

Louisiana Delta Community College

Academic Affairs Master Syllabus

Course Name: CYLINDER HEAD & VALVE TRAIN DIAGNOSIS AND REPAIR

Course Number: AUTO 1110

Credit Lecture hours: 0 **Credit Lab Hours:** 1 **Contact Hours:** 30

Textbook, Author, and Publisher: To be provided by College Campus

Instructor Information: To be provided by College Campus

Class Location: To be provided by College Campus

Course Description: This course teaches the procedures and repair methods for diagnosing and reconditioning cylinder heads.

Prerequisites: None

Co-requisites: None

Learning Outcomes:

On completion of this course, the student will be able to:

1. Remove cylinder head(s); visually inspect cylinder head(s) for cracks; check gasket surface areas for warpage and leakage; check passage condition. (P-2)
2. Install cylinder heads and gaskets; tighten according to manufacturer's specifications and procedures. (P-1)
3. Inspect valve springs for squareness and free height comparison; determine necessary action. (P-2)
4. Replace valve stem seals on assembled engine; inspect valve spring retainers, locks, and valve grooves; determine necessary action. (P-2)
5. Inspect valve guides for wear; check valve stem-to-guide clearance; determine necessary action. (P-3)
6. Inspect valves and valve seats; determine necessary action. (P-3)
7. Check valve face-to-seat contact and valve seat concentricity (runout); determine necessary action. (P-3)
8. Check valve spring assembled height and valve stem height; determine necessary action. (P-3)
9. Inspect pushrods, rocker arms, rocker arm pivots and shafts for wear, bending, cracks, looseness, and blocked oil passages; determine necessary action. (P-2)
10. Inspect hydraulic or mechanical lifters; determine necessary action. (P-2)

Learning Outcomes continued:

11. Adjust valves (mechanical or hydraulic lifters). (P-1)
12. Inspect camshaft drives (including gear wear and backlash, sprocket and chain wear); determine necessary action. (P-2)
13. Inspect and replace timing belts (chains), overhead camdrive sprockets, and tensioners; check belt/chain tension; adjust as necessary. (P-1)
14. Inspect camshaft for runout, journal wear and lobe wear. (P-2)
15. Inspect camshaft bearing surface for wear, damage, out-of-round, and alignment; determine necessary action. (P-3)
16. Establish camshaft(s) timing and cam sensor indexing according to manufacturer's specifications and procedures. (P-1)

Assessment Measures: To be provided by the College Campus.

Library Resource Center:

The Delta Library and Learning Resource Center is committed to providing quality information and learning resources and services, including technology, in supporting the overall mission of Delta Community College and its commitment to lifelong learning.

Special Accommodations:

Louisiana Delta Community College complies with Section 504 of the Rehabilitation Act, as well as the Americans with Disabilities Act. Students with disabilities who attend the Monroe campus may make a request by contacting the Director of Counseling and Disability Services (See College Directory for contact information.) at the beginning of each semester. Reasonable accommodations will be attempted for students with documented disabilities. If an impairment is identified later in the semester, a non-retroactive accommodation plan will be developed. Students at satellite campuses should contact the Coordinator of Student Affairs at their particular campus.

Title IX:

Louisiana Delta Community College is committed to protecting the rights of students, which includes compliance with Title IX requirements. As such, the institution and members of our community will not tolerate the offenses of dating violence, domestic violence, sexual assault, and stalking. Students with Title IX concerns should contact the College's Title IX Coordinator (See College Directory for contact information.) Students are required to complete Sexual Assault Awareness and Prevention Online Training. Access to this online course will be sent out through the Delta email account.

Student Code of Conduct:

Louisiana Delta Community College encourages an environment of academic integrity and mutual respect. Students should read and follow both academic and behavioral expectations identified in the Code of Student Conduct that can be found online at www.ladelta.edu. Students are expected to act with integrity, respect the rights of others, and conduct themselves in a professional manner. The Honor Code prohibits academic misconduct such as cheating, engaging in unauthorized collaboration, and plagiarism. Violations of the Code of Student Conduct may result in disciplinary action as provided in the Code. Incidents are reported through the online Student Conduct system.