

Safe Use of a Plunge Router (Hand-Held or Router Table)

Standard Operating Procedure (SOP)

1. Purpose

To prevent serious injury (laceration, amputation, kickback, dust inhalation, and hearing damage) when using a plunge router for timber, MDF, plywood, or engineered wood products.

2. Scope

Applies to all plunge routers in the workplace.

3. Responsibilities

Operator: Must be trained and authorised; never remove or defeat guards or safety devices.

Supervisor/PCBU: Ensure only authorised operators use the router, bits are sharp and correct, and dust extraction is functional.

4. Major Hazards

- Contact with spinning cutter (up to 27 000 rpm)
- Kickback or climb-cutting
- Cutter ejection
- Respirable timber dust (especially MDF – formaldehyde)
- Noise (>95 dB(A))
- Hand-arm vibration

5. Mandatory Personal Protective Equipment (PPE)

- Safety glasses or full-face shield (AS/NZS 1337.1 medium impact)
- Class 5 hearing protection (ear muffs)
- P2 respirator when routing MDF, treated timber, or for >15 minutes continuous use
- Close-fitting clothing – NO GLOVES, loose sleeves, jewellery, or long hair (tied back and under cap)
- Steel-cap boots

6. Training & Authorisation

Only persons who have completed documented plunge-router training and been signed off may operate unsupervised.

7. Pre-Operation Checks

- Cutter sharp, correct type, and securely clamped (minimum 20 mm in collet)
- Collet and spindle clean – no sawdust or resin build-up
- Guard (if fitted) in place and functional
- Depth stop and turret set correctly
- Handles tight and anti-vibration mounts intact
- Power cord or battery undamaged
- Dust extraction connected and port clear (minimum 38 mm hose)
- Router table (if used): fence locked, featherboards fitted, emergency stop tested

8. Safe Operating Procedure

Hand-Held Use

- Secure workpiece with clamps or non-slip mat – never hold by hand
- Set depth in multiple shallow passes (max 6 mm for hardwoods, 10 mm for softwoods)
- Feed against cutter rotation (right-to-left on outside edges)
- Plunge lock OFF unless actively plunging
- Wait for full speed before cutting, and full stop before setting down

Router Table Use

- Always feed against cutter rotation (left-to-right on fence)
- Use push blocks and featherboards for narrow or small pieces
- Never stand in line with the cutter
- Use starter pin or bearing-guided cutters for curved work

9. Shut-Down & Cleaning

- Wait for cutter to stop completely before removing from work or table
- Unplug and vacuum dust – never blow with compressed air while people are nearby
- Empty dust bag when $\frac{2}{3}$ full (outside wearing P2 mask)
- Store router and bits in dry, secure location

10. Absolutely Prohibited Actions (Zero Tolerance)

- Free-hand routing narrow stock (<100 mm) without jigs
- Climb-cutting (with rotation) unless power-feeding and risk-assessed
- Removing the spring from plunge columns
- Using cracked, damaged, or home-made cutters
- Wearing gloves while cutter is spinning
- Routing MDF without dust extraction and P2 respirator
- Leaving router running unattended

11. Emergency Procedures

- Kickback or grab: release handles immediately and step back
- Cutter contact: keep wound closed, apply pressure, call 111
- Dust exposure: fresh air, medical review if breathing difficulty

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