TLILIC3017

Licence to Drive a Heavy Combination Vehicle

Learner Guide Instructions

Who is this document for?

The learner.

What is in this document?

- Course information that matches the PowerPoint presentation.
- Review questions.

What do you need to do before you use it for the first time?

1. Rebrand the document.
2. Review the document as part of your validation process.

See the 'Read Me First' document for a complete set of instructions on how to use these resources.

LEARNER GUIDE

TLILIC3017 Licence to Drive a Heavy Combination Vehicle

Learner Name:	
Learner ID:	
Learner Contact Number:	
Learner Email Address:	
Date Training Commenced:	

This Book Contains:

- ☐ Course Information.
- ☐ Review Questions.

Table of Contents

1.1 Introduction

These materials are based on the unit of competency **TLILIC3017 Licence to Drive a Heavy Combination Vehicle**.

This course involves the information and skills required to obtain a licence to drive a heavy combination vehicle including:

- Systematic and efficient control of all vehicle functions.
- Monitoring of traffic and road conditions.
- Management of vehicle condition and performance.
- Coupling and uncoupling of trailer.
- Effective management of hazardous situations.

1.1.1 What is a Heavy Combination Vehicle?

A heavy combination vehicle is any prime mover with a single semi-trailer, or heavy rigid vehicle plus a trailer greater than 9 tonnes GVM (Gross Vehicle Mass).

1.1.1.1 Transmission Types

There are three types of transmission, which provide the ability to switch between gears as speed changes. They are:

- **A manual transmission**, i.e. the driver manually changes gears.
- **An automatic transmission**, i.e. the gear box automatically changes gears.
- **A semi-automatic transmission**, i.e. manual gear box with automated gear change.

Manual transmission is the most commonly used as it is efficient and able to withstand the stress of hauling heavy loads.

Manual transmissions can have two types of gear box:

- **Non-synchromesh (crash or constant mesh gear box)** – the matching of the engine and driving speed depends on your judgement and skill as there are no synchronisers in the gear box to help you. Double declutching is essential while you are learning to use the gear box.
- **Synchromesh** – works in much the same manner as in most modern cars, i.e. the synchronising of the gears is done by the gear box, and can be damaged if gear changes are forced before the engine and road speeds are matched.

Recognising the type of transmission in the heavy combination vehicle you will be driving means that you can operate the vehicle efficiently, effectively and safely.

Review Questions

1.	What are the 3 types of transmission in a heavy combination vehicle?	☐
1. 2. 3.		

1.2 Road Rules and Legislation

There are a range of procedures and codes that need to be followed when operating heavy vehicles of any kind, including a heavy combination vehicle.

These include relevant state/territory regulations and legislation such as:

- Roads and traffic authority driving regulations and licence requirements pertaining to heavy combination vehicles.
- Road rules, instructions, procedures, information and signs.
- Permit regulations and requirements.
- Work Health & Safety (WHS) legislation.
- Fatigue management regulations.
- Environmental protection legislation.

1.2.1 Licence Requirements

A heavy combination vehicle can only be driven by someone with a current state/territory licence.

It is a legal offence to drive, or allow someone else to drive, a heavy vehicle without the relevant licence.

Until you obtain the appropriate licence you may only drive a heavy combination vehicle if you are accompanied by a person who holds a valid heavy combination vehicle licence.

You must also display "Driver Under Instruction" plates at the front and rear of the vehicle.

While learning to drive any type of heavy vehicle, you must have a zero Blood Alcohol Concentration (BAC) at all times.

1.2.1.1 Medical Eligibility

There is a wide range of medical, hearing and eyesight conditions, which will prevent the issue of a heavy vehicle licence.

Some common conditions that may affect the issue of a licence include:

- Visual defects, including loss of vision in one eye.
- Hearing defects.
- Angina, heart disease/surgery/hypertension, having a pacemaker.
- Some psychiatric disorders.
- Epilepsy.
- Diabetes.
- Sleep apnoea.
- Head injuries, dementia, stroke.
- Parkinson's disease, multiple sclerosis.
- Physical disabilities/partial or complete loss of limbs.

Having these conditions does not necessarily prevent the issue of a licence but careful evaluation will be needed. In some cases a restricted licence may be considered.

If you are concerned that you may not be eligible, you should speak to your doctor or contact the relevant authority in your state or territory before you undertake driver training or testing.

If you have any medical condition, it is in your own interest to ensure that it is appropriate for you to apply for the category of vehicle in which you are interested.

All drivers are legally obliged to notify their relevant state or territory authority if they have or develop a medical condition that may impact on their ability to drive safely.

1.2.2 Road Rules

Drivers must comply with all road rules including these four main areas:

- Signage on roadways (all categories), structures, other vehicles.
- Speed limits.
- Seat belt laws for driver and passengers.
- Alcohol and drugs laws.

All drivers and passengers should wear a secure and properly adjusted seatbelt.

It is against the law to drive under the influence of alcohol or drugs (including some over-the-counter and prescription drugs). Never use stimulants to stay awake while driving.

Police have the power to conduct roadside alcohol and drug tests.

Road rules are enforced by police and transport safety services. You must stop when signalled and comply with their directions.

They may check:

- Your licence or work diary.
- The mass, height and width of your vehicle.
- The mass, height and width of your load.
- The condition of your vehicle.

1.2.3 Permits

Carrying dangerous goods or oversized loads may require a permit.

Vehicle operators will need to carry their permits with them at all times while conducting permit work.

1.2.4 Work Health and Safety Legislation

Work Health & Safety (WHS) laws and guidelines help keep your workplace safe.

These can be broken down into four main types:

Acts	Laws to protect the health, safety and welfare of people at work.
Regulations	Gives more details or information on particular parts of the Act.
Codes of Practice	Are practical instructions on how to meet the terms of the Law.
Australian Standards	Give you the minimum levels of performance or quality for a hazard, work process or product.

It is important that you are familiar with the WHS laws that exist in your state or territory. Each state in Australia has its own WHS legislation and regulations that must be followed.

The following WHS legislative requirements will affect the way that you work:

- Australian Standards.
- Industry WHS Standards and Guidelines.
- Duty of Care.
- Health and Safety Representatives, Committees and Supervisors.
- Job Safety Analysis (JSA) and Safe Work Method Statements (SWMS).
- Licences, Tickets or Certificates of Competency.
- National safety standards.
- WHS and Welfare Acts and regulations.
- Safety Codes of Practice.

All drivers, their employers and any other personnel involved in heavy combination vehicle operations have a legal responsibility under duty of care to do everything reasonably practicable to protect themselves and others from harm.

This means complying with safe work practices, including activities that require licences, tickets or certificates of competency or any other relevant state and territory WHS requirements.

1.2.5 Fatigue Management

State/territory legislation sets out maximum work times and minimum driving and rest times for operators of heavy combination vehicles.

1.2.6 Environmental Protection

It is important that heavy combination vehicle operations do not have a negative impact on the environment.

Impacts may include:

- Noise pollution.
- Exhaust fumes and smoke.
- Vehicle leaks.
- Material falling from vehicles (e.g. chemical spills).

It is important to keep vehicles in good working order and to safely secure loads to avoid these issues.

Review Questions

2.	List 3 relevant state or territory regulations that apply to the operation of a heavy combination vehicle.	☐

1.

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3.

3.	What are the 4 main road rules you must obey when driving a heavy combination vehicle?	☐

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2.

3.

4.

2.1 Carry Out Pre-Operational Checks

All drivers are legally responsible for the safety and roadworthiness of the vehicles they drive.

Routine checks conducted before driving any vehicle ensure it is safe and roadworthy and you are well prepared for your journey.

Routine checks include:

- Conduct pre-operational checks, i.e. before the engine is turned on.
- Conduct operational checks, i.e. after the engine is turned on.
- Prepare for driving, i.e. before you set off on your journey.

The time you spend in checking your vehicle is an investment in safety, efficiency and trouble-free operation. It also reduces maintenance costs and the need to pay fines. An example of an inspection checklist for a heavy combination vehicle can be found in Appendix A.

Pre-operational (or pre-start) checks are essential and are carried out before starting the engine of the vehicle. Pre-operational checks of heavy combination vehicles may include:

- Visual check of vehicle.
- Checking and topping up of fluid levels.
- Checks of tyre pressures.
- Checks of operation of vehicle lights and indicators.
- Checks of brakes.
- Checks of coupling equipment.

2.1.1 Visual Inspection

Walk around the vehicle making a visual inspection to check that:

- The vehicle is roadworthy.
- The vehicle does not tilt to the side as this could indicate a flat tyre or overloading.
- The chassis and frame is not damaged.
- There is no rust or corrosion.
- There are no fluid leaks.
- Suspension components are aligned and undamaged.
- All belts and pulleys are undamaged.
- Lines and brake hoses are not damaged or leaking.
- Couplings are undamaged.
- Door latches and hinges are secure and working.
- The body/cab is in a good condition and has not been damaged.
- Windscreen and windows clean and undamaged.
- Seats are structurally sound.
- Seatbelts are present and in working order.
- Steering wheel is secure and undamaged.
- Mud flaps and guards are fitted.

2.1.2 Check Wheels and Tyres

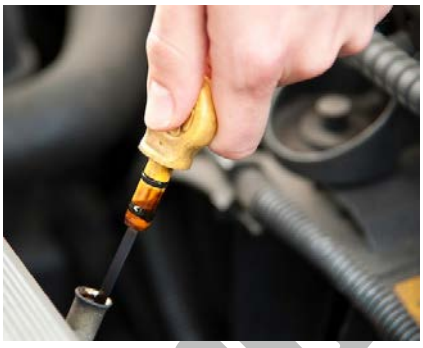
Check that all wheels are secure, wheel rims are not bent or cracked and that there is the correct number and type of nuts and studs.

Use a gauge to check that all tyres have the correct air pressures. Thumping and kicking the tyres will not help you find out if a tyre has low pressure.

Low pressure causes heat to build up in the tyre and can make steering difficult and unsafe. It can cause dual tyres to rub together and start a fire or cause a blowout.

2.1.3 Check Fluid Levels

Check and, if necessary, top up fluid levels during pre-operational inspections including:



- Engine oil.
- Hydraulic oil.
- Engine coolant.
- Brake fluid.
- Power steering fluid.
- Screen washer fluid.

2.1.4 Other Checks

Other checks you will need to make during a pre-operational inspection include:

- Checking **monitors** are fitted properly, are in good working order and are calibrated correctly.
- All **electrical wiring and connections** are undamaged and securely fitted.
- The **fuel tank and lines** are secure and free from leaks. The **fuel tank cap** should be properly fitted.
- The **gear box** is fitted properly.
- All **safety and emergency equipment** is present including:
  - First-aid kit.
  - Fire extinguisher.
  - Warning triangle signs (at least three).
  - Spare fuses.

Review Questions

1.	What are 5 things you need to check during your pre-operational check of the vehicle?	☐

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2.	List 3 fluid checks you would make during a pre-operational inspection.	☐

1.

2.

3.

2.2 Carry Out Operational Checks

Operational checks (or post-start checks) are done after the heavy combination vehicle has been turned on. It is important to follow the manufacturer's instructions and enter the vehicle safely.

2.2.1 Entering the Vehicle

Before conducting operational (or start-up) checks on a heavy combination vehicle you will need to enter the vehicle safely.

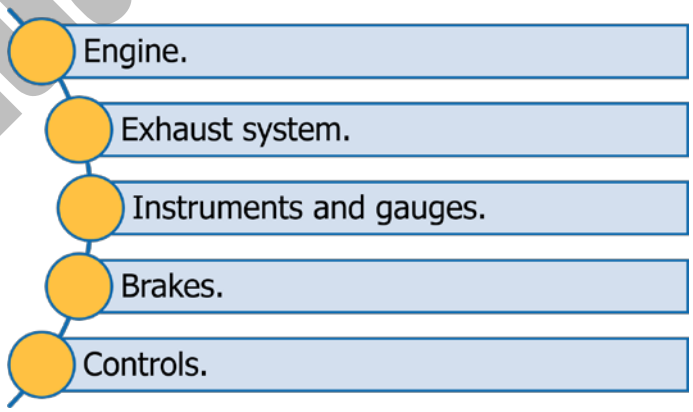
This is achieved by:

- Checking for traffic.
- Using steps and grab handles.
- Maintaining three points of contact at all times.

2.2.2 Operational Checks

Before starting the engine, read the vehicle manufacturer's instructions and follow the appropriate start-up procedures.

After making sure the parking brake is on you will need to check the following:



2.2.2.1 Engine

The engine should be functioning effectively without excessive noise or discharged fumes.

Check for signs of damage or any problems.

Let the engine idle until full oil pressure shows on the gauge. Increase the engine revs slightly until the water temperature gauge starts to rise.

2.2.2.2 Exhaust System

The exhaust system should not leak, produce excessive noise or be loose or damaged.

2.2.2.3 Instruments and Gauges

Check all instruments and gauges are working correctly.

The oil pressure gauge should register within a few seconds of starting the engine and then gradually rise to the normal position.

The ammeter or volt meter needle should flutter, then show “charge” or “+” on the dial.

Warning lights for oil, coolant, generator or alternator should go out almost immediately if the engine is running normally.

2.2.2.4 Brakes

Check that all brakes are working effectively, including:

- Air brakes.
- Hydraulic brakes.
- Parking brake.
- Engine/exhaust brakes.
- Speed retarders.
- Anti-lock braking systems (ABS).

A typical inspection of air brakes may consist of the following procedure:

1. Put on parking brake and switch off engine.
2. Drain air tanks.
3. Start engine and idle.
4. Check for low air pressure warning systems.
5. Turn off engine when maximum pressure is reached.
6. Chock wheels and release park brake.
7. Apply foot brake and check the drop in air pressure. Repeat this four more times (the air pressure should not drop below half normal system operating pressure).
8. Recharge air system.
9. Re-connect air hoses, apply park break and check for leaks.
10. Start the engine, recharge air system, release and re-apply brakes and check again for leaks.

2.2.2.5 Controls

Make sure all controls are functioning correctly including:

- Steering wheel – check for any slackness or looseness.
- Clutch – depress until you feel a slight resistance (some free play is normal).
- Accelerator.
- Brake.
- Interior and dashboard lights.
- Switches and signal lamps.
- Windscreen wipers and washers.
- Horn.