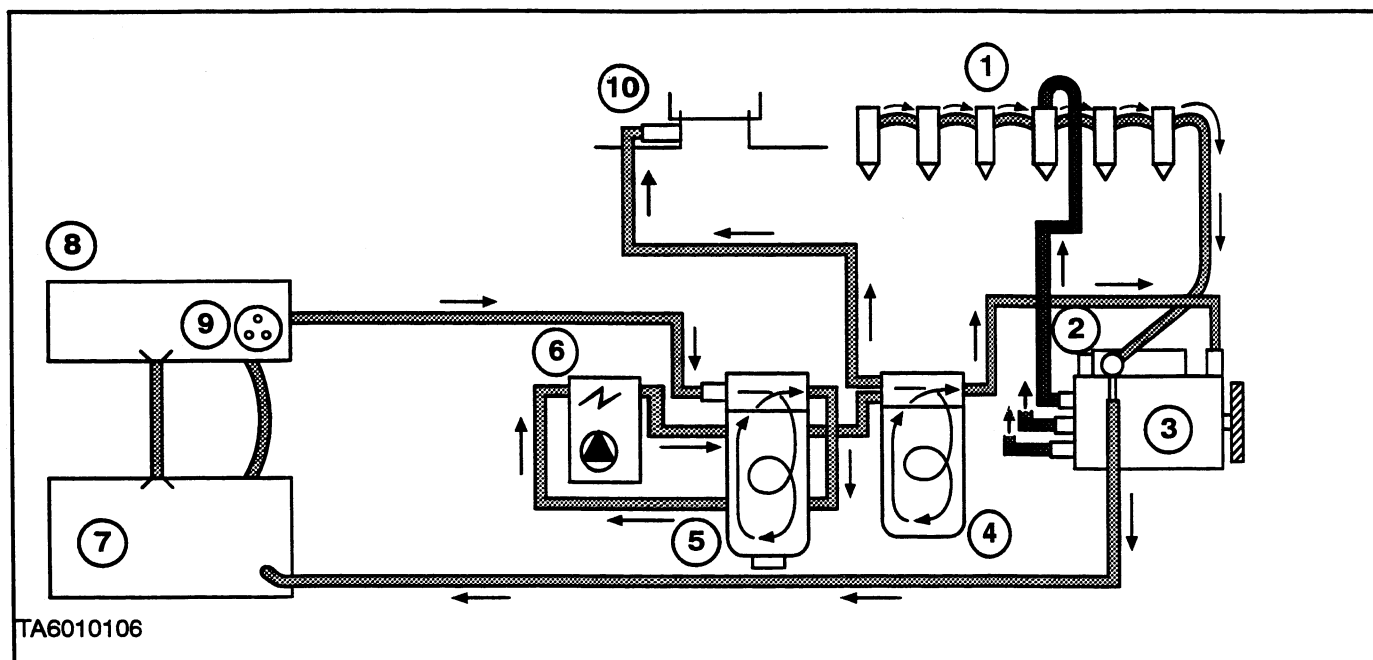


FUEL SYSTEM



TA6010106

Fuel System

Figure 1-1-7

- | | |
|------------------------|---------------------------|
| 1. Injectors | 6. Electric Lift Pump |
| 2. Shut-off Solenoid | 7. Right Hand Fuel Tank |
| 3. Fuel Injection Pump | 8. Left Hand Fuel Tank |
| 4. Fuel Filter | 9. Fuel Gauge Sender Unit |
| 5. Fuel sedimenter | 10. Thermostart |

The diesel fuel system consists of fuel tank, fuel sedimenter, electric lift pump, fuel filter, BOSCH VE distributor type fuel injection pump, fuel injectors, and interconnecting tubes and lines, Figure 1-1-7.

The fuel injection pump is pressure fed from an electric lift pump. Fuel flows from the fuel tank to the sediment separator, through the electric lift pump and then through the fuel filter. From the filter the fuel passes to the transfer pump which is an integral part of the fuel injection pump.

The transfer pump delivers fuel to the injection pump to supply fuel at high pressure to each injector and also provides extra fuel which lubricates and cools the injection pump.

This extra fuel is recirculated, via a fitting on the fuel injection pump governor control housing to the fuel tank, by means of the injector leak off line.

On all models excess fuel that leaks past the needle valve of the injectors is directed back into the fuel tank, by means of the injection leak off line.

Fuel Shut Off (Injection Pump)

All fuel injection pumps are equipped with an electrically operated fuel shut off solenoid.

The fuel shut off solenoid is energized by operation of the ignition switch mounted in the instrument panel.

With the ignition switched "OFF" a spring loaded plunger in the solenoid (held in position by the spring tension), prevents fuel flowing into the pump from the main fuel feed port.

With the ignition switched "ON" the magnetized plunger is energized by an internal coil and is drawn up into the body of the solenoid. Fuel is then allowed to flow through the open port into the pump.

Fuel Sedimenter

The sedimenter, Figure 1-1-8 is positioned between the fuel tank, and the electric lift pump, on the right hand side of the engine. The fuel enters the sedimenter and flows into the head, to be directed down, and around the edges of the sediment separator cone.

The larger particles of dirt and water (which are heavier than fuel oil), are separated out and sink to the collecting bowl which can be removed and cleaned. The clean fuel is then drawn back through the top of the unit by the electric lift pump and on to the fuel filter.

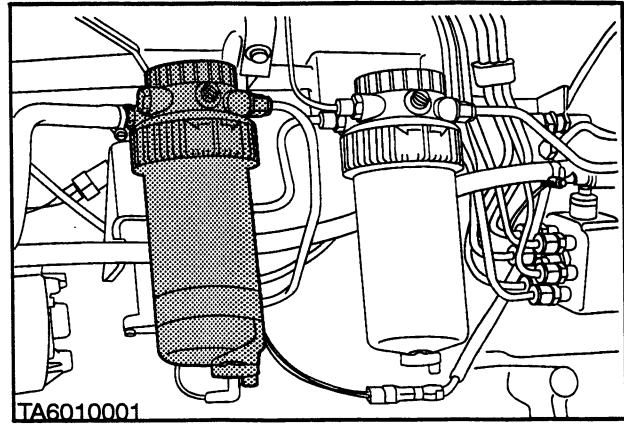


Figure 1-1-8

Electric Lift Pump

An electric fuel pump is fitted to all models. Located behind the sedimenter, (1) Figure 1-1-9, the pump draws fuel from the tank, via the sedimenter and passes fuel under pressure to the filter and onto the fuel injection pump.

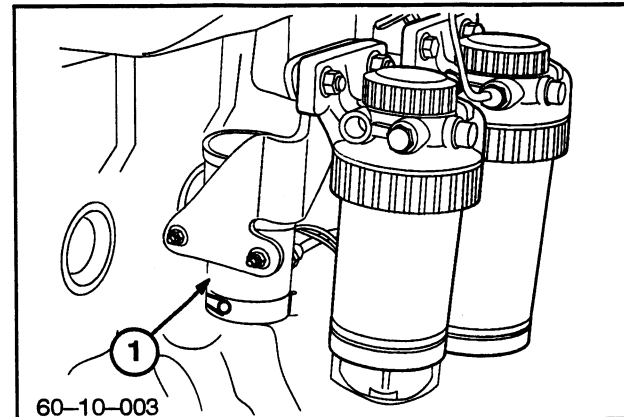


Figure 1-1-9

Fuel Filter

The fuel filter situated to the right hand side of the engine, close to the sedimenter, receives the clean fuel from the electric pump. From the filter head the fuel is directed down, through the filter paper and into the base chamber, Figure 1-1-10.

The filtered fuel then flows up the center tube of the element to the filter head outlet, and into the injection pump.

Thermostart

To aid engine starting in cold weather conditions, a thermostart is standard on all models, Figure 1-1-11.

The thermostart is screwed into the inlet of the intake manifold. A fuel line connects the thermostart to the fuel filter head and the electrical terminal is connected to the ignition switch via the electronic management unit which controls the duration of thermostart operation.

When electrical current is applied, by operating the ignition switch, the heater coil is energized.

As the coil heats up a check valve opens which allows fuel to flow over the hot coil. The fuel is ignited by the coil producing a flame in the manifold which heats the intake air prior to it entering the combustion chamber.

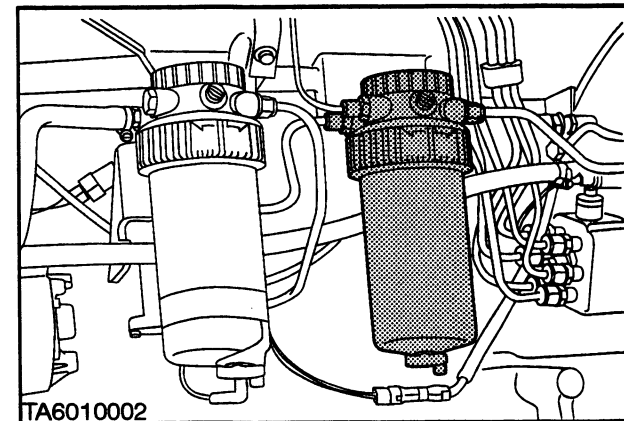


Figure 1-1-10

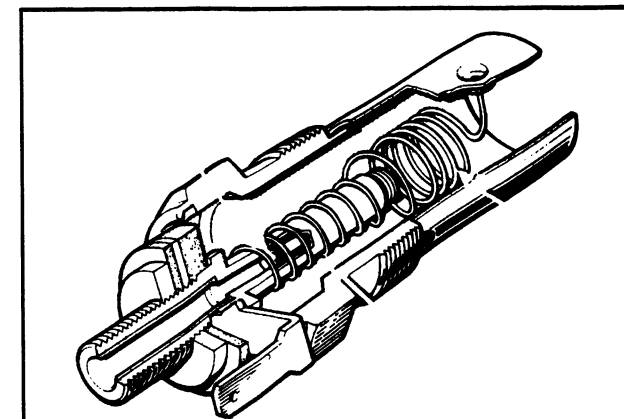


Figure 1-1-11

DIESEL ENGINE STRIPDOWN

In the following procedures and illustrations the engine in the main is shown removed from the tractor.

However there are certain operations that can be performed with the engine still in the tractor, or separated at the connection to the front axle support, or separated from the transmission housing.

The engine overhaul procedure initially describes the assembly process for rebuilding an engine using all new components. Following this section are defined headings which describe detailed repair specifications and procedures, where components are suitable for re-use. Refer to the specifications section to ensure components are serviceable.

Where overhaul of components is required without engine being removed from the tractor refer to the following headings, and the relevant paragraphs, in the main overhaul procedure.

Operations or repairs that can be performed with the engine still in the tractor.

1. Cylinder head and associated inlet and exhaust components.
2. Fuel injection pump and related parts.
3. Water pump, thermostat, and associated components.

4. Oil pump relief valve.
5. Turbocharger.
6. Front timing cover/timing gear removal.
7. Front pulley and damper assembly.

Operations or repairs that can be performed with the engine separated from the front axle

1. Oil pan removal for access to oil pan gasket, crankshaft, bearing shells, piston removal, and oil pump suction tubing.

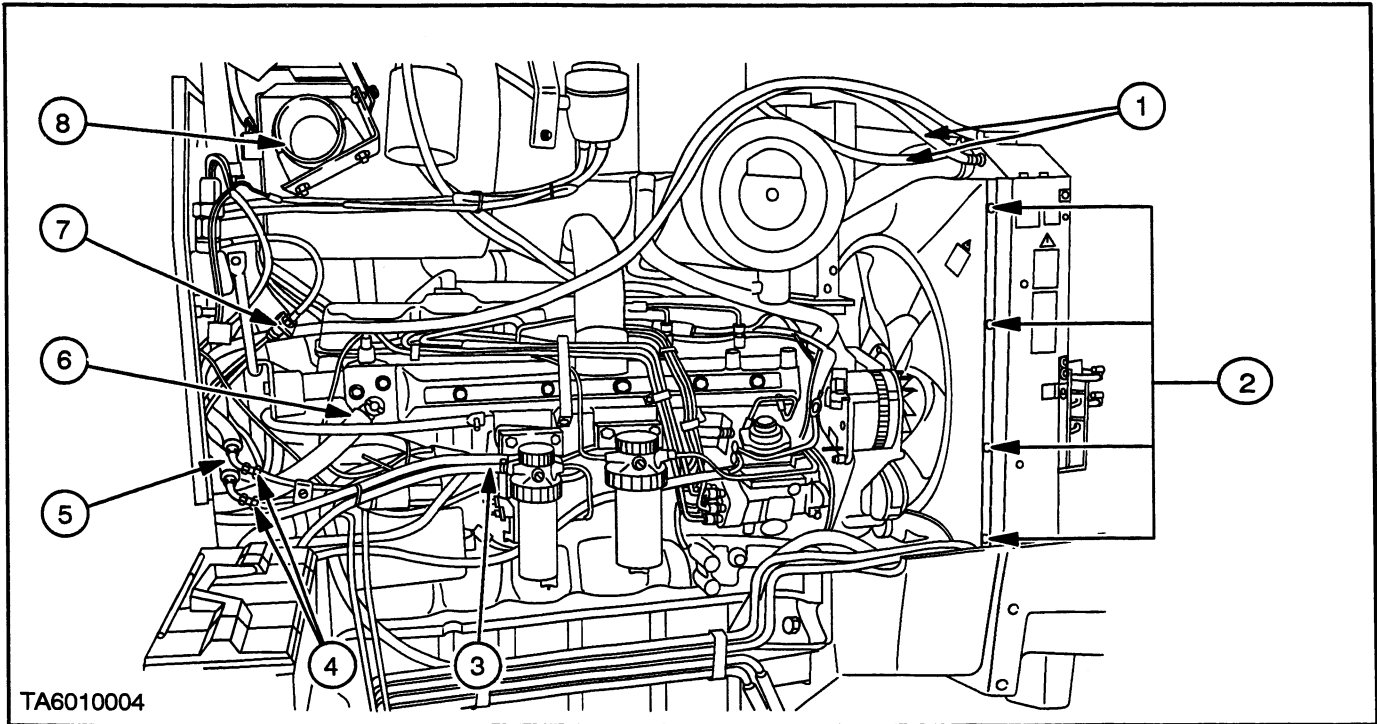
Operations or repairs that can be performed with the engine separated from the transmission housing, and with oil pan removed

1. Crankshaft rear oil seal and carrier removal, (with oil pan removed).
2. Oil pump and drive gear removal.

Dismantle the engine following conventional techniques, or by referring to the following removal procedure. Referring to the specification section as necessary.

NOTE: *All gaskets, seals, and 'O' rings must be replaced with new upon re-assembly. Where new sealant is to be applied refer to "Engine Specifications".*

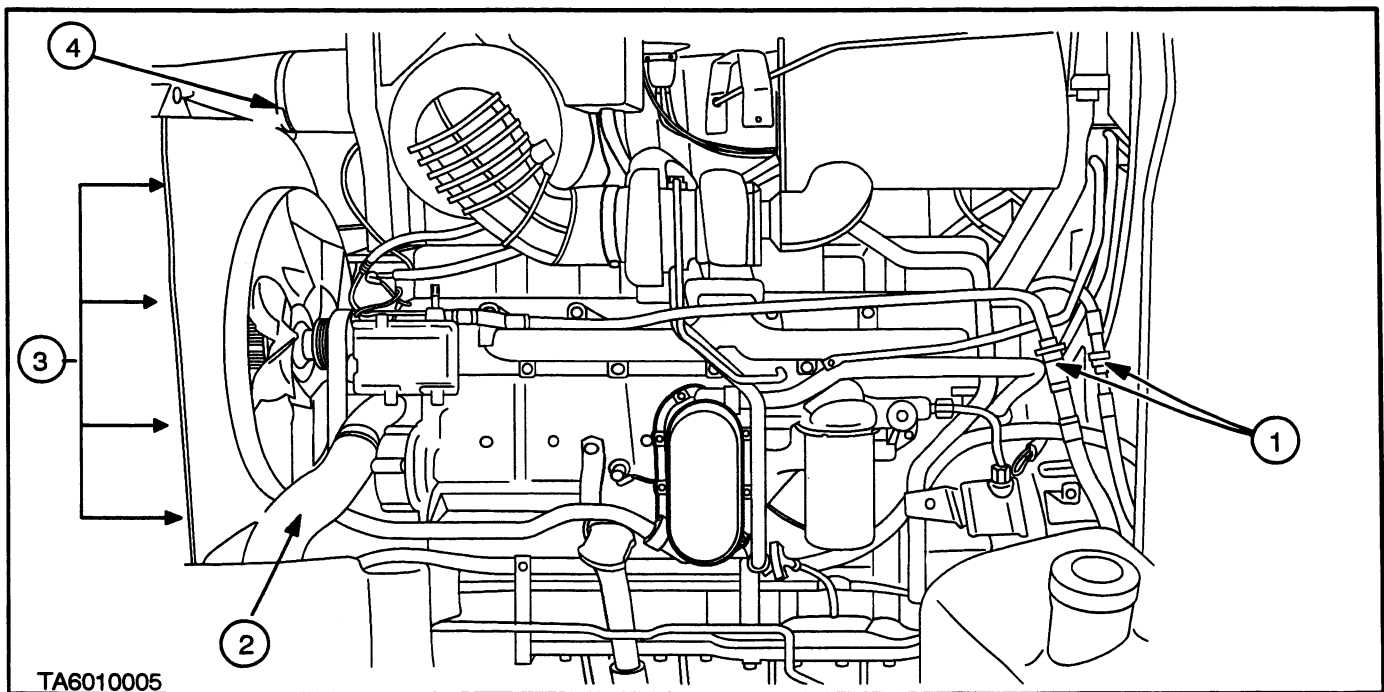
ENGINE REMOVAL – INSTALLATION (Op. 10 001 10)



TA6010004

Right hand View of Tractor

Figure 1-1-12



TA6010005

Left hand View of Tractor

Figure 1-1-13