Department:

Automotive Technology

Course Description:

This course builds on material presented in the Brakes I course and is designed to provide an advanced understanding of brake systems correction.

Course Competencies:

Upon completion of the course, the student should be able to:

1. Determine necessary brake systems correction.
2. Conduct system pressure tests using service specifications.
3. Perform diagnosis and correction for poor stopping, pulling, or dragging concerns caused by malfunctions in the hydraulic system.
4. Conduct inspection, fabrication, and replacement of brake lines and hoses.
5. Diagnose poor stopping, noise vibration, pulling, grabbing, dragging, or pedal pulsation concerns.
6. Perform service specifications pertaining to the removal, cleaning, and refinishing procedures on brake drums.
7. Perform drum brake repair and replacement procedures.
8. Diagnose poor stopping noise vibration, pulling, grabbing, dragging or pedal pulsation concerns.
10. Machine rotor according to service specifications.
11. Perform caliper piston retraction where applicable.
12. Inspect and test power assist systems.
13. Determine necessary action on wheel bearing noise, wheel shimmy, and vibration concern diagnoses.
14. Perform the removal, inspection, and replacement of bearing and hub assemblies.

Course Content:

A. General Brake System Diagnosis
B. Hydraulic Systems Diagnosis and Repair
C. Drum Brake Diagnosis and Repair
D. Disc Brake Diagnosis and Repair
E. Power Assist Units Diagnosis and Repair
F. Wheel Bearings, Parking Brakes, Electrical Diagnosis and Repair
G. Electronic Brake, Traction, and Stability Control Systems Diagnosis and Repair.
Learning Assessments:

Assessments may include quizzes, tests, project work, demonstrations, observations, weekly assignments, and written papers.

Instructional Materials:


Guidelines for Requesting Accommodations Based on Documented Disability or Medical Condition

It is the intention of Highland Community College to work toward full compliance with the Americans with Disabilities Act, to make instructional programs accessible to all people, and to provide reasonable accommodations according to the law.

Students should understand that it is their responsibility to self-identify their need(s) for accommodation and that they must provide current, comprehensive diagnosis of a specific disability or medical condition from a qualified professional in order to receive services. Documentation must include specific recommendations for accommodation(s). Documentation should be provided in a timely manner prior to or early in the semester so that the requested accommodation can be considered and, if warranted, arranged.

In order to begin the process all students must complete the “Disabilities Self-Identification Form” at this link: https://highlandcc.edu/pages/disability-services.

This form can also be accessed at the Highland Community College homepage under Students Services/Student Resources/Disability Service or by contacting the Disabilities Coordinator.