

Testing Engine Compression Lab



Name _____

Date _____

Team _____

Vehicle:

YEAR _____ MAKE _____ MODEL _____

ENGINE SIZE (CYLINDERS and DISPLACEMENT) _____ cyl. _____ liters

- 1) Disable the ignition system (not the fuel system) by unplugging the ignition system primary connector, or removing the appropriate fuse or relay from distribution box. On distributor ignitions, ground the coil cable. It's important that the engine DOES NOT START when doing the compression test (check before starting test).
- 2) Remove all the spark plugs from the engine. Block open the throttle.
- 3) Check the spark-plug reach and screw the appropriate adapter onto the compression-hose. (Important: make sure the adapter reach is NO LONGER than the spark plug reach). Now screw the hose into the spark-plug hole. Connect the gauge to the hose.
- 4) Have an assistant crank the engine with the throttle at WOT. Watch gauge so that 4 to 5 compression strokes are read on the gauge. Record the final readings below.
- 5) Repeat the above steps for each cylinder. IMPORTANT: when each cylinder is tested, make sure the engine is cranked the same number of turns for each cylinder or the readings will be inaccurate.
- 6) There should be no more than a 10% variation between the highest and lowest cylinder. If there is, the low cylinder(s) have a mechanical problem and must be checked with a leak-down tester.
- 7) If the compression was low for one or more non-adjacent cylinders, squirt a small amount of oil into the spark plug hole of the bad cylinder. Now recheck the compression. Answer the questions below.

Cylinders:

#1 _____ PSI #2 _____ PSI #3 _____ PSI #4 _____ PSI

#5 _____ PSI #6 _____ PSI #7 _____ PSI #8 _____ PSI

1) According to ALL DATA, what should be normal readings for this vehicle? _____. Were your readings normal? _____. What could be the problem if they are lower / higher than normal? _____.

2) Did the readings on step #7 increase? _____. If so, what could be the problem based on this test? _____.

What is the name for this type of compression test? _____.

3) If two adjacent cylinders have low compression readings, what is the most likely problem? _____. Why? _____.