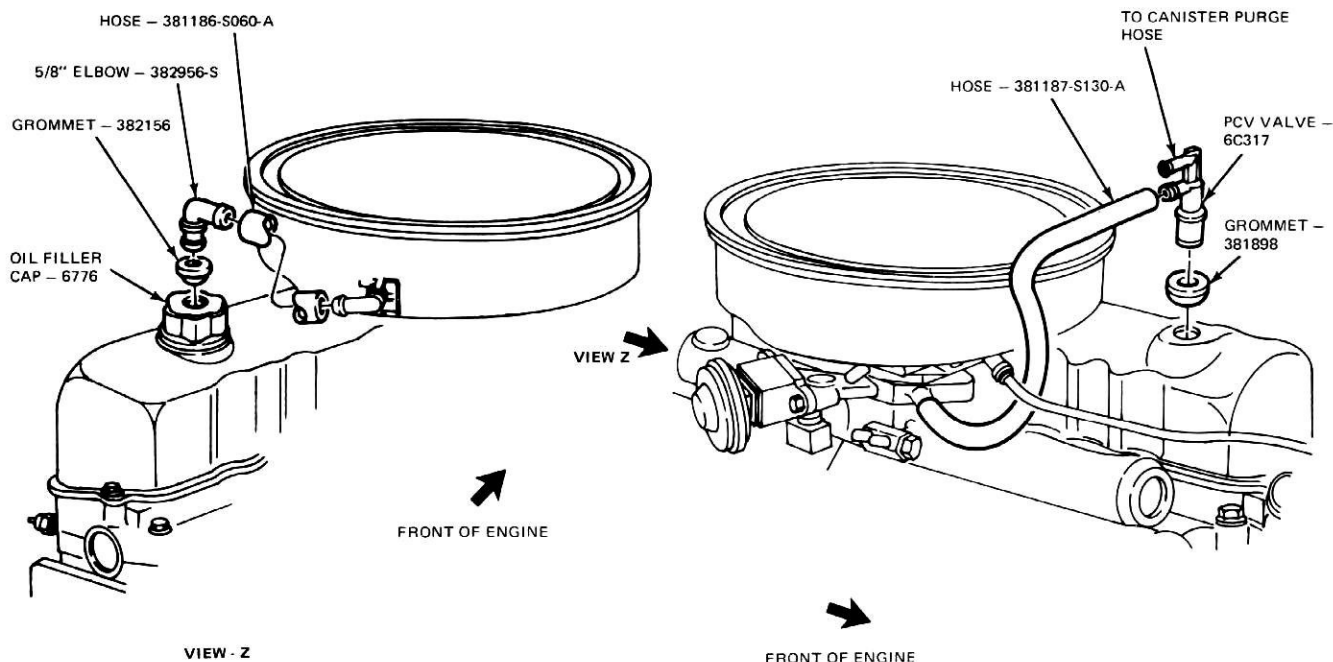




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FIG. 7 Closed Crankcase Ventilation System Components

supports fully contact the cylinder head. Torque the bolts to specifications.

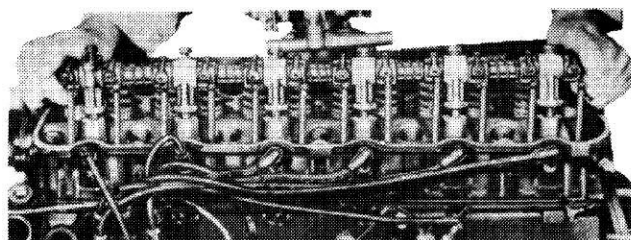
4. If any part which could affect the valve clearance has been changed, check the valve clearance following the procedure outlined under Hydraulic Tappet Adjustment.
5. Clean the valve rocker arm cover and cylinder head gasket surfaces. Install the gasket in the cover making sure that all of tangs of the gasket are engaged in the notches provided in the cover. Connect all vacuum lines and components using previous identification for proper connection. Tighten the cover attaching bolts in two steps. First, torque the bolts to specifications; then, retorque to the same specifications two minutes after initial tightening. Install the accelerator control cable bracket.
6. Install the crankcase ventilation system and the air cleaner assembly.

VALVE SPRING, RETAINER AND STEM SEAL

Broken valve springs or leaking valve stem seals and retainer may be replaced without removing the cylinder head provided damage to the valve or valve seat has not occurred.

Removal

1. Remove the air cleaner assembly. Remove the PCV valve from the valve rocker arm cover. Remove the valve rocker arm cover. Remove the applicable spark plug.
2. Loosen the valve rocker arm shaft support bolts two tu MOTOR TEST 1 sequence, until the valve spring



A3165-1A

FIG. 8 Valve Rocker Arm Shaft Removal

pressure is relieved. Identify and remove both valve push rods of the cylinder to be serviced.

3. Install an air line with an adapter in the spark plug hole.
4. Tighten the attaching bolts just enough to seat the rocker arm shaft supports on the cylinder head. To move the rocker arm on either end of the shaft, it will be necessary to remove the retaining pin and spring washer and slide the rocker arm off the shaft. Push the rocker arm to one side and secure it in this position (Fig. 9).
5. Turn on the air supply. **Air pressure may turn the crankshaft until the piston reaches the bottom of the stroke.**

Using the valve spring compression tool shown in Fig. 9, compress the valve and remove the valve spring retainer locks, the sleeve, spring retainer and the valve spring. **If air pressure fails to hold the valve in the closed position during this operation, it can be presumed that the valve is not seating or is damaged. If this condition**

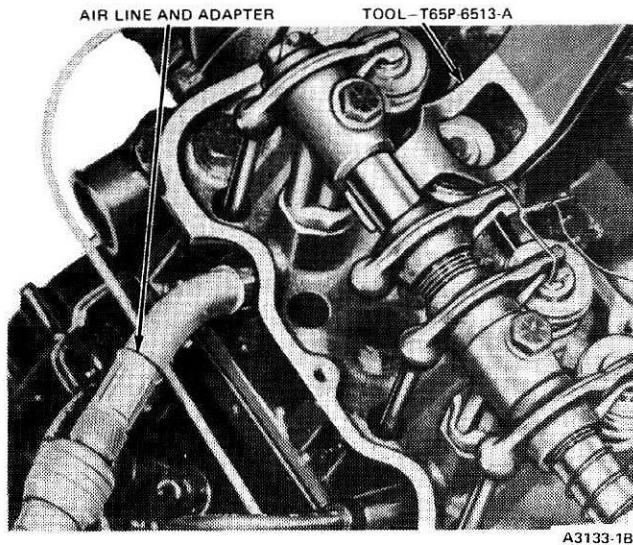


FIG. 9 Compressing Valve Spring—In Chassis

occurs, remove the cylinder head for further inspection.

6. Remove the valve stem seal (Fig. 10). If air pressure has forced the piston to the bottom of the cylinder, any removal of air pressure will allow the valve(s) to fall into the cylinder. A rubber band, tape or string wrapped around the end of the valve stem will prevent this condition and will still allow enough travel to check the valve for binds.

Installation

1. Install a new valve stem seal. Position the spring over the valve. Install the spring retainer and sleeve. Compress the valve spring and install the valve spring retainer locks.
2. Apply Lubriplate or equivalent to both ends of the push rod, the valve and push rod ends of the rocker arm, and the valve stem tip. Remove the rocker arm shaft and install the push rod(s), making sure the lower end of the rod is positioned in the valve lifter push rod cup.
3. Remove the wire securing the valve rocker arm and slide the rocker arm into position. If an end valve rocker arm was removed, slide it into position on the shaft and install the spring washer and retainer pin. Turn off the air and remove the air line and adapter. Install the spark plug and spark plug wire.
4. Install the rocker arm shaft by following the instructions under Rocker Arm Installation.
5. Clean the valve rocker arm cover and cylinder head gasket surfaces. Install a new gasket in the cover making sure the gasket tangs are securely engaged in the notches in the cover. Position the cover on the head. Install and tighten the cover attaching bolts in two steps. First, torque the bolts to specifications. Two minutes later, torque the bolts to the same specifications.
6. Insert the PCV valve (with the vent hose and canister purge hose attached) into the valve rocker arm cover mounting grommet. Install the air cleaner assembly.

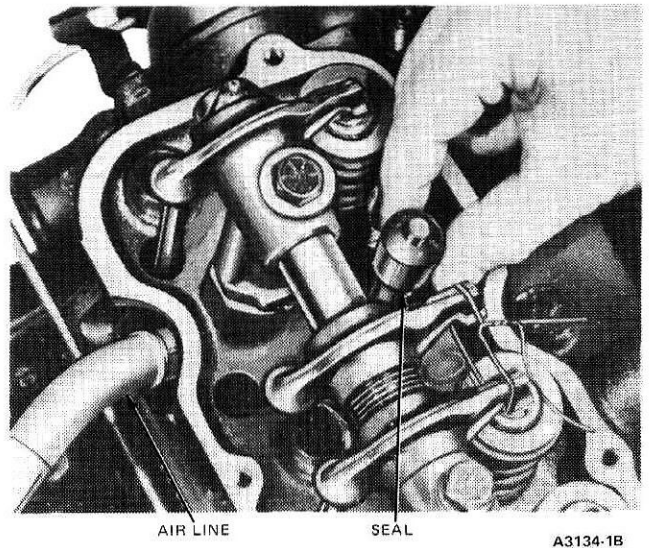


FIG. 10 Removing Valve Stem Seal

CYLINDER HEAD

Removal

1. Drain the cooling system. Remove the air cleaner assembly. Disconnect the radiator upper hose at the engine.
2. Disconnect the muffler inlet pipe at the exhaust manifold. Pull the muffler inlet pipe down. Remove the gasket.
3. Disconnect the accelerator control cable at the carburetor.
4. Disconnect the transmission kickdown rod. Disconnect the accelerator control cable at the bracket.
5. Disconnect the fuel inlet line at the fuel filter hose. Disconnect the distributor vacuum lines. Disconnect vacuum lines and components as necessary for accessibility and identify them for proper reconnection.
6. Disconnect the carburetor fuel inlet line at the fuel pump. Remove the lines as an assembly.
7. Disconnect the spark plug wires at the spark plugs and the temperature sending unit wire at the sending unit.
8. Remove the crankcase ventilation system. Remove the accelerator control cable bracket.
9. Remove the valve rocker arm cover.
10. Remove the valve rocker arm shaft assembly. Identify and remove the valve push rods in sequence (Fig. 11).
11. Remove the remaining cylinder head bolts and remove the cylinder head. **Do not pry between the cylinder head and block as the gasket surfaces may become damaged.**

Installation

1. Clean the head and block gasket surfaces. (Refer to Part 21-01 for cleaning and inspection procedures). If the cylinder head was removed for a gasket change, check the flatness of the cylinder