

5. Check tank for leaks by plugging openings and using wet or dry method as described in FOS Manual 30.

⚠ CAUTION: Have tank repaired by a qualified service shop, or follow procedures as described in FOS Manual 30.

6. Install tank using reverse of removal procedure.
7. Fill tank with correct grade of fuel. (See Fuels in Section 10.)
8. Bleed air from system. (See Bleed The Fuel System in this section.)
9. Check vent hold in cap. If plugged, use compressed air of a small wire to open hole.

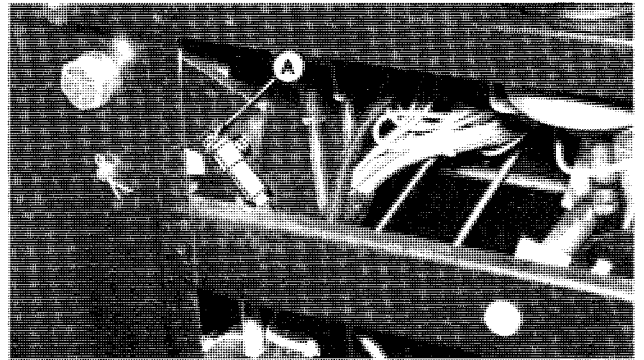
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ADJUST PUMP IDLE SPEEDS

1. Warm up engine to normal operating temperature and check engine stop knob to be sure it is downward as far as it will go.

⚠ CAUTION: To avoid injury, do not make adjustments while engine is running.

2. With throttle fully rearward, remove console inner panel and disconnect cable ball joint from throttle lever at (A).
3. Disconnect speed control rod and shut-off cable from injection pump.
4. Move pump shut-off lever all the way forward against its stop.
5. Disconnect speed control rod and fuel shut-off cable from injection pump.

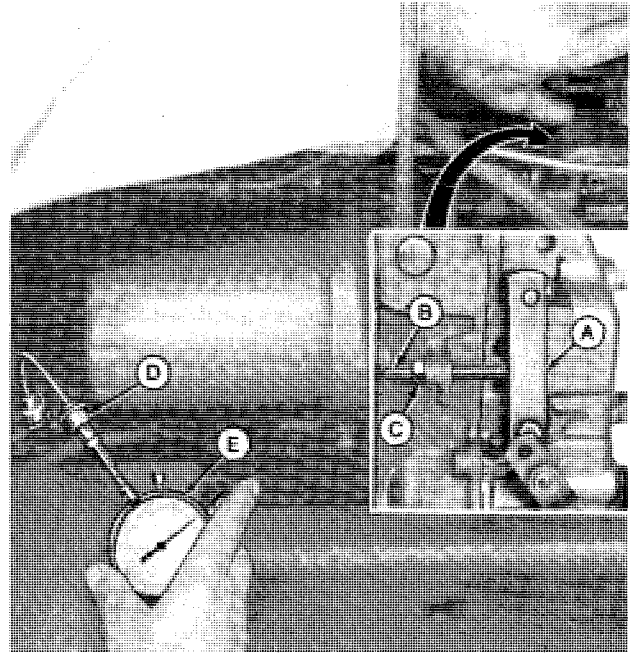


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CHECK FAST IDLE SPEED

1. Disconnect the tachometer drive cable and install JDE-28 Speed Adapter (D).
2. With the engine running, move the governor control lever (A) against the fast idle stop screw (B). Use an accurate tachometer similar to (E) and JDE-28 Speed Adapter for measuring the fast idle speed. The fast idle speed should be 2375-2425 rpm. Always stop engine before making any adjustments.
3. If the fast idle speed is too low (but not more than 50 rpm below the minimum specified setting of 2375 rpm), remove the fast idle stop screw sealing capsule by reaching in behind pump and prying off of stop screw.

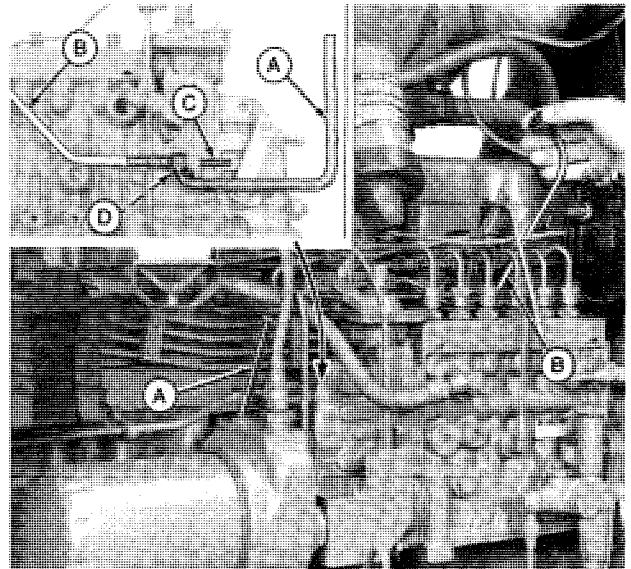
A—Governor Lever
B—Fast Idle Screw
C—Lock Nut
D—JDE-28 Adapter
E—Hand Tachometer



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4. Loosen lock nut (D) using special wrench (A) supplied in JDF-9-A Fast Idle Stop Screw Wrench Kit. Using the special screwdriver or a flexible screwdriver (B) back out the fast idle stop screw (C) until speed is correct. Tighten lock nut.

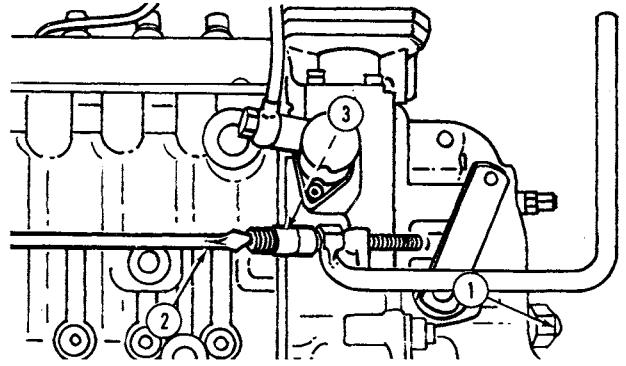
NOTE: If unable to adjust the fast idle stop screw using the special screwdriver, remove the alternator and adjust screw using a (6.4 mm) 1/4-in. shank, (304.8 mm) 12 in. long screwdriver.



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Remove/Install Diesel Fuel System

5. When the fast idle speed is too high, but not more than 50 rpm above maximum specified setting of 2425 rpm, back out supplementary idling spring (1).
6. Remove sealing capsule, and loosen lock nut.
7. Turn the fast idle screw (3) toward governor lever using the JDF-9-2A Screwdriver (2).
8. When speed is set, tighten lock nut.



NOTE: If the supplementary idling spring was backed out to make the fast idle speed adjustment, readjust as instructed under "Check Slow Idle Speed".

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In event that the fast idle speed is below 2275 rpm or above 2475 rpm, the pump will have to be removed from the engine and adjusted on the test stand. (Refer to Group 15, Section 50 of TM-1215 "Fuel Injection Equipment - Robert Bosch".)

IMPORTANT: Changing the fast idle stop screw adjustment when the fast idle speed is below 2275 rpm or above 2475 rpm may significantly alter the governor break-away speed. Break-away speed is the speed obtained when the pump control rack travel just starts to decrease (less fuel) after the full-load speed was reached. To correctly set the break-away speed, the pump must be adjusted while on the test stand.

After completing the fast idle speed adjustment check the slow idle speed.

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CHECK SLOW IDLE SPEED

(Refer to next illustration.)

Both the slow idle stop screw (C) and the supplementary idling spring screw (F) may be used to adjust the slow idle speed.

Minor adjustment of the slow idle speed may be made with the supplementary idling spring screw. However, it should not be used by itself to change engine speed more than 20 rpm, as overspeeding of the engine may result.

IMPORTANT: If slow idle stop screw and supplementary idling spring screw are not adjusted according to instruction, engine damage could result because of overspeeding.

With the engine running, pull the governor control lever rearward to the slow idle speed position.

The slow idle speed should be 800-900 rpm. Always stop engine before making any adjustments.

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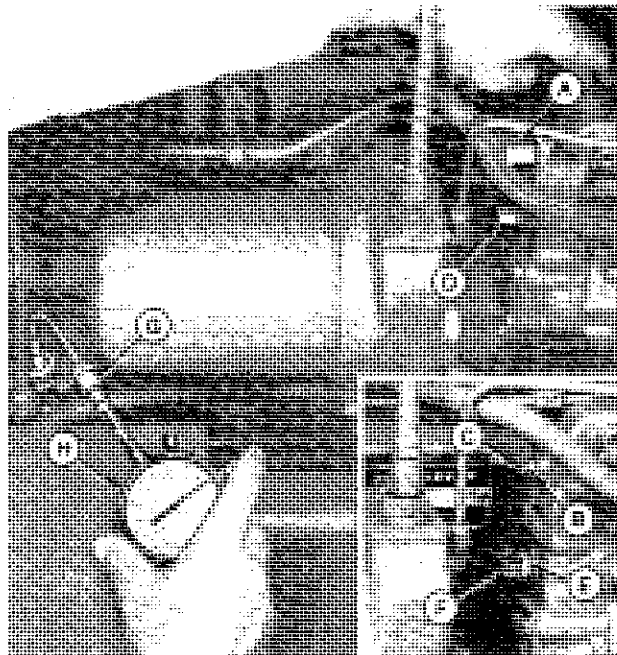
1. Remove the idling spring adjusting screw cover and washer (D). Loosen lock nut (E), and back out screw (F) three turns.

2. Remove the stop screw cover with washer (A). Loosen lock nut (B) and adjust the slow idle stop screw (C) to obtain an idle speed on the low side of desired slow idle speed setting within 20 rpm.

3. Turn the supplementary idling spring adjusting screw in to increase engine speed a maximum of 20 rpm.

For example, to obtain an 800 rpm slow idle speed, use the slow idle stop screw to set speed at approximately 785 or 790 rpm. Then increase speed to 800 rpm using the supplementary idling spring screw.

NOTE: Increasing the slow idle speed a slight amount above the specified speed range may help to reduce engine surge (or hunting), if this occurs. Use the procedure given above, but do not exceed 850 rpm.



- | | |
|-----------------------------|-------------------------------------|
| A—Stop Screw Cover | E—Lock Nut |
| B—Lock Nut | F—Supplementary Idling Spring Screw |
| C—Slow Idle Stop Screw | G—JDE-28 Speed Adapter |
| D—Idling Spring Screw Cover | H—Hand Tachometer |

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Remove/Install Diesel Fuel System

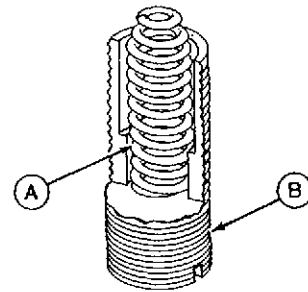
4. If engine continues to surge at slow idle, replace the supplementary idling spring and screw assembly with a new one using the procedure outlined above. The idling spring (A) is attached to the adjusting screw (B). Discard any idling spring that is bent inside the screw, as it will not function properly.

5. When surging or hunting persists, remove the pump from the engine, and repair as instructed in TM-1215 "Fuel Injection equipment - Robert Bosch".

6. Again check the fast and slow idle speeds. Readjust, if speeds are not correct.

7. Check all adjusting screw lock nuts for tightness. Install covers (and copper washers) on slow idle stop screw and idling spring adjusting screw.

8. Connect tachometer drive cable, fuel shut-off cable, and speed control rod.



A—Spring

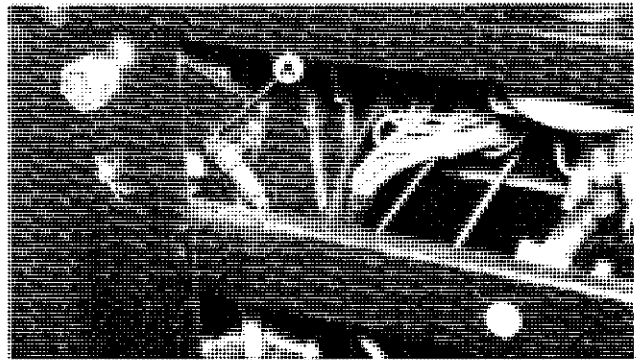
B—Adjusting Screw

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9. Connect cable ball joint to throttle lever (A) in console.

NOTE: Be sure injection pump control lever is fully rearward, and throttle lever is fully rearward in console. If necessary, adjust cable length by repositioning ball joint to allow ball-joint stud to enter throttle lever without changing lever or cable position.

10. Inspect fuel shut-off cable. Adjust if necessary to make sure slot in R67143 fitting is maximum downward, with pump arm against housing and shut-off knob fully downward.

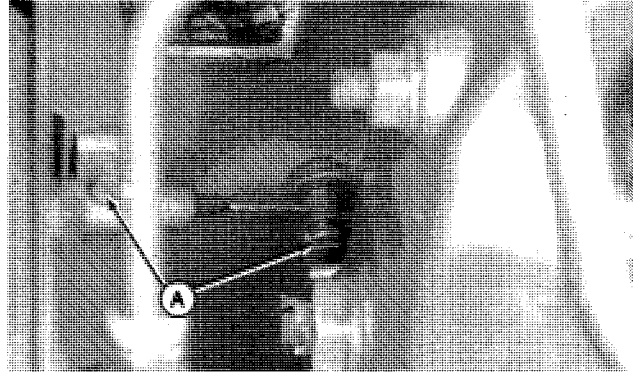


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ADJUST FUEL SHUT-OFF CONTROL

1. Be sure control knob in cab is pushed fully in. Loosen locking screw.
2. Push pump shutoff lever fully downward.
3. Inspect cable and cable clamps (A).
4. Remove slack from cable and retighten locking screw.

IMPORTANT: An improperly adjusted fuel shutoff control cable may limit the injection pump control rack travel. This will result in decreased fuel delivery and a possible complaint of low horsepower.



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DRAIN AND REPLACE WATER SEPARATOR FILTER (NOT USED IN ALL AREAS)

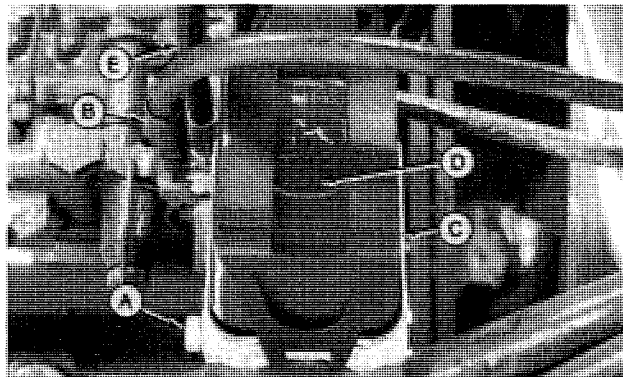
1. Remove drain plug (A).
2. Allow water separator to drain until all water and sediment has been removed from filter.

IMPORTANT: Leaving plug out will drain fuel tank.

3. If draining only, reinstall drain plug. If replacing filter, continue.
4. Clamp off fuel supply hose (B). Allow remainder of fuel to drain.
5. Press on top tab of retaining spring (C) and unhook from filter base.
6. Lift filter element (D) from base.
7. Before installing new filter element, make sure sealing surface is completely clean.

IMPORTANT: Any dirt or contamination left on sealing surface will be washed into injection system. This may cause serious damage to injection pump or nozzles.

8. Secure filter element on filter body with retaining spring.
9. Install drain plug.
10. Remove outlet hose (E). This allows air to escape during filling of filter.
11. Unclamp fuel supply line.
12. When fuel starts coming from top fitting, reinstall outlet hose.



A—Drain Plug
B—Fuel Supply Hose
C—Filter Retaining Spring
D—Filter Element
E—Outlet Hose

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