

ILLUSIONS AUSTRALIA

SAFE WORK PROCEDURE

SWP 085 – WELDING JIG

1. PURPOSE AND SCOPE

Minimum requirements for safe use of welding jigs, fixtures and positioners at Illusions Australia.

Applies to clamping, locating and supporting components during welding and fabrication.

2. AUTHORISATION AND COMPETENCY

Workers must be competent in the jig/fixture and associated welding process.

Powered or rotating positioners may only be operated by authorised workers familiar with their controls, capacity and pinch points.

3. REQUIRED PPE

The following PPE must be worn as appropriate:

- Welding PPE appropriate to the process.
- Safety footwear.
- Gloves suitable for hot/sharp metal handling.
- Eye protection during setup/grinding as applicable.

4. PRE-START CHECKS

Before commencing work, confirm that:

- Jig/fixture is stable, undamaged and rated/suitable for the workpiece.
- Clamps, pins and stops are secure.
- Workpiece can be loaded without uncontrolled movement.
- Pinch/crush points are identified.
- Powered positioner controls and emergency stop are functional where applicable.
- Welding return path will not damage bearings/controls or create unsafe current paths.
- Area is clear for rotation/movement.

5. SAFE OPERATING PROCEDURE

1. Plan loading and weld sequence before clamping.
2. Use mechanical/team assistance for heavy components.
3. Position work and engage clamps/stops progressively.
4. Keep fingers clear of mating surfaces and clamp points.
5. Check stability before welding.
6. Connect welding return as close to the weld as practicable and in accordance with equipment requirements.
7. For rotating/positioning jigs, keep people clear and move only at controlled speed.
8. Stop movement before welding where required by the process/design.

9. Allow components to cool before unclamping where necessary.
10. Release clamps in a controlled sequence to prevent springing or movement.

6. PROHIBITED PRACTICES

Workers must not:

- Exceed jig/positioner capacity.
- Use damaged or makeshift clamps for critical restraint.
- Place hands between components while another person operates clamps/positioner.
- Rotate a jig with people/tools in the sweep zone.
- Weld a workpiece that is inadequately restrained.
- Route welding current through inappropriate bearings/controls.
- Unclamp components that may spring or fall without support.

7. PINCH, CRUSH AND STORED ENERGY

Clamps and fabricated components can move suddenly when restraint is applied or released.

- Keep hands clear.
- Support components before releasing clamps.
- Account for distortion and spring-back.

8. ROTATING POSITIONERS

Powered positioners create sweep and trapping zones.

- Establish an exclusion zone.
- Use low controlled speed for positioning.
- Ensure emergency stop is accessible.

9. FAULTS, DAMAGE AND ABNORMAL CONDITIONS

Stop for fixture movement, cracked welds/components, clamp failure, overloaded positioner, control fault or unstable workpiece.

Support the work safely and isolate powered equipment.

10. SHUTDOWN AND HOUSEKEEPING

- Allow hot work to cool as required.
- Release clamps systematically.
- Remove spatter/debris after cooling.
- Store clamps and accessories.
- Report damaged jigs/positioners.

11. EMERGENCY AND INCIDENT RESPONSE

1. Stop the equipment or activity immediately.
2. Isolate the hazard or energy source 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.

12. STOP WORK REQUIREMENT

Work must stop where:

- Jig capacity/suitability is uncertain.
- Workpiece cannot be restrained.
- Required handling assistance is unavailable.
- Powered controls are defective.
- Pinch/sweep zones cannot be controlled.

No production requirement or deadline takes priority over safe work.

DOCUMENT CONTROL

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