

# Suspension and Steering Systems: Wheel Alignment Diagnosis, Adjustment, and Repair

## Student/intern information:

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

## Vehicle used for this activity:

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

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

Learning Objective/Task	CDX Tasksheet Number	2013 MLR NATEF Reference Number; Priority Level	2013 AST NATEF Reference Number; Priority Level	2013 MAST NATEF Reference Number; Priority Level
• Diagnose vehicle wander, drift, pull, hard steering, bump steer, memory steer, torque steer, and steering return concerns; determine necessary action.	C206		4E1; P-1	4E1; P-1
• Perform prealignment inspection and measure vehicle ride height; determine necessary action.	C939	4C1; P-1		
• Perform prealignment inspection and measure vehicle ride height; perform necessary action.	C617		4E2; P-1	4E2; P-1
• Prepare vehicle for wheel alignment on the alignment machine; perform four-wheel alignment by checking and adjusting front- and rear-wheel caster, camber, and toe as required; center steering wheel.	C618		4E3; P-1	4E3; P-1
• Check toe-out-on-turns (turning radius); determine necessary action.	C213		4E4; P-2	4E4; P-2
• Check SAI (steering axis inclination) and included angle; determine necessary action.	C214		4E5; P-2	4E5; P-2
• Check rear-wheel thrust angle; determine necessary action.	C216		4E6; P-1	4E6; P-1
• Check for front-wheel setback; determine necessary action.	C217		4E7; P-2	4E7; P-2
• Check front- and/or rear-cradle (subframe) alignment; determine necessary action.	C795		4E8; P-3	4E8; P-3
• Reset steering angle sensor.	C940		4E9; P-2	4E9; P-2

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

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

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

## Materials Required

- Vehicle with alignment concern
- Tire-pressure gauge and inflator
- Tape measure
- Wheel-alignment machine
- Manufacturer- or job-specific tools

## Some Safety Issues to Consider

- 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 guidelines and policies exactly.
- Lifting equipment such as vehicle jacks and stands, vehicle hoists, and engine 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.
- Vehicle springs store a lot of energy, which, if released improperly, can cause injury or death. Please familiarize yourself with the manufacturer's safety precautions related to these procedures.
- Some suspension systems are electronically controlled, and can raise or lower without notice. Please familiarize yourself with the manufacturer's safety precautions related to these procedures.
- 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