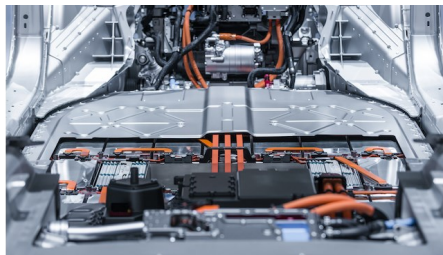
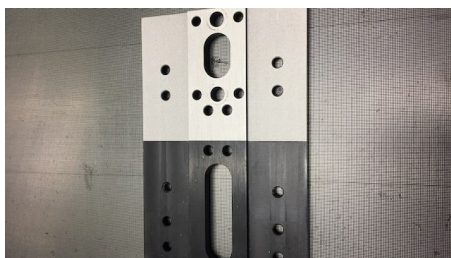


MAY 2, 2023



Disabling electric vehicles prior to collision repairs

Even an experienced collision tech should seek out training to accomplish safe and effective R&R on a battery electric or hybrid electric vehicle.



A 'bright' idea? How lasers can be used for surface prep in remanufacturing and repair

For vehicle remanufacturers, laser systems remove grease, residue, contaminants, corrosion, and existing coatings from metal surfaces quickly with less preparation and mess than traditional techniques.

PRODUCTS

ADAS APPLICATIONS
WHAT THEY ARE & WHAT THEY DO

- ACC (ADAPTIVE CRUISE CONTROL)**: Adjusts vehicle speed to maintain a safe distance from the vehicle ahead.
- ABS (ANTI-LOCK BRAKING SYSTEM)**: Prevents wheel lock-up during braking, maintaining steering control.
- BSM (BLIND SPOT MONITORING)**: Alerts the driver of vehicles in the blind spot.
- LDW (LANE DEPARTURE WARNING)**: Alerts the driver if the vehicle drifts out of its lane.
- TPMS (TIRE PRESSURE MONITORING SYSTEM)**: Monitors tire pressure and alerts the driver if it is low.
- FCM (FOLLOW-TOGETHER CANCEL)**: Cancels the adaptive cruise control when the vehicle ahead changes lanes or brakes.
- FCM (FOLLOW-TOGETHER CANCEL)**: Cancels the adaptive cruise control when the vehicle ahead changes lanes or brakes.
- FCM (FOLLOW-TOGETHER CANCEL)**: Cancels the adaptive cruise control when the vehicle ahead changes lanes or brakes.

Autel announces ADAS buyer's guide

The company redesigned its ADAS website pages, providing customers with a resource for shops looking to add ADAS calibrations to their list of services.



Comes with a lockable case

The Dynamic Tools 28-pc Insulated Tool Set, No. D113000, includes a 1/2" drive ratchet with a selection of extensions and six-point metric sockets. It also contains open-ended metric wrenches, slotted screwdrivers, Phillips screwdrivers, side-cutting pliers, lineman's pliers, and long-nose pliers. Each tool has been tested to 10,000 AC and is VDE certified...

3M Science.
Applied to Life.™

Available Now >

3M™ Perfect-It™ Random Orbital Polishing System

Swirl marks are a thing of the past.



LKQ purchase of Uni-Select nears completion

Uni-Select shareholders have approved the plan of arrangement with LKQ Corp.

INTRODUCING THE BEST YOUNG TECH AWARD

Nominate yourself or a passionate technician you know.

DEADLINE: JUNE 2, 2023 MORE INFO >>

BROUGHT TO YOU BY:

- CalQuEST Technical Institute
- WTI WORKFORCE Training Institute
- TECHFORCE FOUNDATION



Commonly-used heater hose fittings

The S.U.R.&R. Coolant Line Connector Repair Kit, No. CLC50, is designed to make coolant line repairs simple by providing a convenient assortment of most commonly-used heater hose fittings to easily replace cracked or damaged OE connectors. The 75-pc kit includes 28 fittings plus seal clamps, retaining clips, and 360-degree seal clamp pliers. The easy...

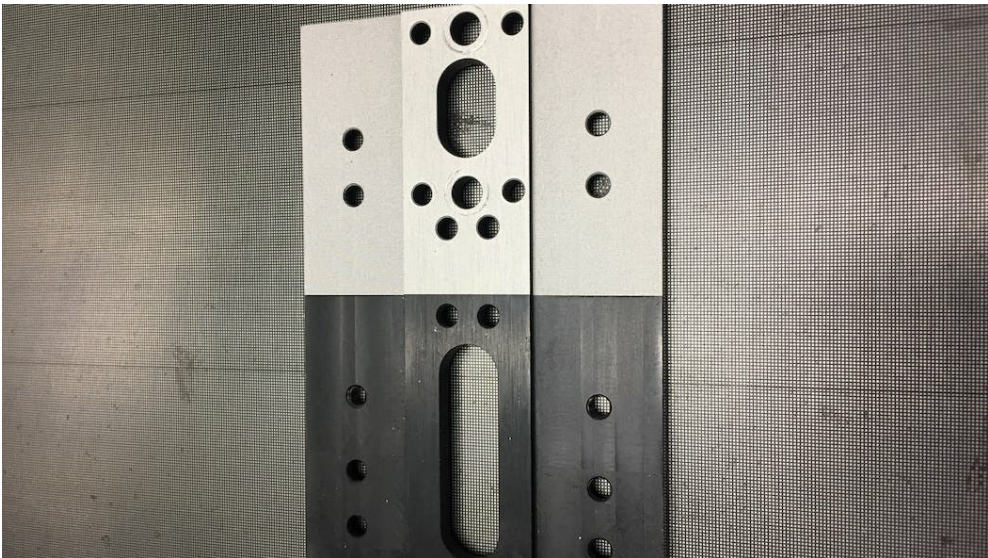
DISTRIBUTION > PARTS DISTRIBUTOR > AFTERMARKET TECHNOLOGY

A 'bright' idea? How lasers can be used for surface prep in remanufacturing and repair

For vehicle remanufacturers, laser systems remove grease, residue, contaminants, corrosion, and existing coatings from metal surfaces quickly with less preparation and mess than traditional techniques.

May 1, 2023

Related To: [Laser Photonics](#)



Laser systems quickly remove corrosion, grease, residue, and existing coatings from automotive metal surfaces.

[View Image Gallery](#)

In vehicle remanufacturing, core products like engines must be returned to essentially new condition in both quality and performance through a controlled, reproducible, sustainable process. The process typically involves disassembly, inspection, and replacing unsalvageable parts. In the remanufacturing process, removing grease, residue, contaminants, corrosion, and old coatings before applying a new coating is often important to assure proper adhesion. By ensuring the items are cleaned down to bare metal, remanufacturers and repair shops can avoid costly warranty issues that otherwise result when corrosion and contaminants cause performance issues and coatings peel, flake, bubble, or fail prematurely.

Unfortunately, the traditional techniques used for this purpose – such as abrasive media blasting, dry ice blasting, and chemical stripping – are messy and require expensive consumables, as well as substantial time for preparation and cleanup. These


LATEST IN AFTERMARKET TECHNOLOGY

Industry News

Continental adds OEM knock, cam, and crankshaft sensors to...

Continental


March 27, 2023



Service Repair

PurePower and S&S Diesel Motorsport unveil DCR replacement fuel...

Feb. 17, 2023



MOST READ

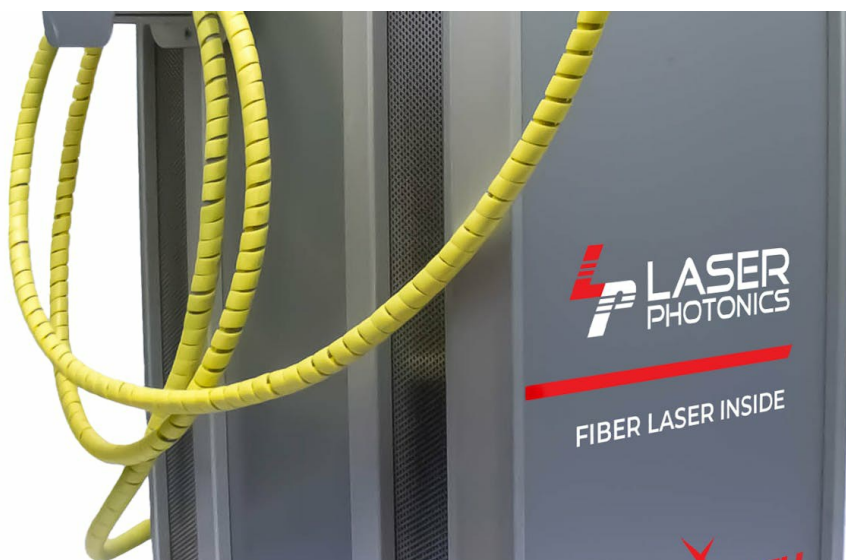
methods are also drawing scrutiny from regulators like the EPA and OSHA since they can pose risks to the environment and applicators.

Today, a more effective alternative is utilizing industrial-grade, precision laser-based systems that can remove residues, contaminants, paint, and rust with a high-energy laser beam that leaves the substrate unaffected. Preparation and cleanup time are minimal, and the low-maintenance equipment can last decades.

According to Vincent Galiardi, owner of Galiardi Laser Clean, a surface cleaning operator based in St. Charles County, Missouri, many people are surprised to learn that clean technology lasers are the most cost-effective, efficient, and safest method of vehicle component surface preparation.

“Many people are unfamiliar with the use of lasers to pretreat metal surfaces,” Galiardi said. “When I do a demonstration, at first the people in attendance are skeptical. But after I use the laser to treat a small area, everyone starts talking and getting excited. By the end, when I let them try the equipment, everyone is having a good time and saying how great the laser works.”

Laser systems can be integrated into automated inline processing lines, or technicians can use mobile handheld units. With significant advantages in safety and efficiency, laser cleaning is poised to disrupt the surface pre-treatment market for vehicle remanufacturers.



Laser systems remove corrosion from automotive parts with less preparation and mess than traditional techniques.

Resolving conventional cleaning limitations

In vehicle remanufacturing and repair, sandblasting, dry ice-blasting, or chemical stripping are traditionally used as industrial cleaning processes to pretreat metal surfaces but have various limitations.

Sandblasting



Innovation Award Winner
Profile: Ingersoll Rand 1"
Cordless Impact Wrench



Starter operation through
the eyes of the scope



Predictive maintenance
brings revenue
opportunities

SPONSORED

Banking on Bigger Profits
with a Heavy-Duty Truck
Paint Booth



How Body Shops Can
Increase Profit by Powder
Coating Wheels In-House



Achieving Code
Compliance When
Refinishing Heavy Duty...



Abrasive sandblasting involves forcefully projecting a stream of abrasive particles onto a surface, usually with compressed air or steam. The silica sand used in abrasive blasting typically fractures into fine particles and becomes airborne, which can cause serious or fatal respiratory disease.

“When sand or any other media is used to knock off particles from a substrate, there is always a byproduct that has the potential to become airborne and inhaled,” Galiardi said. “Besides the sand, this could be the particles you’re removing – the coatings, plating, anodizing, corrosion, and even lead paint.”

Sandblasting also is time-consuming to clean up since the sand essentially scatters everywhere, even though it is usually considered a “fast” cleaning method.

Dry ice blasting

With dry ice blasting, dry ice pellets are used as the abrasive. The challenge is that dry ice blasting is often not abrasive enough to sufficiently remove paint or corrosion from the surface of metals. Since dry ice is an expensive consumable, the costs can escalate when cleaning metal surfaces in higher volumes.

Chemical stripping

With chemical stripping, harsh, even toxic chemicals are used to strip metal-based objects of paint, rust, and other contaminants to bare metal. However, for operators, exposure to corrosive acids and noxious chemical fumes is inherently dangerous. The process can also be time-consuming to prepare the proper chemical bath, achieve the required level of cleaning, and dispose of the waste. In addition, disposing of toxic chemicals is costly and closely regulated by agencies like OSHA and the EPA.

Safe, effective laser-cleaning

Laser-based systems have significant advantages over these traditional methods, including ease of use in which an operator simply points and clicks a high-energy laser beam at the surface. The substrate is not affected by the laser, and the systems do not create any mess or byproducts. The approach is eco-friendly, energy-efficient, and completes the job in half the time of traditional methods when preparation and cleanup are considered.

“In our experience, laser cleaning is as fast at removing rust or old coatings as other methods, but without the same amount of cleanup,” Galiardi said. “When we treat a surface with lasers, any fumes or dislodged particulates are extracted into a HEPA filter and the job is done. There is no media (sand, dry ice, chemicals) to replenish or clean up.”

Galiardi Laser Clean uses laser systems made by Orlando, Florida-based Laser Photonics, a leading provider of patented industrial grade CleanTech laser systems for cleaning and surface conditioning. The American-made systems function either as mobile standalone units or can be integrated into production lines.

The laser systems are available in portable and stationary models ranging from 50 to 3,000-watts (a 4,000-watt version is in development) with chamber sizes from 3’ x 3’ in size to 6’ x 12’. The systems can also be installed in remanufacturing lines in

cabinets or operated by a robotic arm.

Galiardi says that laser pre-treatment of metal surfaces can be used to streamline various remanufacturing processes. Corrosion, for example, can begin to accumulate within a very short time on remanufactured parts, depending on the material and environmental conditions, and should be removed prior to coating.

For one major auto remanufacturer, Galiardi Laser Clean was asked to remove rust from conveying system components used to transport cars through the process. The components were corroded due to being left outside during a 6-month delay in the project. When it was time to install the items, the provider wanted to first treat the surfaces and return the components to a “like new” appearance.

In another example, Galiardi was asked to remove rust from over 400 transmissions in a couple of days. The laser systems are particularly effective when reaching into tight spaces that are hard to reach by hand. By masking the area to protect vulnerable parts, the laser can be applied without affecting the rest of the assembled product.

“No other parts (of the transmission) had to be removed and nothing had to be cleaned afterwards,” he said.

Galiardi’s company also utilized the laser system to remove cleaning oils from truck chassis. “We used the laser to remove the oil right before painting so it was a bare metal object going with nothing on it that would affect the coating,” he said.

With clean laser technology, there is now an environmentally friendly alternative to abrasive blasting and chemical stripping for surface pretreatment. The approach is safer for operators and highly adaptable to a wide range of vehicle remanufacturing and repair applications.

“As people become more aware of laser-based systems and compare them to traditional methods, they need to factor in prep and cleanup time, which can significantly impact project cost. When the improved operator safety, equipment longevity, and lower maintenance of laser systems are also considered, the clean laser technology has a much higher ROI,” Galiardi said.

The longevity of low-maintenance laser systems further adds to their value, increasing ROI, and making replacement unnecessary for decades.

“CleanTech laser systems can last for 50,000 to 100,000 hours. That’s many decades working eight-hour days. After purchase, there’s virtually no maintenance necessary,” he concluded.

Sign up for Vehicle Service Pros eNewsletters

Email Address

SIGN UP

CONTINUE READING