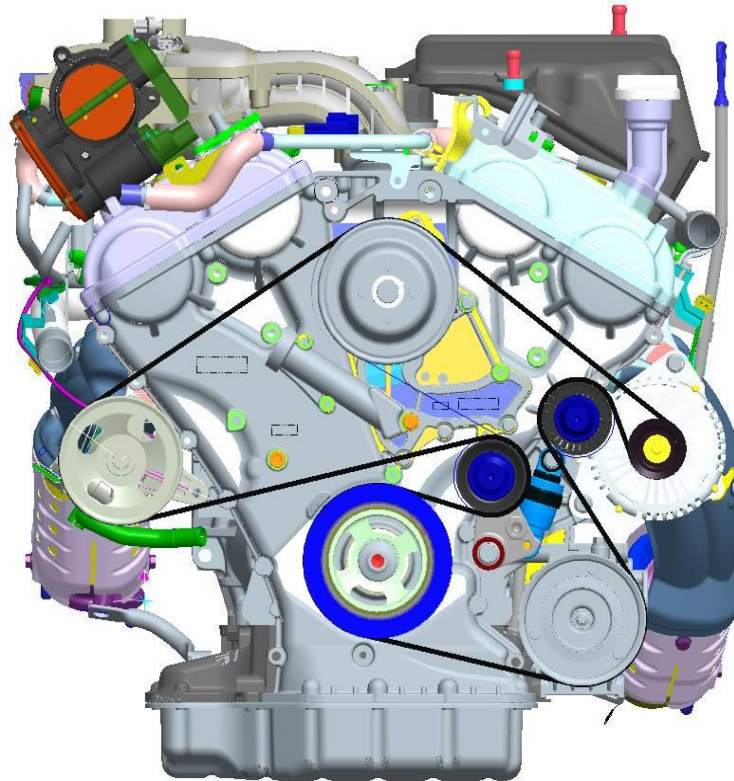


GENESIS

Lambda Engine



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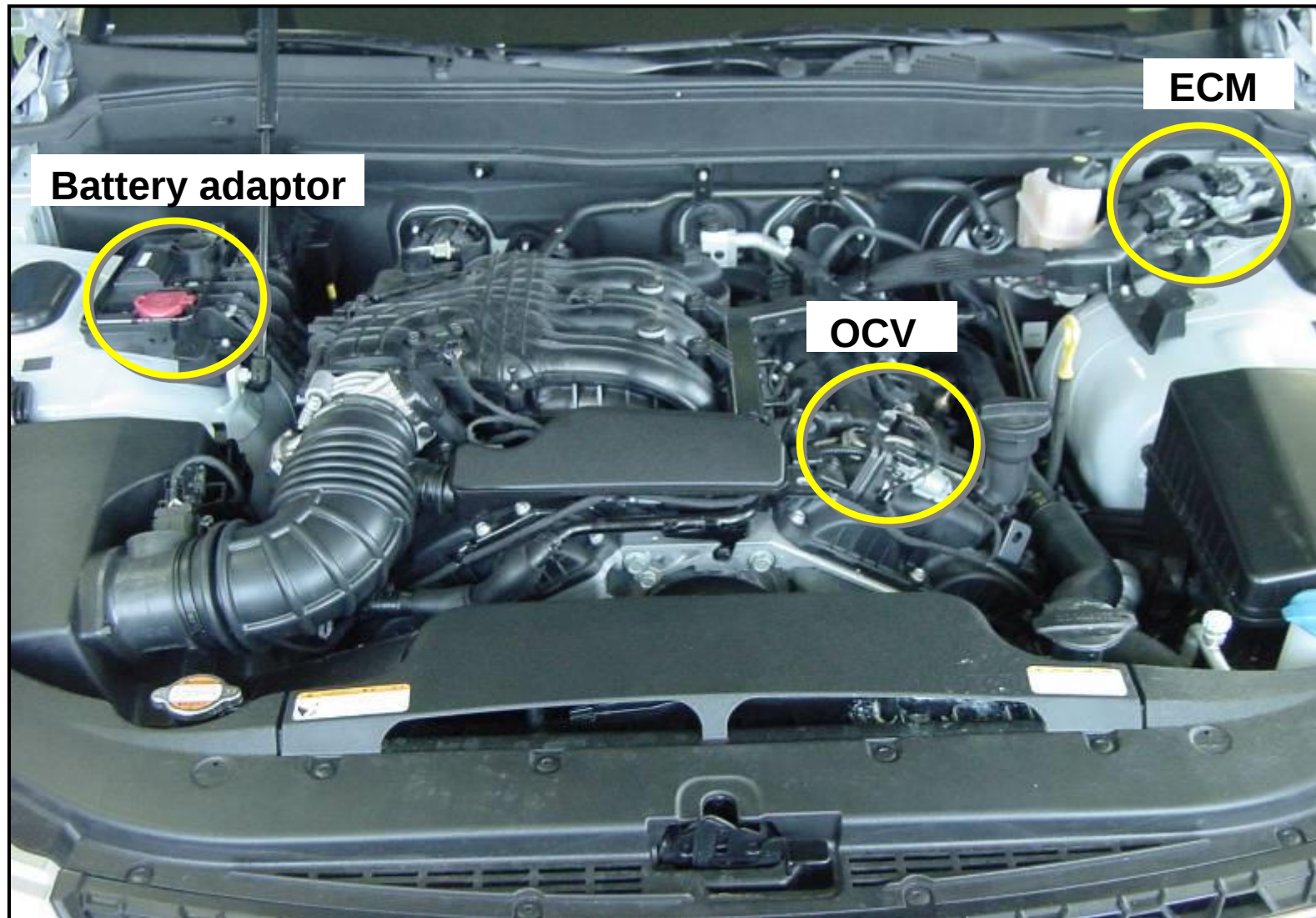
Lambda Engine

Specification

Items	Lambda (λ) 3.3	Lambda (λ) 3.8
Displacement (cc)	3,342	3,778
Bore x Stroke	92 x 83.8	96 x 87
Compression Ratio	10.4	10.4
Max. Power (PS/rpm)	268/6,200	294/6,200
Max. Torque (kg·f/rpm)	32.2/4,500	36.5/4,500
Idle Speed (rpm)	650 $\pm$ 50	650 $\pm$ 50
Valve adjuster	MLA(Shimless)	MLA(Shimless)
CVVT	DUAL CVVT	DUAL CVVT
Firing Order	1-2-3-4-5-6	1-2-3-4-5-6
Ignition Timing (Idle)	10 $\pm$ 5°	10 $\pm$ 5°
Engine Oil Capacity	5.5ℓ	5.5ℓ
Fuel Tank Capacity	73ℓ	73ℓ

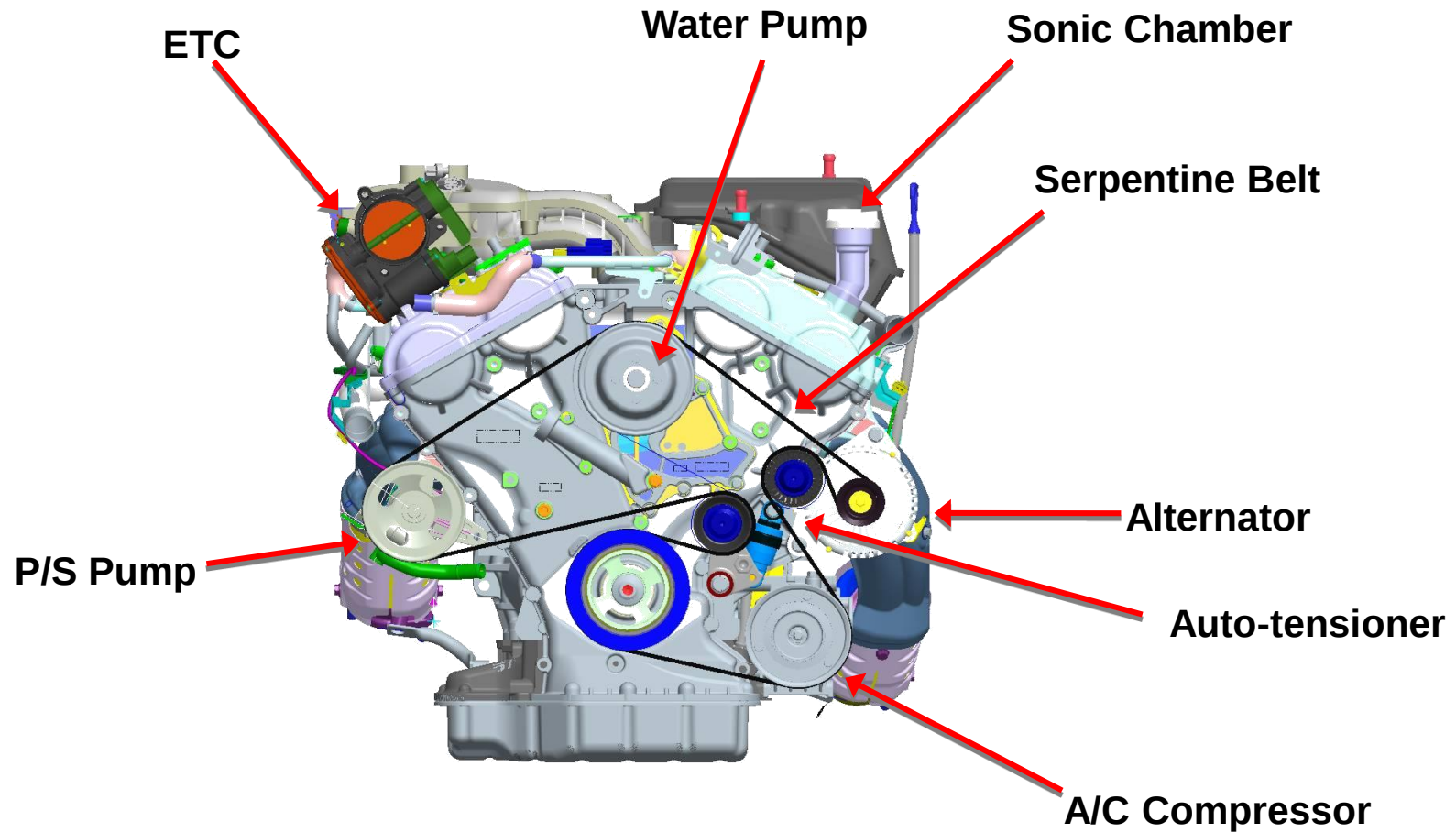
Lambda Engine

Engine Room



Lambda Engine

Engine Front View



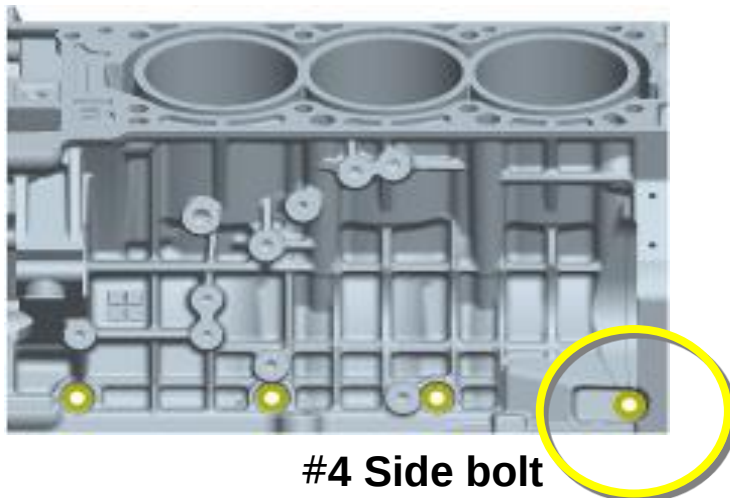
Lambda Engine

5

Changing Item – Cylinder Block, Cylinder Head

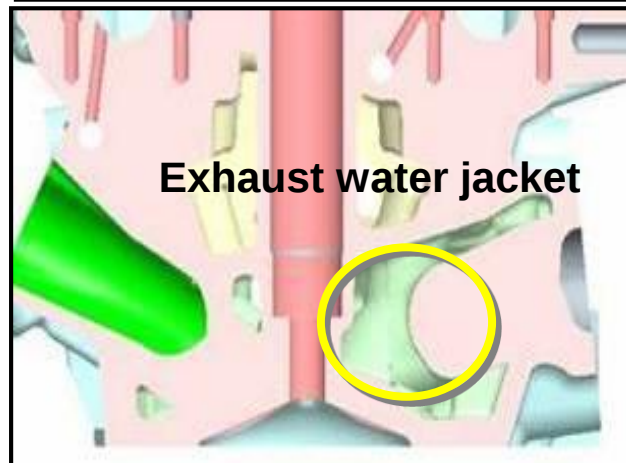
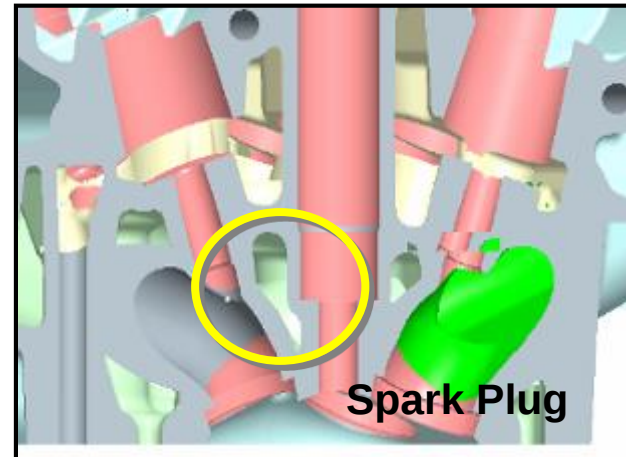
► It is impossible to interchange with lambda I

► Added #4 Side Bolt

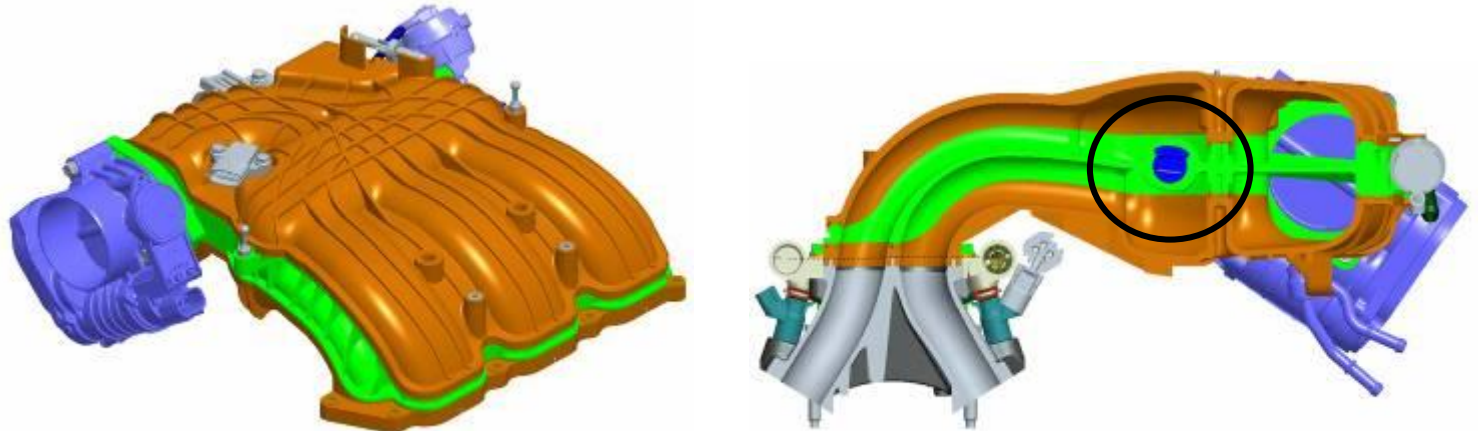
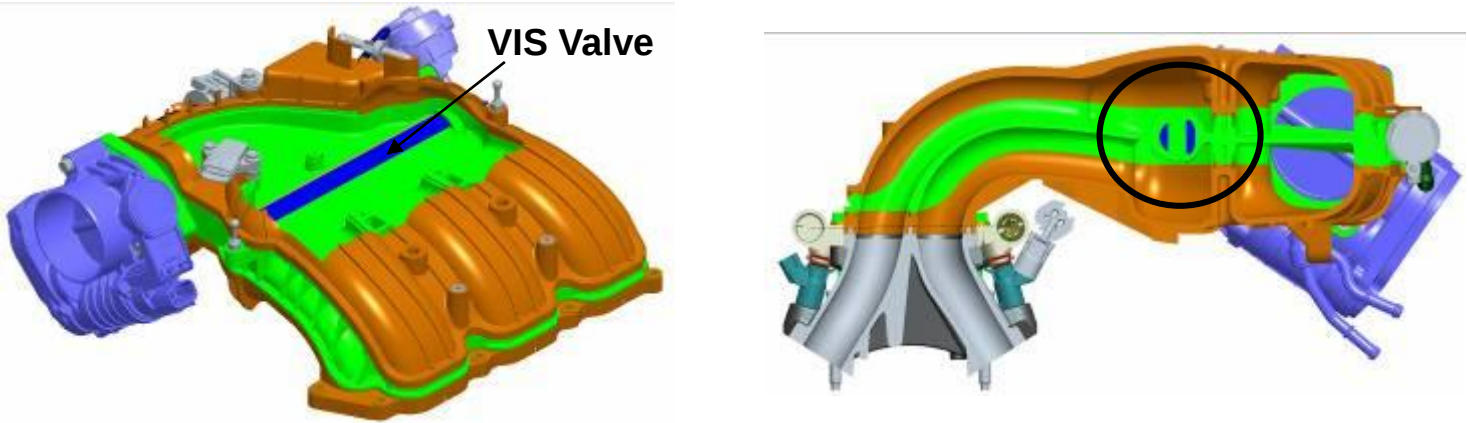


► It is impossible to interchange with lambda I

► M14 Long Reach Spark Plug applied



VIS (Variable Intake System)

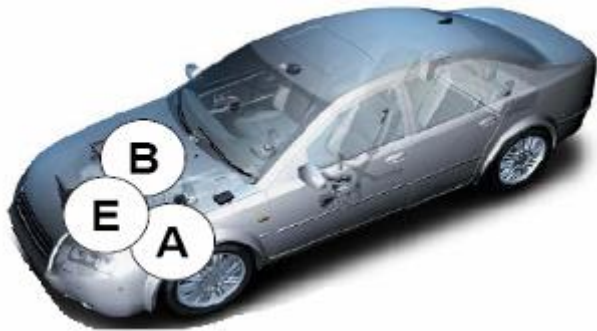
VIS Valve Close	
VIS Valve Open	

Lambda Engine

7

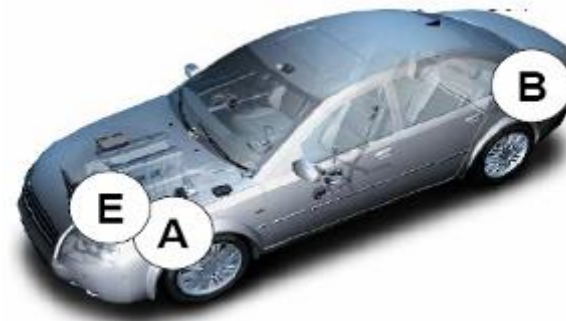
Alternator and Battery system - Concept

→ conventional engine



Battery Temp. $\approx$ Engine Room Temp.
Battery Voltage $\approx$ Alternator Voltage

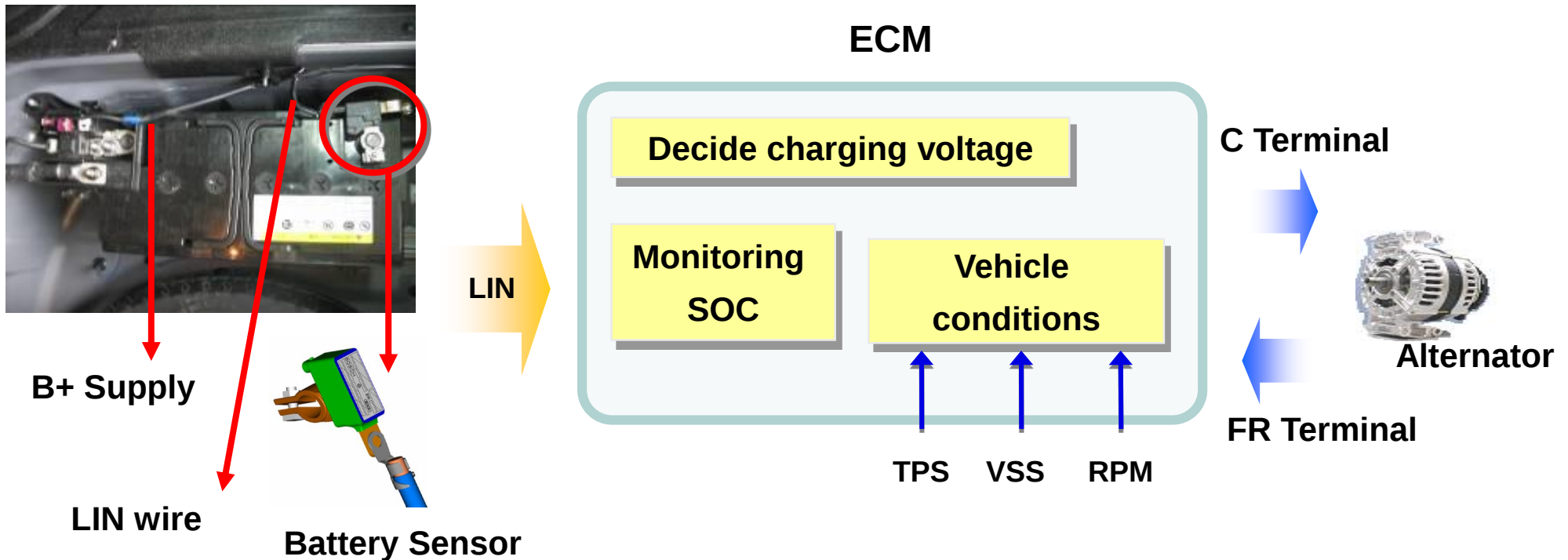
→ BH (Lambda engine)



Battery Temp. $\neq$ Engine Room Temp.
Battery Voltage $<$ Alternator Voltage

Battery Sensor

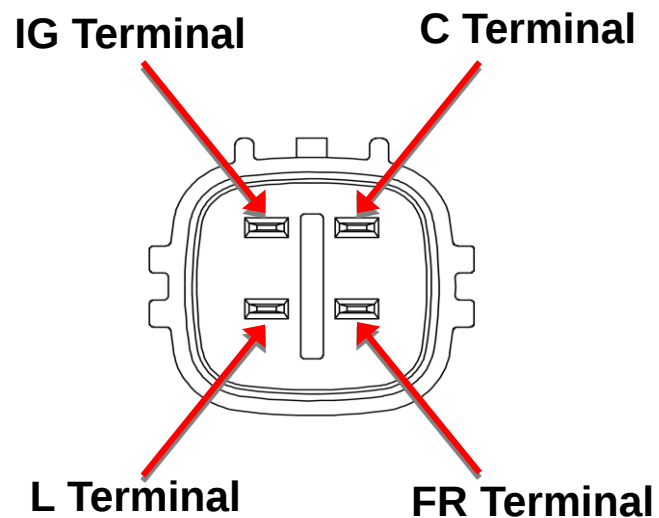
- ▶ Battery Sensor : Measure Temperature, Voltage, Current
- ▶ SOC (State Of Charge)



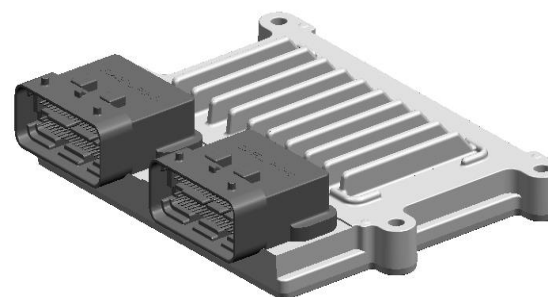
※C - Terminal : Communication with alternator
FR - Terminal : Field Coil Reflector.

System Component

- ▶ Alternator : 4 Pins

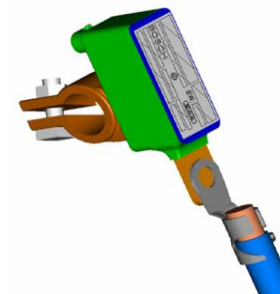
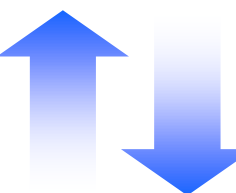


- ▶ Calculate SOC
- ▶ Wake-up Mode (each 8 hours)

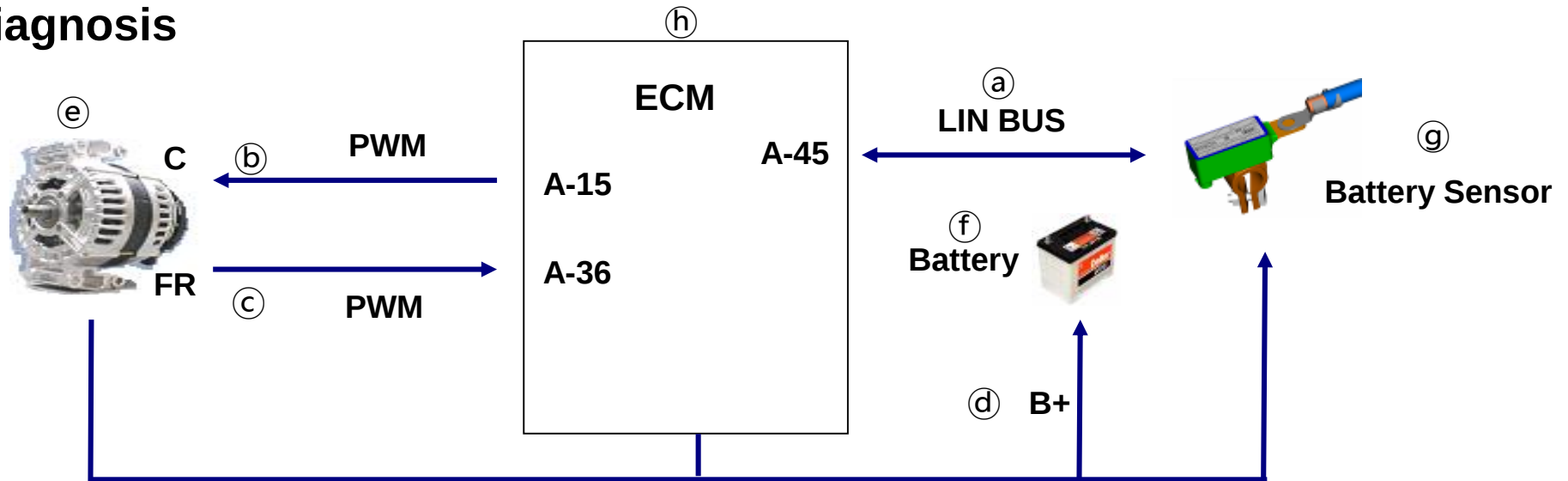


Send SOC
information

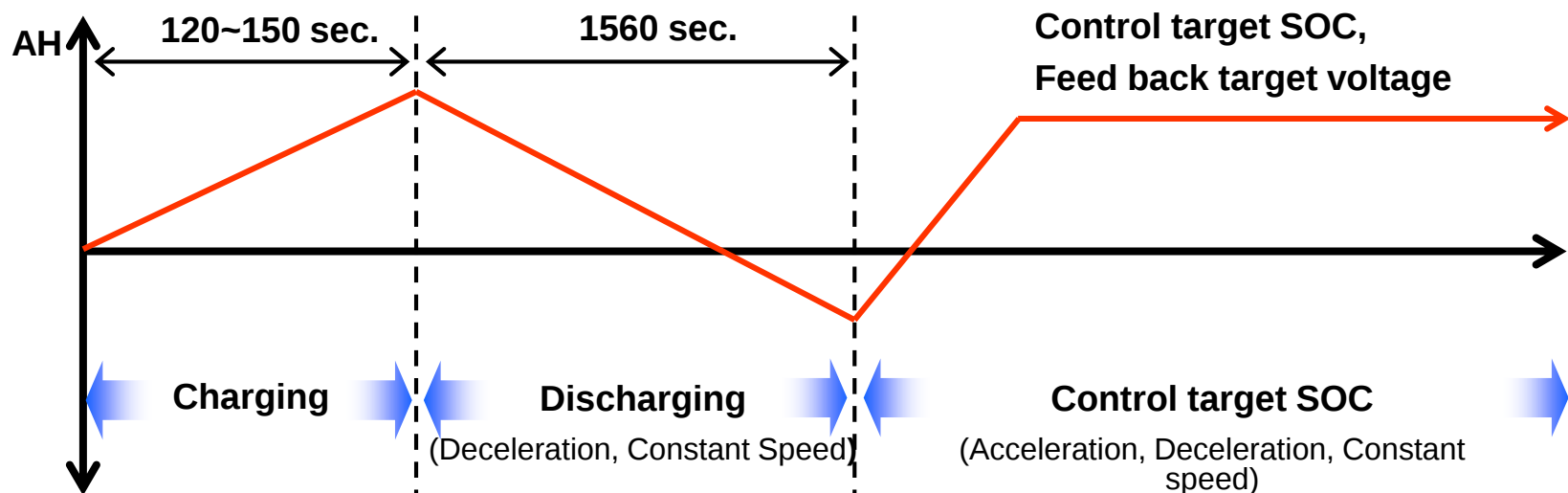
Request
SOC information



Diagnosis

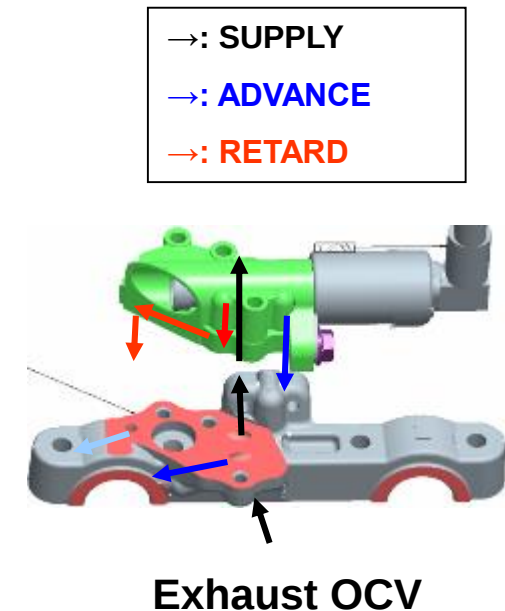
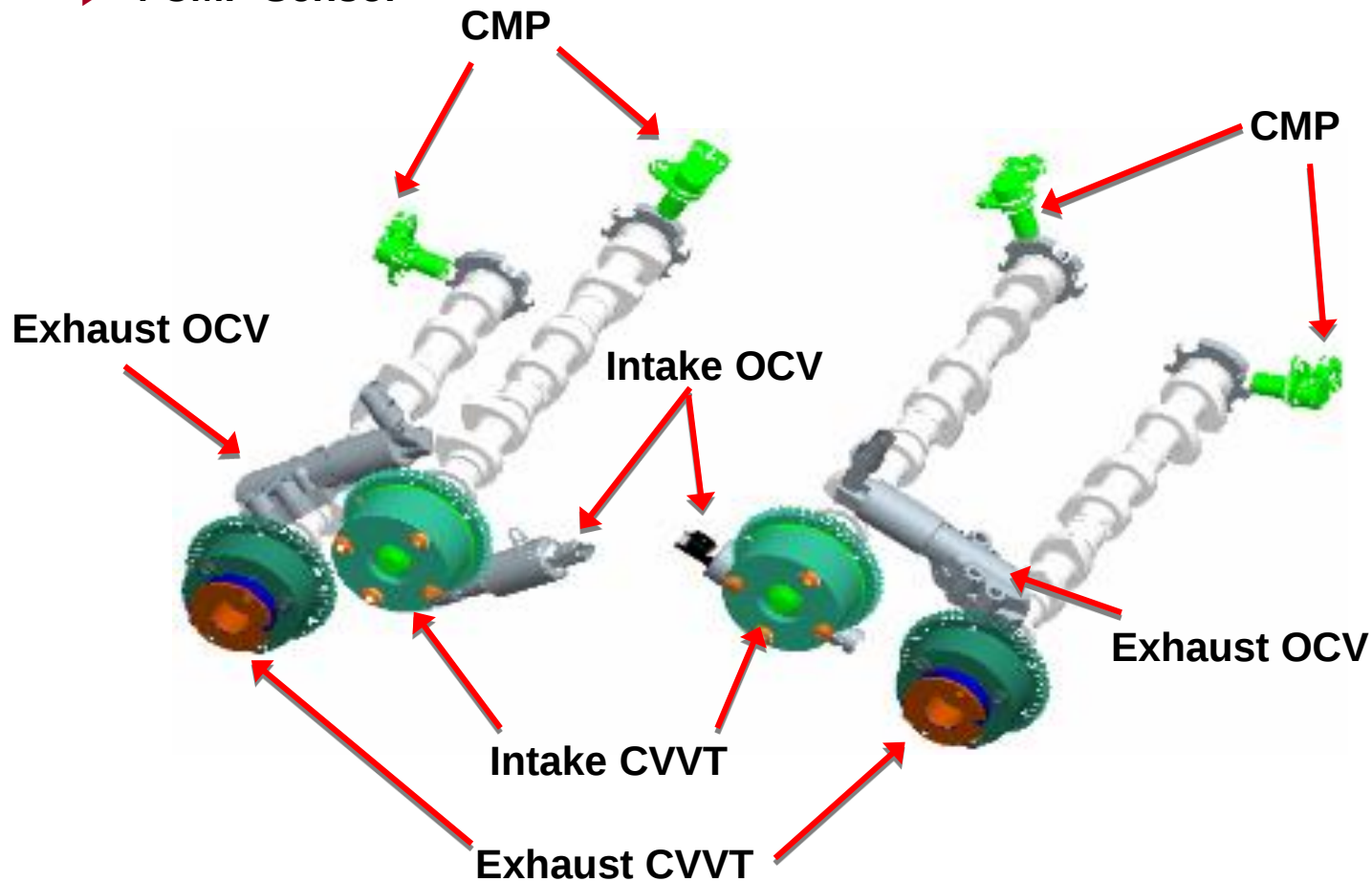


※ Generation of ampere after starting

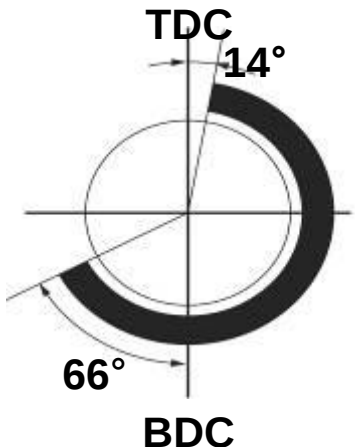
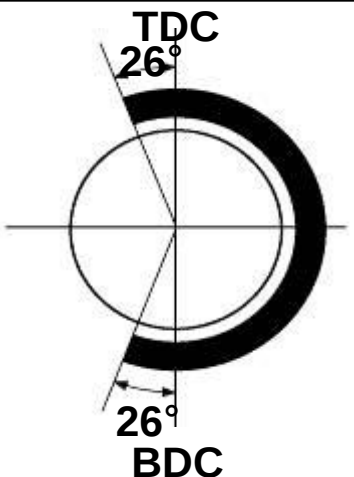
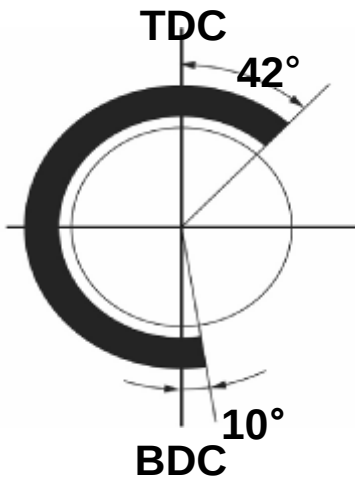
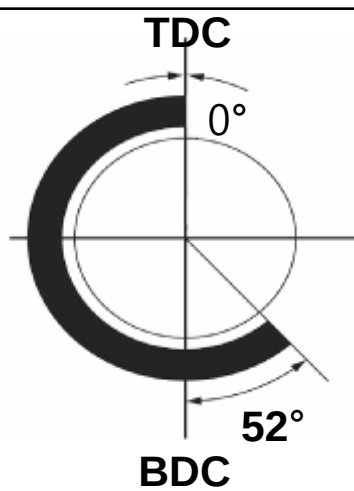


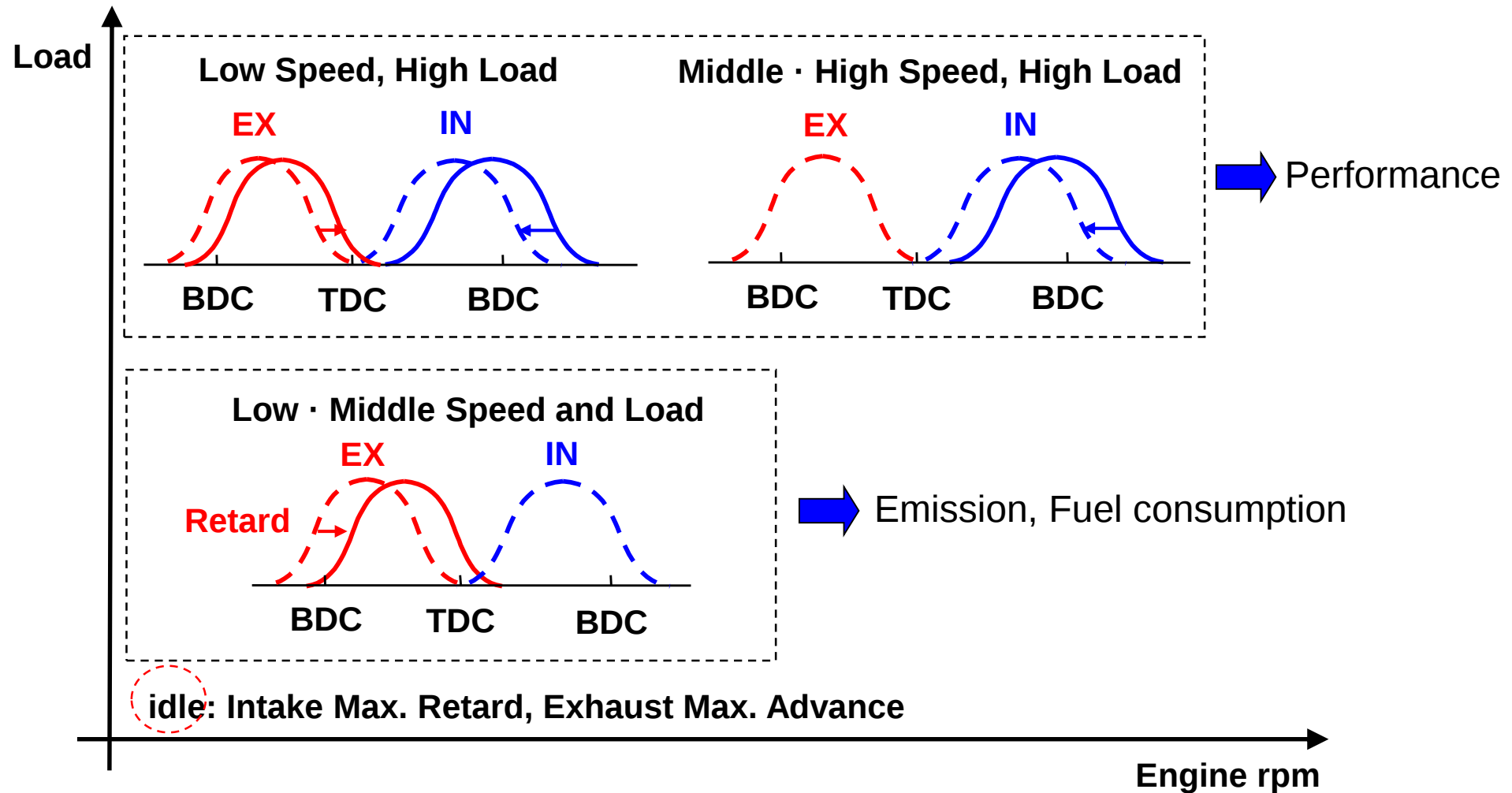
Dual CVVT

- ▶ 2 Exhaust CVVT and OCV, 2 Intake CVVT and OCV
- ▶ 4 CMP Sensor

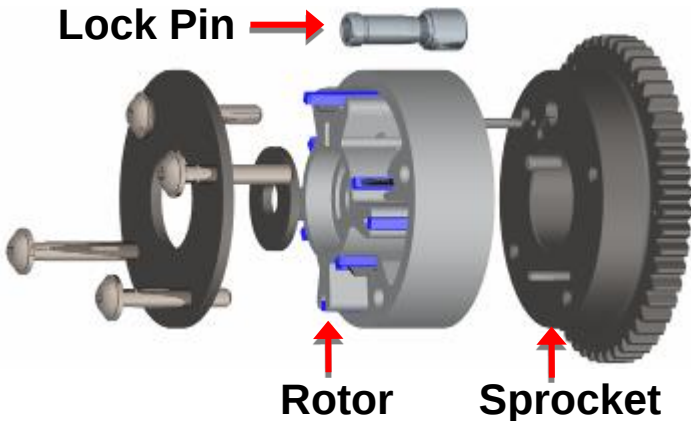
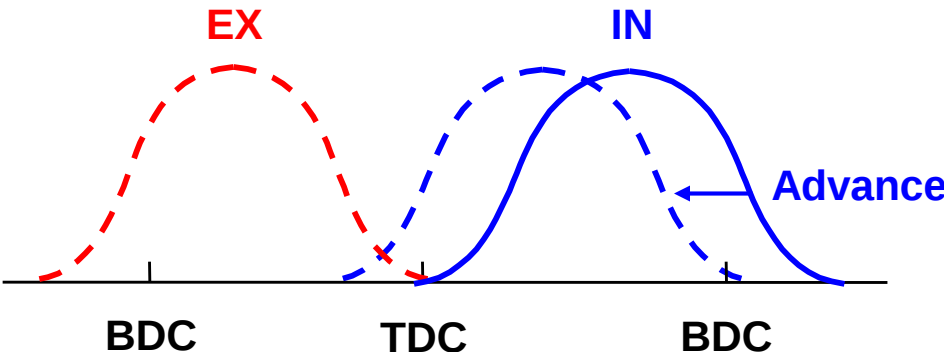
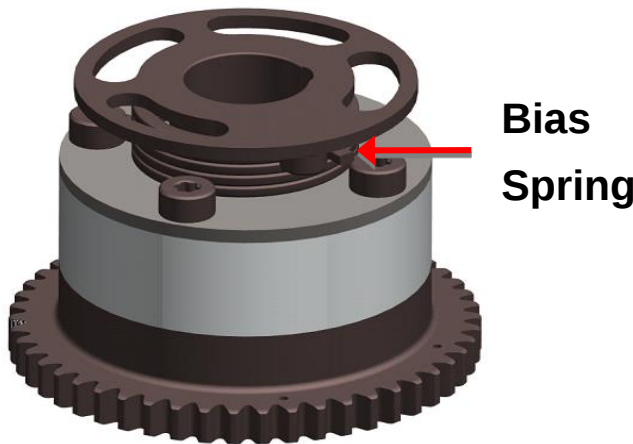
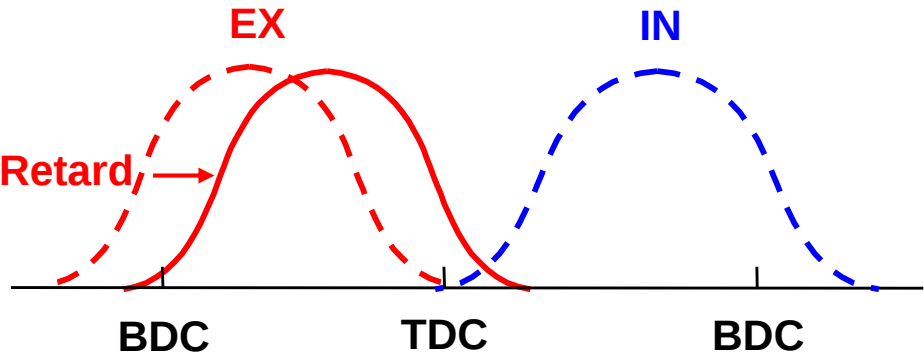


Valve Timing (3.3L)

	Max. Retard	Max. Advance
Intake	 Diagram showing Intake Valve Timing at Max. Retard. The intake valve opens 14° before TDC and closes 66° after BDC.	 Diagram showing Intake Valve Timing at Max. Advance. The intake valve opens 26° before TDC and closes 26° after BDC.
Exhaust	 Diagram showing Exhaust Valve Timing at Max. Retard. The exhaust valve opens 42° before TDC and closes 10° after BDC.	 Diagram showing Exhaust Valve Timing at Max. Advance. The exhaust valve opens 0° at TDC and closes 52° after BDC.



CVVT Assembly

Intake	 Lock Pin → → Rotor → Sprocket  EX IN Advance BDC TDC BDC ► Initial position : Max. Retard
Exhaust	 Bias Spring  EX IN Retard BDC TDC BDC ► Initial position : Max. Advance