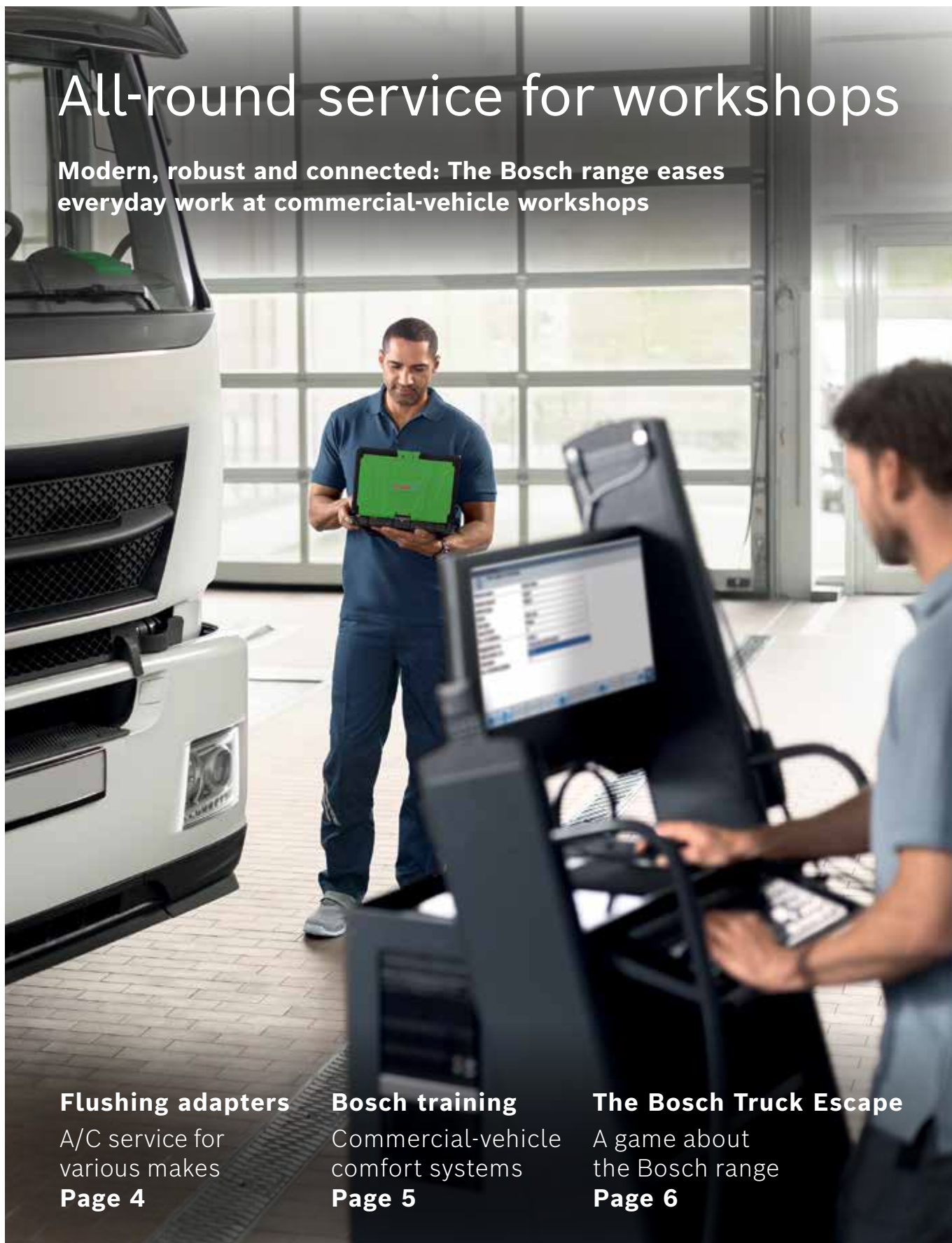


Truck World

A Bosch Automotive Aftermarket magazine | Edition 29 | March 2021

All-round service for workshops

Modern, robust and connected: The Bosch range eases everyday work at commercial-vehicle workshops



Flushing adapters

A/C service for various makes

Page 4

Bosch training

Commercial-vehicle comfort systems

Page 5

The Bosch Truck Escape

A game about the Bosch range

Page 6

EDITORIAL

INTELLIGENT WORKSHOP MEETS COMPLEX TRUCK TECHNOLOGY



Dear truck fans,

modern commercial vehicles are complex pieces of engineering. Workshops thus need modern workshop equipment for their maintenance and repair.

As a developer of automotive technologies and test equipment, Bosch started connecting the workshop routines at an early stage to make them both easier and faster. As the number of control units installed in modern commercial vehicles is continuously rising, Bosch connects the individual segments of workshop equipment with one another by Bosch Connected Repair software. Once the customer and vehicle data has been entered, the maintenance and repair history is logged automatically. This saves time, money and nerves – precious rarities in everyday workshop life. Read more about Bosch test equipment and practical Bosch Connected Repair solutions on the following pages.

On behalf of the commercial vehicle team, I wish you an enjoyable read and a great journey into the connected workshop future!

Best wishes, Tobias Weiss



Test equipment for commercial-vehicle workshops

Commercial-vehicle workshops need to be well-equipped to service and repair modern trucks of different makes. Bosch thus offers test equipment, software and expertise – from a single source.



BAT 645 AND BAT 690 BATTERY SERVICE UNITS

Bosch BAT 645 and 690 battery chargers allow straightforward servicing of automotive batteries and ensure reliable vehicle operation. They are perfectly suitable for use on commercial vehicles as well. These particularly compact devices feature back-up and buffer modes, but they can also be used for fully automatic charging. To keep

them up to date, they are equipped with a USB interface for updates.



EMISSION ANALYSES WITH BEA 950 S1 AND ITS ACCESSORIES

BEA 950 emission testers enable workshops to perform quick and accurate exhaust-gas emission analyses. The measurement modules and control unit testers compactly stored on a trolley equipped with a Windows computer, a 24" display, a keyboard and an A4 laser printer. The wireless connection between computer and exhaust-gas opacimeter,

rpm and temperature sensors as well as the ECU testers and truck-specific accessories make the BEA 950 particularly user-friendly.



FSA 500 VEHICLE SYSTEM ANALYSIS

FSA 500 is a comfortable solution for sophisticated diagnoses on commercial vehicles. The handy and battery-operated measurement module can be connected to the computer via Bluetooth. It includes approximately 30 preset components test routines. It plays to its strengths testing important electric and electronic components of 12V, 24V and 48V on-board electrical systems.



A/C SERVICE USING ACS 810, ACS 863 AND ACS 753

The ACS 810 air-conditioning service unit was developed to meet the specific requirements of buses, trucks and R134a-based A/C systems. It comes with a user-friendly navigation menu and a custom-made range of accessories. For A/C service on trucks and cars, Bosch also offers ACS 863 with integrated refrigerant identification and ACS 753 units.



DCI 700: TESTING CRI AND CRIN DIESEL INJECTORS

DCI 700 injector test benches provide a future-proof possibility to test car and truck diesel injectors by Bosch and other manufacturers. This includes VCC/NCC technologies often used in vans and LCVs as well as pressure-controlled truck technologies. The test routine lasts approx. 15 minutes. For this purpose, the devices are equipped with quick measurement systems featuring a high measurement accuracy and latest electronics.

ECU DIAGNOSIS VIA KTS 900 TRUCK AND ESI[TRONIC] 2.0


The mobile complete system consisting of the KTS Truck module and the DCU 220 diagnostic control unit is powered by the separately available ESI[tronic] 2.0 Online diagnostic software. The information types Truck and/or OHW (off-highway) enable workshops to perform effective diagnoses on trucks, LCVs, buses, agricultural vehicles and construction machinery. Besides ECU diagnoses, the workshop software includes technical information such as circuit diagrams, service and repair instructions as well as the system information of common CV manufacturers.




CONNECTS TEST EQUIPMENT TO VEHICLE AND REPAIR DATA

BOSCH CONNECTED REPAIR


To speed up workshop routines, this software connects the vehicle reception and the test equipment with one another. This allows discussing service tasks with the client at the reception desk and sending them right to the workshop equipment.




Multiple connection options



Connecting workshop-management systems




Quick vehicle identification




Connection to asanetwork


Bosch Connected Repair




Integration of pictures via picture app



Comprehensive documentation



Monitoring the progress



Detailed vehicle history

Flushing adapters: The right connection for A/C flushing



In a practical case:
15 flushing adapters
for various different
automotive A/C systems
Order number: S P00 101 974

Performance losses of A/C systems are often caused by soiling resulting from abrasion or chips. This can even result in compressor defects. Thorough flushing is a great solution to remove remnants of refrigerator oil and soilings from the refrigerant circuit. At the same time, it protects all parts of the A/C system against possible damages. A/C flushing is also recommended when replacing A/C components such as e.g. the compressor. Not least, flushing is compulsory for

the manufacturer warranty to remain effective and to prevent damage to the new compressor by chips and remnants within the refrigerant circuit. This is equally true for overcharged systems. Their cooling performance decreases due to oil excesses obstructing the refrigerant flow.



Flushing kit

15 flushing adapters in a case	Order No.
18896 – 3-4" flushing adapter – 16 UNF-2°	S P00 102 035
16897 – 7-8" flushing adapter – 14 UNF-2°	S P00 102 036
16898 – 1" flushing adapter – 14 UNF-2A	S P00 102 037
16899 – 15.4 mm flushing adapter	S P00 102 038
16900 – 18.3 mm flushing adapter	S P00 102 039
16901 – 17.7/ 11.8 mm flushing adapter	S P00 102 040
16902 – 28.4 mm flushing adapter	S P00 102 041
16903 – 13.8 mm flushing adapter	S P00 102 042
16904 – 16.7 mm flushing adapter	S P00 102 043
16905 – 16.4/ 13.3 mm flushing adapter	S P00 102 044
16906 – 14.7/ 11.9 mm flushing adapter	S P00 102 045
16907 – 14.4 mm flushing adapter	S P00 102 046
16908 – 20.7 mm flushing adapter	S P00 102 047
16909 – 16.8/ 13.6 mm flushing adapter	S P00 102 048
16910 – DENSO flushing adapter	S P00 102 049

Contents of the flushing adapter kit

(R1234yf) and ACS 753 (R134a) units which can be upgraded by means of special commercial-vehicle accessories. The case available to complement the flushing kits includes 15 flushing adapters for passenger cars and trucks. Combined with the integrated flushing routine of Bosch A/C service units, the flushing adapters ease the process for workshops and allow quick servicing of different air conditioning systems.



BOSCH CABIN FILTERS

A/C servicing is a great opportunity to equip the truck with a cabin filter in good condition. Bosch cabin filters reduce the amount of pollen, pollutants and dust, they protect the air conditioning system – and, as activated-carbon filters, they even separate harmful and foul-smelling gases.

ADAPTER CASE AS ACCESSORY FOR A/C SERVICE UNITS

Bosch offers flushing kits for A/C service units organized in a practical adapter case – also for ACS 810 (R134a) perfectly geared to high-capacity air conditioning systems of buses and trucks. These flushing kits are also available for ACS 863



Bosch training: commercial-vehicle comfort systems



The complexity and ongoing connectivity of commercial-vehicle systems affects the way of working at workshops servicing and performing repairs. Featuring modern functions, Bosch diagnostic devices provide support and assistance. To keep pace with these developments, however, workshop staff also need to keep their knowledge up to date.

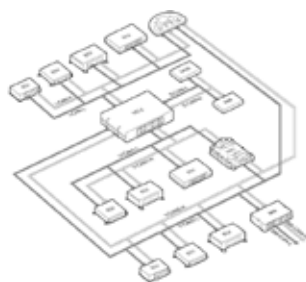
COMMERCIAL-VEHICLE ELECTRICS/ELECTRONICS AND COMFORT SYSTEMS

In this regard, Bosch supports workshops by means of a two-day training.



Diagnosis via oscilloscope

At this theoretical and practical course, the participants learn how to perform diagnoses and maintenance tasks on electronic and comfort systems of commercial vehicles using different diagnostic equipment independently.



Typical truck ECU connectivity

FUNCTIONS AND DIAGNOSES

The participants learn about setup, function and diagnoses of Bosch starter and alternator circuits, multi-function and interface controllers. CAN and LIN bus systems for vehicle connectivity and ECU allocation are explained as well as

the structures of different on-board electrical systems. They supply comfort equipment such as air conditioning systems, auxiliary heating, electric windows and lighting systems. At the same time, they are the basis for modern driver assistance systems – such as e.g. lane-keeping assists and emergency braking systems – of commercial vehicles.

BOSCH TEST EQUIPMENT

At this practical training, the participants develop diagnostic strategies independently. For this purpose, Bosch KTS Truck and ESI[tronic] 2.0 Online workshop software are used. Handling and diagnoses of and via oscilloscope are trained using FSA 500, FSA 7xx and KTS Truck. In addition, practical tasks and troubleshooting are carried out on vehicles equipped with the systems described. In any case, the experienced trainers teach sophisticated theoretical aspects and comprehensive practical know-how in a comprehensible manner.

Bosch Service Training

**Commercial-vehicle electrics/
electronics and comfort systems**
1 987 727 865

Duration: 2.0 days
for employees
of automotive
and commercial-
vehicle work-
shops focusing
on light and heavy CV.



bosch-automotive-campus.de

The Bosch Truck Escape: a game about the workshop range



The Bosch Truck Escape

The Bosch Truck Escape is an online game developed to explain commercial-vehicle workshops the broad range of Bosch workshop equipment and spare parts in a playful manner.

SCORES FOR REPAIRS

The game starts with a short teaser film: A trucker carries a load full of bananas, when a monkey that escaped from the zoo sets him off his stride. The result: a damaged truck that needs to stop by a workshop. As soon as the participant turns on the workshop lighting, the game begins. At the commercial-vehicle workshop equipped with Bosch test equipment

and spare parts, it is on the player to perform different service and repair tasks. Players score points they can



Error codes – shown on a virtual DCU 220

share on social media. Five repair tasks are shown as error codes on the virtual DCU 220, a convertible notebook. They reach from simple battery replacement to replacing

Denoxtronic filters and a starter through to the installation of diesel injectors and a steering pump.



Slider menu as toolbox

The slider menu allows the player to keep an eye on the workshop inventory consisting of Bosch spare parts and test equipment – and on his or her score, of course. Some virtual obstacles have been included to make the tasks a somewhat more challenging – just as is the case in real workshop life. The Denoxtronic filter, for instance, is not at the spare parts shelf where it should be. The player is thus asked to find out other applications of filters in workshops in order to find it.

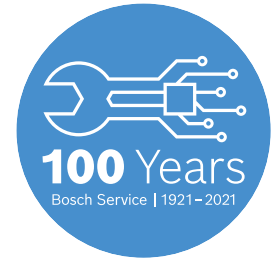
Quite an entertaining game, a great idea and a lot of useful information about the comprehensive Bosch portfolio for commercial-vehicle workshops combined into a playful experience.

escapegame.boschaftermarket.eu



The complete workshop panorama of The Bosch Truck Escape

Bosch Service – committed to motor vehicles for 100 years



1939: Bosch Service Seelig in Bremen, Germany

Robert Bosch identified the need for a workshop network at an early stage. In 1921, his first service partner was the Hamburg-based automobile repair workshop Max Eisenmann – the first of many still to come. By now, Bosch Service is one of the world's largest brand-independent workshop networks including more than 15,000 workshops in 150 countries.

BOSCH SERVICE FOR COMMERCIAL VEHICLES

For 100 years now, Bosch Service supports its partner workshops by means of spare parts, workshop equipment and both busi-



Bosch Service with Truck Service

ness and technical know-how. Meeting the space requirements to do so, more than 70 workshops in Germany offer commercial-vehicle repairs and maintenance. Some of them are also official service partners of vehicle manufacturers. Others cover special services specifically geared to commercial vehicles. This includes retrofitting and maintenance of commercial-vehicle A/C systems or servicing LCVs in accordance with a lease agreement specifically developed for this purpose. Modifications on special vehicles – such as e.g. refrigerated medicine dispatch vehicles – are repaired and serviced at Bosch Services carrying out their annual refrigerator calibration. Even complete vehicle fleets of deep-freeze service providers regularly stop by Bosch Service workshops for their repair and maintenance.

ALLTRUCKS PARTNER CONCEPT

Some Bosch Services dealing with commercial-vehicle customers also joined the Alltrucks partner concept

of which Bosch is a founding member. At roughly 700 partner workshops, Alltrucks offers multi-brand services for commercial vehicles in Europe.



Alltrucks multi-brand workshop concept

BOSCH MODULE CONCEPT

Bosch makes it easy for commercial vehicle workshops willing to make use of the high Bosch expertise concerning test equipment and its broad range of spare parts. At the module concept Bosch Commercial Vehicles, the module partners benefit from Bosch test equipment, ES[tronic] 2.0 Online workshop software, spare parts and a broad range of trainings. By means of appealing exterior signage and an extensive marketing and advertising package, the workshops exterior presentation is supported additionally and effectively.



Bosch Commercial Vehicles module concept

Restart in 2021: European Truck Racing Championship



Photo: Team Hahn Racing

BOSCH INSIDE 2021 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

Dates: 2021 FIA ETRC

Misano	May 22 – May 23, 2021
Hungaroring	June 12 – June 13, 2021
Nürburgring	July 17 – July 18, 2021
Most	Aug. 28. – Aug. 29, 2021
Zolder	Sept. 11 – Sept. 12, 2021
Le Mans	Sept. 25 – Sept. 26, 2021
Jarama	Oct. 2 – Oct. 3, 2021

Jochen Hahn on his 2020 Iveco race truck. In April, the new race truck will set off for the first test rides.

ETRC back on track after some digital racing events.

Following four so-called “Digital ETRC Racing Challenges”, i.e. digital truck racing events, the 2021 ETRC season will start on May 22. The first live race will take place on Misano World Circuit in Italy. This season, the race trucks will be powered by HVO (hydro-treated vegetable oil) for the first time ever. According to studies performed, this synthetic fuel leads to reduced soot, greenhouse-gas, nitrogen-oxide and fine-dust emissions in comparison with the combustion of conventional diesel fuels in engines. Seven race



Photo: Team Hahn Racing

Lukas Hahn will take part in two races in 2021

weekends have been scheduled for the 2021 FIA ETRC. All of them will be streamed live. Lukas Hahn will take part in the races on Nürburgring and in Most. And – last but not least – there are also some news on the 2021 Hahn race

truck: “We are well on schedule,” Jochen Hahn answered when asked about his new race truck. “The vehicle is currently being built in Altensteig. In early April, we will test it on the Iveco test track in Ulm. It feels good to know, things are getting started again.” For Team Hahn Racing and the team’s fans and partners, the start of the “real” races out on the race tracks also means a first step into a new “normality” everyone is looking forward to.

www.team-hahn-racing.de

IMPRINT

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