THE LAST MILE Heading downtown on cargo bikes

20 YEARS OF JOINT SUCCESS Hahn Racing and Knorr-Bremse are a winning pair

KNORR-BREMSE TRUCKSERVICES TRAINING COURSES A new team with innovative ideas

EDITION 61

42

> May 2023 – the Customer Magazine of Knorr-Bremse Systeme für Nutzfahrzeuge GmbH

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Dear reader,

You don't need to be told that the commercial vehicle industry, together with related sectors like logistics, is undergoing an era-defining transformation - you can see it for yourself every day. Speaking of challenges, changes in the "last mile" are posing some big ones for courier and express delivery services. Delivery volumes have exploded over the last decade and will only keep growing - with consequences that are becoming all too clear. The crowded streets of our inner cities are becoming jammed with ever more delivery vehicles, which is causing a stink - in both senses of the word - in many places. Given this predicament, the e-cargo bike may prove a useful addition to electrically powered delivery vans. Our cover story looks at the bike's capabilities and limitations.

Here at Knorr-Bremse and Knorr-Bremse TruckServices, we will continue to do our part to meet the challenge of reducing CO2, particulates, and other harmful emissions, both by developing our brake, powertrain, and steering systems, and by driving forward new ideas in the field of electrification in our eCubator innovation unit.

At Knorr-Bremse, we see ourselves as a reliable, innovative industry leader. This is one reason why we make sure our customer training courses are always up-to-date. The focus of the new leadership team, headed by Stefan Schmiedt and Marc Eutin, is not only on modern training concepts, but also on promoting networking among their team of trainers internationally. Technicians at Martin Knirsch Nutzfahrzeuge are among those to have benefited from Knorr-Bremse's training in the past. In other areas, however, the Baden-based company, which is also a member of the Knorr-Bremse TruckServices Expert Network, is setting an example for others to follow. We paid them a visit at their new facility in Schutterwald in southwest Germany to find out more. And then there's Jochen Hahn. Knorr-Bremse has been sponsoring the six-time European truck racing champion for the last 20 years. This incredibly successful era is by no means over, and we're pleased to announce that we agreed to extend our partnership just before the start of the 2023 season.

I hope you enjoy reading this edition - and find some useful information, too!

Alexander Wagner



ALEXANDER WAGNER, Head of Aftermarket/TruckServices EMEA at **Knorr-Bremse Commercial Vehicle Systems**



A winning combination

Knorr-Bremse's partnership with truck racing team Hahn Racing has endured for 20 years and has seen Jochen Hahn crowned European Champion on six occasions. As their close and successful relationship continues into the 2023 season, the team have title number seven firmly in their sights.

2023 will be a special year for Jochen Hahn and Knorr-Bremse: It will mark 20 years of partnership between the world-leading braking systems manufacturer and Team Hahn Racing in the European Truck Racing Championship. It all started by chance, as Jochen Hahn remembers. "Back then, we met Knorr-Bremse's representative at the Nürburgring, and we immediately got on well. The first conversations about a partnership came soon afterwards."

It proved a promising start to what would become one of the most successful partnerships in the history of European truck racing, with Jochen Hahn going on to win no fewer than six European titles between 2011 and 2019. And Knorr-Bremse's braking systems were there every lap of the way, complemented by outstanding aftermarket accessories from Knorr-Bremse Truck-Services. The driver from the Black Forest certainly appreciates that support. "The brakes are the most important link in the chain," says Hahn. "The high performance and reliability of Knorr-Bremse's products plays a big part in our success."



GONE BUT NOT FORGOTTEN: Jochen Hahn pictured in 2016 with his father Conni, who died in 2019. 5

He adds that the biggest challenge the partnership has faced was bringing all their latest technical refinements together to create a successful whole - a job that took all of Knorr-Bremse and Knorr-Bremse TruckServices' combined expertise and more. "We have enjoyed a friendly, stable, and reliable working relationship over all these years," says Hahn. And it would be fair to say they have enjoyed themselves, too: "We have worked hard together, but we've had some great late nights as well," he confesses with a grin.

Hahn and his team have been working flat out day and night over the last few months to prepare for the new season and make sure there will be more celebrations in 2023. "Up to 700 hours of work go into our preseason preparations," he explains, adding that up to 20 people are involved in the process. Three mechanics are permanently employed in the workshop, and that number doubles at the weekends. The team need every hand they can get since, as Hahn puts it: "Preparation for the new season starts as soon as the old one finishes. The truck is completely stripped down, we have a good look at every single part, and finally we put everything back together. The new truck then has a shakedown run at lveco in Ulm. After that, we spend three days testing it at Most [in the Czech Republic] and then return to Ulm for another test session before the first race."



A FAMILY FIRM: Jochen, Diana and Lukas Hahn (left to right) operate like a well-oiled machine.

IN 2011, KNORR-BREMSE AND JOCHEN HAHN celebrated his first European championship title

Given that amount of pre-season work, it's no surprise that Team Hahn Racing have set some ambitious targets. "I definitely want to be contending for the title again in 2023," says Jochen Hahn. His son Lukas is aiming high, too: "I want to finish the year as the FIA ETRC Young Driver Champion," he tells us. The Hahns have another surprise up their sleeve for 2023, too: The season opener at Misano in Italy will also see the debut of an electric truck designed and produced by Hahn's engineers. They say the prototype vehicle could even feature as a pace truck at up to two race weekends in the coming season. We can't wait!





An enduring partnership

Knorr-Bremse and Knorr-Bremse TruckServices will continue to serve as Team Hahn Racing's main sponsor and technical partner during the 2023 FIA European Truck Racing Championship season. Knorr-Bremse provides a variety of components for Jochen Hahn's lveco racing truck, including the pneumatic braking and air supply systems, the brake calipers, and the steering, as well as spare parts from Knorr-Bremse TruckServices. All these components are serial products. "Truck racing is an ideal opportunity for us to test our serial products under the toughest conditions," says Dr. Jürgen Steinberger, Chairman of the Management **Board of Knorr-Bremse Commercial** Vehicle Systems. "So we are delighted to be able to continue our valuable contribution to the success of Jochen Hahn and his team, both as a sponsor and as a technical partner."

TWO WHEELS GOOD:

Pedaling to beat pollution

Increasing delivery traffic volume is causing problems for local communities. Cargo bicycles can help to make the "last mile" more sustainable and our cities more livable, too. With the right logistics concept, they can be used efficiently for a variety of purposes.



Pedestrians don't consider bicycles a nuisance, even if they're double-parked or stop on the sidewalk.



GAP-FILLER: Cargo bicycles take up less space and can help to prevent gridlock.

Our city streets are a nightmare. At peak times, cyclists jostle their way around delivery vans and pedestrians creep out from the sidewalk between parked cars, hoping to make a dash for the other side of the street as soon as the coast is clear. Residents are complaining about noise and poor air quality. And things could be about to get even worse. According to parcel delivery service DPD, commercial traffic, including goods and delivery vehicles, accounts for around one third of all traffic in cities. Their figures show that the overall number of parcels sent in Germany each year rose by 3.8 percent between 2018 and 2019, to 3.65 billion. Moreover, BIEK, the German association of parcel and

express delivery service providers, sees no sign of this trend reversing. In fact, they forecast further growth to 4.3 billion by 2024 and up to nine billion by 2028. Unless action is taken to address this issue, cities face being drowned in traffic. City-dwellers find deliveries on the "last mile" (i.e., the delivery van ride to the customer's door) a particular nuisance, not least because of a lack of parking. This means that couriers are frequently forced to double-park wherever they can, leaving pedestrians and cyclists to run the gauntlet.

Dr. Tom Assmann works at the University of Magdeburg's Institute of Logistics and Material Handling Systems, and is also Chairman of the Board of RLVD, the German association of bicycle-based logistics service providers. He sees cargo bicycles as part of the solution to the problem: "They represent an opportunity to make logistics sustainable over the last mile and are particularly well suited for deliveries in the densely populated commercial and mixed-use areas you find in cities with populations of over 100,000." He explains that in these areas cargo bicycles can serve as a spacesaving alternative to vans, thus helping to solve the problem of acute road congestion. As he is keen to point out, electric cargo bicycles could also contribute to meeting environmental targets.

Indeed, cargo bicycles can be used for a wide variety of applications. Germany's sustainable mail-order company Memo, whose delivery riders transport everyday office items to its customers by cargo bicycle, is a case in point. As Memo's CEO and Head of Logistics Frank Schmähling makes clear, "We don't just want to sell sustainable products - we want to establish a sustainable process for them, too." Jörg Ewald is the Managing Director of Ewald Bedachungen, a company specializing in sustainable construction and solar panels. His firm uses two cargo bicycles for deliveries to its construction sites. "If you set your mind to it, you can use cargo bikes very effectively in the construction sector," he insists. He says his firm uses them for getting to and from service call-outs or small-scale jobs on his sites - in short, for anything requiring only limited quantities of tools and materials. He adds that they can also be used for bigger sites, provided the bulk of the materials is delivered in advance. And they allow Ewald to send apprentices who don't yet have a driver's license to sites, too.



» Cargo bicycles are particularly well suited for deliveries in densely populated commercial and mixed-used areas in cities with populations of over 100,000.«

Dr. Tom Assmann, Chairman of the Board of Management, Radlogistikverband Deutschland (RLVD) COURIERS ARE AN EVERYDAY SIGHT **ON CITY STREETS.** By 2028, CEP volume is forecast to reach nine billion consignments. This will have consequences for city traffic.

»Cargo bicycles are a complement to vans. In the long run, they may be able to handle as much as **30 percent of all** consignments.«



However, given the volume of consignments in circulation, the potential for a switch to cargo bicycles (and the environmental benefits that switch would bring) is greatest when it comes to the courier, express, and parcel delivery (CEP) sector. Here, UPS is a pioneer, having been using cargo bicycles in Germany since 2012, and the company's fleet of cargo bicycles has since expanded to 110. As Klaus Stodick, UPS's Representative for Sustainability and City Logistics, explains, "By adopting cargo bicycles, we wanted to make a statement." Going by the results of a recent scientific audit of the company's CO2 emissions, it seems to have been a success. "The study showed that using cargo bikes reduces our CO2," Stodick says. However, Gerd Seber, Group Manager City Logistics and Sustainability at DPD, is skeptical: "As far as carbon footprints are concerned, electric vans are difficult to beat. I don't see any advantage in using a cargo bike. The key is to go electric, using green energy," he says.

Dr. Assmann disagrees, arguing that cargo bicycles are not only clean and virtually silent, but, even more importantly, take up very little space, making them a genuine alternative to vans and trucks. "A cargo bike takes up a third of the space of a 3.5-ton truck, and it's far narrow-

er, too, at 1.25 meters. This makes a major difference when it comes to combating congestion," he points out. "That and the short distances to people's front doors are the main advantages of cargo bikes," Seber confirms. Schmähling agrees, adding that cargo bicycles are far more efficient than vans in terms of overall vehicle volume. For short-distance deliveries in town, maneuverability is an important consideration, too. With a cargo bicycle, it's no problem to squeeze into tight parking spaces or stop briefly in a yard or on the sidewalk. Less time is needed to get to the customer's door, thus increasing productivity.

"Even so, deliveries on cargo bicycles still have to be demonstrably cost-effective," says Stodick. "It must not be any more expensive to use cargo bikes than trucks and vans."



The microdepot: the heart of bicycle-based logistics



CEP CARGO BICYCLES START THEIR ROUNDS FROM MICRODEPOTS. Parking garages in the immediate vicinity of the route are considered good locations

Microdepots are crucial for efficient bicycle-based logistics systems. Once consignments have been delivered from the main depot by the feeder truck, it is in these microdepots that they are transferred onto bicycles, either one-by-one or in pre-packed carriers. For delivery rounds to run efficiently, the microdepots must be situated directly on the delivery route. That makes building them an expensive business, because land in city centers tends to cost more than equivalent plots in industrial areas. There is also a pronounced shortage of suitable sites. Bicycle logistics companies have tested various solutions. As UPS's Klaus Stodick says, a microdepot should ideally allow the bikes to be parked securely and charged overnight. "The infrastructure you get at a big department store, with a loading bay and plenty of space to park the feeder trucks, would be perfect for that." Parking garages are another option, he says, as they offer protection from the elements, have charging stations, and can be served by any truck with a tail lift. As Gerd Seber puts it, "The kind of microdepot that's right for you depends on your individual circumstances."



» As far as carbon footprints are concerned, electric vans are difficult to beat. I don't see any advantage in using a cargo bike. «

Gerd Seber, Group Manager City Logistics and Sustainability at DPD

UPS has the following rule of thumb: Three cargo bikes, each running three routes, equals two standard delivery vehicles with a maximum total permitted weight of 7.49 tons. Delivery rounds start at a "microdepot" in the immediate vicinity of the relevant delivery area, with each route covering somewhere between 2.5 and 3 kilometers. Whether a route proves economical or not depends primarily on the number of stops. According to BIEK, a stop frequency of 15 to 20 per hour is ideal for mixed-use areas with a high proportion of B2C deliveries, or 65 stops per day for areas with a high percentage of B2B and express deliveries.

The compact dimensions of delivery bikes also limit where they can be used. Generally speaking, bikes can accommodate up to two Euro pallets, and have a load capacity of between 300 and 400 kilos. Once consignments start becoming too large or too heavy, cargo bicycles reach their limits. This can be the case when multiple deliveries to a given customer are to be made simultaneously and exceed the bicycle's maximum payload or loading volume. As Seber points out: "As far as cargo bikes are concerned, getting the mix of consignments right is key."

In other words, a number of parameters decide whether cargo bikes can fulfil the high hopes associated with them. "We won't solve the climate problem just by using cargo bicycles, but they will play a big part", says Martin Seissler, board member of RLVD and managing director of cargobike.jetzt, an agency focused on the transition to climate-friendly transportation that advises bicycle logistics companies on product suitability and helps them to develop logistics infrastructure and to access available funding. Everyone involved agrees that cargo bicycles have to be about more than generating good PR. They have to be profitable. Although cargo bicycles are cheaper to run than electric vans, Seber sounds a note of caution: "Cargo bikes are not a cost-cutting project," he says. "Building the microdepots you need is too expensive for that." Nevertheless, all the users agree that cargo bicycles can solve the congestion problem. At the end of the day, the whole idea behind cargo bicycles is to make more efficient use of the infrastructure and improve the quality of life for people in our cities. In the future, low-emission zones and congestion charging could give cargo bicycles a clear economic edge.

Seissler sums the situation up as follows: "The aim here is not to replace every delivery van with a bike." Seber and Stodick add that there is no one perfect solution when it comes to last-mile logistics. In the long term, they estimate that cargo bicycles have the potential to handle up to 30% of all shipments. As Stodick assures us, "Cargo bikes are a valuable component in today's logistics concepts, and they will be in the future, too." Seber very much shares this view: "We will continue to expand the use of cargo bicycles in logistics, and the diversification of delivery vehicles is going to increase." Schmähling agrees and sees this development creating more space to make inner cities livable again.









Always up-to-date



Cultivating close relationships with its customers is a top priority for Knorr-Bremse TruckServices. And what better way to build those relationships than to give them professional support for their everyday work in the workshop? That was the thinking behind Knorr-Bremse's technical training courses that over the years have become a fixture of the Munich-based company's customer service offer.

As Knorr-Bremse's head of technical training Marc Eutin explains, "Training makes life easier in the workshop. For instance, when it comes to diagnosis and fault-finding, speed and accuracy are essential: customers want to get their vehicles back on the road as quickly as possible." To make sure that Knorr-Bremse's workshop customers are fully prepared to work with the latest TruckServices products, the firm delivered a total of 169 on-site training sessions across Germany, Austria, and Switzerland in 2022. The best-attended training courses were on Trailer Electronic Braking Systems (TEBS), but courses required by law, such as those on safety checks and special inspections, also attracted keen interest. All in all, Marc Eutin is thoroughly satisfied with 2022: "Last year was very successful", he says. "We are back to where we were before the pandemic, despite the Covid-related setbacks."

Knorr-Bremse TruckServices' training courses are more popular than ever before. To keep it that way, TruckServices is focusing on networking trainers all over the world and designing future-proof courses, both on site and online.

AN EXCHANGE WITHIN THE TRAINER TEAM for Knorr-Bremse TruckServices is valuable for the further development of training courses. To make sure this success is no flash in the pan, Eutin and his colleagues across the EMEA region are constantly working to improve their training courses and make them as attractive as possible for the workshop staff taking part. Above all, that means one thing: future-proofing. With this in mind, the e-learning offering is continually being expanded and is increasingly seen as a second key element in the training portfolio, complementing the on-site courses. International cooperation within the company also plays an important role. Quarterly "Train the Trainer" workshops bring together 25 instructors from across the EMEA region. These sessions are about more than just updating them on the latest product developments; at each meeting, some of the trainers form working groups to discuss how the training courses can be improved and better meet customer needs.

Eutin has clear views on the direction of travel: "It is important that our training courses are relevant and reflect the way our customers like to learn. 'Chalk-and-talk' teaching doesn't work any longer," he says. That's why he is constantly working with his colleagues to make the training courses as interactive as possible. "It is important for our participants to be involved in the training sessions and have the chance to contribute their know-how and experience. Professional exchanges between specialists are immensely important, and that's why on-site training will continue to play a major part in our work," he explains. The principle of learning from each other even goes beyond the actual training sessions. In the future, Knorr-Bremse's trainers will visit workshops to provide expert on-site support if needed - and, at the same time, to find out about the challenges faced and the needs arising in commercial vehicle workshops today.

You can find detailed information on all Knorr-Bremse TruckServices training courses by going to

https://truckservices.knorr-bremse.com/

and clicking on "Services", or by sending an email to

Marc Eutin: passion for training

When it comes to training, Marc Eutin is in his element. The 47-year-old from Hanau has more than 15 years' experience in designing and delivering training courses in the automotive industry, and took up his post as Team Leader Training for Commercial Vehicles at Knorr-Bremse TruckServices in July 2022. His priority is to generate enthusiasm among those attending Knorr-Bremse's commercial vehicle training courses by delivering attractive, up-to-date events and to convince the participants of the advantages of using TruckServices' products. His training sessions are designed to deliver practical benefits and added value for manufacturers, workshops, and educational institutions alike. Before joining Knorr-Bremse, Eutin spent 22 years at BMW as a master mechanic. He gained plenty of first-hand workshop experience there, including running the workshop at BMW's company-owned dealership in Munich. His time with the Bavarian automotive giant also included a two-and-a-half year posting in India. Marc, whose wife, incidentally, is Indian, had ample opportunity to refine his inter-cultural skills there. That experience has stood him in good stead at Knorr-Bremse in his work with an international team of trainers in the EMEA region. Away from the office, Marc likes to keep fit with swimming, Nordic walking, and mountain hiking, all of which help him to maintain the stamina and concentration he needs to design effective training concepts in a geographically disparate, international team. And if there is one thing climbing mountains teaches you, it's that you reach your goal, no matter how high, one step at a time.



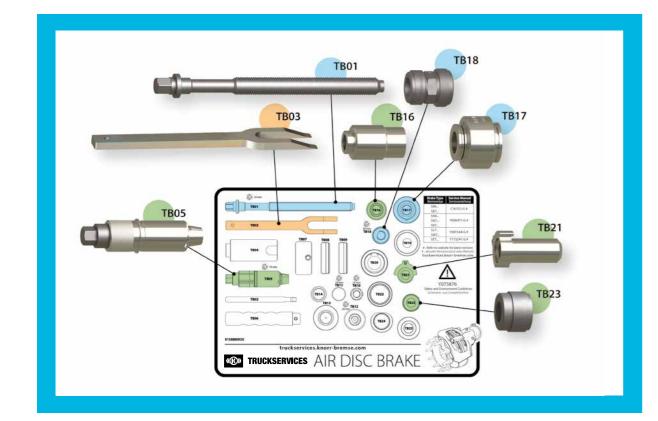
Stefan Schmiedt: A man with a plan

Stefan Schmiedt has been Director Technical Solutions at Knorr-Bremse TruckServices since April 2022. The 48-year-old mechanical engineer is responsible not just for the company's training department and its service hotline, but also for product testing, quality management, and expanding the company's range of products for the aftermarket. Thanks to Schmiedt and his 37 staff, Knorr-Bremse customers can be confident that the TruckServices product range will keep expanding to include precisely the parts they need. At the same time, Schmiedt and his team are also making sure that all these products reach workshops and dealers in perfect condition and with the offered features. Practicallyfocused training courses and an international, highavailability service hotline help ensure that Knorr-Bremse products are used as effectively as possible, and that customers have someone to turn to if they hit problems or need advice. Schmiedt, who originally trained as a plastics technician and hails from Donauwörth, can look back on two decades of experience in testing and R&D in the commercial vehicle sector. He joined Knorr-Bremse in 2012, and spent five years as Knorr-Bremse TruckServices' Director R&D and Testing before taking up his current role. Stefan is married with two children. He lives in Penzberg, where he coaches his local youth volleyball teams in his free time. On the volleyball court he leaves nothing to chance, and his distinctive coaching style focuses on team spirit, developing the individual players in his team, and setting realistic but ambitious targets.

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Up2Date	
 Knorr-Bremse products for MAN applications (Y481674) 	
 MAN Electronic Parking Brake (EPB) (Y418212) 	
 New digital service manual (Y477671) 	
Knorr-Bremse EconX® calipers for brake types SL7 and SM7 (Y478906)	
 Overview of Knorr-Bremse actuators (Y481881) 	
 LA8585 air dryer for MAN applications (Y468458) 	
EAC2 with Electronic Parking Brake (Y467294)	
The documents can be downloaded at	
https://mytruckservices.knorr-brem	ise.com

Spare tools and parts for brake specialists

New replacement sets for Knorr-Bremse's K1588880K50 Air Disc Brake Tool Kit will help professional brake technicians make sure they always have a spare to hand, even if the worst happens.



Top-quality tools are absolutely fundamental for professional repairs and maintenance. But we all know that tools can go missing or be damaged, especially when the going gets tough. When that happens, they need to be replaced quickly to prevent unnecessary delays. To make sure servicing schedules stay on track, Knorr-Bremse TruckServices is introducing three new replacement sets for Knorr-Bremse's K1588880K50 tool kit, which comes with all the custom tools needed to repair and maintain SB6, SN6, SB7, SN7, SK7, SM, SL7, ST7 and SyD7 pneumantic air disc brakes. The replacement sets will be on sale soon and include the parts that are most frequently used and are subject to the greatest strain and wear, such as spindle, nut, fork, grooving and pull-in tools.

EconX[®] brake calipers: the fair-value solution



LA8585 hits the aftermarket



Launched in OE in 2029, the LA8585 air dryer for MAN applications has also been available on the aftermarket since the beginning of this year. The LA8585 not only replaces several different Knorr-Bremse parts and air dryer types; it can also be used to replace air dryers from other manufacturers, which will allow workshops and dealers to stock fewer different types in the future. The OE and aftermarket versions of the LA8585 both deliver the same high levels of quality, providing high performance and excellent durability. The comprehensive service concept of the air dryer for MAN applications also includes spare parts such as desiccant cartridges, exhaust valves, and heater plugs.

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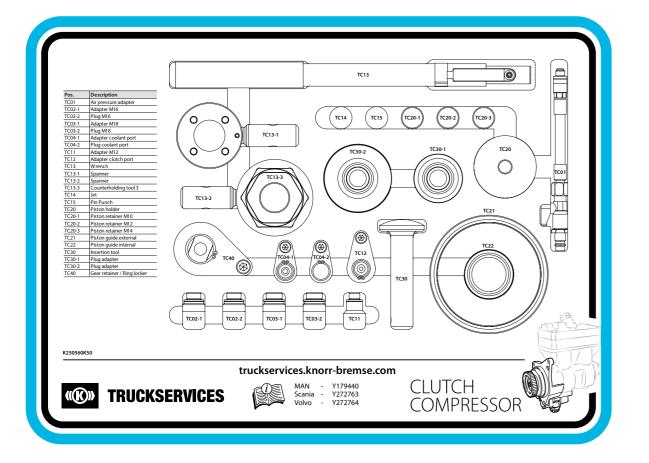
The arrival of calipers for SL7 and SM7 brakes marks the latest addition to Knorr-Bremse TruckServices' EconX[®] range.

You can have sustainability, safety, and good value - Knorr-Bremse TruckServices' EconX[®] products have been proving it for years. Consequently, the company is continually expanding its EconX® product range, most recently adding the calipers for the widely-used SL7 and SM7 Air Disc Brakes. To make sure customers using EconX® calipers for the SL7 and SM7 don't have to forego the high quality they have come to expect from Knorr-Bremse, each part is reconditioned using a special re-manufacturing process. The reconditioned parts are produced according to OE guidelines, offering customers repair solutions that reflect their vehicle's current value without compromising on functionality or safety, and drawing on Knorr-Bremse's experience and the expertise that comes with more than 50 million pneumatic disc brakes fitted on trucks, buses and trailers worldwide.

The versatile LA8585 air dryer for MAN applications is now available for workshops and dealers.

Your handy workshop helper

Knorr-Bremse's upgraded clutch compressor tool kit makes maintaining, repairing, and replacing compressor clutch systems even easier and is a perfect fit for Knorr-Bremse's servicing strategy.



When it comes to dealing with complex systems like clutch compressors, special tools are often essential. Using them is the best way to retain the original condition after repair or replacement. Without these professional tools, critical components like gaskets or guides can easily be damaged, making work more difficult and time-consuming for mechanics. To stop that from happening, Knorr-Bremse TruckServices introduced its clutch compressor tool kit back in 2017. Ever since, the tool kit, which was developed together with a leading manufacturer of specialist tools, has been helping workshops to carry out a range of repair and maintenance work, such as disassembling and assembling the clutch, attaching the drive gear, and fitting actuation pistons. Now, two more tools specially designed for maintaining clutch compressor systems with HTC clutches have been added to Knorr-Bremse's popular workshop toolbox. However, if you already have a clutch compressor tool kit, there is no need to buy a new one; you can order the extension kit with the two new tools directly from Knorr-Bremse. Both the new clutch compressor tool kit and the extension kit are expected to be available from summer 2023.

Service manuals are going digital!

Knorr-Bremse's service manuals for its pneumatic disc brakes will soon be available in digital format. The manuals for the SYNACT® SyD7 are the first to be digitalized, delivering an impressive combination of clarity, ease of use, and high-quality animations.

As an innovative technology leader, Knorr-Bremse TruckServices is keen to make workshop tasks as easy as possible for its customers. With this aim in mind, it is constantly looking for ways to optimize its service manuals and technical documentation.

Now, for the very first time, Knorr-Bremse has released a digital interactive manual for the SYNACT[®] SyD7 Air Disc Brake complete with embedded animations. Users can now select step-by-step instructions for all types of brake maintenance individually in German or English, with on-screen subtitles as required. Having the instructions online also means there is no need to painstakingly print out service documents and manually search for the relevant page.

The online documentation combines high-quality animations and videos with clear, easy-to-understand text, presenting function descriptions and explaining function checks, visual inspections, and servicing and maintenance work as simply as possible. All service steps related to the brake are shown in the animation, so it is ideal for training purposes as well.

The digital service manual for the SYNACT® SyD7 is just the first step. Knorr-Breme is planning to release digital service manuals for each new generation of its pneumatic disc brakes. But this does not mean a complete end to paper documentation. Knorr-Bremse still offers customers the traditional hard-copy manual as well.

You can find the digital servicing instructions for the SYNACT® SyD7 here.

https://eservicemanuals-truckservices.knorr-bremse.com/video/SyD7/







Service is all about trust





Its solar panels and a heat recovery system make it particularly environment-friendly.

The success of the Martin Knirsch Kraftfahrzeuge service centers comes down to expertise and, above all, appreciation and respect for customers and employees alike. Its new facility in Schutterwald is a perfect example of a state-of-the-art commercial vehicle workshop.

From the moment you enter the reception area at the Schutterwald branch of Martin Knirsch Kraftfahrzeuge, you immediately feel welcome. The entrance hall is generously proportioned, and the large windows in the roof and across the front of the building flood the whole area with light. Woodpaneled walls, room dividers, and furniture in rich shades of green enhance the appearance of the building's modern architecture. The staff are all quick to welcome you and say hello, too. "Being exceptionally friendly is essential. It's an important part of our corporate model," explains Markus Verner,

THE SCHUTTERWALD BRANCH IS RIGHT NEXT TO THE A5 AUTOBAHN.



» Customer service is all about trust! News travels fast among fleet drivers when workshops do a good job - and when they don't. «

> Markus Verner, workshop manager at Martin Knirsch Kraftfahrzeuge, Schutterwald



KNORR-BREMSE TRUCKSERVICES CUSTOMER SERVICE REPRESEN-TATIVE THOMAS BASLER talks Markus Verner through the finer points of Knorr-Bremse's latest spare parts.

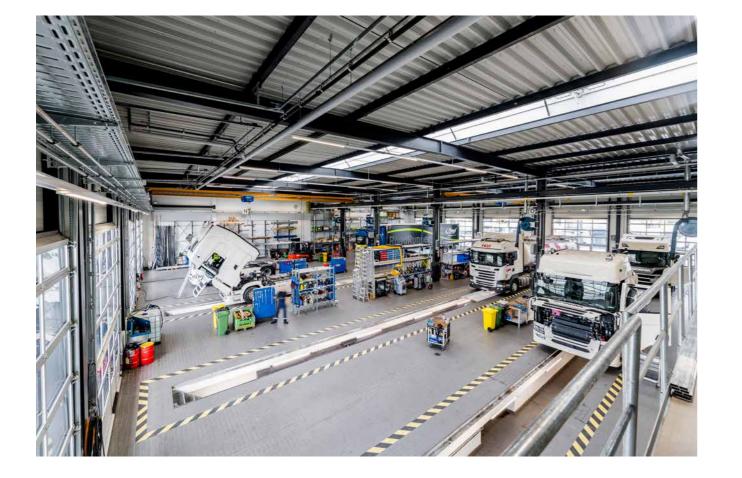
who runs the company's workshops in Schutterwald and Bühl. "Freight contractors and drivers have enough stress to deal with as it is. We want to make their working day as easy as possible for as long as they are here. When it comes down to it, our customers are the most important people for our company; our business depends on them."

As a company, Knirsch lives and breathes appreciation and respect – not only toward the customers, but toward the employees, too. Verner says this is one reason why staff morale is so high. Their general enthusiasm for the company and their work is the foundation of the highquality service Knirsch provides. Thanks to its combined expertise and the close relationships it fosters with its customers, the company and its employees have gained an excellent reputation within the industry. And when it comes to maintaining and repairing trucks, trailers and semitrailers, strong service partnerships are equally essential.

One of Knirsch's closest relationships is with Knorr-Bremse; the two companies have been working hand in glove for more than 20 years. "Knirsch's outstanding reputation is important for us, too," says Thomas Basler, who works in the field force for Knorr-Bremse TruckServices' IAM Commercial Vehicles division. "Having a service partner in Knorr-Bremse TruckServices' Expert Network for trailers also serves to represent our company and helps our customers to get the most out of our products. As a result, we recommend Knirsch's facilities to anyone who finds themselves needing service along the A5 autobahn between Karlsruhe and Offenburg." "Service is all about trust!", adds Verner.

Martin Knirsch Kraftfahrzeuge in a nutshell

The Schutterwald site, located just off the A5 autobahn, is the newest of four service centers run by Martin Knirsch Kraftfahrzeuge GmbH (the others are in Karlsruhe, Bühl and Baiersbronn). The family firm opened the state-of-the-art, 24,000-square-meter facility in 2021. Thanks to its 300 kWp solar panels and a heat recovery system, the facility is powered overwhelmingly by renewable energy. On top of that, the workshop generates no wastewater whatsoever. "Sustainability receives top-level attention. Andreas Knirsch, one of our three Group directors along with Heiko Knirsch and Thomas Gesing, sees to that," Markus Verner explains. The Schutterwald site currently has 26 staff, with 17 of them employed in the workshop. The entire group has just over 200 employees. It has come a long way since the first site opened for business in Karlsruhe in 1970. Today, Knirsch is a dealer and servicing specialist for a variety of manufacturers of commercial vehicles and trailers. In addition, the group sells used trucks and operates a rental fleet of around 800 vehicles.



KNIRSCH'S SCHUTTERWALD BRANCH is equipped with a total of seven service bays, including three with maintenance pits. All seven can be double-stacked.

As he says, news travels fast among fleet drivers when workshops do a good job - and when they don't. To help Knirsch carry on delivering that high-quality service, Knorr-Bremse TruckServices provides regular training on site to make sure everyone working in the workshop is fully up to date on all Knorr-Bremse's products. This year, for example, two sessions on Trailer Electronic Braking Systems (TEBS) will be held at the Baden-based company's modern training center.

Customers clearly trust Knirsch, too. According to Verner, two thirds of all the work completed at the workshop comes from regular customers, and 80% of the jobs they do are pre-booked; the remaining capacity is deliberately kept free for unscheduled work. They seem to have got the balance right: The company's seven service bays are constantly booked up, not least thanks to the comprehensive range of services provided. Alongside the full spectrum of inspections required by law, including working on digital tachographs, Knirsch also can also offer all types of services, right through to axle alignments and complex postaccident repairs. Each of the company's branches has a particular specialist field, and each vehicle is transferred to the workshop that can best meet the customer's requirements - without the customer having to do anything. Knirsch has also made sure that its technicians in Schutterwald are well equipped for the challenges of future mobility. Servicing natural-gas and electricpowered Scania trucks is already all in day's work.

For Knirsch, respect and appreciation are not restricted to customers and employees. As Verner explains, "The chemistry has to be right in a service partnership, too." The preparations carried out prior to opening the new facility, which included stocking the 200-square-meter warehouse with all the necessary tools and spare parts, provided compelling evidence of just how solid their partnership with Knorr-Bremse TruckServices is. The manager is full of praise: "This was a very challenging time for everyone involved, but there was no stress whatsoever with Knorr-Bremse TruckServices," he says. And he adds that that requires a partner who has a deep knowledge of how workshops operate and understands exactly how trucks are repaired and maintained.



close relationships

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FOR KNIRSCH, with customers are key.



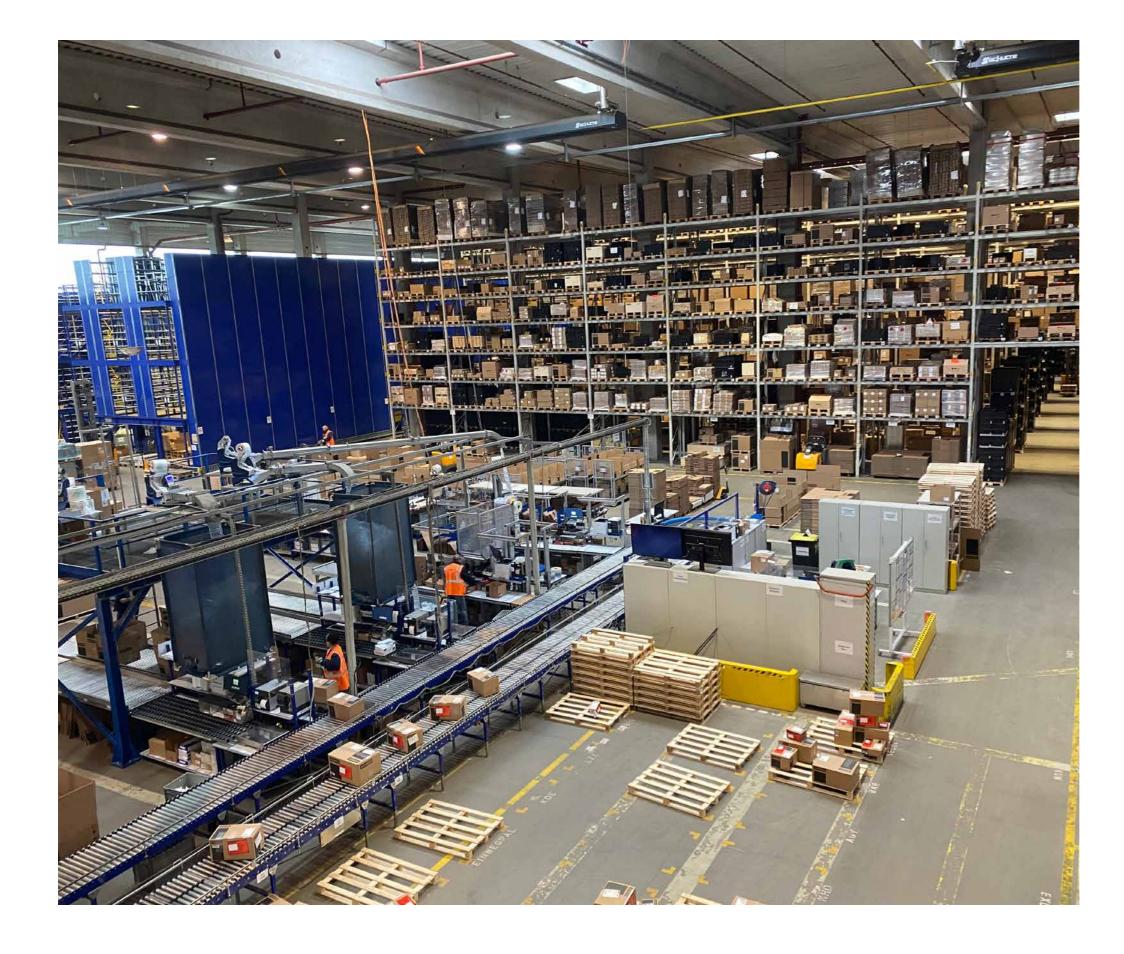
SPARES ARE STORED on three floors in a 200-square-meter warehouse.

Carat expands its logistics operations in southern Germany

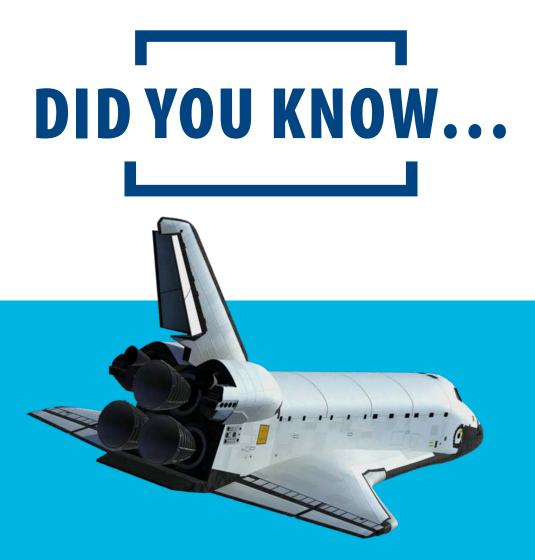
The Carat Group has expanded its logistics network in southern Germany with the addition of an ad-CARGO regional warehouse in Nuremberg. The new facility at the Port of Nuremberg will allow it to optimize its services, in particular the same-day supply of vehicle parts to dealers in the region. According to Carat, a purchasing cooperative of small and mediumsized parts wholesalers, when the warehouse opened for business at the beginning of January, there were 45,000 items in stock at the site, which includes facilities for storing full pallets as well as shelf and block storage space. The stock kept in the warehouse varies depending on day-to-day demand from dealers. Carat estimates there are 193 dealers within the catchment area. The warehouse is also open to dealers from other cooperatives.

As Carat boss Christian Gabler explains, "The Nuremberg site strengthens our position in southern Germany. We want to supply our current members better and faster, at the same time as attracting new ones. Carat is strongly in favor of closer collaboration between purchasing cooperatives, which will help to strengthen small and mid-size enterprises in our industry." Carat sees the new regional ad-CARGO warehouse in Nuremberg as the perfect complement to its logistics center at its warehouse in Castrop-Rauxel. The plan is to have eight to twelve delivery routes operating in southern Germany, supplying customers on a daily basis. Multiple deliveries per day and the option of collection directly from the site will also provide a high degree of flexibility.

THE REGIONAL WAREHOUSE IN NUREMBERG will strengthen Carat's logistics network in southern Germany. It holds 45,000 items in stock.



A new regional warehouse in Nuremberg is designed to enhance the services Carat can offer to dealers in the south – and win new customers, too.



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