

ENGINE FUEL SYSTEM

1882-01/1882-15/1882-23/2210-01/2210-05/2231-01

INDEX

ENGINE FUEL SYSTEM

GENERAL INFORMATION

1. SPECIFICATION.....	3
2. MAINTENANCE AND INSPECTION.....	4
3. CAUTIONS FOR DI ENGINE.....	19

OVERVIEW AND OPERATING PROCESS

1. OVERVIEW.....	22
2. SYSTEM LAYOUT AND OPERATION....	23

CONFIGURATION

2210-01 FUEL TANK ASSEMBLY.....	30
2210-05 FUEL SENDER ASSEMBLY.....	31
1882-15 HIGH PRESSURE PIPE.....	33
2231-01 FUEL FILTER.....	34
1882-23 FUEL RAIL ASSEMBLY (COMMON RAIL).....	36
1882-01 FUEL HP PUMP ASSEMBLY.....	37

REMOVAL AND INSTALLATION

0000-00 COMPONENT.....	43
2210-01 FUEL TANK ASSEMBLY.....	46
2210-05 FUEL SENDER.....	49
2231-01 FUEL FILTER ASSEMBLY.....	51
1882-01 FUEL HP PUMP.....	57
1882-23 FUEL RAIL ASSEMBLY.....	63

Modification basis	
Application basis	
Affected VIN	

GENERAL INFORMATION

1. SPECIFICATION

Description		Specification
Fuel		Diesel
Fuel filter	Type	Fuel heater + priming pump + water separator integrated type
	Filter type	Changeable filter element type
	Change interval	every 50,000 km
	Water separation interval	every 20,000 km
	Water accumulating capacity	200 cc
	Heater capacity	250W 13.5V
Injector	System pressure	1800 bar
High pressure fuel pump	Type	Eccentric cam/Plunger type
	Operating type	Gear driven type
	Normal operating temperature	-40 ~ 125°C
	Operating pressure	1800 bar
	Operating temperature	-30°C ~ 120°C
Low pressure fuel pump	Type	Vane type
	Gear ratio (pump/engine)	0.5 : 1
	Pressure	6 bar
Fuel tank	Capacity	60 L
	Material	Plastic
	Fuel sender	Dual sender type

Modification basis	
Application basis	
Affected VIN	

D20DTF ENGINE
ENGINE ASSEMBLY
ENGINE FUEL
INTAKE SYSTEM
EXHAUST SYSTEM
TURBOCHARGER
LUBRICATION
ENGINE COOLING
CHARGE SYSTEM
PRE-HEATING
STARTING
CRUISE CONTROL
E-GR SYSTEM
CDPF SYSTEM
ENGINE CONTROL

2. MAINTENANCE AND INSPECTION

1) Maintenance Procedures for DI Engine Fuel System

1. Always keep the workshop and lift clean (especially, from dust).
2. Always keep the tools clean (from oil or foreign materials).
3. Wear a clean vinyl apron to prevent the fuzz, dust and foreign materials from getting into fuel system. Wash your hands and do not wear working gloves.



NOTE

Follow the below procedures before starting service works for fuel system.

Carefully listen the symptoms and problems from customer.



Visually check the leaks and vehicle appearance on the wiring harnesses and connectors in engine compartment.



Perform the diagnosis proceee with SCAN tool



Locate the fault. If the cause is from fuel system (from priming pump to injector, including return line), follow the step 1 through step 3 above.



4. If the problem is from HP pump, fuel supply line or injector, prepare the clean special tools and sealing caps to perform the diagnosis for DI engine fuel system in this manual. At this point, thoroughly clean the related area in engine compartment.



CAUTION

Clean the engine compartment before starting service works.

Tool kit for high pressure line



Took kit for low pressure line



Modification basis	
Application basis	
Affected VIN	

5. Follow the job procedures. If you find a defective component, replace it with new one.

Disconnect the negative battery cable.

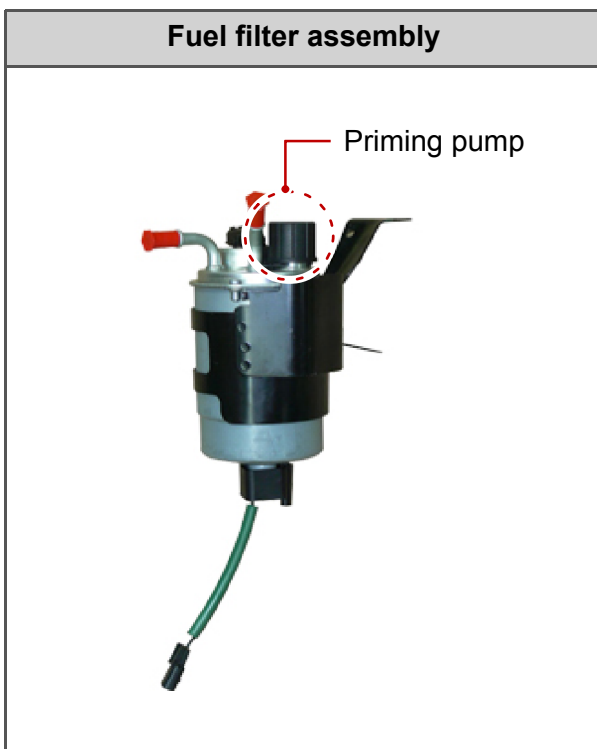


Use special tools and torque wrench to perform the correct works.

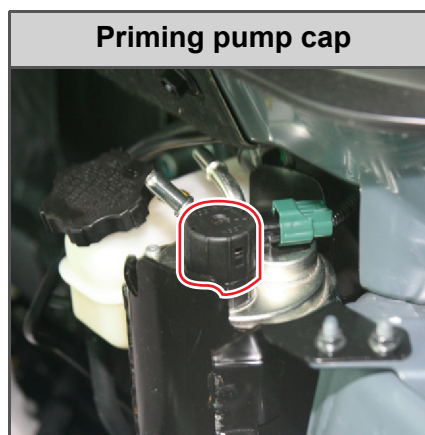
Once disconnected, the fuel pipes between HP pump and fuel rail and between fuel rail and each injector should be replaced with new ones. The pipes should be tightened to specified tightening torques during installation. Over or under torques out of specified range may cause damages and leaks at connections. Once installed, the pipes have been deformed according to the force during installation, therefore they are not reusable. The copper washer on injector should be replaced with new one. The injector holder bolt should be tightened to specified tightening torque as well. If not, the injection point may be deviated from correct position, and it may cause engine disorder.

Plug the disconnected parts with sealing caps, and remove the caps immediately before replacing the components.

6. Plug the removed components with clean and undamaged sealing caps and store it into the box to keep the conditions when it was installed.



7. To supply the fuel to transfer line of HP pump press the priming pump until it becomes hard.



Modification basis	
Application basis	
Affected VIN	

- D20DTF ENGINE
- ENGINE ASSEMBLY
- ENGINE FUEL
- INTAKE SYSTEM
- EXHAUST SYSTEM
- TURBOCHARGER
- LUBRICATION
- ENGINE COOLING
- CHARGE SYSTEM
- PRE-HEATING
- STARTING
- CRUISE CONTROL
- E-GR SYSTEM
- CDPF SYSTEM
- ENGINE CONTROL

8. Check the installed components again and connect the negative battery cable. Start the engine and check the operating status.
9. With Scan Tool, check if there are current faults and erase the history faults.



Modification basis	
Application basis	
Affected VIN	