

Name(s) _____

Written Assignment #1 - Spark Plug R & R

Save this file to your computer then re-open before completing. Save it during and after completing answers. E-mail completed assignment to phil.krolick@linnbenton.edu

Answers to this part of the assignment are found in the article linked at <http://cf.linnbenton.edu/eit/auto/krolicp/web.cfm?PgID=6709>

1) It is best to remove a spark plug on a cold engine.

When should you remove a spark plug from an engine that is at operating temperature?

2) What is dangerous about removing a spark plug from a warmed up engine?

3) How can you protect yourself when removing a spark plug on a warm engine?

4) Why is wearing disposable nitrile gloves a good idea when working on cold engines?

5) According to this article, what should you do before removing a spark plug?

6) What safety precaution should you follow when using compressed air?

- 7) You find the spark plug wires and the area around the spark plug is very oily.
Why should you recommend that this oil leak be repaired?

- 8) Why should you use di-electric grease between the spark plug and the spark plug boot when replacing spark plugs?

- 9) What will happen if you place the wrong spark plug wire back onto the spark plug?

- 10) What is the function of the rubber or foam insert found in a good quality spark plug socket?

- 11) What will the symptom be if you have a minor crack in the ceramic shell of a spark plug?

- 12) Explain the six steps to removing a stuck spark plug.

Answer questions 13 & 14 after viewing the video at <http://www.youtube.com/watch?v=lk70oyUEftY>

13) What can happen if you use a coin style spark plug gapping tool to adjust a spark plug gap? (1:41 – 1:52 on video)

14) Where are two places can you find the specified plug gap for your vehicle? (starting at 1:55 on video)

Return to <http://cf.linnbenton.edu/eit/auto/krolicp/web.cfm?PgID=6709>

15) A cracked insulator will cause a misfire. How can a cracked plug not be noticed until the vehicle has been returned to the customer?

16) How can using a swivel adapter on the spark plug socket cause an inaccurate torque setting?

17) What can happen if a spark plug is under-torqued?

18) What can happen if a spark plug is over-torqued?

19) What happens if you use too much anti-seize on a spark plug?

Question # 20 can be answered after reading this online article

<http://www.ngksparkplugs.com/pdf/TB-0630111antisieze.pdf>

20) How can you tell if a new spark plug does not need anti-seize just by looking at the spark plug?

21) Why should you use anti-seize on a spark plug that is not new?

22) What type of anti-seize should you use on a spark plug?

23) How much less torque should you use when torquing a spark plug with anti-seize applied to the threads?

24) The torque specification for your spark plug is 20 ft.lbs.
You are going to use a small amount of anti-seize on the spark plug.
What torque value should you adjust your torque wrench to?

25) If a spark plug does not easily screw into the cylinder head, what should you do?

26) What are the two types of spark plug seals?

27) What should you use between the spark plug boot and the spark plug before you place the wire onto the spark plug?

Answers for the remaining questions are in an online video found at <http://www.youtube.com/watch?v=LtQ0LV7u1OE&feature=related>

28) Which type of spark plug is used for older cars with conventional ignition?
(answers are found between 0:50 and 1:30 on video)

A) Copper core B) Platinum C) Iridium

29) For a modern car with a DIS or Coil Pack type ignition which type of spark plug is used?
(answers are found between 0:50 and 1:30 on video)

A) Copper core B) Platinum C) Iridium

30) What can cause the spark plug wire boot to be difficult to remove from the spark plug?
(found right after 1:50 on video)

31) What are two reasons the rubber boot that connects the coil to the spark plug for coil on plug ignitions might need to be replaced? (found soon after 2:40 of the video)

- 32) What are two reasons for starting with a cold engine when removing spark plugs?
(6:30 – 7:05 on video)
- 33) Why should you clean the area with compressed air before removing spark plugs?
(6:30 – 7:05 on video)
- 34) How can you remove a spark plug that has carbon built up on the threads?
(6:30 – 7:05 on video)
- 35) If you decide to use anti-seize on the spark plug threads,
what precautions does this video recommend? (7:15 - 8:30 on video)
- 36) When placing the spark plug boot back on the spark plug what should you do?
(7:15 - 8:30 on video)

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