

# Fuel and Induction System Testing

## Student/Intern information:

Name \_\_\_\_\_ Date \_\_\_\_\_ Class \_\_\_\_\_

## Vehicle used for this activity:

Year \_\_\_\_\_ Make \_\_\_\_\_ Model \_\_\_\_\_

Odometer \_\_\_\_\_ VIN \_\_\_\_\_

Learning Objective/Task	CDX Tasksheet Number	2017 MAST NATEF Reference Number; Priority Level
• Inspect and test fuel pump(s) and pump control system for pressure, regulation, and volume; perform needed action.	C868	8D3; P-1
• Check fuel for contaminants; determine needed action.	C420	8D2; P-2
• Inspect, test, and/or replace fuel injectors.	C842	8D7; P-2
• Replace fuel filter(s) where applicable.	C422	8D4; P-2
• Inspect, service, or replace air filters, filter housings, and intake duct work.	C962	8D5; P-1
• Inspect throttle body, air induction system, intake manifold, and gaskets for vacuum leaks and/or unmetered air.	C424	8D6; P-2
• Verify idle control operation.	C665	8D8; P-1
• Diagnose (troubleshoot) hot or cold no starting, hard starting, poor driveability, incorrect idle speed, poor idle, flooding, hesitation, surging, engine misfire, power loss, stalling, poor mileage, dieseling, and emissions problems; determine needed action.	C713	8D1; P-2

Time off \_\_\_\_\_

Time on \_\_\_\_\_

Total time \_\_\_\_\_

## Materials Required

- Vehicle/simulator
- Fuel pressure gauge (higher than specified pressure)
- DMM/DVOM
- 1-quart/-liter fuel container
- Graduated test tube (100 mL is optimal)
- Injector pulsing tool
- Shop vacuum
- Leak detection tool (such as a smoke machine or other appropriate device)
- Problem-specific tools and equipment such as: scan tool, lab scope, etc.

### Some Safety Issues to Consider

- When performing this task, you will be exposed to gasoline or diesel fuel. Make sure you use the proper gloves to prevent fuel from coming in contact with your skin.
- This task requires working with liquid fuel. Prevent serious burns or fires by keeping open flame or any other source of ignition far away.
- When running any vehicles in the shop, make sure you use the shop's exhaust ventilation system to discharge all exhaust gas safely outside.
- You will be working under the hood of a running vehicle. Keep your hands and fingers away from moving belts, fans, and other parts.
- Comply with personal and environmental safety practices associated with clothing; eye protection; hand tools; power equipment; proper ventilation; and the handling, storage, and disposal of chemicals/materials in accordance with local, state, and federal safety and environmental regulations.

### Performance Standard

**0—No exposure:** No information or practice provided during the program; complete training required

**1—Exposure only:** General information provided with no practice time; close supervision needed; additional training required

**2—Limited practice:** Has practiced job during training program; additional training required to develop skill

**3—Moderately skilled:** Has performed job independently during training program; limited additional training may be required

**4—Skilled:** Can perform job independently with no additional training