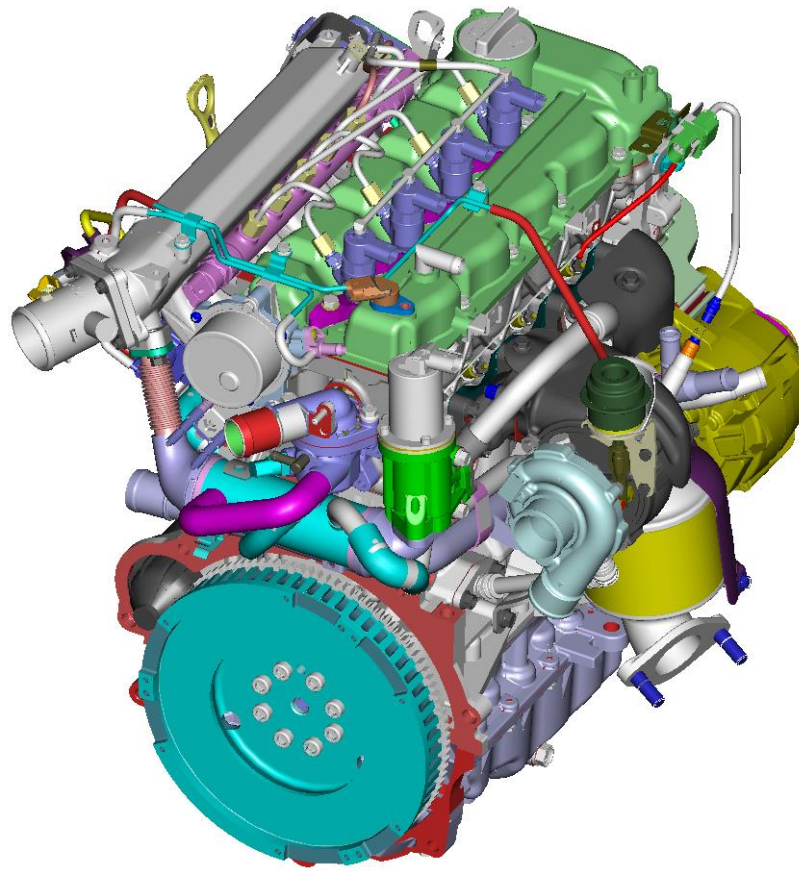


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U-II Engine



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U-II Engine

2

Application

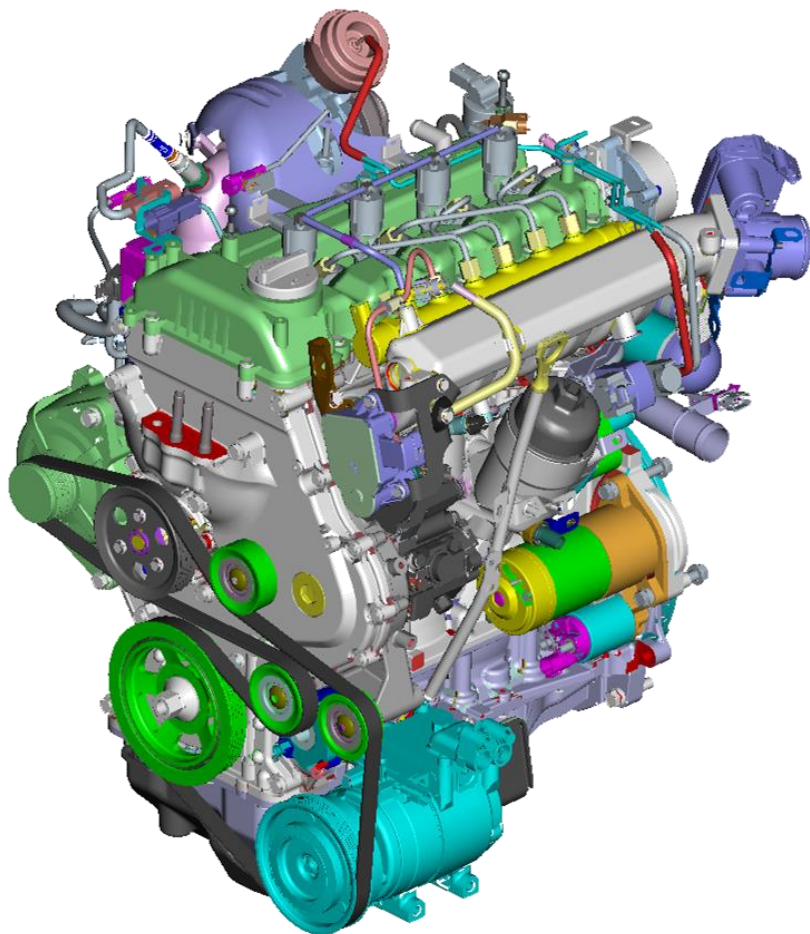
Engine		Transmission		Area		
		M/T	A/T	Europe	General	India
Gasoline	Kappa 1.2L (1,197cc)	M5EF2	-	-	-	○
	Kappa 1.25L (1,248cc)			○	○	-
	Gamma 1.4	M5CF1-1	A4CF1	●	●	-
	Gamma 1.6			●	●	-
Diesel	U 1.4	M5CF2-1	-	○	○	-
	U-II 1.6	M6CF3-1	-	○	-	-

● : A/T, M/T ○ : M/T ONLY

U-II Engine

3

U engine



Contents	U1		U2	
Displacement	1,396 (L)	1,396 (H)	1,582 (L)	1,582 (H)
Bore × Stroke(mm)	75 X 79		77.2 X 84.5	
Max. Power (ps/rpm)	75 / 4,000	90 / 4,000	115 / 4,000	128 /4,000
Max. Torque (kgf.m)	22.5		26.5	
Turbocharger	WGT		VGT	
Emission System	Electrical EGR + EGR Cooler + WCC		Electrical EGR + EGR Cooler + CPF	
U-II Feature	<ul style="list-style-type: none">▪ Applied VGT▪ Expanded EGR cooler▪ Swirl Control Valve▪ Timing Chain▪ Electrical Throttle Flap▪ Serpentine belt▪ Lambda Sensor▪ CPF▪ Inlet Control type			

U-II Engine

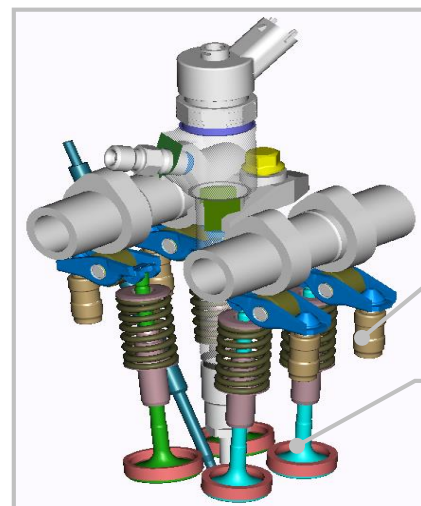
Overview

DOC (Diesel Oxidation Catalyst)

λ sensor

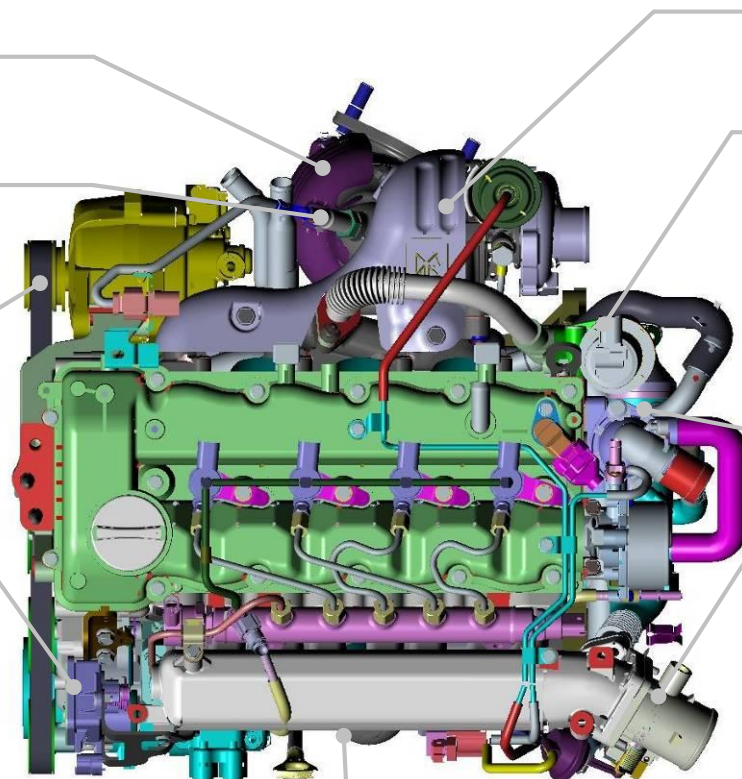
Serpentine belt

SCV (Swirl Control Valve)



HLA

4 valve DOHC



VGT

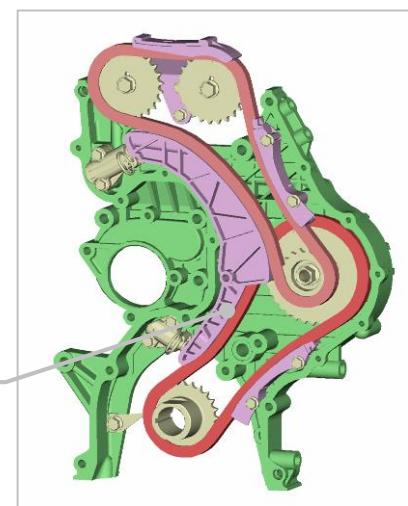
Electrical E.G.R

E.G.R cooler

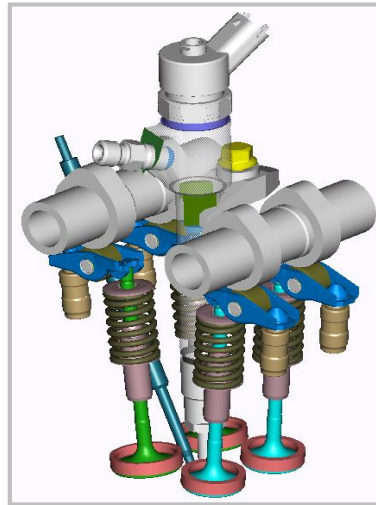
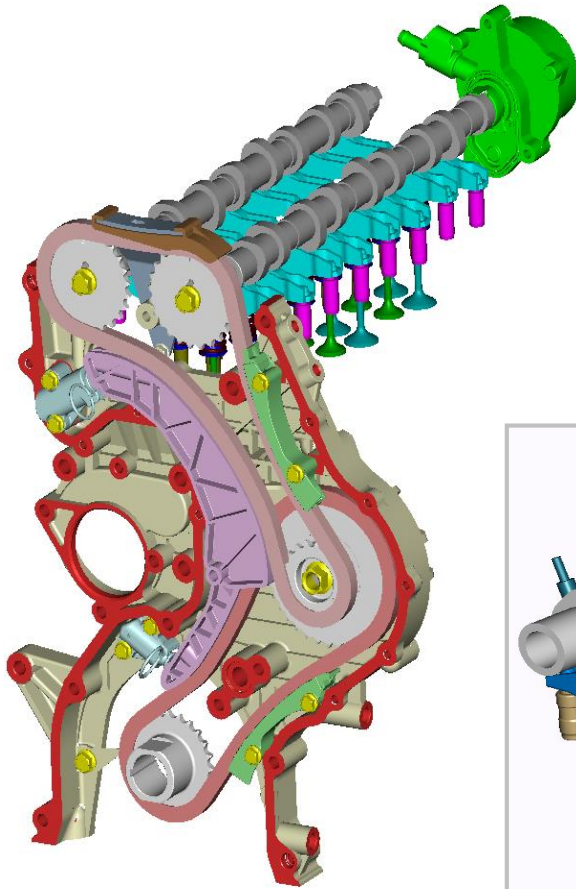
Throttle flap

Eco type Oil filter

Timing chain

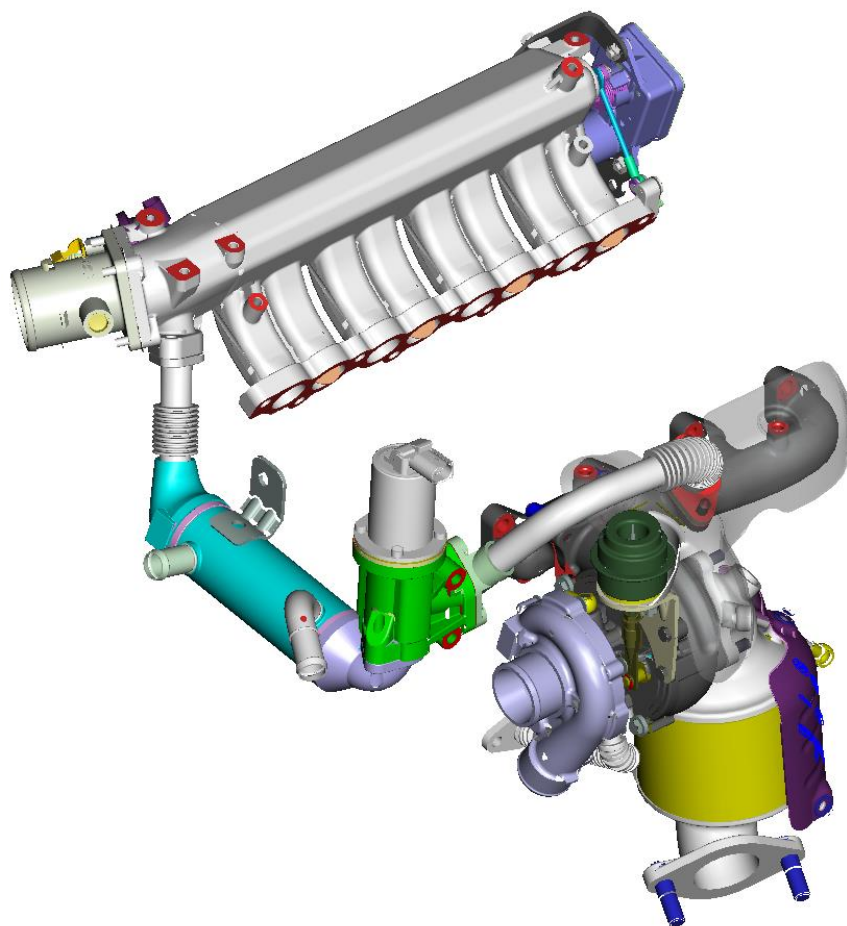


Timing System

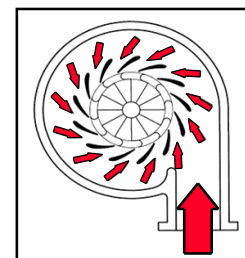


- ◆ DOHC 4 Valve
- ◆ VALVE operating type:
 - END PIVOT ROLLER SWING ARM
- ◆ CAM operating type : 2 Chains
- ◆ Hollow camshaft
- ◆ HLA is applied
- ◆ Hydraulic type auto-tensioner

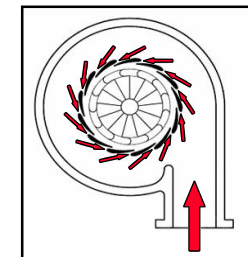
Intake / Exhaust manifold



◆ VGT



High Speed



Low Speed

◆ SCV (Swirl Control Valve)



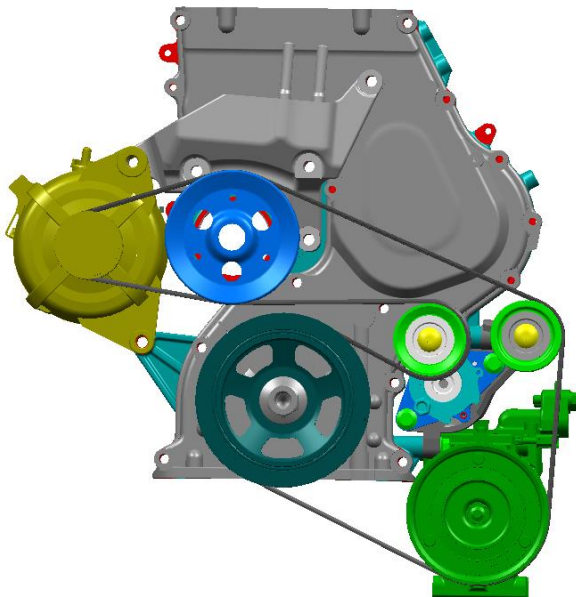
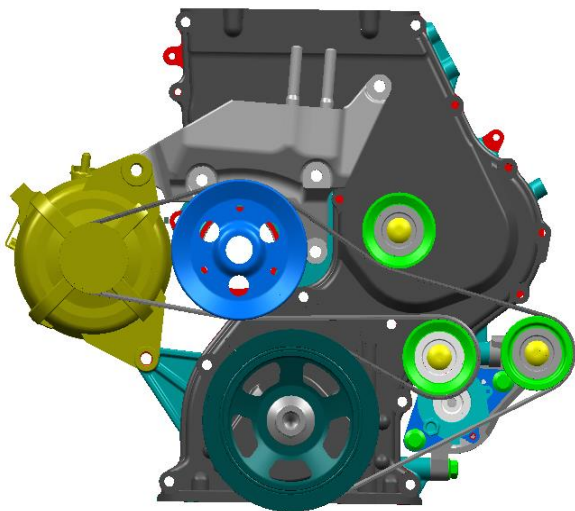
Swirl Control Valve

◆ Electrical EGR VALVE

◆ WCC (Warm-up Catalytic Converter)

◆ EGR COOLER

Serpentine Belt

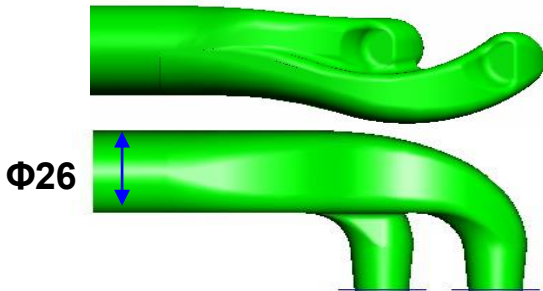
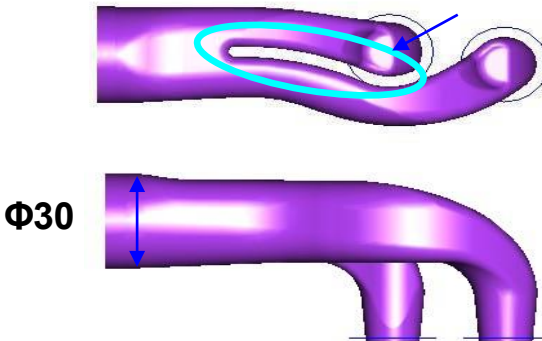
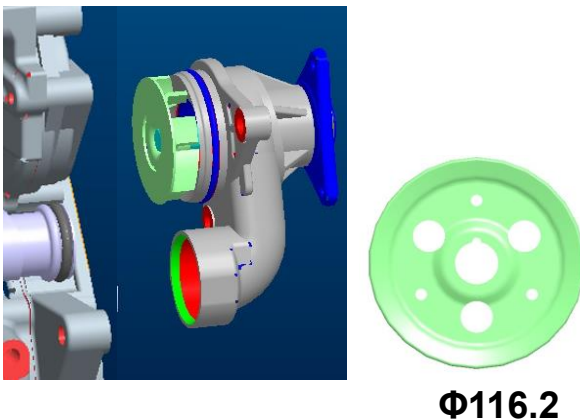
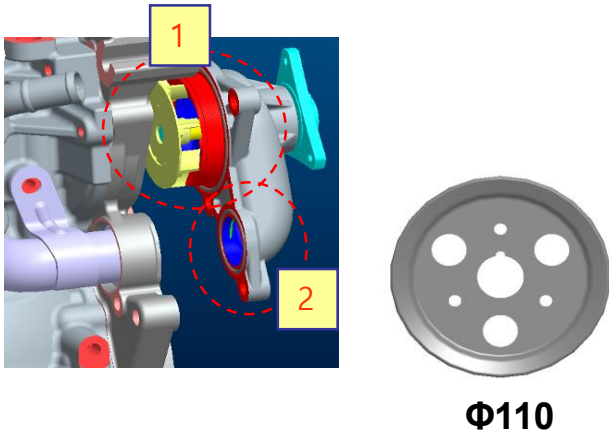
	With A/C	Without A/C
Appearance		
Remark	P/S pump is not applied because of MDPS	

Changed items



Items	Performance	Durability	Interchangeable	Remark
Cylinder Block		○	×	Reinforced rigidity of exhaust side
Cylinder Head	○	○	×	Improved cooling performance
Piston	○	○	×	Offset
Piston pin		○	×	Reinforced rigidity
Injector	○		×	Enlarged hole size (0.124)
HP Pump			×	Normal Closed type
Common Rail			×	Removed rail pressure valve
Water pump pulley	○		×	Changed ratio of pulley
CPF	○		×	Added newly
ACV			×	Electrical type
Exhaust Manifold	○		×	Changed shape
Air Heater	○		×	Added newly (M/T only)

Changed item – Cylinder Head

	U 1	U 2
Exhaust Port		
Water Pump Pulley		

U-II Engine

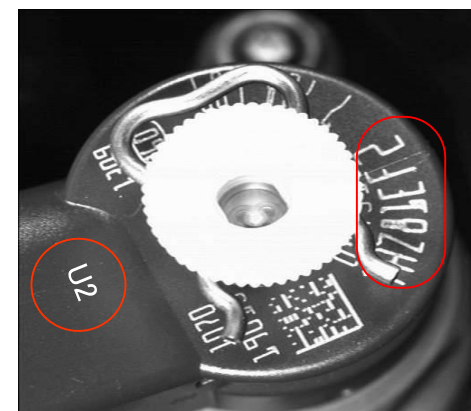
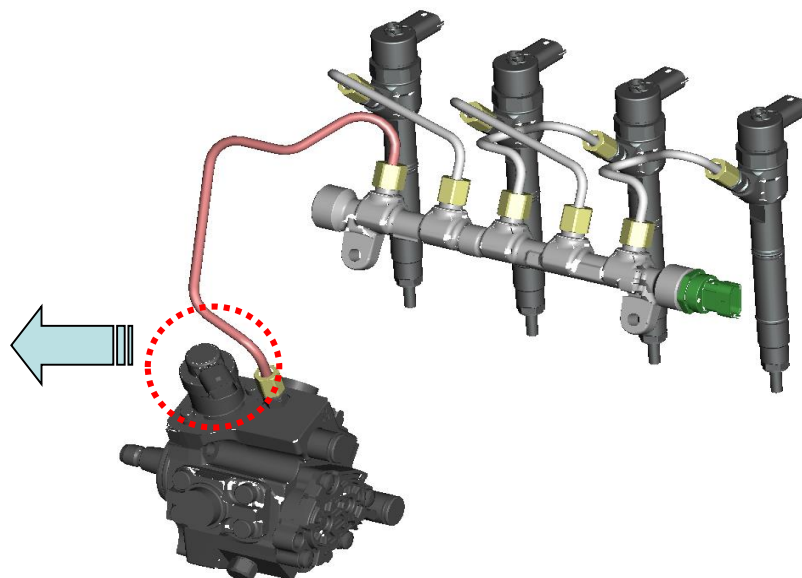
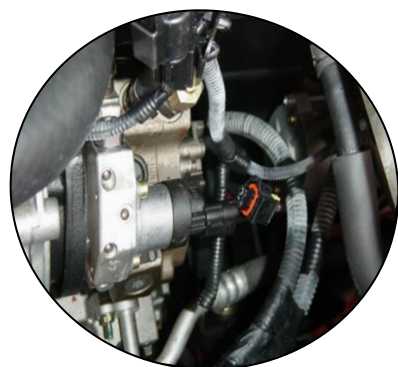
10

Fuel System



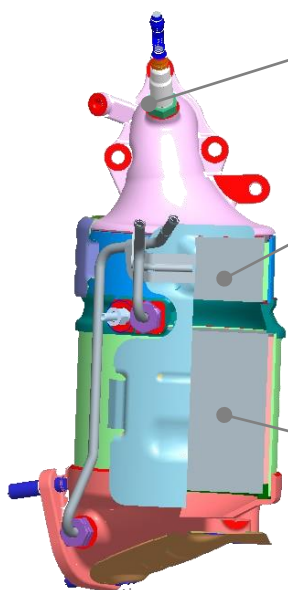
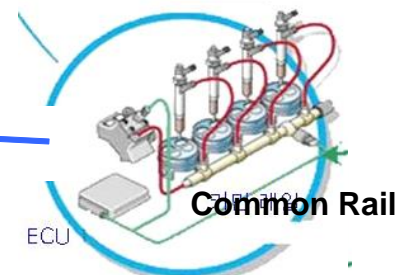
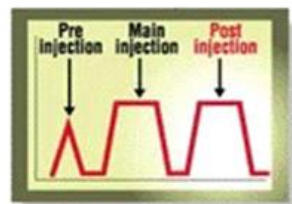
Item		Description
High Pressure Pump	Max. Pressure	1,600 bar
	Model	CP1H
Injector	Model	IQA (Injection Quantity Adjustment)
	Injection	3~5 times
	Max. Pressure	1,600 bar
	Min. amount of injection	1.0 mm ³ /st
	Min. gap of injection	0.8 ms
Pressure control		Inlet control type

Fuel Pressure Valve



IQA Injector (U2)

CPF Overview



Lambda Sensor

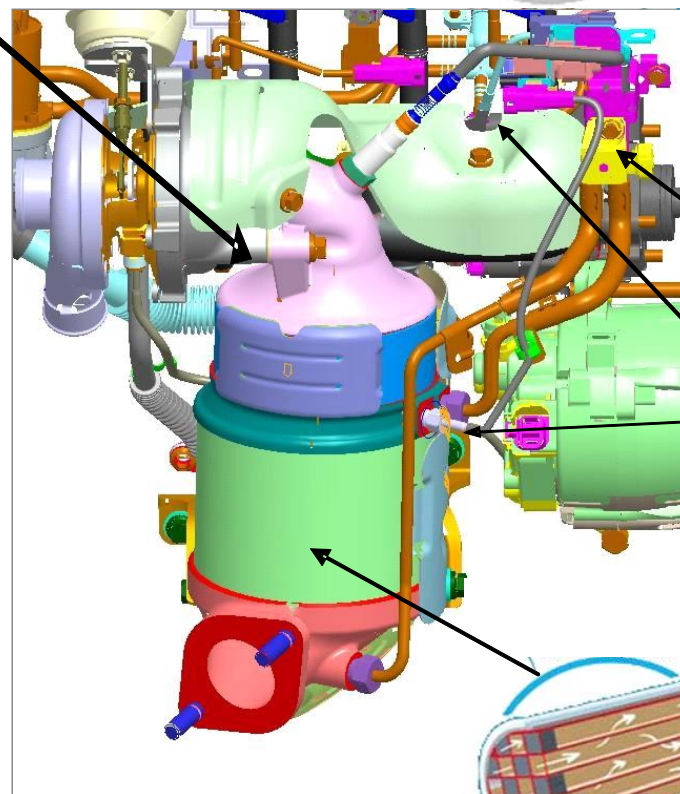
- Control oxygen density

DOC

- ❖ Main function
 - Convert CO & HC
 - secure temperature of filter regeneration

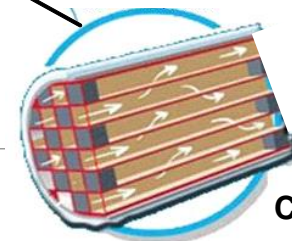
CPF

- ❖ Main function
 - Store PM and regeneration
 - Reduce temperature of emission gas.
- Increased area of ash stored (entrance channel > exit channel)
: Increased life time

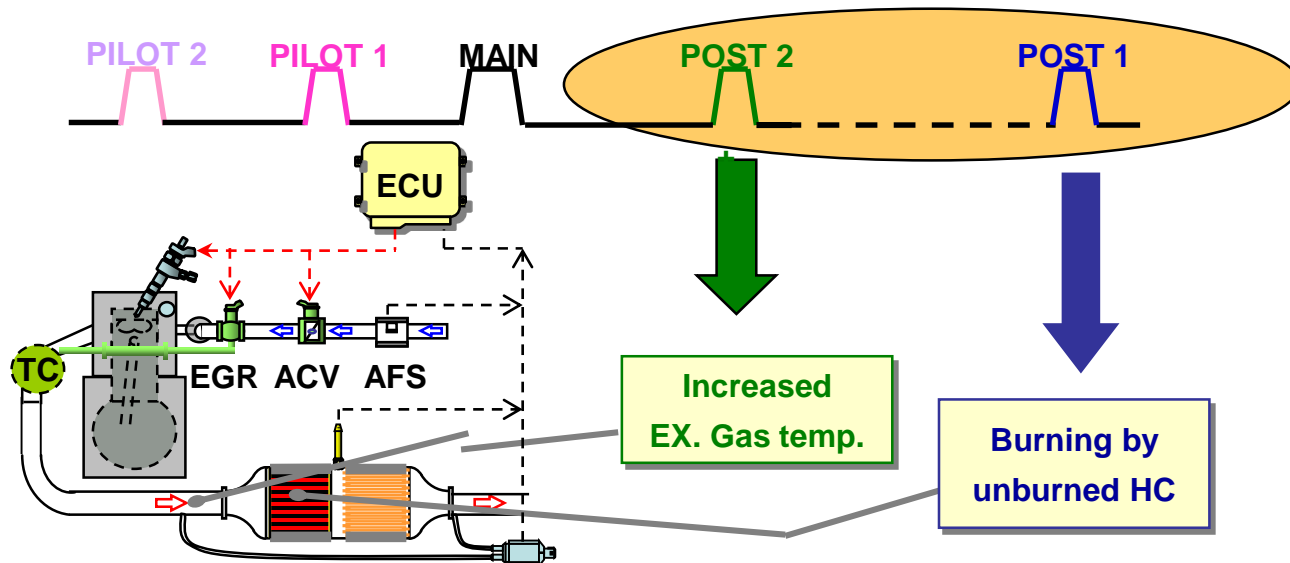


Differential Pressure sensor

Exhaust gas temperature sensor



Regeneration



Regeneration condition

NO	Items	Condition	Remarks
1	Differential Pressure Sensor	Differential pressure : Over 20 ~ 30KPa	After satisfying No 4,5,6,7,8,9, satisfy 1or 2 or 3
2	Driving Distance	Over 1000Km	
3	Engine running time	Over 26 hours	
4	Engine RPM	1000 ~ 4000RPM	
5	Engine load	Over BMEP 0.7bar	
6	Fuel injection	Over 8mg/st	
7	Vehicle Spped	Over 5km/h	
8	ECT	Over 40°C	
9	Brake S/W	ON	

* BMEP : Brake Mean Effective Pressure