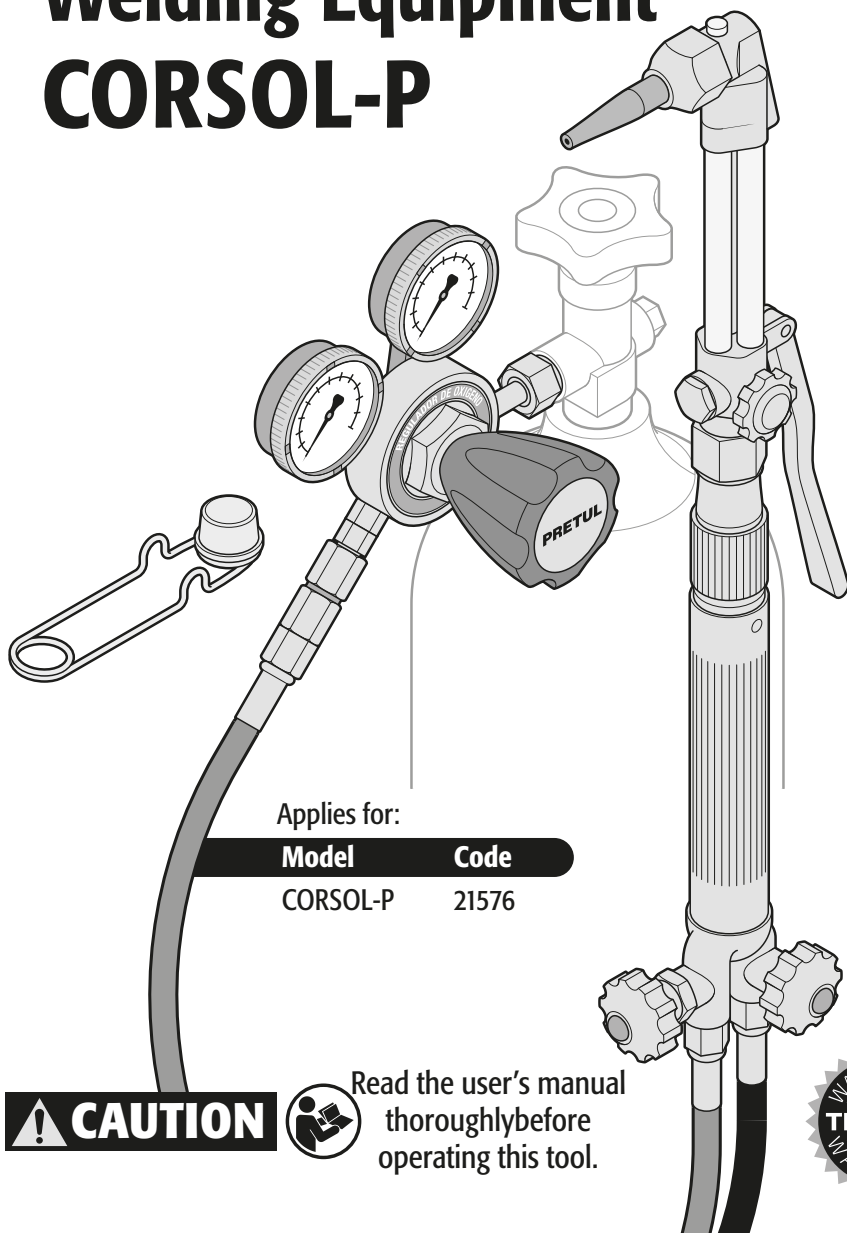


Manual

# Cutting and Welding Equipment **CORSOL-P**

**Heavy Duty**



Applies for:


Model	Code
CORSOL-P	21576

**CAUTION**



Read the user's manual  
thoroughly before  
operating this tool.



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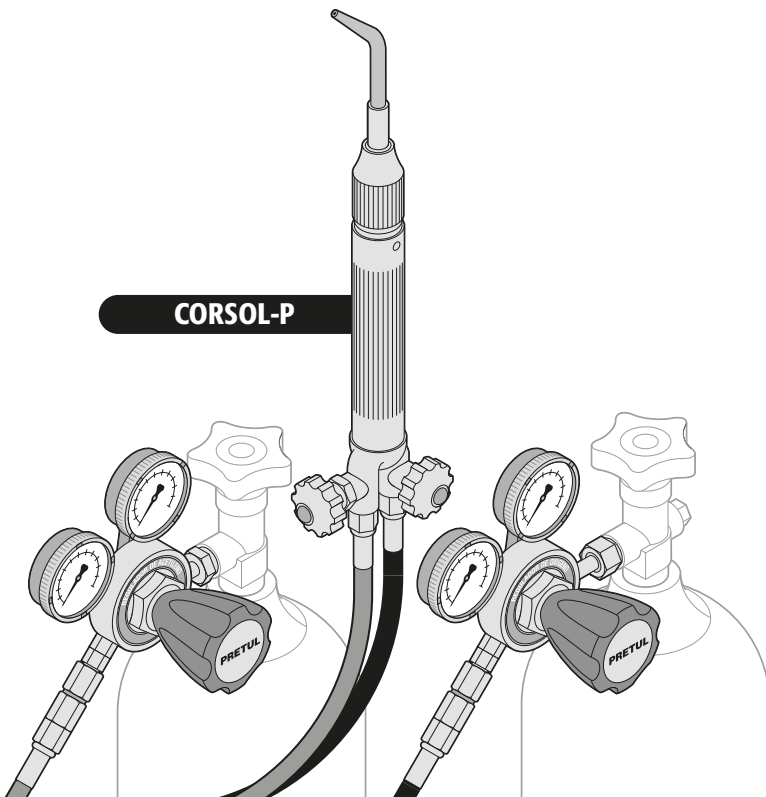
## **CAUTION**

To gain the best performance of the tool, prolong the duty life, make the Warranty valid if necessary, and to avoid hazards of fatal injuries please read and understand this Manual before using the tool.

Keep this manual for future references.

The illustrations in this manual are for reference only. They might be different from the real tool.

**CORSOL-P**



# ⚠ Safety Warnings ⚠

# PRETUL®

**⚠ CAUTION** There are many risks associated with the use of oxyacetylene welding. Appropriate safety measures should be taken when working with this equipment.

## Work Area

• Before welding or cutting, make sure that the working area is in perfect conditions to avoid accidents.

**⚠ WARNING** • Work in well-ventilated areas.

## Safety equipment

**⚠ CAUTION** • Always keep a fire extinguisher handy.

**⚠ CAUTION** • Use reverse flow check valves or check valves on all connections. These safety valves help prevent accidents caused by gas backflow or flame blowback in the system.

• Always use welding glasses to protect your eyes from sparks or flares.

• Always wear special welding gloves and watch out for sparks that could fall into your wrists.

**⚠ WARNING** • Do not wear torn or broken clothing: a spark could ignite the fabric.



## Cylinder handling

**⚠ WARNING** • Do not smoke near the cylinders.

**⚠ CAUTION** • Handle the cylinders with care. Avoid dropping or hitting them and do not expose them to heat or flame. Remember that the cylinders must always be in an upright position.

**⚠ CAUTION** • Secure the cylinders in place before making connections to prevent them from falling out. It is recommended that they be mounted and chained to a loading trolley.

• Never use a cylinder that is dented.

• Cylinder protection caps should be in place whenever you move the cylinders or when you are not using them.

• Empty cylinders must be stored in a specific location and clearly marked as "Empty".

• Under no circumstances should you alter or force the cylinder connections.



## Connections

**⚠ WARNING**

• Do not smoke near the connections.

**⚠ WARNING** • Do not use oil or grease on the connections under any circumstances. The equipment does not require lubrication. Oil and lubricants burn violently in the presence of pressurized oxygen.

**⚠ CAUTION** • Make sure that all connections and hoses are in good condition. Replace any damaged ones immediately.

• When installing the connections, make sure that they are tight.

**⚠ CAUTION** • Use soapy water to detect any leaks and correct them before turning on.

**⚠ CAUTION** • Under no circumstances allow damaged or missing "O" rings on the cone tip. Should this happen, gases will mix inside the material, which could cause the flame to be reversed or an explosion to occur.



## Pressure

**⚠ CAUTION** • Purge the oxygen and acetylene passages separately before switching on (see page 5 and 6).

• Avoid wasting gas by using the proper pressure settings. If gauges indicate external pressure, correct immediately.

• The working pressure in the acetylene gauge should NEVER exceed 15 PSI (1.03 bar).

**⚠ CAUTION** • Purge the entire system after each use (see page 9). DO NOT disconnect the equipment with the cylinder valves open.

• In case of a leak, move the cylinder to an open area away from flammable material and immediately report it to your supervisor or to Civil Protection.

## Restrictions on use

**⚠ WARNING** • Never use oxygen to air-blow the workplace or your clothes. Any spark may cause a fire.

• Do not work with damaged or leaking equipment.

• Do not use the torch as a hammer or to remove burrs from work material.



Oxygen gauge  
with  
control valve

Acetylene gauge  
with  
control valve

Shade protection  
lenses #10

Check valve  
(not included)

Regulating  
knob

Regulating  
knob

Check valve  
(not included)

Cutting Nozzle #4

Multi-purpose  
wrench

Casserole lighter  
spare parts

Welding  
Nozzle

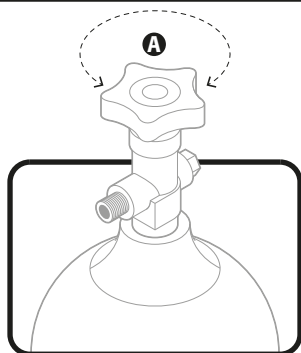
Cutting  
control

Casserole  
lighter

Nozzle  
opener

Brass  
torch

14.7 ft double  
oxyacetylene hose

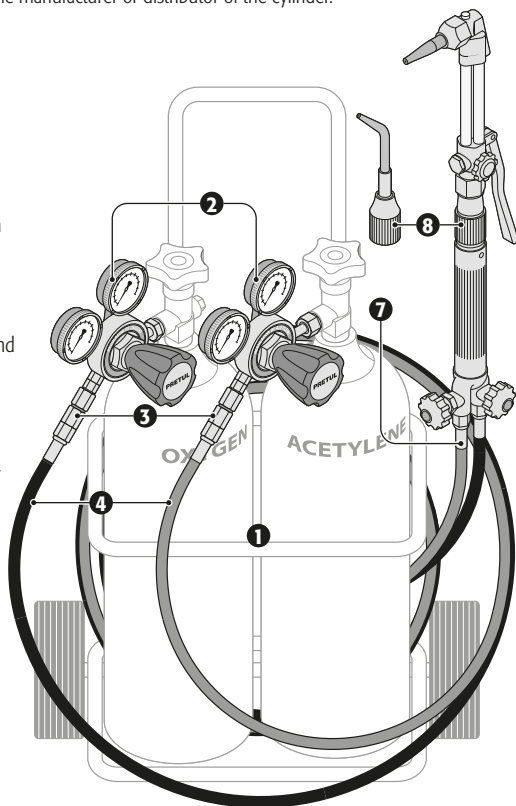
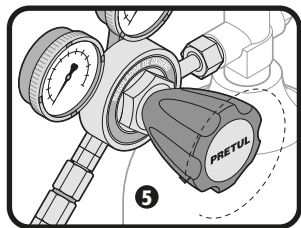


**⚠ CAUTION** • Make sure you are in a place free of flames and sparks when preparing the equipment.

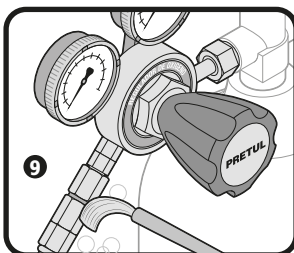
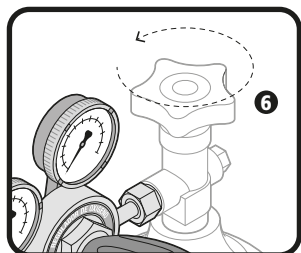
**⚠ CAUTION** • Before making connections, be sure to remove any dust or dirt particles from the outlet valves of both cylinders. Stand to one side of the tank and open the valve (A) for two seconds to expel any particles that may enter the system causing damage or accidents.

**⚠ CAUTION** • If you detect grease or oil, do not use the cylinder at all and contact the manufacturer or distributor of the cylinder.

1. Vertical or secured cylinders.
2. Gauges connected to the corresponding gas. Use a wrench for a firm connection. Be sure to tighten them in the correct direction: usually clockwise for oxygen, counterclockwise for acetylene.
3. It is recommended to use check valves connected to the gauges.
4. Hoses connected to the valves. Green is for oxygen and red is for acetylene. Tighten the couplings firmly with a wrench. If you detect any signs of grease or oil, stop use immediately.
5. Fully open the gauge handles by turning them counterclockwise. **⚠ CAUTION** If you do not do this, the pressure in the cylinder may damage the gauges.



6. Clean the inside of each hose by slowly opening the cylinder valve to 34.4 kPa (5 PSI) (0.34 bar). Allow the gas to flow for 10 seconds to expel any debris from the inside of the hose and close the valve. Repeat the procedure with the other hose. **⚠ CAUTION** The valve of the acetylene cylinder must not be turned more than one turn when opening it.
7. Connect the hoses to the corresponding holes in the torch. Tighten the couplings firmly with a wrench.

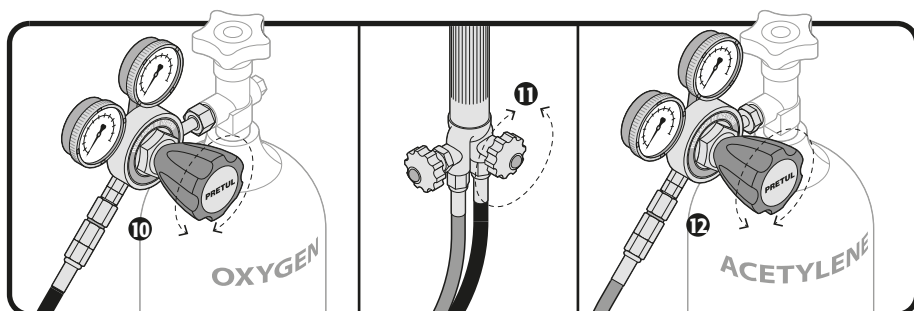


8. Connect the welding nozzle or cutting torch to the torch.
9. Apply soap solution to all connections to detect possible leaks. Open valves on both cylinders and correct any leaks by tightening connections. If leakage persists, stop work and contact your supplier.

**10.** Set the appropriate oxygen pressure for the job to be performed according to the tables in the following section.

**11.** Open the oxygen valve on the torch for two seconds and close it.

**12.** Adjust the acetylene pressure suitable for the job to be performed according to the tables in the following section.



## Pressure Adjustments

**CAUTION** To obtain better results in consumption and performance of the equipment, it is recommended that you adhere to the pressures indicated in the tables.

### SOLDERING TIPS

Metal thickness (mm)	Nozzle number	OXYGEN pressure (kPa - PSI - bar)		ACETYLENE pressure (kPa - PSI - bar)	
		Minimum	Maximum	Minimum	Maximum
0.4 - 1.2 (1/64" - 3/64")	00	20.6 kPa (3 PSI)(0.21 bar)	34.4 kPa (5 PSI)(0.345 bar)	20.6 kPa (3 PSI)(0.2 bar)	34.4 kPa (5 PSI)(0.34 bar)
0.8 - 2 (1/32" - 5/64")	0	20.6 kPa (3 PSI)(0.21 bar)	34.4 kPa (5 PSI)(0.345 bar)	20.6 kPa (3 PSI)(0.2 bar)	34.4 kPa (5 PSI)(0.34 bar)
1.2 - 2.4 (3/64" - 3/32")	1	20.6 kPa (3 PSI)(0.21 bar)	34.4 kPa (5 PSI)(0.345 bar)	20.6 kPa (3 PSI)(0.2 bar)	34.4 kPa (5 PSI)(0.34 bar)
1.6 - 3.2 (1/16" - 1/8")	2	20.6 kPa (3 PSI)(0.21 bar)	34.4 kPa (5 PSI)(0.345 bar)	20.6 kPa (3 PSI)(0.2 bar)	34.4 kPa (5 PSI)(0.34 bar)
3.2 - 4.8 (1/8" - 3/16")	3	27.5 kPa (4 PSI)(0.27 bar)	48.2 kPa (7 PSI)(0.48 bar)	20.6 kPa (3 PSI)(0.2 bar)	41.3 kPa (6 PSI)(0.41 bar)
4.8 - 6.3 (3/16" - 1/4")	4	34.4 kPa (5 PSI)(0.34 bar)	68.9 kPa (10 PSI)(0.69 bar)	27.5 kPa (4 PSI)(0.27 bar)	41.3 kPa (6 PSI)(0.41 bar)
6.3 - 12.7 (1/4" - 1/2")	5	41.3 kPa (6 PSI)(0.41 bar)	82.7 kPa (12 PSI)(0.83 bar)	27.5 kPa (4 PSI)(0.27 bar)	48.2 kPa (7 PSI)(0.48 bar)

## HEATING TIPS WITH MULTIPLE OXYACETYLENE FLAME

Nozzle No.	ACETYLENE pressure (kPa - PSI - bar)	OXYGEN pressure (kPa - PSI - bar)	ACETYLENE (l/h - ft <sup>3</sup> /h)		OXYGEN (l/h - ft <sup>3</sup> /h)	
			Minimum	Maximum	Minimum	Maximum
6	27.5 kPa - 41.3 kPa (4 PSI - 6 PSI) (0.27 bar - 0.41 bar)	55.1 kPa - 75.8 kPa (8 PSI - 11 PSI) (0.55 bar - 0.76 bar)	396.4 l/h (14 ft <sup>3</sup> /h)	1 132.6 l/h (40 ft <sup>3</sup> /h)	424.7 l/h (15 ft <sup>3</sup> /h)	1 245.9 l/h (44 ft <sup>3</sup> /h)
8	55.1 kPa - 82.7 kPa (8 PSI - 12 PSI) (0.55 bar - 0.83 bar)	68.9 kPa - 124.1 kPa (10 PSI - 18 PSI) (0.69 bar - 1.24 bar)	849.4 l/h (30 ft <sup>3</sup> /h)	2 265.2 l/h (80 ft <sup>3</sup> /h)	934.4 l/h (33 ft <sup>3</sup> /h)	2 491.8 l/h (88 ft <sup>3</sup> /h)

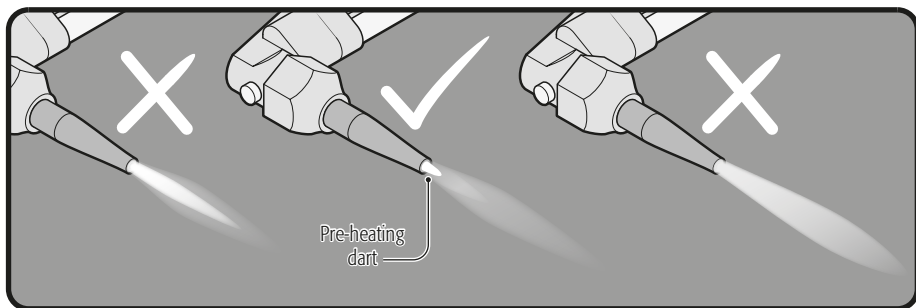
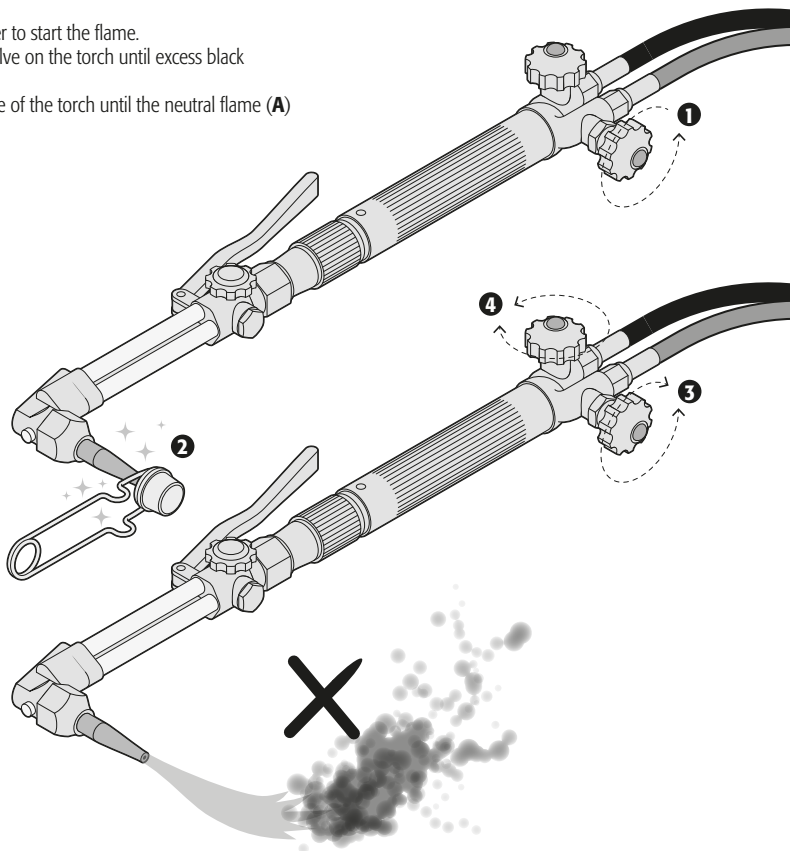
## OXYACETYLENE CUTTING NOZZLES

Metal thickness (mm)	Nozzle number	OXYGEN pressure (kPa - PSI - bar)	ACETYLENE pressure (kPa - PSI - bar)
3.1 - 6.3 (1/8" - 1/4")	00	172.3 kPa - 241.3 kPa (25 PSI - 35 PSI) (1.7 bar - 2.4 bar)	41.3 kPa (6 PSI) (0.41 bar)
9.5 (3/8")	0	172.3 kPa - 241.3 kPa (25 PSI - 35 PSI) (1.7 bar - 2.4 bar)	41.3 kPa (6 PSI) (0.41 bar)
12.7 - 25.4 (1/2" - 1")	1	241.3 kPa - 310.2 kPa (35 PSI - 45 PSI) (2.4 bar - 3.1 bar)	41.3 kPa (6 PSI) (0.41 bar)
50.8 (2")	2	310.2 kPa - 344.7 kPa (45 PSI - 50 PSI) (3.1 bar - 3.4 bar)	41.3 kPa (6 PSI) (0.41 bar)
76.2 - 101.6 (3" - 4")	3	310.2 kPa - 379.2 kPa (45 PSI - 55 PSI) (3.1 bar - 3.7 bar)	41.3 kPa (6 PSI) (0.41 bar)
170 (6 1/2")	4	379.2 kPa - 448.1 kPa (55 PSI - 65 PSI) (3.7 bar - 4.4 bar)	41.3 kPa (6 PSI) (0.41 bar)
250 (10")	5	572.2 kPa (83 PSI) (5.72 bar)	41.3 kPa (6 PSI) (0.41 bar)
300 (12")	6	689.4 kPa (100 PSI) (6.89 bar)	41.3 kPa (6 PSI) (0.41 bar)

**⚠ CAUTION** Never raise the pressure in the acetylene gauge above 103.4 kPa (15 PSI) (1.03) bar).

## To turn on

1. Open the ACETYLENE valve on the torch approximately 1/2 turn.
2. Use the casserole lighter to start the flame.
3. Turn the ACETYLENE valve on the torch until excess black smoke is cleared.
4. Open the OXYGEN valve of the torch until the neutral flame (A) appears.



Oxidizing flame  
(excess oxygen)

**A** Neutral flame  
(perfect gasses balance)

Fuel flame  
(acetylene in excess)



## To cut

- Bring the flame closer to the piece you're going to cut.
- Place the tip of the preheat dart on top of the material.
- Heat the material up to the "bright red".
- Slowly press the oxygen lever to start the cut.
- Move the nozzle of the torch in the direction required for the cut.

**⚠ CAUTION** In the case of handles, open the oxygen valve completely for better performance.

## To turn off

- Close the oxygen valve on the torch.
- Close the acetylene valve on the torch.
- Close the valves on both cylinders.
- Open the torch acetylene valve to drain the line and close the valve.
- Open the oxygen valve of the torch to empty the line and close the valve.
- Release the gauge handles by turning them counterclockwise.

# Troubleshooting

## Problem

## Cause

## Solution

Welding nozzle is thrown away.

- The line pressure is too low.
- The nozzle is too long.
- It's too close to the work piece.

- Increase line pressure. See tables on pages 6 and 7.
- Use the next smaller nozzle size.
- Move nozzle away from workpiece.

The flame is not clearly defined, not uniform or even.

- The nozzle is dirty.

- Use the nozzle opener to clean it.

Gauge pressure is no constant.

- The seal is defective.

- Go to a  **TRUPER®** Authorized Service Center to replace the gauge.

The cutting nozzle is thrown away.

- The nozzle is loose.
- The seal is pinched.

- Tighten the nozzle.
- Replace the nozzle.

There's dripping around the control valve.

- The gauge handle is loose.

- Tighten the handle.

It's difficult to light the torch.

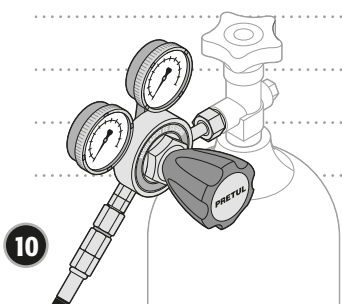
- There's too much pressure on the line.

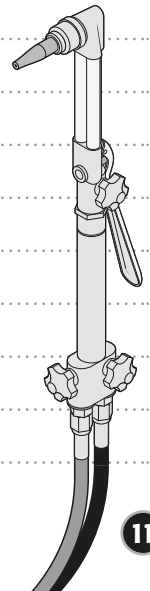
- Decrease the line pressure. See tables on pages 6 and 7.

The flame changes when you cut.

- The oxygen control valve is partially closed.
- The oxygen cylinder is almost empty.

- Open the oxygen control valve further.
- Replace the oxygen cylinder with a full one.





For questions or comments, please call **800 0187873**.

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