



## Stanadyne DB-JDB and DB2 Pump Removal and Installation

### Removal

Stanadyne DB, JDB and older DB2 model injection pumps will have a non-retained drive shaft (shaft stays in engine when pump is removed) If the injection pump you have has a retained drive shaft (shaft stays in the pump when pump is removed from engine), see instructions for removal and installation of DB2 and DB4 pumps.

Some Vertical mount injection pumps have the drive shaft retained in the injection pump and are driven with an offset tang distributor style drive shaft. Note offset position when removing injection pump from the engine.

Clean the exterior of the injection pump and mounting surfaces.

**IMPORTANT:** Never steam clean or pour cold water on an Injection pump while the pump is running or while it is warm. To do so may cause seizure of the injection pump.

### Cam Timed Injection Pumps:

If the timing window cover is marked "Timed Start Inj." or "Timed End Inj.," Remove the timing window cover and roll the engine into time by lining up the timing marks (Figure 1 or figure 2). Rotate the engine in the normal direction of rotation, reference your engine service manual for the correct engine degrees and cylinder number. Most injection pumps rotate one revolution for every two revolutions of the crankshaft.

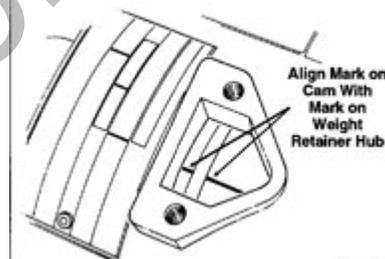
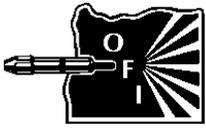


Figure 1  
Timing marks on a DB2 model pump

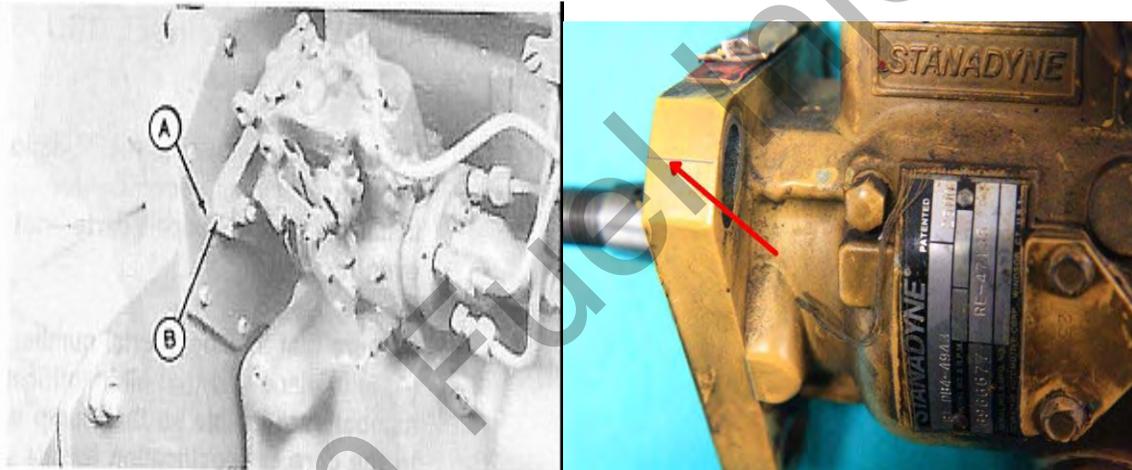


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Timing marks on a DB model pump (figure 2)

## Housing Timed Injection Pumps:



Check to make sure marks are present, and lined up, on both the pump mounting flange (B) and on the front cover (A). If the timing mark is not clearly visible, scribe a line on the front cover that matches the timing line on the injection pump.

1. Remove the fuel inlet and fuel return line,
2. Remove the electrical connector for the shut off solenoid, if equipped.
3. Remove the injection lines, cap fittings on nozzles and on injection pump.
4. Disconnect speed control linkage.
5. Remove hold-down nuts and slide injection pump away from the mounting studs and pump driveshaft.

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## Inspection

1. Inspect injection pump mounting hole in cylinder block making sure it is clean and free of burrs.
2. Inspect the driveshaft tang for excessive wear and burrs. Remove any burrs with light emery paper as this may cause damage to the pilot tube inside the injection pump upon reassembly.
3. If the driveshaft is broken then the injection pump is most likely seized and the cause will need to be determined prior to reinstalling the repaired or replaced injection pump.

## Installation

### Drive Shaft in Engine

1. If you rolled the engine into time before you removed the injection pump, then remove the timing cover marked "Timed Start Inj." or "Timed End Inj." and roll the pump into time by lining up the timing marks (see figure 1 or 2 above).
2. If you didn't time the engine before removing the injection pump remove the timing cover marked "Timed Start Inj." or "Timed End Inj." Roll the injection pump into time by lining up the timing marks (see figure 1 or figure 2 above). Roll the engine into time, in the normal direction of rotation, by lining up the timing marks. Reference your engine service manual for the correct engine degrees and cylinder number.



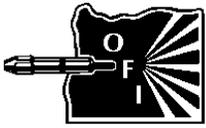
Prior to installing the injection pump, check to be sure that the dot on the drive shaft aligns with the dot inside the injection pump.

3. Install seal around pilot tube, or in groove on pump mounting flange, as required, per your engine manufactures parts manual.

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4. Install new seals on the driveshaft and apply a small amount of grease or engine oil to the driveshaft seals



5. While compressing the drive shaft seal slide the pump into position over the driveshaft. Be very careful to guide the seal into place, if you roll the edge of the seal during installation you will have a major engine oil dilution problem. Install the pump as straight as possible to prevent the shaft from scoring the pilot busing in the injection pump.

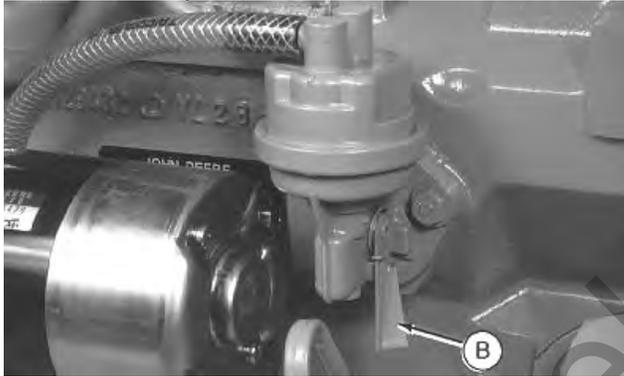
**IMPORTANT:** Do not invert drive shaft seal lips. If resistance is felt, stop and inspect the position of seal. If seal has been forced back, replace seal.

6. Pump should sit squarely and solidly on mounting pad when a slight pressure is applied.
7. Tighten the mounting nuts/bolts then install the injection lines, but leave the injector ends loose.
8. Turn pump to align timing marks (Fig. 9). Tighten mounting nuts securely.
9. Rotate engine backward 1/4 revolution.
10. If pump is cam timed, turn engine in direction of rotation until injection pump timing marks line up. The flywheel timing marks should now be aligned. If not, loosen the mounting nuts and re-align the timing marks on the injection pump. **IMPORTANT:** The normal backlash of gears is enough to throw the injection pump timing off by several degrees, resulting in poor engine performance. Therefore, it is very important that the timing of the pump be rechecked after installation.
11. Reconnect the fuel inlet and return line, leaving the inlet line loose for bleeding procedures.
12. Reconnect the shutoff solenoid (if equipped)
13. Reconnect the throttle linkage.



## Priming and Starting

1. Open the bleeder screw on the secondary filter (if equipped) and operate the hand primer to bleed the air from the system.



B. Hand Primer

2. When fuel flows freely from the fuel inlet line, tighten the fuel inlet line at the injection pump.
3. Leave the shut off disconnected or in the off position and crank the engine over for 10 seconds.
4. Connect the electrical shut off solenoid.
5. Crank the engine to start.
6. If the engine will not start, loosen the injection lines at the injectors, one line at a time. Crank the engine over until fuel free of bubbles flows from the injector, tighten the injection line.



Use two open ended wrenches if if needed.

You can experience an airlock while trying to bleed the fuel system if all of the injection lines are loose at one time while cranking the engine.