

Hazard & Risk Assessment - Plant Operation



Equipment Category: **EARTHMOVING**

Equipment Type: **EARTHMOVING - MINI EXCAVATORS**

Generic Description or Specific Make/Model:

Mini Excavators

Type:

Overhead Canopy Model, Diesel

Other Details (As Applic.):

Manuf. Make & Model:

Plant No.:

'Last Service' Details:

Note:

Complete this section **ONLY** if a customer wants an additional "Office Copy" of this document i.e. requires a record of the 'Last Service' details to keep on file.

You **DO NOT** need to complete this section when this document is inserted in the **Coates Plant Logbook** on the machine – this is because details of the **Last Service** are usually recorded in 'Part 3' of the **Coates Plant Logbook** and also on the **Service/Safety Check Sticker** on the machine.

Last Pre-Hire Check or Safety Check:

Date:	Hours:	Type:

Last Scheduled Service:

Date:	Hours:	Type:

Operator Requirements:

Operators must be trained and competent to use this equipment safely and have referred to the Operator's Manual and any other information supplied to do with the backhoe loaders' safe use & operation.

Some WorkCover Authorities may require operators to have a 'Certificate of Competency'.

Purpose For Which This Equipment Is Designed:

For digging, dozing, dumping, levelling, loading, clearing and other site work on **firm level ground** not exceeding the rated operating capacity of the equipment.

Not to be used for handling hazardous materials e.g. asbestos.

Generic Hazards & Risks - For This Type of Equipment:

The hazards and risks detailed here are generic for this type of equipment and are intended to give principal contractors and users a quick summary of the hazards and risks involved before putting it to use. For details of any additional model specific hazards and user information, reference should be made to the operating instructions/other information supplied with the equipment. In addition to this, instruction and demonstration is also available from our trained staff.

Hazards & Risks:

Commissioning, Installation, Erection & Maintenance:

Hydraulics can lower without warning and cause serious crushing/shearing injuries to body/limbs or death.

Suggested Control Measures:

- (i) Never work under raised hydraulics unless they are fully supported by a correctly positioned 'approved support device'.
- (ii) If the work to be conducted under the raised hydraulics cannot be fully supported by an 'approved support device', an assessment (e.g. JSA) must be undertaken to identify the risks and the specified control measures (to conduct the work safely) implemented prior to the work being conducted.

Crushing (Squashing):

Bucket or other attachment falling off bucket arm.

- (i) BEFORE you operate the machine, ensure the hitch and bucket (or other attachment) is engaged correctly and fitted with a safety pin (and held in place with a retaining pin to prevent withdrawal)..... **"if there's a pin, put it in!"**
N.B. A close inspection of the hitch must be performed.... this means getting out of the cab as this inspection cannot be done from the cab.
- (ii) Ensure all personnel are excluded from the operating envelope of the machine.

Being crushed by material falling off plant.

- (i) Never exceed the rated operating capacity of the plant.
- (ii) Never lift a load over a person.
- (iii) Always carry loads low to the ground and do not overload bucket.
- (iv) Know the weight and handling capacity of the material to be lifted.

Being thrown off or under the equipment.

Never carry passengers.

Being trapped under or between the plant and materials, or fixed structures, especially when reversing.

- (i) Avoid congested work areas.
- (ii) Clearly define and/or barricade off work area. Keep personnel clear.
- (iii) **Ensure children are kept away from and cannot enter the work area.**
- (iv) If personnel need to be in the work area, use a spotter and/or a proximity sensing system.



Hazards & Risks:

Suggested Control Measures:

Crushing (Squashing) cont'd:

Being trapped under or between the plant and materials, or fixed structures, especially when reversing.... (cont'd)

- (v) Do not get on or off moving machine.
- (vi) When travelling, operate with dozer blade towards the direction of travel (the operating levers will be opposite the travel direction if dozer blade is at the rear of the machine).
- (vii) Never operate near an obstruction that can enter the operator "cab" area. The machine could drive or tip forward causing the obstruction to trap operator.

Driving into bystanders.

- (i) Clearly define work area. Keep personnel clear.
- (ii) When travelling, operate with dozer blade towards the direction of travel (the operating levers will be opposite the travel direction if dozer blade is at the rear of the machine).

Driving into overhead objects.

- (i) Be alert. Look up as well as down.
- (ii) When travelling, operate with dozer blade towards the direction of travel (the operating levers will be opposite the travel direction if dozer blade is at the rear of the machine).

Plant tipping or rolling over or operator being ejected.

- (i) Excavators equipped with **'Expandable Tracks'**.
 - a. Before using the excavator for 'work' **always** expand the tracks.
 - b. Only operate the excavator in **narrow track** mode for access through narrow passages on firm level ground and when loading/unloading from trailers.
 - c. **Always** load or unload on or off the trailer on firm level ground. Refer to the 'Information Cards' provided within the inside cover of the Logbook for detailed instructions.
- (ii) Only use buckets/attachments approved for the particular model of excavator you are operating. Non approved buckets/attachments may cause the excavator to become unstable and tip over.
- (iii) Always wear seat belt and fasten snugly.
- (iv) Operate on firm level ground within the design limitations of excavator.
- (v) Take care when operating on rough or uneven ground.
- (vi) Constantly scrutinise edges of formations for possible "soft spots" and take extreme care if it is necessary to drive near the edges of formations especially where there is a drop off. Always question whether "what you are seeing is what you are getting" e.g. is the ground you are about to drive over firm and capable of supporting the excavator, or is it soft, crumbling and/or supported only by undergrowth?
- (vii) Do not to exceed the excavator's gradeability both up or down hill.
- (viii) Do not exceed rated operating capacity of the plant. Excessive loads can cause the plant to tip or roll over. When back filling, don't get too close to the cut as the weight of the machine may cause a cave in.
- (ix) Lower the dozer blade to the ground when digging.
- (x) When going up or down an incline, keep the boom attachment low to the ground and in the direction of travel. Go directly up or down a slope, not across a slope.
- (xi) When working on sloping ground, turn machine slowly, keep the attachment as low as possible and do not swing the attachment down the slope.
- (xii) When travelling, operate with dozer blade towards the direction of travel (the operating levers will be opposite the travel direction if dozer blade is at the rear of the machine).

Electrical:

Electrocution from overhead power lines.

Do not operate where an electrical hazard exists. Remember the golden rule when raising the boom i.e. "Look up and live".

Electrocution from underground cabling.

Check with appropriate authorities before digging underground. Remember the golden rule "Dial Before You Dig".



Hazards & Risks:

Suggested Control Measures:

Equipment Controls & Operation:

Unexpected movement of plant.

Do not wear loose fitting clothing as they can catch on control levers.

Equipment Not In Use:

Unexpected movement of plant.

- (i) Park excavator on firm level ground.
- (ii) Never leave the machine without first lowering the boom and dozer blade to the ground.
- (iii) Put the throttle lever in the idle position, stop the engine.
- (iv) Lock all control levers.

Unauthorised use.

Lock all control levers, remove ignition key.

Explosion:

Explosion caused by puncturing underground gas pipe.

Check with appropriate authorities before starting work.
Remember the golden rule "Dial Before You Dig".

High Temperature or Fire:

Being injured or burnt from flying debris when using starter fluids.

- (i) Do not use ether or starting fluids on an engine with glow plugs (preheat systems) as these starting aids can explode and cause fire and injury.
- (ii) Do not use excavators in or around explosive dust or gases. Electrical systems may have arcs or sparks and cause an explosion.

Coming into contact with hot parts.

Keep clear of engine and exhaust outlet.

Refuelling: When refuelling, sparks, naked flames or hot engine can ignite fuel.

Operator to stop engine before refueling and allow it to cool. Prior to filling fuel tank, ground fuel filler nozzle against the machine to avoid a spark. Refuel in a well ventilated area. Ensure no naked flames in the area. DO NOT SMOKE, avoid spilling fuel, and collect any fuel run off.

Noise:

Exposure to noise.

Wear appropriate hearing protection if exposure to noise exceeds 85 dB (A).

PPE (Personal Protective Equip):

Eye or lung injuries possible if PPE not used.

Safety glasses and particle mask should be worn if working in dusty conditions.

Shearing (Cutting):

Bucket shearing limbs.

Clearly define work area. Keep personnel clear.

Slipping, Tripping & Falling:

Slipping on handrails, steps or floor.

- (i) Keep handrails, steps & floor clean and clear of oil, grease, mud, rubbish and tools.
- (ii) Always maintain three points of contact. Always use proper steps and hand holds when climbing into, or alighting from the machine.

Suffocation:

Use in a confined space can cause asphyxiation.

Operator/user responsible to use machine in a well ventilated area.

UV Exposure:

Excessive exposure to sunlight while operating this equipment.

Take precautions that reduce the exposure of skin to sunlight e.g. wear a hat, long pants, long sleeves and apply sunscreen to skin that is exposed to the sun.



Hazards & Risks:

Transporting:

Buckets, detachable blade extensions and/or other accessories falling off during transport.

Suggested Control Measures:

Before transporting, ensure all buckets, blade extensions and other accessories are tied down and secured correctly in their designated locations.

N.B. Detachable blade extensions are usually fitted to the blade for transport. DO NOT transport blade extensions and other accessories unrestrained i.e. in the bucket or on the deck of the mini excavator trailer as they can "jump out" and fall into the path of other road users !!

Overloading a mini excavator trailer is illegal and can cause the drawbar to crack/break.

Do not overload a mini excavator trailer with:

- i. Additional equipment or accessories that the trailer was not designed to transport; or
- ii. A heavier excavator or different type of machine e.g. a roller that the trailer was not designed to transport.

N.B. Mini excavator trailers are usually designed to carry a specific make/model excavator and its buckets ONLY. Additional accessories can easily overload the trailer.

Acknowledgements:

Hazard Information Sheets have been produced as an aid to workplace safety after an extensive review of the requirements of the 'National Standard for Plant' and its adoption in each state. It is a combination of information from OH&S authorities, manufacturers, suppliers, the industry and users, and has been set out in this format in response to industry requests for a 'quick reference' useful user-friendly document.

Disclaimer: In fulfillment of its statutory obligations, the Company has taken what it considers to be all reasonable precautions and exercised due diligence to ensure that it has provided all relevant information on the safe use of the plant. However, except as required by law and only to the extent so required, the Company does not make any representation, warranty or undertaking, express or implied, as to, or accept any responsibility or liability for, the accuracy or completeness of, or any errors in or omissions from, this Hazard Information Sheet.

Document Issue, Amendment & Review History:

Last Amended: November 2015

Amended By: Ross Lugton, Plant Maintenance & Compliance Officer, Corp. H.O.

Details of Amendment(s):

Suggested Control Measures for Hazards - Excavators equipped with 'expandable tracks'.

Last Reviewed: 23rd November 2019

Reviewed By: Ross Lugton, Plant Maintenance & Compliance Officer, Corp. H.O.

Details of Review(s):

No changes or amendments required.