

# LASER WELDING.



Laser welding opens a new chapter on welding as we know it. The laser is a source of heat, but has the most unique ability to focus the heat on a tiny spot. The tiny spot can be as small as 0.3 mm in diameter. This allows new metal to be fused into the parent, but at a new level of precision, but with the penetration and integrity of a conventionally fused deposit.

Carr's were the first company in the UK to offer precision tool welding with an Nd Yag laser.



The laser is focused on the area to be welded and a similar filler material is then added by hand. The laser is pulsed and at every pulse a small area of filler material is welded onto the work-piece. Several pulses per second allow small areas to be built up, without any residual heat effecting nearby tolerances.

Good conducting materials like aluminium and copper alloys are welded easily, where normally a conventional weld would allow the heat to dissipate quickly. Most small edges or areas to be repaired can be laser welded using bare hands, for control and maximum accuracy.

Most steels around 55 RC weld well, and all the normal "H13", "2767" and stavax type materials are easily matched to welding consumables. Some sintered steels are more difficult to weld.

For more details contact your local agent or the works, see overleaf for telephone or email numbers.

Laser welding means:—

- ◆ Tool damage repaired locally.
- ◆ Metal added on top of water ways.
- ◆ Insert lines welded with no witness.
- ◆ Water or vacuum leaks sealed.
- ◆ No residual heat or sinking.
- ◆ All metals can be welded.

*Now laser welding with new 0.1mm diameter wires upto 60RC hardness.*