**CDX Distance Learning**

**Exercise #18**

**Engine Mechanical Testing**

**Estimated Completion Time:** 40 mins.

**Student Name:** Click or tap here to enter text.

All the questions on this assignment can be answered with the animation below. Follow the directions in the questions and select the correct answer. When complete, close the animation window and move on to the next question(s).

[**Mechanical Testing Animation**](http://d2jw81rkebrcvk.cloudfront.net/assetscdx2/202003%20-%20COVID/Assessments/MS/ANIM/EN/EN_MechanicalTesting_C1/EN_MechanicalTesting_C1/EN_MechanicalTesting_C1.html)

1. Click the **Remove Plugs** button. What should be done prior to removing spark plugs?
   1. Crank the engine over 6 cycles
   2. Blow around the spark plugs
   3. Squirt oil around the spark plugs
   4. Install the compression tester
2. Click the **Analyze Plugs** button. Which spark plug is normal?
   1. Spark Plug 1
   2. Spark Plug 2
   3. Spark Plug 3
   4. Spark Plug 4
3. Click the **Compression Test** button. What is the specified compression pressure?
   1. 25 psi
   2. 50 psi
   3. 100 psi
   4. 150 psi
4. What is the maximum specified allowable difference between cylinders?
   1. 2%
   2. 5%
   3. 10%
   4. 15%
5. What is the maximum specified allowable psi difference from specified pressure?
   1. 10 psi
   2. 15 psi
   3. 20 psi
   4. 25 psi
6. Which of the following is NOT part of the dry compression testing?
   1. All spark plugs removed
   2. Throttle at wide open throttle
   3. Oil squirted in the cylinder
   4. Disable ignition and fuel system
7. Perform a dry compression test in each of the four cylinders. Which cylinder has the full specified pressure?
   1. 1
   2. 2
   3. 3
   4. 4
8. Which cylinder is within specifications but not at full pressure?
   1. 1
   2. 2
   3. 3
   4. 4
9. How many psi did cylinder 3 lose?
   1. 10 psi
   2. 20 psi
   3. 30 psi
   4. 40 psi
10. What percentage of the specified pressure has cylinder 3 lost?
    1. 10%
    2. 20%
    3. 30%
    4. 40%
11. What was the final pressure on cylinder 4?
    1. 150 psi
    2. 145 psi
    3. 120 psi
    4. 62 psi
12. Perform a wet compression test on all four cylinders. How did adding oil affect the compression of cylinder 1?
    1. It didn’t affect it at all
    2. It raised the pressure a little
    3. It raised the pressure a lot
    4. It lowered the pressure a little
13. How did it affect cylinder 2?
    1. It didn’t affect it at all
    2. It raised the pressure a little
    3. It raised the pressure a lot
    4. It lowered the pressure a little
14. How did it affect cylinder 3?
    1. It didn’t affect it at all
    2. It raised the pressure a little
    3. It raised the pressure a lot
    4. It lowered the pressure a little
15. What could the change in pressure on cylinder 2 from the dry to wet test likely indicate?
    1. Slight wear on the piston rings
    2. Heavy wear on the piston rings
    3. Burnt valve
    4. Blown head gasket
16. What could the change in pressure on cylinder 3, from the dry to wet test likely indicate?
    1. Slight wear on the piston rings
    2. Heavy wear on the piston rings
    3. Burnt valve
    4. Blown head gasket
17. What could the change in pressure on cylinder 4, from the dry to wet test likely indicate?
    1. Slight wear on the piston rings
    2. Heavy wear on the piston rings
    3. Burnt valve
    4. Blown head gasket
18. Click the **Leakage Test** button. Adjust the gauge to **0** and click **Next**. Perform a leakage test on all four cylinders. What is the leakage in cylinder 1?
    1. 5%
    2. 15%
    3. 30%
    4. 70%
19. Where is the leakage coming from?
    1. Piston rings
    2. Intake valve
    3. Exhaust valve
    4. Head gasket
20. What is the leakage in cylinder 2?
    1. 5%
    2. 15%
    3. 30%
    4. 70%
21. Where is the leakage coming from?
    1. Piston rings
    2. Intake valve
    3. Exhaust valve
    4. Head gasket
22. What is the leakage in cylinder 3?
    1. 5%
    2. 15%
    3. 30%
    4. 70%
23. Where is the leakage coming from?
    1. Piston rings
    2. Intake valve
    3. Exhaust valve
    4. Head gasket
24. What is the leakage in cylinder 4?
    1. 5%
    2. 15%
    3. 30%
    4. 70%
25. Where is the leakage coming from?
    1. Piston rings
    2. Intake valve
    3. Exhaust valve
    4. Head gasket