

SKILLED**TRADES**^{BC}

Personal Record Book

*Heavy Duty Equipment Technician
(2024)*

This is your Record Book!

DO NOT SUBMIT TO SkilledTradesBC

This is not required to achieve certification

- It is a record of your progress towards achieving certification in the trade
- It provides a record of your experience
- It is your responsibility to keep it up-to-date
- Take it with you if you change employers

Note: Employers and supervisors are not responsible for keeping your Record Book up-to-date. They are responsible for sign-off of hours and sign-off of competencies once you have achieved the required level of skills and knowledge.

APPRENTICE IDENTIFICATION

Trade: Heavy Duty Equipment Technician

Legal First Name:		Legal Last Name:	
Suite Number:	Street Number and Name:		
City:		Province:	Postal Code:
Telephone Number:		Email Address:	

Work Safely!

A safe work attitude contributes to an accident free environment. Accident prevention and safe working conditions are the responsibility of both employers and employees.

Wear the required personal protective equipment, follow safe work practices and follow all safety regulations applicable to specific job activities.

Employer's responsibilities:

- Provide and maintain safety equipment and protective devices
- Ensure proper safe work clothing is worn
- Enforce safe work procedures
- Provide safeguards for machinery, equipment and tools
- Observe all accident prevention regulations
- Train employees in safe use and operation of equipment

Employee's responsibilities:

- Work in accordance with the safety regulations pertaining to job environment
- Work in such a way as not to endanger themselves or fellow workers.

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EMPLOYER INFORMATION

Originating Employer

Start Date:	End Date:
Employer:	
Contact Person:	
Address:	Phone:
	Email:
	Fax:
Supervisor/Journeyperson 1:	*TWID #:
	Phone:
	Email:
Supervisor/Journeyperson 2:	TWID #:
	Phone:
	Email:

*TWID # – Trade Worker Identification Number

If you have more than one employer during your apprenticeship, record the information for subsequent employers on the following page(s).

If your job ends or you change employers...

Before leaving your place of employment:

- Update Workplace Hours through a *Work-Based Training Hours form* for the current reporting period and get signoff by your employer.
- Update Record of Competencies with your supervisor.
- Confirm with your employer that your workplace hours have been reported to SkilledTradesBC, and if possible, get a copy of all Work-Based Training Hours reports submitted.
- Notify SkilledTradesBC of the change in your employment by submitting an *Apprentice and Sponsor Registration form* with your new employer.

When re-employed...

You must be registered with your new employer before submitting any work-based training hours to the SkilledTradesBC.

Subsequent Employers

Start Date:	End Date:
Employer:	
Contact Person:	
Address:	Phone:
	Email:
	Fax:
Supervisor/Journeyperson 1:	TWID #:
	Phone:
	Email:
Supervisor/Journeyperson 2:	TWID #:
	Phone:
	Email:

Subsequent Employers

Start Date:	End Date:
Employer:	
Contact Person:	
Address:	Phone:
	Email:
	Fax:
Supervisor/Journeyperson 1:	TWID #:
	Phone:
	Email:
Supervisor/Journeyperson 2:	TWID #:
	Phone:
	Email:

WORKPLACE HOURS

Instructions

Make an entry in this section each time your hours are reported to SkilledTradesBC.

1. Get a copy of the *Workplace Hours Report* from your employer.
2. Fill in the dates of the reporting period and the hours reported.
3. Enter your employer name, address and phone number.
4. Keep your Record Book in a safe place.

Workplace Hours

Workplace hours must be submitted to SkilledTradesBC by your employer on a regular basis. Your hours should be reported at least every six months; however, every three months is preferred.

At the beginning of your apprenticeship discuss the frequency of reporting with your employer.

Keeping Workplace hours up-to-date in your Record Book gives you the tools to better manage your apprenticeship. It provides you with the opportunity to:

- Follow up with your employer each reporting period to ensure your hours are reported on a regular basis.
- Discuss your progress with your direct supervisor/journey person on a regular basis.

DATE (TO-FROM)	EMPLOYER	HOURS
TOTAL HOURS		

RECORD OF COMPETENCIES

Instructions

The Record of Competencies is filled out and signed-off by the journeyperson supervising your work.

1. Know what skills are expected at each level of the program.
2. Ask the journeyperson to sign off on the competency when you have acquired the skills and are able to perform the task without supervision.
3. If the journeyperson agrees that you have the required skills, they will:
 - Record the date that the competency was achieved
 - Sign off on the competency
 - Enter their Trades Worker Identification Number (TWID #)

What is a Record of Competencies?

The Record of Competencies lists all competencies you should be knowledgeable in prior to receiving your certification. Keeping this section up to date will allow you to track your progress towards certification and demonstrate proficiency in the skills within the scope of your trade. Completion of the entire program should result in you becoming a skilled and knowledgeable journeyperson.

- Refer to this section periodically to ensure you are getting the work experience you need.
- Use the competencies as a guide to ensure work tasks are assigned so that you acquire the skills and knowledge required to be successful in the trade.

Review the Record of Competencies on a regular basis with your direct supervisor/journeyperson to ensure they have been completed.

Program Outline

The Program Outline provides detailed information on the scope of knowledge and skills expected at each level of the program, further defining the competencies listed in the Record Book. The Program Outline is a great resource for developing a training plan.

Download from: <https://skilledtradesbc.ca/heavy-duty-equipment-technician>

Apprenticeship Toolkit

For general information on apprenticeship and tips for navigating the apprenticeship system in BC visit SkilledTradesBC's website to learn about the *[apprenticeship basics](#)*.

LEVEL 1

IMPORTANT!

Download the Program Outline!

<https://skilledtradesbc.ca/heavy-duty-equipment-technician>

Read the competency tables

Some competencies are taught in many levels

For detailed information about that competency, go to the Program Outline

THEORY

LINE A: PERFORM OCCUPATIONAL SKILLS

- Demonstrate knowledge of jurisdictional safety certifications and requirements
- Identify hybrid and electric vehicle (EV) safety hazards
- Implement and follow hybrid and EV safety protocols
- Apply the WorkSafeBC Safety Regulations to lifting and blocking applications
- Communicate using forms and reports
- Use computers and written media to locate service and maintenance information
- Select bearing and seals
- Describe lubricants
- Identify lubricants
- Select lubricants
- Identify metals
- Describe different welding procedures
- Describe the importance of following a diagnostic procedure
- Describe diagnostic procedures used for troubleshooting

LINE B: SERVICE, DIAGNOSE, AND REPAIR BRAKES

- Diagnose hydraulic brake systems
- Diagnose hydraulic assisted power brake systems
- Describe hydraulic anti-lock braking (ABS) systems

- Diagnose hydraulic anti-lock braking (ABS) systems
- Describe the principles of braking
- Describe the principles of pneumatics
- Describe air brake schedules and components

LINE C: SERVICE, DIAGNOSE, AND REPAIR HYDRAULICS

- Describe the principles of hydraulics
- Describe the basic components of a hydraulic system
- Describe the types of hydraulic systems
- Identify hydraulic components
- Demonstrate safe work procedures for hydraulic systems service

LINE D: SERVICE, DIAGNOSE, AND REPAIR ELECTRICAL AND ELECTRONIC SYSTEMS

- Define electrical terminology
- Explain basic circuit concepts
- Describe magnetic theory
- Identify common electrical and electronic components
- Interpret wiring diagrams and symbols
- Describe battery design and operation
- Diagnose causes of battery failure
- Describe starting and charging circuits
- Identify starting and charging circuit components
- Describe electrical circuits and faults

LINE E: SERVICE, DIAGNOSE, AND REPAIR FRAMES, STEERING, AND SUSPENSION

- Describe tires, rims, wheels, and hubs
- Describe steering geometry
- Describe traction devices
- Diagnose tires, rims, wheels and hubs

- Describe steering systems
- Describe suspension systems
- Diagnose suspension systems
- Describe track machine undercarriages
- Describe types of frames
- Diagnose frames

LINE F: SERVICE, DIAGNOSE, AND REPAIR TRAILERS

- Describe landing gear and trailer accessories
- Diagnose trailer accessories
- Diagnose landing gear
- Describe coupling systems
- Diagnose coupling systems
- Describe trailer bodies and components
- Diagnose trailer body components
- Describe heating and refrigeration systems

LINE G: SERVICE, DIAGNOSE, AND REPAIR HEATING, VENTILATION, AND AIR CONDITIONING

- Identify heating and air conditioning components
- Describe the construction and operation of heating and air conditioning systems
- Describe the impact of refrigerants on the environment
- Apply legislated procedures when dealing with systems containing refrigerants

LINE J: SERVICE, DIAGNOSE, AND REPAIR STRUCTURAL COMPONENTS AND ACCESSORIES

- Describe regulations related to protective structures
- Describe inspection procedures of protective structures
- Describe cab, bodies, and components
- Diagnose cab, bodies, and components

PRACTICAL

LINE A: PERFORM OCCUPATIONAL SKILLS

- Apply personal safety measures
- Perform risk assessment
- Prevent, identify and extinguish various classes of fires
- Select and use high voltage PPE, tools, and equipment
- Identify and use shop emergency equipment
- Select, use, and maintain tools and shop equipment
- Select, use, and maintain safety equipment
- Select and use imperial and metric fasteners
- Select and use pipe, tubing, hose, and fittings
- Select, use, and maintain lifting and blocking equipment
- Select, use, and maintain staging and access equipment
- Lift and move loads
- Perform pre-start and walk around inspections
- Inspect and service wire rope
- Start, move, secure, and stop equipment
- Service bearings and seals
- Perform fluid analysis
- Cut, weld, and braze using oxy-acetylene
- Perform shielded metal arc weld
- Weld using wire feed processes
- Solder tubing and sheet metal

LINE B: SERVICE, DIAGNOSE, AND REPAIR BRAKES

- Service hydraulic brake systems
- Repair hydraulic brake systems
- Repair hydraulic assisted power brake systems
- Repair hydraulic anti-lock braking (ABS) systems

- Service air brake systems
- Repair a wheel brake assembly

LINE C: SERVICE, DIAGNOSE, AND REPAIR HYDRAULICS

- Select hydraulic fluids for applications
- Select and assemble hydraulic hoses and fittings
- Perform scheduled maintenance on hydraulic systems

LINE D: SERVICE, DIAGNOSE, AND REPAIR ELECTRICAL AND ELECTRONIC SYSTEMS

- Perform circuit calculations
- Use electrical measuring devices
- Select batteries
- Test batteries
- Maintain batteries
- Remove and replace batteries
- Use booster equipment and chargers
- Repair battery systems
- Service starting and charging circuits
- Service consumable electrical components

LINE E: SERVICE, DIAGNOSE, AND REPAIR FRAMES, STEERING, AND SUSPENSION

- Service tires, rims, wheels and hubs
- Repair tires, wheels, and hubs
- Service steering systems
- Service suspension systems
- Repair suspension systems
- Service track machine undercarriages
- Repair frames

LINE F: SERVICE, DIAGNOSE, AND REPAIR TRAILERS

- Service trailer accessories
- Repair trailer accessories
- Service landing gear
- Repair landing gear
- Service coupling systems
- Repair coupling systems
- Service trailer body components
- Repair trailer body components
- Service heating and refrigeration systems

LINE J: SERVICE, DIAGNOSE, AND REPAIR STRUCTURAL COMPONENTS AND ACCESSORIES

- Service cab, bodies, and components
- Repair cab, bodies, and components

LINE L: USE COMMUNICATION AND MENTORING TECHNIQUES

- Use communication techniques
- Use digital communication technologies and platforms

Supervisor Signature

NOTES FROM LEVEL 1

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LEVEL 2

IMPORTANT!

Download the Program Outline!

<https://skilledtradesbc.ca/heavy-duty-equipment-technician>

Read the competency tables

Some competencies are taught in many levels

For detailed information about that competency, go to the Program Outline

THEORY

LINE D: SERVICE, DIAGNOSE, AND REPAIR ELECTRICAL AND ELECTRONIC SYSTEMS

- Describe charging system components
- Describe the design and operation of charging systems
- Diagnose charging systems
- Identify starting system components
- Describe the design and operation of starting systems
- Diagnose starting systems and their components
- Identify electrical and electronic components and systems
- Diagnose electrical and electronic systems and components
- Describe a vehicle and equipment management system
- Diagnose vehicle and equipment management systems
- Describe the design and operation of electronic ignition systems

LINE H: SERVICE, DIAGNOSE, AND REPAIR ENGINES AND SUPPORTING SYSTEMS

- Describe the combustion process
- Identify engine terminology
- Describe the principles of operation of internal combustion engines
- Describe engine support systems
- Diagnose engine support systems
- Describe characteristics of diesel fuel

- Describe diesel fuel supply systems
- Diagnose diesel fuel supply systems
- Describe the characteristics of alternative fuel systems
- Identify the types of alternative fuel systems
- Describe base engine components
- Diagnose problems on a diesel engine
- Describe the components and operation of mechanical fuel injection systems
- Diagnose mechanical fuel injection systems
- Diagnose electronic fuel systems
- Describe the causes and effects of harmful emissions
- Describe emission systems on diesel engines
- Diagnose emission systems on diesel engines
- Describe engine retarder systems
- Diagnose engine retarder systems

PRACTICAL

LINE D: SERVICE, DIAGNOSE, AND REPAIR ELECTRICAL AND ELECTRONIC SYSTEMS

- Inspect charging systems
- Repair charging systems
- Repair starting systems and their components
- Repair electrical and electronic systems and components
- Repair vehicle and equipment management systems
- Perform limited diagnoses of electronic ignition systems
- Perform limited repairs of electronic ignition systems

LINE H: SERVICE, DIAGNOSE, AND REPAIR ENGINES AND SUPPORTING SYSTEMS

- Perform calculations related to engines
- Service engine support systems
- Repair engine support systems
- Service diesel supply systems
- Repair diesel fuel supply systems
- Service engine components
- Rebuild a diesel engine
- Repair mechanical fuel injection systems
- Service electronic fuel systems
- Repair electronic fuel systems
- Service emission systems on diesel engines
- Repair emission systems on diesel engines
- Service engine retarder systems
- Repair engine retarder systems

Supervisor Signature

NOTES FROM LEVEL 2

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LEVEL 3

IMPORTANT!

Download the Program Outline!

<https://skilledtradesbc.ca/heavy-duty-equipment-technician>

Read the competency tables

Some competencies are taught in many levels

For detailed information about that competency, go to the Program Outline

THEORY

LINE I: SERVICE, DIAGNOSE, AND REPAIR POWERTRAINS

- Describe methods of transferring power
- Describe the principles of power transfer
- Describe the principles and operation of clutches and related components
- Diagnose clutches and related components
- Describe manual transmissions
- Diagnose manual transmissions
- Describe automated transmissions
- Diagnose automated transmissions
- Describe the principles of planetary gear sets
- Describe the operation of torque converters and automatic transmissions
- Diagnose torque converters and automatic transmissions
- Describe power shift transmissions
- Diagnose power shift transmissions
- Describe drivelines and their components
- Diagnose drivelines and their components
- Describe drive axles
- Diagnose drive axles
- Describe final drives
- Diagnose final drives
- Describe drivetrain retarders

- Diagnose drivetrain retarders
- Describe winches
- Diagnose winches
- Describe power take-offs and transfer cases
- Diagnose power take-offs and transfer cases

PRACTICAL

LINE 1: SERVICE, DIAGNOSE, AND REPAIR POWERTRAINS

- Perform calculations related to power transfer
- Service clutches and related components
- Repair clutches and related components
- Service manual transmissions
- Repair manual transmissions
- Service automated transmissions
- Repair automated transmissions
- Repair torque converters and automatic transmissions
- Service power shift transmissions
- Repair power shift transmissions
- Service drivelines and their components
- Repair drivelines and their components
- Service drive axles
- Repair drive axles
- Service final drives
- Repair final drives
- Service drivetrain retarders
- Repair drivetrain retarders
- Service winches
- Repair winches
- Service power take-offs and transfer cases
- Repair power take-offs and transfer cases

Supervisor Signature

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LEVEL 4

IMPORTANT!

Download the Program Outline!

<https://skilledtradesbc.ca/heavy-duty-equipment-technician>

Read the competency tables

Some competencies are taught in many levels

For detailed information about that competency, go to the Program Outline

THEORY

LINE C: SERVICE, DIAGNOSE, AND REPAIR HYDRAULICS

- Diagnose hydraulic systems

LINE E: SERVICE, DIAGNOSE, AND REPAIR FRAMES, STEERING, AND SUSPENSION

- Describe the components and operation of steering systems
- Diagnose steering systems
- Describe track machine steering systems
- Diagnose track machine steering systems
- Describe track machine undercarriages
- Diagnose track machine undercarriages

LINE G: SERVICE, DIAGNOSE, AND REPAIR HEATING, VENTILATION, AND AIR CONDITIONING

- Diagnose heating and air conditioning systems

LINE J: SERVICE, DIAGNOSE, AND REPAIR STRUCTURAL COMPONENTS AND ACCESSORIES

- Describe sound suppression systems
- Diagnose sound suppression systems
- Describe attachments and accessories
- Diagnose attachments and accessories

- Describe pneumatic systems
- Diagnose pneumatic systems

LINE K: SERVICE, DIAGNOSE, AND REPAIR HYBRID AND ELECTRIC VEHICLES (EV)

- Describe hybrid systems
- Diagnose hybrid systems
- Describe electric vehicles (EV)
- Diagnose electric vehicles (EV)

PRACTICAL

LINE C: SERVICE, DIAGNOSE, AND REPAIR HYDRAULICS

- Repair hydraulic systems and components
- Repair electronic hydraulic systems

LINE E: SERVICE, DIAGNOSE, AND REPAIR FRAMES, STEERING, AND SUSPENSION

- Repair steering systems
- Repair track machine steering systems
- Repair track machine undercarriages

LINE G: SERVICE, DIAGNOSE, AND REPAIR HEATING, VENTILATION, AND AIR CONDITIONING

- Service heating and air conditioning systems
- Repair heating and air conditioning systems

LINE J: SERVICE, DIAGNOSE, AND REPAIR STRUCTURAL COMPONENTS AND ACCESSORIES

- Service sound suppression systems
- Repair sound suppression systems
- Service attachments and accessories
- Repair attachments and accessories
- Service pneumatic systems
- Repair pneumatic systems

LINE K: SERVICE, DIAGNOSE, AND REPAIR HYBRID AND ELECTRIC VEHICLES (EV)

- Service hybrid systems
- Repair hybrid systems
- Service electric vehicles (EV)
- Repair electric vehicles (EV)

LINE L: USE COMMUNICATION AND MENTORING TECHNIQUES

- Use effective communication and mentorship skills
- Use mentoring techniques

Supervisor Signature

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MISSING COMPETENCIES?

To develop the best journeyperson possible employers should attempt to provide training in all competencies for the trade. This is not always possible.

If your employer is unable to provide training in any competency required for your trade, note that competency below. Competencies listed here will remain unsigned until your employer can provide training in that area or until you find an alternate way to gain the experience needed.

Competency:	Date:
Reason:	
Alternate plan:	

Competency:	Date:
Reason:	
Alternate plan:	

TECHNICAL TRAINING

Instructions

Keep a record of each level of technical training completed.

Level 1

Date Completed:	Training Provider:
Mark:	Instructor:

Level 2

Date Completed:	Training Provider:
Mark:	Instructor:

Level 3

Date Completed:	Training Provider:
Mark:	Instructor:

Level 4

Date Completed:	Training Provider:
Mark:	Instructor:

COMPLETION REQUIREMENTS

Instructions

Keep a record of each program completion requirement achieved.

Heavy Duty Equipment Technician

- Level 1 - Technical Training
- Level 2 - Technical Training
- Level 3 - Technical Training
- Level 4 - Technical Training

- 6330 Work-Based Training Hours

- SkilledTradesBC Interprovincial Red Seal examination
- Recommendation for Certification signed by sponsor

Note: After all other completion requirements have been met, SkilledTradesBC sends a Recommendation for Certification form to the sponsor requesting signoff.

CERTIFICATIONS

Instructions

Keep a record of the credentials and endorsements you have earned, including the certification number and date of issue.

CREDENTIAL EARNED	NUMBER	DATE OF ISSUE

*If you have any questions, please contact SkilledTradesBC
Customer Service at customerservice@skilledtradesbc.ca
778-328-8700 or toll free (within BC) at 1-800-660-6011*