

Engine Concerns

One of our biggest challenges is troubleshooting over the phone. When we receive a call for technical support, it is a lot like working with a blindfold on. We cannot see what we are dealing with, so we depend on the customer to be our eyes, ears and hands at the sawmill. We've listed a few symptoms we are often asked about and the troubleshooting procedures to help you isolate and solve these problems quickly.

Gasoline Engines:

Concern:

My 24HP Onan engine will not start and I do not see any spark at the plug wire.

Check:

The ignition systems on an Onan engine consist of a coil, condenser, ignition module and trigger ring. To check the system for functionality, place a 12 volt test light or volt meter on the positive (+) side of the coil with the key switch in the run position. You should have 12 volts to the coil. If not, check voltage at the key. If you have voltage, place the light or meter on the negative side of the coil (-) and crank the engine. If the ignition and trigger ring are operating correctly, and you are using a test light, the light will flash. If you are using a meter, the reading will fluctuate from 12 volts to 1 volt. If the light does not flash or the voltage reading does not fluctuate, the ignition module is defective. If it flashes or the voltage readings fluctuate, check the coil and replace as needed.

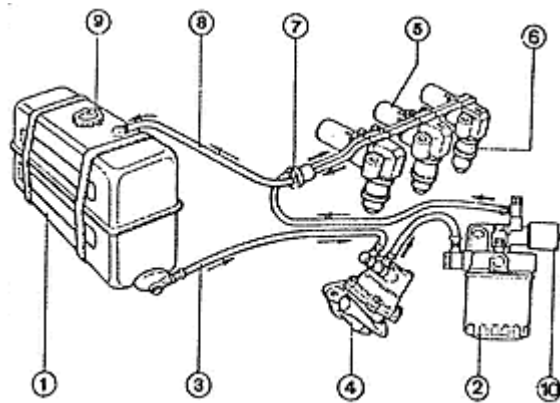
Diesel Engines:

Concern:

My engine smokes white and misses in the cut.

Check:

The most likely cause is air in the fuel system. Check for loose connections on the fuel lines and filters. If you do not find any loose connections, check the fuel supply pump for operation. The fuel supply pump can also cause this condition.



Fuel System Schematic

1. Fuel Tank
2. Fuel Filter
3. Supply Hose
4. Fuel Pump
5. Injector
6. Injection Pump
7. Fuel Rail Grommet
8. Return Hose
9. Fuel Tank Fill Cap (Vented)
10. Fuel Shut-Off Valve (Electric)

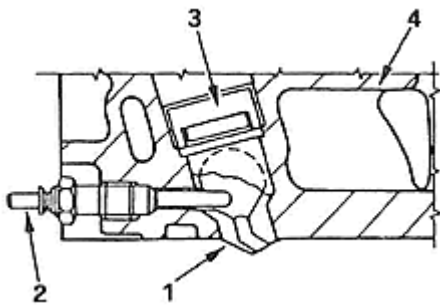
Concern:

My engine is hard to start when it is cold.

Check:

Check the glow plugs to make sure that you have 12 volts supplied to them. If you have 12 volts at the glow plugs, pull the plugs, and check for operation by applying 12 volts to the small threaded stud on the glow plug and grounding the large threaded area.

The plug should get red hot (1200° F) in 7 to 10 seconds. If the plug does not get red hot, the glow plug is defective and should be replaced. If the plug gets hot, check the fuel system. To check for air in the fuel system, pump the hand-primer located on the fuel supply pump and loosen the bleed screw located on top of the secondary fuel filter. You should see a clean stream of fuel with no air bubbles coming out of the bleed screw. If you see air bubbles, continue to pump the hand primer until the fuel is clean, then retighten the bleed screw. If you are bleeding the fuel system after the mill has not been operated for eight hours or more, the fuel supply pump is the most likely cause of air. The fuel supply pump is equipped with a check valve that prevents the fuel from bleeding back into the fuel tank when the engine is not running. Air bubbles would indicate the check valve is not seating properly and you need to replace the fuel supply pump.

**Pre-Combustion Chamber Overview**

1. Pre-combustion Chamber
2. Glow Plug
3. Pre-combustion Chamber Ring Nut
4. Cylinder Head