PCM.

The line pressure (1) also flows to the throttle valve.

NOTE: When used, "left" or "right" indicates direction on the flowchart.



Description

Hydraulic Flow (cont'd)

3. 3rd Speed

The flow of fluid up to the 1-2, 2-3 and 3-4 shift valves is the same as in 2nd speed.

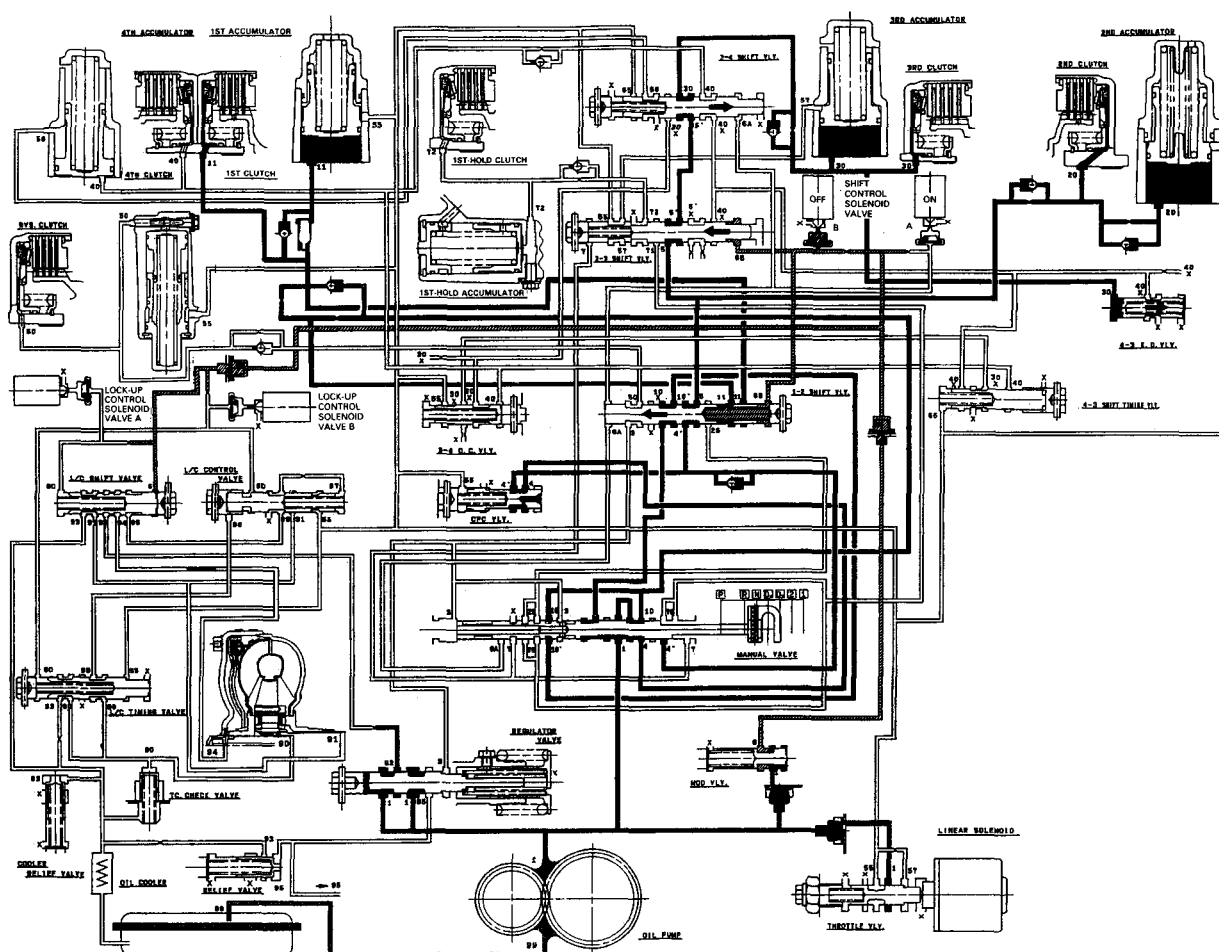
As the speed of the car reaches the prescribed value, the shift control solenoid valve B is turned OFF (Shift control solenoid valve A remains ON). The 2-3 shift valve is then moved to the left side, uncovering the oil port leading to the 3rd clutch. Since the 3-4 shift valve is moved to the right side to cover the oil port to the 4th clutch, the 3rd clutch is engaged.

Fluid flows by way of:

- Line Pressure (4) → CPC Valve — Line Pressure (4') → 1-2 Shift Valve — Line Pressure (5) → 2-3 Shift Valve.
— Line Pressure (5') → 3-4 Shift Valve — 3rd clutch Pressure (30) → Orifice → 3rd Clutch.

The hydraulic pressure also flows to the 1 st clutch and to the 2nd clutch. However no power is transmitted by means of the one-way clutch.

NOTE: When used, "left" or "right" indicates direction on the flowchart.



Description

Hydraulic Flow (cont'd)

R Position

The line pressure (1) becomes the line pressure (3) as it passes through the manual valve. Also, the line pressure (1) goes to the modulator valve through the filter and becomes the modulator pressure (6). The modulator pressure (6) is supplied to the 1-2 shift valve and 2-3 shift valve.

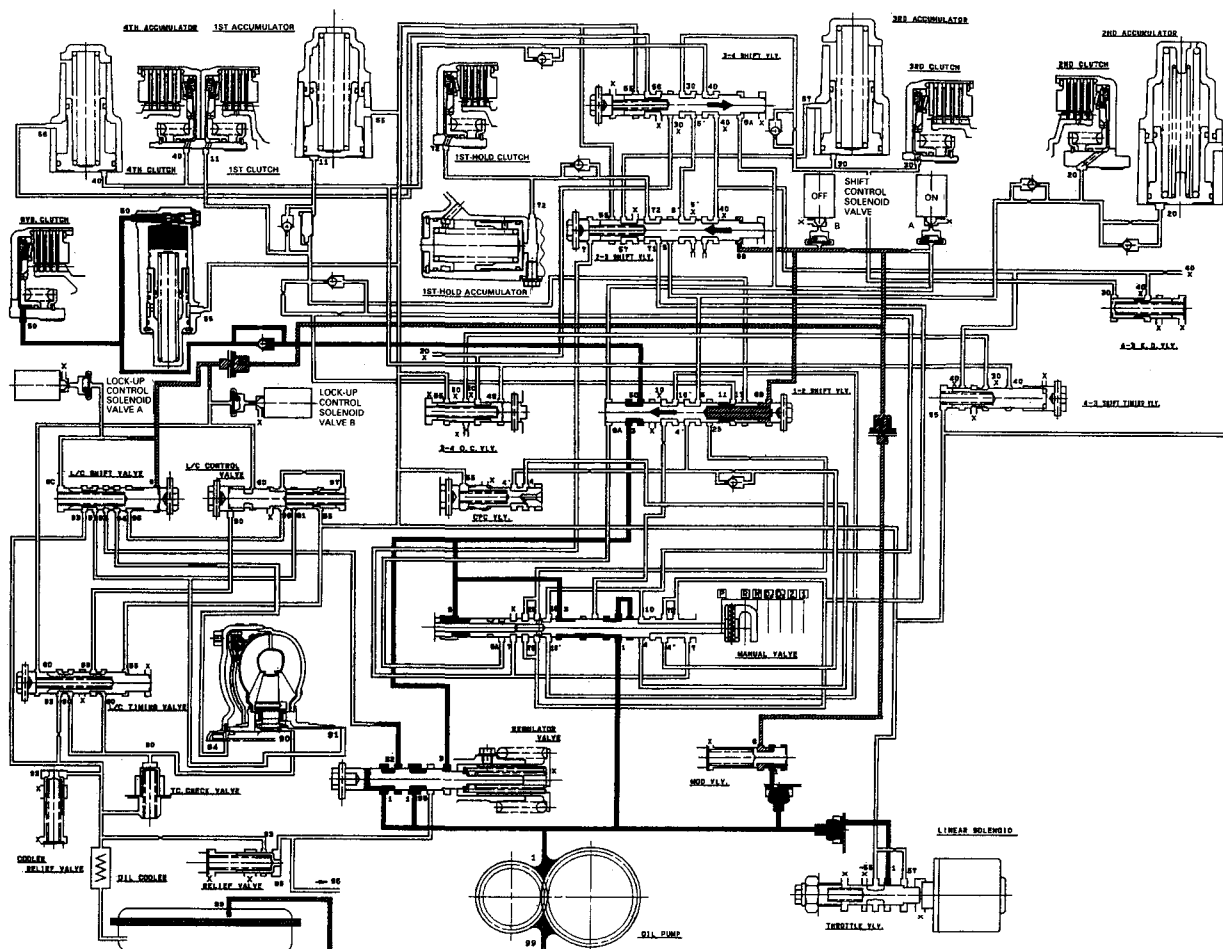
The 1-2 and 2-3 shift valves are moved to the left side because the shift control solenoid valve A is turned ON and B is turned OFF by the PCM.

The line pressure (3) becomes the reverse clutch pressure (50) via the 1-2 shift valve. The reverse clutch pressure goes to the reverse clutch, then the reverse clutch is engaged.

Reverse Inhibitor Control

When the **R** position is selected while the vehicle is moving forward at more than a certain speed, the ECU outputs 1st signal (Shift control solenoid valve A: ON, B: OFF), and the 1-2 shift valve is moved to the right side. The line pressure (3) is intercepted by the 1-2 shift valve; consequently the power is not transmitted, since the reverse clutch is not operated.

NOTE: When used, "left" or "right" indicates direction on the flowchart.



P Position

The flow of fluid through the torque converter circuit is the same as in the **N** position.

The line pressure (1) is intercepted by the manual valve and is not supplied to the clutches. The power is not transmitted.

