

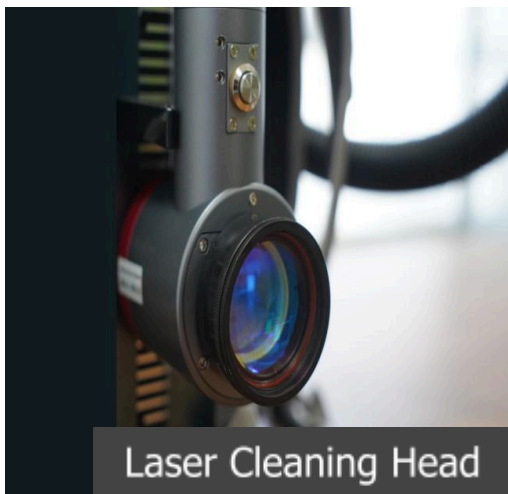


Backpack Laser Cleaning Machine with Battery Model : RL



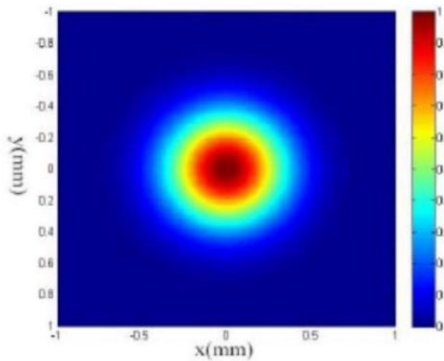
Specification

Model	RL-C100B	RL-C200B
Laser source	Fiber	Fiber
Laser Power	100 W	200 W
Fiber cable	1.5 M	1.5 M
Pulse Energy	1.7mJ	2mJ
Wavelength	1064 nm	1064 nm
Frequency	20-200 KHZ	1-3000 KHZ
Pulse Width	150-190 ns	13-500 ns
Cooling	Air cooling	Air cooling
Beam width	100 mm	145 mm
Scan model	supporting 8 scanning mode	supporting 9 scanning mode
Temperature	5-40 °C	5-40 °C
Humidity	<90%	<90%
Size	213*168*339 mm	268*191.5*445 mm
Voltage	220 V,50/60 HZ	220 V,50/60 HZ
Power consumption	600 W	800 W
Battery working time	90 minute	80 minute
Battery weight	3.5 kg	4.5 kg
Machine weight	8.5 kg	12.5 kg

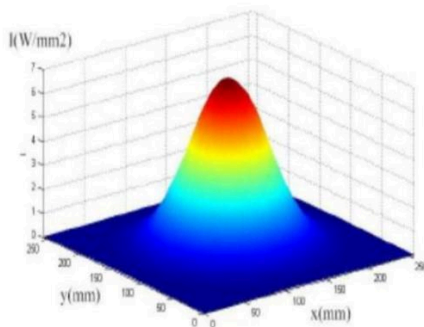


JPT pulsed laser sources

The core of the single-mode laser source is thinner, and the beam quality is better than that of the multi-mode laser source.



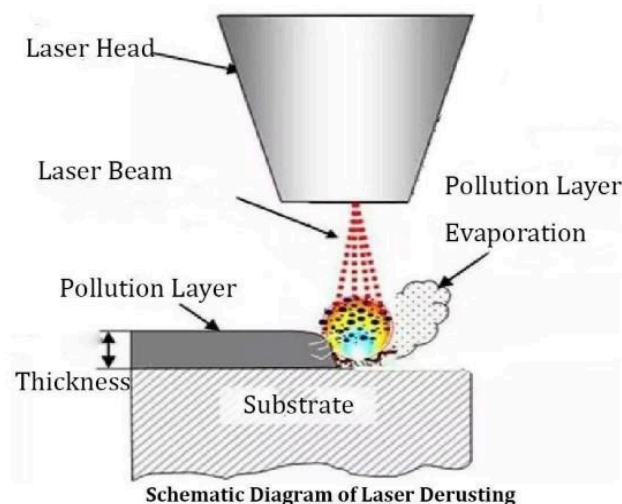
Two-dimensional light intensity distribution of a single-mode laser source



Three-dimensional light intensity distribution of a JPT single-mode laser source

Laser Cleaning Applications

1. Laser rust removal



Laser rust removal is to use the characteristics of high energy, high frequency and high power of laser to deposit high energy in a small area instantaneously, and use high temperature to burn the oxide layer.

Rust Removal (Sample Photos 01):



Before and after welding cleaning



Steel member surface cleaning



Chrome-plated mold cleaning

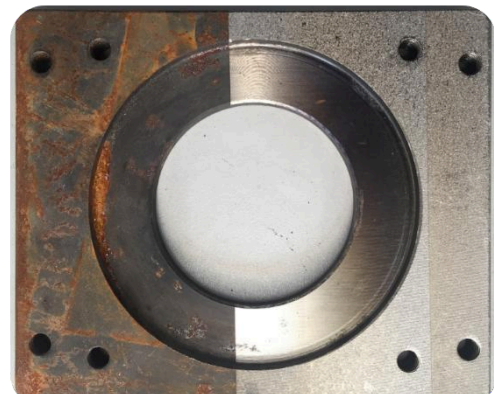


Tire mold cleaning

Rust Removal (Sample Photos 02):



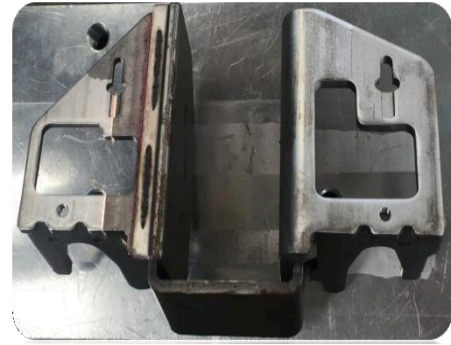
Mold derusting



Steel member surface cleaning



Auto part cleaning



Bogie cleaning

2. Laser paint removal

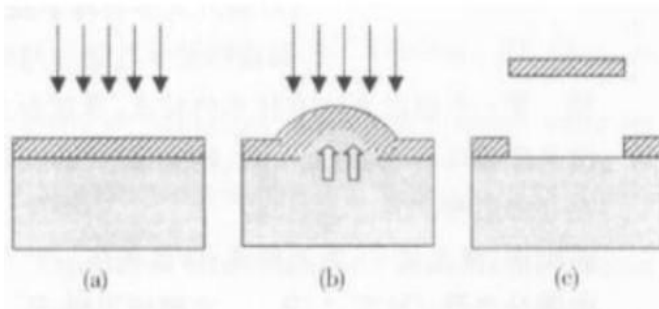


Figure 1 Principle of vibration effect

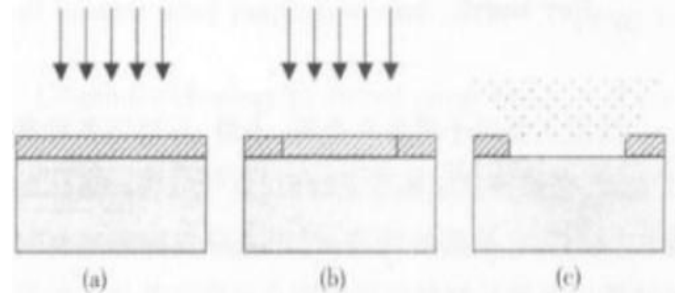


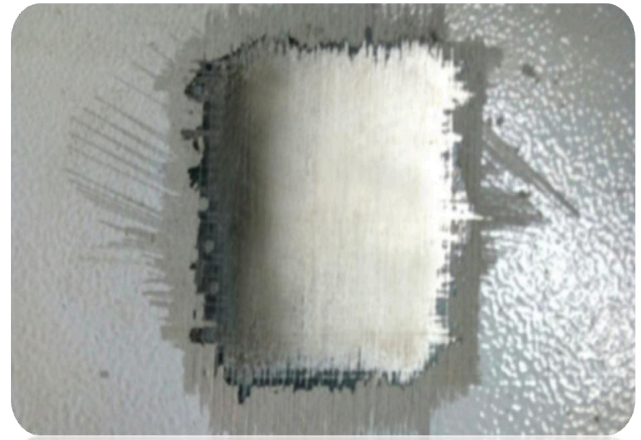
Figure 2 Principle of the burning effect

Laser paint removal process is actually a process in which the laser beam interacts with the paint layer and the substrate. When the laser is irradiated to the surface of the paint layer, the paint layer and the substrate will absorb part of the energy of the laser. At this time, the temperature of the paint layer and the substrate will increase, and the paint layer, especially the substrate, will thermally expand due to the increase in temperature (Figure 1) Rapid thermal expansion in a short period of time will cause a huge vibration force at the junction of the paint layer and the substrate to overcome the adhesion, and finally make the paint layer separate from the substrate. When the laser is irradiated to the surface of the paint layer, the temperature of the paint layer will increase. For a small part of the paint layer with extremely low transmittance, it is difficult for the substrate to absorb enough laser light to produce sufficient intensity of the vibration effect, so The paint will be vaporized after absorbing relatively more laser energy, as if the paint layer is ablated. Call this laser paint removal method ablation effect (Figure 2).

Paint Removal (Photo):

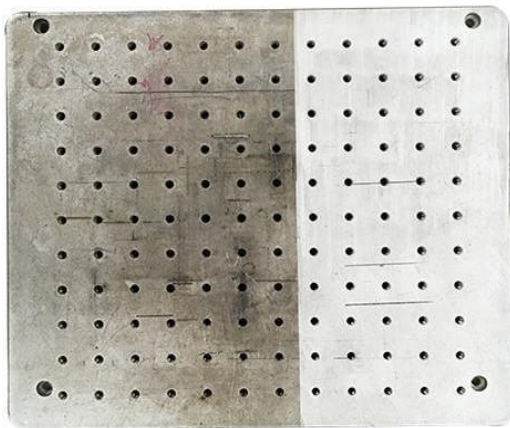


Laser paint removal of auto part



White metal painting cleaning

3. Grease Removal



Laser grease removal is to use rapid and concentrated pulses to impact with great power and vaporize the residue on the surface, and the short-term impact will not heat the metal surface and cause no damage to the substrate.

Grease Removal (Sample Photos):



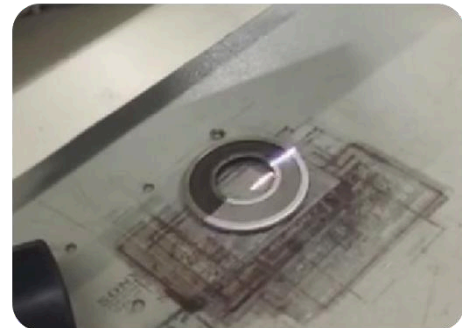
Engine degreasing



Bearing laser degreasing



Sucker rod degreasing



Engine filter removal

4. Rubber Glue Removal:



There are two ways to remove rubber glue by laser:

01: High temperature generated by the laser causes the surface of the rubber to burn and vaporize;

02: Deep layer of the rubber is heated by vibration and the thermal shock of the laser pulse causes the rubber particles on the surface of the aluminum sheet to splash.

Rubber Glue Removal (Sample Photos):



Auto parts glue removal



Rubber molds removal

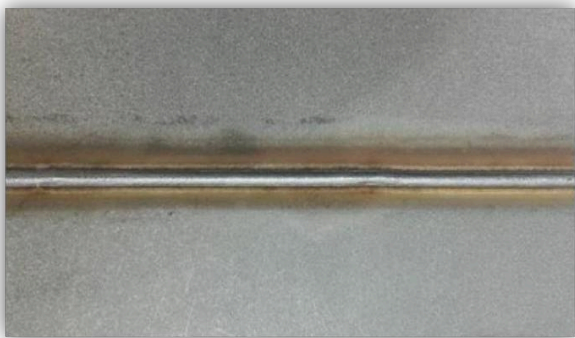


Rubber molds removal

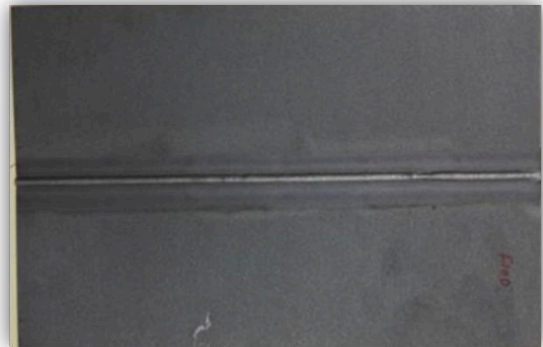


When the laser is irradiated to the oxidized surface, the temperature of the oxide layer will increase, and the resulting high temperature causes the oxidized surface to burn and vaporize instantly.

Sheet welds cleaning



Before



After

Aluminum back cover



Before



After