**Meets ASE Task:** (A8-D-10) P-1 Inspect, test, and/or replace fuel injectors on low- and high-pressure systems.

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date:\_\_\_\_\_\_\_\_\_\_\_\_\_

Time on Task:\_\_\_\_\_\_\_\_\_\_\_\_\_

Make/Model/Year:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

VIN:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Evaluation (Enter number from 4, 3, 2, 1) :\_\_\_\_\_\_\_\_\_

**Injector Voltage Waveform Test**

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**1.** Check service information for the type of fuel injector being used.

Saturated

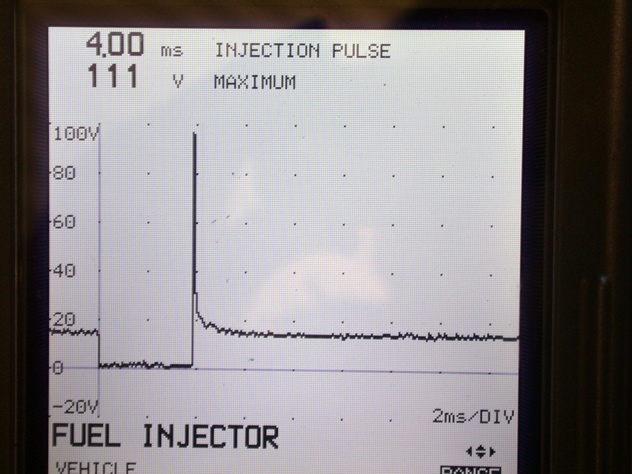
Peak and hold

**2.** Connect a digital storage oscilloscope (DSO) or graphing multimeter (GMM) to the

pulsed side of the injector. (Check service information for the color of wire used for

the pulse.)

**3.** Start the engine and observe the voltage waveform.



**4.** Does the voltage spike (kick) exceed 30 volts?  Yes  No

**5.** What is the injector pulse-width? \_\_\_\_\_\_\_\_\_\_ (normally between 1.5 and 3.5 mS at

idle on a warm engine)

**6.** Based on the test performed, what is the needed action? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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