

# Truck World

A Bosch Automotive Aftermarket magazine | Edition 26 | October 2019

## Bosch emissions analysis

Exhaust-gas testing with the BEA 950 –  
robust and precise with flexible upgrades

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Outstanding  
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## EDITORIAL

### BOSCH PRODUCTS STAND FOR QUALITY AND SAFETY



#### New Bosch products and expertise for commercial-vehicle workshops

##### Dear truck fans,

“One-size-fits-all” is a phrase you rarely hear in commercial-vehicle workshops. It is more usual for their customers to have diverse needs based on the number or age of their vehicles. Specialist expertise and tools are needed in such cases. Among other topics, this edition of Truck World Magazine reports on the high-performance BEA 850 emissions analyzer with special accessories for trucks, repairs in line with a vehicle’s fair value using Denoxtronic systems, and the new Xenon Gigalight bulbs for commercial vehicles. Naturally, this is all aimed at customers of commercial-vehicle workshops.

On behalf of the CV Team, I hope you enjoy reading and wish you a great journey into the connected workshop future!

#### Tobias Weiss



**Page 7:** Readers of WERKSTATT aktuell honor Bosch products with three “Best Brand” awards.



# Precisely measured

## Bosch emissions analysis for trucks

In order to test exhaust-gas values on commercial vehicles, Bosch has developed high-performance emissions analyzers with special accessories for trucks that can be additionally upgraded for further workshop tasks.

### BEA 950 S1/S2: CONVENIENT EMISSIONS ANALYSIS

Commercial-vehicle workshops do not exclusively perform emissions tests on diesel trucks. Many fleets today also comprise vehicles with gasoline, natural-gas, or hybrid powertrains – whether in the shape of taxis or vans. The individual modules of the BEA 950 S1/S2 emissions analyzer are specifically designed for enabling the widest possible range of emissions tests to be performed quickly and precisely. All measurement modules, ECU diagnostic tools, the Windows PC, 24” monitor, keyboard, and A4 laser printer are accommodated in the

compact, sturdy premium trolley. The wireless connection between the PC, opacimeter (BEA 070), speed- and temperature-measurement modules (BEA 030), and the OBD module/ECU diagnostic tool (KTS) makes the BEA 950 especially user-friendly. An optional battery mode for the BEA 070 grants technicians flexibility when testing truck emissions, while the Windows PC can be used for additional programs. The clear display of the 24” monitor and fast operational readiness thanks to short tooling and warm-up phases save valuable time. Above all, workshops can expand the unit into a complete system by adding ECU diagnostic capability, troubleshooting manuals, ESI[tronic] 2.0, and vehicle-system analysis to the BEA 950. Workshop connectivity with Bosch Connected Repair, AWN, and AU Plus also contribute to this.



BEA 950 S1

Bosch  
Connected  
Repair



BEA 950 S4

**BEA 950 S4  
EMISSIONS ANALYZER**

The BEA 950 S4 is designed for workshops that are already equipped with a DCU 100, DCU 220, laptop, or workshop PC\* and want to use these for emissions analysis. There is ample space for the computer and technical accessories on the trolley's storage shelf, while the measurement modules can be wirelessly connected to the devices, which enables fast and simple data transfer.

**SPECIAL ACCESSORIES FOR  
EXHAUST-GAS TESTING ON CVs**

Due to the dimensions of commercial vehicles, their exhaust tailpipes are often more difficult to reach. That is why Bosch offers special accessories that simplify exhaust-gas testing on commercial vehicles. These include temperature-measurement probes with cable lengths of up to ten meters, heated sampling hoses, and a clamping device with a telescopic rod that enables the opacimeter (diesel measurement module) to be used on commercial vehicles with vertical stacks.



Temperature-measurement probes: Cable length: 6–10 m, Probe length: 1.5–2.1 m



CV sampling probe for diesel



(Diesel) sampling hose for CV sampling probe (1 m)



(Diesel) sampling hose for CV sampling probe (3.5 m)



Heated (diesel) sampling hose for CV sampling probe (5 m)



Clamping device with telescopic rod for diesel (for CVs with vertical exhaust stack)

\* Minimum system requirements at [boschaftermarket.com](http://boschaftermarket.com)

**DCI 700 LAUNCHED**

**NEW DIESEL-INJECTOR TEST BENCH NOW AVAILABLE**



DCI 700

**HIGH-PRECISION CRI AND CRIN TESTING**

Since Bosch invented the common-rail system almost two decades ago, many different system variants have co-existed on the market. These are regularly brought to commercial-vehicle workshops or diesel specialists for maintenance or repair.

The new Bosch DCI 700 injector test bench can be used to test older- and newer-generation Bosch injectors alike – including pressure-intensified commercial-vehicle technology and the VCC/NCC systems found in many vans. Injectors from VDO-Siemens or types from Delphi, Denso, Caterpillar, and Cumming are also covered by this. Bosch had all of these injectors in mind when developing the DCI 700: a fast measurement system integrated into a modern injector test bench. It takes less than five minutes to mount and remove four injectors, with the test process taking an average of 12 minutes to complete.



QualityScan: quickly reading out the injector type

# Denoxtronic: solutions for maintenance and repairs in line with fair values



Denoxtronic for commercial vehicles – the full system from Bosch

Diesel engines comprise the main powertrain type in the transportation sector. This is not only true for long-haul operation in trucks and semitrailer tractor units: High-torque powertrains like this can also be found off-highway, such as in construction machinery or cranes. It is anticipated to take many

more years for alternative powertrain concepts to become established for short- and medium-haul applications. Until that time, support for exhaust-gas treatment in SCR catalytic converters is available from Denoxtronic, for example.

## THE BOSCH DENOXTRONIC SYSTEM

The SCR catalytic converter uses reducing agent AdBlue to break nitrogen oxides in diesel exhaust fumes down into nitrogen and water. To this end, the Denoxtronic system from Bosch permanently adapts the metered dose of AdBlue to the engine's operating state and the current emissions values. Since the introduction of the Euro 4/5 standard, the number of vehicles equipped with Denoxtronic has been constantly rising. In mid-2018, the number of Denoxtronic systems manufactured by Bosch for commercial vehicles passed the 10-million mark.

## THE FULL RANGE FOR COMMERCIAL-VEHICLE WORKSHOPS

Workshops using Denoxtronic systems benefit from comprehensive support from Bosch. This makes repairs efficient and minimizes downtimes. In addition, Bosch testing technology opens up a variety of repair options. Components can be tested while still installed using the KTS Truck and the Denoxtronic 1 or 2 sets in a handy carry case. Functional tests help to identify the defective components. If the pump module or dosing module need to be replaced, the workshop can install new parts or remanufactured parts from Bosch eXchange, depending on the vehicle's current fair value. Alternatively, the component can be repaired after removal. This is where the Bosch Denoxtronic repair kits 1.1 and 2.1, or upgrade kits 1.1 – 2.1, come into play. These are used to perform functional tests and the recommended leak test. In such cases, the testing and repair manuals of ESI[tronic] 2.0 Online can be of assistance. What is more, practically oriented Bosch service training modules impart a broader knowledge of diesel technology, enabling workshops to render appropriate services for practically any vehicle age and usage profile.



Denoxtronic 2.1 service kit



### Filter-change set for servicing

The Denoxtronic system requires clean AdBlue for optimum dosing. Bosch has developed special filters for this purpose. Denoxtronic filters must be changed regularly in line with manufacturers' maintenance schedules (ESI[tronic] 2.0 Online). This way, AdBlue can be dosed correctly.

<https://youtu.be/MCQrBXtbuXM>

# Common-rail systems: off-highway with up to 2,500 bar



Excavators, caterpillar trucks, agricultural vehicles, speedboats, and emergency generators: The high performance of common-rail systems makes them a familiar feature in off-highway applications.

Common-rail systems for commercial vehicles ensure efficient fuel supply and injection in diesel engines. Many vehicles in off-highway (OHW) applications are equipped with these systems, from excavators, caterpillar trucks, and agricultural vehicles right through to speedboats and emergency generators. With various combinations of modules and system components, these are all brought to

commercial-vehicle workshops for regular servicing or repairs. Depending on the engine manufacturer's particular requirements, the systems can contain fuel- or oil-lubricated pumps, injectors for various installation positions, high-pressure reservoirs (rails), and electronic control units. Bosch assists commercial-vehicle workshops with maintaining and repairing these robust, economical systems. A comprehensive portfolio containing replacement parts, specific diagnostic equipment, service training modules, and a technical hotline is available for this purpose.

## CRS2-OHW COMMON-RAIL SYSTEM FOR UP TO 2,000 BAR

CRS2-OHW common-rail injection systems, which were specifically developed for off-highway applications, are used in agricultural and construction machinery, in addition to industrial applications. Designed to be highly robust and powerful, these systems

are based on tried-and-tested passenger-car components and can achieve pressures of up to 2,000 bar. They are specially adapted to the operating environment, the lengthy periods of full-load operation, and the large injection quantities in off-highway applications.

## CRSN25 COMMON-RAIL SYSTEM FOR UP TO 2,500 BAR

The modular common-rail system is an advanced development of earlier CRSN systems. Its high-pressure pump generates system pressures of up to 2,500 bar. When required, the fuel stored in the rail is injected into the combustion chamber by the latest generation of injectors. Activation is the task of the engine control unit, which uses driver input and sensor signals to calculate and monitor the optimum operating state. The system can even be used in commercial vehicles with electrified powertrains. Its robust design facilitates up to 500,000 start/stop processes required for hybrid operation throughout the vehicle's service life.



The modular CRSN common-rail system for medium- and heavy-duty commercial vehicles



The CRS2-OHW common-rail system – a special development for off-highway applications

# An aura of power: Xenon Gigalight HID for commercial vehicles



Whether at night, at dusk, or in poor visibility: Headlight bulbs ensure that you can see and be seen at all times.

Truckers are on the road all day and all night. Drivers need maximum concentration at all times, irrespective of whether the commercial vehicle in question is being driven on a highway, on a rural route, or to a depot in the inner city. Visibility on the road and a clear overview of surroundings must always be as close to perfect as possible. Otherwise, the commercial vehi-

cle cannot be driven safely. With regard to brightness and quality, Bosch Xenon Gigalight HID bulbs have been developed for the high demands of professional applications. Their longevity – which often lasts for the entire service life of the vehicle – is also crucial in day-to-day business. After all, a failed light can lead to costly downtimes or delivery delays.



Bosch Xenon Gigalight HID available as D1S and D2S

## BOSCH XENON GIGALIGHT HID

The Xenon Gigalight HID is the most powerful daylight xenon bulb in the Bosch portfolio. A color temperature of 4,600 kelvins and 100% more light on the road than with standard xenon bulbs boost driving safety. They were conceived for extremely high demands – the best possible view, daytime-bright light, maximum safety, and the reduction of driver fatigue. With their high light output, Xenon Gigalight HID bulbs also illuminate areas of the road that halogen bulbs are unable to reach. As gas-discharge bulbs without incandescent filaments, they are more durable and reliable. In addition, their reduced energy consumption conserves the environment and saves money.

## BOSCH BULBS FOR COMMERCIAL VEHICLES

- ▶ **NEW! Xenon Gigalight HID:** The brightest xenon bulb in the Bosch portfolio with daytime-bright light for the very highest visibility
- ▶ **Xenon White HID:** The xenon bulb with the highest light intensity in the Bosch range; rated at 5,500 kelvins
- ▶ **Xenon HID:** The xenon bulb with the high light output
- ▶ **Trucklight MaxLife:** The extremely durable and robust halogen bulb for commercial vehicles
- ▶ **Trucklight:** The reliable halogen bulb for commercial vehicles
- ▶ **Eco Truck:** The CV halogen bulb with the attractive price/performance ratio – for repairs proportionate to a vehicle's fair value

# “Best Brand” awards: a trio of honors for Bosch

## NÜRBURGRING 2019

### 97 GUESTS AT THE BOSCH CUSTOMER EVENT 2019



Bosch ahead of the pack with triple “Best Brand” honors

### BOSCH PRODUCTS RECEIVE “BEST BRAND” AWARDS

This year, WERKSTATT *aktuell*, the commercial-vehicle magazine from ETM (EuroTransportMedia Verlags- und Veranstaltungs-GmbH) held its readers’ choice ballot for the sixth time. The joint venture by DEKRA, Motor Presse Stuttgart and VF Verlagsgesellschaft pitted a total of 93 brands against one another in 15 categories\* related to commercial-vehicle servicing in the “Best Brands” championship. The expertise of workshop and customer-service professionals was called upon once again for this.

Several hundred readers took part in the vote and gave their professional opinions on the tools and devices they can rely on the most in the heat of day-to-day workshop operations. Together, they launched Bosch products into three first-place finishes in the product categories **Starter batteries for 24-volt systems, Battery chargers, and Multi-brand OBD diagnosis**, respectively. This was a resounding success for Bosch. After all, the readers of WERKSTATT *aktuell* are professionals – truckers, buyers, logistics employees, workshop owners, and technicians. In other words, they know what they are talking about.

### AWARDS CEREMONY AT THE NÜRBURGRING CIRCUIT

The fourth racing weekend of the FIA Truck Racing Championship (ETRC) provided a fitting backdrop for the awards ceremony. Bosch would like to thank the highly qualified readers of WERKSTATT *aktuell* for their praise!



Guests given the opportunity to experience Bosch products up close in a racing truck

### CUSTOMERS FROM EUROPE AT THE NÜRBURGRING CIRCUIT

During the FIA Truck Racing Championship (ETRC) at the Nürburgring circuit, Bosch arranged an event for selected wholesalers and workshop customers. The portfolio of Bosch products for commercial vehicles comprising parts, diagnostic solutions, and services was presented amid pleasant summer weather. Guests also had the chance to witness Bosch’s dedication to motorsports – and get to know five-time ETRC champion, Jochen Hahn. A trip around the Nürburgring in a “racing taxi” was also thrown in. Participants were all impressed – the chance to experience Bosch products in racing mode is rare, after all.



Worthy victors: the winners of the “Best Brand” awards



Andreas Wegner presents Bosch products and services for trucks

\* Detailed results from the readers’ choice competition can be found at [www.eurotransport.de](http://www.eurotransport.de)

# Jochen Hahn crowned ETRC champion for the sixth time

## BOSCH IN THE 2019 HAHN TRUCK

- ▶ Batteries
- ▶ Crankshaft sensor
- ▶ Camshaft sensor
- ▶ Diesel injection system with EDC7U control unit and unit injectors
- ▶ Fuel-filter replacement box
- ▶ Fuses
- ▶ Heavy duty alternator
- ▶ Intake-manifold pressure sensor
- ▶ Oil filter
- ▶ Relays
- ▶ Ribbed V-belts
- ▶ Wiper blades



Photo: Hahn Racing

Jochen Hahn successfully defended his title in the penultimate round of the FIA European Truck Racing Championship at Le Mans, France.

## Hahn clinches the championship early in Le Mans

Around 60,000 spectators watched Jochen Hahn defend his European title with one race to spare at the Circuit Bugatti in Le Mans, the penultimate race in the FIA ETRC 2019 calendar. Spaniard Antonio Albacete would have needed to finish three places higher in the Saturday race to have any chance of winning the championship. However, Hahn took an unassailable lead in the rankings, with "Die Bullen von Iveco Magirus" (Hahn/Halm) topping the team table. Yet there was still plenty of drama to come with the battle for



Photo: Hahn Racing

Thanks to his 1,150 hp Iveco racing truck and technical support from Bosch, Jochen Hahn is once again champion of the FIA ETRC in 2019.

second place set to unfold between Albacete (225 points) and Lacko (222 points) at the final round in Jarama, Spain. There, Jochen Hahn was first

to the checkered flag in two races, bringing his lead over second-placed Albacete up to 102 points. "Victory in both categories – for the driver and team championships – might already have been secured," said Hahn after the final race, "but we didn't want to let anything slip in Jarama. I think we've shown that we deserve the title – also as a team. We were on the podium in all four races for the driver and team championship. In doing so, we demonstrated exceptional consistency."

[www.team-hahn-racing.de](http://www.team-hahn-racing.de)

## IMPRINT

**Published by:**  
Robert Bosch GmbH  
Automotive Aftermarket  
AA/MBC2

**Editor:**  
Benedikt Elser  
Errors and omissions  
excepted

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