

LUBRICATION SYSTEM

1538-01

GENERAL INFORMATION

1. SPECIFICATIONS

Category		Specifications	Remarks
Oil pump	Lubrication	Gear pump, forced circulation	-
	Type	Vane type + Solenoid valve (VOP)	
	Number of sprocket teeth	33	
	Pressure valve opening pressure	7.0 ± 1 bar	
	VOP pressure (at about 140°C)	2.0 bar (SOL. ON)	
		4.0 bar (SOL. OFF)	
Oil filter module	Type	Water and thermostat housing + Oil filter module	
	Oil flow rate	About 40 L/min (80°C)	
	Bypass valve opening pressure	1.0 ± 0.2 bar	
	Non-return valve opening pressure	0.2 ± 0.04 bar	
	Filter service interval	- When changing engine oil - After 15,000 km of driving (After initial 10,000 km of driving) - 12 months after previous replacement	
Engine oil	Specifications	- MB 229.51 SAE 5W-30 - SN/GF-5 SAE 5W-20	
	Type	1. SK ZIC SYMC 5W-30 2. SK ZIC SYMC FE 5W-20	
	Capacity	4.0 ℓ (4.5 ℓ at initial fill)	
	Service interval	After initial 10,000 km of driving → At every 15,000 km of driving or 12 months	

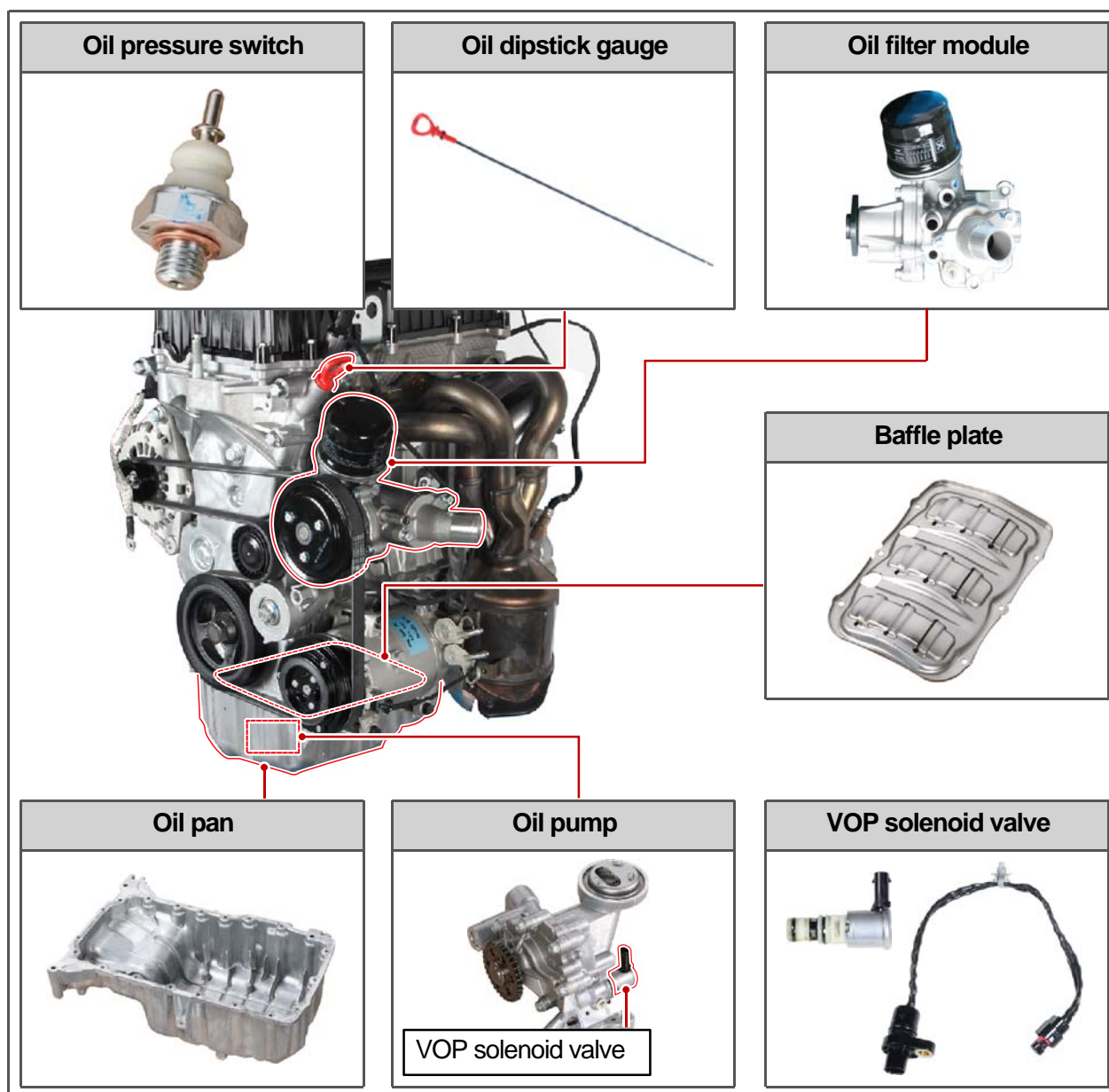
Modification basis	
Application basis	
Affected VIN	

OVERVIEW AND OPERATING PROCESS

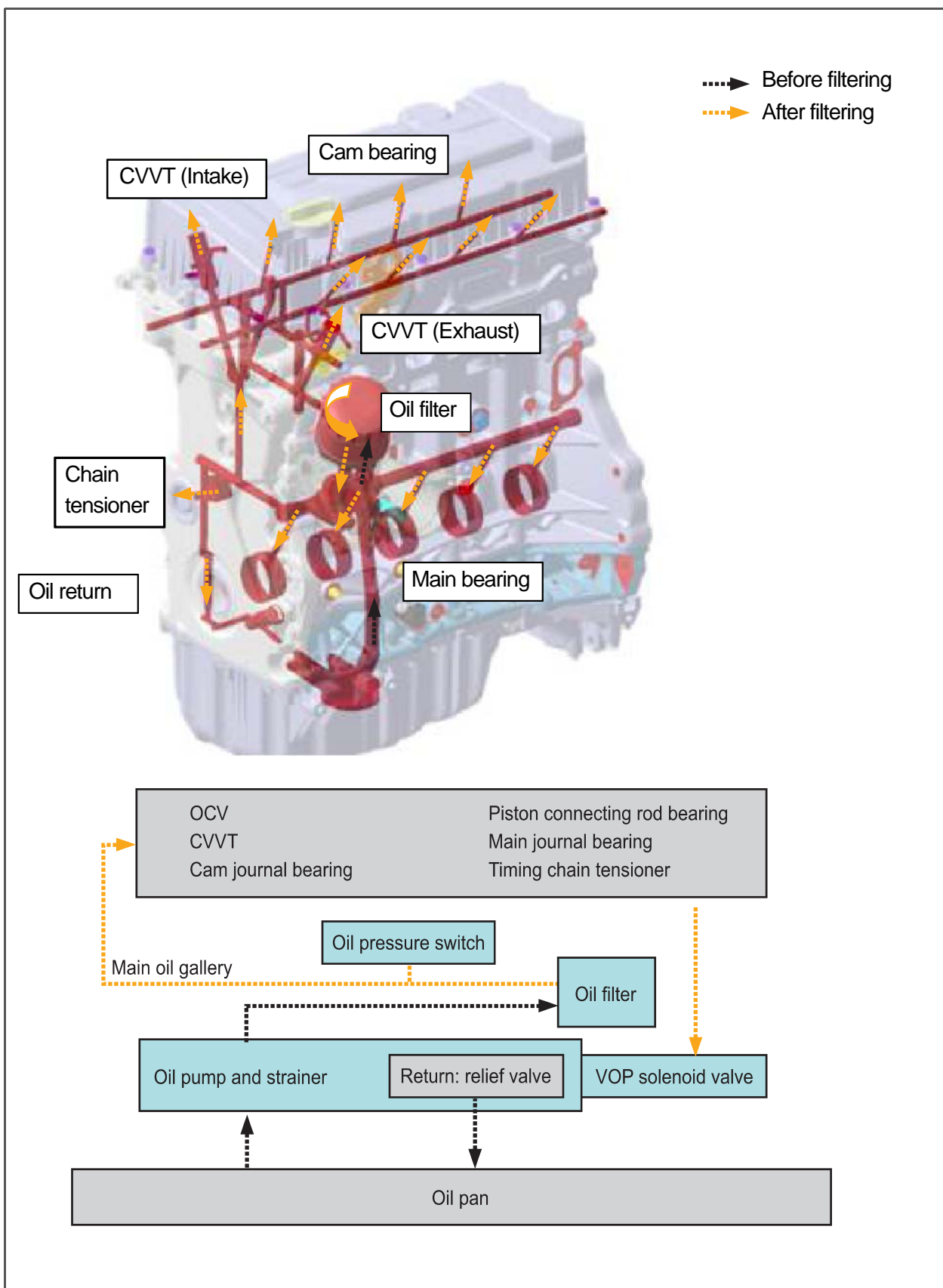
1. OVERVIEW

The lubrication system supplies oil to various parts of the engine that require lubrication to reduce friction, wear, heat on the surfaces in contact with each other. When the engine is running, frictional heat is generated by moving parts. If this heat builds up, the bearing can be stuck. The lubrication system creates an oil film on each contact surface of the two moving parts to convert solid friction to liquid friction in order to reduce wear and prevent the temperature from increasing. The lubrication system is equipped with a variable oil pump (VOP) which improves the fuel economy in low/moderate speed range and ensures the reliability in high speed range.

2. COMPONENTS

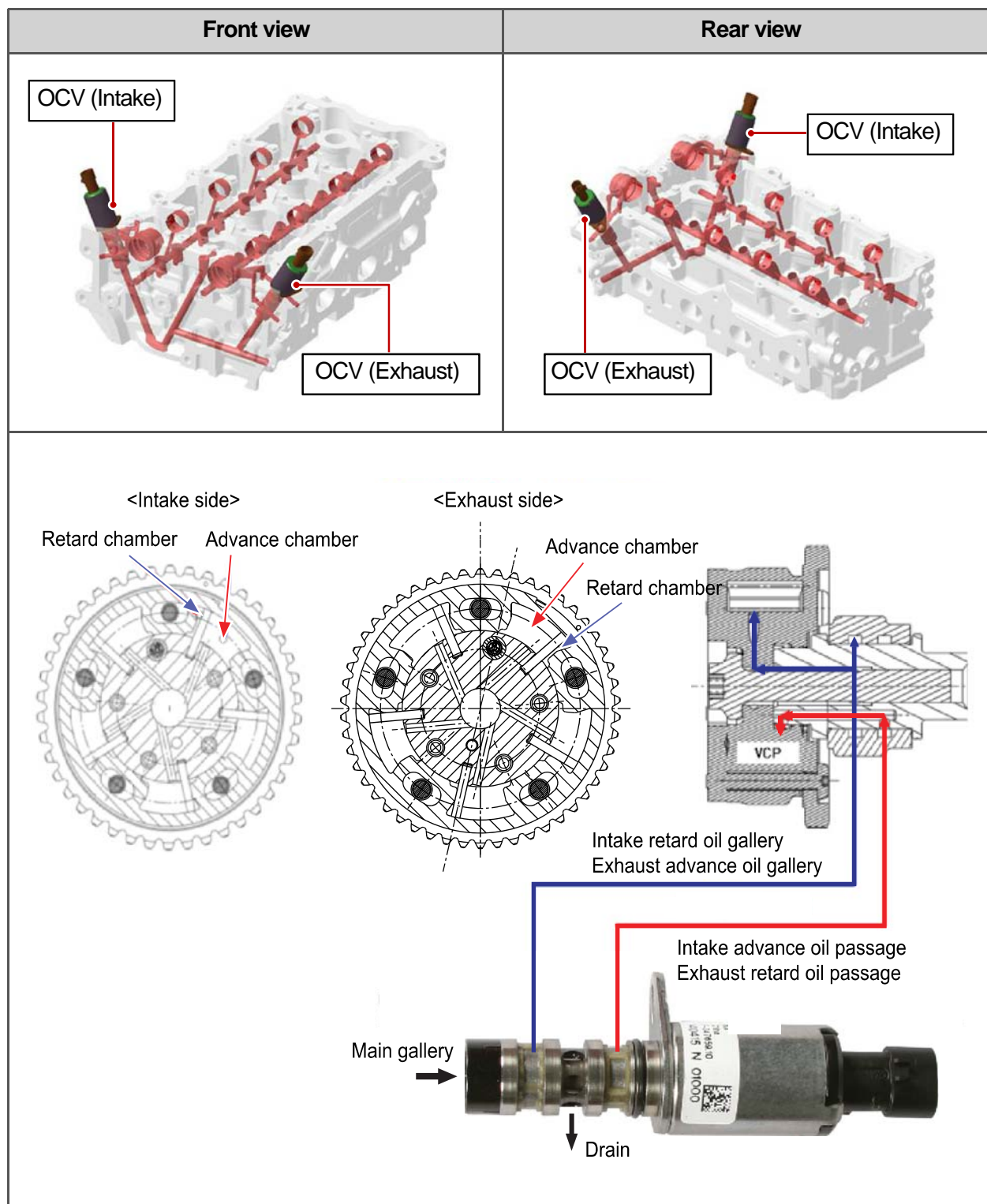


3. SYSTEM DIAGRAM



Modification basis	
Application basis	
Affected VIN	

► CVVT and camshaft oil passages



NOTE

Refer to "ENGINE CONTROL" section in "G16DF ENGINE" chapter for detailed operation process of the CVVT.

Modification basis	
Application basis	
Affected VIN	