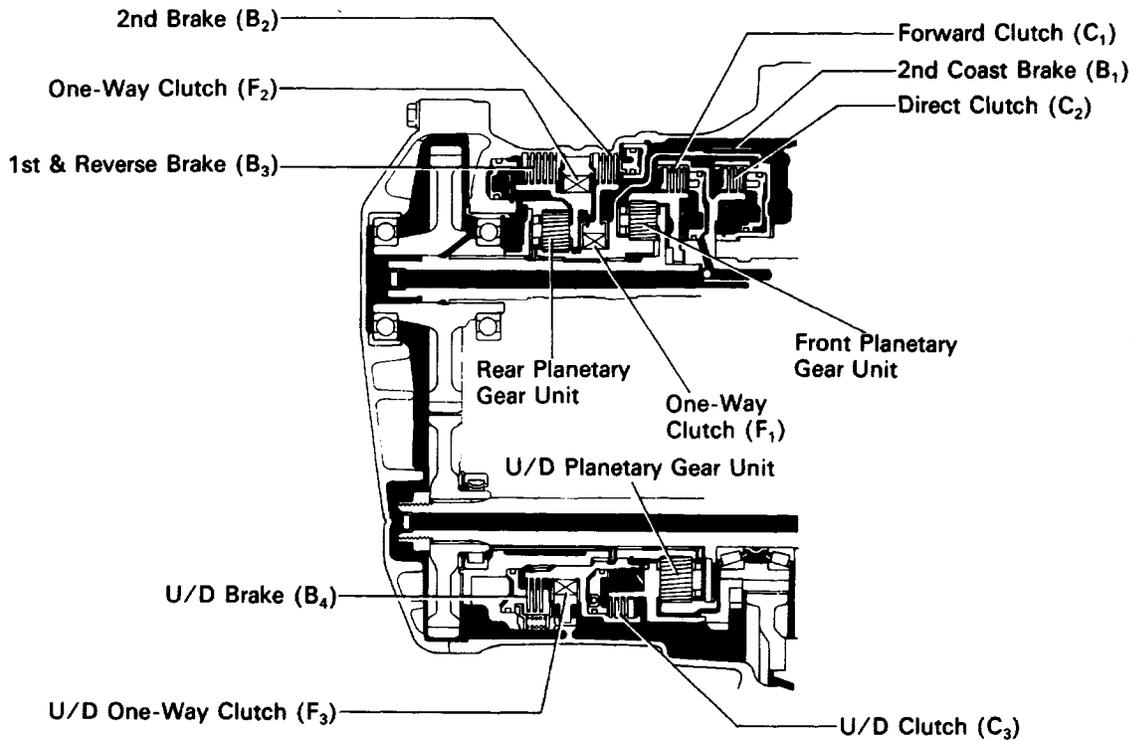


OPERATION

Mechanical Operation

OPERATING CONDITIONS



AT7927

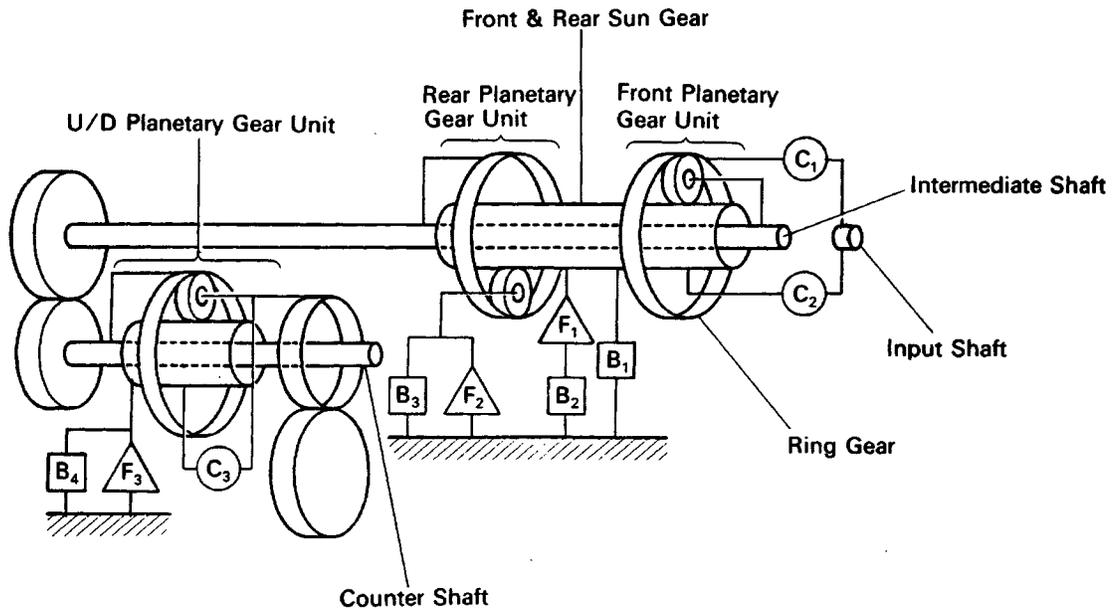
Position (i.e., Shift Lever Position)	Gear	No.1 Solenoid Valve*1	No.2 Solenoid Valve*1	C ₁	C ₂	C ₃	B ₁	B ₂	B ₃	B ₄	F ₁	F ₂	F ₃
P	Park	ON	OFF							●			
R	Reverse	ON	OFF		●				●	●			
N	Neutral	ON	OFF							●			
D	1st	ON	OFF	●						●		●	●
	2nd	ON	ON	●				●		●	●		●
	3rd	OFF	ON	●	●			●		●			●
	0/D	OFF	OFF	●	●	●		●					
2	1st	ON	OFF	●						●		●	●
	2nd	ON	ON	●			●	●		●	●		●
	3rd *2	OFF	ON	●	●			●		●			●
L	1st	ON	OFF	●					●	●		●	●
	2nd*2	ON	ON	●			●	●		●	●		●

*1: A241 E Only *2: Operating

*2: Down-Shift only in the 3rd gear for the 2 position and 2nd gear for the L position - no up-shift.

FUNCTION OF COMPONENTS

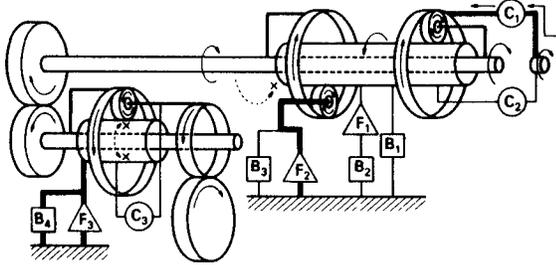
Component		Function
C ₁	Forward Clutch	Connects input shaft and front planetary ring gear.
C ₂	Direct Clutch	Connects input shaft and front & rear planetary sun gear.
C ₃	U/D Clutch	Connects underdrive sun gear and underdrive planetary carrier.
B ₁	2nd Coast Brake	Prevents front & rear planetary sun gear from turning either clockwise or counterclockwise.
B ₂	2nd Brake	Prevents outer race of F, from turning either clockwise or counterclockwise thus preventing the front & rear planetary sun gear from turning counterclockwise.
B ₃	1 st & Reverse Brake	Prevents rear planetary carrier from turning either clockwise or counterclockwise.
B ₄	U / D Brake	Prevents underdrive sun gear from turning either clockwise or counterclockwise.
F ₁	No.1 One-Way Clutch	When B ₂ is operating, this clutch prevents the front & rear planetary sun gear from turning counterclockwise.
F ₂	No.2 One-Way Clutch	Prevents rear planetary carrier from turning counterclockwise.
F ₃	U/D One-Way Clutch	Prevents underdrive planetary sun gear from turning clockwise.
Planetary Gears		These gears change the route through which driving force is transmitted in accordance with the operation of each clutch and brake in order to. increase or reduce the input and output speed.



FUNCTION OF COMPONENTS (Cont'd)

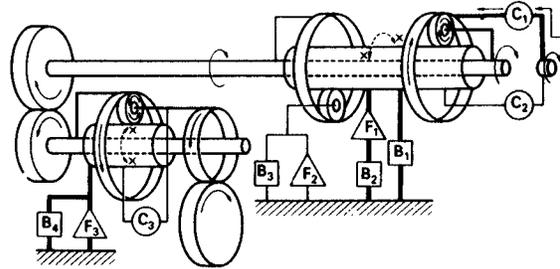
The conditions of operation for each gear position are shown on the following illustration:

D or 2 Position 1st Gear



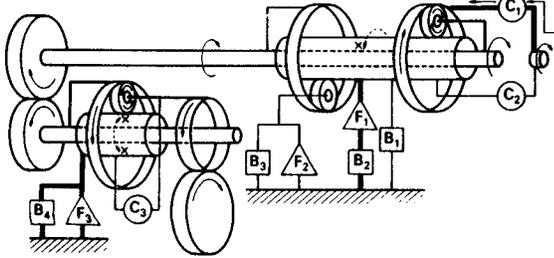
AT3216

2 Position 2nd Gear



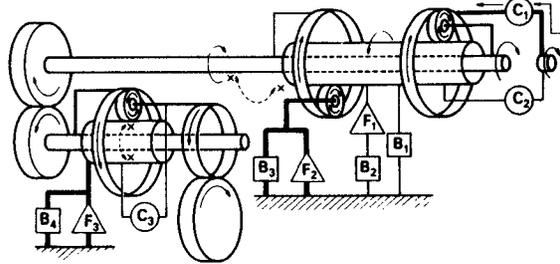
AT3220

D Position 2nd Gear



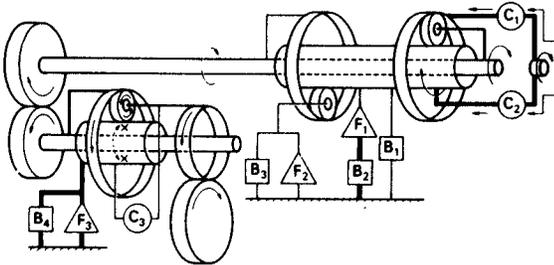
AT3217

L Position 1st Gear



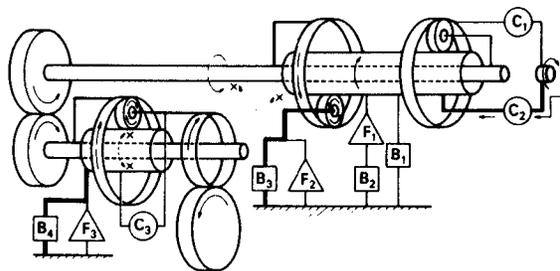
AT3221

D Position 3rd Gear



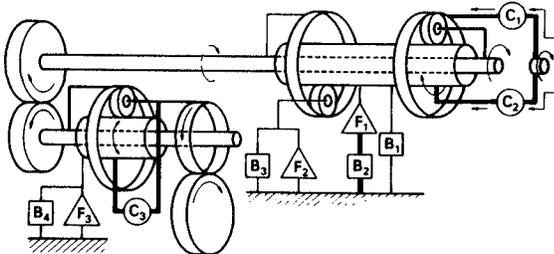
AT3218

R Position Reverse Gear



AT3222

D Position O/D



AT3219

Hydraulic Control System

The hydraulic control system is composed of the oil pump, the valve body, the solenoid valves, the accumulators, the clutches and brakes, and the governor valve as well as the fluid passages which connect all of these components.

Based on the hydraulic pressure created by the oil pump, the hydraulic control system governs the hydraulic pressure acting on the torque converter clutch, clutches and brakes in accordance with the vehicle driving conditions.

The governor valve produces hydraulic pressure in response to vehicle speed. Governor pressure increases as vehicle speed increases. (A243L)

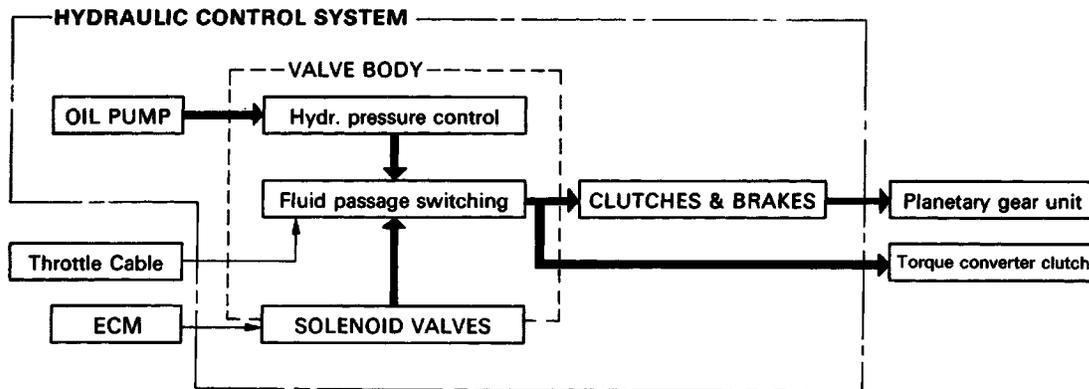
There are three solenoid valves on the valve body of the A241 E automatic transaxle.

The No. 1 and No. 2 solenoid valves are turned on and off by signals from the ECM to operate the shift valves and change the gear shift position.

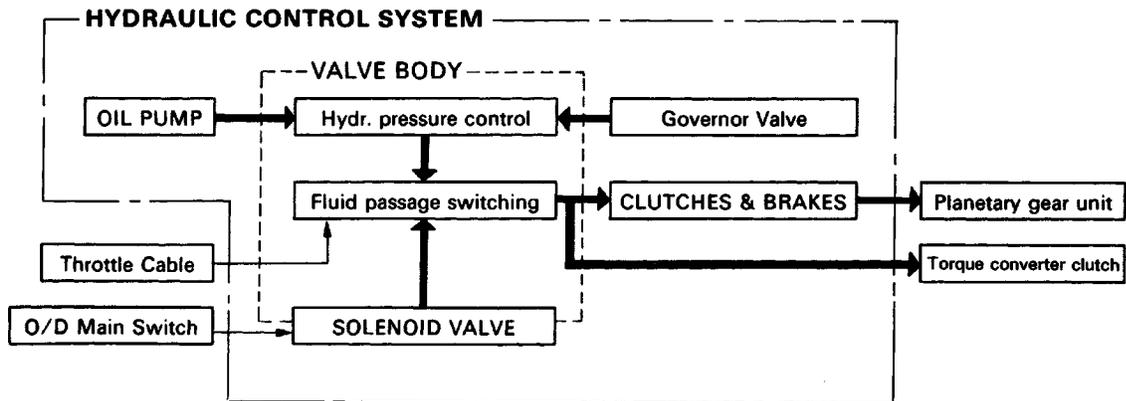
The No. 3 solenoid valve is operated by signals from the ECM to engage or disengage the lock-up clutch of the torque converter clutch.

The valve body of the A243L automatic transaxle has one solenoid valve, which is for overdrive control.

► A241E



► A243L



A241 E Electronic Control System (See page AT-21)

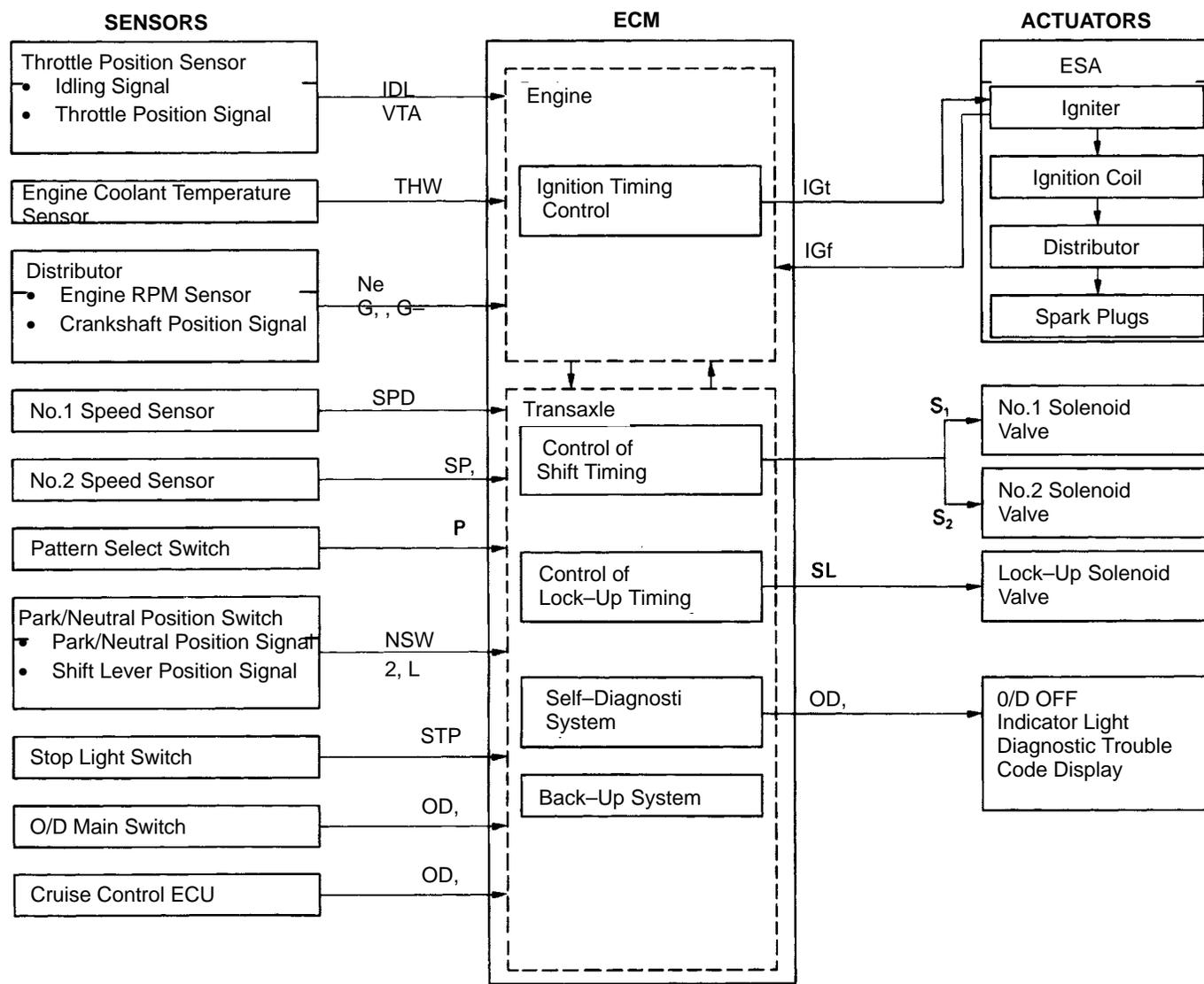
GENERAL

The electronic control system for the A241 E automatic transaxle provides extremely precise control of the gear shift timing and lock-up timing in response to driving conditions as sensed by various sensors located throughout the vehicle and in response to the engine's running condition.

At the same time, the ECM control reduces vehicle squat when the vehicle starts out and gear shift shock. The electronic control system is also equipped with a self diagnosis system which diagnoses malfunctions of electronically controlled components and warns the driver, and a fail-safe system which makes it possible for the vehicle to continue functioning when a malfunction occurs.

CONSTRUCTION

The electronic control system can be broadly divided into three groups; the sensors, ECM and actuators.



ELECTRONIC CONTROL CIRCUIT (See page AT-21)

ELECTRONIC CONTROL COMPONENTS (See page AT-22)

A243L Electronic Control System (See page AT-32)