

Engine - Overview

Overview

NOTICE: Do not use silicone based sprays or lubricants on any components installed onto or around the diesel exhaust system or intake air distribution and filtering system. Silicone reacts with the NOX sensor and may cause permanent damage to the NOX sensor.

The 6.7L Power Stroke Diesel engine has the following features:

- Interference design engine
- 4 valves per cylinder
- Aluminum upper intake manifold
- Composite lower intake manifold
- Aluminum cylinder heads
- CGI (compacted graphite iron) cylinder block
- Common rail fuel system
- Turbocharger

Engine Identification

Always refer to these label when installation of new parts is necessary or when checking engine calibrations. The engine parts often differ within a CID (cubic inch displacement) family. Verification of the identification codes will make sure the correct parts are obtained. These codes contain all the pertinent information relating to the dates, optional equipment and revisions.

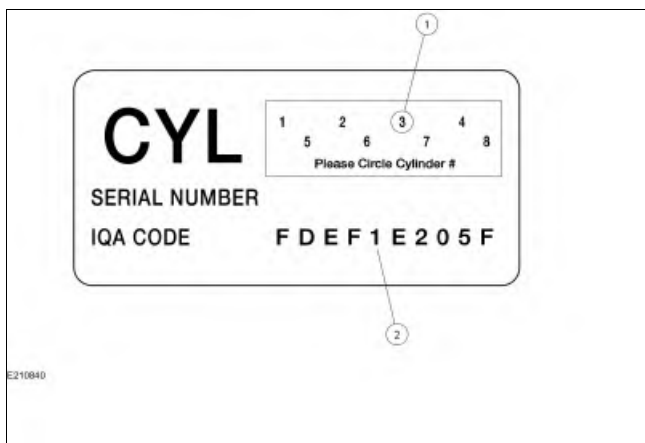
Engine Code Information Labels

The engine code information label is located on the crankcase ventilation housing and contains the following:



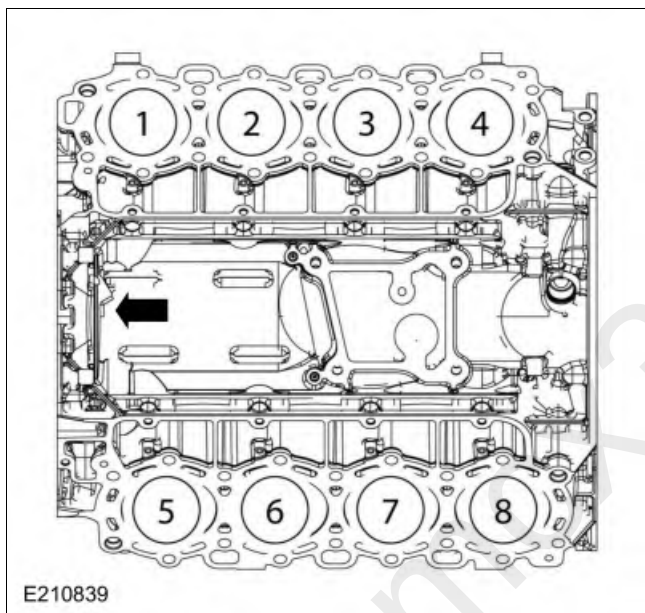
Item	Description
1	Engine serial number
2	Engine displacement
3	Engine build location
4	QR (quick response) code
5	Engine part number

Fuel Injector Replacement Label



1	Cylinder number location of replacement fuel injector
2	IQA (injector quantity adjustment) code of replacement fuel injector

Engine Cylinder Identification

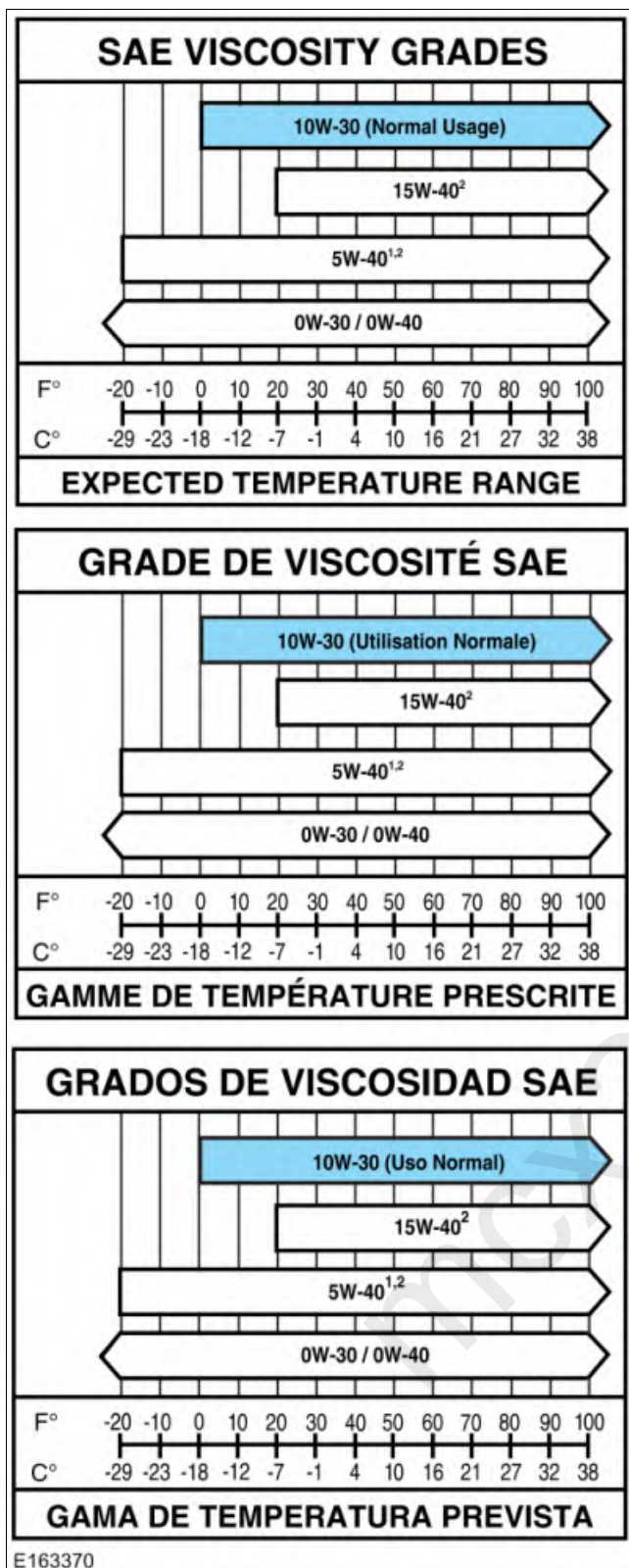


Oil Requirements

NOTE: When draining the engine oil, allow at least 20 minutes after engine shutdown to make sure that the oil contained in the upper parts of the engine has returned to the oil pan.

The 6.7 L diesel engine may be operated over a wide range of operating conditions. It is important to match the viscosity of the engine oil to the vehicle operating conditions. Use the following statements and chart to make sure the oil viscosity chosen is compatible with the expected vehicle operating conditions.

- Use an engine block heater at temperatures below -23°C (-10°F). The engine coolant reaches maximum temperature after approximately 3 hours of engine block heater operation.
- Use the same engine oil and filter change intervals when using synthetic engine oil.
- Use Motorcraft[®] oil or an equivalent oil conforming to Ford specification WSS-M2C171-F1 or API service category CK-4.



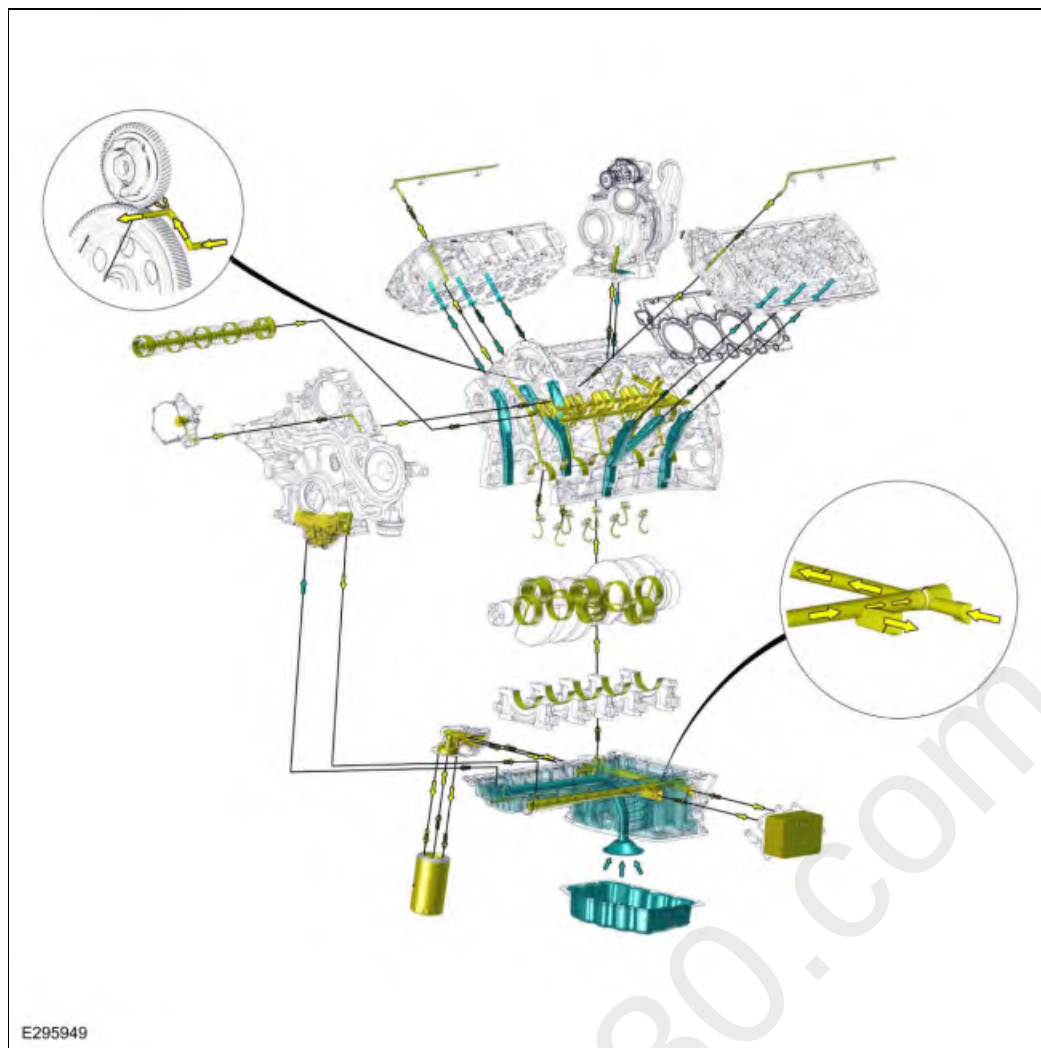
NOTE: 1. For severe duty service, use SAE 5W-40.

NOTE: 2. For biodiesel (grades B6-B20) usage, use SAE 5W-40 or SAE 15W-40.

The following operating conditions are considered severe duty service.

- frequent or extended idling (over 10 minutes per hour of normal driving).
- low speed operation/stationary use.
- if vehicle is operated in sustained ambient temperatures below -23°C (-10°F) or above 38°C (100°F).
- frequent low speed operation, consistent heavy traffic less than 40 km/h (25 mph).
- operating in severe dust conditions.
- operating the vehicle off road.
- towing a trailer over 1600 km (1000 miles).
- sustained high speed driving at GVW.

Lubrication System



Yellow	High pressure oil flow
Blue	Oil return/ low pressure oil flow