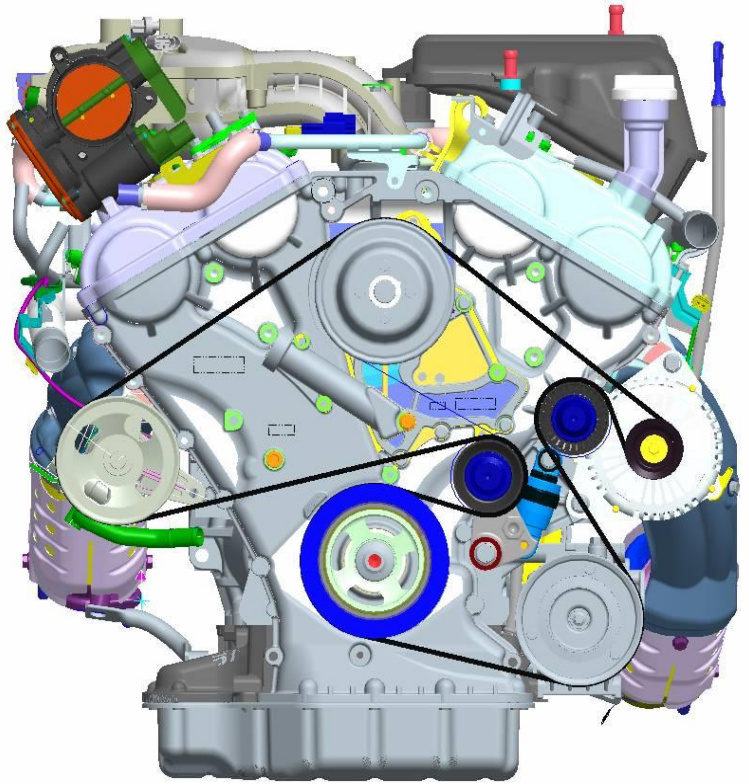
Lambda Engine



Powertrain Variation

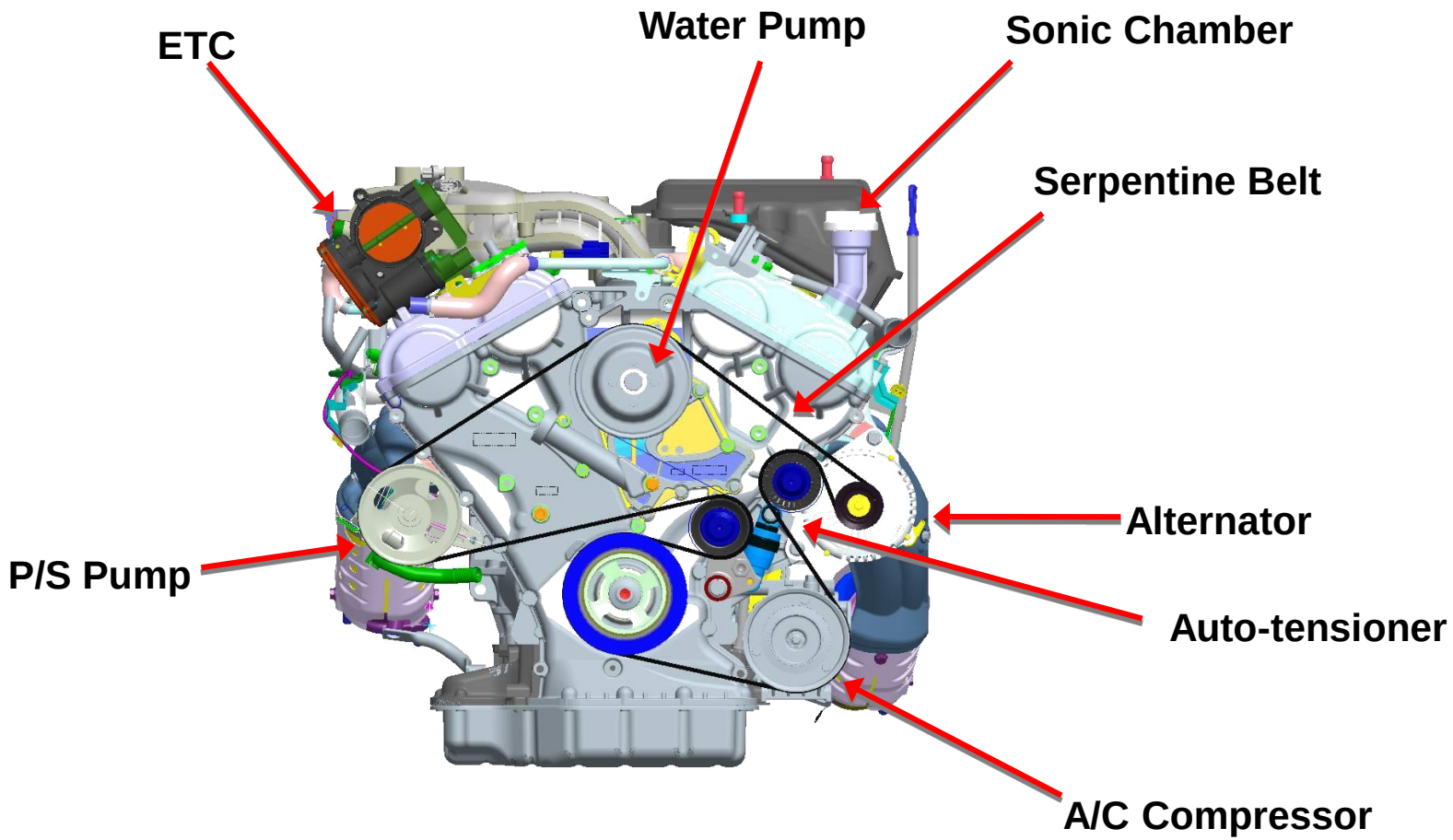
Engine		Power/Torque	A/T model	Area		
				DOM	General	Middle East China
Gasoline	Lambda 3.8L MPI	290/36.5	B600 (AISIN)	●	●	●
	Tau 4.6L MPI	363/46.0	6HP26 (ZF)	●	●	●

※ VI Limousine (Tau 5.0L MPI) may not be exported.

Specification

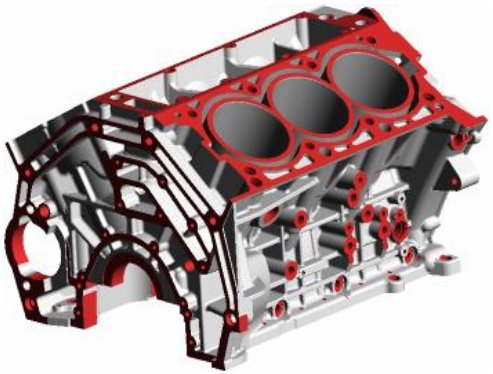
Items	Lambda (λ) 3.8
Displacement (cc)	3,778
Bore x Stroke	96 x 87
Compression Ratio	10.4
Max. Power (PS/rpm)	290/6,200
Max. Torque (kg·f/rpm)	36.5/4,500
Idle Speed (rpm)	650±50
Valve adjuster	MLA (Shim-less)
CVVT	DUAL CVVT
Firing Order	1-2-3-4-5-6
Ignition Timing (Idle)	10±5°
Engine Oil Capacity	5.5ℓ
Fuel Tank Capacity	78ℓ

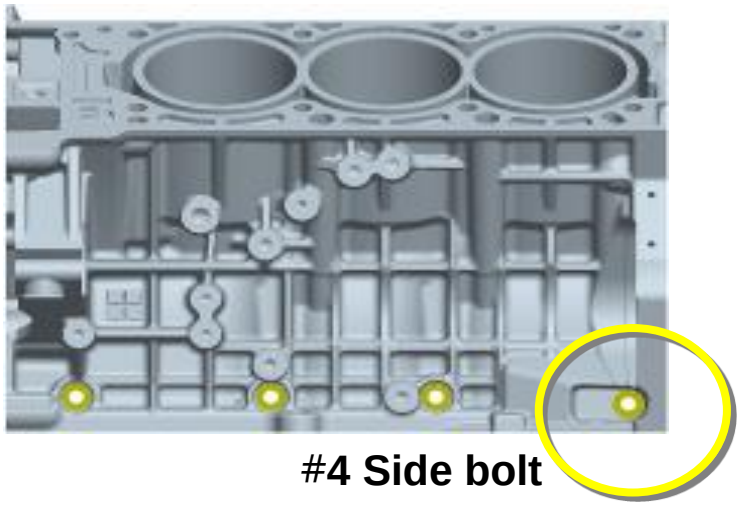
Engine Front View



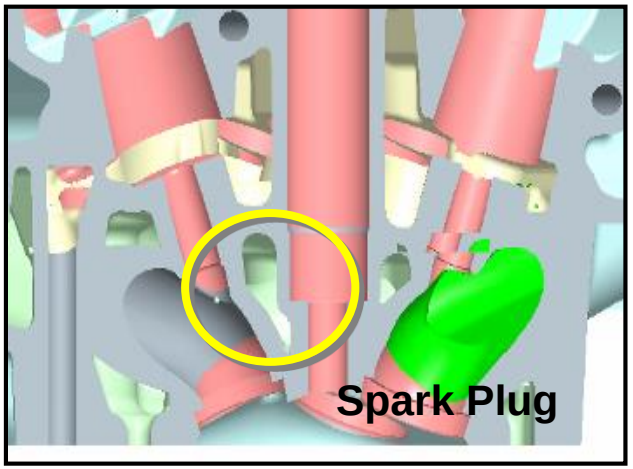
Changing Item – Cylinder Block, Cylinder Head

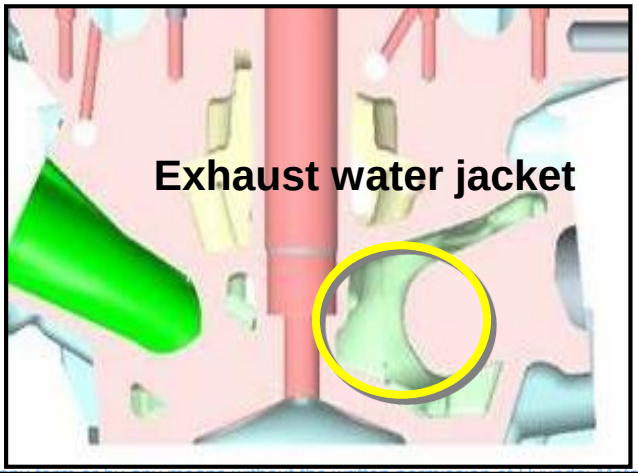
- It is impossible to interchange with old lambda
- Added #4 Side Bolt



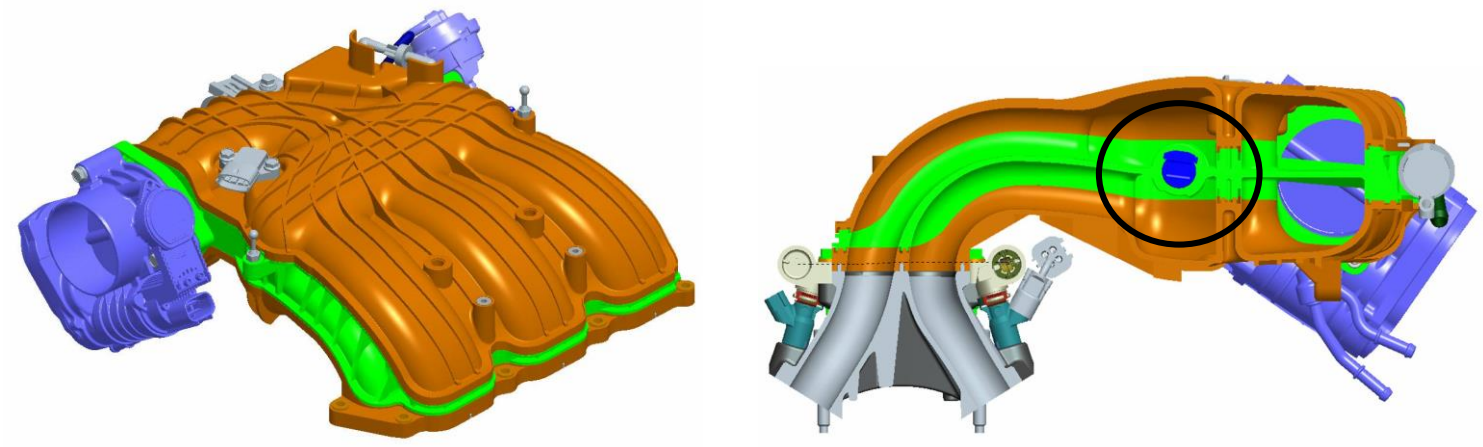
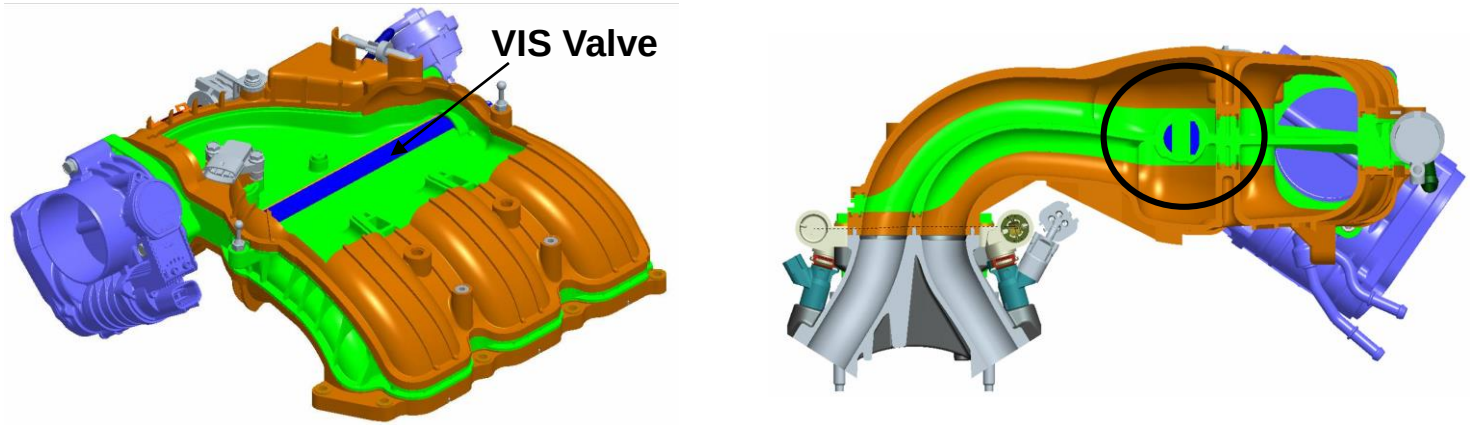


- It is impossible to interchange with old lambda
- M14 Long Reach Spark Plug applied



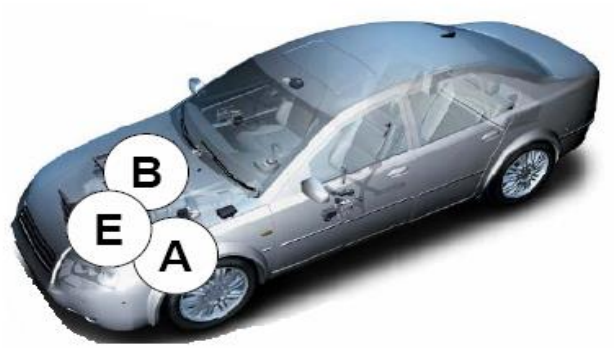


VIS (Variable Intake System)

VIS Valve Close	
VIS Valve Open	

Alternator and Battery system - Concept

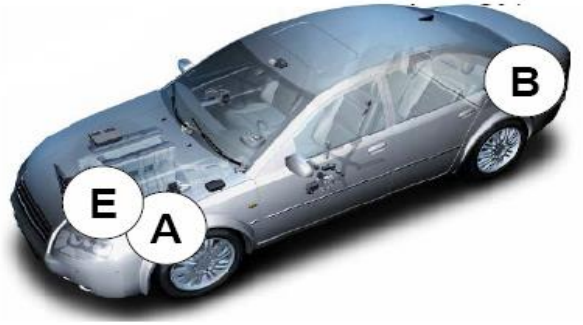
➔ conventional engine



Battery Temp. ≈ Engine Room Temp.

Battery Voltage ≈ Alternator Voltage

➔VI (Lambda engine)

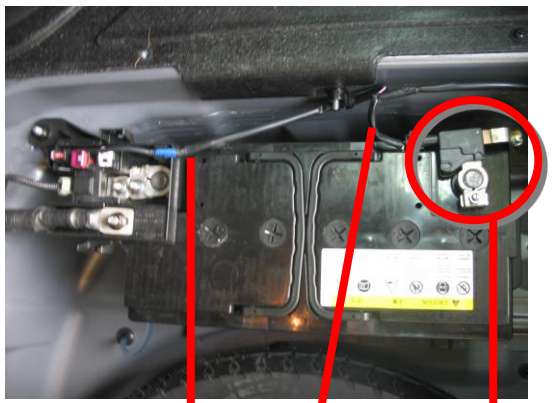


Battery Temp. ≠ Engine Room Temp.

Battery Voltage < Alternator Voltage

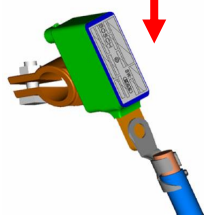
Battery Sensor

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



B+ Supply

LIN wire



Battery Sensor

LIN

ECM

Decide charging voltage

Monitoring SOC

Vehicle conditions

TPS VSS RPM

C Terminal

Alternator

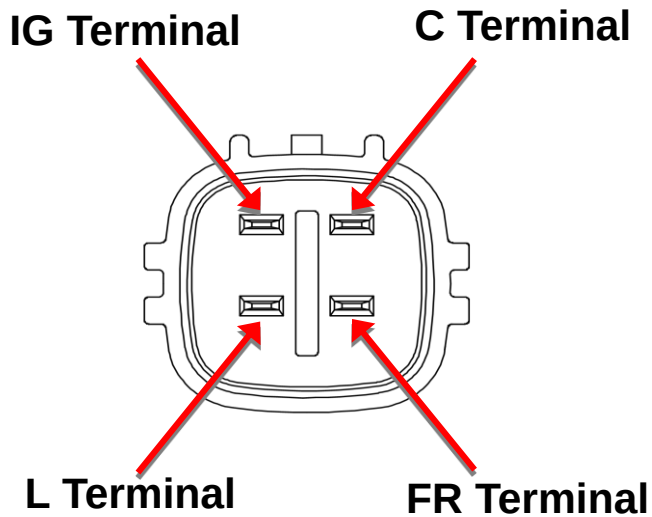
FR Terminal

※C - Terminal : Communication with alternator

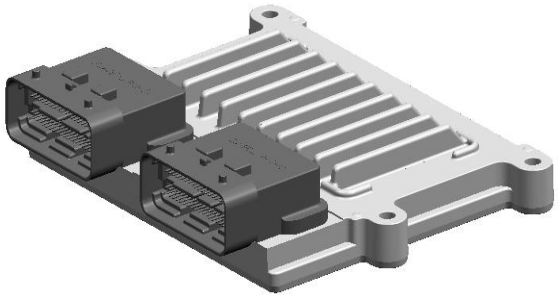
FR - Terminal : Field Coil Reflector.

System Component

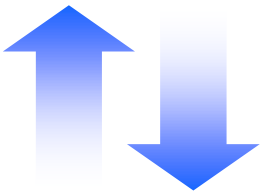
- Alternator : 4 Pins



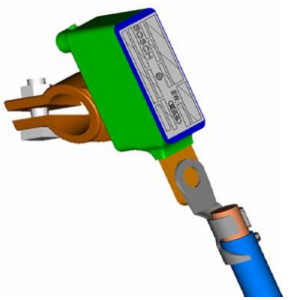
- **Calculate SOC**
- **Wake-up Mode (each 8 hours)**



Send SOC information

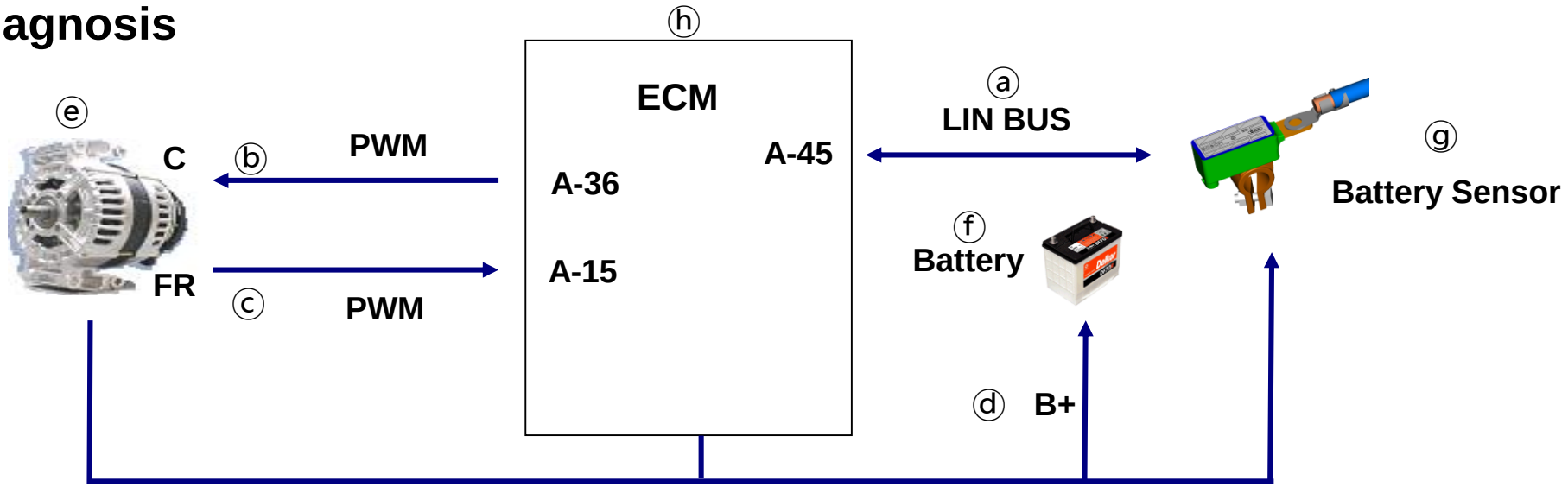


Request SOC information

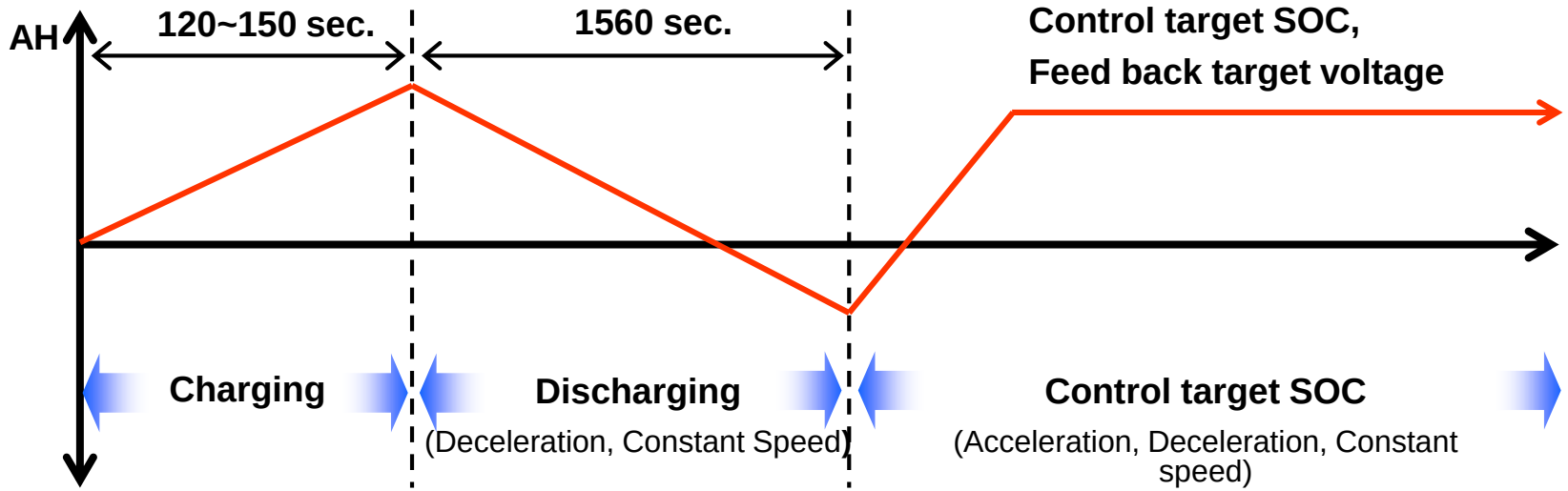


Lambda Engine

Diagnosis

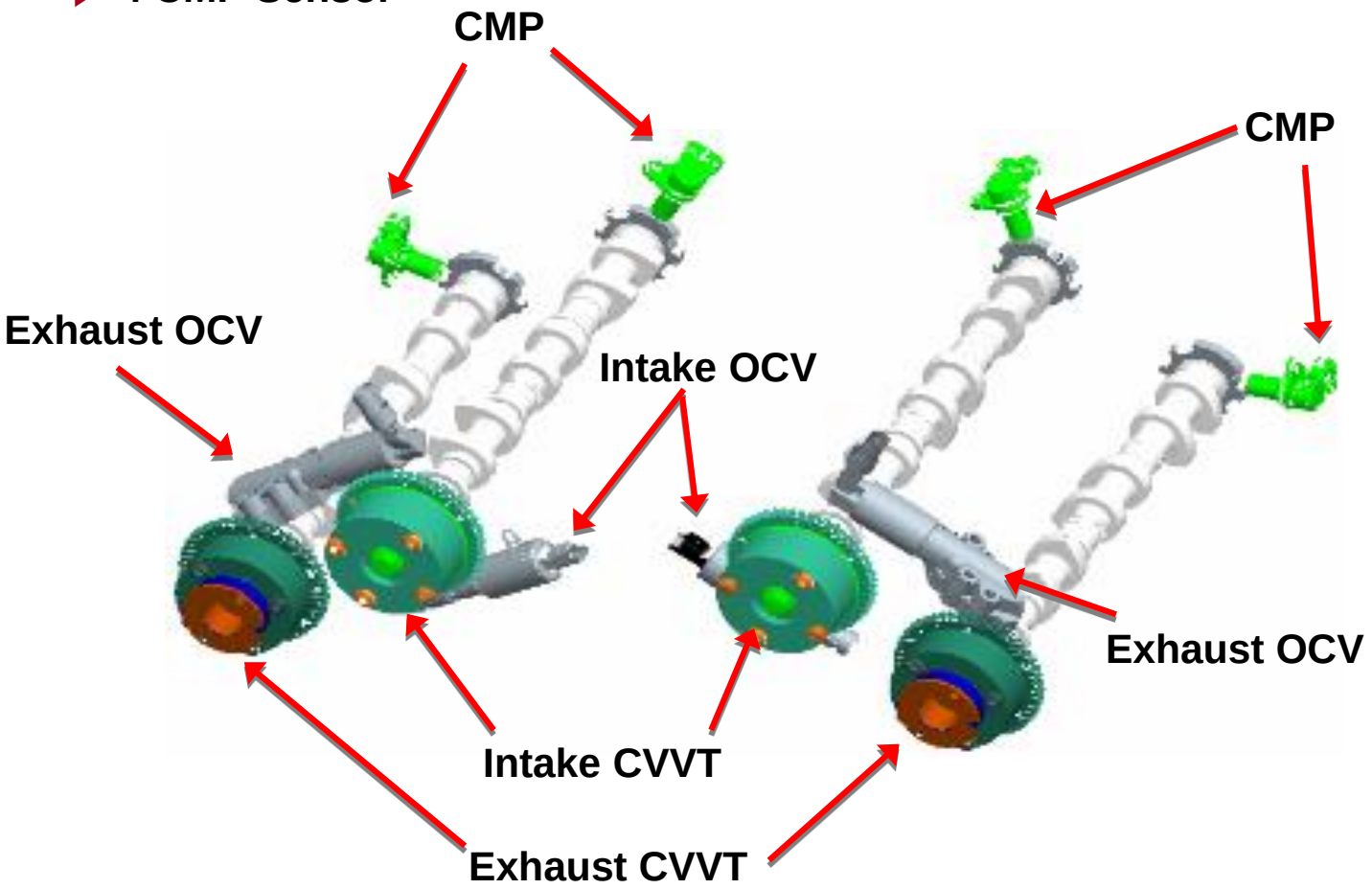


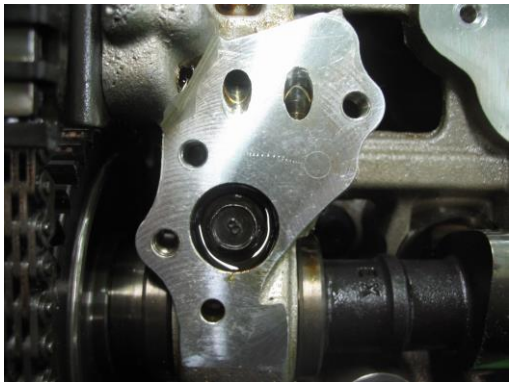
※ Generation of ampere after starting



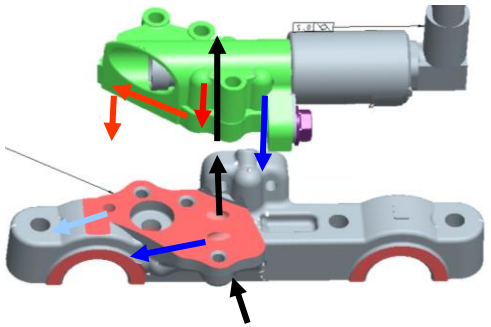
Dual CVVT

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



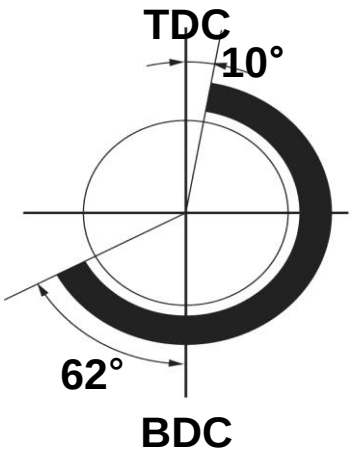
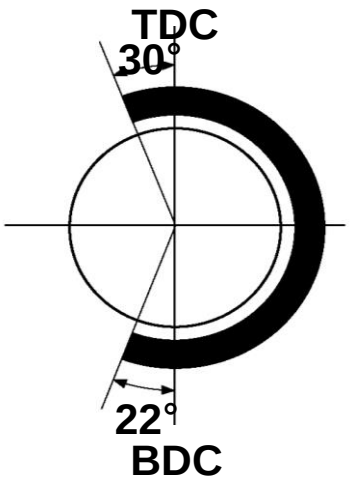
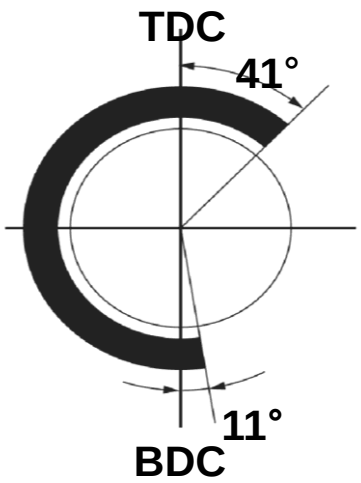
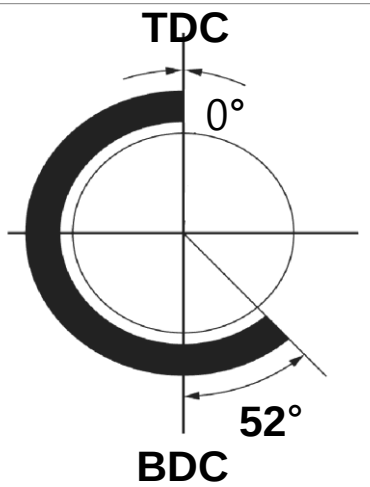


→: SUPPLY
→: ADVANCE
→: RETARD

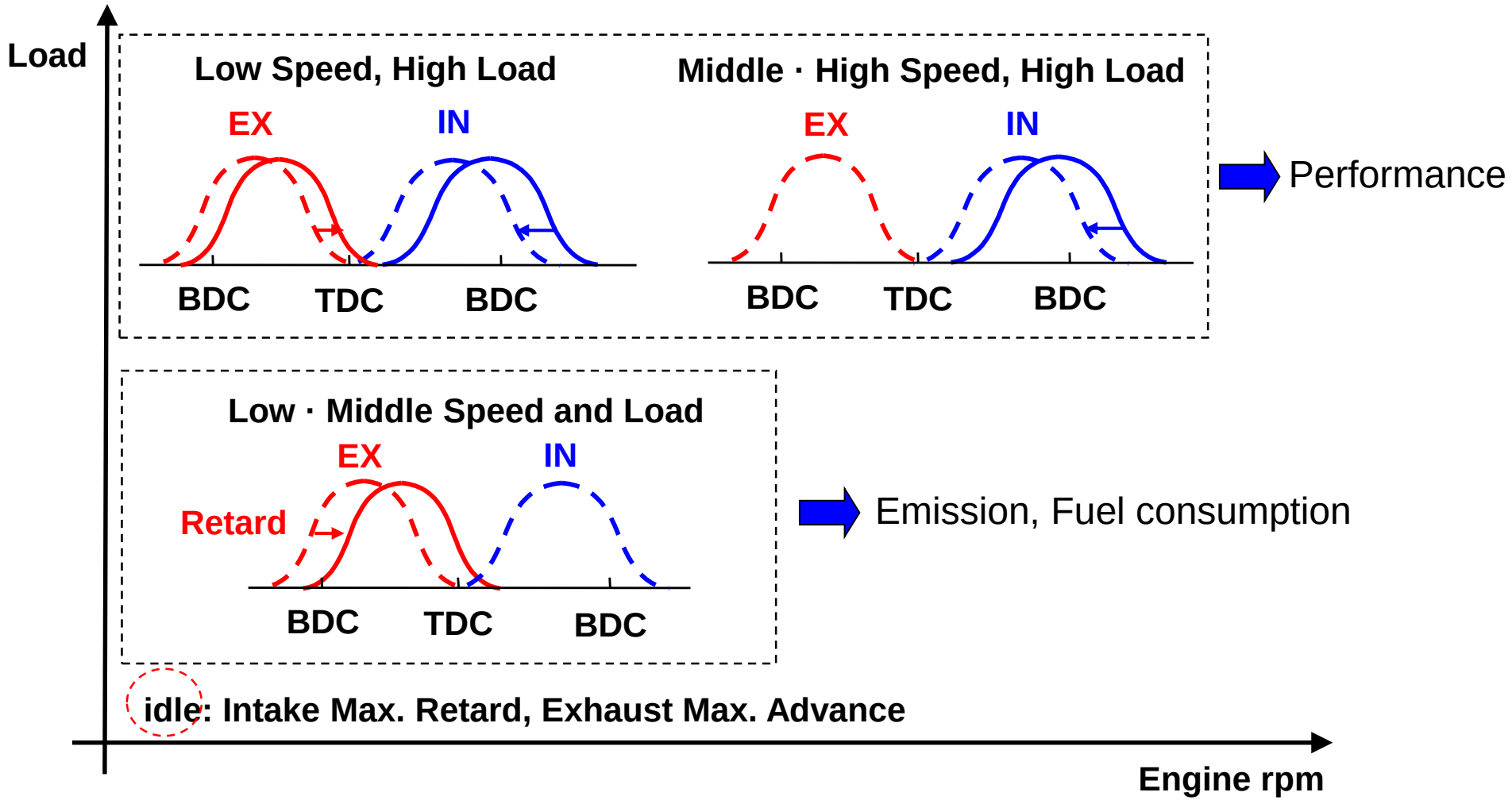


Exhaust OCV

Valve Timing (3.8L)

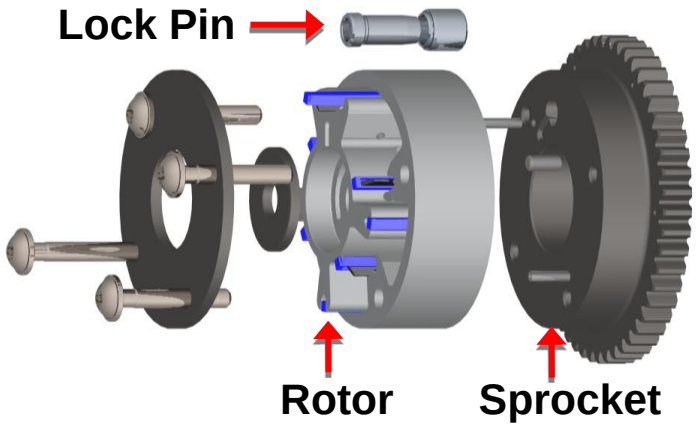
	Max. Retard	Max. Advance
Intake		
Exhaust		

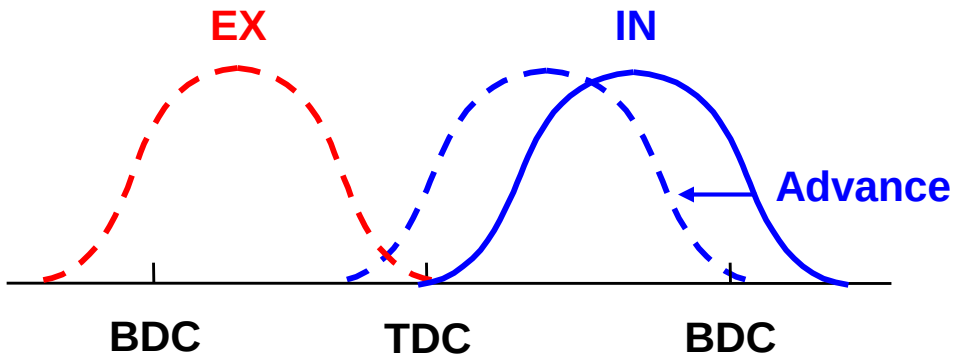
CVVT operations



CVVT Assembly

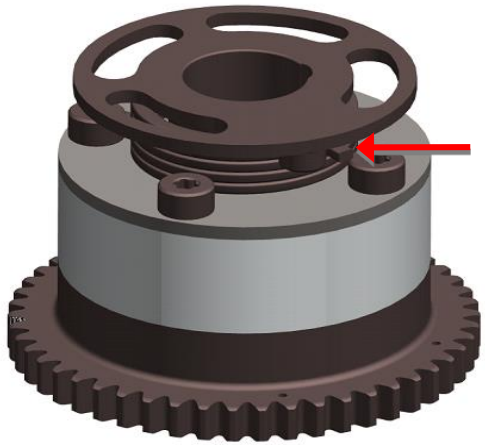
Intake

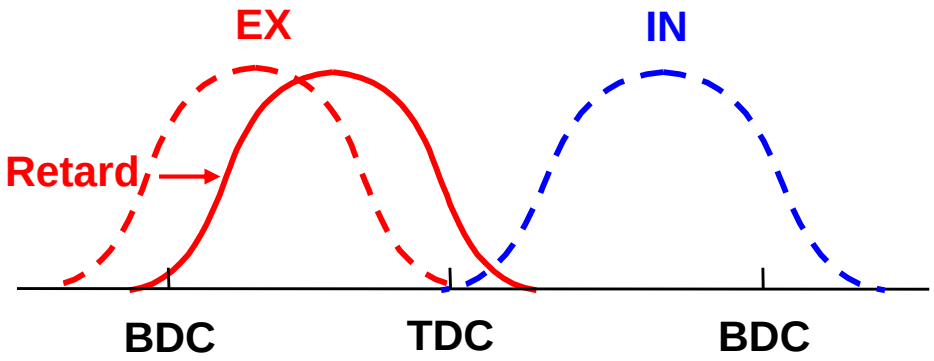




▶ Initial position : Max. Retard

Exhaust





▶ Initial position : Max. Advance