

ILLUSIONS AUSTRALIA

SAFE WORK PROCEDURE

SWP 011 – CNC ROUTER - FLAT BED

1. PURPOSE AND SCOPE

Minimum requirements for safe operation of the flat-bed CNC router at Illusions Australia.

Applies to programming, sheet loading, routing, cutter changes, unloading and normal operator cleaning.

2. AUTHORISATION AND COMPETENCY

Only trained, competent and authorised CNC operators may use the router.

Operators must understand program verification, workholding/vacuum bed, tooling, extraction, guards and emergency stops.

3. REQUIRED PPE

The following PPE must be worn as appropriate:

- Eye protection where required.
- Hearing protection.
- Safety footwear.
- Respiratory protection where dust is not adequately controlled.
- Close-fitting clothing and restrained hair.

4. PRE-START CHECKS

Before commencing work, confirm that:

- Program and cutting path are correct.
- Correct cutter is secure and serviceable.
- Sheet/workpiece is correctly located and held by vacuum/clamps.
- Bed is clear of loose tools and offcuts.
- Guards, interlocks and emergency stops function.
- Dust extraction is connected and operating.
- Workpiece thickness, cutter depth and spoilboard condition are appropriate.
- Operating area is clear of unauthorised persons.

5. SAFE OPERATING PROCEDURE

1. Review the job file and cutting path.
2. Load sheets using team/mechanical assistance where required.
3. Secure material and verify vacuum/clamps.
4. Confirm cutter, offsets and depth settings.
5. Start extraction and close/position guards.
6. Start the program from the designated operator position.

7. Remain clear of the moving gantry, spindle and cutter.
8. Monitor cutting and stop for movement, poor extraction or abnormal sound.
9. Wait for spindle and gantry to stop before unloading.
10. Remove cut parts carefully, considering sharp edges.

6. PROHIBITED PRACTICES

Workers must not:

- Enter the operating area while the machine is moving.
- Reach under or around guards.
- Run loose or inadequately held material.
- Use damaged cutters.
- Defeat interlocks or emergency systems.
- Clear offcuts while the cutter is moving.
- Leave a fault or burning material unattended.

7. SHEET HANDLING

Large sheets can cause strains, crush injuries and cuts.

- Use team lifting or mechanical assistance where required.
- Plan the route and keep fingers clear when positioning sheets.

8. CUTTER CHANGES

CNC cutters are sharp and unexpected spindle movement can cause severe injury.

- Stop and place machine in safe state before changing cutters.
- Isolate where required by the access involved.
- Use correct tooling and confirm secure installation.

9. DUST EXTRACTION

MDF and timber routing can generate substantial fine dust.

- Extraction must operate during routing.
- Do not continue if extraction performance is inadequate.
- Clean with suitable vacuum methods.

10. FAULTS, DAMAGE AND ABNORMAL OPERATION

Stop for tool breakage, workpiece movement, collision, abnormal vibration/noise, smoke, vacuum loss, extraction failure or interlock fault.

Isolate before entering hazardous areas to investigate.

11. SHUTDOWN AND HOUSEKEEPING

- Stop spindle/gantry and place machine in safe position.
- Isolate where required for cleaning or tool work.

- Unload safely.
- Vacuum bed, spoilboard and surrounding area.
- Report faults.

12. EMERGENCY AND INCIDENT RESPONSE

1. Stop the equipment or activity immediately.
2. Isolate energy sources where safe to do so.
3. Provide or obtain first aid as required.
4. Notify the Foreman, Leading Hand or other authorised Illusions Australia representative.
5. Call emergency services where required.
6. Do not recommence until the incident, defect or unsafe condition has been addressed.

13. STOP WORK REQUIREMENT

Work must stop where:

- Workpiece cannot be secured.
- Program/toolpath is uncertain.
- Guard/interlock/emergency stop is defective.
- Extraction or workholding vacuum is unavailable.
- Any unexpected movement or burning occurs.

No production requirement or deadline takes priority over safe work.

DOCUMENT CONTROL

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