

ENGINE FUEL SYSTEM

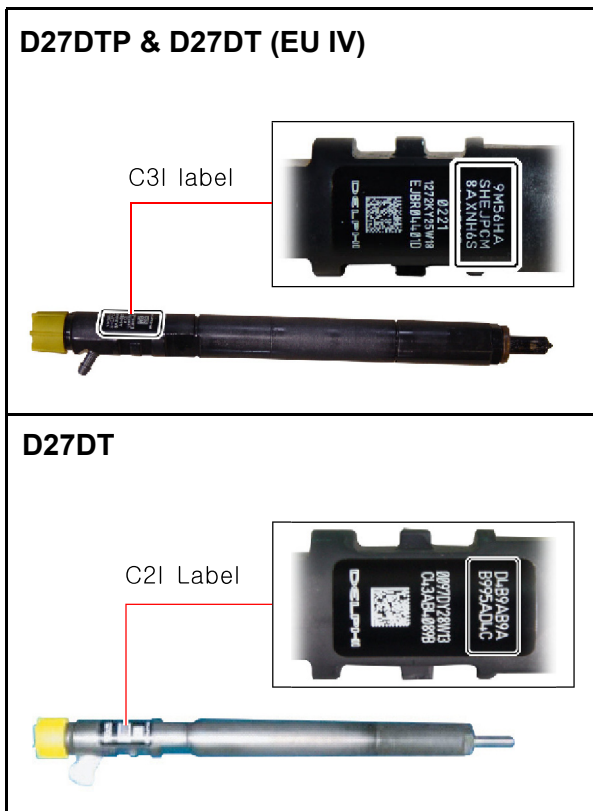
1881-09

OVERVIEW AND OPERATION PROCESS

1. MAJOR CHANGES IN FUEL SYSTEM OF D27DTP (POWER UP) ENGINE

There are some changes in the parts related to the fuel system due to the newly adopted D27DTP (POWER UP) engine. The major changes are as follows. Refer to the next pages for further details.

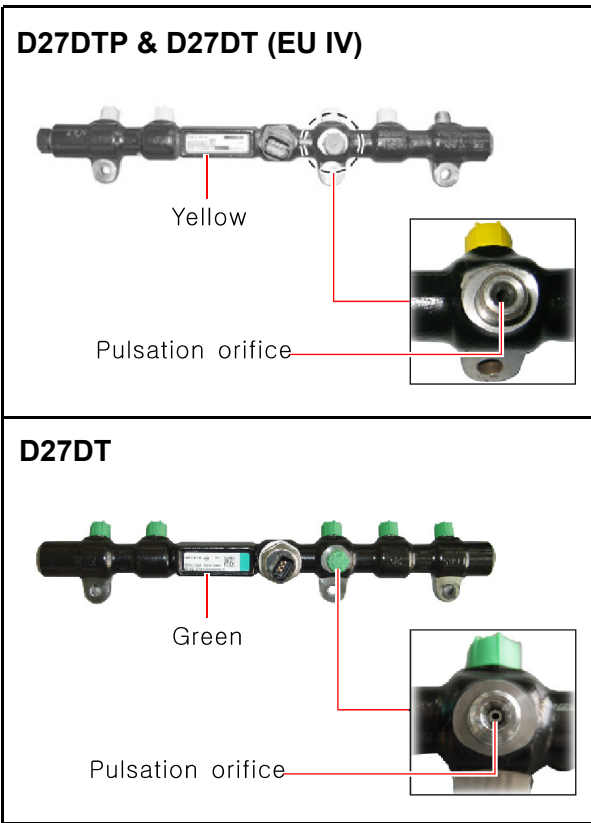
1) Injector



- Two nozzle holes are added (currently 7) to the tip of the injector to increase the amount of fuel injection and to improve injection efficiency according to the increased engine power.
- The existing C2I coding (16 digits) is changed to C3I coding (20 digits) to monitor fuel injection and follow the target value.
- For the D27DT engine, the injector MDP (minimum current for the solenoid in the injector to lift the nozzle) is leaned only when the engine is running. However, for the D27DTP engine, it is leaned when the vehicle is in motion and the engine is at idle speed.

Modification basis	
Application basis	
Affected VIN	





2) Common Rail



- The orifice is added to the connection to the fuel pipe of the HP pump to prevent the fuel pulsation by the fuel supply and fuel cut according to the increase of injected fuel volume. (It is also installed on the connection of the high pressure fuel supply line of the HP pump.)

Modification basis	
Application basis	
Affected VIN	

3) Fuel Rail - Chrome Color

<p>D27DTP & D27DT (EU IV)</p> <p>* Fuel pipe (Common rail → Injector)</p> 
<p>* Fuel high pressure pipe (HP pump → Common rail)</p> 
<p>D27DT</p> <p>* Fuel pipe (Common rail → Injector)</p> 
<p>* Fuel high pressure pipe (HP pump → Common rail)</p> 

- The I.D and O.D of the fuel rail between HP pump and common rail are increased according to the increased amount of fuel injection. Also, the engine ECU, HFM sensor and EGR system are changed to control the fuel injection volume and engine more precisely.

ENGINE GENERA

ENGINE FUEL

ENGINE INTAKE

ENGINE EXHAUST

CDPF/Ca talytic

ENGINE LUBRICA

ENGINE COOLING

ENGINE ELECTRI

ENGINE CONTROL

CRUISE CONTROL

Modification basis	
Application basis	
Affected VIN	

2. COMPONENTS OF FUEL SYSTEM

Injector (7-way Injection and C3I Coding)

D27DTP & D27DT (EU IV)

C3I
Fuel nozzle holes (7)

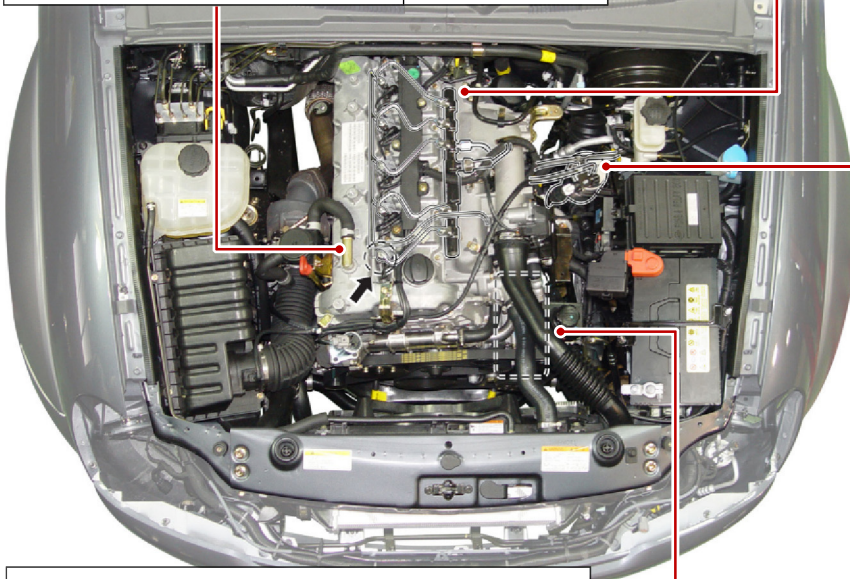
D27DT

C2I

Common Rail (Orifice for Preventing Fuel Pulsation Added)

Orifice

* Orifice for HP pump fuel outlet



Fuel filter Priming Pump

Fuel filter
Priming pump
Connector

Fuel from HP pump
Fuel filter
Fuel tank
HP pump
Fuel tank

Fuel Line (Increase in I.D and O.D)

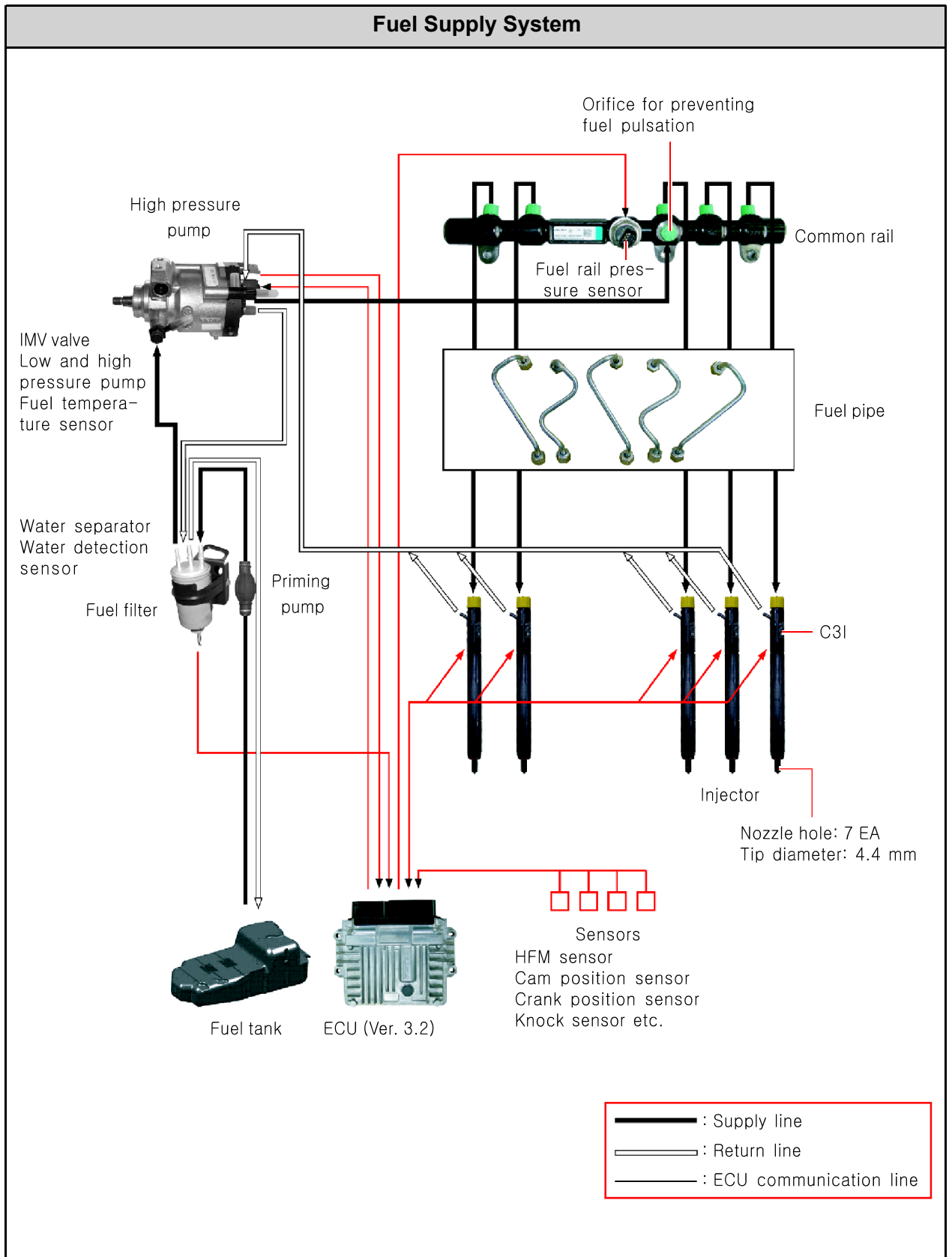
Injector
Fuel pipe
Common rail
Fuel rail pressure sensor
High pressure fuel pipe

HP Pump

Fuel return port
Fuel temperature sensor
IMV valve
High pressure fuel supply port (orifice included)
IMV connector
Venturi
Low pressure fuel supply port

Modification basis	
Application basis	
Affected VIN	

► Fuel Flow of D27DTP (Power Up) Engine



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Modification basis	
Application basis	
Affected VIN	