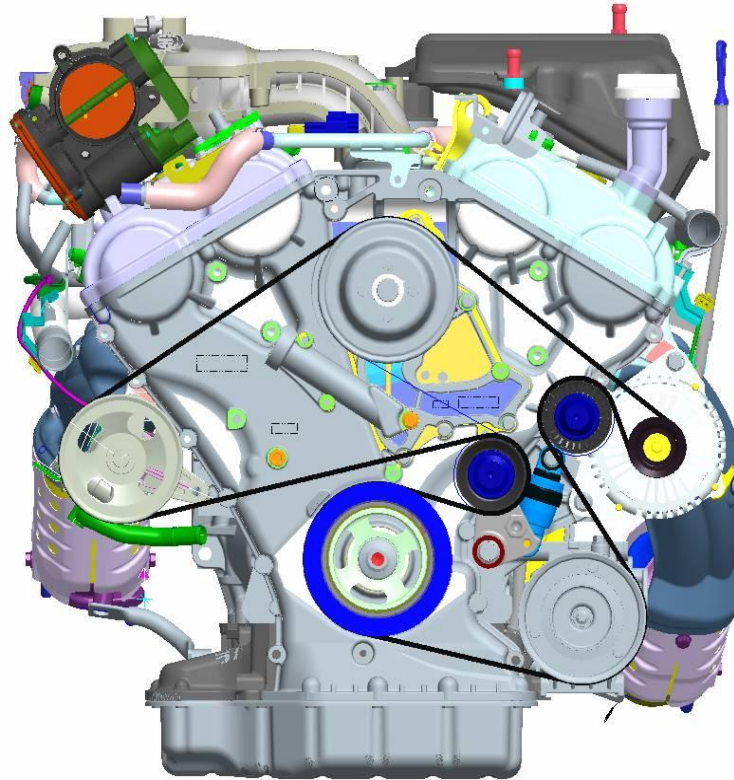


GENESIS

Lambda Engine

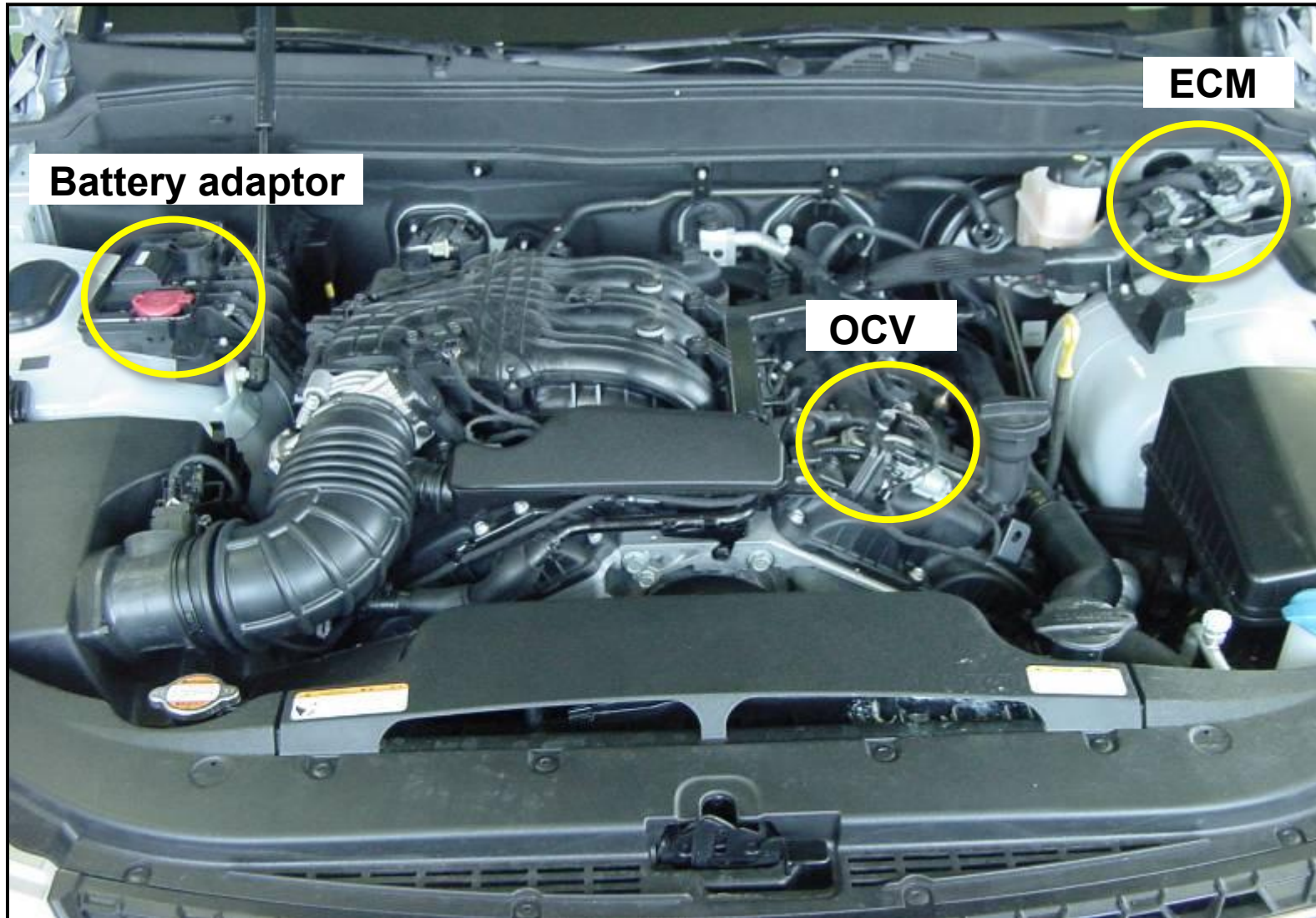


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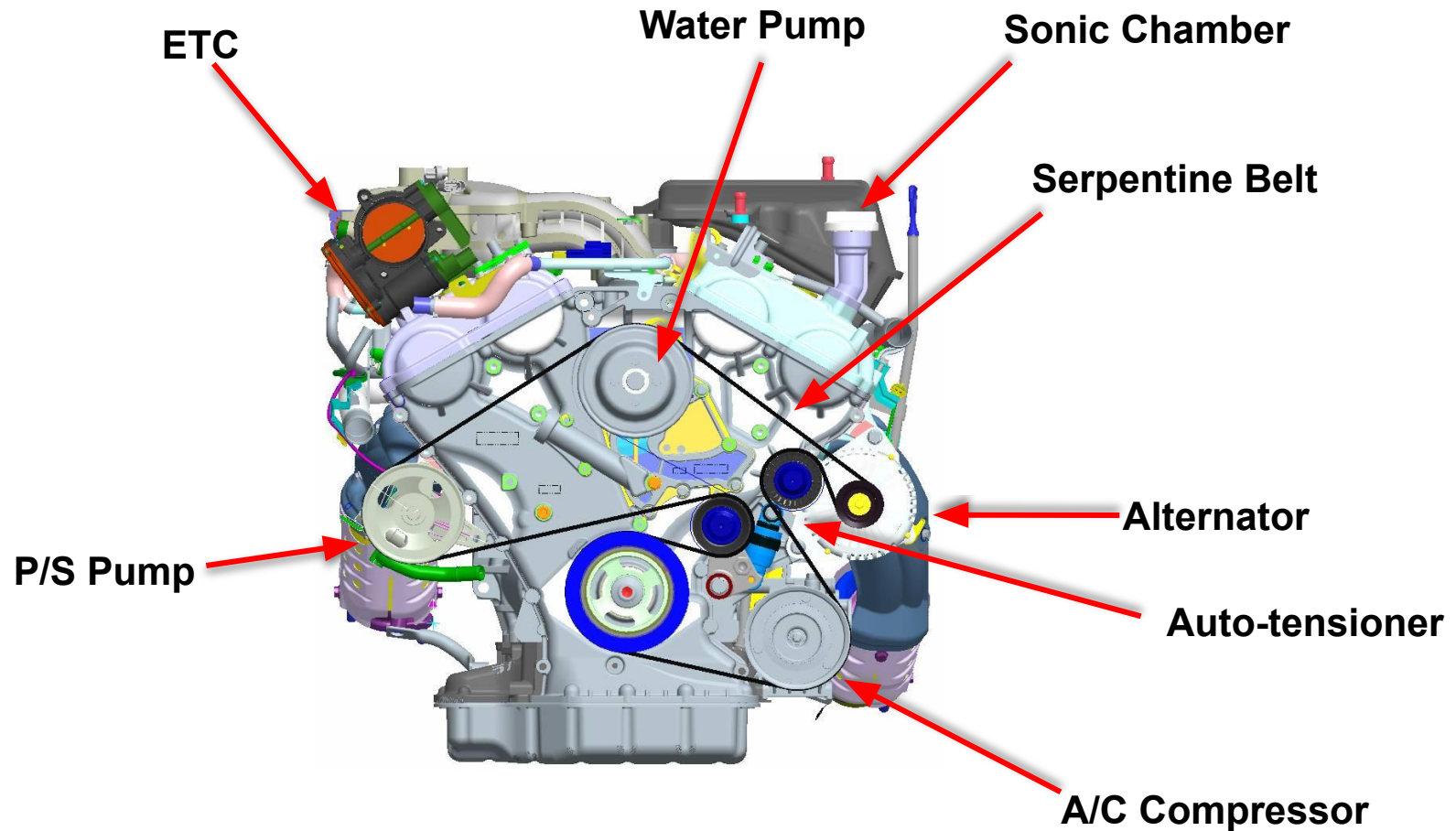
Specification

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

Engine Room



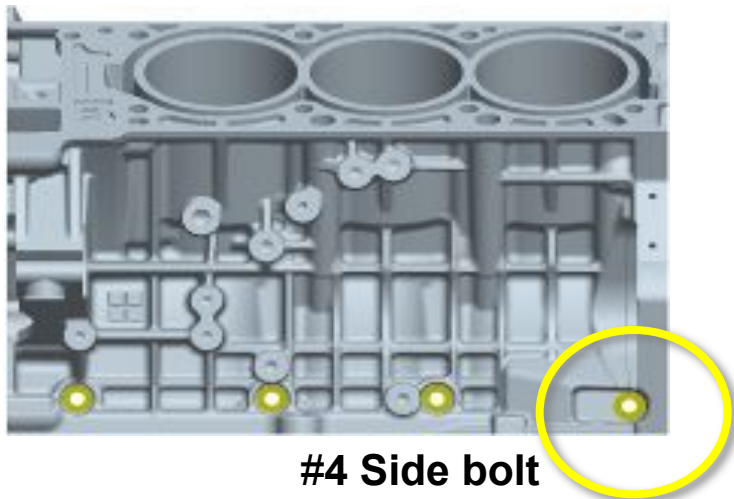
Engine Front View



Changing Item – Cylinder Block, Cylinder Head

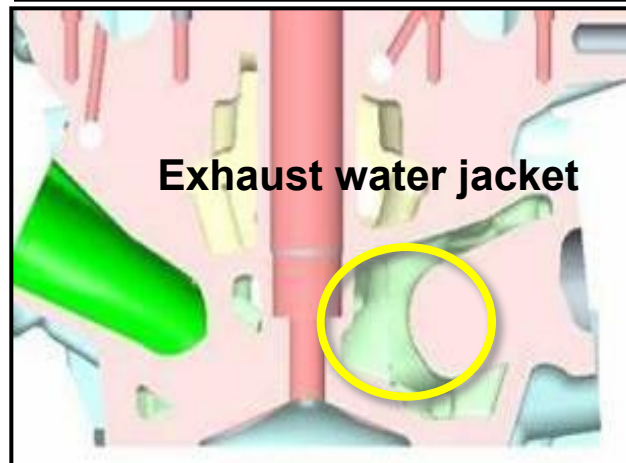
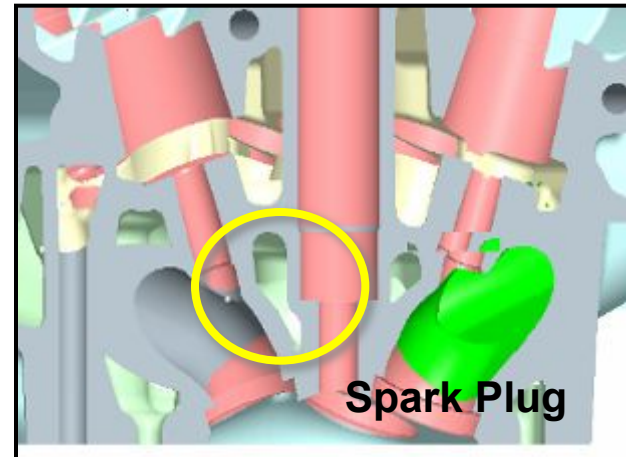
▶ It is impossible to interchange with lambda I

▶ Added #4 Side Bolt

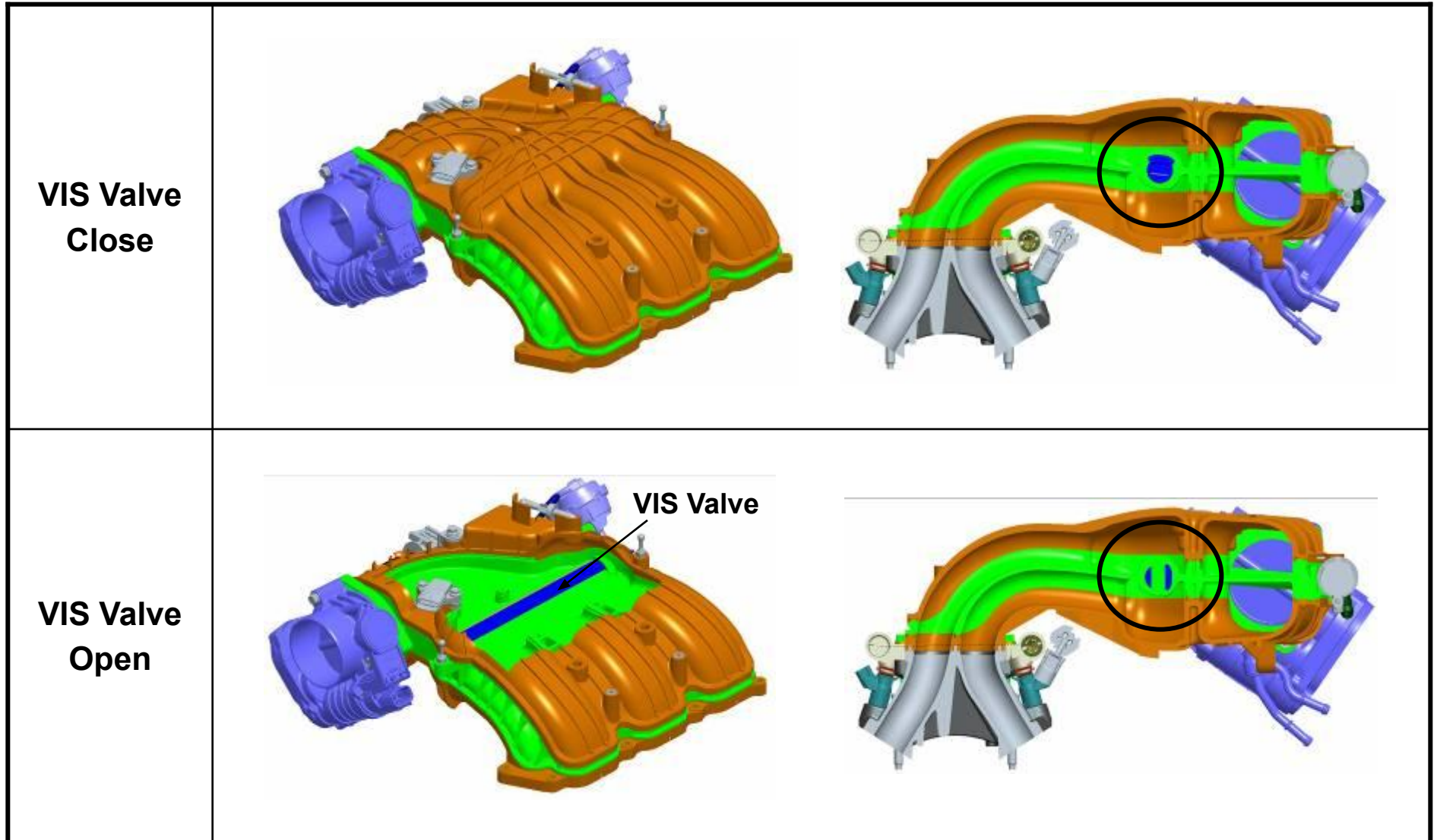


▶ It is impossible to interchange with lambda I

▶ M14 Long Reach Spark Plug applied

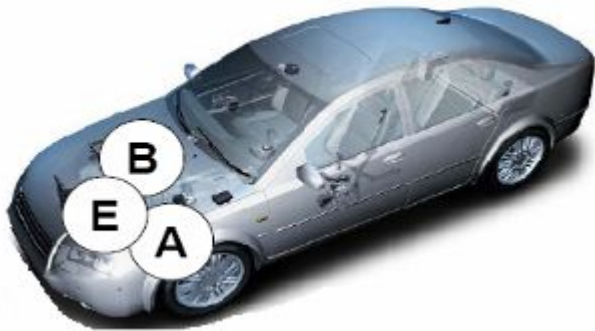


VIS (Variable Intake System)



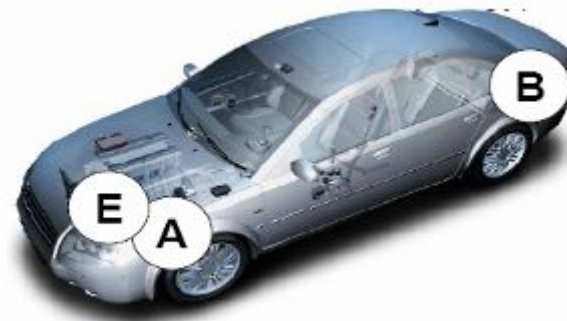
Alternator and Battery system - Concept

□ conventional engine



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

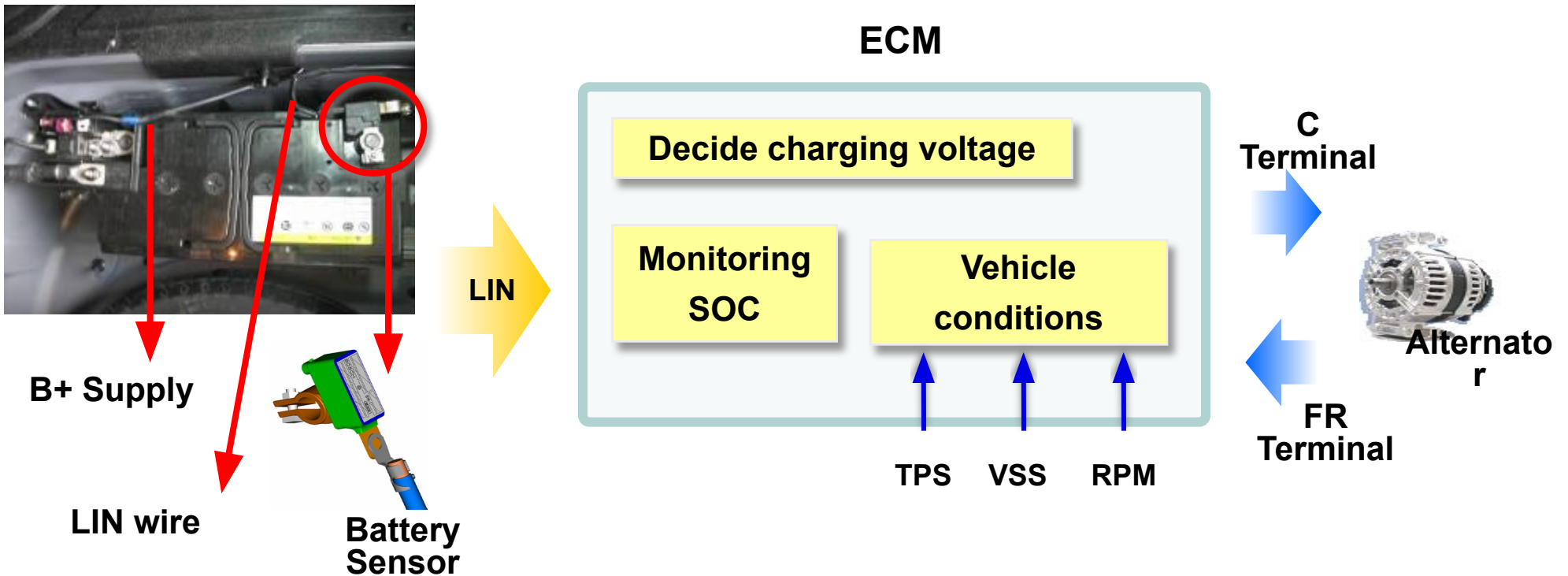
□BH (Lambda engine)



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

Battery Sensor

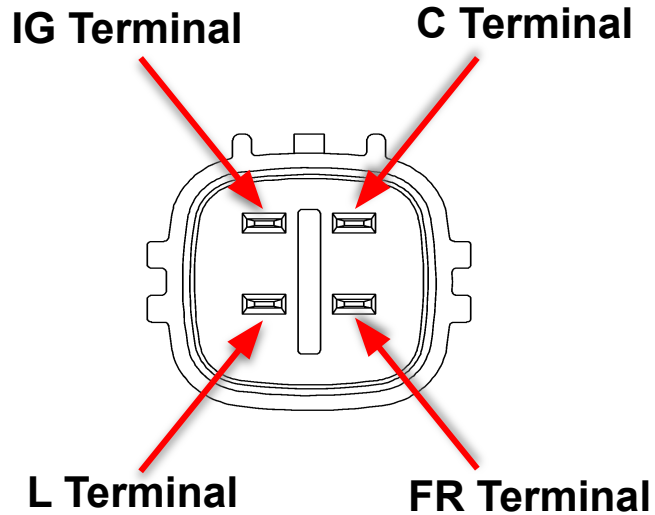
- ▶ Battery Sensor : Measure Temperature, Voltage, Current
- ▶ SOC (State Of Charge)



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

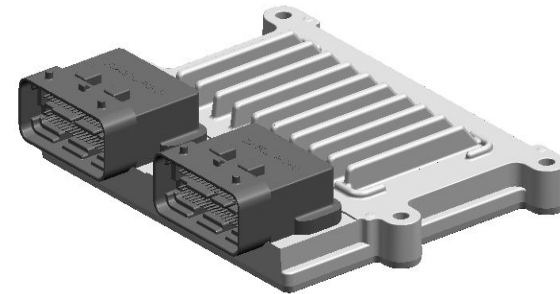
System Component

- ▶ Alternator . 4 Pins

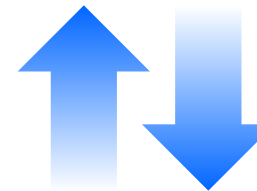


- ▶ Calculate SOC

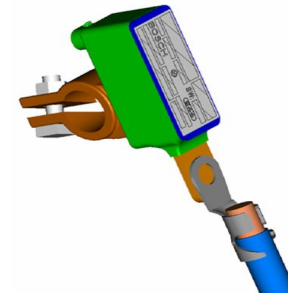
- ▶ Wake-up Mode (each 8 hours)



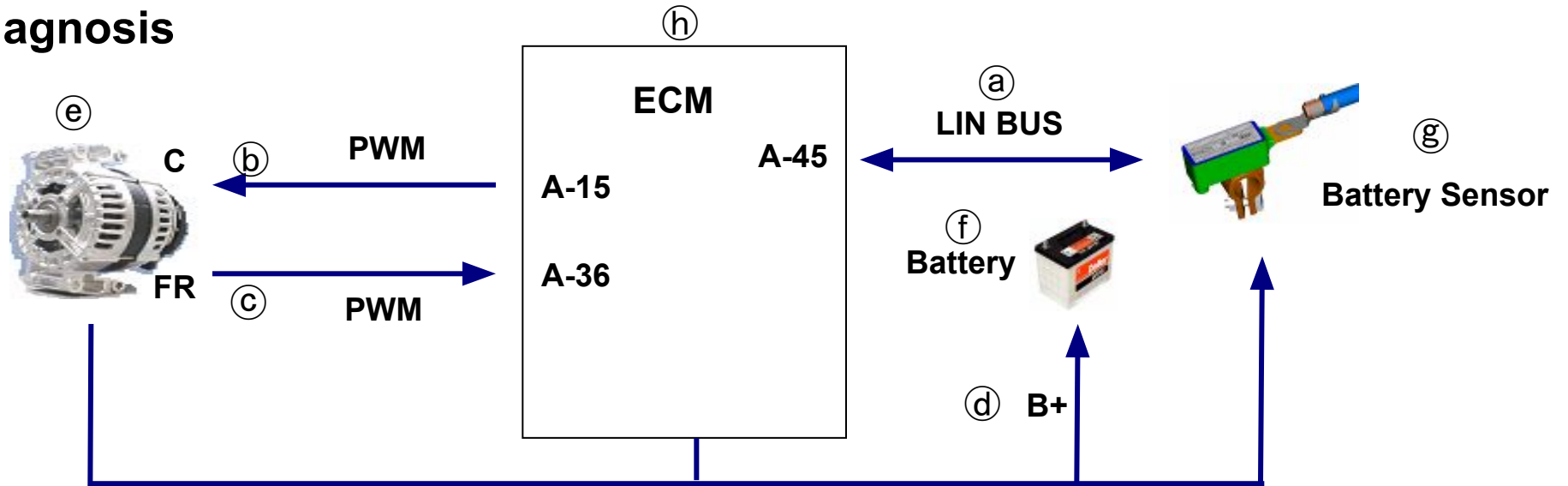
Send SOC information



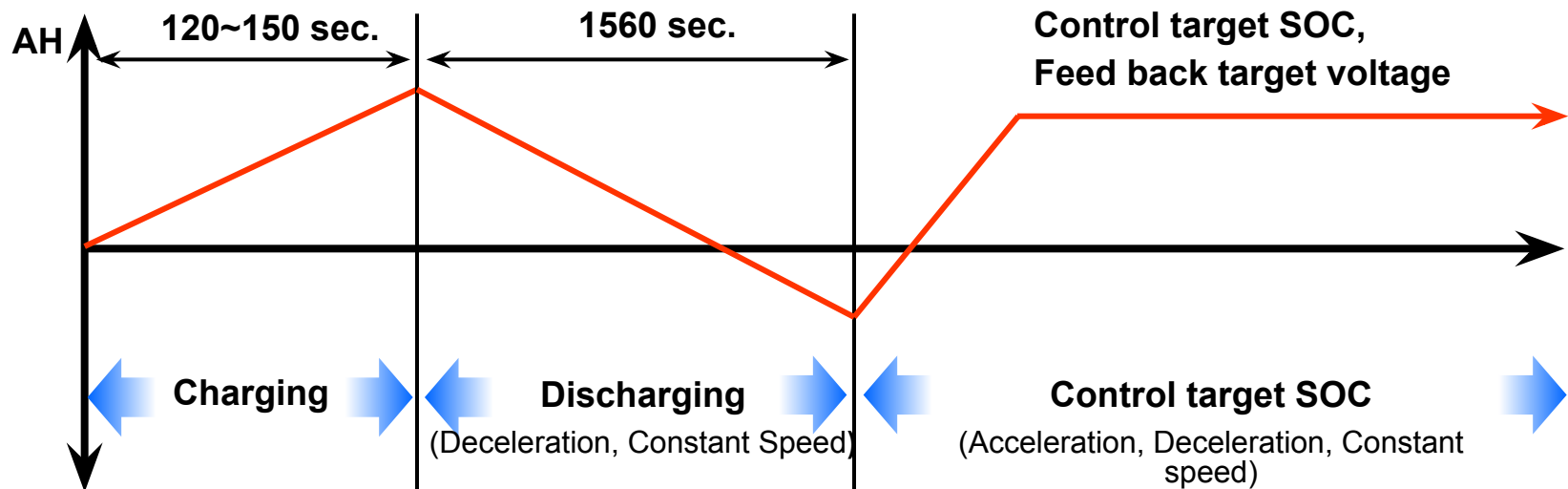
Request SOC information



Diagnosis



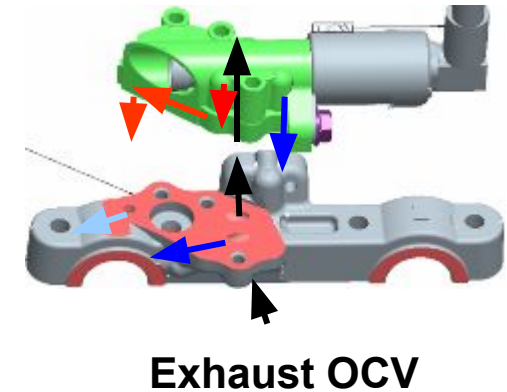
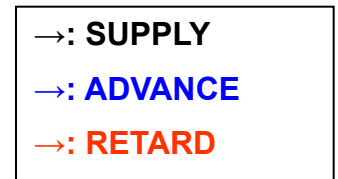
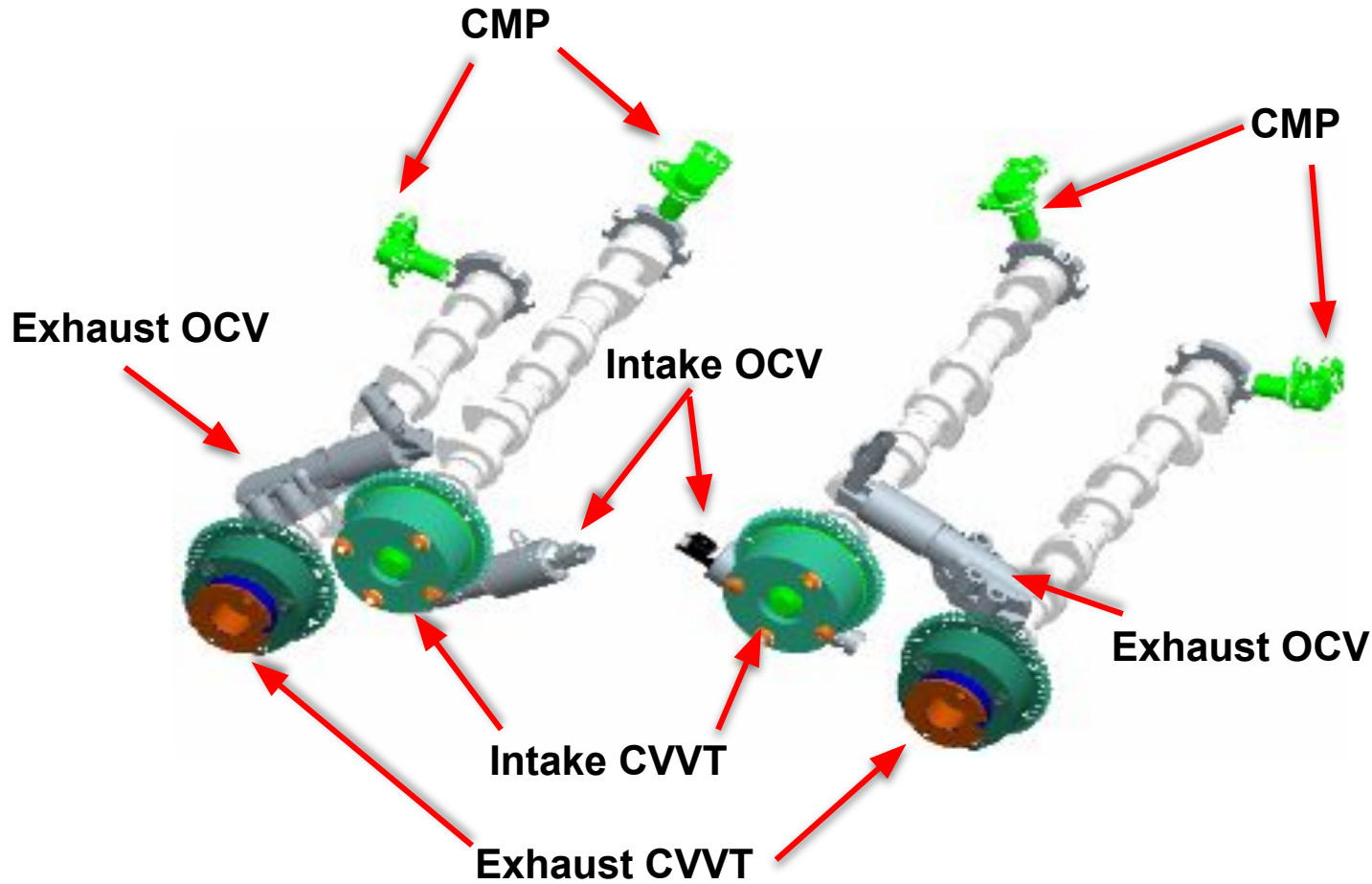
※ Generation of ampere after starting



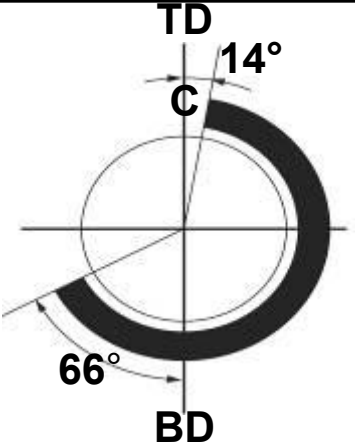
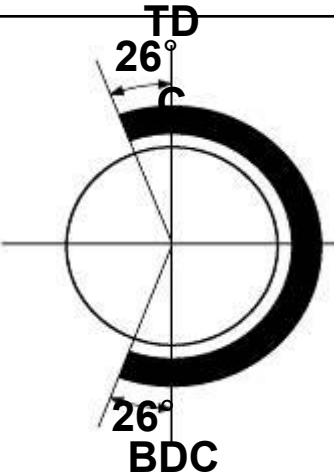
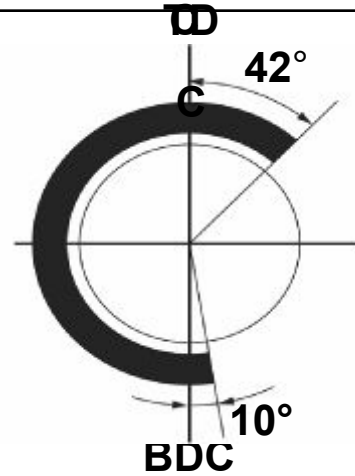
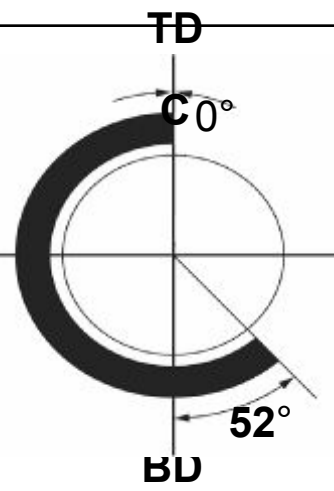
Dual CVVT

▶ 2 Exhaust CVVT and OCV, 2 Intake CVVT and OCV

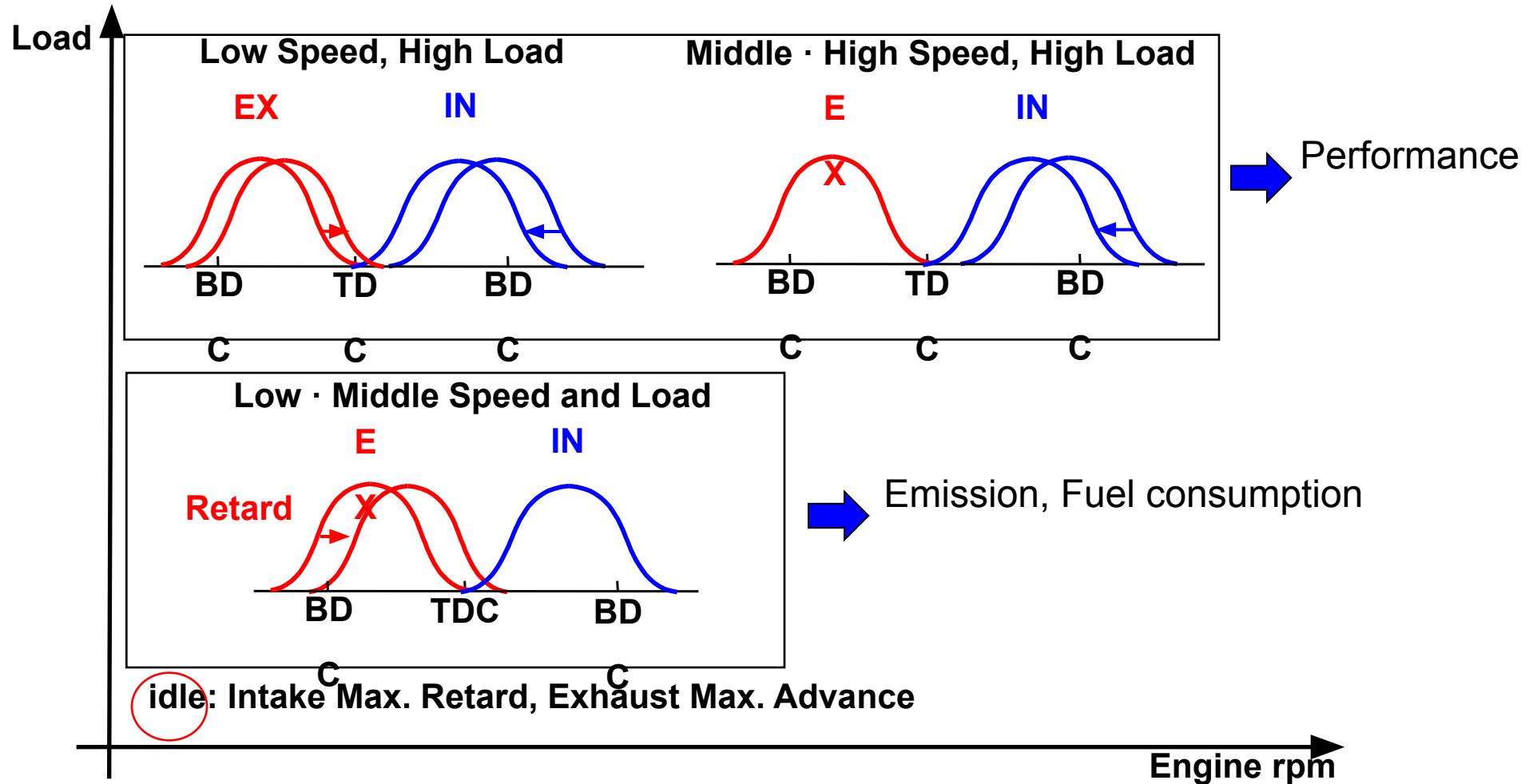
▶ 4 CMP Sensor



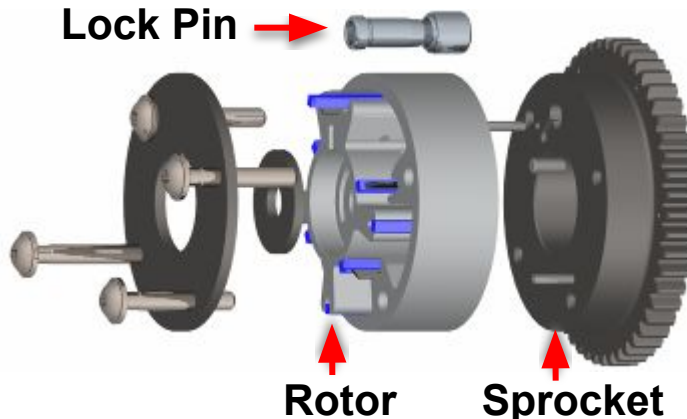
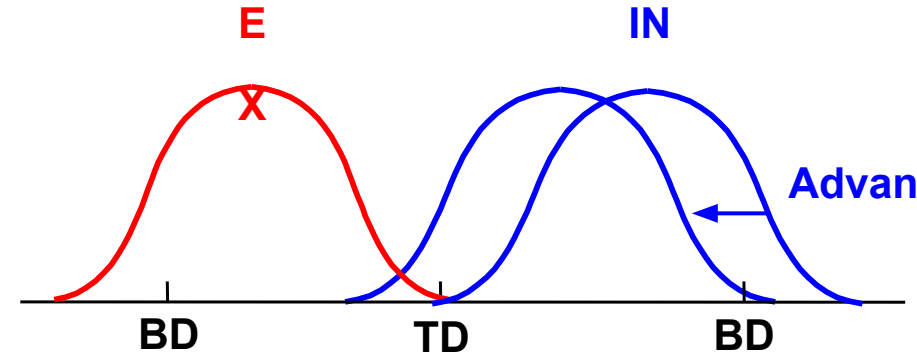
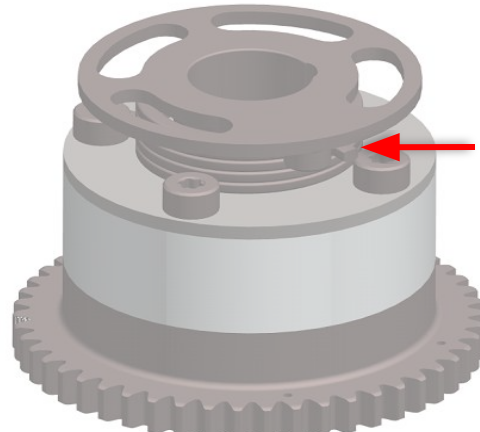
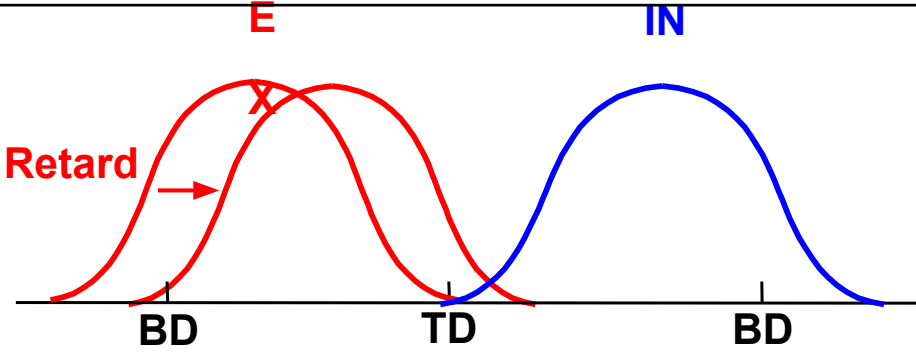
Valve Timing (3.3L)

	Max. Retard	Max. Advance
Intake	 <p>Diagram showing Intake Valve Timing at Max. Retard. The intake valve is closed at 14° before Top Dead (TD) and opens at 66° before Bottom Dead (BD). The crankshaft position is marked with TD at the top and BD at the bottom. The camshaft position is marked with C at the top.</p>	 <p>Diagram showing Intake Valve Timing at Max. Advance. The intake valve is closed at 26° before Top Dead (TD) and opens at 26° before Bottom Dead (BDC). The crankshaft position is marked with TD at the top and BDC at the bottom. The camshaft position is marked with C at the top.</p>
Exhaust	 <p>Diagram showing Exhaust Valve Timing at Max. Retard. The exhaust valve is closed at 42° after Top Dead (TD) and opens at 10° after Bottom Dead (BDC). The crankshaft position is marked with TD at the top and BDC at the bottom. The camshaft position is marked with C at the top.</p>	 <p>Diagram showing Exhaust Valve Timing at Max. Advance. The exhaust valve is closed at 0° after Top Dead (TD) and opens at 52° after Bottom Dead (BD). The crankshaft position is marked with TD at the top and BD at the bottom. The camshaft position is marked with C at the top.</p>

CVVT operations



CVVT Assembly

<p>Intake</p>	 <p>Lock Pin →</p> <p>→ Rotor</p> <p>→ Sprocket</p>	 <p>E</p> <p>IN</p> <p>→ Advance</p> <p>BD TD BD</p> <p>▶ Initial position : Max. Retard</p>
<p>Exhaust</p>	 <p>→ Bias Spring</p>	 <p>E</p> <p>IN</p> <p>Retard →</p> <p>BD TD BD</p> <p>C C C</p> <p>▶ Initial position : Max. Advance</p>