

# Engine Repair: Cylinder Head Disassembly, Inspection, 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
• Inspect pushrods, rocker arms, rocker arm pivots, and shafts for wear, bending, cracks, looseness, and blocked oil passages (orifices); determine necessary action.	C021		1B3; P-2	1B3; P-2
• Inspect valve lifters; determine necessary action.	C722			1B12; P-2
• Inspect and/or measure camshaft for runout, journal wear, and lobe wear.	C724			1B13; P-2
• Inspect camshaft bearing surface for wear, damage, out-of-round, and alignment; determine necessary action.	C027			1B14; P-3
• Inspect valve springs for squareness and free height comparison; determine necessary action.	C718			1B7; P-3
• Inspect valve guides for wear; check valve stem-to-guide clearance; determine necessary action.	C719			1B9; P-3
• Inspect valves and valve seats; determine necessary action.	C720			1B10; P-3
• Check valve spring assembled height and valve stem height; determine necessary action.	C721			1B11; P-3
• Establish camshaft position sensor indexing.	C677		1B6; P-1	1B6; P-1
• Adjust valves (mechanical or hydraulic lifters).	C723	1B1; P-1	1B4; P-1	1B4; P-1

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

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

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

### Recommended Resource Materials

- CDX Automotive program
- Technical service bulletins, shop manuals, and any other information applicable to the specific vehicle or components you are working on
- Class notes

### Materials Required

- Straightedge or piece of glass
- Feeler blades
- Blow gun/air nozzle
- Set of V-blocks
- Valve spring tension gauge
- Square
- Machinist's rule
- Installed height micrometer
- Ball micrometers
- Outside micrometers
- Dial indicator

### Some Safety Issues to Consider

- Engine castings and parts can have sharp edges. Be careful when handling them.
- Cleaning parts may bring you in contact with hazardous chemicals. Always wear the appropriate gloves and clothing when working with chemicals. Refer to the material safety data sheet (MSDS) for further information.
- Used engine oil contains cancer-causing agents. Always avoid oil contact with your hands. Always wash your hands after completing this task.
- Compressed air can be very dangerous. Never blow it at someone. Never use it to remove dirt or dust from your skin or clothing. Never use it without an OSHA-approved nozzle.
- 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