

# Starter Relays and Solenoids

**Meets ASE Task:** (A6-C-3) P-2 and (A6-C-5) P-2 Inspect and test starter relays, solenoids, connections, and wires; determine necessary action.

Name \_\_\_\_\_ Date \_\_\_\_\_ Time on Task \_\_\_\_\_

Make/Model/Year \_\_\_\_\_ VIN \_\_\_\_\_ Evaluation: 4 3 2 1

\_\_\_\_\_ 1. Clean and visually inspect the starter solenoid and/or relay for physical damage.

OK \_\_\_\_\_ NOT OK \_\_\_\_\_

\_\_\_\_\_ 2. Set a digital multimeter (DMM) to read ohms (low scale) and check the hold-in coil and the pull-in coil.

**Pull-in coil.** Measure between terminals “S” and “M”:

resistance = \_\_\_\_\_ (should be 0.2 to 0.4 ohm) OK \_\_\_\_\_ NOT OK \_\_\_\_\_

**Hold-in coil.** Measure between terminals “S” and the solenoid housing:

resistance = \_\_\_\_\_ (should be 0.4 to 0.6 ohm) OK \_\_\_\_\_ NOT OK \_\_\_\_\_

\_\_\_\_\_ 3. Test the pull-in winding by applying 12 volts to terminal “S” and ground to terminal “M.” Check that the plunger will be drawn into the solenoid.

OK \_\_\_\_\_ NOT OK \_\_\_\_\_

\_\_\_\_\_ 4. Check the hold-in winding by connecting 12 volts to terminal “S” and the other wire to ground. The plunger should be drawn into the solenoid housing.

OK \_\_\_\_\_ NOT OK \_\_\_\_\_

\_\_\_\_\_ 5. Measure coil resistance of the relay (terminals 86 and 85).

Resistance = \_\_\_\_\_ ohms  
(should be 60 to 100 ohms)

OK \_\_\_\_\_ NOT OK \_\_\_\_\_

\_\_\_\_\_ 6. What is the necessary action?

\_\_\_\_\_  
\_\_\_\_\_

