



AUTOMOTIVE BRAKE SYSTEMS — AUTM 1033

A. Course Description

- **Credits:** 3.00
- **Lecture Hours/Week:** 1.00
- **Lab Hours/Week:** 2.00
- **OJT Hours/Week:** 0
- **Prerequisites:** None
- **Corequisites:** None
- **MnTC Goals:** None

This course includes basic principles of brakes, hydraulic system basics, disc and drum brakes, parking brakes, anti-lock brakes and power assist units. Emphasis will be placed on operation, diagnosis and repair of various types of braking systems. Prerequisites: AUTM 1003 and 1013

B. Course Effective Dates: 8/21/17 – Present

C. Outline of Major Content Areas

As noted on course syllabus

D. Learning Outcomes

1. Check braking system for leaks and determine necessary action
2. Check operation of brake electrical systems
3. Check vacuum supply (manifold or auxiliary pump) to vacuum-type power booster
4. Clean, inspect, measure, and replace braking system components; determine necessary action
5. Complete work order to include customer information, vehicle identifying information, customer concern, related service history, cause and correction
6. Depressurize high-pressure components of the anti-lock brake system (ABS)
7. Diagnose anti-lock brake system (ABS) braking concerns
8. Diagnose wheel bearing noises, wheel shimmy, and vibration concerns: determine necessary action
9. Identify and inspect mechanical/hydraulic and anti-lock brake system (ABS) components: determine necessary action
10. Identify traction control/vehicle stability control system components
11. Identify, interpret, and diagnose brake system concern: determine necessary action

12. Inspect and replace wheel studs
13. Inspect, test, and/or replace braking system components
14. Install wheel, torque lug nuts, and make final checks and adjustments
15. Locate and interpret vehicle and major component identification numbers (VIN, vehicle certification labels, calibration labels)
16. Perform brake system adjustments, services, and repairs
17. Research applicable vehicle and service information, such as brake system operation, vehicle service history, service precautions, and technical service bulletins
18. Select, handle, store, and fill brake fluids to proper level

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

F. Learner Outcomes Assessment

As noted on course syllabus

G. Special Information

None noted