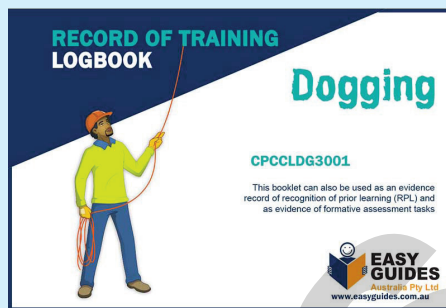
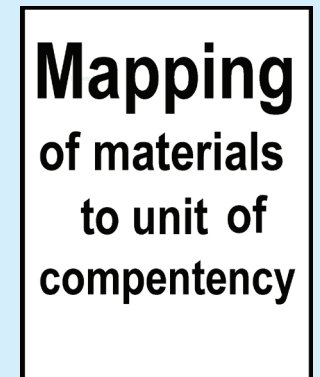
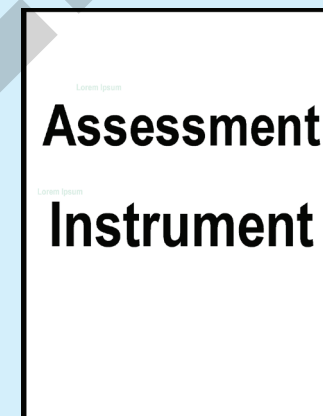
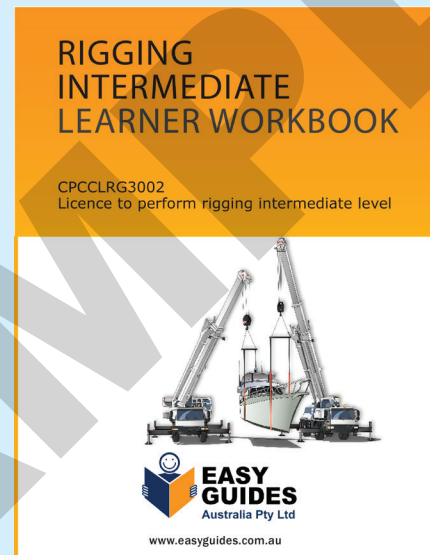


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# LEARNER GUIDE



# Tip Truck

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## TICKET

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Training support material for:

**RIIVEH304E**

Conduct tip truck operations

Produced by:



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# Introduction to Tip trucks



## Introduction to tip trucks

A tip truck is a truck which carries and discharges (dumps) loads. The types of loads a tip truck might carry include grain, rock, sand, mulches, etc. You use a tip truck to dump or spread loads. You often use tip trucks for civil construction or landscaping jobs.

There are many different types of tip trucks for different jobs. Tip trucks range from small 'Light rigid' trucks to large 'B-Doubles' and 'Road trains'. Some tip trucks tip from the rear only, some tip from the side and some can tip over the rear or side. Some tip trucks can tip 3 ways; over the left side, over the rear or over the right side. These are usually smaller types such as light and medium rigid trucks. There are also 'Belly dumpers' which drop the load from the middle of the truck.

Because you drive tip trucks on public roads, you need a licence. The type of licence you need will depend on the weight of the tip truck and load. The number of axles and the type of transmission will also effect the licence you will need. It also depends on the laws (regulations) in your state or territory. You will need to get your licence through the road traffic authority in your state.



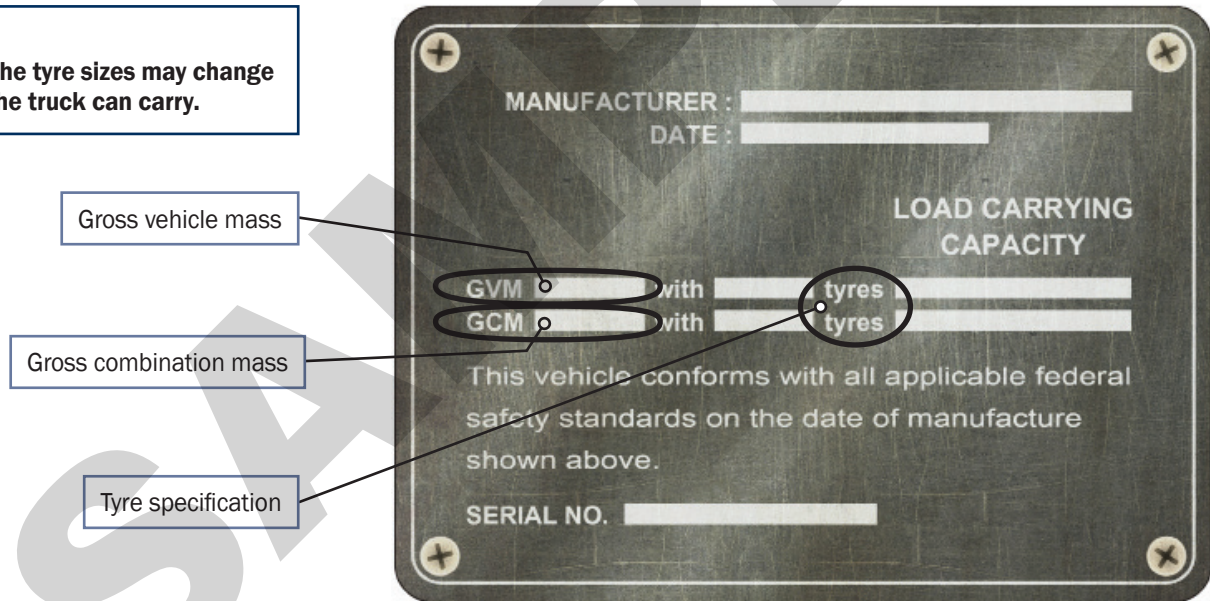
## Types of tip trucks

Trucks are classified by Gross Vehicle Mass (GVM), or Gross Combination Mass (GCM) shown on the compliance plate. Tyre sizes are part of the specifications.

Gross Vehicle Mass (GVM) is the total weight of the truck and the load. For example, if the truck weighs 4 tonnes and the load weighs 2 tonnes, the GVM is 6 tonnes.

Gross Combination Mass (GCM) means the total weight of the truck, trailer and any loads. For example, if the truck weighs 10 tonnes, the trailer weighs 10 tonnes and the load weighs 20 tonnes, the GCM is 40 tonnes.

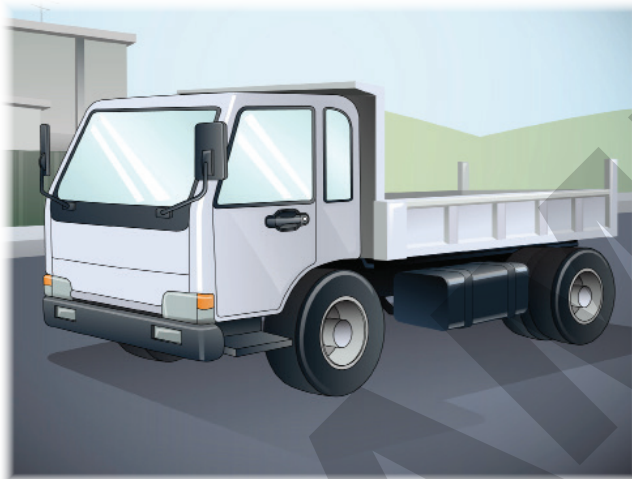
**Note:**  
Changing the tyre sizes may change the mass the truck can carry.



Types of tip trucks (continued)

The following shows examples of classes of tip trucks, how many axles they may have, and what each type of tip truck is used for. It shows the type of licence needed to drive the truck as well as the weight of the vehicle and load (gross vehicle mass).

### Light rigid (LR)



#### A Rigid vehicle

<b>Number of axles</b>	2
<b>Licence required</b>	(LR) Light rigid
<b>Weight of vehicle and load (Gross Vehicle Mass - GVM)</b>	4.5 to 8 tonnes

**Note:**

**If used to tow a trailer the truck and trailer must not exceed the towing vehicles gross combination mass shown on the compliance plate.**

**Uses**

Used for tipping small loads. These are often used by garden supply companies.

Types of tip trucks (continued)

### Medium rigid (MR)



A Rigid vehicle	
Number of axles	2
Licence required	(MR) Medium rigid
Weight of vehicle and load (Gross Vehicle Mass - GVM)	Over 8 tonnes. When towing a trailer, Trailer GVM must be less than 9 tonnes. GVM is limited to the trucks GVM.

**Note:**  
**If used to tow a trailer the truck and trailer must not exceed the towing vehicles gross combination mass shown on the compliance plate.**

<b>Uses</b>	Often used in civil construction for delivering loads like soil, gravel and crushed rock etc.
-------------	---



# Operate tip truck

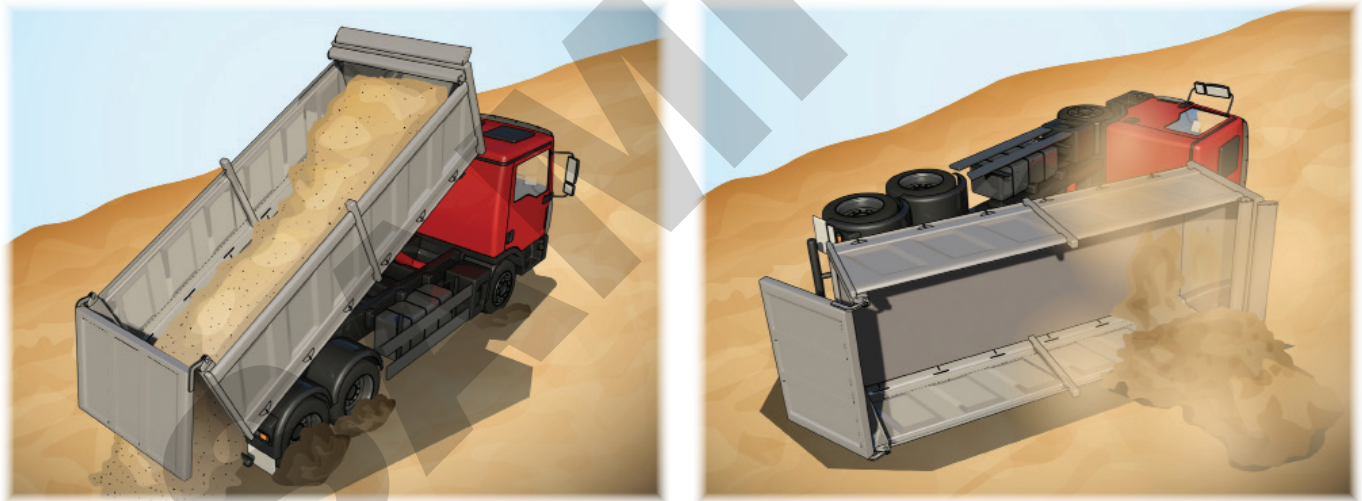
## Element 3



# Dangers

## Tipping soils, sand or clay

Soils, sands or clay can clump together in the truck as it moves. When you tip, the load can get stuck at the top of the tray. This is very dangerous because the weight of the load is so high above the axles. This makes the truck unstable. If you are on a slope, or the ground is soft your truck could overturn.



*Tipping soils, sand or clay (continued)*

If your load is sticking you will need to lower the tray and free the load.



*Tipping soils, sand or clay (continued)*

Do not climb up the load with the tray tilted to free the load. The load might come loose, slide down and trap you.



## Tipping on a slope (rear tippers)

When you discharge a load facing up a steep slope you must be very careful. Try to raise the tray slowly so the load slides out smoothly. If the load quickly slides to the back of the tray all the weight of the load comes to the back of the tip truck. This can damage the truck or cause the tip truck to overturn backwards.



# Load, transport and tip materials

## Element 4



**QUESTION 67**

There are different ways to load a trip truck.

What are some ways a tip truck can be loaded?

The load may be placed in the tray by a front end loader or an excavator. Sometimes the truck may be loaded with a conveyor. You may load the truck by parking under a loading silo, or auger.

**QUESTION 68**

Where must you be when your tip truck is being loaded?

You must stay in the cabin or drivers area when the truck is being loaded. Then the loading operator always knows where you are.



**QUESTION 69**

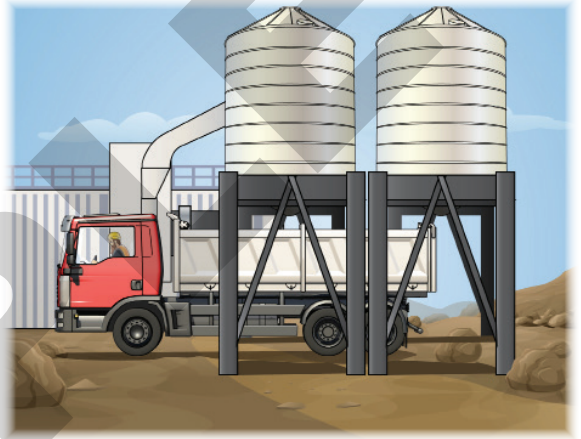
When you are moving the truck into position for loading, it is important you can move the truck quickly and smoothly.

Why is it important to position the truck quickly and correctly for loading?

If you do not position the truck properly, it might make it harder to load.

If you take too long to position the truck you may hold up other drivers.

Areas under loading silos can be very small. Backing up and moving the truck into a better position might be difficult.

**QUESTION 70**

Your truck is going to be loaded with a front end loader.

How do you know where to park?

The loader driver will tell you the best position for your truck. He will know the best place to load to reduce the dust hazard. He will want you to park where he can load without moving the loader too much.





## Tipping smoothly - Rear tippers

When you unload, you must make sure to raise the tray slowly and smoothly. If the tray lifts up very quickly the load can move quickly to the rear of the tray. This sudden weight increase can make the truck unstable.



At some work sites a supervisor will show you where and how to tip the load. The supervisor may want the load as a pile or spread out.



Rear tipping trucks can be driven forward to spread the load.



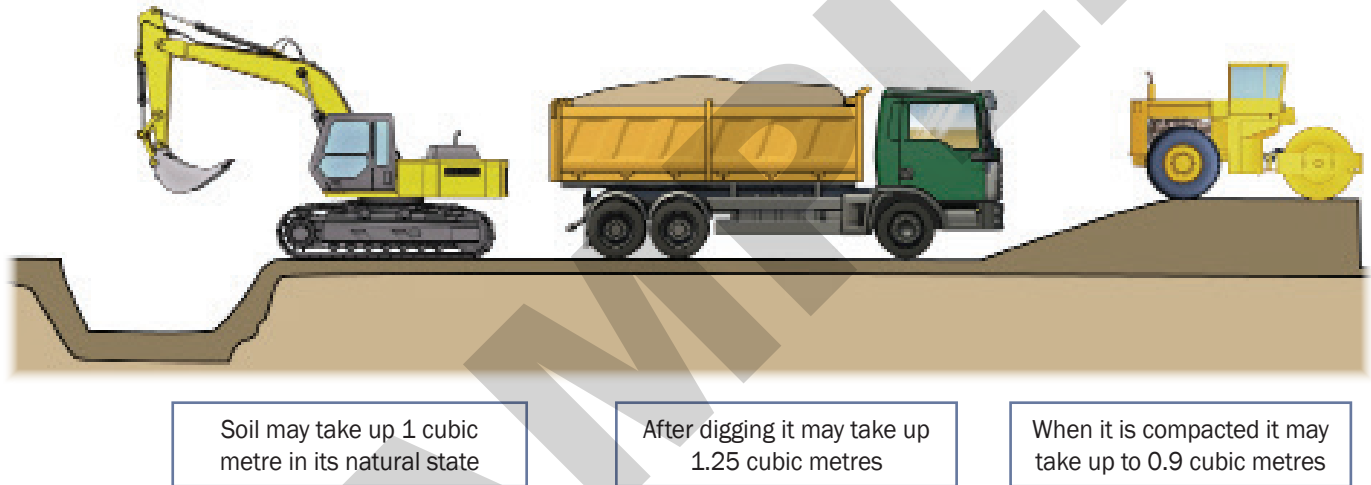
## Tipping smoothly - Side tippers

You must always come to a complete stop before tipping with a side tipper. It is important that the whole load is dumped in one motion. Stopping tipping before the load is finished is one of the ways a side tipping dump truck can overturn. If the side tipper returns to its travel position with a load in the tray, the load weight is on one side of the tray only. This makes the truck unstable.



## Soil compaction

Soil can have different volumes in different conditions.  
For example:



You must be careful when you drive your truck on recently dumped ground. If the ground has not been compacted properly, the weight of your truck might compact the ground under your tyres. This could make the truck lean or overturn, especially if you are discharging your load.

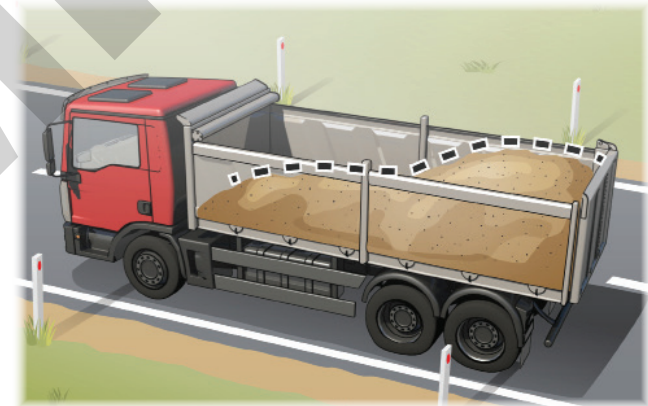
## Axle weight

Your truck will have a maximum weight each axle can have on it. When the police or road traffic authority stop you at a weigh station, they will check the weight of each axle. If an axle has more weight than the axle is allowed, the truck is overloaded.

Tip trucks are designed to be loaded evenly. If your truck is loaded evenly the weight of the load will be distributed across the axles the way the truck was designed.



If the load is not distributed evenly, more weight will sit on a particular axle. When your truck is weighed, your axle weight might be too heavy, even though your GVM is OK.



**QUESTION 73**

When you are moving loads such as sands, soils or rubbish (waste material), you must cover your load.

Why must you do this?

Dust, small stones, dirt or rubbish may cause a hazard on the road. This could cause a driver or a motorcyclist to have an accident.



## Discharging on slopes

This changes the centre of gravity of the truck and the load. When you are using a rear tipping tip truck and you face down the slope, the centre of gravity is further forward. This means the hydraulics will work harder in lifting the tray. This puts more weight on the front axles as you begin tipping. When you discharge the load, the load may roll under the rear of the truck.



**QUESTION 75**

When you are using a rear tipping tip truck and you face up the slope, the centre of gravity is further back. This puts even more weight on the rear axle.

Why is this dangerous?

This puts you in danger of overturning backwards. You do not need to raise the tray as high to discharge the load.



**QUESTION 77**

You must be careful when you are dumping a load over the face of a fill site.

Why is tipping over the face dangerous?

If the ground is too soft it could give way and your truck could fall into the hole.

You must talk to the site supervisors or check engineering drawings to make sure the site can support the weight of the truck.

**QUESTION 78**

You are not sure the ground can support the truck.

How can you safely get the load over the face?

You should arrange to tip in a pile further from the face.

A loader/dozer can then push the load over the face.



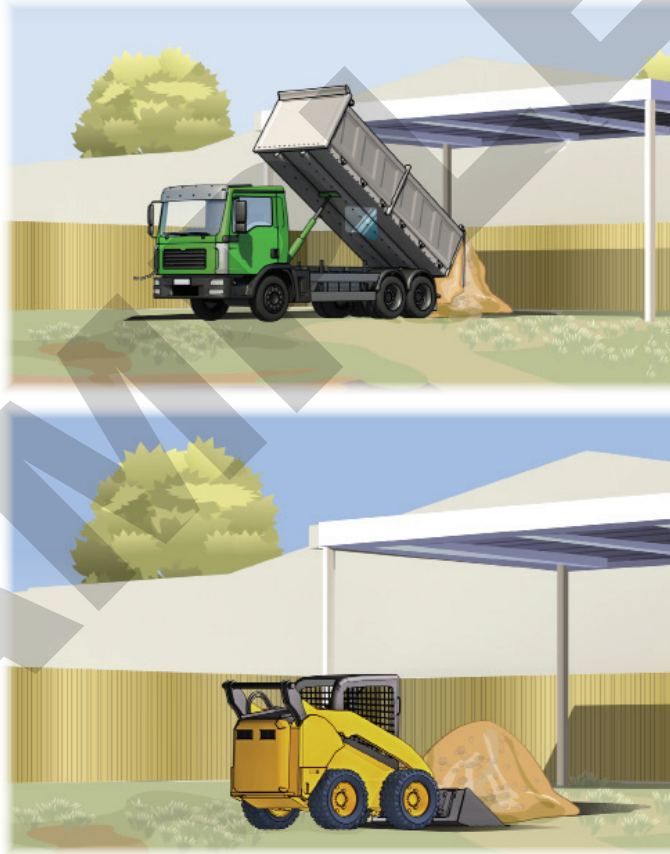


**QUESTION 80**

You are dumping on a site where the truck does not have access.

What would you need to do?

Dump as close as possible and arrange for another machine to place or spread the load.



**QUESTION 81**

In civil construction you will often be asked to spread the load. Spreading the load means controlling how much material can come out of the body through the tail gate opening as you drive.

How can you control the flow from the tail gate?

You can control the flow of material through the tailgate by using chains to limit how far the tail gate will open.

Using a short chain means only a small amount of material will flow out.



Using a longer chain means more material will flow out.



**QUESTION 82**

Can side tippers spread a load while tipping?

No. You should not tip and drive with a side tipper because side tippers are made to be stationary (still) when they are dumping. Side tippers always dump in a pile.



# Tip Truck

## Record of Training Logbook / Verification of competency (VOC)



**RIIVEH304E**  
Conduct tip truck operations



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Sample pages .....	3
Record of training .....	5
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# Purpose of this logbook

---

This logbook is to record on-the-job training. This logbook can be used in two ways:

## **1. A company doing in-house training**

A company can use this training logbook to show they have met their duty of care obligations under the OHS Act by showing evidence that an operator is trained and competent.

## **2. A registered training organisation (RTO)**

A registered training organisation (RTO) delivering the units of competency from the RII Resources and Infrastructure Industry Training Package can use this logbook as part of a training program to gain a qualification.

### **Supervision by a competent person**

The person supervising the operator must be deemed competent to supervise the training. The supervisor/trainer may hold an existing earthmoving licence or qualification, may have a Certificate IV in Workplace Training and Assessing, may have on the job experience gained over time, or any or all of these.

### **Using the logbook for verification of competency (VOC)**

As well as being a record of training, this logbook can also be used as a document to record verification of competency.



## Operate tip truck

### PC 3.1

#### Check hazards and risks

Identify and manage site operating hazards and risks and apply safe operating techniques according to workplace procedures

Description of work/training performed
<p><i>I looked around the site and found that a busy footpath was near my working area. People walking by might be at risk. I put up barricades and signs to warn people of the danger nearby.</i></p>
<p><i>I had to use the tip truck near a trench. The trench was about 2 metres deep. No-one had put up any warning signs or barriers. I put up a row of barricades 3 metres away from the trench. This would give me a safe working distance and also keep other people away from the trench.</i></p>
<p><i>The work site is noisy. A jackhammer was being used nearby so I wore some ear muffs while I worked. I also put on other PPE including steel capped boots and a hard hat as there were safety signs telling me to wear these.</i></p>

Date/time	No. of hours	Machine details	Supervisor/competent person
Date: <u>21 /05 / 2020</u> Start time: <u>8:30</u> am ..... pm	<u>30</u> <i>minutes</i>	Make: <u>Hino</u> GMV: <u>15 tonnes</u> Tare Weight: <u>6.2 tonnes</u> Reg: <u>XYZ 123</u>	Name: <u>Nathan Deeman</u> Signed: <u>Nathan D</u> Experience/qualifications: <u>20 years on-the-job experience</u> <u>and Cert IV</u>
Date: <u>23 /05 / 2020</u> Start time: <u>9:00</u> am ..... pm	<u>15</u> <i>minutes</i>	Make: <u>Hino</u> GMV: <u>15 tonnes</u> Tare Weight: <u>6.2 tonnes</u> Reg: <u>XYZ 123</u>	Name: <u>Nathan Deeman</u> Signed: <u>Nathan D</u> Experience/qualifications: <u>20 years on-the-job experience</u> <u>and Cert IV</u>
Date: <u>30 /05 / 2020</u> Start time: <u>9:15</u> am ..... pm	<u>45</u> <i>minutes</i>	Make: <u>Hino</u> GMV: <u>15 tonnes</u> Tare Weight: <u>6.2 tonnes</u> Reg: <u>XYZ 123</u>	Name: <u>Sam Hasseron</u> Signed: <u>S.H.</u> Experience/qualifications: <u>Cert IV in Training and Assessing</u> <u>and RII RTO Statement of</u> <u>Attainment in Tip Truck</u>



# Element 1

## **Plan and prepare for tip truck operations**



## **Plan and prepare for tip truck operations**

**PC 1.1**

### **Work requirements**

Obtain, interpret and confirm work requirements

Description of work/training performed

SAMPLE

Date/time	No. of hours	Machine details	Supervisor/competent person
Date: ..... ..... Start time: ..... am ..... pm		Make: ..... GMV: ..... Tare Weight: ..... Reg: .....	Name: ..... Signed: ..... Experience/qualifications: ..... ..... .....
Date: ..... ..... Start time: ..... am ..... pm		Make: ..... GMV: ..... Tare Weight: ..... Reg: .....	Name: ..... Signed: ..... Experience/qualifications: ..... ..... .....
Date: ..... ..... Start time: ..... am ..... pm		Make: ..... GMV: ..... Tare Weight: ..... Reg: .....	Name: ..... Signed: ..... Experience/qualifications: ..... ..... .....

## Element 2

### **Conduct tip truck pre-operational checks**



## Conduct tip truck pre-operational checks

### PC 2.1

#### Conduct checks

Carry out prestart, start-up, park and shutdown according to workplace procedures

Description of work/training performed

Date/time	No. of hours	Machine details	Supervisor/competent person
Date: ..... Start time: ..... am ..... pm		Make: ..... GMV: ..... Tare Weight: ..... Reg: .....	Name: ..... Signed: ..... Experience/qualifications: ..... .....
Date: ..... Start time: ..... am ..... pm		Make: ..... GMV: ..... Tare Weight: ..... Reg: .....	Name: ..... Signed: ..... Experience/qualifications: ..... .....
Date: ..... Start time: ..... am ..... pm		Make: ..... GMV: ..... Tare Weight: ..... Reg: .....	Name: ..... Signed: ..... Experience/qualifications: ..... .....

# Element 3

## **Operate tip truck**



# Mapping Tool

## RIIVEH304E Conduct tip truck operations

Note: This completed document shows that the enclosed learning materials have been mapped against the Unit of Competency.

### Legend

PC	Performance Criteria
PE	Performance Evidence
KE	Knowledge Evidence
AC	Assessment conditions

### Application

This unit describes a participant's skills and knowledge required to conduct tip truck operations in the Resources and Infrastructure Industries. This unit is appropriate for those working in supervisory and technical specialist roles. No licensing, legislative or certification requirements apply to this unit at the time of publication.



### Section 1 – Performance Criteria

**Note:** The bold highlighted text in the Performance Criteria below is explained in the Unit of Competency. It is included on the Trainer’s Resource CD.

Performance Criterion (PC)	Learner Guide & Flash Presentation	Formative Assessment		Test Paper (Summative Assessment)		RTO to fill out (Customised and additional materials, eg. web sites, DVDs, handouts...)
		Review Questions	Practical Training Task	Knowledge Questions	Practical Tasks	
1.1 Access, interpret and apply vehicle haulage documentation and ensure the work activity is compliant  PE 1, KE 8	Information Page 30 & 31  Q1, Q2, Q3, Q4, Q8, Q9, Q29,	1-A, 1-B	1	1-A, 1-B	Element 1 – Plan and prepare for operations	
1.2 Obtained, confirm and apply work requirements such as; shift briefings/handover details/work orders, /plans/specifications/quality requirements/operational details  PE 2-a, b, c, KE 1	Q5, Q6, Q7, Q10, Q11, Q12, Q13, Q14, Q16,Q18,Q57,	1-C, 1-B	1	1-C, 1-D, 1-E	Element 1 – Plan and prepare for operations	
1.3 Identify, obtain and implement signage requirements per the project traffic management plan  PE 3-b, KE 7	Q17, Q19, Q20	1-E, 1-F, 1-G	1-H	1-F, 1-G, 1-H	Element 1 – Plan and prepare for operations	

Performance Criterion (PC)	Learner Guide & Flash Presentation	Formative Assessment		Test Paper (Summative Assessment)		RTO to fill out (Customised and additional materials, eg. web sites, DVDs, handouts...)
		Review Questions	Practical Training Task	Knowledge Questions	Practical Tasks	
1.4 Select vehicle, tools and equipment  PE 2-a, KE 4	Q15, Q21,	1-H, 1-I,	1-I	1-J	Element 1 – Plan and prepare for operations	
1.5 Check tools and equipment for serviceability and rectify or report faults  PE 2-a, KE 6	Q22, Q23,	1-J		1-K	Element 1 – Plan and prepare for operations	
1.6 Identify, confirm and apply environmental protection requirements from the project environmental management plan  PE 1, PE 2-c	Q24, Q25, Q26, Q27,	1-K, 1-L	1-J	1-L, 1-M	Element 1 – Plan and prepare for operations	
2.1 Carry out pre-start, start-up, park and shutdown  PE 3-c, KE 2	Q28, Q30, Q31, Q32, Q33, Q34, Q35, Q37, Q83, Q84, Q89, Q91, Q92, Q93, Q94,	2-A	2	2-A	Element 2 – Conduct machine preoperational checks	
2.2 Check tip truck controls and functions, including tray, steering, brakes and manoeuvrability for serviceability and ensure any faults are rectified or reported PE 2-a 3-j&k KE 3	Q38, Q39, Q58, Q59, Q60,	2-B, 2-C, 2-D	2, 5	2-B, 2-C, 2-D	Element 2 – Conduct machine preoperational checks	

Performance Criterion (PC)	Learner Guide & Flash Presentation	Formative Assessment		Test Paper (Summative Assessment)		RTO to fill out (Customised and additional materials, eg. web sites, DVDs, handouts...)
		Review Questions	Practical Training Task	Knowledge Questions	Practical Tasks	
3.1 Identify and manage site operating hazards and risks, apply safe operating techniques  PE 2-a, PE 3-a, KE 5	Q40, Q41, Q42, Q43, Q44, Q45, Q46, Q47, Q48, Q49, Q50, Q51, Q61, Q62  Site hazards. Page 55 Earthmoving hazards and risks. Page 56 Confined spaces. Page 96 Dangers. Page 100	3A, 3B, 3C, 3D	1-K	3-A, 3-B, 3-C, 3-D	Element 3 – Operate truck	
3.2 Manage engine power, ensure efficiency of truck movements, and minimise strain on the engine, drive line and gears  PE 3-d, KE 4	Q32, Q33, Q54, Q56,	3E, 3F	3	3-E, 3-F	Element 3 – Operate truck	