



Component Location



General Description

As inputted rail pressure sensor signal, ECM of Common rail diesel engine controls Fuel pressure regulator valve(integrated with high press. pump) and rail pressure regulator valve(integrated with common rail) in order to maintain optimum rail pressure according to current engine rpm and load.

However when the problem that leads rail pressure to out of target value intended by ECM occurs due to mechanical or electrical reason, ECM shuts engine down and sets DTC by limiting fuel (stops injector operation) in order to prevent engine from being controlled abnormally. "rail pressure monitoring error" is the DTC which diagnose 1).supplying state of low pressure fuel and 2).mechanical operating conditions of high pressure pump and 3). rail pressure regulator valve indirectly based on RPS output voltage and RPS duty. thus, repair relevant to this DTC requires mechanics the total understand of fuel system.

DTC Description

P1186 is set when rail press. is lower than target rail press. by 500~150bar for more than 1.0 sec. in condition that rail press. is controlled by Fuel pressure regulator valve. This code is due to 1)less than intended fuel supply to common rail or 2)excessive return of fuel supplied to common rail or 3)short to low voltage line in fuel press. sensor.

DTC Detecting Condition

Item	Detecting Condition			Possible Cause
DTC Strategy	● Voltage monitoring			● Fuel pressure regulator valve(open stuck) ● Rail pressure regulator valve(close stuck) ● Rail pressure sensor(Output fixed at high voltage line)
Enable Conditions	● Engine running			
Threshold Value	● Rail pressure is below target rail pressure by more than 500~150bar at Fuel pressure regulator valve operating condition.- 1.0sec ● Rail pressure is below minimum limiting value(50~280bar) at rail Fuel pressure regulator valve operating condition.- 0.3sec			
Diagnostic Time	● Refer to threshold Value			
Fail Safe	Fuel Cut	NO		
	EGR Off	NO		
	Fuel Limit	YES		
	Check Lamp	YES		