

- I. COURSE DESCRIPTION:** Students will demonstrate the procedures for servicing Truck and Coach Vehicle Systems for the purpose of routine maintenance. The student will also record and monitor service intervals of such vehicles and equipment by means of manual and electronic systems for a routine maintenance schedule. Students will perform engine oil changes, lubricate chassis, steering and suspension components and also perform fluid level checks for all driveline gear boxes and differential assemblies. Students will perform visual inspections of brake and brake adjustment systems. Students will also test lighting systems and repair as necessary. Students will also perform tasks such as cooling system testing, accessory drive belt tension tests, battery and battery cable connection cleaning and service.

Students will be required to follow proper safety procedures when performing the above tasks according to both Sault College Motive Power Department Standards and Vehicle Manufacturers safety regulations and specifications.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Upon successful completion of this course, the student will demonstrate the ability to:

1. Properly raise, support and lower vehicles and equipment such as trucks, tractors and trailers for the purpose of performing lubrication and service.

Potential Elements of the Performance:

- Find lifting locations
- Safely raise and support assigned vehicles

2. Perform the applicable engine lube service and chassis lubrication service to a variety of on road vehicles and equipment.

Potential Elements of the Performance:

- Change engine oil and filters
- Lube chassis as required
- Lube steering linkage and driveline components as required

3. Perform visual inspection, test and repair vehicle lighting systems.
Potential Elements of the Performance:
 - Check operation of all lighting systems
 - Replace and repair lighting as required

4. Perform a proper circle check inspection of a combination vehicle as well as a truck or tractor type vehicle according to Trucking Industry Standards.
Potential Elements of the Performance:
 - Inspect tire wear and record measurements and pressures
 - Measure brake chamber push rod stroke
 - Check wheel attachment
 - Check compressor mounting and air pressure build time
 - Listen for audible air leaks
 - Check fifth wheel for proper mounting
 - Visually inspect the frame for cracks

5. Perform Cooling System testing and Service using the proper methods and coolant handling equipment according to Manufacturers Specifications and Safety Policies.
Potential Elements of the Performance:
 - Test antifreeze freeze protection
 - Test PH and recommend the proper procedure to correct the problem
 - Check water pump drive system and fan
 - Check rad and hoses for condition, external leaks and cleanliness

6. Perform scheduled maintenance inspections according to various Company oriented inspection criteria and record results.
Potential Elements of the Performance:
 - Perform A, B and C type inspections on forms supplied
 - Electronically store records of inspection results

7. Visually inspect batteries for loose and corroded cables and open circuit voltage. Check charging and starting system operation. Clean and service batteries as required. Perform battery load test with an electronic battery tester to confirm that the batteries are within the proper specifications.

Potential Elements of the Performance:

- Perform wiggle test
- Check battery voltage
- Test charging voltage
- Clean and service batteries as required
- Perform electronic load test
- Check charging system voltage at the batteries
- Test cranking voltage
- Perform starter current draw test

III. TOPICS:

1. Safe Jacking and Lifting Procedures for Heavy Truck Vehicles and Equipment.
2. Medium and Heavy Truck lubrication Systems.
3. Medium and Heavy Truck lighting systems
4. Highway Vehicle Circle Check Requirements
5. Truck cooling systems.
6. Maintenance Schedule Intervals and Record Keeping Methods
7. Heavy truck batteries, starting and charging system service procedures.

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

*Pen or pencil and a clipboard

*Coveralls

*CSA approved steel toe boots (high top)

*CSA approved safety glasses

*these items mandatory for shop

V. EVALUATION PROCESS/GRADING SYSTEM:

The final grade for this course will be based on the results of classroom, assignments and shop evaluations weighed as indicated:

Assignments – 50% Complete assigned work orders and service interval inspections according to manufacturer's recommendations.

Shop – 50% of the final grade is comprised of attendance, punctuality, preparedness, student ability, work organization and general attitude

(Student will be given notice of test and assignment dates in advance)

The following semester grades will be assigned to students:

| Grade | <u>Definition</u> | <i>Grade Point Equivalent</i> |
|--------------|--|-----------------------------------|
| A+ | 90 – 100% | |
| A | 80 – 89% | 4.00 |
| B | 70 - 79% | 3.00 |
| C | 60 - 69% | 2.00 |
| D | 50 – 59% | 1.00 |
| F (Fail) | 49% and below | 0.00 |
| CR (Credit) | Credit for diploma requirements has been awarded. | |
| S | Satisfactory achievement in field /clinical placement or non-graded subject area. | |
| U | Unsatisfactory achievement in field/clinical placement or non-graded subject area. | |

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| X | A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course. |
| NR | Grade not reported to Registrar's office. |
| W | Student has withdrawn from the course without academic penalty. |

VI. SPECIAL NOTES:Attendance:

Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session.

VII. COURSE OUTLINE ADDENDUM:

The provisions contained in the addendum located on the portal form part of this course outline.