

# COMPRESSION TESTER MANUAL

## RULES FOR SAFE OPERATION

Do not touch the hot exhaust manifold, radiator, or other hot parts of the engine, while not lethal, an involuntary jerk of the hands may cause you injury.

## TESTING PROCEDURE

1. Run the engine for about 15 minutes until it reaches normal operating temperature.
2. Stop engine. Disconnect all spark plug wires one at a time and label for proper reconnecting.
3. Loosen all spark plugs about one turn, then use an air hose or tire pump to blow all the dirt out of the spark plugs and gaskets. Remove the spark plugs and place them on a clean, flat surface in the order in which they were removed. This will help to correlate any compression problems with the condition of the plug from the particular cylinder involved.
4. Remove the air filter and back open the carburetor throttle plates to maximum. Remove the high tension lead from the center of the distributor and ground it. To disable an electronic ignition system, disconnect the electronic ignition module or remove the primary battery terminal from the distributor cap. (On Ford V-8 and V-6, disconnect the primary lead from the distributor cap.)
5. Screw the spark plug adaptor hose into the spark plug hole. Hand tighten only - DO NOT USE A WRENCH.
6. Crank the engine for at least four compression strokes or until the pressure stops rising on the tester.
7. Record the compression reading and repeat the test on all remaining cylinders. (Steps 5 & 6)

## TEST RESULTS

1. On a normal cylinder, the needle should advance on each stroke until it reaches a peak. All cylinders should test within the engine manufacturers specifications and reading should not vary more than 10% from cylinder to cylinder.
2. If the needle fails to advance normally or if it remains the same for several strokes and then starts to climb, the cylinder has a sticky valve.
3. If the compression reading is considerably higher above the manufacturers specification, it is indicative of carbon build-up in the cylinder. Use of a spark plug with a higher heat range can sometimes correct this fault.
4. If a reading on two adjacent cylinders is 20 pounds or more lower than other cylinders, a defective head gasket is indicated. Water and oil may be seen in the two cylinders.
5. If reading are low or uneven between cylinders, pour a teaspoon of S.A.E. #30 oil into each cylinder and retest. If the readings increase considerably, the fault is poorly seated or worn rings. If the readings remain about the same, the valves are at fault.
6. Reconnect all spark plug wires in proper order. Reconnect the secondary coil wire to the distributor, and return the carburetor throttle valve to the original setting before starting the engine.