

Four-Wheel Drive/All-Wheel Drive Component Diagnosis and Repair

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
• Diagnose noise, vibration, and unusual steering concerns; determine needed action.	C787	3F5; P-3
• Inspect, adjust, and repair shifting controls (mechanical, electrical, and vacuum), bushings, mounts, levers, and brackets.	C788	3F1; P-3
• Disassemble, service, and reassemble transfer case and components.	C875	3F7; P-2
• Inspect locking hubs; determine needed action(s).	C876	3F2; P-3
• Check for leaks at drive assembly and transfer case seals; check vents; check fluid level; use proper fluid type per manufacturer specification.	C914	3F3; P-3
• Diagnose, test, adjust, and/or replace electrical/electronic components of four-wheel drive/ all-wheel drive systems.	C878	3F6; P-2
• Identify concerns related to variations in tire circumference and/or final drive ratios.	C613	3F4; P-2

Time off _____

Time on _____

Total time _____

Materials Required

- 4WD/AWD-equipped vehicle
- Stethoscope
- Transmission jack
- Seal puller
- Wheel-bearing socket set
- Specified wheel-bearing grease
- Torque wrenches
- Tape measure
- DMM/DVOM
- Manufacturer-specific tools

Some Safety Issues to Consider

- Vehicle hoists are important tools that increase productivity and make the job easier. However, they can also cause severe injury or death if used improperly. Make sure you follow the manufacturer's operation procedures. Also, make sure you have your supervisor's/instructor's permission to use any particular type of lifting equipment.
- When running any vehicles in the shop, make sure you use the shop's exhaust ventilation system to discharge all exhaust gas safely outside.
- Diagnosis of this fault may require test-driving the vehicle on the school grounds. Attempt this task only with full permission from your instructor and follow all the guidelines exactly.
- Castings and machined parts may have sharp edges. Handle these parts with care.
- 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