Setup / Shutdown

Keep this beside the key switch. OEM sequence, site risk assessment and Local Rules win.

CLASS 4 HONESTY: This is a bay prompt, not a risk assessment or a coded welding procedure. If the zone, people, eyewear, extraction, gas, machine or workpiece is not right, the beam stays off.

BEFORE KEY ON

- [ ] Controlled corner / Laser Controlled Area set. Door or barrier closed; warning sign visible.
- [ ] Every head in the zone has wavelength-matched EN 207 protection. No “quick look”.
- [ ] Reflective bounce paths controlled; polished panels, vehicles and chrome out of the sector.
- [ ] Extraction running and drawing away from faces. Coated, oily or unknown work treated as fume work.
- [ ] E-stop accessible; interlocks seated; extinguisher and exit clear.
- [ ] Dedicated supply and earth checked against the rating plate. No improvised shared circuit.
- [ ] Cylinder upright and chained; correct gas path, regulator, hose and leak check.
- [ ] Chiller / coolant checked if fitted. Umbilical protected from pinch, traffic and sharp edges.
- [ ] Nozzle and cover glass clean and inspected. Gun capped / secured and pointed safe.
- [ ] Coupon ready: same metal, thickness and joint family as the intended work.

START-UP / LIVE PASS

- [ ] 1 Gun in holster or safe rest; E-stop latched Off.
- [ ] 2 Mains connected; isolation / breaker closed.
- [ ] 3 E-stop released; key On; warm-up completed per OEM.
- [ ] 4 Eyewear on before any software beam-enable.
- [ ] 5 Gas flowing and verified; cover glass and nozzle rechecked.
- [ ] 6 Beam enable stays Off until the work area is clear.
- [ ] 7 Run the coupon first. Change one variable at a time.
- [ ] 8 Stop at unstable pool, blow-through, heavy spatter, thick plume or browning glass.

SHUTDOWN / WALK-AWAY

- [ ] Beam Off; release trigger / disable emission.
- [ ] Key Off and E-stop as required by the OEM/site procedure.
- [ ] Gas Off as appropriate; cap the gun and put it in the holster.
- [ ] Leave the workpiece to cool; mark hot metal and spatter.
- [ ] Record coupon / job notes, faults, glass or nozzle changes.
- [ ] Leave the zone controlled until no beam, hot-work or fume hazard remains.

Scan on a phone before the zone is live; do not bring a phone into the beam sector as a “viewer”.

PRINTABLES & UPDATES

Scan for the printables page: https://laserweldpack.co.uk/printables

The page can host this wall pack later. A QR code is a signpost, not a substitute for your machine manual or Local Rules.

Pre-weld bay check

A short pause before the first pass prevents a long repair after the gate is ruined.

Date _____ **Operator** _____ **Job / coupon ref**

Machine / source _____ **Material / thickness** _____ **Joint** _____

GATE RULE: Customer work is last. If you cannot control the corner, verify the gas, see a clean cover glass, or make a representative coupon, you do not weld the job today.

ZONE + PEOPLE

- ☐ Door / barrier / signage in place; access controlled.
- ☐ EN 207 eye protection checked for every person in the zone.
- ☐ No customer, visitor or apprentice in the sector without controls.
- ☐ Reflective surfaces covered, removed or out of the bounce path.
- ☐ E-stop, exit and extinguisher accessible; floor clear.
- ☐ Extraction positioned for the plume, not across a face.

MACHINE + CONSUMABLES

- ☐ Rating plate, supply and earth checked; no shared weak circuit.
- ☐ Warm-up / chiller / coolant complete per OEM, if fitted.
- ☐ Umbilical free of pinch, crush, heat and vehicle traffic.
- ☐ Correct nozzle fitted; no burr, deformation or spatter build-up.
- ☐ Cover glass clean, seated and not cracked, pitted or brown.
- ☐ Gas cylinder secure; hose, regulator and flow path checked.

WORKPIECE + FIT-UP

- ☐ Material identity / coating / contamination known. Strip or degrease where the job allows.
- ☐ Joint gap, alignment, access and backing are acceptable for this process.
- ☐ Parts clamped; heat path and distortion plan understood.
- ☐ Wire or autogenous choice made honestly; wire is identified and clean.
- ☐ Coupon matches metal, thickness, joint and surface condition.

PROCESS CONTROL — RECORD, DO NOT GUESS

OEM programme / mode _____

Power / duty / pulse _____

Travel feel / speed _____

Wire / gas / nozzle _____

Coupon result / change made _____

DO NOT WELD IF: any control fails, the pool is unfamiliar, or the job is outside your competence / approval.

No universal setting lives on this sheet. Translate the OEM scale, then trust the coupon.

Blank coupon / trial log

One change at a time. A tidy bead is not proof of penetration, strength or coded status.

COUPON DISCIPLINE: Match the real material, thickness, joint and surface condition. Use the OEM manual for machine limits. This log records what happened on *your* unit; it is not a universal settings card.

COUPON IDENTITY

Date / time _____ **Operator** _____ **Machine / source** _____

Material / alloy / grade _____ **Thickness** _____ **Surface / coating** _____

Joint / position _____ **Wire or autogenous** _____ **Coupon ID** _____

Gas / bottle ID _____ **Nozzle** _____ **Cover glass ID** _____

TRIAL RECORD — BLANK BY DESIGN

Trial	Change made	OEM power / mode	Travel feel / speed	Wire / gas / flow	Pool / plume	Back side / distortion	Result / repeat?
1							
2							
3							
4							

ACCEPTANCE AND NOTES

What did the pool do? _____

Evidence checked (front / back / section / bend / visual): _____

What would you repeat? What would you change? _____

Operator / supervisor sign-off: _____

STOP / QUARANTINE NOTE: A coupon does not qualify a welder, approve a WPS or prove a structural joint.

Stop-work

The professional move is to stop before the fault becomes a repair, an exposure or a fire.

STOP WORK

Release trigger. Beam Off. Make the zone safe.

STOP IMMEDIATELY IF…

- ☐ Anyone enters, removes eyewear, or the barrier / interlock is compromised.
- ☐ You cannot account for a reflection, shiny neighbour or line of sight.
- ☐ E-stop, key, trigger, chiller, alarm or extraction behaves unexpectedly.
- ☐ Pool runs away, keyhole becomes unstable, blow-through or violent spatter starts.
- ☐ Cover glass browns / pits, nozzle deforms, or debris lands on the optics.
- ☐ Plume exceeds extraction, coating burns unexpectedly, or smoke / fire appears.
- ☐ Gas supply fails, hose leaks, cylinder moves, or the wrong gas is connected.
- ☐ Fit-up is outside the coupon: gap, misalignment, unknown alloy or thin backer.
- ☐ You feel rushed, unsure, untrained, or asked to “just tack it” outside the controls.

SAFE RESPONSE

- ☐ 1 Release trigger / disable emission without reaching through the beam path.
- ☐ 2 Key Off and E-stop / isolate as the OEM and site procedure require.
- ☐ 3 Keep the boundary in place; warn people and stop access.
- ☐ 4 Allow hot metal and spatter to settle. Do not touch or inspect by leaning in.
- ☐ 5 Cap and secure the gun; isolate gas / power if safe to do so.
- ☐ 6 Call the competent person / supervisor. Do not defeat an interlock.
- ☐ 7 Record the fault, photograph only when safe, and quarantine suspect parts.
- ☐ 8 Re-start only after the cause is understood and the controls are restored.

EMERGENCY POINTS — FILL IN FOR THIS BAY

E-stop / isolation point _____

Fire extinguisher _____

First aid / eyewash _____

THE HONEST CALL

A good-looking bead is not proof of soundness.

If the joint is safety-critical, load-bearing, pressure-containing, lifting-related or otherwise coded, stop and use the approved procedure, qualified people and inspection route. Book 1 does not replace them.

WHEN IN DOUBT: beam off, gun safe, people out, competent help in.

Site emergency contact _____

Laser safety lead / LSO / LPS _____

Nozzle & cover glass care

Optics are consumables. A dirty window is not a challenge to push through.

CONTAMINATION RULE: If spatter, soot, dust, fingerprints or a brown mark appears near the optics, stop. Follow the OEM inspection / replacement method. Do not improvise polishing, solvents or “one more pass”.

BEFORE THE FIRST PASS

- ☐ Hands clean; no fingerprints on glass, nozzle or threads.
- ☐ Cover glass seated correctly, clean, uncracked and free of pits / brown haze.
- ☐ Nozzle bore round and clear; no burr, dent, drag mark or weld spatter.
- ☐ Correct OEM nozzle fitted for the job; standoff feel known from the coupon.
- ☐ Gas path clear and leak-free; consumables are dry and identified.

BETWEEN PASSES

- ☐ Gun into holster / safe rest, pointed away from people and polished surfaces.
- ☐ Cap on when stepping away, even for a phone call.
- ☐ Look at the nozzle and glass under safe conditions; do not wipe a live head.
- ☐ Remove spatter using the OEM-approved method only. Never scrape the glass.
- ☐ If the glass changes colour, stop and replace / escalate — do not carry on.

NOZZLE CARE — DO

- ☐ Keep the bore free and concentric.
- ☐ Use the OEM tool / cleaning method.
- ☐ Store spares capped, dry and labelled.
- ☐ Replace damaged or heat-distorted nozzles.
- ☐ Record the change if the weld appearance changes.

COVER GLASS CARE — DO NOT

- ☐ Do not touch optical faces with fingers or dirty gloves.
- ☐ Do not polish, sand or reuse a pitted / browned window.
- ☐ Do not spray unknown solvent into the head.
- ☐ Do not blame settings for a contamination fault.
- ☐ Do not keep firing to “burn it clean”.

CONSUMABLE CHANGE LOG

Date	Part / ID	Reason	Action / OEM method	Operator

Wire & gas quick notes

Consumables change the process. These notes prompt checks; they do not prescribe universal settings.

NO UNIVERSAL SETTINGS: Gas, nozzle, wire, gun geometry, material, coating, fit-up and OEM scale all move the result. Record the band that worked on a representative coupon; do not copy a number from this sheet to a customer gate.

WIRE / FILLER DISCIPLINE

- ☐ Correct alloy / diameter / batch identified for the joint and approved process.
- ☐ Wire clean, dry and free from oil, rust, mixed alloys or damaged coating.
- ☐ Feeder path, liner and drive rolls suit the wire; no birds-nest or drag.
- ☐ Cut end clean; feed angle and hand position keep fingers clear of the beam / hot pool.
- ☐ Wire bridges a small fit-up problem; it does not repair a missing joint or poor design.
- ☐ Write wire ID and the coupon result in the log.

GAS DISCIPLINE

- ☐ Gas selected per OEM, approved procedure and material risk — not habit.
- ☐ Cylinder upright, chained and labelled; regulator and hose are correct.
- ☐ Leak check complete; connections dry and sound.
- ☐ Flow is set / recorded from the OEM guidance and confirmed on coupon.
- ☐ Drafts controlled. “Open the roller door” is not a gas-shielding plan.
- ☐ Gas Off when the job / machine procedure says; cap and secure the bottle.

QUICK REFERENCE — FILL WITH YOUR MACHINE / COUPON VALUES

Date	Material + thickness	Wire / ID	Gas + OEM band	Nozzle	Coupon result

FUME / COATING NOTE

Paint, oil, galvanising, unknown plating and some stainless / aluminium conditions can create hazardous fume or process instability. Clean, strip, extract and assess the job before the beam is enabled. If the coating is unknown, stop and ask.

COUPON FIRST. CUSTOMER GATE LAST.

Operator kit (examples)

Example Amazon search links for cover glass, nozzles, cleaning, wire, gloves, blanket, EN 207 eyewear search, and fume extraction live at **laserweldpack.co.uk/operator-kit**

CHECK BEFORE ORDERING
Verify OEM fit and Local Rules. Not a PPE catalogue.
Eyewear must match your wavelength and OD.

OPEN THE OPERATOR KIT

https://laserweldpack.co.uk/operator-kit

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