John Deere

MODEL:

Fuel Injection Pump/Nozzle

SERVICES
MANUAL

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All information, illustrations and specifications contained in this service manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

(Continued)
Fuel Injection Pumps and Nozzles—
Introduction

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PURPOSE OF MANUAL

This manual is expressly intended to provide sufficient information for qualified technicians, experienced in diesel engines and diesel injection equipment, to test and service the fuel injection pumps and nozzles used on John Deere tractors and power units and to make such adjustments and parts replacements as may be needed. Inexperienced persons should never make adjustments and repairs to diesel injection equipment as such action may result in very extensive damage to the equipment or to the engine.

NOTE: No service should be performed on injection equipment before making a careful study of the manual and becoming familiar with the principles and instructions which follow.

This manual completely describes the operating principles of the various mechanisms of the pump and nozzles. Only through a thorough knowledge of the principles of the various mechanisms can the serviceman locate and correct possible operational faults.

This safety alert symbol identifies important safety messages in this manual. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.

CAUTION: Escaping fluid under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Before applying pressure to the system, be sure all connections are tight and that lines, pipes and hoses are not damaged. Fluid escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands, to search for suspected leaks. If injured by escaping fluid, see a doctor at once. These injuries are best treated by immediate surgical removal of as much of the foreign material as possible.
DISASSEMBLY

NOTE: Refer to the tractor service manual or technical manual for instructions on removing and installing the fuel injection pump.

Before disassembling the pump, remove all external grease and dirt by washing the unit with diesel fuel and blowing it off with a blast of filtered air. Keep constantly in mind that dirt, dust, paint, and foreign matter are the greatest enemies of a fuel injection pump. As an added precaution, to prevent dirt from entering the fuel system while servicing the pump, provide a CLEAN WORK SPACE AND CLEAN TOOLS. BE SURE YOUR HANDS ARE CLEAN.

Use a clean pan into which the parts may be placed during disassembly. Also obtain a pan of clean fuel oil in which the parts may be flushed. It is recommended that these be deep-drawn pans with rounded corners to lessen the chances of dirt pockets.

Mount the pump in Roosa Master Fixture No. 13363 (Fig. 10-10-2). Remove all seals. Remove fuel line connections from the head. Unscrew the three cover hold-down screws and remove the governor control cover and cover gasket.

NOTE: On pumps with electric shut-off, remove governor control cover by sliding it toward the drive end of the pump as it is lifted from the pump housing.

Begin disassembly by pulling the drive shaft out of the pump. The pump body contains an "O" ring drive shaft retainer, which prevents the shaft from falling out during removal from the engine. It has no function as a seal. The shaft may be easily withdrawn without removing the retainer.

*NOTE: Prior to removing drive shaft on JDB633/JTC400 pumps, wire throttle lever in wide open position.

Withdraw the shut-off lever and shaft (Fig. 10-10-4).
B. Rotate distributor rotor (either direction) until the next roller depresses dial indicator plunger. Allowable centrality is 0.002 inch (total 0.004 inch). Before making any correction, check and record centrality of all four rollers.

C. If roller centrality is beyond specified tolerance, rollers and/or shoes can be interchanged. Recheck centrality after each change. Be sure to recheck roller-to-roller dimension.

Place cam ring atop hydraulic head with arrow indicating proper direction of pump rotation facing upward (Fig. 11-15-44). Remember that pump rotation is always expressed from drive end. The pump will not deliver fuel with incorrect assembly of cam ring.