LEARNER WORKBOOK
Marking Guide

RIIMPO320 Conduct civil construction excavator operations

SAMPLE

Excavator

TICKET

EASY GUIDES
Australia Pty Ltd

Plan and prepare for excavator operations

Element 1

SAMPLE

PC 1.2

4) What generally is the civil construction activity sequence in building a road?

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Answer:

1. A surveyor will stake out the site according to the site plan. The stakes mark where the road will go and any drains or pits, which will help to drain water away from the road area.

2. An excavator or dozer removes the trees, shrubs and other plants and levels the area. Some trees may be protected with padding or fencing to keep them from being cut down..

3. Sometimes contractors may use a borrow pit (also called a sand box). A borrow pit is an area where soil, sand or gravel (material) is dug out to be used in another area. Sometimes the borrow pit will become the drains, or water catchment areas at the end of the work.

4. The excavator or dozer may use material from the borrow pit to build up low areas in the road. They may also build up diversion blocks. Diversion blocks divert water away from the road and into drains.

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PC 1.4

14) Why should I check that a SWMS, JSA or equivalent control measure is in place before starting work?

Answer:

You need to check the SWMS, JSA or equivalent controls before starting to make sure hazards have been identified, safety controls are in place, and everyone understands the safe work method.

This helps prevent injuries, equipment damage and service strikes, while ensuring the work complies with WHS requirements.

PC 1.5

15) What should you do before using personal protective equipment (PPE)?

Answer:

Check site signage

Check SWMS, JSA or equivalent

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PC 1.7

19) What should you do if someone suffers a serious injury?

Answer:

Immediate Emergency Response

- Ensure Safety (Danger): Before approaching the injured person, ensure the area is safe. Do not put yourself or others in danger. If the hazard that caused the injury is still present (e.g., live electricity, unstable machinery), isolate the energy source or area if safe to do so.
- Assess and Call for Help: Determine the level of injury. Call 000 (Triple Zero) immediately for an ambulance if the injury is serious.
- Follow First Aid Protocols: Apply basic life support (DRSABCD: Danger, Response, Send for help, Airway, Breathing, CPR, Defibrillation) if necessary until emergency services arrive.
- Do Not Move the Injured Person: Unless there is an immediate threat to their life (e.g., fire, further structural collapse), do not move the person, as this could worsen spinal or internal injuries.

In any emergency situation, it is important to apply the DRS ABCD action plan.

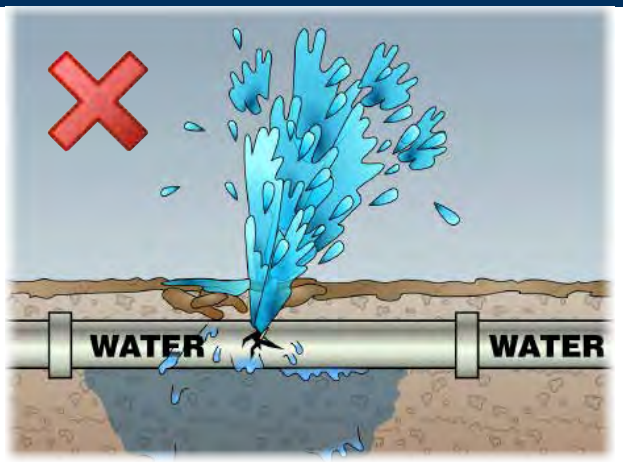
1. Danger
2. Response
3. Send for help
4. Airway
5. Breathing
6. Cardiopulmonary Resuscitation (CPR)
7. Defribrillation

PC 1.8

20) What are some examples of services you need to look out for before you start work?

Answer:

"Services" refers to existing utility infrastructure—usually underground or overhead—that may be affected by excavation or excavator movement.



Examples include:

Electrical power cables and overhead powerlines
Gas pipelines
Water mains and supply pipes
Sewer and stormwater pipes
Telecommunications and internet cables
Fibre-optic cables
Fuel pipelines or other private utility lines

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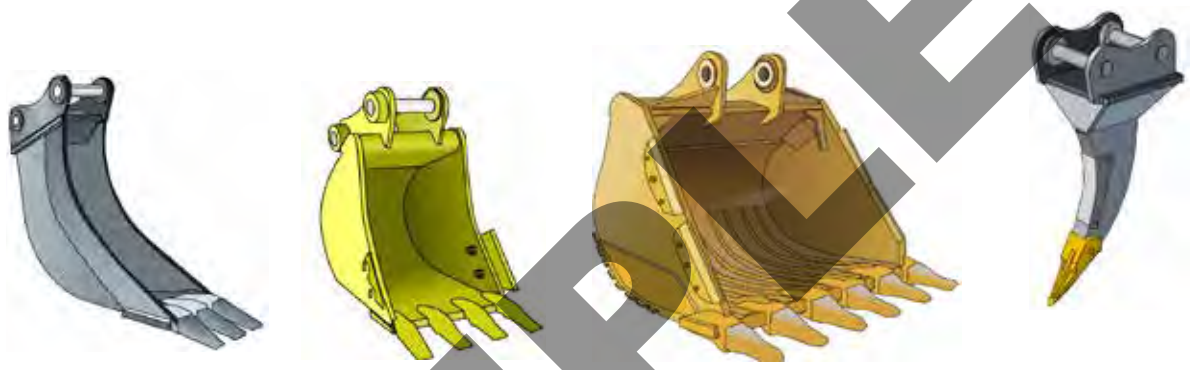
Select, fit, test and use attachments

Element 3



PC 3.1

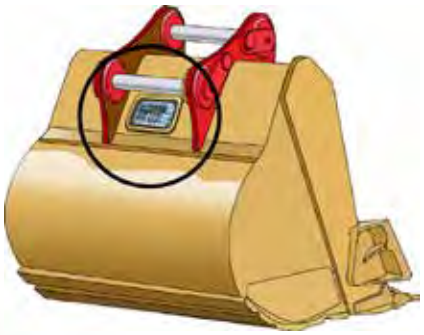
30) How can you tell if an attachment is rated for the load?

Answer:

Make sure the attachment is rated for the load you will lift. Follow the manufacture's instructions.

A bucket's rated load capacity is usually specified in the excavator manufacturer's:

- Operator's manual
- Technical or service manual
- Bucket attachment documentation
- Load chart, often located in the cab
- Identification or rating plate on the bucket or excavator



Maximum safe working load of the attachment

Safe working load (SWL)

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PC 3.1

32) How do you know what attachment to choose for the job?

Answer:

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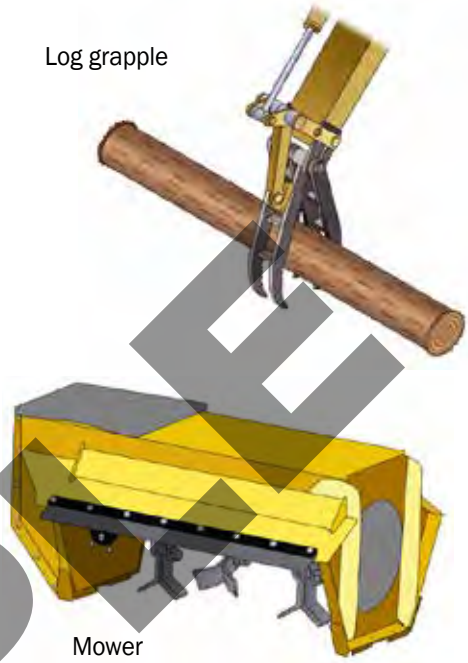
Hydraulic hole digger

Log grapple



Mower

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PC 3.2

33) What are the usual steps in fitting an attachment to an excavator?

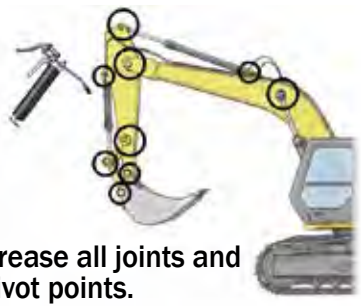
Answer:

1. Always check the operator's manual for your excavator f

2. Put the attachment in position ready for mounting.

3. Clean all mounting equipment. For example,

4. Grease all joints and pivot points.



5. Start the engine.

6. Line up the boom with the mounting points on the attachment.

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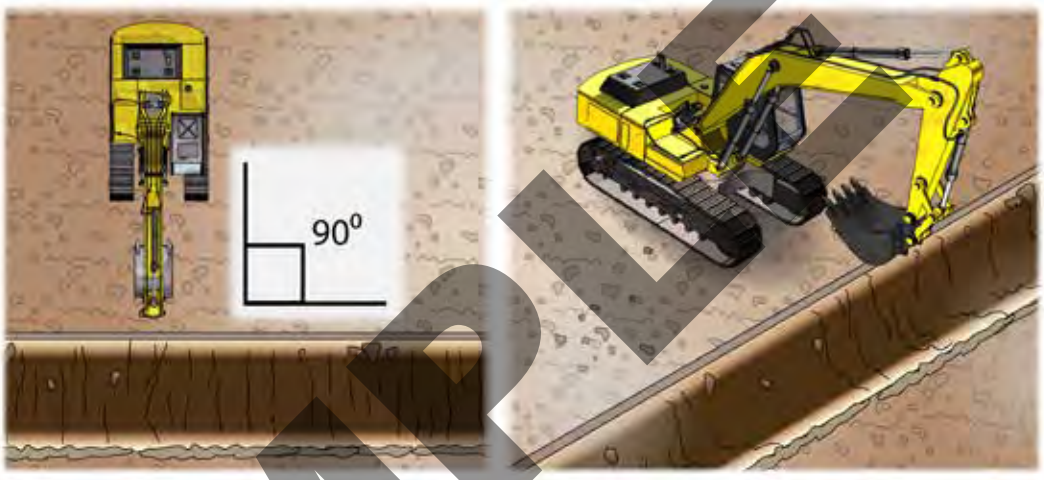
Operate machine in line with established requirements

Element 5



SAMPLE

PC 5.1

43) Why should you operate the excavator in a way that maintains control and stability?

Answer:

You should operate the excavator in a way that maintains control and stability to:

- Prevent the machine from tipping, sliding, or becoming unstable.
- Protect the operator, spotter, workers, and nearby members of the public.
- Avoid striking powerlines, structures, vehicles, or underground services.
- Maintain safe control of the boom, bucket, and loads.
- Prevent dropped loads, uncontrolled movement, and damage to the worksite.
- Complete the task safely and in accordance with site procedures and manufacturer instructions.

Maintaining stability includes working on suitable ground, keeping loads within the excavator's rated capacity, avoiding sudden movements, maintaining safe distances from edges and powerlines, and using a spotter where required.

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Lift/load, secure, carry and place materials to complete activity

Element 6

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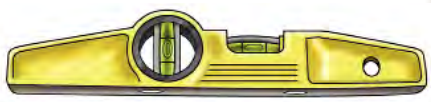
PC 6.1

56) Why should you position the excavator on stable ground at a safe distance from hazards and restricted zones?

Answer:

Park and operate the machine on firm, level You should position the excavator on stable ground and away from hazards or restricted zones to:

- Prevent the machine from tipping, sliding, or sinking.
- Keep workers and the public safe.
- Avoid collapsing excavation edges or damaging underground services.
- Prevent contact with overhead power lines and other hazards.
- Protect nearby buildings, roads, equipment, and the environment.



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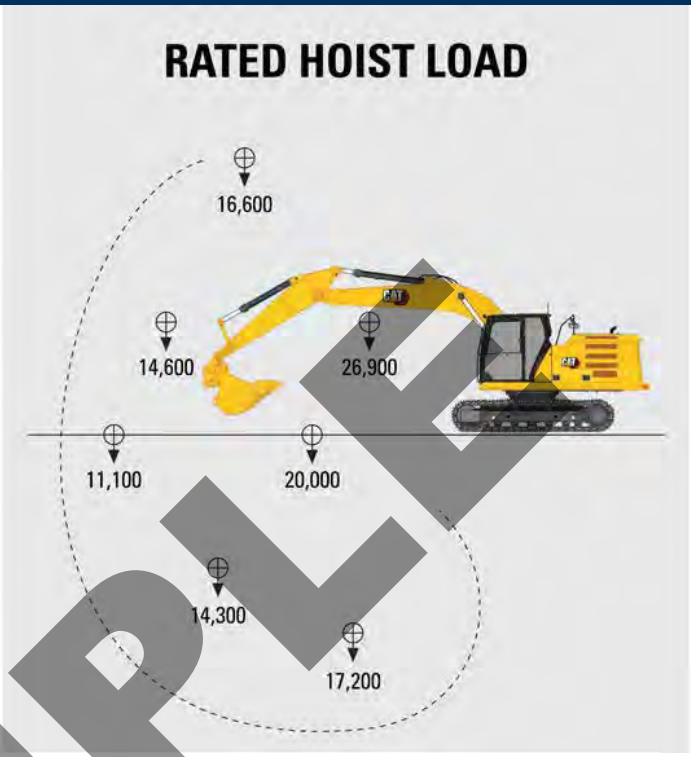
PC 6.2

57) How do you check that the load is within the excavator's safe working load (SWL) and the manufacture's operating limits?

Answer:

To verify the load is within the excavator's SWL:

- Check the manufacturer's load chart for the exact machine, attachment, lifting radius and height.
- Calculate the total weight, including the load and all lifting gear.
- Confirm it is below the chart's rated capacity and within limits for reach, slope, ground conditions and attachment weight.
- Inspect the excavator and lifting equipment, ensuring all gear is rated for the load.
- Position the machine on firm, level ground and keep people clear.
- Stop if alarms activate or the machine becomes unstable.



PC 6.3

58) Why should you use attachments rated for the load and task?

Answer:

You should choose and use excavator attachments—such as buckets, grapples, or lifting hooks—that are designed to safely handle the weight and type of work involved, and follow the manufacturer's instructions for using them.

In practice, you should:

- Check the attachment's rated capacity.
- Make sure it is suitable for the specific task.
- Confirm the excavator can safely operate with it.
- Follow the manufacturer's requirements for installation, operation, inspection, and limitations.
- Never exceed the attachment's rated load.

SAMPLE

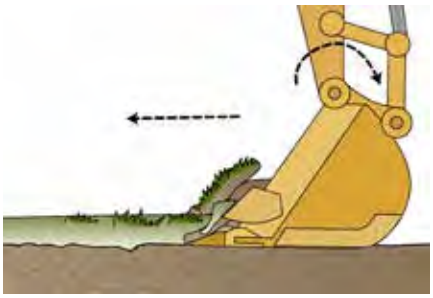
Practical Training

SAMPLE

TASK 4: Excavator activities (PC 6.1, 6.2, 6.3, 6.3, 6.4, 6.5)

Your trainer will demonstrate and then ask you to do two (2) of the following:

loading, cutting / boxing

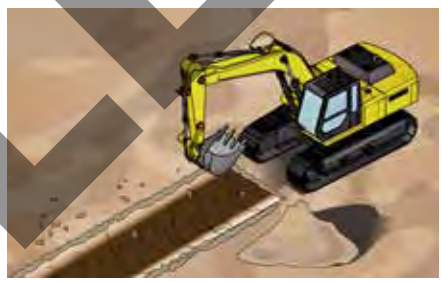


stripping / spreading

lifting and carrying materials

bulk excavation

mixing / backfilling



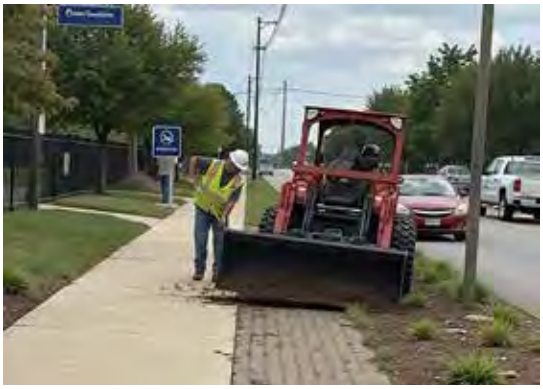
trench excavation

stockpiling

battering

benching

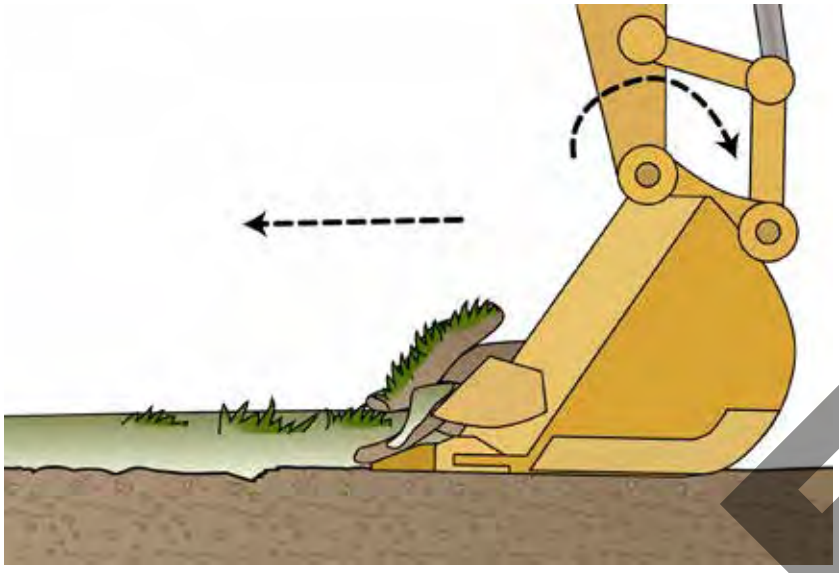
site clean up



SATISFACTORY ☐ MORE PRACTICE NEEDED ☐

SAMPLE

TASK 7: Levelling and spreading techniques (PC 7.1, 7.2, 7.3, 7.4, 7.5)



Ask a student to demonstrate each of the following while operating an excavator:

a) Plan and sequence spreading and levelling tasks based on ground conditions. ☐

b) Use excavator controls to achieve a uniform or level surface. ☐

c) Verify levels using levelling tools and make corrections where necessary. ☐

d) Finalise levelling activities in accordance with site specifications and worksite instructions. ☐

e) Make accurate initial passes by controlling depth, attachment angle and alignment with site reference points or levels. ☐

Ask each student to operate an excavator demonstrating points a) to e).

SAMPLE

SATISFACTORY ☐ MORE PRACTICE NEEDED ☐

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