

Technological Education Department

Transportation Technology

TTJ 3M/4M

**TIRE CHANGER
OPERATION
PROCEDURES
AND SAFETY
GUIDELINES
FOR
STUDENTS**

Ministry Expectations

OVERALL EXPECTATIONS

By the end of this course, students will:

D1. demonstrates the use of professional work practices and procedures and compliance with occupational health and safety regulations and standards;

Specific Expectations

By the end of this course, students will:

D1.1 demonstrates an understanding of legislation and regulations related to procedures and operations used in transportation technology facilities (*e.g., Occupational Health and Safety Act [OHSA]; regulations and standards outlined in the Workplace Hazardous Materials Information System [WHMIS]; Apprenticeship and Certification Act [ACA]*);

D1.2 demonstrates good housekeeping and safety practices in the work environment (*e.g., cleaning up spills and leaks, keeping areas clean and clear of obstructions*);

D1.3 identify potential health risks (*e.g., asbestos dust, fumes from brake fluid and cleaners*) when servicing vehicles or craft, and demonstrate the use of safe procedures to mitigate these hazards (*e.g., use appropriate ventilation and breathing protection*);

D1.4 use protective clothing and equipment (*e.g., eye and hearing protection, gloves, breathing apparatus, hoist, safety stand*) as required to ensure their own and others' safety in the work environment;

D1.5 explain the need for and demonstrate the ability to follow appropriate safety precautions applicable to new technologies when working around or servicing vehicles, craft, or power equipment (*e.g., precautions regarding high current and voltage, capacitor discharge rate of supplemental restraint systems, extreme temperature of exhaust systems, accumulators in hydraulic systems, pressure vessels*);

D1.6 demonstrates an understanding of professional responsibilities in the transportation industry with regard to personal and public safety (*e.g., good workmanship, integrity, high-quality customer service, compliance with manufacturers' standards*).

**TECHNOLOGICAL EDUCATION DEPARTMENT
TRANSPORTATION TECHNOLOGY**

EQUIPMENT OPERATION AND SAFETY CHECKLIST

NAME: _____

This is your official document stating you have had the proper safety instruction on the following equipment. Before using this piece of equipment in this classroom you must have the instructor's signature of approval.

Machine	Present for Machine Demonstration by Teacher <i>Teachers Signature/Date</i>	Successfully completed specific safety sheet and/or test <i>Teachers Signature/Date</i>	Knows and demonstrates safe operation of machine <i>Teachers Signature/Date</i>	May use the machine while Supervised <i>Teachers Signature/Date</i>	May use the machine Un-Supervised <i>Teachers Signature/Date</i>
Tire Changer					

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Tire Changer Safety and Operation Report

Students are to complete a Safety and Operation Report of the Tire Changer following the outline below:

The Report should include the following:

- 1 Detailed information in the safety features of the Tire Changer.
- 2 Detailed information on the safe operation and inspection of the piece of equipment (before, during and after operation)
- 3 Detailed information on the set up and shut down of the machine.
- 4 Detailed information on the operation of the piece of machine.
- 5 Diagrams (digital or hand drawn) of operations, safety and components where necessary or applicable.

Information (handouts/operating manual) on the machine will be distributed by the teacher and signed out by the student. All manuals must be returned before any further manuals can be assigned to student.

The profile should be completed in MLA (Modern Language Association) format, typed (12pt), and make two copies (one for student and one for teacher). To assist students, computer access is available in class (scheduled/requested), library or at home. The length of the profile should be at the discretion of the student, keeping in mind that all areas above should be covered.

After completion of the written profile, students will be assessed and evaluated on the operation of the equipment through an in-class presentation (date will be confirmed with teacher). The mark for this profile will be a two part evaluation; part one profile, part two operation and presentation/proficiency.

Under no circumstances are students to operate any piece of equipment without prior teacher permission and demonstration, regardless of grade and competency level.

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Equipment Checklist and Operation Report Layout

Students will utilize the MLA (Modern language Association) technical report format and skills. Use of action verbs (expresses achievements or something a person does concise and in a persuasive manner) required to generate your report.

The Report Structure

Include the following areas to complete the report:

1. Introduction
2. General Safety
3. Body
 - Equipment/machine set-up
 - Equipment Operation
 - Equipment Shut down

Throughout these steps there must be inclusion of specific safety procedures.

4. Conclusion
5. Bibliography
 - If necessary when using information gathered from sources other than those distributed by teacher and in folders.

Transportation Technology
Equipment Operation Report Evaluation

Machine: _____ **Student:** _____

Mark

Theory/Report -Thinking: 30

Covered all areas of Topic - Safety included - Diagrams – MLA Format (technical format) -
Typed – Format followed as per outline – Charts (if applicable, i.e. Tire Changer)

Proficiency/ Practical - Application: 40

Proper set up/operation of machine/equipment (non injurious) – wears Personal
Protective Equipment (PPE) - Process followed as per operation and guideline in manual and
report - Ability to operate/functionality of machine – Proper/good skills/techniques –
Completion of practical task - Practical test completed (i.e. Tire removal and installation)

Presentation -Knowledge / Communication: 30

Proper use of technical vocabulary/terminology/literacy – Component recognition -
Knowledge of machine process through operation and safety - Word recognition and
proper use of machine terminology and procedural guidelines – Utilizes charts/diagrams
where necessary and applicable

Notes: **Total - 100**

(See attached Rubric for level and grade assessment)

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Tire Changer Operation Report Evaluation

Machine: _____ **Student:** _____

Mark

Theory/Report/Thinking:

Proficiency/ Practical/Application:

Presentation/Knowledge/Communication:

Notes:

Rubric for Tire Changer Report/Presentation

Name: _____

Date: _____

Knowledge/ Understanding	Level 1	Level 2	Level 3	Level 4	
Specific content acquired in each area and the comprehension of its meaning and significance (<i>e.g., procedures, technological concepts, processes, industry/safety standards</i>)	demonstrates limited knowledge and understanding of content	demonstrates some knowledge and understanding of content	demonstrates considerable knowledge and understanding of content	demonstrates thorough knowledge and understanding of content	Comments
Mark	5-6	6-7	7-8	8- 10	
Thinking/ Inquiry					
Thinking/process skills (e.g., developing, evaluating process for practices and principles of operation)	uses planning skills with limited effectiveness	uses planning skills with some effectiveness	uses planning skills with considerable effectiveness	uses planning skills with a high degree of effectiveness	Comments
Mark	5-6	6-7	7-8	8- 10	
Communication					
The conveying of meaning through various forms Expression and organization of ideas and information (<i>e.g., clear expression, logical organization</i>) visual, and written forms	expresses and organizes ideas and information with limited effectiveness	expresses and organizes ideas and information with some effectiveness	expresses and organizes ideas and information with considerable effectiveness	expresses and organizes ideas and information with a high degree of effectiveness	Comments
Mark	5-6	6-7	7-8	8- 10	
Application – The use of knowledge and skills to make connections within and between various contexts of operation (<i>e.g., concepts, processes, use of equipment and technological literacy</i>)	Applies knowledge and skills in familiar contexts with limited effectiveness	Applies knowledge and skills in familiar contexts with some effectiveness	Applies knowledge and skills in familiar contexts with considerable effectiveness	Applies knowledge and skills in familiar contexts with a high degree of effectiveness	Comments
Mark	5-6	6-7	7-8	8- 10	

Tire Changer Safety and Practical Application

Under no circumstances are students to operate any piece of equipment without prior teacher permission and demonstration, regardless of grade and competency level.

Practical Procedures:

Students are to:

- 1 View applicable safety and operation video's pertaining to the Tire Changer and complete Video assignment sheet.
- 2 Complete rough outline on tire changer safety and operation from manual notes, video assignment sheet and presentation.
- 3 Receive a demonstration from the teacher on the proper operation techniques of the machine.
- 4 Take note of all labels, warnings, danger, etc attached to the machine.
- 5 Review all information gathered during the demonstration and ask all pertinent questions to assure complete understanding of machine safety and operation.
- 6 Receive guidance and assistance during initial operation of the machine before attempting sole operation.

After the student has meant and received the above direction, they may begin the process of operating the machine and completing their report.

Video Assignment Sheet

Student Name: _____ Date: _____

Video Topic/Name: _____

Point Form/Rough Notes:

State **THREE** items that you learned:

1. _____
2. _____
3. _____

State **FIVE** important Safety Rules

1. _____
2. _____
3. _____
4. _____
5. _____

State **TWO** items that were confusing or not understood:

1. _____

2. _____
