

To remove and install the injection pump on the 3 and 4 cylinder model John Deere **20, **30 and **40 Series Tractors.

This will cover many models that have the Stanadyne or Roosa Master models DB or JDB Diesel injection pump

First you will want to disconnect the battery cable and turn off the fuel at the tank.

- 1) Remove the timing window #1 in picture below. When this is removed you will see the outer surface of 2 discs, the one toward the rear of the tractor will have a line about in the middle or to the lower part of the window. The front disc you may or may not see the line at this time.
- 2) Rotate the engine by hand until you see the line on the front disc start to come into the window. (To aid in rotating the engine it may be necessary to remove the timing pin item # 2 below to gain access to the flywheel, The timing pin has a cover on it that will allow you to reach the ring gear for the starter, If your unit does not have this, there should be a cover on the back side of the clutch housing that will allow access to this area)
- 3) When the front line begins to come into the window, remove the timing pin (if you did not remove it in step 2) Turn the pin around and push the long end of the pin into the hole that it came out of. Hold a little pressure on it pressing it against the flywheel as you continue to slowly rotate the engine. When you get to the firing position the pin should go into the flywheel and lock the engine.
- 4) The 2 marks should now be in line, IF they are not they should be close. A damaged flex ring in the pump may keep these 2 marks from meeting but this is the location that you need to be in to remove the injection pump.
- 5) For extra security to aid in replacement you may take a chisel and make a mark on the pump and the timing gear cover at the location #3 in the picture below. Many of these may already have marking there if so observe where they are so you can get the body of the pump back in the same location.
- 6) Remove the injector line clamp #5 in picture and the injector lines #4. To remove the injector lines from the injectors you will need to hold the injector fitting with a 9/16 wrench to prevent bending the feed tube to the injector, some have a swivel bushing and some are a formed line on the injector.
- 7) Remove the inlet line and return line. Throttle linkage and shut off cable or if equipped with electric shut off, the wire.
- 8) With all the lines, cables and wires removed from the injector pump, take a small piece of wire and tie the throttle lever in the wide open position. Electric fence wire will work well, run it through the hole that the throttle rod came out of and wrap it around the inlet fitting. This will keep the governor weights in their correct position. (This is not necessary if you are sending the pump in to be repaired, but is critical if you are planning to re-install the pump without having it serviced).

- 9) Remove the 2 bolts that secure the pump to the engine; this will take a 9/16 inch wrench. If the tractor has side rails bolted to the engine or a loader this may require the use of a "crow's foot" or a 90 degree angled wrench.
- 10) With the pump loose you will need to slide it toward the rear of the tractor, it will need to come straight back about 4 inches to allow it to clear the pump drive shaft.
- 11) After the pump is removed, sit it down on its mount to allow fuel to drain.
- 12) Replace the side cover and your pump is ready to be sent for repair.

