

# 1845B UNI-LOADER

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# 3001

## ENGINE CONTROLS, FUEL TANK, FUEL LINES AND HAND PRIMER PUMP

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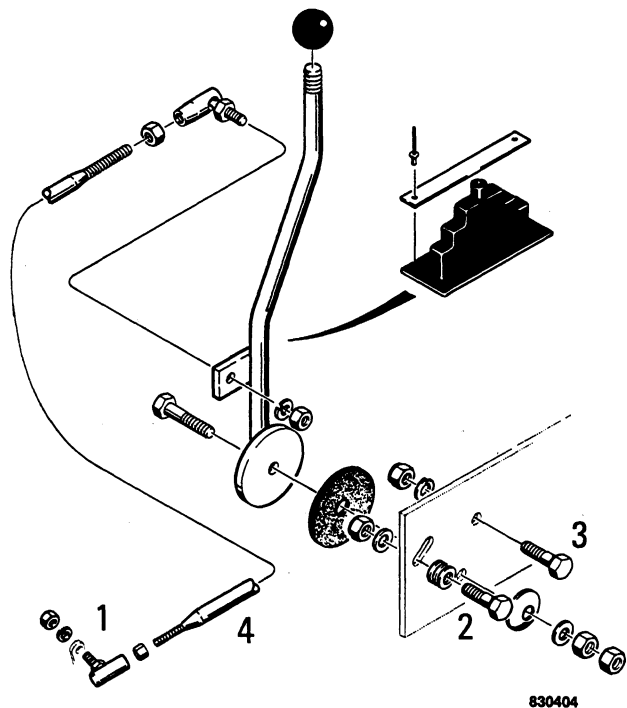
## THROTTLE LINKAGE ADJUSTMENT

### Specifications (Both Engines)

Low idle ..... 800 to 850 rpm (r/min)

Full throttle ..... 2300 to 2400 rpm (r/min)

### Adjustment Procedure for Diesel Engine

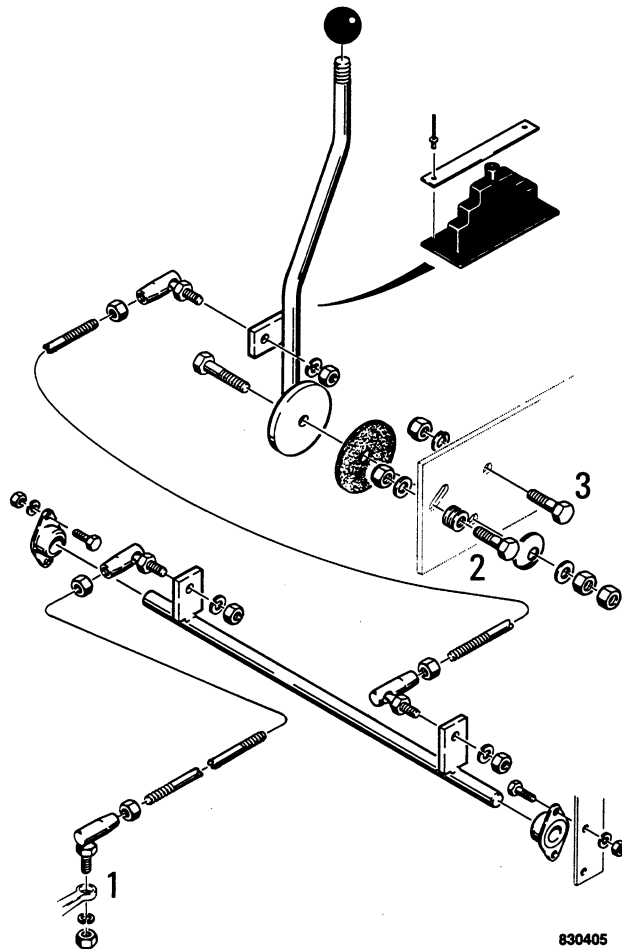


- 1. Connection at Fuel Injection Pump
- 2. Low Idle Stop
- 3. Full Throttle Stop
- 4. Throttle Rod

- 1. Engage the parking latch.
- 2. Remove the seat.

- 3. Disconnect the throttle rod from the lever at the fuel injection pump.
- 4. Check and adjust as required the low idle speed and the full throttle speed according to instructions in Section 3012.
- 5. Stop the engine.
- 6. Move the throttle lever all the way forward.
- 7. Adjust the length of the throttle rod so that the lever on the fuel injection pump must be moved forward 1/16 to 1/8 inch (2 to 3 mm) to engage the ball joint on the throttle rod.
- 8. Connect the throttle rod to the lever on the fuel injection pump.
- 9. Loosen the low idle stop. See illustration.
- 10. Move the throttle lever slowly to the rear until the low idle screw on the fuel injection pump touches the body of the fuel injection pump.
- 11. Slowly move the throttle lever to the rear to move the lever on the fuel injection pump to the rear 1/16 to 1/8 inch (2 to 3 mm).
- 12. Move the low idle stop against the throttle lever and tighten the nut.
- 13. Install the seat.

## Adjustment Procedure for Gasoline Engine



1. Connected to Governor Linkage
2. Low Idle Stop
3. Full Throttle Stop

2. Remove the seat.
3. Connect a tachometer to the terminal on the side of the distributor.
4. Start the engine and check the low idle speed and the full throttle speed.
5. Stop the engine.
6. If the full throttle speed is not as specified, check the adjustment of the governor linkage on the engine; especially the full throttle adjustment. See Section 2102 for instructions.
7. When the full throttle speed is correct, with the engine stopped move the throttle lever all the way forward.
8. If the throttle lever does not touch the full throttle stop, adjust the length of the throttle rod connected to the throttle lever so that throttle lever is against the full throttle stop.
9. If the low idle speed was not as specified:
  - a. Loosen the low idle stop.
  - b. Start the engine and adjust the low idle speed at the carburetor.
  - c. When the low idle speed is correct, move the low idle stop against the throttle lever and tighten the nut.

1. Engage the parking latch.

## HAND PRIMER PUMP

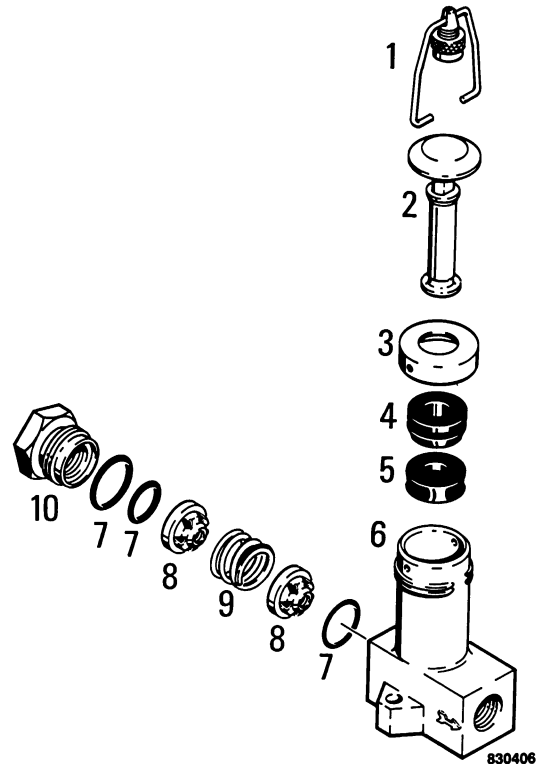
### Removal

1. Use a pair of locking pliers on the inlet hose to prevent fuel from flowing out of the inlet hose.
2. Loosen the clamp on the inlet hose.
3. Remove the inlet hose.
4. Loosen the clamp on the outlet hose.
5. Remove the outlet hose.
6. Install a plug in the outlet hose.
7. Loosen and remove the nut and lock washer from the bolt that holds the hand primer pump in place.
8. Remove the hand primer pump and bolt.

### Installation

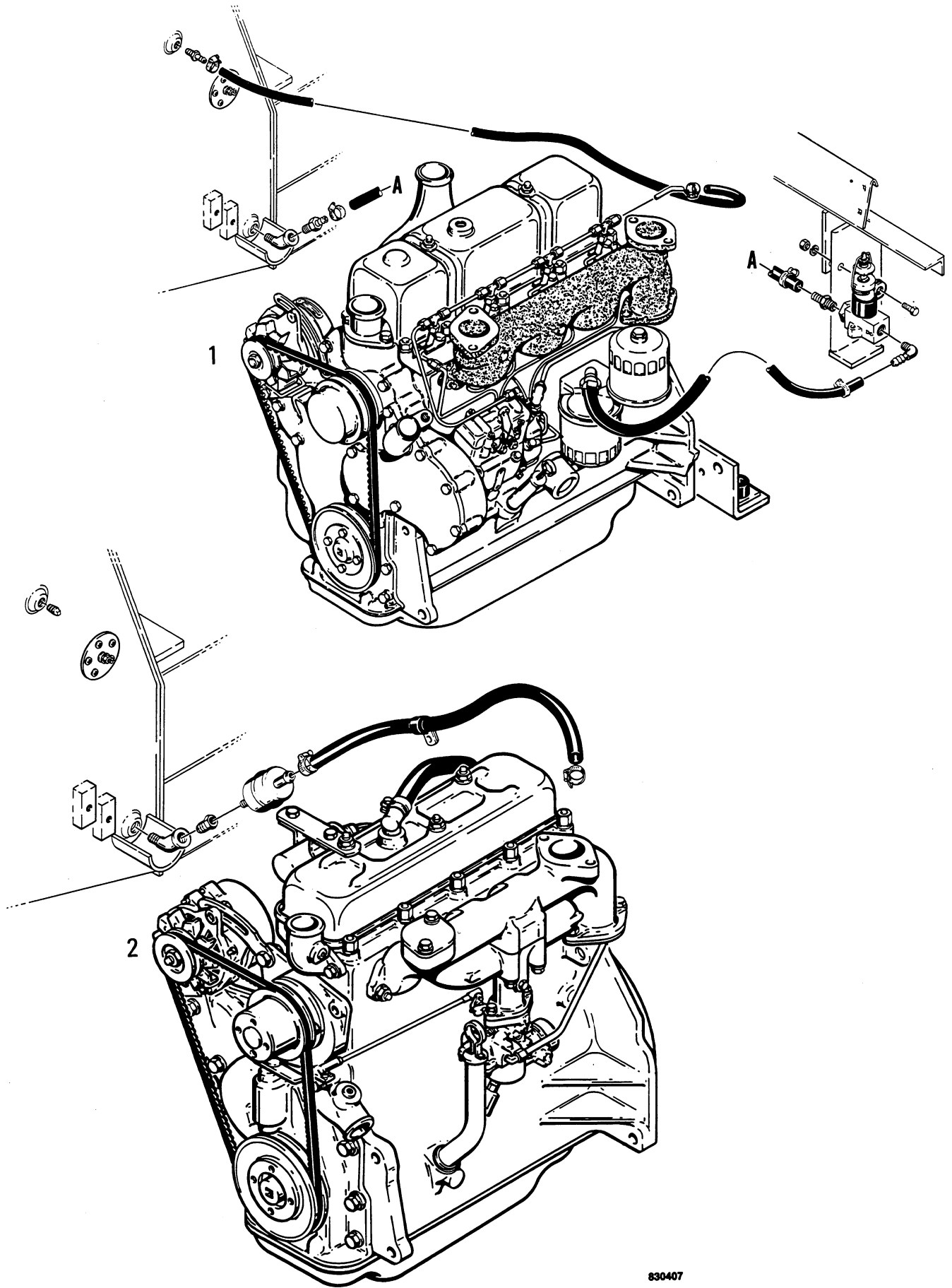
1. If a new hand primer pump is being installed, install the clamp on the hand primer pump.
2. Install the hand primer pump and bolt.
3. Install the lock washer and nut on the bolt.
4. Tighten the nut.
5. Remove the plug from the outlet hose.
6. Connect the outlet hose to the hand primer pump.
7. Tighten the clamp.
8. Install the inlet hose.
9. Tighten the clamp.
10. Remove the locking pliers from the inlet hose.

### Disassembly



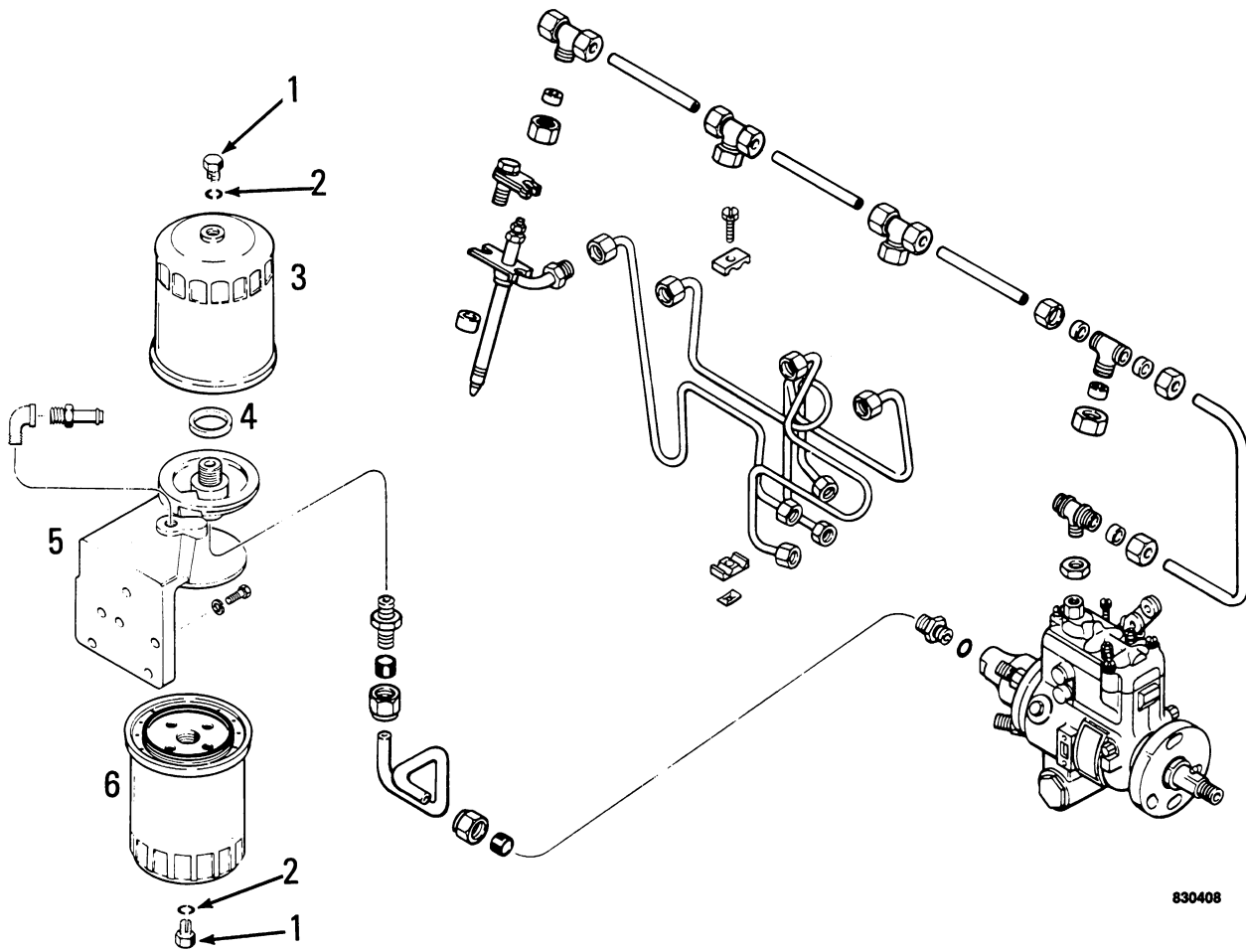
- |            |                |
|------------|----------------|
| 1. Bail    | 6. Body        |
| 2. Plunger | 7. O-ring      |
| 3. Cap     | 8. Check Valve |
| 4. Guide   | 9. Spring      |
| 5. Piston  | 10. Adapter    |

1. Remove the bail.
2. Remove the cap.
3. Pull the plunger out of the body.
4. Remove the seal from the piston.
5. Remove the piston from the plunger.
6. Fasten the body in a vise.
7. Loosen and remove the adapter.
8. Remove the O-ring.
9. Remove the check valve.
10. Remove the spring.
11. Remove the check valve.
12. Remove the O-ring.



1. Diesel Engine

2. Gasoline Engine



830408

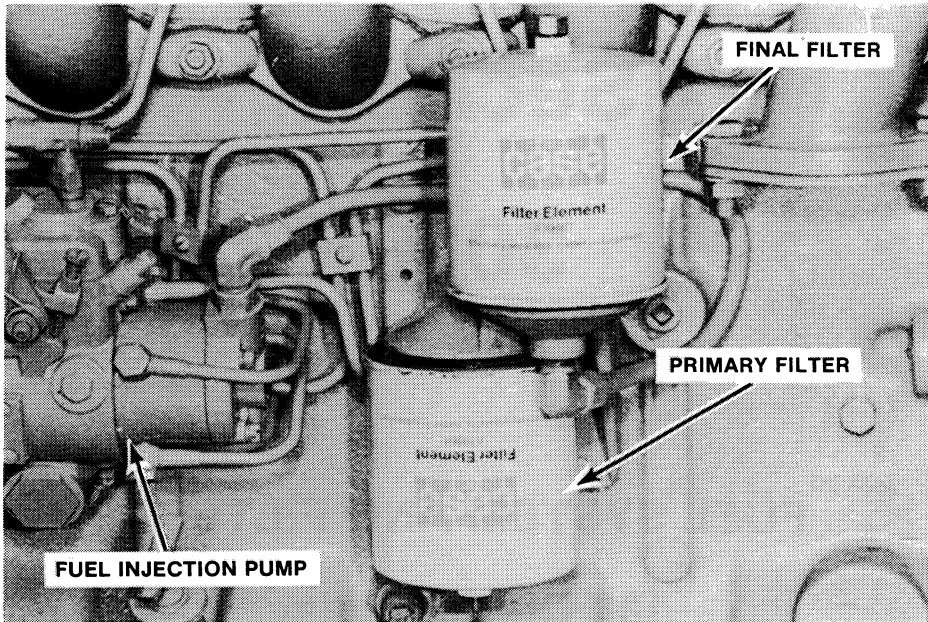
- 1. Plug
- 2. O-ring
- 3. Second Stage Filter
- 4. Gasket
- 5. Filter Head
- 6. First Stage Filter

# Section 3010

## FUEL SYSTEM AND FILTERS 188 Diesel Engine

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## FUEL SYSTEM



The fuel system on your Case Diesel Vehicle has a fuel tank, fuel filters and fuel injection parts. Use clean fuel to prevent dirt or water from reaching the injection parts and causing damage and decreasing performance. Clean the fuel tank water trap at regular intervals and service the filters.

FOR PROTECTION OF YOUR FUEL SYSTEM-GET CLEAN FUEL AND KEEP THE FUEL CLEAN.

## FUEL SYSTEM SERVICE INTERVALS

Final and Primary Stage Filters ..... Replace every  
500 hours or when loss of horsepower occurs.

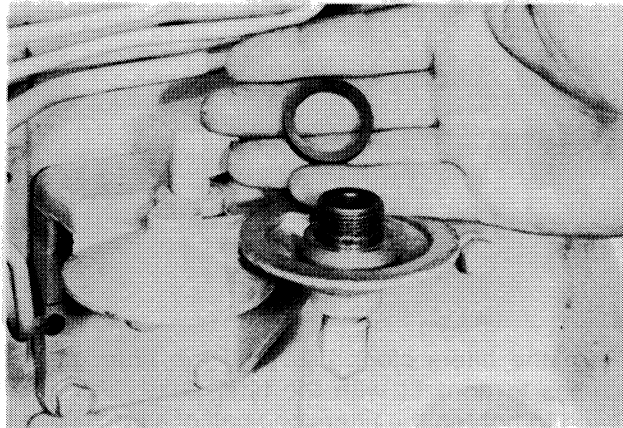
## FILTER REMOVAL AND INSTALLATION

### STEP 1



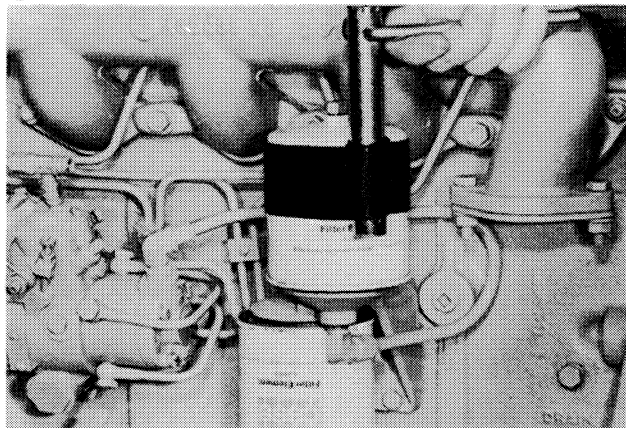
Close the fuel tank shutoff valve. Clean the elements and the engine area next to the filters.

### STEP 3



Remove the gasket from the final filter mounting stud and install a new gasket.

### STEP 2

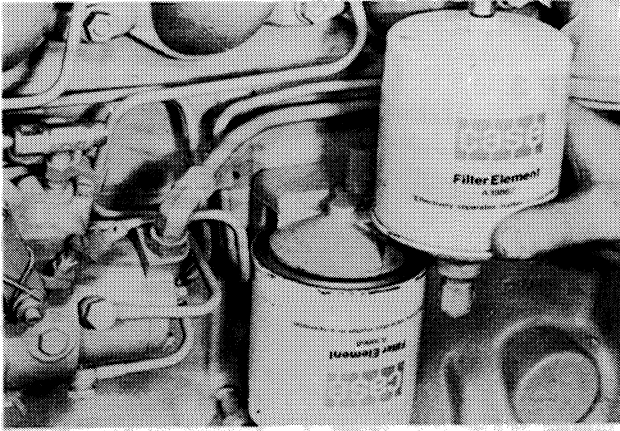


Use a strap type wrench to remove the filters. Turn the filters counterclockwise for removal.

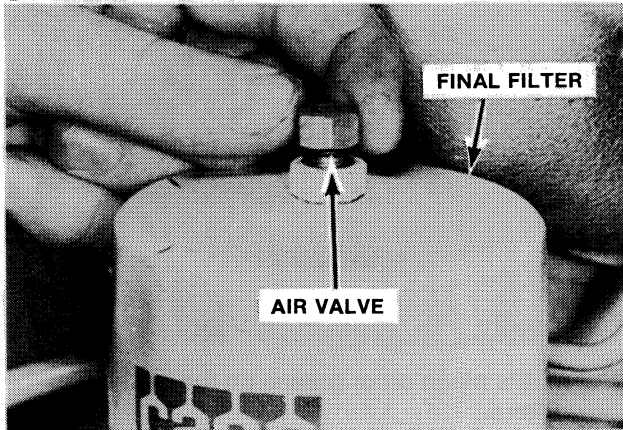
### STEP 4



Put a little clean oil or grease on the gaskets of the new filters.

**STEP 5**

Turn the filters clockwise until the filter gasket comes in contact with the filter head. Use your hand to tighten the filters one half of a turn. To get the correct seal, loosen the filters and again tighten the filters one half to three fourths of a turn after the gasket comes in contact with the filter head. When the filters are too tight, you can cause damage to the gaskets and filters.

**STEP 6**

Make sure there is fuel in the fuel tank. Open the shutoff valve on the fuel tank. Open the air valve on the final filter. Close the air valve when clear fuel with no air bubbles flows from the air valve. Close the air valve after the air is removed from the filters.

**NOTE:** Before operating the engine, tighten the primer pump handle.

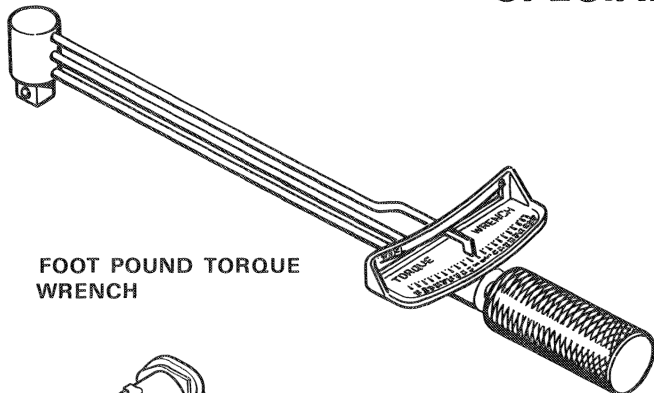
# **Section 3012**

**ROOSA MASTER  
MODEL DB FUEL INJECTION PUMPS  
AND  
PUMP DRIVE GEAR  
188 and 207 Diesel Engines**

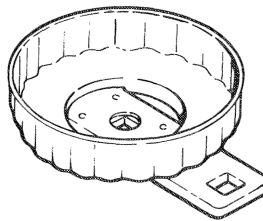
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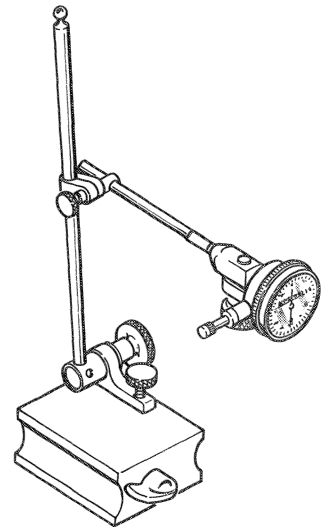
### SPECIAL TOOLS



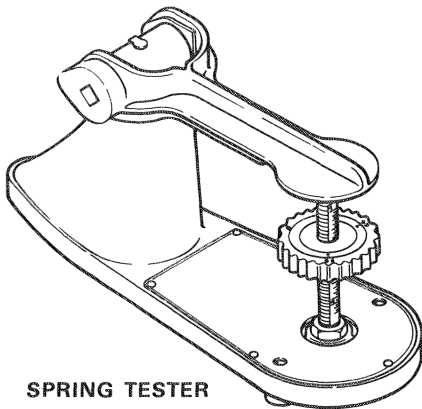
FOOT POUND TORQUE  
WRENCH



FILTER WRENCH  
A64761



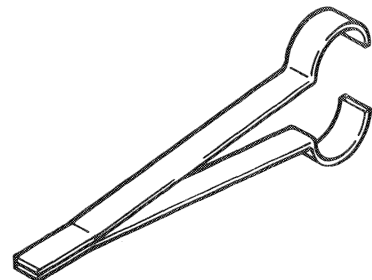
DIAL INDICATOR



SPRING TESTER



SLEEVE TOOL CD322



SEAL COMPRESSION TOOL CD331

## SPECIFICATIONS

### Fuel Injection Pump

	U.S. Value	Metric Value
Type .....	Roosa Master Model DB	
Rotation .....	Counterclockwise	
Mounting .....	Left hand side of engine	
Drive .....	Gear driven at 1/2 engine speed	
Governor .....	Centrifugal type, variable speed, flyweight, integral part of pump	
Backlash idler gear to fuel pump gear .....	.0005 to .007"	.013 to .178mm
Lubrication .....	Self lubricated by fuel	

### Thrust Spring

Free length .....	1.22"	30.990mm
Compress to .950" (24.13mm) .....	6 lbs. 4 oz.	2.72 kg 113.4g

### Timing

Timing marks .....	Located on flywheel
Timing pointer .....	Located on flywheel housing

## SPECIAL TORQUES

Fuel pump drive gear nut .....	40 to 50 ft. lbs.	54 to 68 Nm
Fuel pump inlet nut .....	20 ft. lbs.	27 Nm
Fuel pump mounting nuts .....	35 to 42 ft. lbs.	47 to 57 Nm
Fuel pump high pressure line connector screws .....	35 ft. lbs.	47 Nm
Gear cover plate mounting bolts .....	25 to 30 ft. lbs.	34 to 41 Nm
Valve cover mounting nuts .....	4 to 6 ft. lbs.	5 to 8 Nm



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## GENERAL INFORMATION

The Roosa Master Model DB fuel injection pump is an extremely compact and precision unit incorporating a high pressure injection pump, a mechanical variable speed centrifugal type governor, vane type fuel transfer pump and is self-lubricated by the fuel.

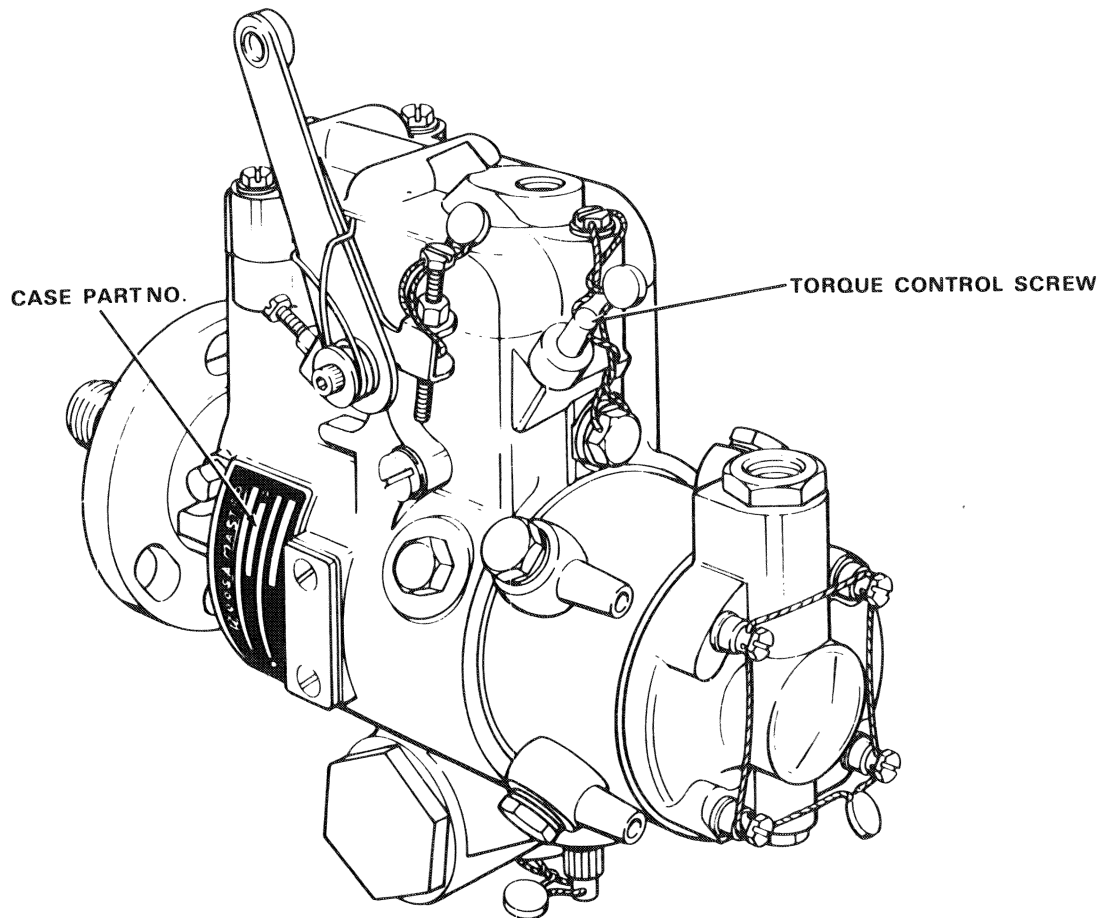
The function of the fuel pump is to deliver accurately metered quantities of fuel under high pressure to the fuel injectors. This delivery must be accomplished with accurate timing in relation to the engine firing order and for a very definite period of time in relation to load and engine speed requirements.

To meet these rigid requirements, the Model DB Injection Pump is manufactured to unusually close tolerances. While the pump cannot be

considered delicate, the precision with which it is manufactured can be compared to that of a fine watch.

It is therefore doubly important that you take extra precautions to prevent the entry of dust or similar abrasives when you perform service work that involves the fuel injection pump or other components of the fuel system.

Some pumps are equipped with an external factory adjusted torque control screw. This screw, which is wired and sealed to prevent unauthorized changes, provides improved engine lugging ability by delivering maximum torque from rated speed down through peak torque speed.



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