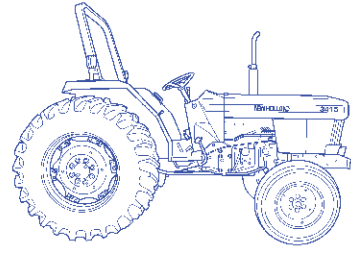


# NEW HOLLAND 3415



# REPAIR MANUAL



# **3415 REPAIR MANUAL CONTENTS**

- SECTION 1 - ENGINE SYSTEMS**
- SECTION 2 - FUEL SYSTEMS**
- SECTION 3 - ELECTRICAL SYSTEM**
- SECTION 4 - CLUTCH**
- SECTION 5 - TRANSMISSION SYSTEMS**
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- SECTION 9 - STEERING SYSTEM**
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- SECTION 11 - WHEELS AND TIRES**
- SECTION 12 - SEPARATING THE TRACTOR**

**SECTION 1 - ENGINE SYSTEMS**

**Chapter 1 - Engine and Lubrication System**

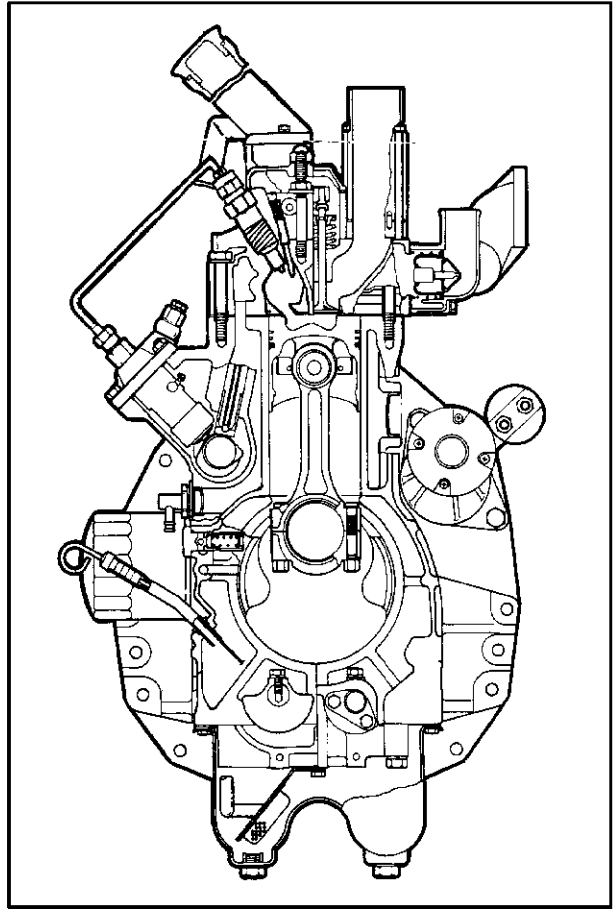
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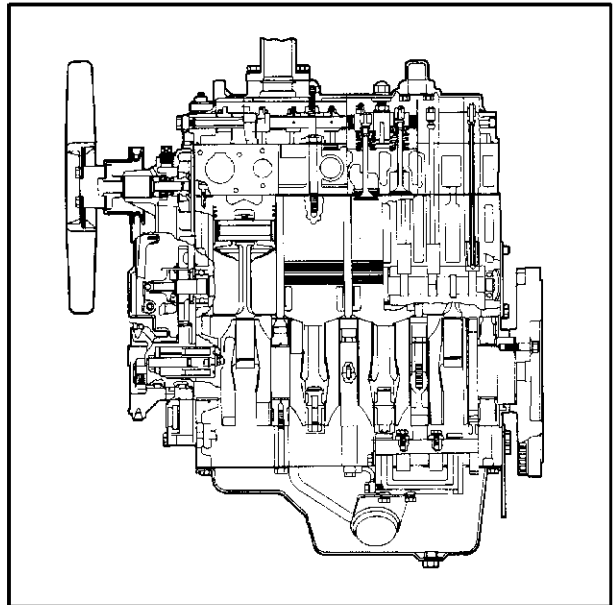
**ENGINE SYSTEM DESCRIPTION AND OPERATION**

This chapter describes engine overhaul and repairs procedures for the Model 3415 tractor engine.

The engine is a four cylinder, four cycle, overhead valve, liquid cooled engine, Figures 1 and 2.

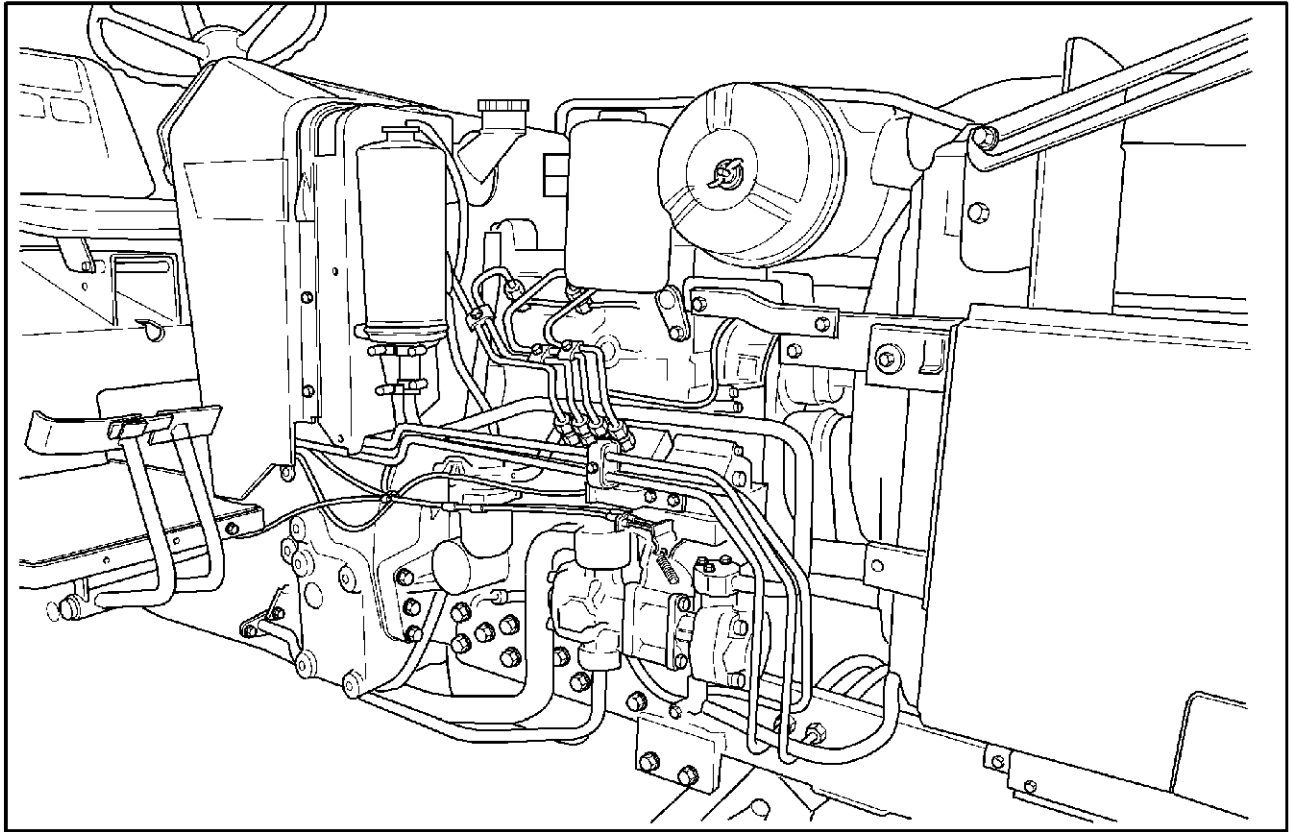


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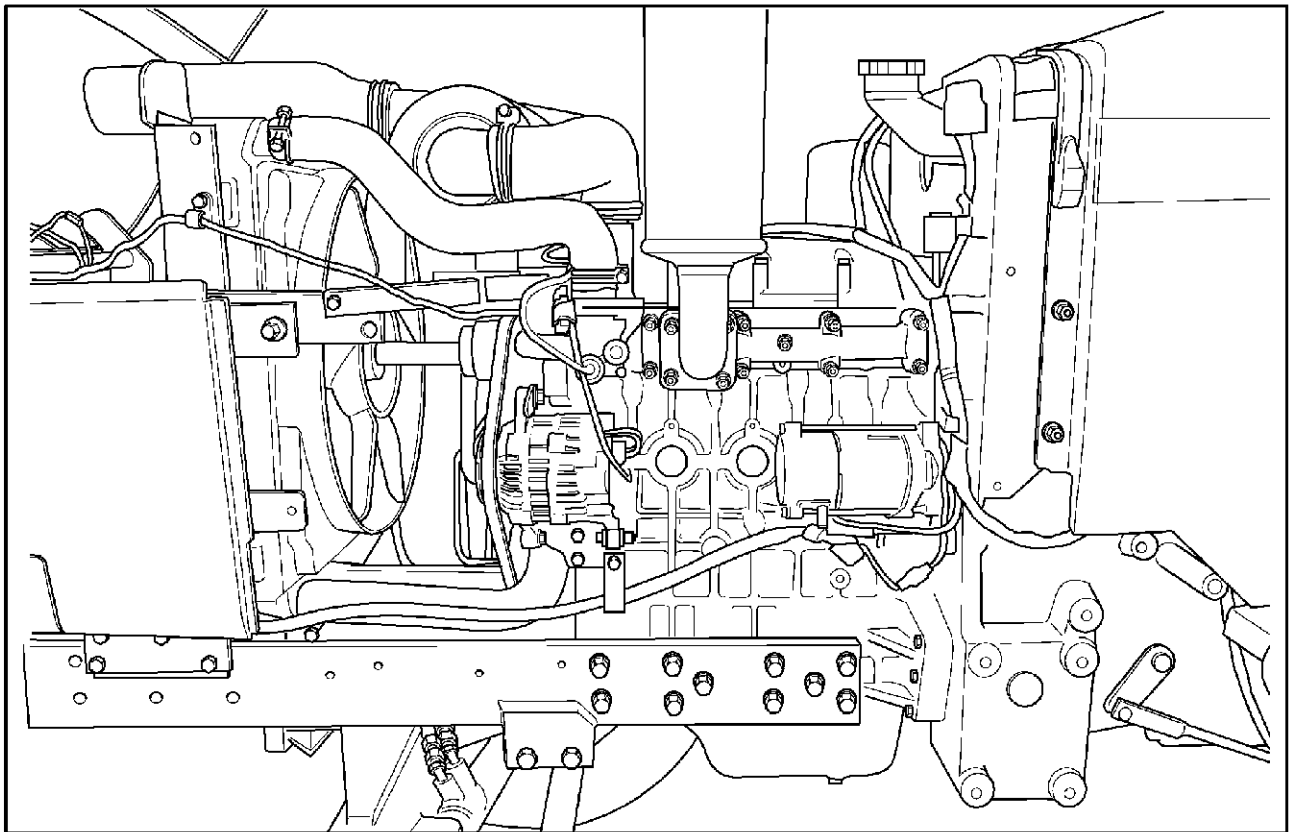


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SECTION 1 - ENGINE SYSTEMS - CHAPTER 1



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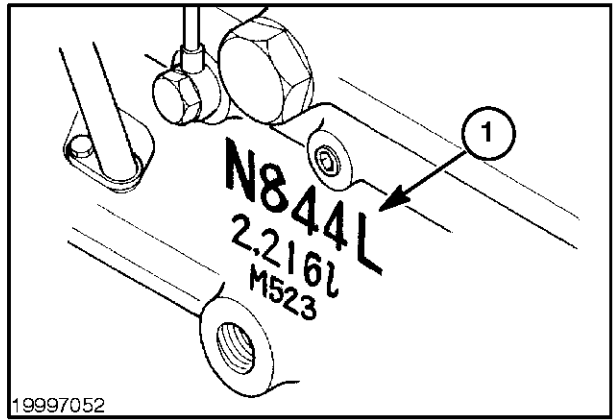


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SECTION 1 - ENGINE SYSTEMS - CHAPTER 1

The engine is identified by a code number, 1, cast into the side of the cylinder block.

Engine Identification	Tractor Model	Horsepower
N844L	3415	47.0



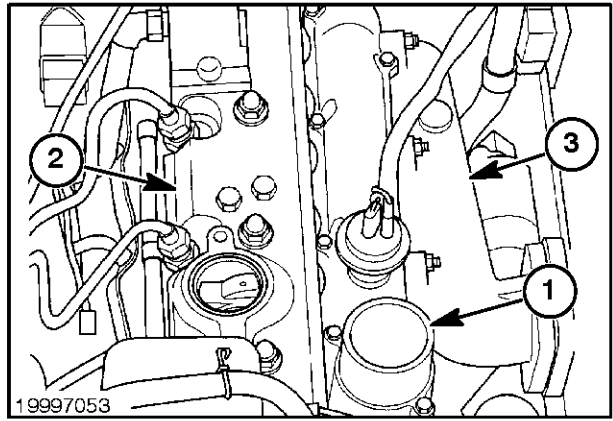
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**Cylinder Head and Valve Train Components**

The cylinder head incorporates the valve assemblies, rocker arms, rocker shaft, push rods, and lifters.

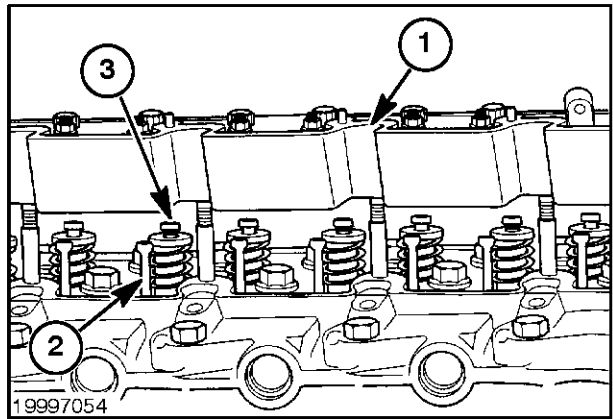
The intake manifold, 1, is located on the top of the cylinder head and is separate from the valve cover, 2.

The exhaust manifold, 3, is bolted to the left side of the cylinder head.



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The valve rocker arms and support shaft, 1, are mounted in a separate support casting bolted to the top of the cylinder head.



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### Cylinder Block Assembly

**NOTE:** This engine is certified to 1999 EPA emission legislation. No one is permitted to repair the engine unless the fuel delivery is unchanged, therefore preserving the emissions performance, eg. replacement of block, short block assembly, smoke set, etc. is not permitted. In that case please use a long block assembly for repairing.

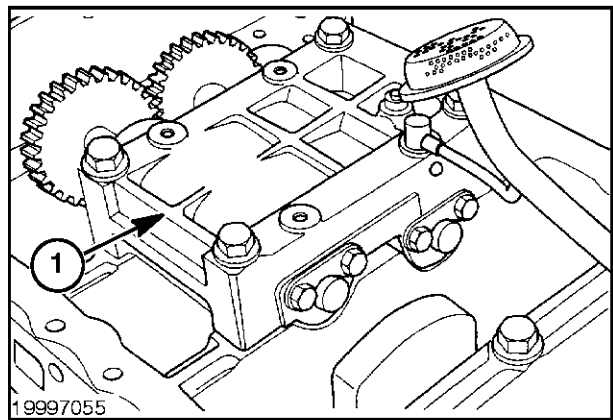
The cylinder block assembly contains the pistons, connecting rods, crankshaft, camshaft, timing gears, engine oil pump and dynamic balancer assembly.

The engine is equipped with straight connecting rods.

The crankshaft is supported on five main bearings. The front bearing is supported in a bore in the front casting of the cylinder block.

All remaining bearings are split liners retained in cast iron holders.

The engine incorporates a dynamic balancer assembly, 1, that is bolted to the under side of the block and driven by the crankshaft.



**Lubrication System**

The oil pump assembly is located within the idle gear at the front of the block and below and to the left of the crankshaft as viewed from the front. The oil pump is driven by the crankshaft gear.

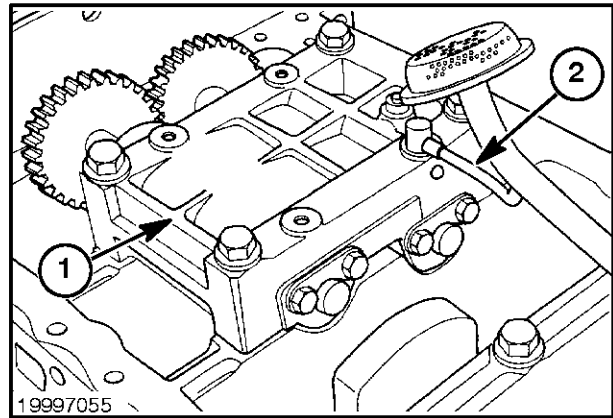
Oil is picked up from the sump by the intake tube and drawn into the lower side drilling in the block to the oil pump. Oil from the pump flows through passages in the block, past the relief valve, through the oil filter and returns to the main oil gallery in the area of the drilled bolt located on the side of the block. Oil flow in the main oil gallery extends to the main bearings. Oil flow to the main bearings passes through drilled passages in the crankshaft to the connecting rod bearings.

Oil from the main oil gallery supplies pressure oil to the dynamic balancer, 1, through a tube, 2, connected to the under side of the block.

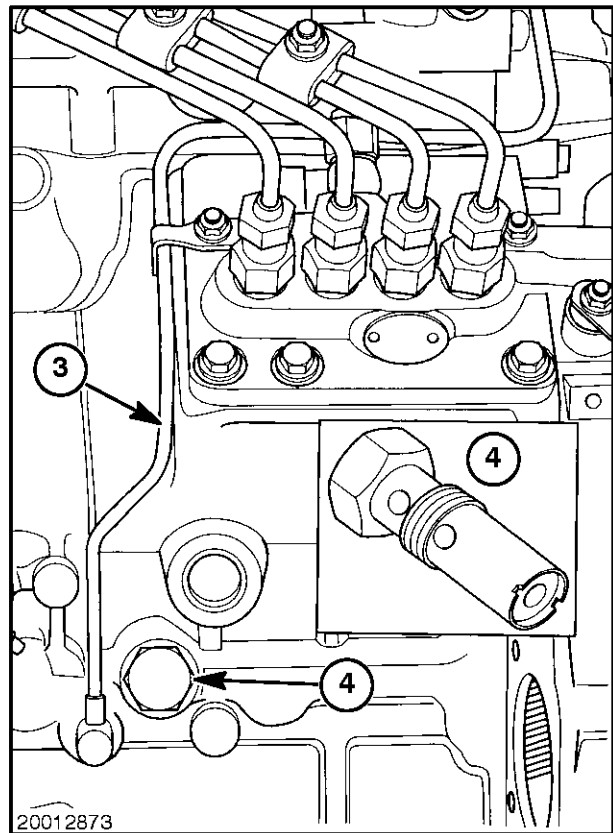
Pressure oil from the main oil gallery flows through a tube, 3, to the front of the valve rocker shaft to lubricate the rocker arms, valve stems, push rods and tappets.

The relief valve, 4, is mounted in the side of the block and intersects the main oil passage. When the oil pressure exceeds the rated pressure, oil is bypassed through the relief valve directly to sump.

The cylinder walls, pistons and piston pins are splash lubricated by the crankshaft.



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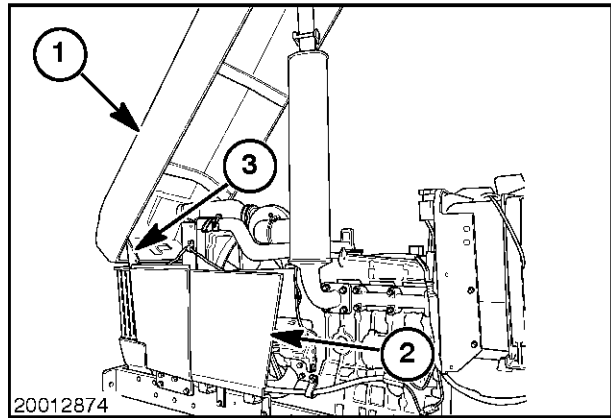
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## ENGINE OVERHAUL

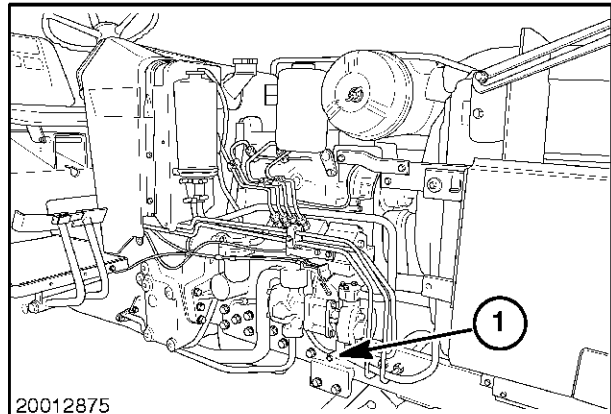
### Cylinder Head Removal

1. Open the hood, 1, and remove the side covers, 2. Disconnect the headlight wiring, 3. Remove the hood assembly.



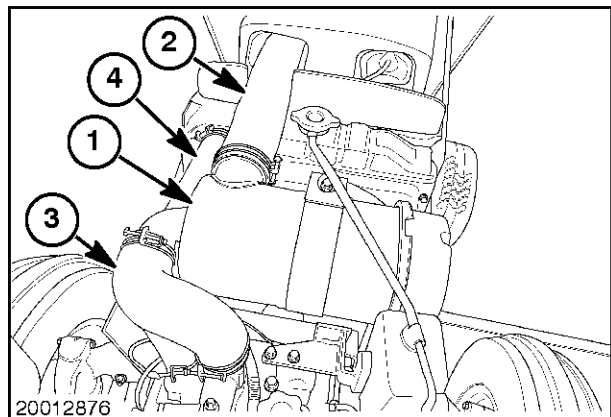
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2. Drain the coolant from the radiator and engine block through the radiator drain cock, 1.



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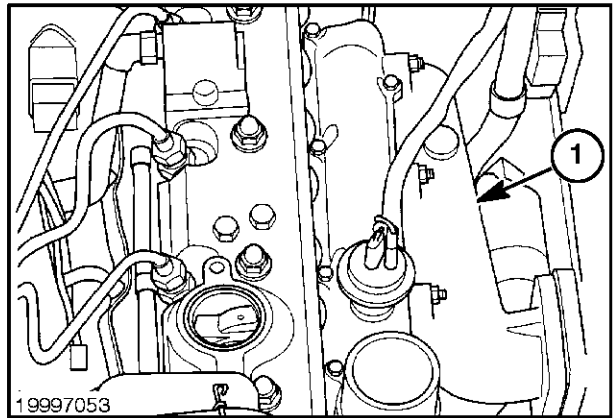
3. Remove the air cleaner assembly, 1, along with the air inlet tube, 2, and air outlet tube, 3.
4. Remove the upper radiator hose, 4, from the cylinder head.



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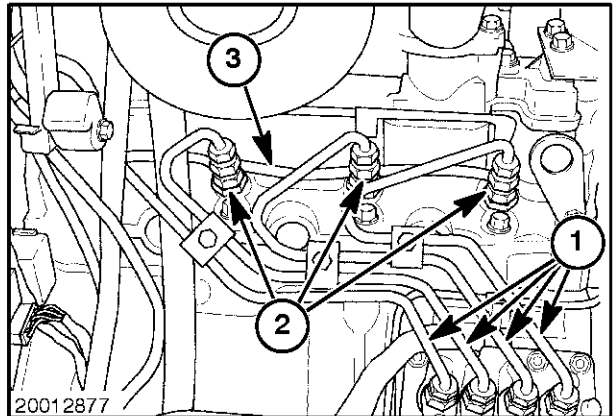
SECTION 1 - ENGINE SYSTEMS - CHAPTER 1

5. Remove the exhaust muffler and manifold assembly, 1.



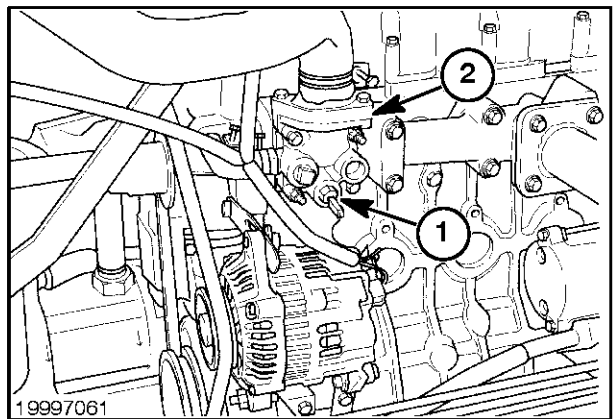
14

6. Remove the fuel injection lines, 1, and fuel leakoff line, 3, and cap all openings.
7. Remove the injector assemblies, 2.



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8. Remove the thermostat housing, 2, and thermostat.
9. Remove the fuel tank and baffle.



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Thank you very much  
for your reading.  
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to get more information.