

Primary Ignition Analysis Concepts

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Name: _____
Class: Ignition Primary Failure Analysis
Date: _____

Write a short paragraph in response to each of the following questions.

1. How can we test secondary output?

2. Define Faraday's Law

3. Define Lenz's Law

4. What is a 'Time Constant'? Express the time constant relationship to inductance 'L' and resistance 'R'

5. How can we apply 'Time Constants' to an ignition coil?

6. What two things are required to validate primary drive?

7. Why does using current rise time and ramp shape often lead to misdiagnosis?

8. What do the 'turn on oscillations' represent? How important are they?

9. How does a grounded secondary affect the primary current ramp?

10. How can RPM affect the primary current ramp?

11. How does a delay in current cut off reduce secondary output?

12. How does reduced current level affect secondary output?

13. What does it mean if primary current level and cut off are good with a weak secondary output?

14. How can transistor base trigger current be used in diagnosis?

15. What is the main cause of tail activity after the primary current cut off?

16. Can amp probe noise be used in diagnosis? If so, how?

17. Where is noise most likely to be picked up?

18. How can noise be picked up anywhere along the primary circuit?

19. How can DSO sample rate limitations affect measurements of primary current cut off time?

20. How does secondary current affect actual primary field collapse time?

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