Unit 2:BRAKES

Content Area: **Applied Technology**
Course(s):
Time Period: **Marking Period 1**
Length: **10-15 class periods**
Status: **Published**

Brief Summary of Unit

This Automotive 3 unit is the brake system. Students will expand on their knowledge of the different types of braking systems. Students will perform a variety of tasks pertaining to each system, the task will be discussed in the form of a teacher-led discussion, and students will then break into groups to diagnose and repair the problem in the system. Students will be required to use computer-based software and textbooks for reference material. The objective of this course is to instill confidence in the student's critical thinking and diagnostic ability, problem-solving skills, and ability to function in a group environment.

July 2022

ESESSENTIAL QUESTIONS/ ENDURING UNDERSTANDINGS

Essential Questions

- What are the hydraulic and mechanical principles of an automotive brake system and how do they work together in order for them to operate?
- What are the functions of the major components in an automotive brake system?

Enduring Understandings

- Students will understand common problems in the brake system, and how are they diagnosed and repaired. Their understanding will include, how are disc and drum brake assemblies serviced and what precautions need to be taken when servicing them. Also, the precautions that need to be taken when servicing brake system components.

OBJECTIVES

STUDENTS WILL BE SKILLED AT

- How to explain the hydraulic and mechanical principles of an automotive brake system and be able to identify the major parts of an automotive brake system.
- How to inspect diagnose and repair common brake problems.

- How to manually, pressure, and vacuum bleed the hydraulic brake system.
- The safety procedures to follow when servicing a brake system.
- The basic operation of an anti-lock brake system.

STUDENTS WILL KNOW

- Knowledge of an automotive brake system is essential to be able to diagnose and repair it.
- Proper diagnostic skills and procedures will benefit them when attempting to fix a specific problem.
- The automotive brake system is one of the most important systems in the automobile and the importance of keeping it in good working condition

LEARNING PLAN

- Teacher-led discussions on the automotive brake system, hydraulics, and mechanical machinations.
- Hands-on task sheets on component location operation and repair.
- Use of the text and workbook Modern Automotive Technology.
- Written tests and writing prompts on brake systems and related issues.
- Group discussions and essential questions on brakes throughout shop work and class work.

ASSESSMENT

Summative

Written test

Hands-on Job Sheets

Written Essay

Formative

Verbal questioning during Hands-on Job Sheets

Visual Observations

Alternative

student presentation on safety: ex use of tools, location of emergency items, safety procedures

Benchmark

Midterm/Final Exam

MATERIALS

Text Book; Modern Automotive Technology

Job Sheets

Visual aids

Videos

Shop vehicles

All Data Automotive Internet Program

Google

Electrical, Pneumatic, and Hydraulic tools

Various hand tools

Accomodations

https://docs.google.com/spreadsheets/d/1CvoX6NXdGUPtTPcEqPOsnWbqpDLS4Ego1W1eaIrGYTo/