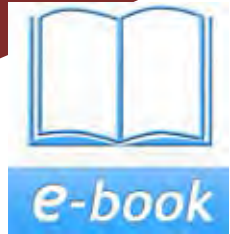


# LEARNER GUIDE



# Grader TICKET

Training support material for:

RIIMPO324E

Conduct civil construction grader operations

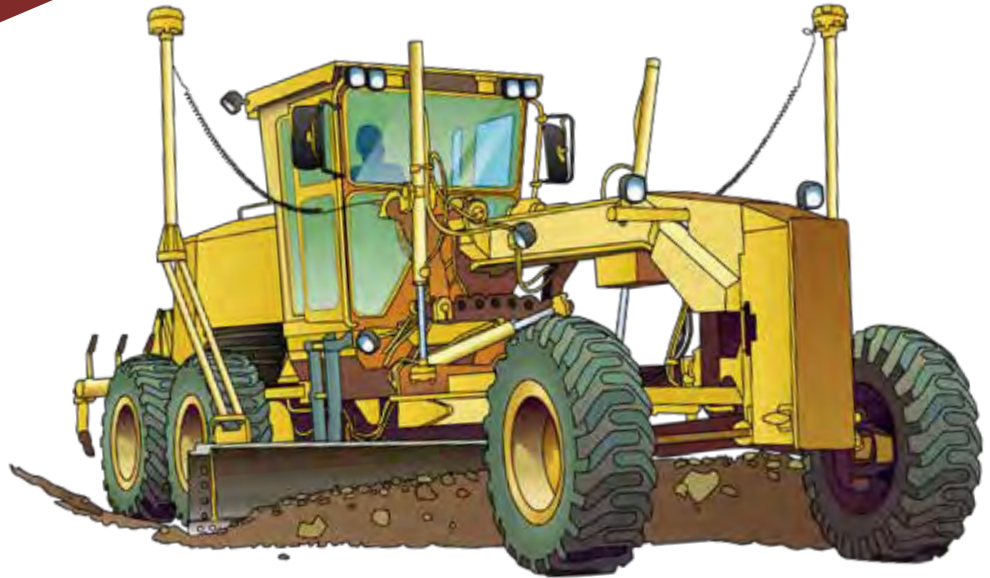
Produced by:



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# Introduction to Grader



## Introduction to grader

- A grader is a self-propelled articulating or rigid framed wheeled machine, designed to cut, move and place construction materials using a centrally mounted blade and may include forward and/or rear mounted rippers/scarifiers.
- The blade and attachment controls are normally hydraulic; however, they may be mechanical.

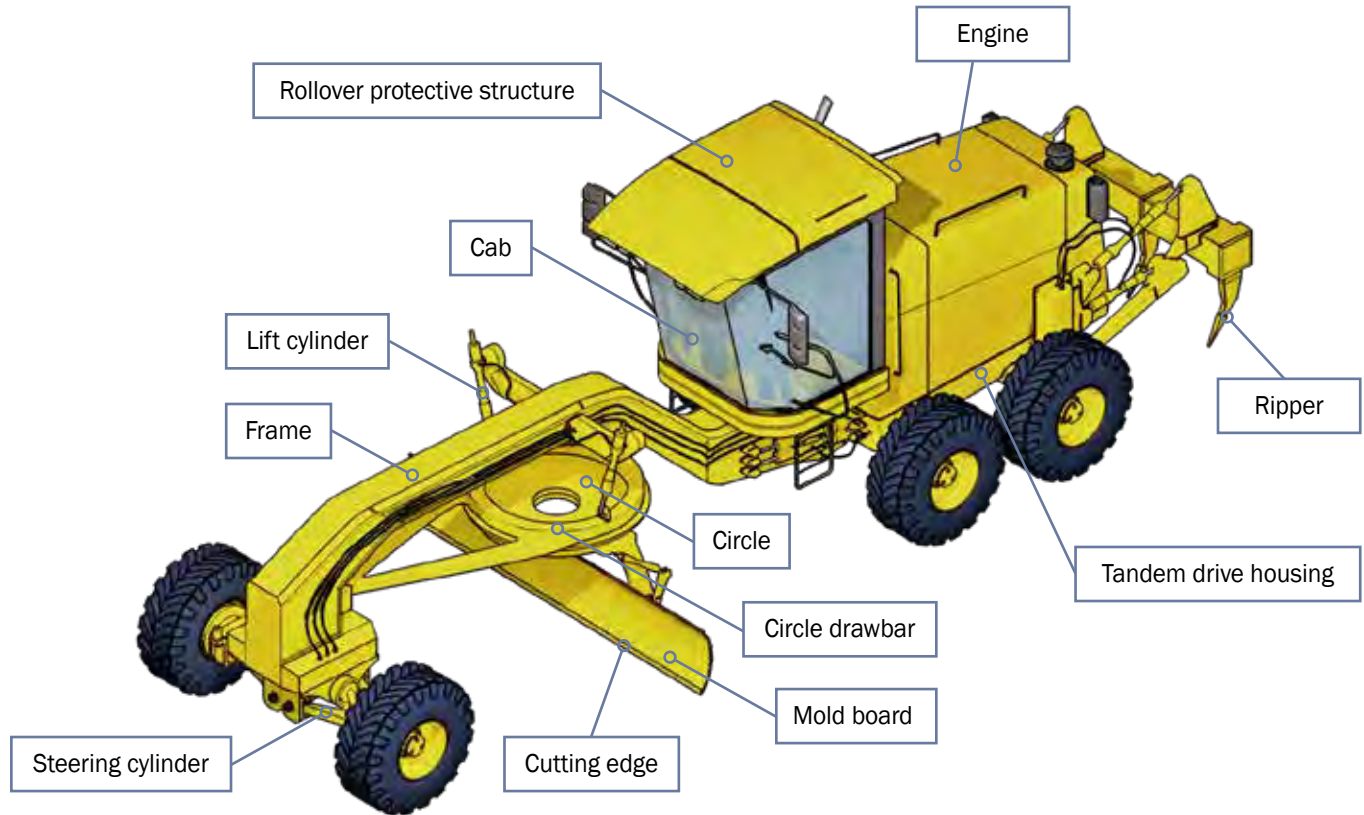


## What industries do you use a grader in?

- Civil construction



## An example of a grader



# Identify and control hazards

## Chapter 2



## Earthmoving site hazards

### Checking for underground services

You should always check where services are before you start work. You may phone '**Dial before you dig on 1100**'. You may look at the site plan or talk to your supervisor. You may need to look at the location of pits and meters to get an idea of where the services run. You may need to check with the local council or service company. You may even need to get underground detection equipment.

If you hit a service line, contact the provider immediately. You may need to organise to get the service disconnected while a qualified person fixes the problem.

You can sometimes tell there are services below by the types of ground. Some services are surrounded by a different type of soil, rock or sand. You may notice that the soil is looser, or does not match the soil around where you are digging. There may be a line of tape alerting you to the services.

If you suspect there are services underground, stop working. Check the ground. You may need to excavate the area by hand, or dig in another area.



## Confined space

A confined space is an enclosed or partially enclosed area. It is an area that was not designed for people to go into. It may have no natural or mechanical ventilation. It also has a hazard (such as a gas or flammable substance) that makes it dangerous.

Gasses in the atmosphere such as LPG, which are heavier than air, may enter spaces like trenches, underground tanks or pits displacing oxygen.

When you drive a petrol, gas, or diesel machine into a space like this you create a hazard. The exhaust gasses can fill the space. Dangerous gasses like carbon monoxide can build up in the area. You can't smell all dangerous gasses or fumes. You might breathe in a dangerous gas and not even know it. The gas could knock you out (make you unconscious) or even kill you.

You must be trained to work in a confined space.

You must also have a permit. The permit makes sure you have thought about all hazards and controls, including a rescue plan, and that you have a team there to help you in case something goes wrong. You must get your permit approved by a supervisor.

If you are going to work in a confined space, you might need a catalytic converter installed. A catalytic converter takes out harmful gasses (like hydrocarbons, carbon monoxide and nitrogen oxides, and turns them into harmless gasses (like carbon dioxide, water and oxygen).





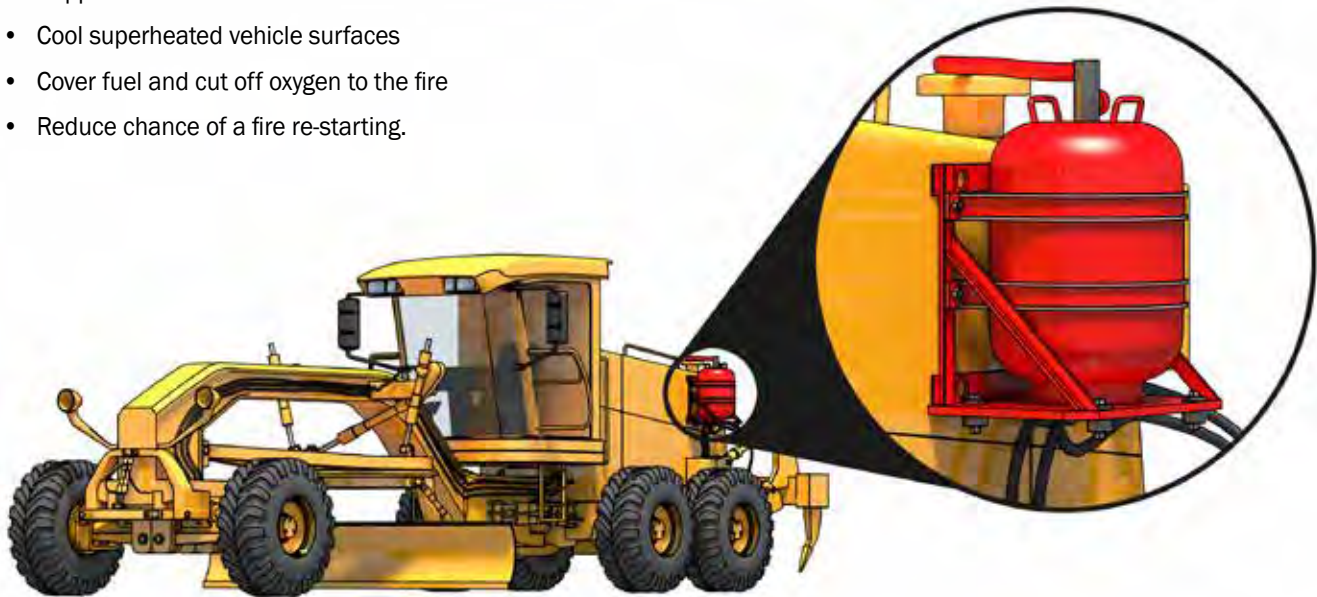
## Vehicle fire suppression systems

Vehicle fire suppression systems are usually designed to put out a fire in the vehicle engine compartment or other selected area where a fire maybe likely due to heat or electrical failure such as the electronic control boxes.

Fire suppression systems can be either manually operated by a switch in the drivers cab or have sensors which detect excessive heat and set off the system automatically.

A vehicle fire suppression system often uses chemical agents that can:

- Suppress the fire
- Cool superheated vehicle surfaces
- Cover fuel and cut off oxygen to the fire
- Reduce chance of a fire re-starting.



**QUESTION 48**

What kinds of graders are there?

Graders can be all-wheel-drive or tandem drive. Some graders can articulate or crab steer which makes them useful in small spaces and increases side slope capability. Other graders have a rigid frame that can't articulate.

