

Description

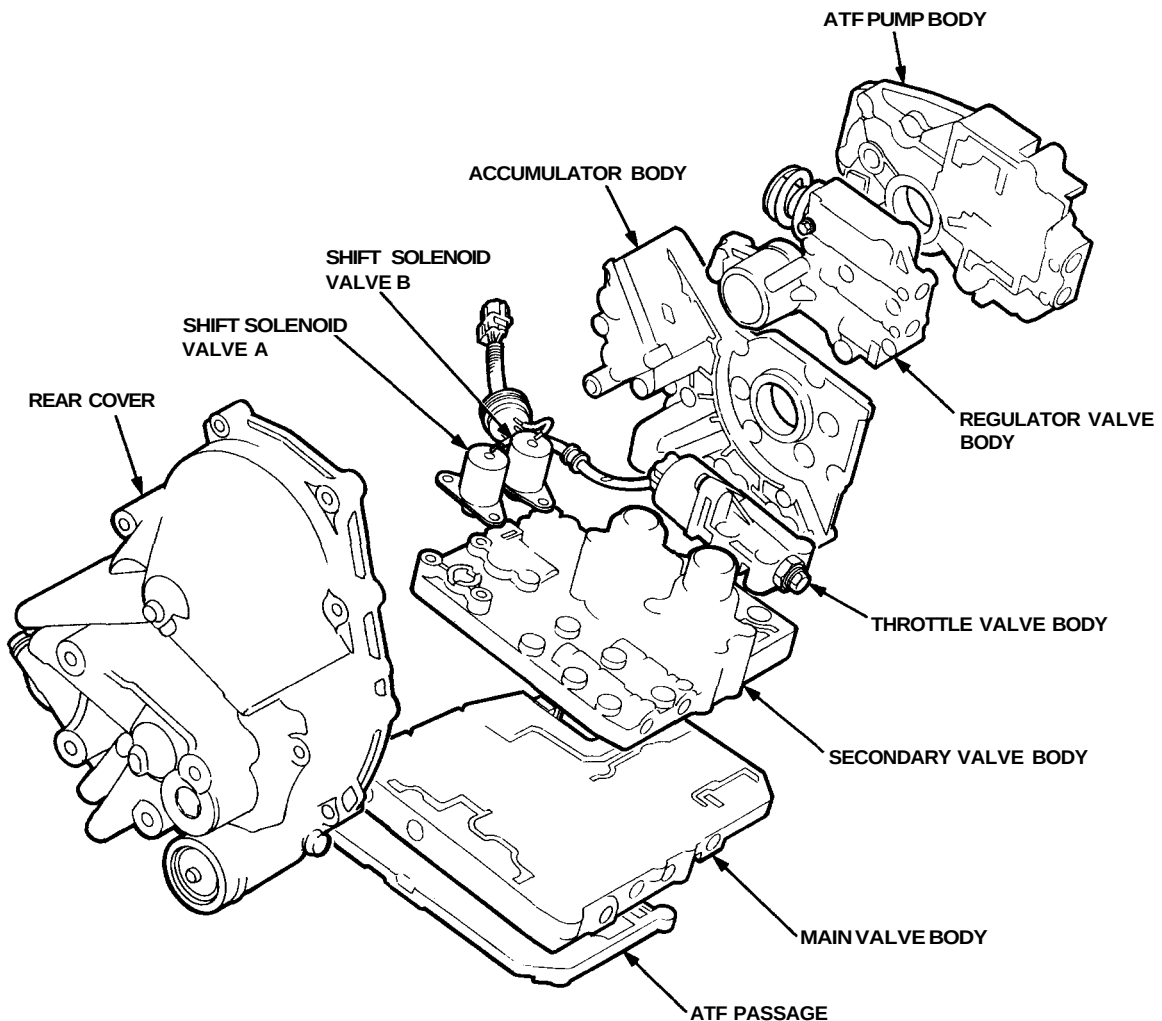
Hydraulic Control

The hydraulic control system is controlled by the ATF pump, valves and accumulators in the valve bodies. The ATF pump is driven by splines on the end of the torque converter which is attached to the engine.

Fluid from the ATF pump flows through the regulator valve to maintain specified pressure through the main valve body to the manual valve, directing pressure to each of the clutches.

The valve body includes the main valve body, the secondary valve body, the ATF pump body, the regulator valve body, the throttle valve body, and the accumulator body. The throttle valve body is joined with the A/T clutch pressure control solenoid valve.

The shift solenoid valves A and B are bolted on the secondary valve body. The torque converter clutch (lock-up control) solenoid valves A and B are bolted on the outside of the torque converter housing.





Lower Valve Body Assembly

The lower valve body assembly is located on the bottom of the transmission housing. The lower valve body assembly consists of the main valve body, the secondary valve body and the ATF passage.

Main Valve Body

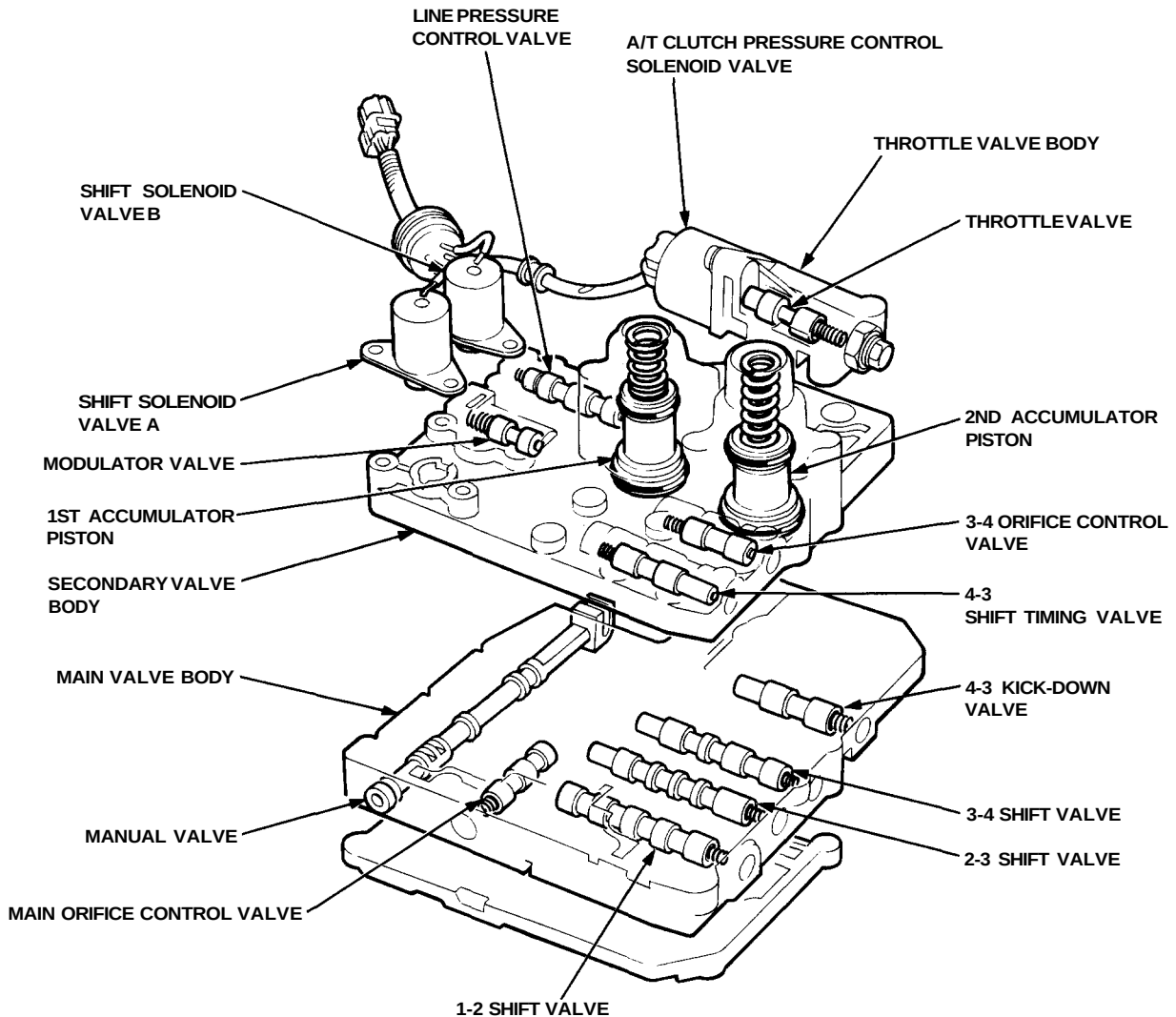
The main valve body houses the manual valve, the 1-2 shift valve, the 2-3 shift valve, the 3-4 shift valve, the 4-3 kick-down valve and the main orifice control valve. The primary functions of the main valve body are to switch fluid pressure on and off and to control the hydraulic pressure going to the hydraulic control system.

Secondary Valve Body

The secondary valve body is located on the main valve body. The secondary valve body houses the line pressure control valve, the modulator valve, the 3-4 orifice control valve, the 4-3 shift timing valve, the 1st accumulator piston and the 2nd accumulator piston. The shift solenoid valves A and B are assembled on the secondary valve body.

Throttle Valve Body/A/T Clutch Pressure Control Solenoid Valve

The throttle valve body is joined with the A/T clutch pressure control solenoid valve which is controlled by the PCM. The throttle valve body/A/T clutch pressure control solenoid valve is located on the secondary valve body. The throttle valve body houses the throttle valve.



(cont'd)

Description

Hydraulic Control (cont'd)

ATF Pump Body

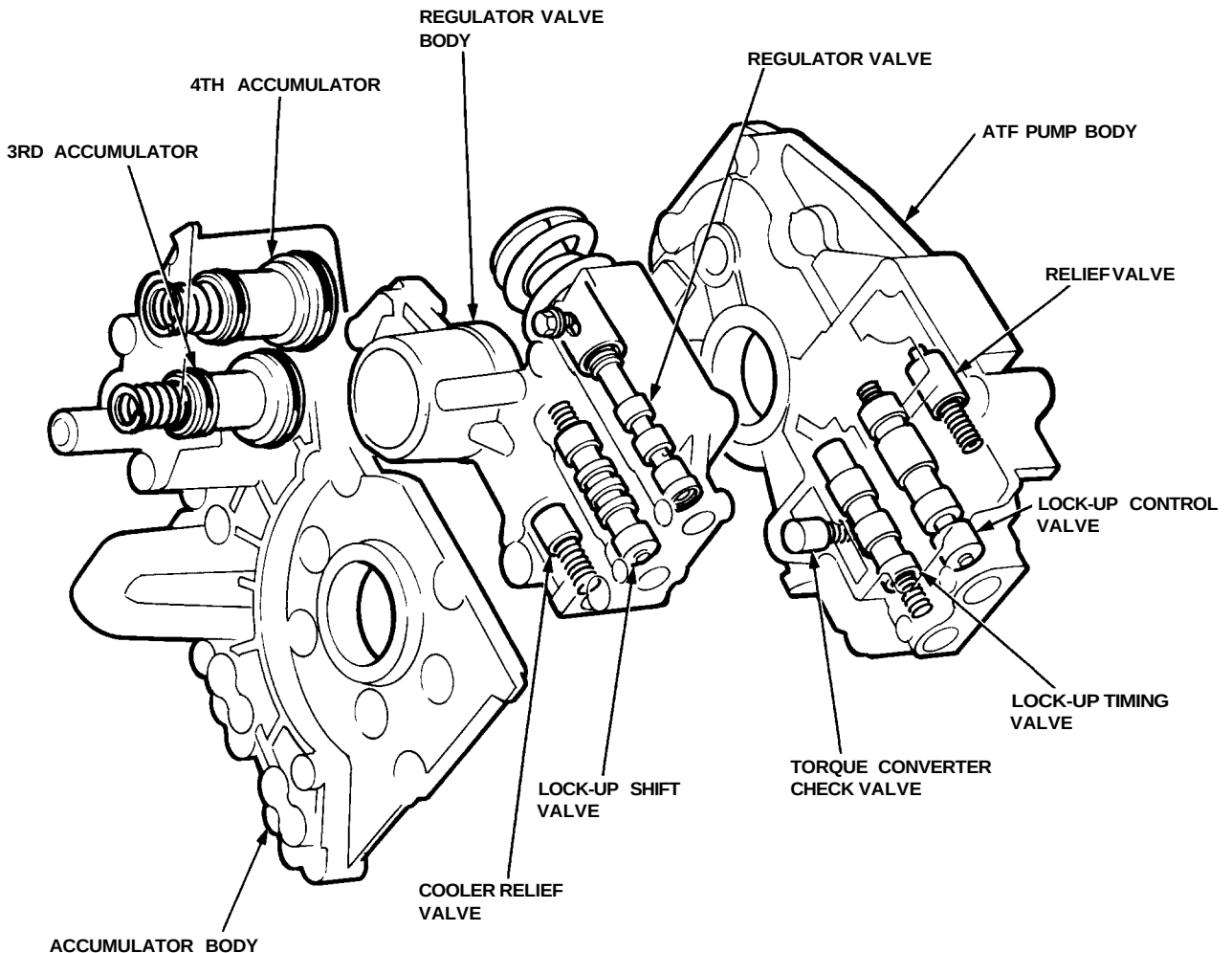
The ATF pump body is located on the torque converter housing. The ATF pump body consists of the ATF pump gears, the relief valve, the lock-up control valve, the lock-up timing valve and the torque converter check valve. The torque converter check valve is located between the ATF pump body and the torque converter housing.

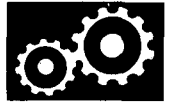
Accumulator Body

The accumulator body is located on the torque converter housing next to the ATF pump body. The accumulator body houses the 3rd accumulator piston and the 4th accumulator piston.

Regulator Valve Body

The regulator valve body is located on the ATF pump body. The regulator valve body consists of the regulator valve, the cooler relief valve and the lock-up shift valve.





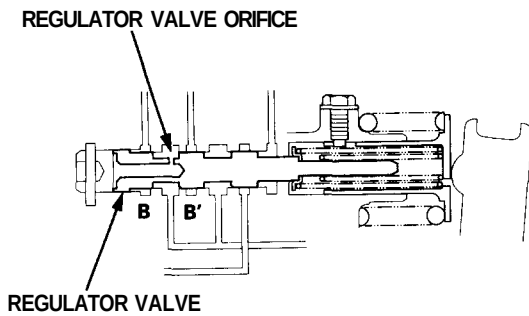
Regulator Valve

The regulator valve regulates the line pressure, and also supplies the fluid to the lubricating system and torque converter. To regulate the line pressure, the regulator valve passes the fluid from the ATF pump through the lubricating system and the torque converter, and the regulator valve receives line pressure control pressure.

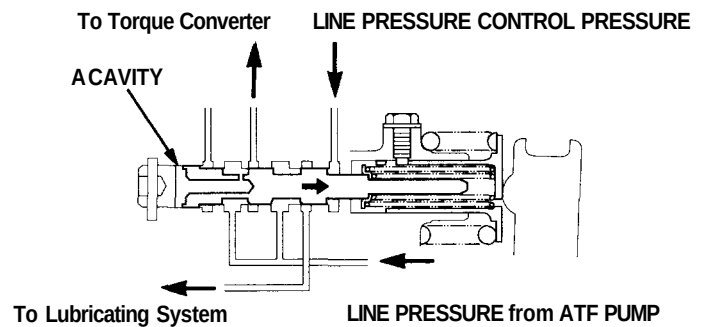
The fluid from the ATF pump flows through B and B'. The fluid entering from B flows through the regulator valve orifice to the A cavity. This pressure of the A cavity pushes the regulator valve to the right side. The line pressure control pressure flows to the right side of the regulator valve, and pushes the regulator valve to the left side. As a result, the regulator valve stays at a certain position, and maintains it to regulate line pressure. The line pressure control pressure increases according to the throttle opening (throttle B pressure), while the line pressure increases according to the line pressure control pressure. The line pressure can be regulated a wide range by the line pressure control pressure.

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

ENGINE NOT RUNNING



ENGINE RUNNING



Stator Reaction Hydraulic Pressure Control

Hydraulic pressure increases according to the torque is performed by the regulator valve using the stator torque reaction. The stator shaft is splined with the stator in the torque converter, and its arm end contacts the regulator spring cap. When the vehicle is accelerating or climbing (Torque Converter Range), the stator torque reaction acts on the stator shaft, and the stator arm pushes the regulator spring cap in the direction of the arrow in proportion to the reaction. The stator reaction spring compresses, and the regulator valve moves to increase the line pressure which is regulated by the regulator valve. The line pressure reaches its maximum when the stator torque reaction reaches its maximum.

