Piercing on Mild steel-O_2:

All the following solutions are reliable only if the following conditions are verified:

-Oxygen purity at least 99,95% (or 3.5).
-Lens and nozzle not damaged.
-Good quality material (certified, without oxidation, calamin or paint).
-Laser mode without distortion (air free of acid or solvent).

Problem	Possible reasons	Possible solutions
The piercing explodes at the beginning. 	-Duty value too high. -Pressure too high. -Focal point too deep.	-Decrease Duty in the first lines by step of 1-2% -Decrease gas pressure in all lines by step of 0.1 bar. -Move up focal point by step of 0.1-0.2 mm in the first lines.
The piercing explodes in the middle of the process. 	-Duty value too high. -Pressure too high. -Focal point too deep.	-Decrease Duty in all lines by step of 1-2% -Decrease gas pressure in all lines by step of 0.1 bar. -Move up focal point by step of 0.1-0.2 mm in all lines.
The piercing explodes between the end of piercing and the beginning of cutting. 	-Not enough time to pierce the material	-Increase the piercing time of the last line by step of 0.5 sec. -Increase duty by step of 1-2% in all lines. -Increase pressure by step of 0.1 bar in all lines.