

Safe Excavator Operation

Consolidated Group | Equipment Operating Procedure | EOP05

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Applies to	CG, CTS and JG operators, employees, contractors and subcontractors
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1.0 Introduction

This Equipment Operating Procedure (EOP) establishes the formal methodology by which all safe Excavator operations are to be performed by operators on all sites controlled by Consolidated Group of Companies (CGC) — comprising CCS Rentals Pty Ltd T/A Consolidated Group (CG), Consolidated Transport Services (CTS) and Jakarli Group Services (JG).

This procedure has been reviewed against current Western Australian work health and safety legislation, the relevant Codes of Practice for mobile plant, and manufacturer (OEM) operating guidance, and forms part of CGC's Integrated Business Management System (IBMS).

2.0 Purpose

This procedure ensures that all excavator operations are conducted in a safe, efficient and legally compliant manner, and that all excavator operators are assessed as competent to perform the function for which they are engaged.

3.0 Scope

This procedure applies to all CGC excavator operating activities, including work undertaken by employees, contractors and subcontractors engaged by CG, CTS or JG on any CGC-controlled work site or activity, including client (e.g. BHP, Fortescue) sites where this procedure meets or exceeds the client's own requirements.

Where a client site procedure, standard or Code of Practice imposes a more stringent requirement than this EOP, the client requirement takes precedence.

4.0 Related Documents and Definitions

4.1 Related Documents

- Job Safety Analysis (JSA) / Safe Work Method Statement (SWMS)
- Plant Pre-Start Inspection Checklist
- Fitness for Work Procedure (Fatigue, Alcohol and Other Drugs)
- Isolation and Lockout Procedure
- Traffic Management Plan (site-specific)
- Emergency Response Plan (site-specific)
- Excavator OEM Operation and Maintenance Manual (make/model specific)

4.2 Definitions

JSA/SWMS	Job Safety Analysis / Safe Work Method Statement — the task-level risk assessment required before work commences
GET	Ground Engaging Tools (buckets, teeth, edges, rippers)
VOC	Verification of Competency
BYDA	Before You Dig Australia — national referral service for underground utility information
Exclusion Zone	The area around an operating machine that must be kept clear of personnel, light vehicles and other plant
PDS	Proximity Detection System / collision avoidance technology (where fitted)

5.0 Roles and Responsibilities

5.1 Operator

Holds a current and applicable licence/ticket and Verification of Competency (VOC) for the excavator, completes pre-start inspections, and operates in accordance with this procedure, the JSA/SWMS and site rules.

5.2 Supervisor

Confirms operator competency before assignment, facilitates pre-start meetings, actions defects reported by operators, and monitors compliance with this procedure.

5.3 HSEQ

Coordinates dig permits and underground service clearances with the client (BHP/FMG) HSE team, and monitors compliance with exclusion zones during loading operations.

6.0 Pre-Start and Planning

6.1 Pre-Start Toolbox Meeting

Before commencing work for the day, all personnel are to attend the pre-start (toolbox) meeting conducted by the project supervisor or delegate. Personnel shall be informed of:

- The machine they will be operating and its current condition/defect status
- Where they and other mobile plant will be operating, including known exclusion zones
- Safety topics, hazards and controls relevant to the work area
- The opportunity to raise safety alerts, hazards, near misses or concerns
- The JSA/SWMS applicable to the task

CRITICAL — UNDERGROUND SERVICES

Before any excavation is carried out: underground services must be located and confirmed via Before You Dig Australia (BYDA — byda.com.au or 1100), and an in-date, signed-off Dig Permit and JSA/SWMS must be in place.

6.2 Minimum Personal Protective Equipment (PPE)

Before leaving the pre-start meeting location, all personnel must be wearing or carrying the minimum PPE for CGC sites:

- Safety helmet (to AS/NZS 1801)
- Safety glasses (to AS/NZS 1337)
- Safety boots (to AS/NZS 2210)
- High-visibility clothing meeting the day/night rating required for the site (to AS/NZS 4602.1)
- Shirts with collars and long sleeves, long trousers and socks
- Hearing protection where required by signage or the noise and vibration risk assessment
- Additional task-specific PPE identified in the JSA/SWMS (e.g. respiratory protection in dusty conditions)

6.3 Pre-Start Inspection of the Machine

Before commencing work, the excavator operator must complete a documented walk-around pre-start inspection to identify faults, damage or hazards in the surrounding area (personnel, other plant, structures, overhead/underground services).

Item	Pass	Fail	N/A
Machine is undamaged and cab is clean and free of rubbish			
No out-of-service or danger tags in place			

Item	Pass	Fail	N/A
Engine oil level is sufficient			
Hydraulic oil level is sufficient			
Coolant level is sufficient			
Slew motor oil level is sufficient			
All lights/beacons are working; lenses undamaged			
Tracks/tyres are in good condition and free of debris/damage			
No oil, water or diesel leaks			
Engine belts present and show no significant wear			
No hoses worn or leaking			
Fire extinguisher present, in good condition, arrow in the green, current test tag			
No damage to hand and foot holds			
Horn and reversing/crawl alarm are operational			
Hydraulic tank not leaking; all fill caps secure			
Attachments and GET are not damaged			
Diesel tank not leaking; fuel gauge accurate			
Mirrors and windows clean and free of damage or cracking			
Seatbelt and ROPS/FOPS structure intact and undamaged			
Any other item listed on the machine-specific pre-start form			

All deficiencies are to be recorded on the pre-start inspection form and reported to the Supervisor immediately. The machine must not be operated until the Supervisor confirms it is safe to continue — out-of-service or danger-tagged machines must never be operated.

6.4 Mounting and Dismounting

- Always use the steps and hand holds provided
- Maintain three points of contact at all times when accessing or egressing the machine
- Ensure the ground you are stepping onto is free of hazards
- Always face the machine when climbing up or down
- Never mount or dismount a moving machine, and never jump from a machine
- Take extra care in wet conditions, as steps and hand holds may be slippery

7.0 Start-Up Procedure

Prior to starting the excavator, the operator shall:

1. Adjust the seat and mirrors as needed
2. Fasten the seat belt
3. Turn the ignition to the accessory/alternator position
4. Sound the horn ONCE and wait at least five seconds before starting the engine
5. Start the engine and release the key once running
6. Confirm all gauges and the Engine Management System (EMS) are operating normally, with no active warning lights or alarms
7. Confirm the two-way radio is operable and set to the correct channel
8. Allow the engine to idle and warm up in accordance with the OEM operator manual before working under load

If any visual or audible warning becomes apparent during start-up or operation, park in a safe position (if able) and notify the Supervisor immediately. Do not continue operating a machine displaying an active fault warning.

8.0 Isolation Before Maintenance

Before any maintenance, servicing, unblocking or fault-finding work is carried out on the machine:

- The machine must be shut down, park brake applied and all attachments/GET grounded
- The isolation switch/master isolator must be turned to the off position and, where required, tagged/locked out in accordance with the Isolation and Lockout Procedure
- Stored energy (hydraulic, air, spring-applied brakes) must be released or restrained before work begins
- Operators must remain out of the cab and clear of the controls while a serviceperson is working on the machine, to prevent accidental movement

9.0 Safe Operation

9.1 Moving Off

Prior to moving off, the operator shall confirm the area is clear, sound the horn as required by site rules, check mirrors/cameras, and confirm positive communication with any spotter or nearby personnel and plant.

9.2 Hazards and Exclusion Zones

A minimum exclusion zone of 30 metres, or the working radius of the boom/bucket plus 5 metres, whichever is greater applies around an operating excavator unless a lesser distance is specifically justified in the JSA/SWMS and approved by the Supervisor. Where fitted, Proximity Detection Systems (PDS) or collision avoidance technology must be operational and must not be disabled or bypassed.

- Never travel with the bucket fully raised, and never leave the cab without grounding the bucket
- Personnel or vehicles must never work or stand under a raised bucket or within its working radius
- Do not excavate material from under the machine, and never use the excavator as a crane

Personnel and light vehicles must not approach a working machine until positive communication (radio or hand signal) has been established and acknowledged by the operator.

9.3 Guidelines for Safe and Efficient Operation

Different sites have different rules and conditions, but the following points apply to safe, efficient excavator operation:

- Travel with the bucket close to the ground (approximately 30 cm)
- Employ extra caution when operating at the edge of a job site or on a slope
- Ensure the working bench is competent to support the weight of the machine, and safe ramps are built onto and off benches
- Be aware of underground and overhead services in the vicinity
- The bucket must never be placed over any person or machine
- Do not allow other personnel to ride on the machine
- All retaining and safety pins must be fitted on all attachments prior to use
- Use a spotter as required by the JSA/SWMS

9.5 Positioning and Loading Dump Trucks

When loading haul trucks:

9. All persons must keep clear of the area between the loading unit, the pit face and the bucket's operating arc
10. Raise a full bucket to a safe height (approximately one metre above the truck tray). If the truck continues reversing before the bucket reaches a safe height, direct the operator to stop via radio or horn
11. Give one blast of the horn to signal the truck to stop at the correct distance, and confirm the truck is correctly positioned before loading
12. Keep the arc of swing to a minimum; extend the arm while raising the boom. Never swing the bucket over any person, cabin or light vehicle
13. Ensure the bucket clears the tray before placing the load, and avoid loading on the operator's off side where possible
14. Line the truck tray up with both bucket pins so the truck sits in line with the bucket; never hit or move the truck with the bucket
15. Ensure each load is centred and placed — never thrown — into the tray
16. Give one blast of the horn to signal the truck to move away once loading is complete
17. When loading oversize material, place some material in the tray first to cushion the load, and warn the truck operator of possible heavy impact
18. Where possible, load trucks on a level surface. Call for a clean-up machine to clear spillage — never sweep the floor to clear spillage

9.6 Top Loading

Top loading (excavator and truck on the same level) presents higher risk as there is no face to protect the excavator from a reversing truck. Trucks should be loaded from the side wherever possible.

19. Position the excavator to allow ease of digging and sufficient room for trucks to manoeuvre into the side-loading position
20. If a truck must reverse into position, brief all truck operators by radio on the need for caution and to stop immediately on hearing the excavator horn
21. If a truck fails to stop once the horn is sounded, the excavator operator will hold the bucket in position to arrest the reversing truck and avoid a direct collision
22. Follow standard digging and loading procedures otherwise

10.0 Parking and Shutdown

When instructed to park, or at the end of a task, operators shall:

23. Select a park position clear of vehicular traffic, haul roads and overhead powerlines, leaving adequate space for refuelling and servicing
24. Ground all GET and lower all attachments to the ground
25. Apply the park brake and select neutral
26. Turn the ignition key off and allow the idle timer to run and shut the machine down automatically
27. Allow the engine/turbo to idle down before shutdown, then turn the ignition off
28. Turn the isolation switch to off, isolating the machine before leaving

CRITICAL

At the end of shift, the operator must ensure the excavator cab is clean and free of rubbish, and that the machine has not been left under powerlines or on a haul road.

11.0 Breakdown Procedure

If the excavator breaks down, the operator must immediately notify their Supervisor and follow any instructions given. Other operators in the area may need to alter their route or work plan as a result.

11.1 Parking Equipment Needing Repair

The speed limit within the workshop area is 10 km/h. Operators must be aware of the area they are driving into and make contact with the workshop for parking instructions.

11.2 Servicing Mobile Equipment

Operators must be out of the cab and on the ground while a serviceperson is conducting work on the machine, to ensure nobody is near the controls.

12.0 Fires and Electrification

12.1 Fires

Fires can result from contact with overhead powerlines, lightning strike, fuel leaks, turbo failure or electrical faults. On becoming aware of an active fire, the operator will:

- Notify the Supervisor by radio immediately
- Park at the closest designated area, or where directed by the Supervisor
- Ground GET and shut down the machine
- Vacate from the side opposite the fire, where possible
- Move to the distance specified in the site Emergency Response Plan (typically not less than 500 metres)
- Only attempt to fight the fire if safe and trained to do so

12.2 Machine Electrification

Should the operator suspect the machine has become electrified (e.g. contact with powerlines):

- Notify the Supervisor immediately
- Remain in the machine until advised it is safe to evacuate — do not step down while the machine remains energised
- Park so the machine can be accessed by a rescue vehicle, if safe to do so
- If forced to leave due to fire risk, jump clear without touching any steel component of the machine, and without contacting the ground and the machine at the same time

13.0 Emergency Response

In the event of a rollover, entrapment, serious injury or other emergency involving the machine, the operator or witness shall raise the alarm via radio/phone in accordance with the site Emergency Response Plan, provide first aid only if trained and safe to do so, and not move an injured person unless there is an immediate risk to life.

14.0 Fatigue Management

It is every employee's responsibility to advise their Supervisor of any circumstance or condition preventing them from completing their shift safely. Any operator suffering from, or suspecting another person is suffering from, fatigue must notify their Supervisor immediately so it can be managed in accordance with the Fitness for Work Procedure.

15.0 Fitness for Work — Alcohol and Other Drugs

Operating mobile plant while affected by alcohol or other drugs, including some prescription and over-the-counter medications, is strictly prohibited. Any operator who is or may be affected, or who is

taking medication that may impair performance, must notify their Supervisor before operating any machine.

16.0 General

- Seat belt is to be worn at all times while operating the machine
- A spotter must be used where visibility is restricted or as required by the JSA/SWMS
- Windows and doors are to remain closed during operation
- Air conditioning/heating is to be operating at all times
- The two-way radio is to remain on at all times
- The machine must not be used for any purpose other than that for which it is designed
- No person other than the operator is to ride on the machine

17.0 Overtaking

Overtaking is only permitted when the machine being overtaken is a tracked machine, a grader, has broken down with clearance given to pass, or is slow moving — and only after positive radio communication confirms there is no oncoming traffic.

Overtaking is not permitted on ramps, on bends, in signed no-overtaking areas, or at intersections.

18.0 Smoking

Smoking is not permitted in any machine, plant or vehicle owned, leased or hired by CGC. Persons found smoking in CGC plant or vehicles will face disciplinary action.

19.0 Job Safety Analysis (JSA) / SWMS

All work involving the use of a excavator must only be carried out after an appropriate and detailed JSA/SWMS has been developed. The JSA/SWMS must be signed by the person completing the work and reviewed/approved by a member of the safety team or the works Supervisor before work begins.

20.0 Training and Competency

Operators must hold a current High Risk Work Licence or plant competency ticket applicable to the excavator, and a current site/CGC Verification of Competency (VOC) before operating unsupervised. Refresher VOCs are required in accordance with the site training matrix or following an incident, extended absence, or change of machine make/model.

Record of Training

I confirm that I have read, understood and been trained in this Equipment Operating Procedure, and agree to comply with its requirements.

Name (print)	Signature	Date	Supervisor