

Cylinder Head Removal, Inspection, and Installation

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
• Remove cylinder head; inspect gasket condition; install cylinder head and gasket; tighten according to manufacturer's specification and procedure.	C673	1B1; P-1
• Clean and visually inspect a cylinder head for cracks; check gasket surface areas for warpage and surface finish; check passage condition.	C674	1B2; P-1

Time off _____
Time on _____
Total time _____

Materials Required

- Complete engine
- Harmonic balancer puller
- Harmonic balancer installation kit
- Head stand
- Head gasket set
- Torque wrench
- Torque angle gauge
- Gasket scraper (nonmetallic on aluminum and plastic surfaces)
- Some engines require a liquid gasket remover and chemical metal prep
- Straightedge, piece of glass, or granite comparator surface
- Feeler blade set
- Crack detection equipment (magna-flux for cast iron; Zyglo for aluminum)
- Blowgun/air nozzle
- Vehicle-specific tools

Some Safety Issues to Consider

- This procedure may require cleaning the engine prior to inspection. If so, use the proper equipment and procedures to carry this out safely. Also, get your supervisor's/instructor's permission prior to cleaning.
- 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.
- Cylinder heads can be heavy, so make sure you get help when removing and installing them.
- 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