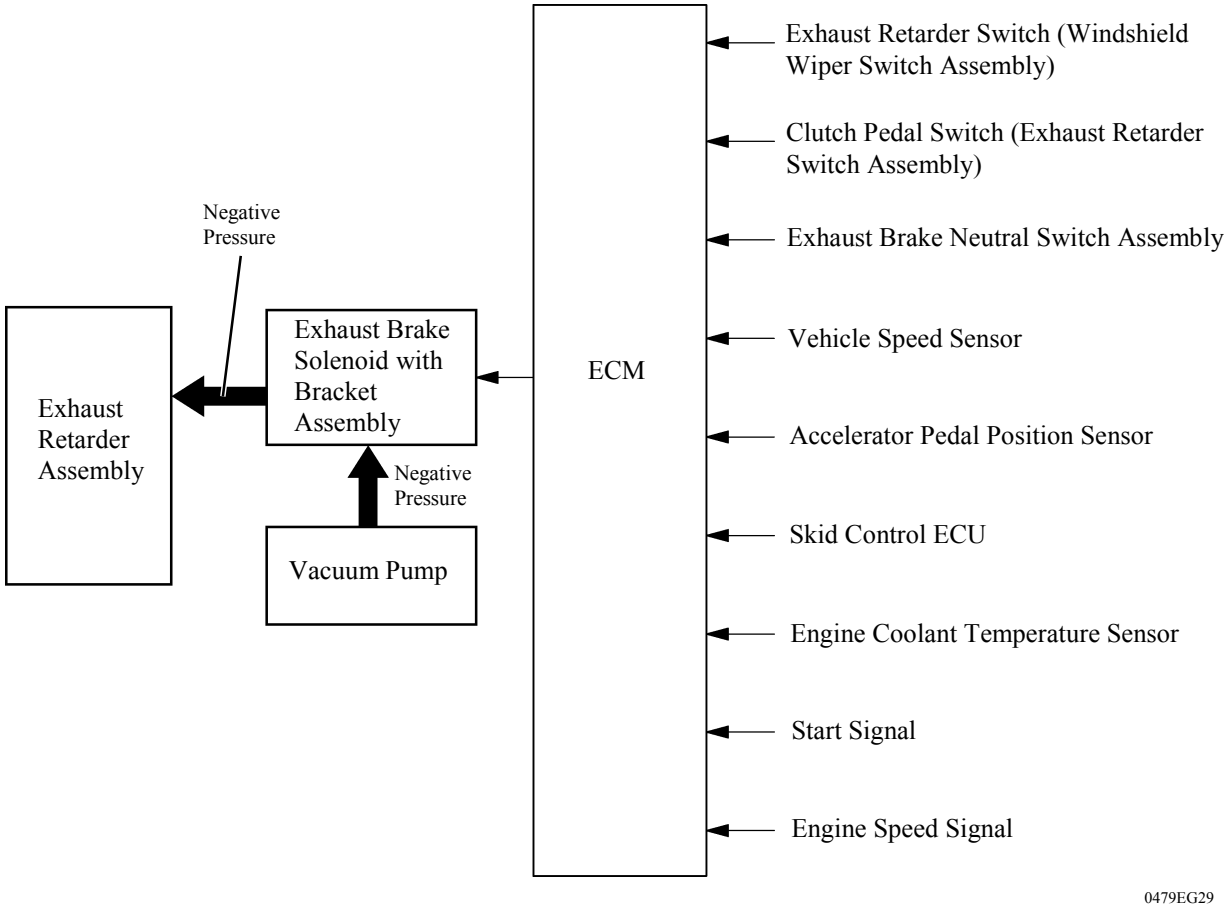
■ EXHAUST RETARDER CONTROL

Closing the valve of the exhaust retarder assembly installed downstream of the turbocharger sub-assembly constricts the passage of exhaust gas and increases the effects of engine brakes.



▸ System Components and Functions ◂

Component	Function
Exhaust Brake Solenoid with Bracket Assembly	Switches between atmospheric pressure and negative pressure applied to the vacuum cylinder, opening and closing the exhaust retarder valve.
Exhaust Retarder Switch (Windshield Wiper Switch Assembly)	Pulling the exhaust retarder switch (windshield wiper switch assembly) toward the driver activates the exhaust retarder and causes the indicator light in the combination meter to illuminate.
Clutch Pedal Switch (Exhaust Retarder Switch Assembly)	Detects clutch engagement according to clutch pedal operation; depressing the clutch pedal turns off current to the exhaust retarder solenoid.
Exhaust Brake Neutral Switch Assembly	Detects engagement of neutral or any other gear.
Vehicle Speed Sensor	Built into speedometer; detect vehicle speed and send it to the ECM.

Objectives and Operating Conditions for Exhaust Retarder

Objective	Operating Conditions
Exhaust Brake	• Exhaust retarder switch (windshield wiper switch assembly) is ON. • Clutch is not operating. • Accelerator pedal is not operating. • Vehicle speed is more than predetermined value. • Transmission is not in neutral. • ABS is not operating.
Long Time Idling Control	• Vehicle is stopped. • Engine is idling for a long time. • Clutch is not operating. • Accelerator pedal is not operating. • Transmission is in neutral.

■ DIAGNOSIS

- When the ECM detects a malfunction, it outputs DTCs (Diagnosis Trouble Codes) and memorizes the failed section. Furthermore, the check engine warning light in the combination meter illuminates to inform the driver.
- At the same time, the DTCs are stored in memory. The DTCs can be read by connecting an Global TechStream (GTS).
- For details, refer to the Repair Manual.

■ FAIL SAFE

When the ECM detects a malfunction, it stops or controls the engine according to the data already stored in the memory. For details, refer to the Repair Manual.