

## SPILL-TIMING PROCEDURE

1. Remove the valve cover, 1, from the top of the engine, by loosening bolts.
2. Find top dead center of the No. 1 cylinder (No. 1 cylinder is the closest to the engine fan). No. 1 cylinder must be on the compression stroke. (Intake and exhaust rocker arms will be loose.)

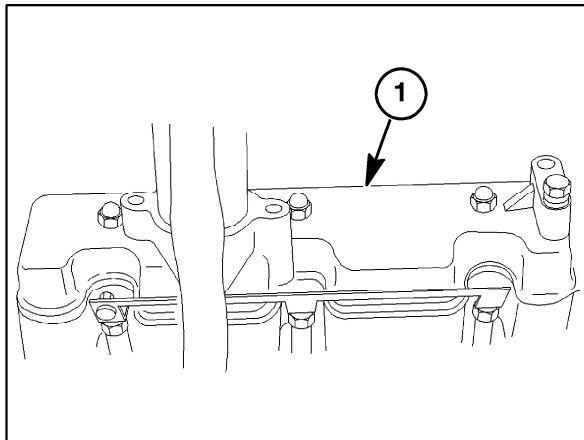


Figure 2-28

3. Remove the rocker arm housing and rocker arm assembly, 1, from the engine.

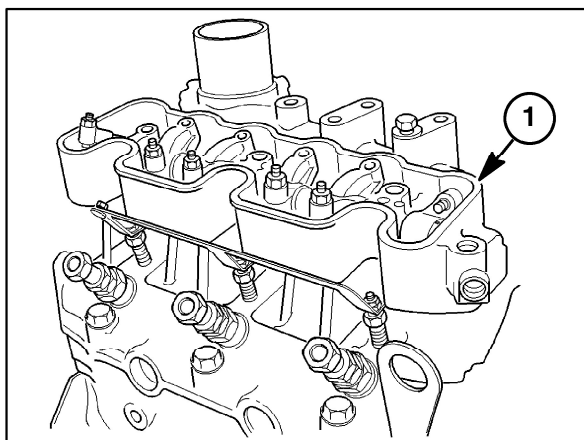


Figure 2-29

4. Remove the keepers and spring from No. 1 cylinder intake valve, 1.

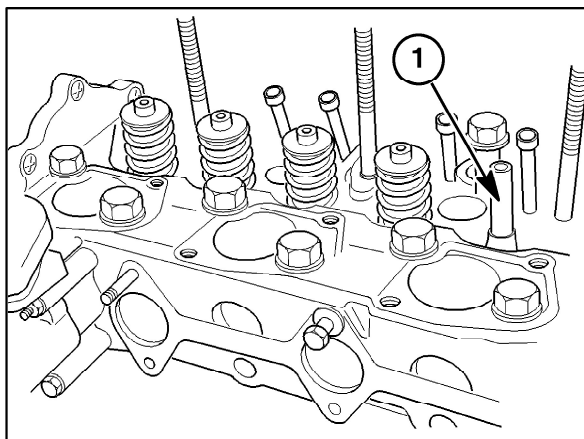


Figure 2-30

5. To verify true top dead center of piston travel, install a dial indicator, 2, on the valve stem (No. 1 cyl.), 1. Be sure the valve stem is sitting on top of the piston. Rotate the crankshaft until the indicator needle reverses direction. The point the needle reverses direction is true top dead center.

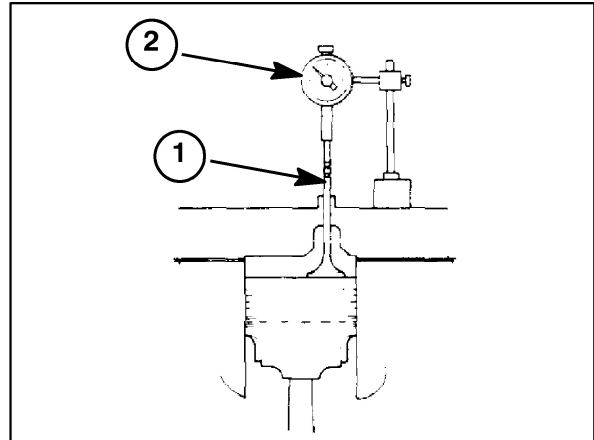


Figure 2-31

6. Verify that the timing mark on the crankshaft pulley is in line with the "TOP" mark on the timing scale. If the mark on the crankshaft pulley is not in line with the "TOP" mark, verify piston top dead center by repeating step 5. If the pulley mark is slightly off, remark the pulley and proceed.

**NOTE: Color the timing mark on the crankshaft pulley and appropriate marks on the timing scale to increase visibility.**

7. Reinstall the valve spring, keepers, rocker arm assembly, housing and valve cover.

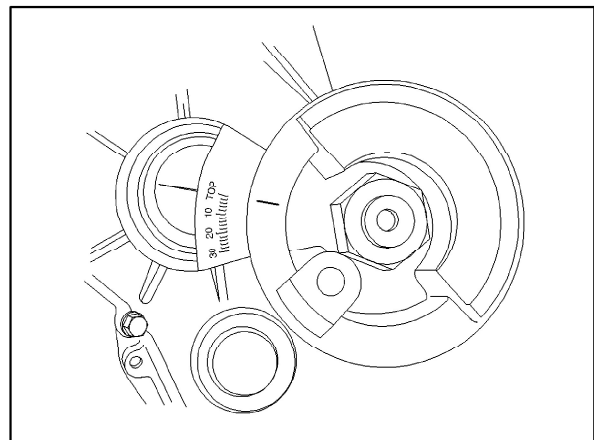


Figure 2-32

8. Shut off the fuel supply at shutoff valve, 1, to the injection pump at the fuel filter, 2.

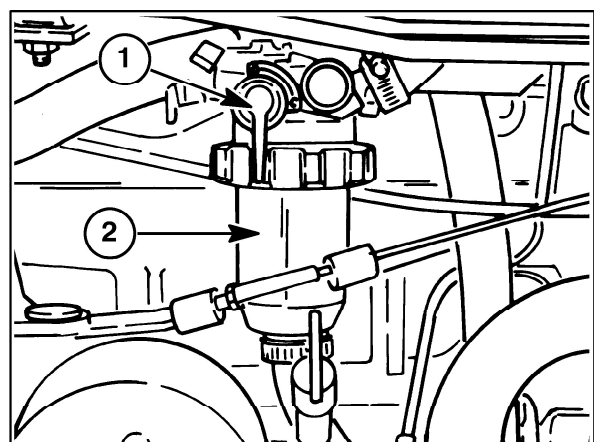


Figure 2-33

9. Remove the No. 1 injection line, 1.

**NOTE:** Timing gear cover for 1725, 1925 shown.

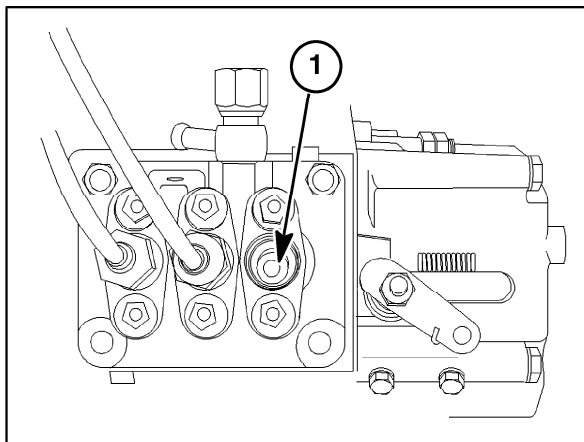


Figure 2-34

10. Remove the delivery valve piston, 1, from the No. 1 delivery valve.

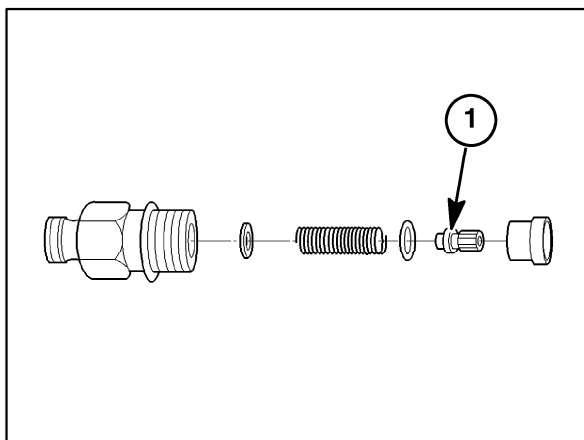


Figure 2-35

11. Reinstall the spring and holder, 1, into the injection pump and tighten securely.

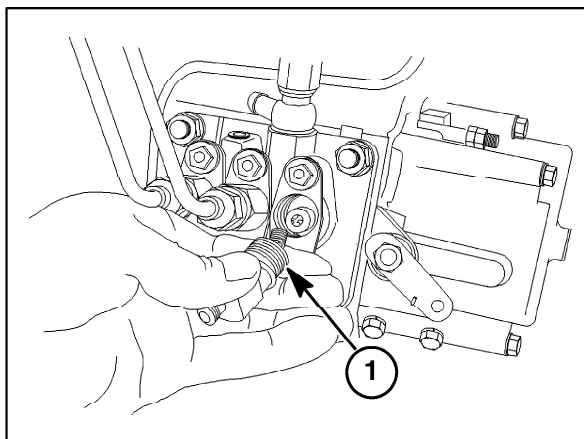


Figure 2-36

12. Fabricate a spill tube, 1, from a discarded injection line and install the tube on the No. 1 port on the injection pump.
13. Remove the fuel shutoff solenoid from the injection pump.

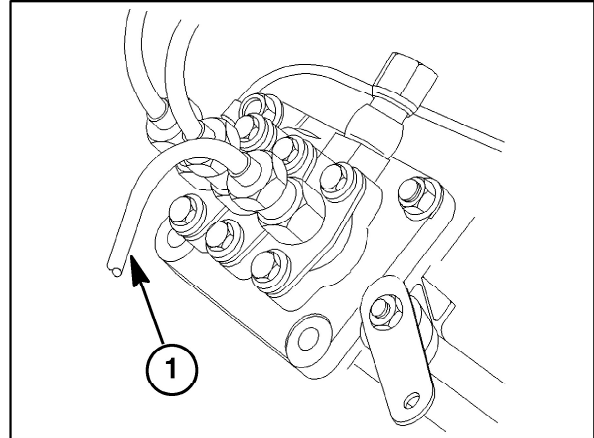


Figure 2-37

14. Rotate the crankshaft counterclockwise (viewed from the front of the engine) approximately 40°.

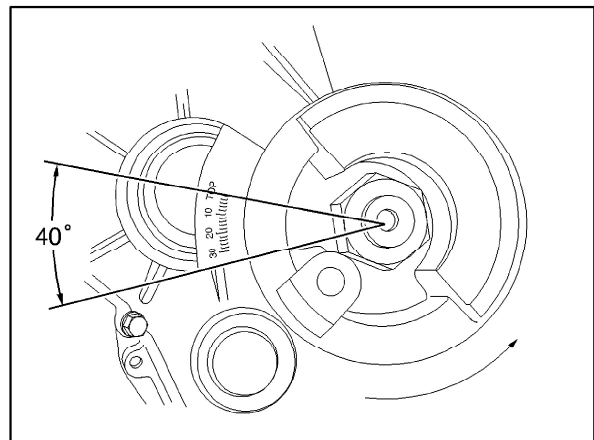


Figure 2-38

15. Turn on the fuel supply at shutoff valve, 1, to the injection pump at the filter, 2. Fuel should flow out of the spill tube on the No. 1 cylinder port.

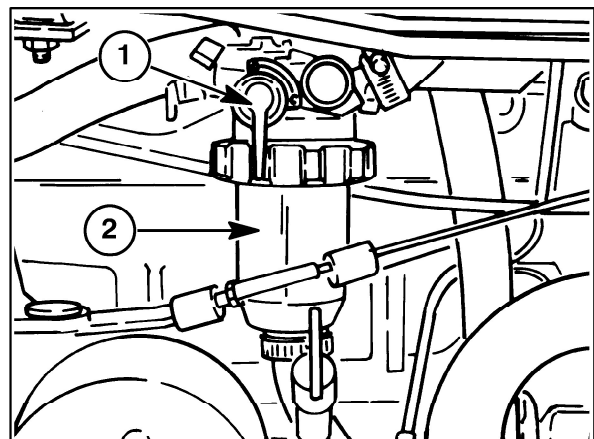


Figure 2-39



16. Rotate the crankshaft clockwise. When the timing mark on the crankshaft pulley is in line with the 19 - 21 degree marks for 1725, 1925, 1530, and 1630. The TC models should be 20 - 22 degree marks on the scale, fuel should stop flowing from the spill tube.

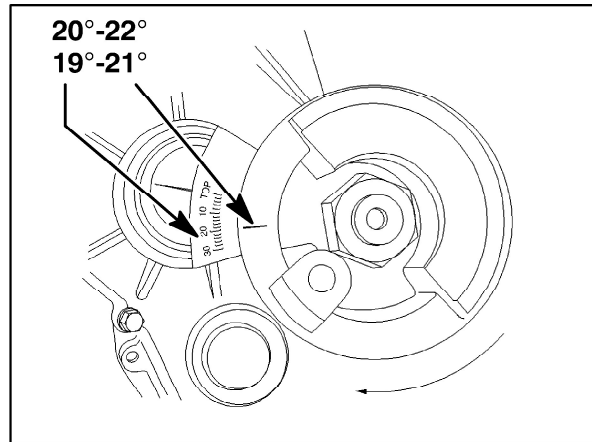


Figure 2-40

17. If fuel does not stop flowing at the appropriate timing mark, the injection pump timing must be adjusted by adding or removing shims, 2, located between the injection pump, 1, and the engine block, 3.
18. Adding shims will retard the pump timing and removing shims will advance the pump timing.

**NOTE: A shim thickness of 0.25 mm (0.010") will change the pump timing by 1 degree.**

19. Assemble all components that were removed from the engine and fuel system.

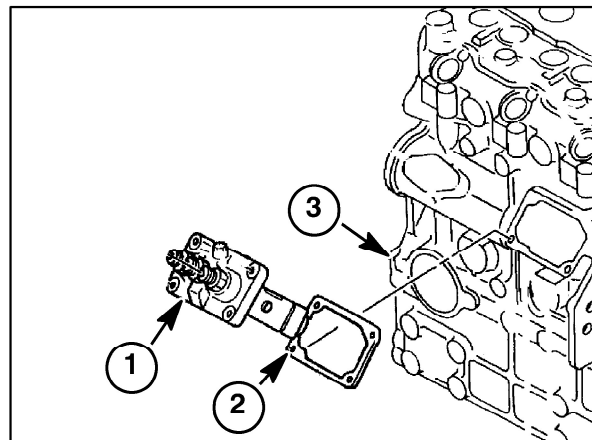


Figure 2-41

## BLEEDING THE FUEL SYSTEM

Bleed the fuel system after any of the following conditions:

1. When a new filter is installed.
2. After the tractor has run out of fuel.
3. When any of the fuel lines have been disconnected.
4. When the injection pump has been removed.