

Name(s) _____

Homework #8

Answers for questions 1 - 12 are found in Chapter 11

- 1) Explain how a variable reluctance sensor is constructed.
(what are the parts required to make an A/C voltage generator)

- 2) What are magnetic pulse generators, or pickup coil sensors typically used for?

- 3) Describe how a Hall Effect Sensor works.

- 4) What are two differences between the signal sent by a variable reluctance sensor and the signal sent by a hall effect sensor.

- 5) Identify two types of Variable Resistance Sensors

- 6) Briefly discuss variable voltage sensors

- 7) What is the difference between Random Access Memory (RAM) and Read Only Memory (ROM)

- 8) What is the difference between a Biased High, and Biased Low input?

- 9) A sensor is unplugged, the sensing wire measures 5 volts.
Is this a Biased High or Biased Low input signal?

- 10) Why is multiplexing used?
- 11) Why are multiplex “backbone” communication cables twisted and shielded?
- 12) If you could “read” one of the digital signals being sent on the multiplex backbone you might find the following message.
 “This is a normal data message being sent by the engine controller.
 The engine coolant temperature is 210°.”
 Match these Controller Area Network (CAN) protocol terms: (Refer to page 356)

- | | |
|-------------------------|---------------------------|
| ___ Normal data message | A) Source Address |
| ___ Engine Controller | B) Parameter Group Number |
| ___ Coolant temperature | C) Message Priority |
| ___ 240° | D) Data Value |

Answers for questions 13 - 17 are found in Chapter 12

- 13) Explain how a Bimetallic Gauge works
- 14) Why do Bimetallic Gauges use an instrument voltage regulator?
- 15) Explain how an oil pressure warning lamp operates.
- 16) Explain how a stepper motor driven gauge works.
- 17) How does a control module “locate” or zero a stepper motor driven gauge?