

Safe Operation of a Dual-Purpose Metal & Timber Drop Saw (Mitresaw / Pull-Down Saw)

Standard Operating Procedure (SOP)

1. Purpose

To prevent amputation, projectile, fire, and serious dust-related injury when using a drop saw that is approved and regularly changed between cutting metal and timber.

2. Scope

Applies to all 305 mm – 355 mm pivot or sliding compound mitresaws used for BOTH:

- Metal (mild steel, aluminium, stainless) with TCT cold-cut blade, and
- Timber / MDF / plywood with fine-tooth timber blade

3. Responsibilities

Operator: Must be trained for both modes and must personally change and verify the correct blade is fitted.

Supervisor/PCBU: Ensure only authorised operators use the saw and that two clearly labelled blades are available and in good condition.

4. Major Hazards

- Wrong blade fitted (timber blade on metal = fire / kickback; metal blade on timber = dangerous splintering)
- Blade guard failure
- Workpiece kickback or ejection
- Sparks igniting sawdust
- Respirable dust (MDF, treated timber, stainless)

5. Mandatory Personal Protective Equipment (PPE)

- Safety glasses or full face shield (AS/NZS 1337.1)
- Hearing protection (Class 5)
- P2 respirator when cutting MDF, treated timber, stainless, or aluminium
- Steel-cap boots
- Close-fitting clothing – NO GLOVES while blade is turning
- No loose sleeves or jewellery

6. Training & Authorisation

Only persons who have completed documented dual-purpose drop-saw training and been signed off on this specific machine may operate it unsupervised.

7. Pre-Operation Checks

- Correct blade fitted and clearly identified:
 - Metal mode → TCT cold-cut metal blade (60–90 teeth, 1.8–2.2 mm kerf)
 - Timber mode → Fine-tooth timber blade (60–100 teeth, negative hook)
- Blade guard returns fully and automatically
- Vise/clamps tight and square
- Dust bag or extraction connected and working
- Sparks shield fitted and down when cutting metal
- Fire extinguisher (dry chemical) within 5 m and in-date
- Floor swept clear of mixed metal/timber off-cuts
- Blade-change log or tag updated and signed

8. Safe Operating Procedure

Blade Change (only by authorised person)

- Isolate at wall and remove plug
- Record blade change in logbook/tag
- Fit correct blade for the next job
- Run spindle for 30 seconds with no load – check for wobble or noise
- Update the large laminated sign on the saw (“CURRENT BLADE: METAL” or “CURRENT BLADE: TIMBER”)

Cutting – BOTH MODES

- Put on all PPE
- Clamp material firmly – never hold by hand
- Stand to one side of the blade plane
- Lower head slowly and steadily – never drop
- Let blade reach full speed before cutting
- Allow blade to stop completely before raising head or removing off-cuts

Metal-Specific Rules

- Sparks shield must be down
- Use light machine oil or wax stick on blade
- P2 respirator mandatory for stainless or galvanised

Timber-Specific Rules

- Dust extraction or bag must be fitted and empty
- P2 respirator mandatory for MDF or treated timber

9. Shut-Down & Cleaning

1. Let blade stop fully
2. Brush or vacuum mixed swarf/sawdust (never blow)
3. Empty dust bag outside
4. Isolate at wall when finished for the day

10. Absolutely Prohibited Actions (Zero Tolerance)

- Using a timber blade on metal or metal blade on timber
- Removing or wedging the blade guard
- Wearing gloves while blade is turning
- Cutting round bar or thin off-cuts without proper hold-down
- Leaving the saw running unattended
- Mixing metal swarf and timber dust in the same bin

11. Emergency Procedures

- Release handle and hit emergency stop (if fitted)
- For cuts: apply pressure and call 111
- For fire: use extinguisher and evacuate

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