

## Delphi DP200 Pump Removal and Installation

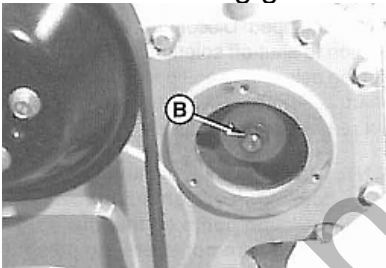
**These instructions are for a housing timed DP200 series pump, such as used by John Deere, not for a lock timed DP200 series pump, like used by Perkins.**

### Removal

Clean the fuel injection pump, lines and area around the pump with cleaning solvent or a steam cleaner.

**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.

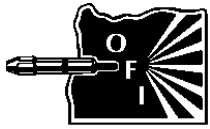
1. Disconnect shut-off cable and speed control linkage, if equipped. Disconnect electrical connection to shut-off solenoid or throttle positioning solenoid, if equipped. Disconnect cold start switch, if equipped. Tag electrical wires for correct reassembly.
2. Disconnect fuel return line and fuel supply line.
3. Disconnect all fuel delivery (pressure) lines from injection pump.
4. Remove injection pump drive gear cover. Remove drive gear retaining nut (B) and washer from end of pump shaft. Be careful not to let washer fall inside timing gear cover.



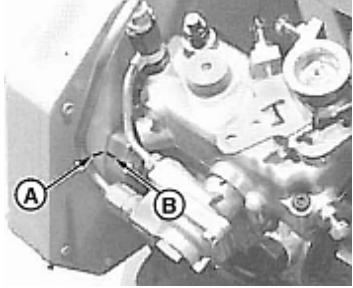
John Deere application shown

Note: The injection pump drive gear fits snugly onto a tapered driveshaft and is indexed by a woodruff key installed into the driveshaft. Use a gear puller to remove the drive gear from the shaft.

5. Check to make sure the timing marks on back side of front plate (A) and injection pump flange (B) are present and properly aligned. This assures that the repaired or replacement pump can be properly timed to engine when installed.



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6. Remove injection pump mounting stud nuts. Remove injection pump from mounting studs

## Inspection

1. Inspect injection pump mounting hole in cylinder block making sure it is clean and free of burrs.
2. Inspect the pump mounting surface making sure that it is clean and smooth and free of burrs.
3. Inspect injection pump drive shaft for presence of metal transfer from gear slippage. Also, check to see if index pin in shaft is not damaged, indicating gear slippage.
4. If the shaft shows signs of gear slippage, the injection pump is very likely seized, and the cause of the seizure must be found before reinstalling a repaired or replaced pump. The drive gear must also be changed

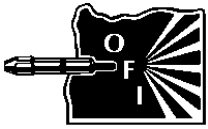
## Installation

1. Place a new a-ring (if required) onto front face of pump mounting flange with mounting slots aligned. Slide injection pump onto mounting studs while inserting pump shaft into drive gear.
2. Check pump shaft Woodruff key for proper alignment with pump drive gear key slot.
3. Install injection pump partially onto mounting studs with engaging pump pilot hub into engine front plate.
4. Install washers, lock washers, and hex nuts onto pump mounting studs. Tighten nuts three turns only so that pump will not fall off mounting studs.
5. Install pump mounting flange flush to engine front plate with drive gear held flush against front side of engine front plate.
6. With the pump shaft key properly engaged in the drive gear key slot and the timing marks properly aligned, finger-tighten mounting stud nuts.
7. Push pump drive gear firmly onto shaft taper. Install washer and retaining nut (A) onto end of shaft. Tighten retaining nut to specifications.

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8. Connect fuel supply line and fuel return line.
9. Connect fuel shut-off cable and speed control linkage, if equipped. Install and securely tighten electrical connections to shut-off solenoid and throttle positioning solenoid, if equipped. Connect cold start switch, if equipped.

### Priming and Starting

1. When fuel flows freely from the fuel inlet line, tighten the fuel inlet line at the injection pump.
2. Leave the shut off disconnected or in the off position and crank the engine over for 10 seconds.
3. Connect the electrical shut off solenoid.
4. Crank the engine to start.
5. 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.

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