

IGNITION SYSTEM**1444-01****GENERAL INFORMATION****1. SPECIFICATIONS**

Category		Specifications
Spark plug	Internal resistance	3 ~ 7 kΩ
	Center electrode	NGK : SILZKR7B11, HEX16 M12x1.25, Iridium
	Ground electrode	Platinum alloy
	Electrode clearance	1.1 mm
	Change interval	At every 100,000 km of driving
Ignition coil	Primary operating current	7 ± 0.5 A
	Generated voltage (primary/secondary)	Max 400 V / 5 to 20 kV
	Ignition type	Independent ignition type
	Ignition sequence	1-3-4-2

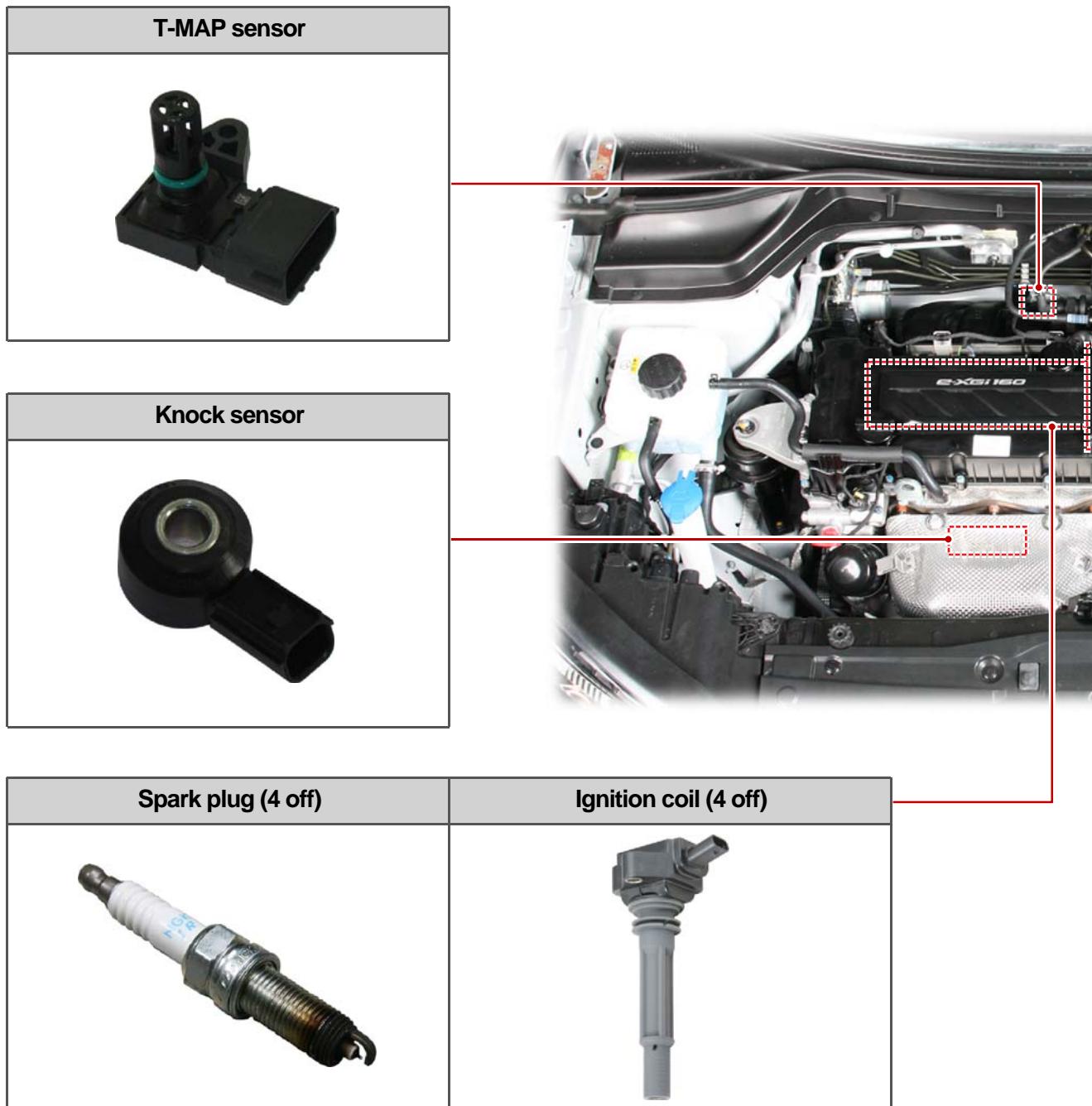
Modification basis	
Application basis	
Affected VIN	

OVERVIEW AND OPERATING PROCESS

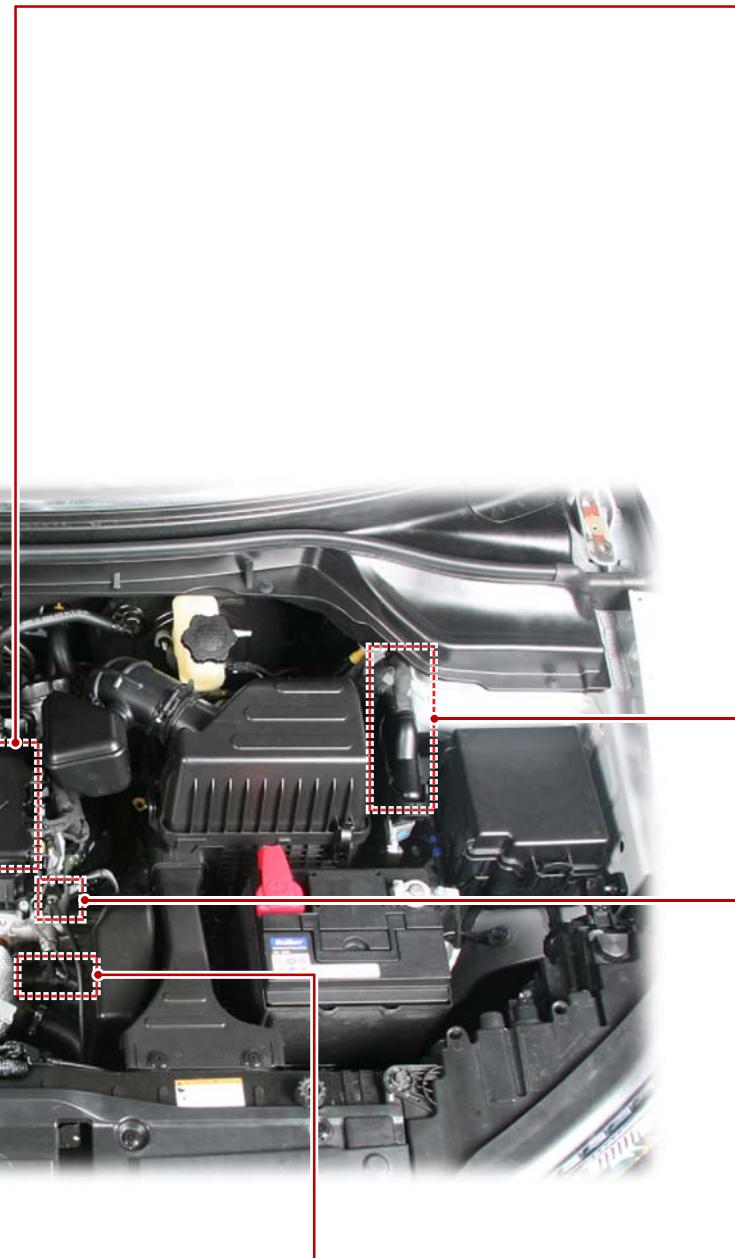
1. OVERVIEW

The ignition system is to supply high voltage generated from the ignition coils to the spark plugs. The G16DF engine is equipped with the independent direct ignition system in which each cylinder has its own ignition coil and spark plug.

2. COMPONENTS



Modification basis	
Application basis	
Affected VIN	

**Camshaft position sensor (2 off)****ECU****Coolant temperature sensor****Crankshaft position sensor****Accelerator pedal sensor**

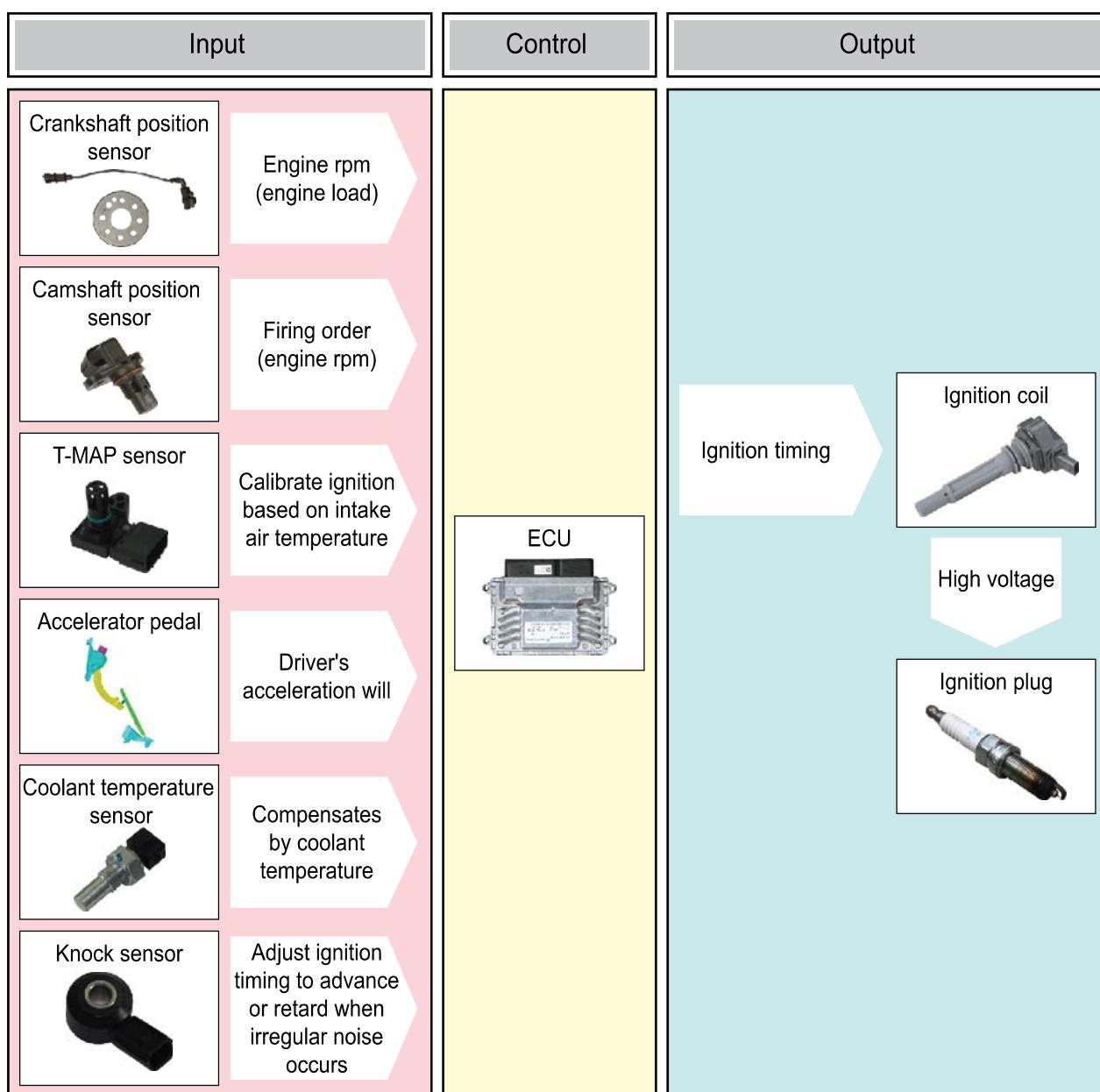
Modification basis	
Application basis	
Affected VIN	

3. OPERATING PROCESS

The default ignition timing for each cylinder is determined based on the signals from the camshaft position sensor and crankshaft position sensor. The engine control unit (ECU) controls the ignition timing more precisely by using the following information:

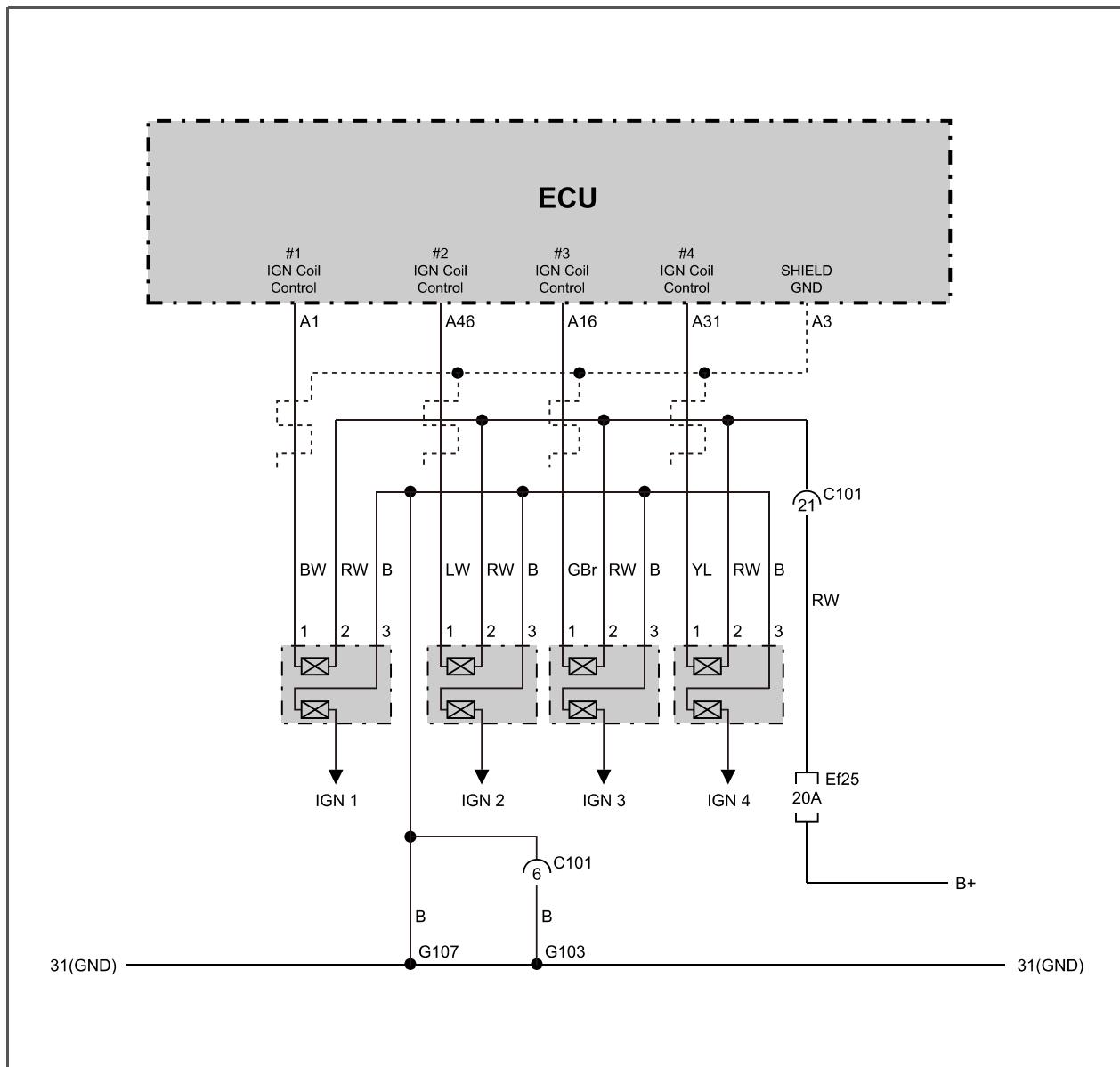
- Engine load
- Coolant temperature
- Intake air temperature
- Engine rpm
- Camshaft position sensor signal
- Crankshaft position sensor signal

If the engine ECU does not receive the signal from the crankshaft position sensor, the ignition coil and fuel system will not work.



Modification basis	
Application basis	
Affected VIN	

4. WIRING DIAGRAM

ENGINE
GENERALENGINE
ASSEMBLYFUEL
SYSTEMIGNITION
SYSTEMINTAKE
SYSTEMEXHAUST
SYSTEMLUBRICA-
TIONCOOLING
SYSTEMCHARGIN-
GSTARTIN-
GCRUISE
CONTROL

EEM

Modification basis	
Application basis	
Affected VIN	

IGNITION SYSTEM

TIVOLI 2016.03