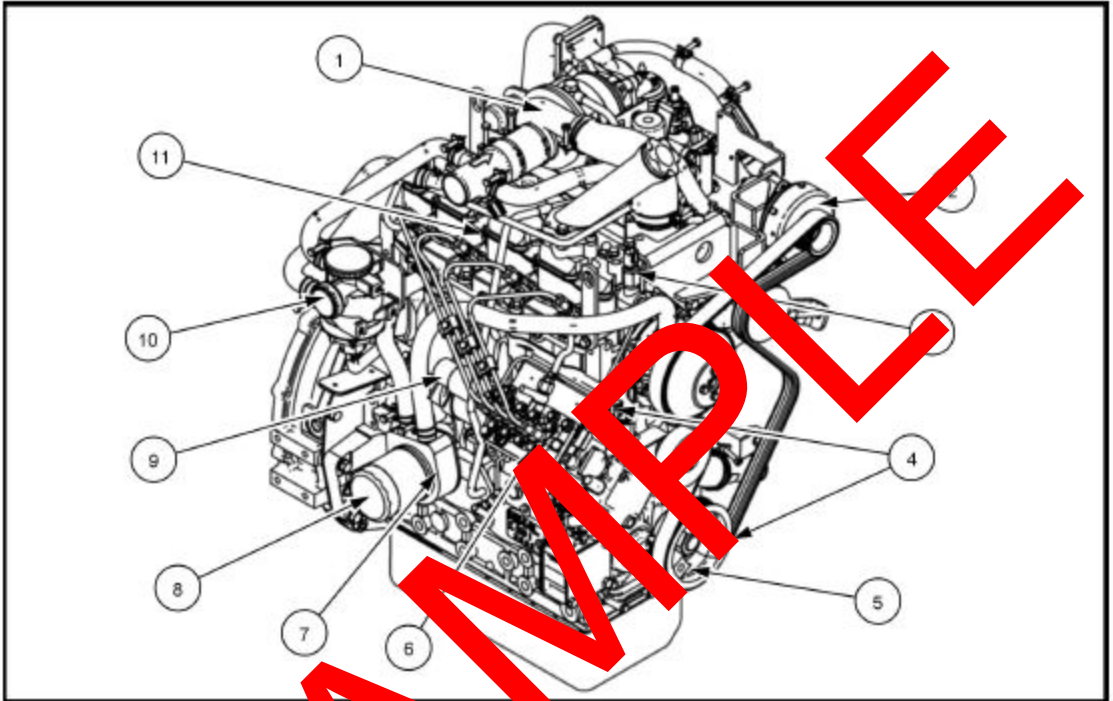


Engine - Component identification

N843LT-F-27	
N843T-F-24	
N844L-F-30	
N844L-F-34	
N844L-F-36SL	
N844LT-F-45SL	



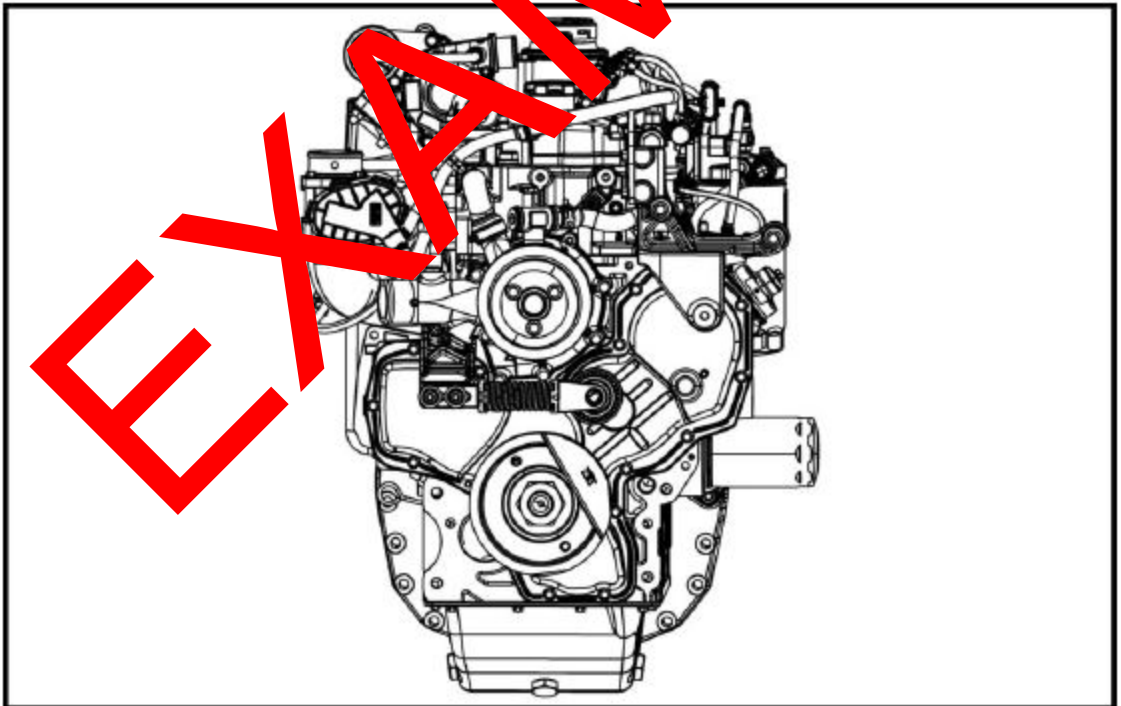
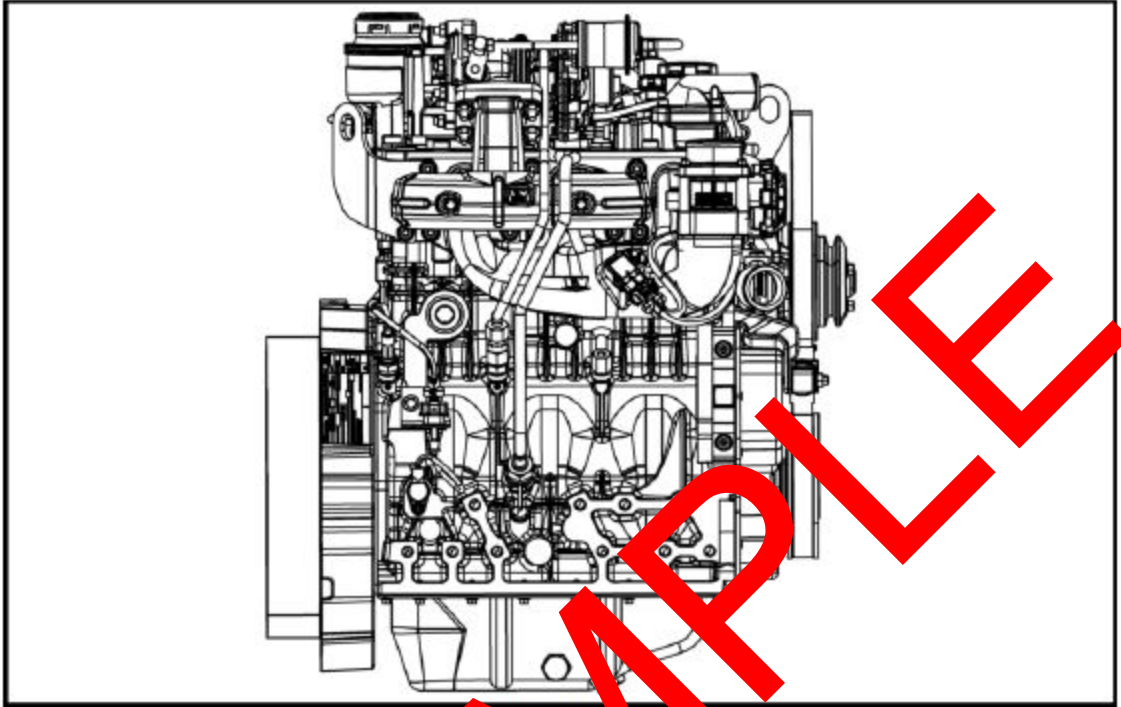
NHVM13... 18TAA 1

- (1) Turbocharger
- (2) Air pump
- (3) Oil pressure switch
- (4) Speed sensors

- (5) Crank pump
- (6) Injection pump
- (7) Oil cooler
- (8) Oil filter

- (9) Shut-off solenoid
- (10) Blow-by recirculation assembly
- (11) Glow plugs

Product overview – Orientation

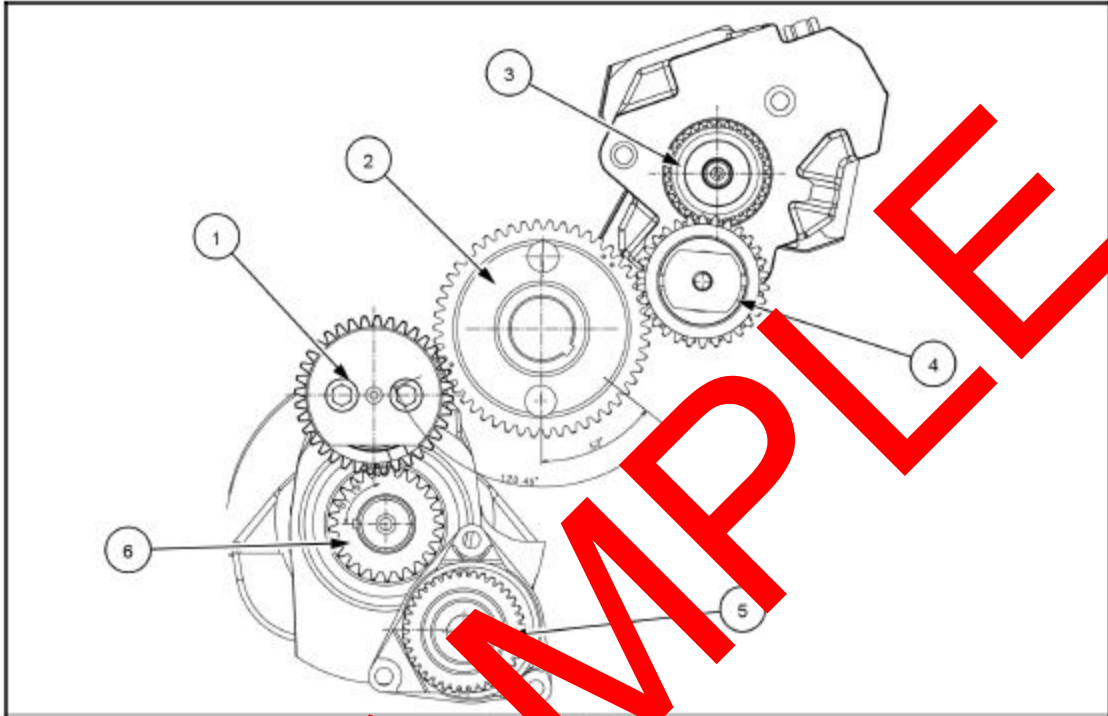


NHL14ENG1002FA 2
Front view

Engine - Timing adjust

Prior operation:

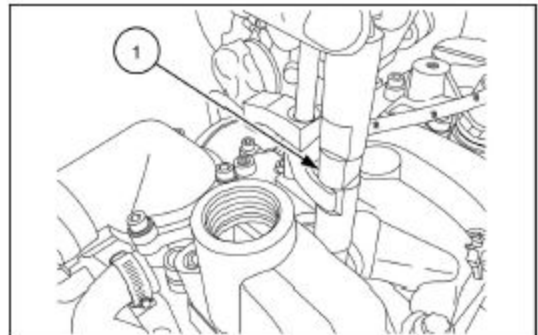
Timing gear housing - Remove (10.102)



NHIL14ENG129AA 1

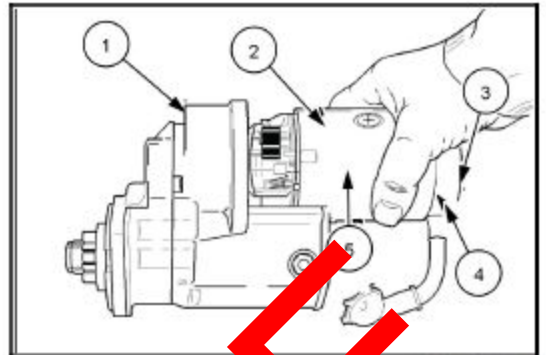
(1) Idler gear	(4) Idler gear
(2) Camshaft gear	(5) Oil pump gear
(3) High pressure injection pump gear	(6) Crankshaft gear

1. Remove the cylinder one fuel injector. See Fuel injectors - Remove (10.218).
2. Install the Top Dead Center (TDC) pin (1) 380003392 (1) into the cylinder one fuel injector hole.



NHIL14ENG129AA 2

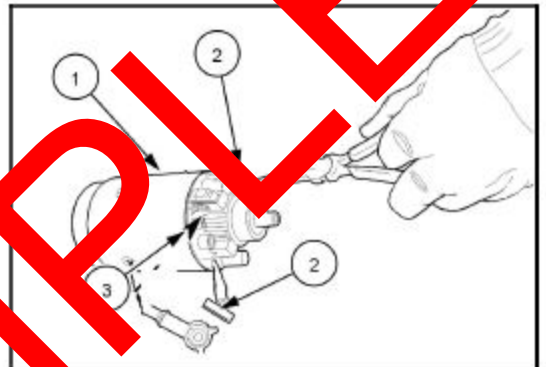
3. Slide the motor assembly (2) from the gear reduction unit housing (1).
4. Remove the screws (3) which secure the brush cover (4), to the motor/field coil housing (5).



SEC55CH4FG31_2 3

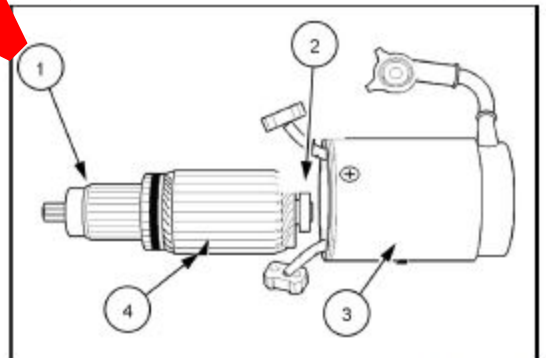
NOTE: Before removing the brush holder scribe aligning marks on the brush holder and the motor/field coil housing.

5. Use a suitable pair of pliers to remove the insulated armature commutator brushes (2) from the brush holder (3).
6. Slide the brush holder (3) from the armature commutator (1).



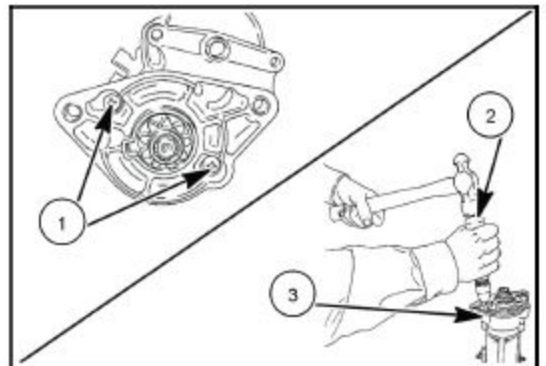
SEC55CH4FG31_3 4

7. Remove the armature (4) from the motor/field coil housing (3). The rear armature bearing (2) is a light press fit and it may be necessary to push the armature from the housing, gripping on the front bearing (1).



SEC55CH4FG31_1 5

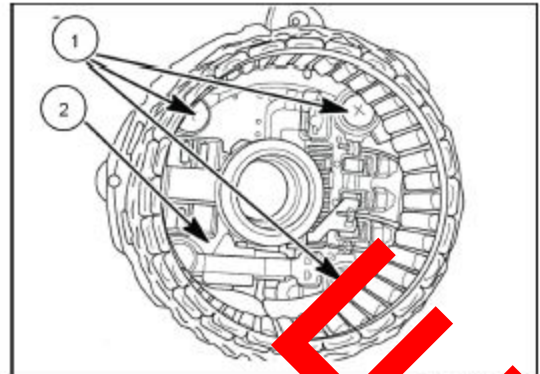
8. Use an impact tool (2) to remove the two screws (1) securing the gear reduction cover (3) to the starter housing.



SEC55CH4FG31_2 6

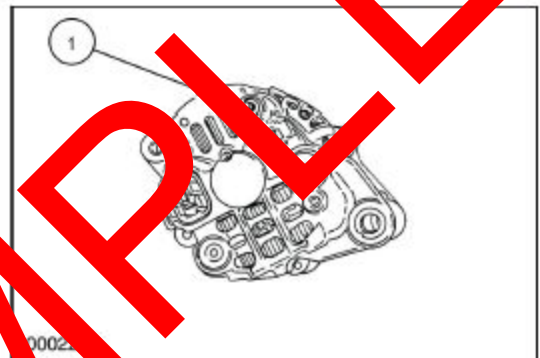
NOTICE: Secure the regulator/rectifier assembly to the rear alternator frame before pressing the stator into the rear frame.

- Secure the regulator/rectifier assembly (2) to the rear alternator frame using the retaining screws (1). Manually press the stator assembly into the rear alternator frame.



SECT55C04P13_7

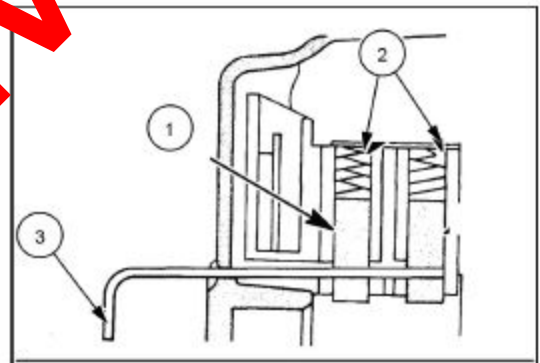
- Install the battery terminal nut (1) to the rear of the alternator frame.



0002

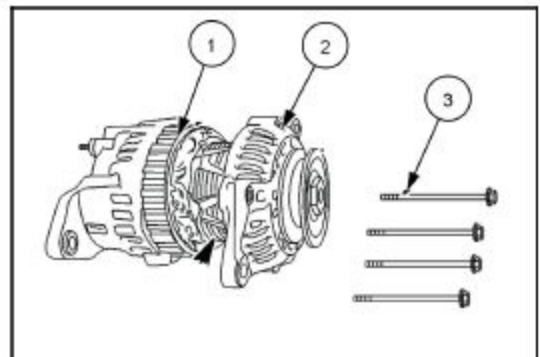
SECT55C04P13_2 8

- Push the brushes (1) and springs (2) to the brush holder and insert a piece of wire (3) through the rear of the alternator frame and into the brush holder to hold the brushes out of the way while the alternator halves are being assembled.



SECT55C04P022_3 9

- Assemble the front alternator frame (2) and rear alternator frame (1) together. Be sure to align the scribe marks made when the alternator was disassembled to insure proper assembly. Use the bolts (3) to secure the front and rear frames together.



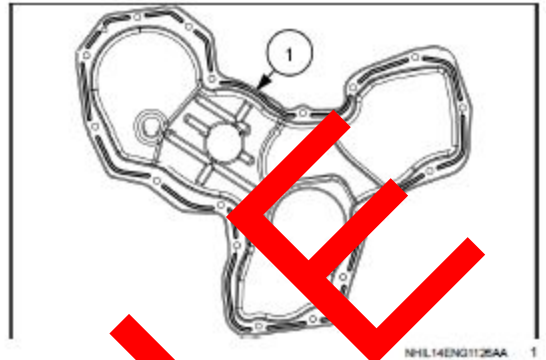
SECT55C04P12_1 10

Timing gear housing - Install

Prior operation:

Timing gear housing - Remove (10.102)

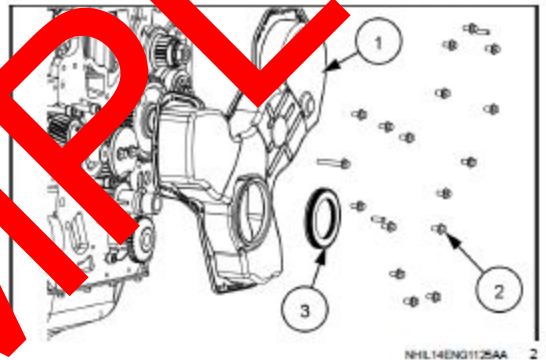
1. Apply a thin bead of LOCTITE® 5970™ (1) to the mating surface of the timing gear cover.



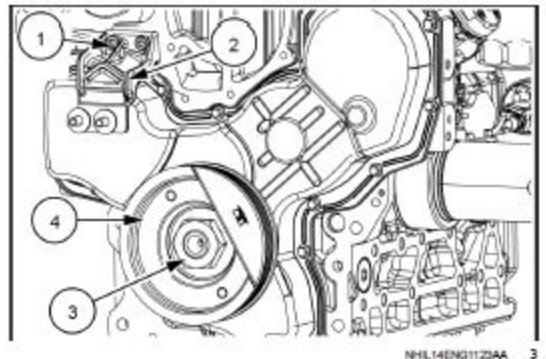
2. Install the timing gear cover (1) onto the engine block.
3. Install the M6 bolts (2) to the location which you removed them from.

NOTE: Bolt sizes vary in length.

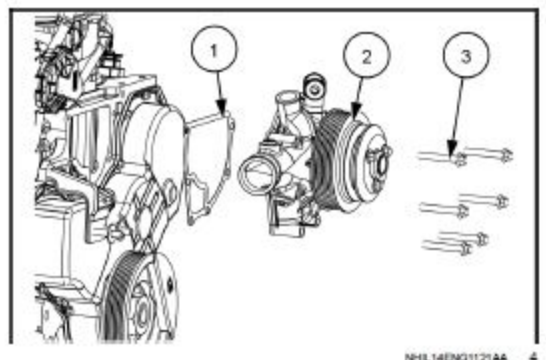
4. Inspect the seal (3), replace if any damage is found.



5. Install the crankshaft pulley (4) onto the crankshaft.
6. Install the crankshaft pulley nut (5).
7. Install the belt tensioner bracket (6).
8. Install the two Allen head bolts (1) to secure the belt tensioner bracket.



9. Install a new water pump gasket (1).
10. Install the water pump (2) to the engine block.
11. Install the bolts (3) to secure the water pump.

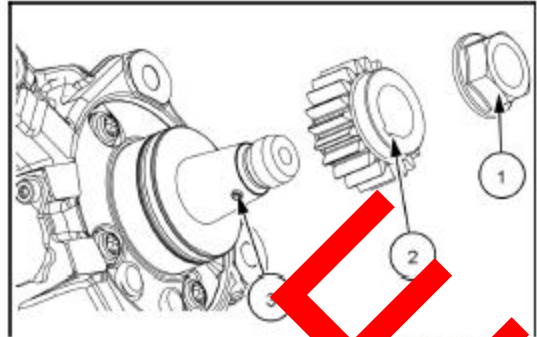


High pressure pump - Install

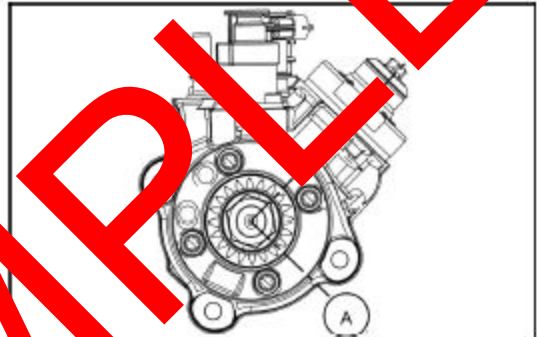
1. Install the high pressure pump gear (2) onto the high pressure pump shaft (3).

NOTE: The key is not installed in the high pressure pump shaft keyway.

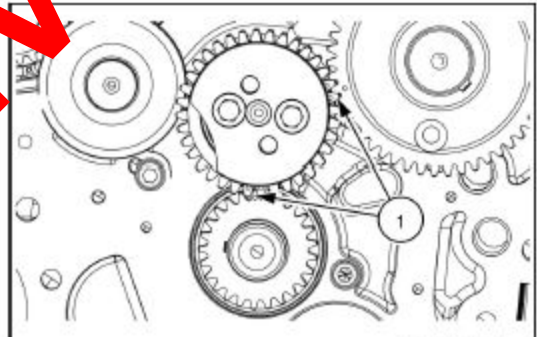
2. Make a mark on the high pressure pump gear in the location of the keyway.
3. Install the flange nut (1) onto the high pressure pump shaft.
4. Torque the flange nut to 86.4 N·m (63.7 lb ft).



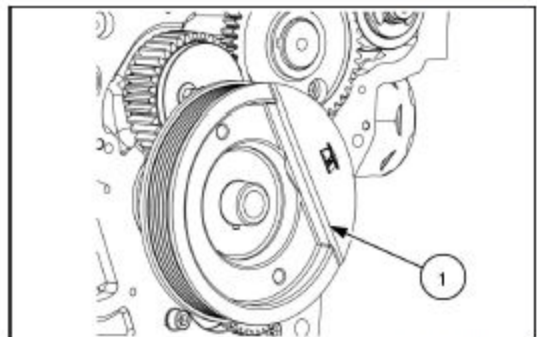
5. Position the keyway mark at 90 ° (A) clockwise to the piston plunger.

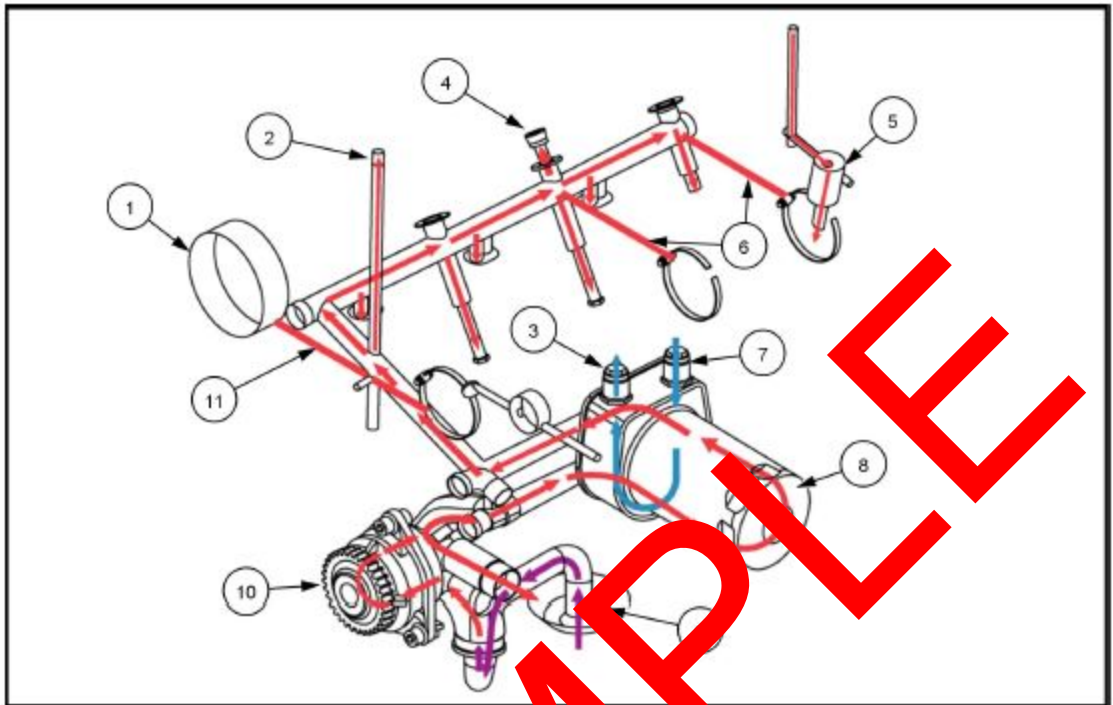


6. Rotate the engine so the timing marks (1) on the crankshaft and camshaft align with the idler gear timing marks, or Top Dead Center (TDC) on cylinder one.



7. Install the crankshaft pulley (1) onto the crankshaft.

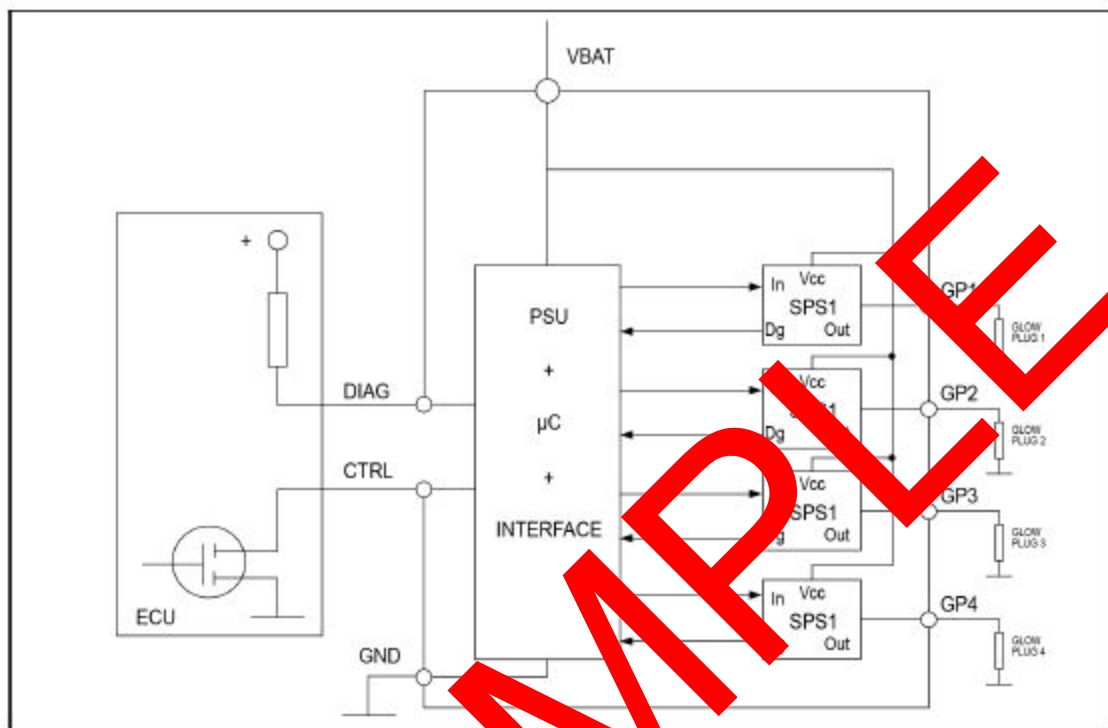




- (1) Bearing
- (2) Oil galley to cylinder head components
- (3) Coolant outlet for oil cooler
- (4) Oil galley for turbocharger
- (5) Oil separator valve
- (6) Oil galley through crankcase
- (7) Coolant inlet for oil cooler
- (8) Oil filter
- (9) Pick up tube
- (10) Oil pump
- (11) Oil galley through crankcase

EXAMPLE

Glow plug system Glow plug control module - Overview – Glow plug control module



The Fast Glow Plug Control Unit (FGPCU) powers up to four fast glow plugs (low voltage glow plugs that cannot be permanently driven at battery voltage levels) and is controlled by the input signal CTRL (active low). The duty cycle of the CTRL signal sets the power level of the glow plug outputs. The Engine Control Unit (ECU) can control the overall power of the heating elements.

The diagnostic functions are implemented for each glow plug output independently. The diagnostic output signal transmits the current status of the glow plug to the ECU. Each glow plug may either operate correctly or present a fault condition (open circuit or thermal shutdown).