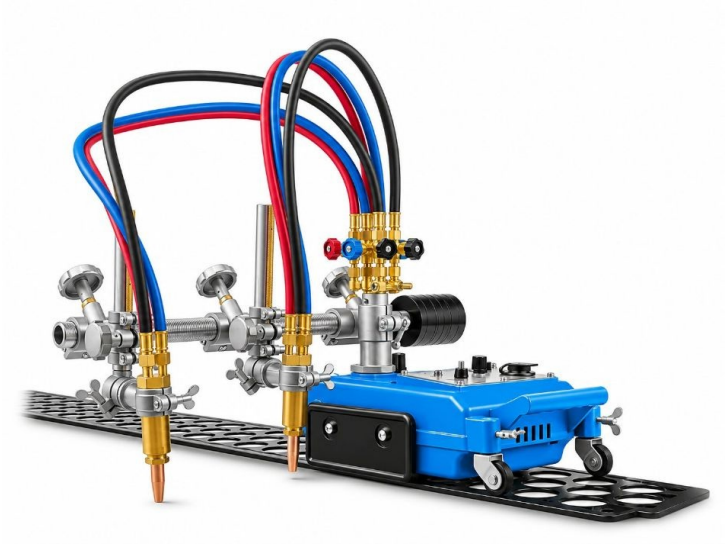
CRUXWELD®

INDUSTRIAL EQUIPMENTS PVT. LTD.

GLIDO 2T

Dual-Torch Gas Cutting Machine

2 torches | plate 6 – 100 mm | 50 – 750 mm/min | circles Ø200 – 2000 mm | 220 V



USER MANUAL

Please read this manual carefully before installing and using the machine.

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This manual describes the installation, operation and maintenance of the Cruxweld GLIDO 2T dual-torch gas cutting machine. For safety, the machine must be set up, maintained and repaired only by persons who know it well, and must be operated only after the operator has read and understood this manual. Keep the manual near the machine. Cruxweld improves its products continuously; the contents of this manual may be revised without prior notice.

Signs used in this manual

Sign	Meaning
▲ **DANGER**	Immediate danger which will cause death or serious injury if it is not avoided.
▲ **WARNING**	A potential hazard which may cause death or serious injury if it is not avoided.
▲ **CAUTION**	A hazard which may cause injury or damage to the machine if it is not avoided.
Note	Useful information for correct operation.

1 Safety precautions

Oxy-fuel cutting uses flammable gas, oxygen and an open flame. Follow the regulations for gas welding and cutting work, the instructions of your gas supplier, and the rules below.

1.1 Fire and explosion

> **▲ DANGER**
> **Explosion hazard.** Oxygen in contact with oil, grease or other petroleum products can cause an explosion. Never oil or grease the gas fittings, hoses, valves, torches or regulators, and never handle them with oily hands or gloves.

- Never cut in places where there is a risk of fire or explosion, or near flammable materials. Keep a fire extinguisher at the workplace.
- Fit flashback arrestors (and non-return valves) between each cylinder regulator and the machine.
- Light the torches only with a spark lighter, never with matches or a lighter held by hand near the nozzle.
- Light the fuel gas immediately after opening the fuel valve, so that unburnt gas cannot escape or collect in the carriage.
- After a flashback, check the torches and hoses before using the machine again.
- Store and handle oxygen and fuel-gas cylinders according to the regulations; keep them upright and secured, away from heat and sparks.

1.2 Electrical safety

> **▲ WARNING**
> Connect the machine only to an **earthed** 220 V, 50 Hz single-phase socket using the supplied cable. If the earth is faulty or the plug is forced into the socket out of line, the carriage body can become live. Do not use the machine in rain or outdoors in wet conditions.

- Switch off the power whenever you stop work or leave the machine, so that the motor cannot overheat.
- Change the direction switch only with the motor stopped.

1.3 Personal protection

- Wear gas-cutting goggles with the correct filter shade, flame-resistant work clothes, leather gloves and safety shoes.
- Wear hearing protection where necessary.
- Do not breathe the fumes. Cut in a well-ventilated place, especially on coated or painted plate.
- Hot plate, slag and the nozzle stay hot for a long time after cutting.

1.4 Hoses and nozzles

- Use only gas hoses in good condition and suited to the gas. Check hoses, connections, valves and torches for leaks before each lighting.
- Never clean nozzles with steel wire; use the tip cleaner supplied.

2 General description

The Cruxweld GLIDO 2T is a portable, semi-automatic oxy-fuel cutting machine with two cutting torches. A motor-driven carriage runs on a perforated steel guide rail and carries both torches on a cross bar, so that two kerfs are cut in one pass. It is used for straight cuts, parallel strips, bevels and V / K weld preparations on carbon and low-alloy steel plate from 6 to 100 mm, and – with the radius bar – for circles from Ø200 to 2000 mm.

The carriage body is a light, strong, corrosion-resistant aluminium-alloy casting. A DC motor drives the wheels through a worm-gear reduction and a clutch. The thyristor speed control gives stepless travel speed from 50 to 750 mm/min, and holds the set speed under load so that the kerf is the same at the end of the cut as at the start. Oxy-fuel cut faces are usually smooth enough that no further machining is needed.

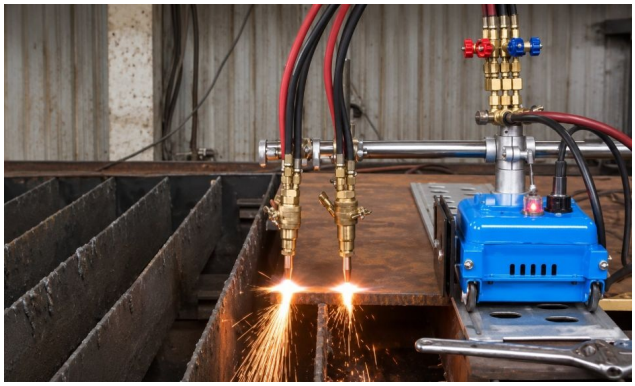


Fig. 2.1 Two kerfs in one pass

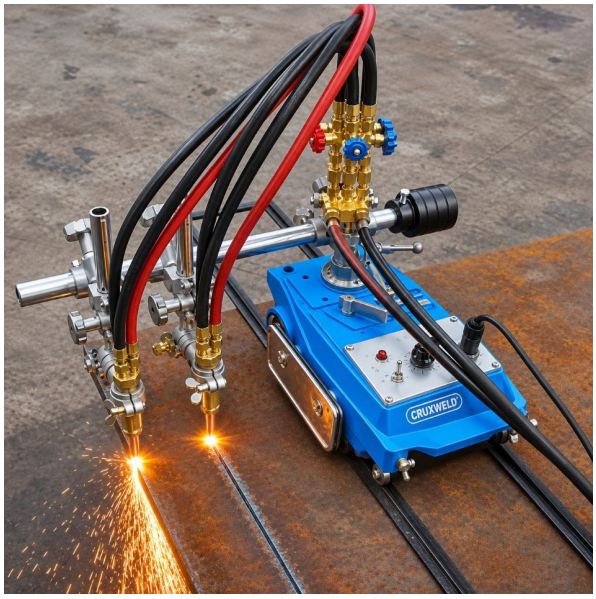


Fig. 2.2 Cutting on the guide rail

2.1 Cutting work

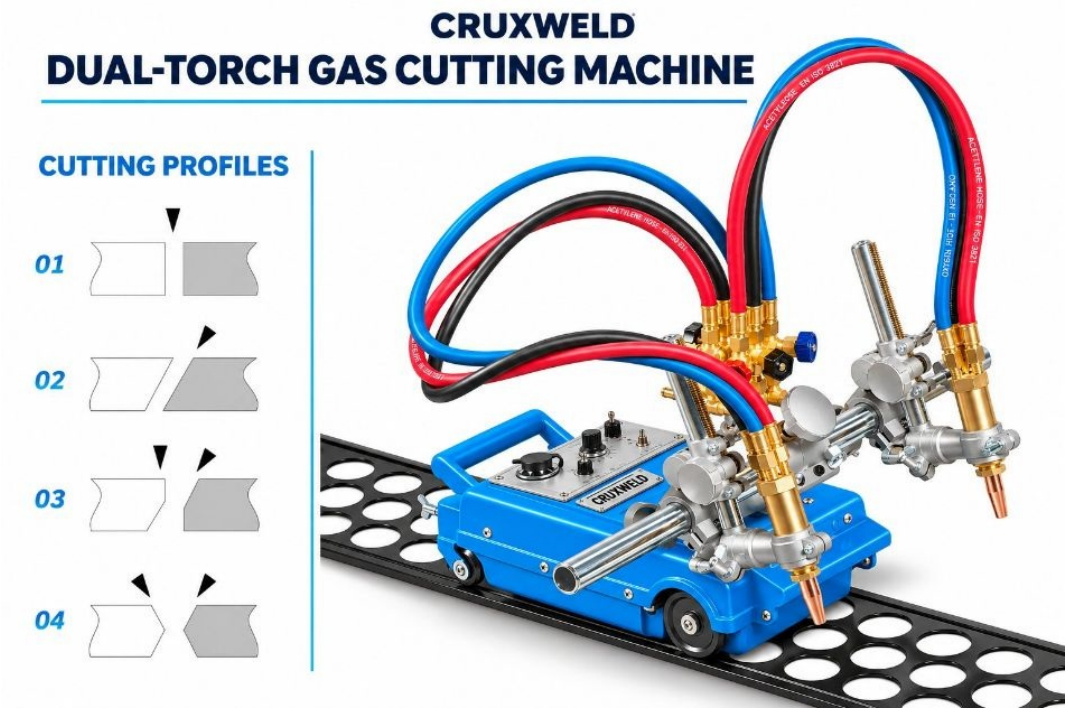


Fig. 2.3 Edge profiles: square, single bevel, bevel with root face, double bevel

- **Straight cuts** along the rail, plate 6 – 100 mm.
- **Parallel strips:** both torches vertical, set apart to the strip width.
- **Bevel:** one torch tilted up to 45°.
- **Bevel with root face:** front torch square, rear torch tilted, in one pass.
- **Double bevel (K / X prep):** both torches tilted in opposite directions.
- **Circles:** Ø200 – 2000 mm with the radius bar and centre pin.

2.2 Applications

Structural fabrication, shipyards and heavy fabrication, boiler and pressure-vessel shops, bridge and steel-structure yards, machinery and earth-moving repair, and site fabrication.

3 Technical specifications

Parameter	GLIDO 2T
General	
Model	GLIDO 2T
Type	Semi-automatic, rail-guided oxy-fuel cutting machine
Number of torches	2
Fuel gas	Acetylene or LPG / propane (matching nozzle set)
Cutting	
Plate thickness	6 – 100 mm
Travel speed	50 – 750 mm/min, stepless
Speed control	Thyristor (SCR), dial with scale
Direction	Forward / reverse switch; clutch for free movement
Circle cutting	Ø200 – 2000 mm with radius bar
Torch tilt	Up to 45° for bevel and V-prep
Torch height adjustment	Rack and pinion, 50 mm
Cut types	Straight, parallel strip, bevel, V / K prep, circle
Electrical	
Supply	AC 220 V, 50 Hz, single phase
Power cable	5 m with connector
Physical	
Carriage body	470 × 230 × 240 mm, cast aluminium alloy
Carriage weight	Approx. 24 kg
Rail and radius bar	Approx. 12 kg
Guide rail	1 × 1.8 m perforated steel, sections joinable
Hose connections	Oxygen M16 × 1.5 RH; fuel gas M16 × 1.5 LH

All values are for reference; the rating plate on the machine applies. Specifications may change without notice as a result of continuous improvement.

3.1 Scope of supply

No.	Item
1	GLIDO 2T cutting carriage with motor drive, clutch and speed control
2	Cross bar, mast and two torch holders with rack-and-pinion adjustment
3	Two machine cutting torches with gas distributor and twin hose sets
4	Guide rail 1.8 m
5	Radius bar with centre pin, for circle cutting
6	Cutting nozzle set for the chosen fuel gas
7	Counterweight for the torch bar
8	Power cable 5 m with connector
9	Spanner, hex keys, screwdriver and tip cleaner
10	User manual

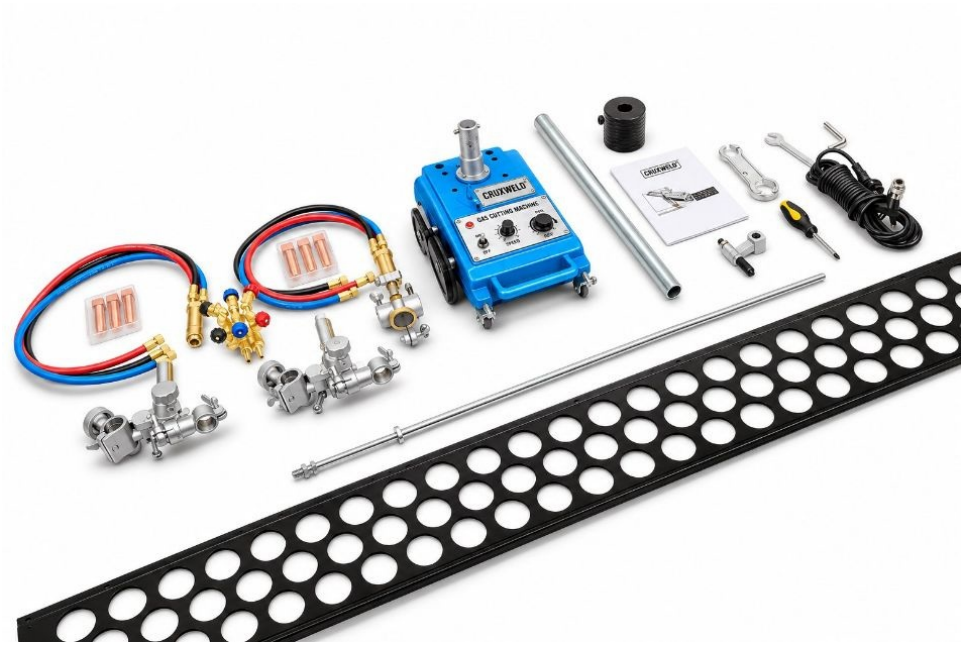


Fig. 3.1 GLIDO 2T kit

Optional: additional 1.8 m rail sections for long plates, LPG nozzle set, spare torch and hose set.
Not included: oxygen and fuel-gas cylinders, regulators and flashback arrestors.

4 Machine overview

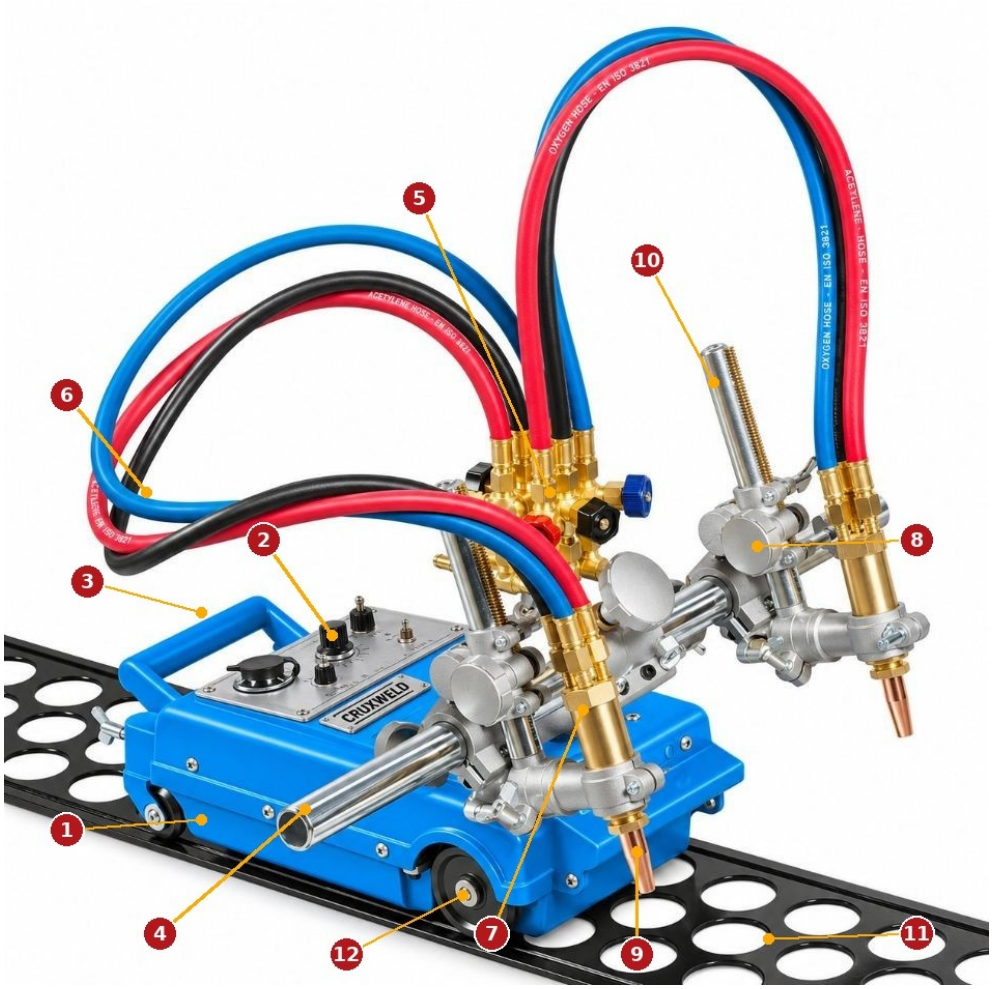


Fig. 4.1 Main parts of the GLIDO 2T

No.	Part	No.	Part
1	Carriage (cast aluminium body with drive and electrics)	7	Cutting torch (2)
2	Control panel	8	Torch holder: height, slide and tilt
3	Carry handle	9	Cutting nozzle
4	Cross bar	10	Mast with height rack
5	Gas distributor with valves	11	Guide rail 1.8 m
6	Oxygen and fuel-gas hoses	12	Drive wheels

4.1 Carriage and drive

A permanent-magnet DC motor in the carriage drives the wheels through a two-stage worm-gear reduction and a clutch. The wheels run in the guide rail, which acts as a straight edge. With the clutch disengaged the carriage can be pushed freely by hand for setting up.

4.2 Control panel



Fig. 4.2 Control panel

Control	Function
Power lamp	Lights when the machine is connected to the supply.
ON / OFF switch	Starts and stops the carriage drive.
SPEED dial	Sets the travel speed, 50 – 750 mm/min, steplessly. The scale is for reference.
DIRECTION switch	Selects forward or reverse travel. Change it only with the motor stopped.
Clutch lever	Engages the drive for cutting; disengage it to move the carriage by hand.

4.3 Torch system

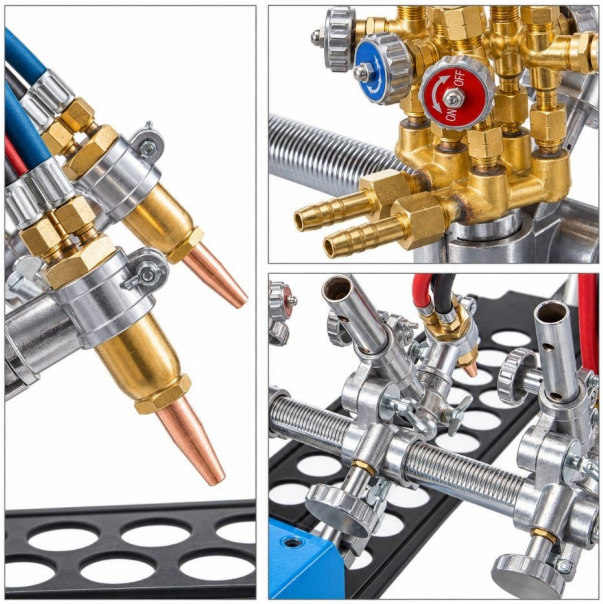


Fig. 4.3 Torch, gas distributor and torch holders

The torch system consists of the torches, nozzles, hoses, gas distributor, cross bar, mast and torch holders. Rack-and-pinion drives move each torch up and down and along the bar. Each torch can be tilted up to 45° for bevel cutting. A counterweight on the bar balances the torches hung out over the plate.

The gas distributor on the mast has the fuel-gas valve, the preheat-oxygen valve and the cutting-oxygen valve, and feeds both torches through the hose sets.

5 Installation and set-up

5.1 Carriage and torch system

Unpack the machine and check it for transport damage and for loose or missing fasteners. Then assemble it as shown in Fig. 4.1:

1. Fit the cross bar in the holder on the carriage, and the mast on the cross bar. Fit the counterweight on the opposite end of the bar and tighten it.
2. Fit the gas distributor in its holder and tighten the screw.
3. Insert a nozzle into each torch, align it and tighten the nozzle nut. Check for leaks.
4. Clamp each torch in its torch holder.

> **Note:** Before fitting a nozzle, check that the torch seat is free of dirt and heavy copper oxide and that the nozzle cone is not damaged. A poor seat between torch and nozzle causes leaks and reduces the cutting thickness. Use only Cruxweld nozzles to ensure a tight seal.

5.2 Gas connection

1. Fit flashback arrestors at the cylinder regulators.
2. Connect the oxygen hose from the oxygen cylinder to the oxygen inlet of the gas distributor (**M16 × 1.5, right-hand thread**).
3. Connect the fuel-gas hose to the fuel-gas inlet (**M16 × 1.5, left-hand thread**; the nut has a groove).
4. Check that the hoses are not interchanged and that no connection leaks.

> **▲ CAUTION**
> Before connecting the hoses, make sure they and their fittings are clean and free of dirt or foam. Dirt in the hoses seriously reduces the cutting thickness and can make the machine unusable. Use only clean, oil-free fittings on oxygen.

5.3 Electrical connection

1. Plug the power cable into the socket on the carriage, aligning the plug key with the socket.
2. Plug the other end into an earthed 220 V single-phase socket. The power lamp lights.
3. Switch on and test forward and reverse travel. The carriage body must not be live.

5.4 Guide rail

- Check the rail for transport damage; straighten a bent rail before use.
- Lay the rail on the plate or on the floor alongside it, parallel to the cut line. The slope must not exceed **3°**.
- When cutting from a plate edge, let the rail overhang the plate by at least **450 mm**, so that the carriage starts and finishes the cut on the rail. For longer cuts, join rail sections end to end.
- Keep the rail free of scale, slag and dirt. A bent rail, a steep slope or dirt on the rail make the travel uneven and spoil the cut.
- Place the plate on supports at least 100 mm high, so that slag and the cutting jet can leave freely below.

6 Operation and cutting

6.1 Selecting the cutting parameters

Nozzle. Select the nozzle number for the plate thickness from Table 6.1. Only the correct nozzle gives the best cut.

Nozzle	Plate thickness (mm)	Cutting oxygen (MPa)	Travel speed (mm/min)
No. 00	5 – 10	0.20 – 0.30	600 – 450
No. 0	10 – 20	0.20 – 0.30	480 – 380
No. 1	20 – 30	0.25 – 0.35	400 – 320
No. 2	30 – 50	0.25 – 0.35	350 – 280
No. 3	50 – 70	0.30 – 0.40	300 – 240
No. 4	70 – 100	0.30 – 0.40	260 – 200

Table 6.1 Guide values for acetylene nozzles on clean mild steel

LPG / propane nozzles cut the same thicknesses at slightly lower speeds. Ask Cruxweld for the nozzle set for your fuel gas.

- **Torch angle:** for normal cutting set the torch at right angles to the plate (fine adjustment along the bar). For bevels tilt the torch to the required angle; for a V-preparation use both torches.
- **Nozzle height:** set the nozzle tip **10 – 15 mm** above the plate (5 – 10 mm for high-speed nozzles).
- **Preheat flame:** use a neutral flame. Increase the flame power for thicker plate.
- **Cutting oxygen pressure:** correct when the cutting-oxygen stream is longest and sharpest.
- **Travel speed:** slower for high cut quality, slightly faster for ordinary work. The speed is right when the sparks leave straight down or slightly behind the kerf.
- **Plate:** level the plate and clean scale, rust and paint from the cut line before cutting.

6.2 Making the cut

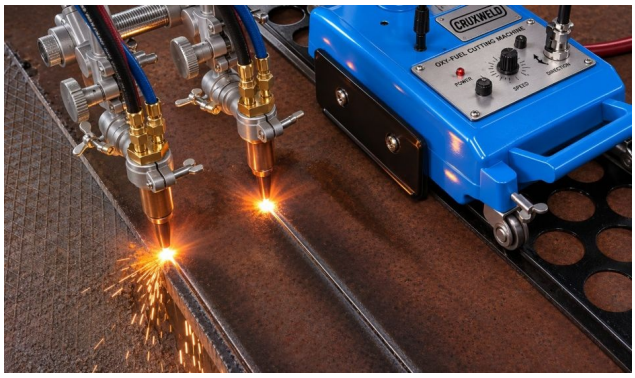


Fig. 6.1 Parallel cut with both torches

1. Disengage the clutch and move the carriage by hand so that the nozzles follow the marked cut lines. If they do not, adjust the rail or the plate.
2. Check that the hoses and cable are long enough for the whole cut. Hose dragged by the carriage must not exceed about **2 m**; long hoses make the carriage slip.
3. Bring the nozzles to the start points. Engage the clutch, with the ON / OFF switch off.
4. Open the fuel-gas valve and light the torches at once, then open the preheat-oxygen valve and adjust to a neutral flame.
5. Heat the start point to bright red (about 970 °C, ignition temperature).
6. Open the cutting-oxygen valve, set the pressure, then switch the carriage on and set the speed.

6.3 Ending the cut

1. Close the cutting-oxygen valve.
2. Close the preheat-oxygen valve and then the fuel-gas valve.
3. Switch off the carriage (or disengage the clutch).
4. After work, switch off and unplug the machine, close the cylinder valves and release the pressure from the hoses.

▲ CAUTION

Never change the DIRECTION switch while the motor is running. Always switch the motor off first, otherwise the gears can be damaged and the fuse can blow. Damage caused this way is not covered by the warranty.

6.4 During the cut, watch

- that the travel speed is constant;
- that the gap between nozzle and plate stays constant;
- that the hoses and cable do not drag or catch.

Note: The actual travel speed at one dial setting can vary slightly with the supply voltage and the state of the lubrication. In cold workshops, run the carriage without load at high speed for about 5 minutes before cutting, to warm up the lubricant.

7 Circle cutting



Fig. 7.1 Radius bar and centre pin

1. Make a small centre-punch or 60° locating hole in the plate at the centre of the circle.
2. Fit the radius bar to the carriage and place the centre pin in the locating hole.
3. Set the radius on the bar and tighten the locking screw. Turn the centre pin to raise the radius bar until the wheel on the pin side lifts off the plate, then lock the pin height.
4. For small circles mount the radius bar on the same side as the torch; for large circles on the opposite side.
5. Loosen and swing away the caster on the radius-bar side if it is in the way.
6. If the cut does not start at the plate edge, drill a start hole on the cut line so that the plate near the start point is not damaged.
7. Light the torch, preheat, open the cutting oxygen and switch on: the carriage travels round the centre and cuts the circle or arc.

8 Maintenance and storage

▲ WARNING
Switch off and unplug the machine and close the gas supply before any maintenance.

Interval	Work
Before each lighting	Check hoses, hose connections, valves and torches for leaks.
After each use	Remove spatter and dust; clean the guide rail; clean the nozzles with the tip cleaner (never with steel wire).
Regularly	Check that the torch holders, bar and mast are tight; check the power cable and plug.
Once a year	Refill the gearbox with lubricant (have it done by a qualified technician).

- The machine must be used, maintained and checked by trained persons, and serviced at regular intervals.
- Store the machine in a dry room free of corrosive gases, and protect it from moisture.
- Transport the machine in its packing; protect the rail from bending.
- Keep oil and grease away from all oxygen parts (see Section 1.1).

9 Troubleshooting

Fault	Possible cause	Remedy
No power to the carriage (lamp off)	No supply at the socket; fuse blown; loose wire at the plug, socket or switch	Restore the supply; replace the fuse (2 A); reconnect the wire
Power lamp on but motor does not run	Poor contact between motor plug and socket, or loose wire; motor brushes stuck; motor faulty	Reconnect the motor wiring; free and clean the brushes; replace the motor
Speed cannot be adjusted	Poor contact in the speed potentiometer	Repair the contact or replace the potentiometer
Gas leaks and burns between torch and nozzle	Nozzle nut loose; copper oxide or dirt on the outer torch seat; dirt on or damage to the nozzle cone	Tighten the nut; clean the torch seat lightly with fine emery paper; clean the nozzle cone, replace the nozzle if deeply damaged
Flame goes out when the cutting oxygen is opened	Cutting oxygen leaks into the preheat passage: dirt on the inner torch seat or on the small nozzle cone	Clean the inner torch seat and the nozzle cone lightly with fine emery paper; replace a damaged nozzle
Plate is not cut through	Nozzle too small; flame too weak; cutting oxygen pressure too low; cutting-oxygen bore blocked; oxygen purity too low; oxygen leaking into the preheat passage	Use the correct nozzle; increase the flame; raise the oxygen pressure; clean the bore with the tip cleaner; use oxygen of 95% purity or more; clean and reseat the nozzle
Straight cut not straight	Plate not level or distorted; cutting stream not straight; rail not level or bent; torch not clamped firmly	Level the plate; set the torch square and clean the nozzle; correct the rail; tighten the torch holder, bar and mast
Carriage slips or speed uneven	Hoses too long and dragging; dirt on the rail; clutch not fully engaged	Move the hoses closer; clean the rail; engage the clutch fully

If the fault cannot be cleared, contact Cruxweld service and state the model and the serial number from the rating plate.

10 Warranty

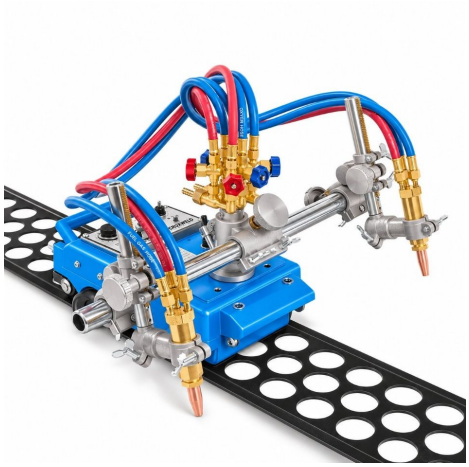
Cruxweld warrants the GLIDO 2T against defects in material and workmanship for the period stated on the quotation and invoice. During this period Cruxweld will repair or replace parts that are found to be defective due to faulty material or workmanship.

The warranty does not cover nozzles, hoses and other wearing parts, or damage caused by transport or improper storage, operation not in line with this manual (for example changing direction with the motor running), oil or grease in the gas system, or dismantling and repair by unauthorised persons.

Model	GLIDO 2T
Serial number	
Invoice no. / date	
Customer	
Dealer stamp	

For service and spare parts please contact:

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