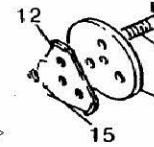
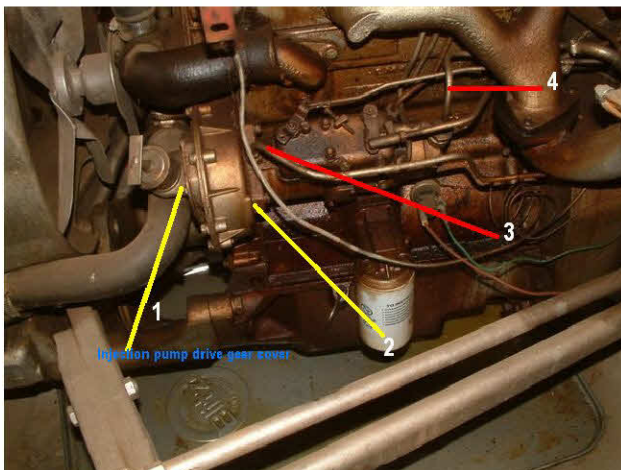


To remove the Fuel injection pump from the Perkins engines

- 1) It may or not be necessary to drain the water from the radiator to move the hose to obtain access to the Injector pump drive gear (Yellow line #1 in Pic #2 below)
- 2) Remove Injection pump drive gear access plate, some models will have engine oil filler tube as pictured below others will have a solid plate.



- 3) When you remove the cover it will look similar to this>>>>
- 4) The 3 holes in the picture above will have 3 bolts that will require a ½ wrench /socket to remove, **do not remove at this time!**
- 5) Next go to the mounting area of the pump and observe the lines in the area of line #2 in picture 2. Clean the area and if there are no lines visible take a small chisel and make 2 marks one on the timing gear cover and one on the injector pump
- 6) Then proceed to remove lines 3 and 4 Return and inlet, be sure to leave fittings in the pump as they will be required to properly test and set up the pump.
 - a. These lines can be difficult at times to remove due to a rubber grommet that seals them. Take a small pick and go between the line and the fitting and cut the grommet.
- 7) Then remove injector lines taking extreme care not to contaminate them with any dirt. Also remove the shut off and the throttle control rods. Be sure to leave the levers attached to the pump as these will be required to properly test the pump
- 8) Now remove the 3 bolts that hold the pump drive gear to the pump, some models may have a metal bent tab locking the bolts others will not.
- 9) Next remove the 3 mounting bolts that hold the pump to the timing gear cover or front of the engine. These bolts are located in a triangle shape and will take a ½ socket and extension or a 90 degree bent wrench.

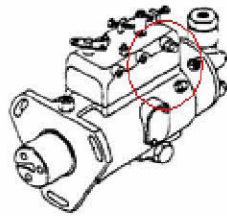


Pic #2

Now the pump should just pull out.

When installing the pump onto the engine.

- 1) Be sure the mounting area of the pump is clean; remove any gasket that has been left on the timing cover of the engine.
- 2) Notice on the drive hub of the pump there are 3 holes and one slot, the slot will need to line up with a dowel pin located in the pump drive gear. Rotate the pump to align this, **DO NOT ROTATE THE ENGINE**.
- 3) Once the slot in the drive hub is lined up with the pin in the drive gear install the pump mounting gasket and mount the pump to the engine, if both surfaces are as clean as needed there is no need to add a gasket sealer, (gasket sealers can lead to improper mounting and pump failure) run the 3 mounting bolts of the pump up finger tight, be sure to run them in evenly.
- 4) Now install the 3 bolts in the pump drive gear, take extra measures not to drop any bolts or washers into the timing gear drive train, if the gear had metal tab locks, if they appear to be damaged it is better to discard the tab lock and install lock washers, when re-installing lock washers that were used instead of tab locks, be sure the lock washer has spring to it and they are not flat, if they appear to be flat discard and replace with new. Also it is not a bad idea to use a type of thread lock on the bolts. Tighten bolts to 30-35 INCH pounds on grade 5 or grade 8 bolts. If a inch pound torque wrench is not available, tighten as much as possible with out shearing bolt.
- 5) Now it is best to go ahead and install the injector lines, but remember the pump is still loose. Installing the lines with the pump loose will give you more flexibility, and allow easier starting of the lines.
- 6) After installing the lines, align the marks place on the pump mounting flange, and the timing gear cover that were made or observed at the time of removal in step 5 of pump removal, tighten pump, be sure to get all mounting nuts tight and tighten evenly. Never attempt to run a engine with any mounting bolt loose, this can lead to pump failure.
- 7) Next Bleed the air from the system, from the 2 screws circled in the diagram below, this will require a 8mm or 5/16 inch wrench, bleed the one in the lowest



- position on the pump first.
- 8) Once you get the air out of the top bleed screw, then you need to loosen the injector lines at the injector, crank the engine over a few times and when you begin to see fuel with out come out the end of the lines, tighten the lines and proceed to start.
 - 9) Once the engine starts run it for a couple of minutes, shut it off recheck pump drive gear bolts, recheck mounting bolts, replace cover for drive gear, if water was removed wait for engine to cool down to room temp and replace water.
 - 10) Start engine run to operating temp, if engine runs rough at high speed timing may need to be adjusted, but never try this with engine running it can lead to pump failure. Be sure pump mounting bolts are all tightened evenly before running engine

