

# Truck World

A Bosch AA magazine | edition 22 | June 2018

## Reliable power supply

Alternators need to provide reliable performance. The Bosch range includes HD alternators and matching spare parts for almost any application

### Really cool!

A/C service on trucks and buses

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### Make to stock

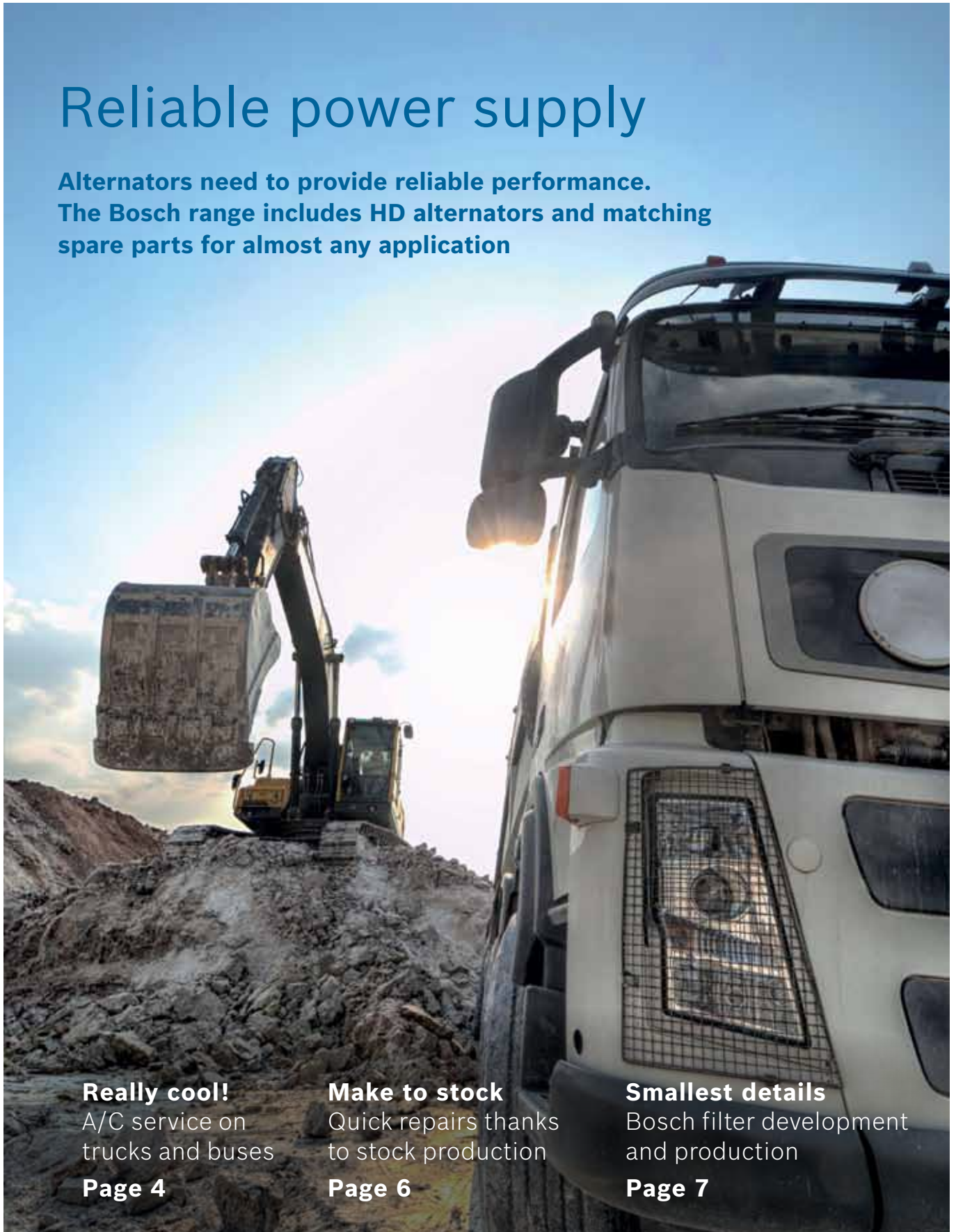
Quick repairs thanks to stock production

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### Smallest details

Bosch filter development and production

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## EDITORIAL

### BOSCH COMMERCIAL-VEHICLE TECHNOLOGY FOR BOTH SAFETY AND COMFORT



**At the logistics sector, safety and comfort are top of the wish list – a special challenge for workshops.**

**Dear truck fans,**

“It’s a bit over, is that ok?” This question well known from grocery stores very eminently applies to commercial vehicle equipment, as well. Larger sizes, higher weight and a multitude of technical solutions for loading and unloading pose increasing demands on maintenance and repair of commercial vehicles. No matter whether air-conditioning service on city buses by means of the ACS 810 A/C service unit, heavy-duty alternators for tractor units and crane trucks or the hydraulic RB-Servocom steering system for commercial vehicles, Bosch provides matching solutions for trucks and workshops. For additional details, please read this edition of our Truck World magazine.

Enjoy reading and have a great journey into the connected workshop future!

**Your commercial-vehicle team  
Christoph Bratzler Tobias Weiss**



# Main supplier!

## Bosch alternators and spare parts

Over the last years, the demand for electric energy in trucks has risen constantly. This does not only affect typical logistics features such as cargo cooling or tail lifts. Air conditioning, radio and TV are among popular convenience and comfort features truckers already got used to. But even normal safety features such as brake or steering systems call for electric energy. The task of Bosch heavy-duty (HD) commercial-vehicle alternators is to provide this energy and to constantly recharge the on-board battery.

### COMMERCIAL-VEHICLE ALTERNATORS: A RANGE TO MEET TOP DEMANDS

City buses, trucks, tractor units, crane trucks, vans and LCVs – as vehicle concepts differ, so do the performance requirements placed on HD commercial-vehicle alternators. That’s what the Bosch range is made for. Its alternators stand out for their particularly

high robustness and their long service life while the range comprises modules geared to the respective requirements. HD alternators, for instance, need to cope with high ambient temperatures. They thus feature an optimized ventilation system and high-temperature ball bearings. Alternators having to cope with extreme belt forces are equipped with reinforced end shields and larger A-ball bearings.



**SPARE-PARTS QUALITY**

The Bosch range of alternators is based on comprehensive experience concerning the equipment of commercial vehicles of all weight classes – both on- and off-highway. For quick and reliable alternator repairs, the Bosch range thus also includes the most important spare parts. They are subject to functional and quality tests complying with the same standards as those applied for OE parts.

overheating and overloads. They adapt the control voltage to ensure optimum on-board power supply and constant battery charging. They are equipped with special connectors while the high-quality materials used and brushes made from an optimized material mixture ensure their long service life. Multifunctional regulators are perfectly geared to the respective type of vehicle and alternator and aligned with the OE specifications.

voltage peaks. The components are particularly temperature-resistant and feature an extraordinary operational reliability thanks to the optimum connection of the liquid-welded diodes.



**MULTIFUNCTIONAL REGULATORS**

Supplying vehicles in operation with enough energy is an extremely demanding task. Multifunctional regulators thus protect alternators against



**RECTIFIER**

Lasting current rectification reliably protects the vehicle against overvoltages. For this purpose, individually tested Zener diodes reduce potential



**OVERRUNNING ALTERNATOR PULLEYS**

Overrunning alternator pulleys – also known as alternator freewheel clutches – ensure belt drive decoupling. For this purpose, they are designed in a particularly wear-resistant manner and closed on both sides to prevent any dust entry. Their diameter, the surface and the amount of grooves is perfectly aligned with the respective engine.

**Multifunctional regulator**

**Rotor**

**Overrunning alternator pulley**





### 500<sup>TH</sup> ALLTRUCKS PARTNER



Alltrucks Truck & Trailer Service is growing continuously increasing its partner network throughout Europe. As already 500<sup>th</sup> Alltrucks partner workshop, AD Fichou Company in Brest, Brittany (France) benefits from the comprehensive service modules and the multi-brand concept's commercial-vehicle know-how.

Founded in 1926, the family-run business runs five locations by now. It is known for professional high-quality servicing. The strategy of Gwenaëlle Fichou, CEO of the AD Fichou group, aims on reaching market leadership by means of constant innovation and on meeting the growing requirements of the company's customers. By means of the partnership with the Alltrucks full-service system and the joint know-how of the three founders, the AD Fichou group wants to foster its premium position.



Alltrucks – expanding across Europe

# Cool climate for commercial vehicles and buses



For the commercial-vehicle workshop sector, A/C services on buses and coaches are among the “big” tasks. The technical devices used must be designed for long vehicles, large system volumes, big components and special operating principles of large air-conditioning systems. For exactly these purposes, the Bosch range includes the ACS 810 A/C service unit.

### A/C SERVICE FOR BUSES

The ACS 810 A/C service unit has been developed to meet the specific requirements of buses, trucks and R134a-based air conditioning systems. This does not only imply workshop-oriented hardware and a user-friendly navigation, but also system

components geared to bus systems and a tailor-made range of accessories. The device automatically manages recovery, recycling and refilling of refrigerant. The five-meter service hoses can be connected to all A/C systems. Integrated 2-liter oil bottles take up large amounts of compressor lubricant during the oil injection and recovery. The double fan ensures top temperature control and constant refrigerant pressure during the recovery phase. This protects the internal components against overheating. The 0.5-hp high-performance filling pump quickly fills the system with refrigerant. The integrated refrigerant tank copes with up to 35 kg of this liquid.



### MANUAL OR AUTOMATIC

The A/C service is fully automatic. However, a manual operation mode for the recovery, vacuum and filling functions can be selected anyway. The integrated database includes the values for practically all European cars, vans, LCVs and trucks. Updates can also be performed easily via Smart Key. At the end of the A/C service, the installed printer prints a protocol of the tasks performed.



### RINSING IN CASE OF COMPRESSOR REPLACEMENT

Compressor defects are often caused by soiling resulting from abrasion or chips. In case this component is replaced, thorough rinsing of the whole system is thus required in order to remove the dirt particles from the A/C circuit. A rinsing set for ACS 810 is optionally available.

### BOSCH A/C SERVICE UNITS

For those commercial-vehicle workshops not focusing primarily on A/C service on buses, Bosch also provides the ACS 863 (for R1234yf refrigerant) and ACS 753 (for R134a refrigerant) devices with matching accessories for A/C service on commercial vehicles. ACS 863 even includes an additionally installed refrigerant detector. The deep-recovery function of both ACS 863 and ACS 753 allows practically complete draining of the vehicle A/C system (recovery rate of 99%). Both devices can be controlled via smartphone by means of a specific app and both of them include leakproofness test by  $N_2H_2/N_2$ .

### ACS 863 and ACS 753

The fully automatic ACS 863 R1234yf and ACS 753 R134a service units meet the toughest requirements placed on A/C service units for passenger cars and commercial vehicles. They are system compatible with hybrid A/C systems and meet both the specifications of German car manufacturers and the SAE standards of the European Union.

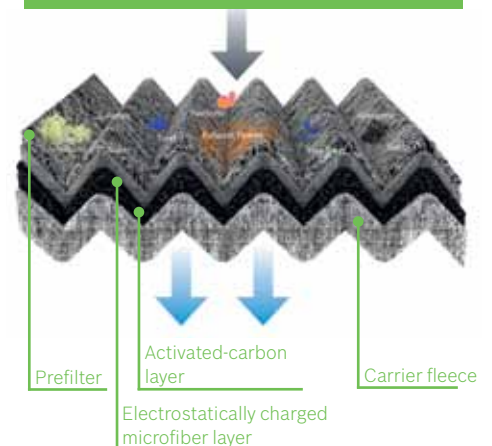
## CABIN FILTERS

### REPLACEMENT DURING A/C SERVICE



Air conditioning systems do not only ensure comfortable ambient temperatures, their evaporator surfaces also provide optimum habitat conditions for bacteria. Accordingly, they can also cause the propagation of undesired microorganisms inside a vehicle's cabin. A/C servicing is thus a great opportunity to equip the truck with a cabin filter working well.

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.



# New production strategy for improved availability of steering systems



Fast repairs quickly take commercial vehicles back onto the roads.

With every downtime of commercial vehicles, the balance of calculations is endangered. Trucks are not meant to store value during downtimes, but to bring profit being at work out on the roads. In case a steering system is to be replaced, the repair times are to be as low as possible. For workshops, this means that the matching steering system is to be on stock at the manu-

facturer's warehouse and available for installation at the workshop as quick as possible.

## STRATEGIC STOCK PRODUCTION

In order to increase this availability, Bosch uses an improved production strategy. With the new stock production called "make to stock", more than

200 products (part numbers) are available any time. This direct availability increases the workshops' potential to generate additional revenue. It allows short-dated replacement of steering systems at any time. This increases the customer satisfaction. After all, customers understand this workshop service as a particularly good one.



Hydraulic RB-Servocom steering system

## OPERATING CYLINDER WITH NEW COATING

The operating cylinders support the hydraulic steering system for commercial-vehicle applications – e.g. in case of multiple steered front axles or rear-axle steering. Its surface coating has now been changed from chrome6 (CR6) to slotapas and blue alloy – two materials protecting the product interior even better against corrosion. Concomitantly, the exterior color of the operating cylinder and its ball joints is changed, too. Instead of black, they will

now be silver. The changed composition of the material also results in new surface roughness values – and changed tightening torques. Additional details are attached to the products or can be found searching for the part number at: [www.bosch-automotive-catalog.com](http://www.bosch-automotive-catalog.com)



# High quality down to the last detail: Bosch filter development



Bosch filters for trucks

Commercial vehicles are often equipped with modern engine systems featuring low tolerances. Therefore, filters are important for their protection. As one of the world's leading developers and manufacturers of injection system, Bosch expertise also influences its filter development. In this manner, Bosch filters reliably protect engine components against smallest dirt particles, abrasive particles and water.

## BOSCH FILTER PRODUCTION

Truck filters are subject to heavy strains. Therefore, their components are processed thoroughly and cleanly at all stages of their production. With its individual composition and coating, the filter medium provides the basis. Its paper quality decides about the service life, dust-holding capacity and resilience to aggressive liquids. Once cured at the furnace, folded and cut, a special welding technique is used to connect the first and the last pleat. This prevents the ingress of unfiltered fuel which could damage the injection

system. The filter star thus created is then welded onto the end caps. In case of filters with steel housing, a double-folded fringe connects the cover and the housing. It ensures particularly high integrity and pressure resistance. The housing integrity is checked meticulously. To do so, helium gas is pressed into the filter. Possible leaks are then detected at a vacuum chamber.



This film shows the filter production and laboratory test

At specific laboratory tests, water is added to the diesel fuel in order to determine the filters' water separation capacity. For its filter development, Bosch applies its complete injection system know-how. After all, the production of an ideal product requires know-how about the interaction of all components. Bosch filters are thus a perfect example for high quality down to the last detail.

**Tip: Use Bosch high-quality filters and replace them regularly.**

## BOSCH FILTERS ON FILM



On a specific film, Bosch explains its filter development and production. It also provides comprehensive insights into its development laboratories and production facilities.

[https://youtu.be/pCLB0yjf\\_JM](https://youtu.be/pCLB0yjf_JM)

# Terrific start leading the overall standings

## Dates: 2018 FIA ETRC

<b>Nürburgring</b>	June 29 – July 1, 2018
<b>Slovakia Ring</b>	July 14 – 15, 2018
<b>Most</b>	Sept. 1 – 2, 2018
<b>Zolder</b>	Sept. 15 – 16, 2018
<b>Le Mans</b>	Sept. 29 – 30, 2018
<b>Jarama</b>	Oct. 6 – 7, 2018



Photo: Hahn Racing

## Jochen Hahn successfully started into the 2018 season

Brilliant summer weather, track temperatures above 50°C and 42,000 spectators on site – that's how the 2018 season of the FIA European Truck Racing Championship (short: ETRC) started off on Misano World Circuit close to the Italian Adriatic coast – an extremely successful race weekend for Jochen Hahn and his team. On both days, the Iveco pilot won the first races – with doubled score for the winners. At the second race of each day, the FIA ETRC regulations increase suspense inverting the starting grid of the top eight (reversed grid). At these races, Jochen Hahn finished 4<sup>th</sup> and 8<sup>th</sup>. All in all, "the bulls on Iveco Magirus" team, consisting of Jochen Hahn and his Iveco colleague Steffi Halm, also reached the podium a total of three times.



Photo: Hahn Racing

During the set-up, the team works at the pit all day long

### LEAD INCREASED IN HUNGARY

Hungaroring was practically the continuation of Misano: Hahn's score on the overall standings grew to now 95 points – with two more victories and despite a technical breakdown. With a total of 164 points, "the bulls on Iveco Magirus" continue leading the team championship as well. "There is a tremendous power density," Hahn said. "Ten drivers have the potential to win podium

### BOSCH INSIDE 2018 HAHN TRUCK

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

positions. With my four victories at the important 20-point races, I performed well so far. Now, we're really looking forward to our home race on Nürburgring."

[www.Team-Hahn-Racing.de](http://www.Team-Hahn-Racing.de)

### IMPRINT

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