

Name _____

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

1) What do the terminals of a typical ISO relay mean?

2) What do the circuit numbers shown on schematics usually mean?

3) What is used to control voltage spikes inside a relay

4) How can a tone generator be used to locate a short circuit?

5) What is the difference between a relay and a solenoid?

Answer Key

Testname: SHORT 45

- 1) Terminals 85 and 86 represent the coil of the relay, terminal 30 represents the power in the relay, terminal 87a is the normally closed contact, and terminal 87 is the normally open contact.
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- 2) Each wire in part of a circuit is labeled with the circuit number to help the service technician trace the wiring and to provide an explanation of how the circuit should work.
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- 3) When the relay or solenoid coil current is turned off, the stored energy in the coil flows through the clamping diode and effectively reduces voltage spike. Most relays use a resistor connected in parallel with the coil winding. The use of a resistor, typically about 400 to 600 ohms, reduces the voltage spike by providing a path for the voltage created in the coil to flow back through the coil windings when the coil circuit is opened.
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- 4) A tone generator is connected to the shorted circuit and a probe is used to locate where the tone stops, indicating the location of the short circuit.
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- 5) A relay is an electromagnetic switch that uses a movable arm. Because a relay uses a movable arm, it is generally limited to current flow not exceeding 30 amperes. A solenoid is an electromagnetic switch that uses a movable core. Because of this type of design, a solenoid is capable of handling 200 amperes or more.
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