



PERSONAL RECORD BOOK

Heavy Duty Equipment Technician



This is your Record Book!

DO NOT SUBMIT TO THE ITA

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.

CONTENTS

APPRENTICE IDENTIFICATION	2
CONTENTS	3
EMPLOYER INFORMATION	4
WORKPLACE HOURS	6
DATE (TO-FROM)	7
EMPLOYER	7
HOURS	7
TOTAL HOURS.....	7
RECORD OF COMPETENCIES	8
LEVEL 1	9
LEVEL 2	16
LEVEL 3	20
LEVEL 4	23
MISSING COMPETENCIES?	26
TECHNICAL TRAINING	27
COMPLETION REQUIREMENTS	28
CERTIFICATIONS	29

EMPLOYER INFORMATION

Originating Employer

Start Date:	End Date:
Employer:	
Contact Person:	
Address:	Phone:
	Email:
	Fax:
Supervisor/Journeyman 1:	*TWID #:
	Phone:
	Email:
Supervisor/Journeyman 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 ITA, and if possible get a copy of all Work-Based Training Hours reports submitted.**
- **Notify the ITA 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 ITA.

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 the ITA.

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 the ITA 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/journeyperson 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, he/she will:
 - Record the date that the competency was achieved
 - Sign off on the competency
 - Enter his/her 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: www.itabc.ca/program/heavy-duty-equipment-technician

Apprenticeship Toolkit

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

LEVEL 1

IMPORTANT!

Download the Program Outline!

www.itabc.ca/program/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: OCCUPATIONAL SKILLS

- IDENTIFY AND USE SHOP EMERGENCY EQUIPMENT
- DESCRIBE WIRE ROPE AND ITS APPLICATIONS
- IDENTIFY AND SELECT LUBRICANTS
- IDENTIFY METALS
- DESCRIBE DIFFERENT WELDING PROCEDURES
- DESCRIBE THE IMPORTANCE OF FOLLOWING A DIAGNOSTIC PROCEDURE
- DESCRIBE DIAGNOSTIC PROCEDURES USED FOR TROUBLESHOOTING

LINE B: BRAKES

- DESCRIBE HYDRAULIC ANTI-LOCK BRAKING (ABS) SYSTEMS
- DESCRIBE THE PRINCIPLES OF BRAKING
- DESCRIBE THE PRINCIPLES OF PNEUMATICS
- DESCRIBE AIR BRAKE SCHEDULES AND COMPONENTS
- DESCRIBE AND PERFORM A PRE-TRIP INSPECTION

LINE C: HYDRAULICS

- DESCRIBE THE PRINCIPLES OF HYDRAULICS
- DESCRIBE THE BASIC COMPONENTS OF A HYDRAULIC SYSTEM

- DESCRIBE THE TYPES OF HYDRAULIC SYSTEMS
- DESCRIBE SELECTED HYDRAULIC COMPONENTS

LINE D: ELECTRICAL

- 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
- DESCRIBE THE PURPOSE OF CHARGING CIRCUITS
- IDENTIFY STARTING CIRCUIT COMPONENTS
- DESCRIBE THE DESIGN AND OPERATION OF STARTING CIRCUITS
- DESCRIBE TRAILER WIRING

LINE E: FRAMES, STEERING, AND SUSPENSION

- DESCRIBE AND SERVICE TIRES AND RIMS
- DESCRIBE AND SERVICE WHEELS AND HUBS
- DESCRIBE TRACTION DEVICES
- DESCRIBE STEERING SYSTEMS
- DESCRIBE SUSPENSION SYSTEMS
- DESCRIBE TYPES OF FRAMES

LINE F: TRAILER

- DESCRIBE THE CONSTRUCTION AND OPERATION OF ACCESSORIES
- DESCRIBE HITCHES AND COUPLERS
- DESCRIBE THE PURPOSE AND OPERATION OF TRAILER BODY COMPONENTS
- IDENTIFY HEATING AND REFRIGERATION COMPONENTS

LINE G: 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 CFCs ON THE ENVIROMENT

LINE J: STRUCTURAL COMPONENTS AND ACCESSORIES

- DESCRIBE REGULATIONS RELATED TO PROTECTIVE STRUCTURES
- IDENTIFY CAB, BODIES AND COMPONENTS

PRACTICAL

LINE A: OCCUPATIONAL SKILLS

- APPLY PERSONAL SAFETY MEASURES
- PREVENT, IDENTIFY AND EXTINGUISH VARIOUS CLASSES OF FIRES
- 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
- APPLY THE WORKSAFEBC SAFETY REGULATIONS TO LIFTING AND BLOCKING APPLICATIONS
- SELECT, USE AND MAINTAIN LIFTING AND BLOCKING EQUIPMENT
- LIFT AND MOVE LOADS
- PERFORM PRE-START AND WALK AROUND INSPECTIONS
- START, MOVE, SECURE AND STOP EQUIPMENT
- OBTAIN FORKLIFT OPERATION TRAINING
- COMMUNICATE USING FORMS AND REPORTS
- USE COMPUTERS AND WRITTEN MEDIA TO LOCATE SERVICE AND MAINTENANCE INFORMATION
- INSPECT AND SERVICE WIRE ROPE USED ON WINCHES
- SELECT AND SERVICE BEARINGS AND SEALS
- USE COMPUTERS TO CREATE DOCUMENTS TO CONDUCT RESEARCH
- USE ELECTRONIC IMAGING EQUIPMENT
- CUT, WELD AND BRAZE USING OXY-ACETYLENE
- PERFORM SHIELDED METAL ARC WELD
- WELD USING WIRE FEED PROCESSES
- SOLDER TUBING AND SHEET METAL

LINE B: BRAKES

- SERVICE HYDRAULIC BRAKE SYSTEMS
- DIAGNOSE HYDARULIC BRAKE SYSTEMS

- REPAIR HYDRAULIC BRAKE SYSTEMS
- DIAGNOSE HYDRAULIC ASSISTED POWER BRAKE SYSTEMS
- REPAIR HYDRAULIC ASSISTED POWER BRAKE SYSTEMS
- DIAGNOSE AND REPAIR HYDRAULIC ANTI-LOCK BRAKING (ABS) SYSTEMS
- SERVICE AIR BRAKE SYSTEMS
- REPAIR A WHEEL BRAKE ASSEMBLY

LINE C: HYDRAULICS

- SELECT HYDRAULIC FLUIDS FOR APPLICATIONS
- SELECT AND ASSEMBLE HYDRAULIC HOSES AND FITTINGS
- DEMONSTRATE SAFE WORK PROCEDURES FOR HYDRAULIC SYSTEMS SERVICE
- PERFORM SCHEDULED MAINTENANCE ON HYDRAULIC SYSTEMS

LINE D: ELECTRICAL

- PERFORM CIRCUIT CALCULATIONS
- USE ELECTRICAL MEASURING DEVICES
- SELECT, TEST AND MAINTAIN BATTERIES
- DIAGNOSE CAUSES OF BATTERY FAILURE
- REMOVE AND REPLACE BATTERIES
- USE BOOSTER BATTERIES
- PERFORM ROUTINE MAINTENANCE ON CHARGING CIRCUITS
- PERFORM MAINTENANCE ON STARTING CIRCUITS
- SERVICE ELECTRICAL CIRCUITS

LINE E: FRAMES, STEERING, AND SUSPENSION

- SERVICE STEERING SYSTEMS
- DIAGNOSE AND REPAIR SUSPENSION SYSTEMS
- DIAGNOSE AND REPAIR FRAMES

LINE F: TRAILER

- SERVICE LIMITED ACCESSORIES
- SERVICE HITCHES AND COUPLERS
- INSTALL AND REMOVE TRAILER BODY COMPONENTS
- DIAGNOSE AND REPAIR OR REPLACE TRAILER BODY COMPONENTS
- DIAGNOSE REFRIGERATION UNITS
- REPAIR HEATING AND REFRIGERATION SYSTEMS

LINE G: HEATING, VENTILATION AND AIR CONDITIONING

- APPLY LEGISLATED PROCEDURES WHEN DEALING WITH SYSTEMS CONTAINING CFCs
- DIAGNOSE HEATING AND AIR CONDITIONING SYSTEMS
- REPAIR HEATING AND AIR CONDITIONING SYSTEMS
- APPLY LEGISLATED PROCEDURES WHEN DEALING WITH SYSTEMS CONTAINING CFCs

LINE J: STRUCTURAL COMPONENTS AND ACCESSORIES

- PERFORM SERVICE OR INSPECTION OF PROTECTIVE STRUCTURES
- SERVICE CAB, BODIES AND COMPONENTS

Supervisor Signature

NOTES FROM LEVEL 1

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LEVEL 2

IMPORTANT!

Download the Program Outline!

www.itabc.ca/program/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: ELECTRICAL

- DESCRIBE CHARGING SYSTEM COMPONENTS
- DESCRIBE THE DESIGN AND OPERATION OF CHARGING SYSTEMS
- IDENTIFY STARTING SYSTEM COMPONENTS
- DESCRIBE THE DESIGN AND OPERATION OF STARTING SYSTEMS
- IDENTIFY ELECTRICAL COMPONENTS
- IDENTIFY ELECTRICAL SYSTEMS
- IDENTIFY ELECTRONIC COMPONENTS
- IDENTIFY ELECTRONIC SYSTEMS
- DESCRIBE A VEHICLE MANAGEMENT SYSTEM

LINE H: ENGINES AND SUPPORTING SYSTEMS

- DESCRIBE THE COMBUSTION PROCESS
- DESCRIBE TERMINOLOGY AND PERFORM CALCULATIONS RELATED TO ENGINES
- DESCRIBE THE PRINCIPLES OF OPERATION OF TWO AND FOUR STROKE CYCLE INTERNAL COMPUSTION ENGINES
- DESCRIBE ENGINE SUPPORT SYSTEMS
- DESCRIBE DIESEL FUEL SUPPLY CIRCUITS AND THEIR COMPONENTS
- DESCRIBE THE CHARACTERISTICS OF LIQUEFIED PETROLEUM GAS (LPG)
- IDENTIFY THE COMPONENTS OF THE LPG SYSTEM

- DESCRIBE THE CONSTRUCTION AND OPERATION OF ENGINE COMPONENTS
- DESCRIBE THE CHARACTERISTICS OF DIESEL FUEL
- DESCRIBE THE COMBUSTION PROCESS
- DESCRIBE THE REQUIREMENTS OF A DIESEL FUEL INJECTION SYSTEM
- DESCRIBE THE DESIGN AND OPERATION OF MECHANICAL FUEL INJECTION SYSTEMS
- DESCRIBE ELECTRONICALLY CONTROLLED DIESEL FUEL SYSTEMS
- IDENTIFY ELECTRONIC DIESEL FUEL SYSTEMS
- DESCRIBE THE NECESSARY CONDITIONS FOR THE ENGINE TO START
- DESCRIBE THE CAUSES AND EFFECTS OF HARMFUL EMISSIONS
- DESCRIBE EMISSION SYSTEMS
- DESCRIBE ENGINE BRAKES

PRACTICAL

LINE D: ELECTRICAL

- PERFORM INSPECTION, DIAGNOSIS AND REPAIR OF CHARGING SYSTEMS
- DIAGNOSE AND REPAIR STARTING SYSTEMS AND THEIR COMPONENTS
- DIAGNOSE AND REPAIR ELECTRICAL SYSTEMS AND COMPONENTS
- DIAGNOSE AND REPAIR ELECTRONIC SYSTEMS AND COMPONENTS
- DIAGNOSE AND REPAIR VEHICLE MANAGEMENT SYSTEMS

LINE H: ENGINES AND SUPPORTING SYSTEMS

- DIAGNOSE AND REPAIR ENGINE SUPPORT SYSTEMS
- PERFORM DIAGNOSTICS AND REPAIRS ON DIESEL SUPPLY CIRCUITS
- DIAGNOSE AND IDENTIFY PROBLEMS ON A DIESEL ENGINE
- OVERHAUL A DIESEL ENGINE
- PERFORM INITIAL START UP PROCEDURES
- DIAGNOSE AND SERVICE MECHANICAL FUEL INJECTION SYSTEMS
- DIAGNOSE ELECTRONIC FUEL SYSTEMS
- REPAIR ELECTRONIC FUEL SYSTEMS
- DIAGNOSE AND REPAIR EMISSION SYSTEMS
- DIAGNOSE AND REPAIR ENGINE BRAKES

Supervisor Signature

NOTES FROM LEVEL 2

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LEVEL 3

IMPORTANT!

Download the Program Outline!

www.itabc.ca/program/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: POWERTRAINS

- DESCRIBE METHODS OF TRANSFERRING POWER
- DESCRIBE THE PRINCIPLES OF POWER TRANSFER
- DESCRIBE THE PRINCIPLES AND OPERATION OF CLUTCHES AND RELATED COMPONENTS
- DESCRIBE THE OPERATION OF MANUAL TRANSMISSIONS
- DESCRIBE THE OPERATION OF AUTOMATED TRANSMISSIONS
- DESCRIBE THE PRINCIPLES OF PLANETARY GEAR SETS
- DESCRIBE THE OPERATION OF TORQUE CONVERTERS AND AUTOMATIC TRANSMISSIONS
- DESCRIBE THE OPERATION OF POWER SHIFT TRANSMISSIONS
- DESCRIBE DRIVELINES AND THEIR COMPONENTS
- DESCRIBE THE PRINCIPLES AND OPERATION OF DRIVE AXLES
- DESCRIBE THE OPERATION OF FINAL DRIVES
- DESCRIBE DRIVELINE RETARDERS
- DESCRIBE WINCHES
- DESCRIBE POWER TAKE-OFFS AND TRANSFER CASES

PRACTICAL

LINE I: POWERTRAINS

- CALCULATE GEAR RATIOS
- DIAGNOSE AND REPAIR CLUTCHES AND RELATED COMPONENTS
- DIAGNOSE AND REPAIR MANUAL TRANSMISSIONS
- DIAGNOSE AND REPAIR AUTOMATED TRANSMISSIONS
- DIAGNOSE AND REPAIR TORQUE CONVERTERS AND AUTOMATIC TRANSMISSIONS
- DIAGNOSE AND REPAIR POWER SHIFT TRANSMISSIONS
- DIAGNOSE AND REPAIR DRIVELINES AND THEIR COMPONENTS
- DIAGNOSE AND REPAIR DRIVE AXLES
- DIAGNOSE AND REPAIR FINAL DRIVES
- DIAGNOSE AND REPAIR DRIVELINE RETARDERS
- DIAGNOSE AND REPAIR WINCHES
- DIAGNOSE AND SERVICE POWER TAKE-OFFS AND TRANSFER CASES

Supervisor Signature

NOTES FROM LEVEL 3

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LEVEL 4

IMPORTANT!

Download the Program Outline!

www.itabc.ca/program/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: ELECTRICAL

- DESCRIBE AN ELECTRICAL DRIVE SYSTEM

LINE E: FRAMES, STEERING AND SUSPENSION

- DESCRIBE THE CONSTRUCTION AND OPERATION OF POWER STEERING SYSTEMS
- DESCRIBE TRACK MACHINE STEERING SYSTEMS
- DESCRIBE TRACK MACHINE UNDERCARRIAGES

LINE J: STRUCTURAL COMPONENTS AND ACCESSORIES

- DESCRIBE WHEEL WORKING ATTACHMENTS
- DESCRIBE THE CONSTRUCTION AND OPERATION OF INDUSTRIAL AIR COMPRESSORS

PRACTICAL

LINE C: HYDRAULICS

- DIAGNOSE HYDRAULIC SYSTEMS
- REPAIR HYDRAULIC SYSTEMS AND COMPONENTS
- REPAIR ELECTRONIC HYDRAULIC SYSTEMS

LINE E: FRAMES, STEERING AND SUSPENSION

- DIAGNOSE AND REPAIR POWER STEERING SYSTEMS
- DIAGNOSE AND SERVICE SELECTED TRACK MACHINE STEERING SYSTEMS
- TROUBLESHOOT AND SERVICE TRACK MACHINE UNDERCARRIAGES

LINE J: STRUCTURAL COMPONENTS AND ACCESSORIES

- DIAGNOSE AND REPAIR WORKING ATTACHMENTS
- SERVICE, DIAGNOSE AND REPAIR INDUSTRIAL AIR COMPRESSORS

Supervisor Signature

NOTES FROM LEVEL 4

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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

- 6,360 workplace hours

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

Note: After all other completions requirements have been met, ITA 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 ITA Customer Service at customerservice@itabc.ca 778-328-8700 or toll free (within BC) at 1-800-660-6011