

TLILIC2016

Licence to Drive a Heavy Rigid 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

TLILIC2016 Licence to Drive a Heavy Rigid Vehicle

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

This Book Contains:

- Course Information.
- Review Questions.

Evaluation Copy Only

Table of Contents

| | |
|---|-----------|
| 1.1 Introduction | 5 |
| 1.1.1 What is a Heavy Rigid Vehicle? | 5 |
| 1.1.1.1 About Transmissions..... | 6 |
| 1.1.1.2 Types of Transmissions..... | 7 |
| Review Questions..... | 7 |
| 1.2 Road Rules and Legislation | 8 |
| 1.2.1 Licence Requirements | 8 |
| 1.2.1.1 Medical Eligibility | 9 |
| 1.2.2 Road Rules..... | 9 |
| 1.2.3 Permits | 10 |
| 1.2.4 Work Health and Safety Legislation | 10 |
| 1.2.5 Fatigue Management | 11 |
| 1.2.6 Environmental Protection..... | 11 |
| Review Questions..... | 12 |
| 2.1 Carry Out Pre-Operational Checks | 13 |
| 2.1.1 Visual Inspection | 14 |
| 2.1.2 Check Wheels and Tyres | 14 |
| 2.1.3 Check Fluid Levels | 15 |
| 2.1.4 Other Checks | 15 |
| 2.1.5 Bus Checks | 15 |
| Review Questions..... | 16 |
| 2.2 Operational Checks | 17 |
| 2.2.1 Entering the Vehicle..... | 17 |
| 2.2.2 Operational Checks | 17 |
| 2.2.2.1 Engine..... | 18 |
| 2.2.2.2 Exhaust System..... | 18 |
| 2.2.2.3 Instruments and Gauges..... | 18 |
| 2.2.2.4 Brakes..... | 18 |
| 2.2.2.5 Controls..... | 19 |
| 2.2.2.6 Qualified Mechanical Checks..... | 20 |
| Review Questions..... | 20 |
| 2.3 Check Signage and Lights | 21 |
| 2.3.1 Signage | 21 |
| 2.3.2 Lights, Indicators and Reflectors | 21 |
| Review Questions..... | 22 |
| 2.4 Check Loads and Restraints | 22 |
| Review Questions..... | 23 |
| 3.1 Drive and Position the Heavy Rigid Vehicle | 24 |
| 3.1.1 Vehicle Handling Procedures..... | 24 |
| 3.1.2 Driving and Positioning Techniques | 25 |
| 3.1.2.1 Choosing Appropriate Speeds | 25 |
| Traffic and Speed | 25 |
| Driving Around Bends..... | 26 |
| 3.1.2.2 Being Observant..... | 26 |
| Use Your Mirrors..... | 27 |
| Blind Spots..... | 27 |
| Special Mirror Checks | 27 |
| Negotiating Complex Traffic Situations..... | 28 |
| 3.1.2.3 Keeping a Safe Distance..... | 28 |
| Managing Space around Your Vehicle | 28 |
| Handling Tailgaters | 29 |
| 3.1.2.4 Accelerating and Steering..... | 30 |
| 3.1.2.5 Braking..... | 30 |
| Air Brakes | 30 |

| | |
|---|-----------|
| 3.1.2.6 Turning | 31 |
| Two Turning Lanes – Turning Left | 31 |
| Two Turning Lanes – Turning Right | 31 |
| 3.1.2.7 Changing Gears..... | 32 |
| 3.1.2.8 Driving Up and Down Hills..... | 32 |
| 3.1.2.9 Obeying Road Signs..... | 33 |
| 3.1.2.10 Reversing the Vehicle..... | 33 |
| 3.1.3 Driving Buses | 34 |
| 3.1.3.1 Bus Driving Techniques..... | 35 |
| Passengers..... | 35 |
| Driving..... | 35 |
| Review Questions..... | 35 |
| 3.2 Monitor Vehicle Performance and Efficiency | 37 |
| 3.2.1 Check Engine Power | 37 |
| Excessive Smoke | 38 |
| 3.2.2 Check Vehicle Controls and Instruments | 38 |
| Review Questions..... | 39 |
| 3.3 Monitor Traffic and Road Conditions..... | 39 |
| Review Questions..... | 40 |
| 3.4 Identify and Respond to Driving Hazards | 41 |
| 3.4.1 Driving Hazards | 41 |
| 3.4.2 Hazard Controls..... | 41 |
| 3.4.2.1 Defensive Driving Techniques..... | 42 |
| 3.4.2.2 General Hazard Avoidance or Control | 43 |
| 3.4.2.3 Fatigue Management | 43 |
| Causes of Fatigue | 43 |
| Fatigue Warning Signs..... | 44 |
| Fatigue Management Techniques | 44 |
| 3.4.2.4 Stress Management | 45 |
| Stress Management Techniques | 46 |
| Review Questions..... | 46 |
| 3.5 Follow Driving Emergency Procedures..... | 47 |
| 3.5.1 Emergency Procedures..... | 48 |
| 3.5.1.1 Emergency Braking..... | 48 |
| 3.5.1.2 Evasive Steering..... | 48 |
| 3.5.1.3 Horn Use | 49 |
| 3.5.1.4 Skidding | 49 |
| 3.5.1.5 Brake Failure..... | 49 |
| 3.5.1.6 Tyre Failure | 49 |
| 3.5.1.7 Vehicle Breakdown or Loss of Load | 50 |
| 3.5.1.8 Crashes | 50 |
| 3.5.1.9 Fire..... | 50 |
| Engine Fire..... | 50 |
| Review Questions..... | 51 |
| 3.6 Interacting with Other Road Users | 52 |
| 3.6.1 Communications Equipment..... | 52 |
| 3.6.2 Common Driving Communications | 52 |
| 3.6.3 Emergency Communications | 53 |
| Review Questions..... | 53 |
| 4.1 Park, Shutdown and Secure Heavy Rigid Vehicle | 54 |
| Review Questions..... | 55 |
| 4.2 Complete Documentation..... | 55 |
| 4.2.1 Work Diary..... | 55 |
| Review Questions..... | 56 |
| Appendix A – Heavy Rigid Vehicle Inspection Checklist..... | 57 |

1.1 Introduction

These materials are based on the unit of competency **TLILIC2016 Licence to a Drive Heavy Rigid Vehicle**.

They cover the information and skills required to obtain a licence to drive a heavy rigid vehicle, including:



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

This unit of competency is designed for those wanting to become a driver of heavy rigid vehicles that may be driven:

- ◆ On public roads.
- ◆ On private roads.
- ◆ Within worksites.



1.1.1 What is a Heavy Rigid Vehicle?

A heavy rigid (HR) vehicle is any rigid vehicle with three or more axles, including trucks or buses, greater than 8 tonnes Gross Vehicle Mass (GVM).



1.1.1.1 About Transmissions

An important factor in driving and operating any heavy rigid vehicle is the relationship between the engine and its transmission.

A motor vehicle engine consists of:

- ◆ A power source.
- ◆ A power transmission system, i.e. a system to control the application of power.

Professional drivers of heavy rigid vehicles need to recognise different types of transmissions.

A conventional transmission is an assembly of parts which include:

- ◆ Gears or gear ratios which are used to change vehicle speed and direction.
- ◆ A propeller shaft or driveshaft by which the power is transmitted from an engine to a live axle.
- ◆ A final drive shaft to one or more differentials which in turn drive the wheels.



The purpose of a transmission is to:

- ◆ Adapt the power output of the engine to the drive wheels.
- ◆ Reduce the higher engine speed to the slower wheel speed, increasing torque in the process.

1.1.1.2 Types of Transmissions



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

- ◆ **Manual transmission**, i.e. the driver manually changes gears.
- ◆ **Automatic transmission**, i.e. the gear box automatically changes gears; suited to smaller vehicles that have to frequently stop and start.
- ◆ **Semi-automatic or automated manual transmission**, i.e. manual gear box with automated gear change; the driver can change gears without the need for a clutch.

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.

In summary, recognising the type of transmission in the heavy rigid 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 rigid vehicle? | <input type="checkbox"/> |
| 1. 2. 3. | | |

1.2 Road Rules and Legislation

There are a range of procedures and codes that need to be followed when operating a heavy rigid vehicle.

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

- ◆ Roads and traffic authority driving regulations and licence requirements pertaining to heavy rigid 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 rigid 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 rigid vehicle without the relevant licence.

Until you obtain the appropriate licence you may only drive a heavy rigid vehicle if a person who holds a valid heavy rigid vehicle licence accompanies you.

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



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

Holding a vehicle licence does not automatically entitle you to drive passenger vehicles. To drive passenger vehicles such as buses you will be required to have:

- ◆ A good driving record.
- ◆ No criminal convictions.
- ◆ No medical condition that may impair your driving skills.

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 rigid 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, and 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.

In addition to the appropriate licence, you may also be required to obtain a Driver Certificate to drive a vehicle carrying passengers for hire and reward. Strict eyesight requirements apply to Driver Certificate applicants.



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.



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.

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

Road rules are enforced by police and transport safety services. You must stop when signaled 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

Some vehicles such as passenger buses or special purpose vehicles may require a special permit in order to be operated.

Carrying dangerous goods or oversized loads may also 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. Your state or territory may refer to Work Health and Safety (WHS) as Occupational Health and Safety (OHS).

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 rigid 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 rigid vehicles.

1.2.6 Environmental Protection

It is important that heavy rigid 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 rigid vehicle.

1.

2.

3.

3.

What are the 4 main road rules you must obey when driving a heavy rigid vehicle?

1.

2.

3.

4.

2.1 Carry Out Pre-Operational Checks



As a driver you are legally responsible for the safety and roadworthiness of the vehicles you drive. It is your responsibility to maintain the performance of your heavy rigid vehicle through regular daily and weekly inspections and checks.

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 a heavy rigid vehicle inspection checklist 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 will include:

- A visual inspection.
- Wheels and tyres.
- Fluid levels.
- Other checks.
- Bus checks.

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 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.



2.1.5 Bus Checks



If you are driving a passenger bus make sure that:

- ◆ Rear door safety interlock (if applicable) is functional.
- ◆ Mirrors are properly adjusted.
- ◆ Passenger's seats are secure and not moving on their hinges.
- ◆ Steps and walkways are clear of any obstructions.