



AFTERMARKET

PRECISION TESTED.
SMOOTHEST DRIVE.

GERMAN PRECISION  WORLD - RENOWNED

LEMFÖRDER



A close-up photograph of a precision-machined metal component, likely a bearing or a part of a machine. The image shows concentric rings and a central shaft with a polished surface. A semi-transparent blue rectangular overlay is positioned in the center-right of the image, containing white text and a small German flag icon.

GERMAN PRECISION  WORLD – RENOWNED



DRIVEN BY SAFETY.

Powered by our heritage and obsessive attention to detail. Leading the world as the number one choice for OE steering and chassis components. From expertise comes excellence. From excellence comes safer driving for all.

PIONEERING SPIRIT.

DELIVERING PREMIUM QUALITY WORLDWIDE, THROUGH TRUE EXCELLENCE
IN ENGINEERING FOR MORE THAN 70 YEARS.

Our pioneering spirit and passion for detail sets us apart – and continues to set the highest possible standards in steering and chassis components. Because we work with OEMs, we must ensure that every part passes their tests and meets OEM requirements, which means the independent aftermarket gets the best possible parts from LEMFÖRDER. But we don't just meet standards – we set new ones of our own. We use state-of-the-art technology to ensure our parts are engineered to perfection.



A HISTORY OF PRECISION.

SINCE 1947, PRIDE IN PRECISION HAS DEFINED EVERYTHING WE HAVE DONE AND IT CONTINUES TO DRIVE INNOVATION IN CHASSIS TECHNOLOGY TO ENSURE SAFETY ON THE ROAD FOR DECADES TO COME.



1950

▶ The company begins to provide tie rods to major brands such as Auto Union, Daimler-Benz, Klöckner-Humboldt-Deutz, Opel and Volkswagen.



1969

▶ Axle-guide bearing production begins.



1975

▶ The 25 millionth LEMFÖRDER tie rod rolls off the production line.



1989

▶ The first multiaxial test bench to simulate real vehicle loads goes into operation.

This year also sees the introduction of computer-assisted simulation processes.



2009

▶ ZF unveils an innovative lightweight axle prototype with composite leaf spring axles made of glass-fibre reinforced plastics at the IAA (Internationale Automobil-Ausstellung).

2011

▶ The electric Twist Beam (eTB) prototype for driving compact cars by means of electric motors on the rear axle is first seen at the IAA.



2015

▶ ZF presents a modular rear axle system at the IAA

The ZF lightweight Sheet Metal integrated Control Arm (SMICA) goes into volume production.

ZF presents a lightweight hybrid stabilizer link made of glass-fibre reinforced plastics, polyamide and high-strength steel.



LEMFÖRDER IS FOUNDED, PROVIDING MAJOR AUTOMOTIVE BRANDS WITH INNOVATIVE AND PRECISION PARTS.

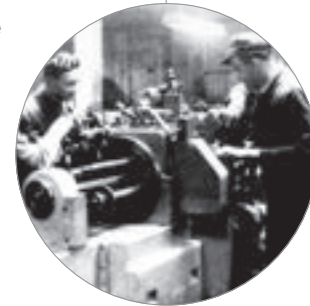
THE ZF INFLUENCE BUILDS ON LEMFÖRDER'S TRADITION AND PASSION FOR INNOVATION AND QUALITY.

WITH 100% ACQUISITION, ZF CONSOLIDATES LEMFÖRDER'S POSITION AS A WORLD-CLASS AND TRUSTED AFTERMARKET BRAND.

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1947

▶ The brand is founded and named after its hometown of Lemförde in Germany. Its logo is inspired by the name of the company's founder Dr. Ulderup (Uul means "the owl").



1954

▶ LEMFÖRDER patents a ball joint consisting of a ball with a pin, which rests in a housing with bearing shells made of plastic, and is therefore maintenance free. The product range now includes tie rods and control rods, ball joints, wishbones and stabilizers.



1976

▶ LEMFÖRDER begins production of the first hydraulically damping engine mounts.

1984

▶ ZF Friedrichshafen AG acquires 51% of the tradition-steeped group of companies comprising LEMFÖRDER Metallwaren AG and LEMFÖRDER Metallwaren J. Ulderup AG & Co.

1986

▶ The first ZF LEMFÖRDER aluminum control arm for BMW goes into OE-volume production.



1994

▶ ZF LEMFÖRDER produces the first axle system for the BMW Z3.



2000

▶ Axle production for the BMW X5 begins.

2003

▶ ZF owns 100% of LEMFÖRDER shares; while the Dr.-Jürgen-Ulderup Foundation holds 6.2% of ZF Friedrichshafen AG.



2013

▶ Volume production of the Active Kinematics Control (AKC), an active tracking alignment system for the rear axle, begins.



TRUSTED WORLDWIDE.

Nearly every leading car manufacturer around the world relies on our parts, tested rigorously to deliver excellent original equipment.

We work directly with OE manufacturers, so you know that every LEMFÖRDER part will be right for the job – developing the parts of tomorrow, to keep your business ahead today.

VEHICLE MANUFACTURERS TRUST OUR TECHNOLOGY.

Alfa Romeo	GMC	Nissan
Audi	Holden	Opel
Bentley	Honda	Peugeot
BMW	Hyundai	Porsche
Bugatti	Jaguar	Renault
Buick	Jeep	Rolls-Royce
Cadillac	Kia	SAIC
Chevrolet	Lamborghini	Seat
Chrysler	Lancia	Skoda
CITROËN	Land Rover	Smart
Dacia	Lincoln	Tata
Dodge	Maruti Suzuki	Tesla
Ducati	Maserati	Toyota
Ferrari	Mazda	Vauxhall
Fiat	Mercedes-Benz	Volvo
Ford	Mini	Volkswagen

BEYOND STANDARD.

“The pioneering processes we use to manufacture our parts bring performance and safety to vehicles across the world.”

SAFETY. NO COMPROMISE. NO EXCEPTIONS.

LEMFÖRDER's development and testing processes ensure Original Equipment with true precision - not only in the manufacturing of each individual part but also, crucially, in how they work together seamlessly: across materials, dimensions, durability, forces and function. And we bring that outstanding OE quality to the aftermarket.

The quality of our parts means that driving, braking and lateral forces are hardly felt at the steering wheel. Our unique tempering process extends the service life of the joints. It also ensures that the cars are bedded-in right from the start, giving drivers road-ready control from day one.



PERFECT FIT.

As an OE supplier to the automotive industry for decades, the world's major motor manufacturers build their vehicles around LEMFÖRDER steering and suspension.

We've developed products that are perfectly suited to the overall vehicle system, and because our development and production competency covers the whole car chassis we can ensure that every part works in perfect harmony and responds as it should.



GUARANTEED QUALITY.

Every part certified according to regulation ISO/TS 16949 and (EU) No. 461/2010.

Continually tested under all types of road conditions and forces, simulating the most extreme weather and workloads, every LEMFÖRDER part meets the strictest possible criteria and highest OEM standards to ensure optimal contact with the road, blending driving dynamics, safety and comfort into one.



PASSION FOR PRECISION.

A CAR FITTED WITH LEMFÖRDER PARTS THROUGHOUT THE WHOLE FRONT AND REAR AXLE WILL RESPOND AS IT SHOULD AND AS IT MUST - THAT IS, **SAFER, COMFORTABLE AND MORE DYNAMIC.**

ENHANCED DURABILITY.

Wear and lifetime tests under temperature influence with customer-specific load data from automobile manufacturers ensure outstanding durability. ▲

LIGHTER DESIGNS.

LEMFÖRDER's design, developmental and manufacturing excellence has helped to achieve the advancement of new lightweight composite parts for serial production across the world. ▲

SAFETY AND STRENGTH.

All LEMFÖRDER parts are continually tested under all types of road conditions and forces - working directly with car manufacturers and using state-of-the-art technology to simulate the most extreme weather and workloads. ▲

PERFECT PARTS.

Our parts are honed and shaped using the most advanced production methods available today, delivering premium quality German engineering down to the finest detail. ▲

TOTAL REASSURANCE.

LEMFÖRDER parts meet the strictest possible criteria and standards - giving you the reassurance of construction, production and testing standards that are as unparalleled as they are rigorous. ▲

TAKING CONTROL.

For the greatest possible safety as well as maximum comfort, up to 70 different individual steering and suspension parts are installed in the modern car or van. Whatever you're fitting, LEMFÖRDER parts guarantee quality, innovation, safety, strength, perfect cornering and every part works in harmony.



LEMFÖRDER BALL JOINTS.

WITH OUR **UNIQUE BALL JOINT TEMPERING PROCESS**, SERVICE LIFE IS GREATLY EXTENDED, ENSURING THAT CARS ARE BEDDED-IN FROM THE START - AND DRIVERS ARE ROAD-READY FROM DAY ONE.

There's a reason that every third ball joint produced worldwide is made by LEMFÖRDER.

► LIGHTER, SMALLER AND STRONGER.

Ensuring greater agility, enhanced stability and more strength, making the car safer and more durable through optimal elasticity and lower friction torques.

► HIGH GRADE MATERIAL BALL PIN

with tensile strength of up to 1100N/mm² following ISO standards of 6892-1.

► LIGHTWEIGHT AND CORROSION AND CHEMICAL RESISTANT,

the polymer bearings offer a much smoother steering returnability.

► HEAT-TREATED FORGED HOUSING

with hardness of up to HV 380 to provide better durability and promotes safety.

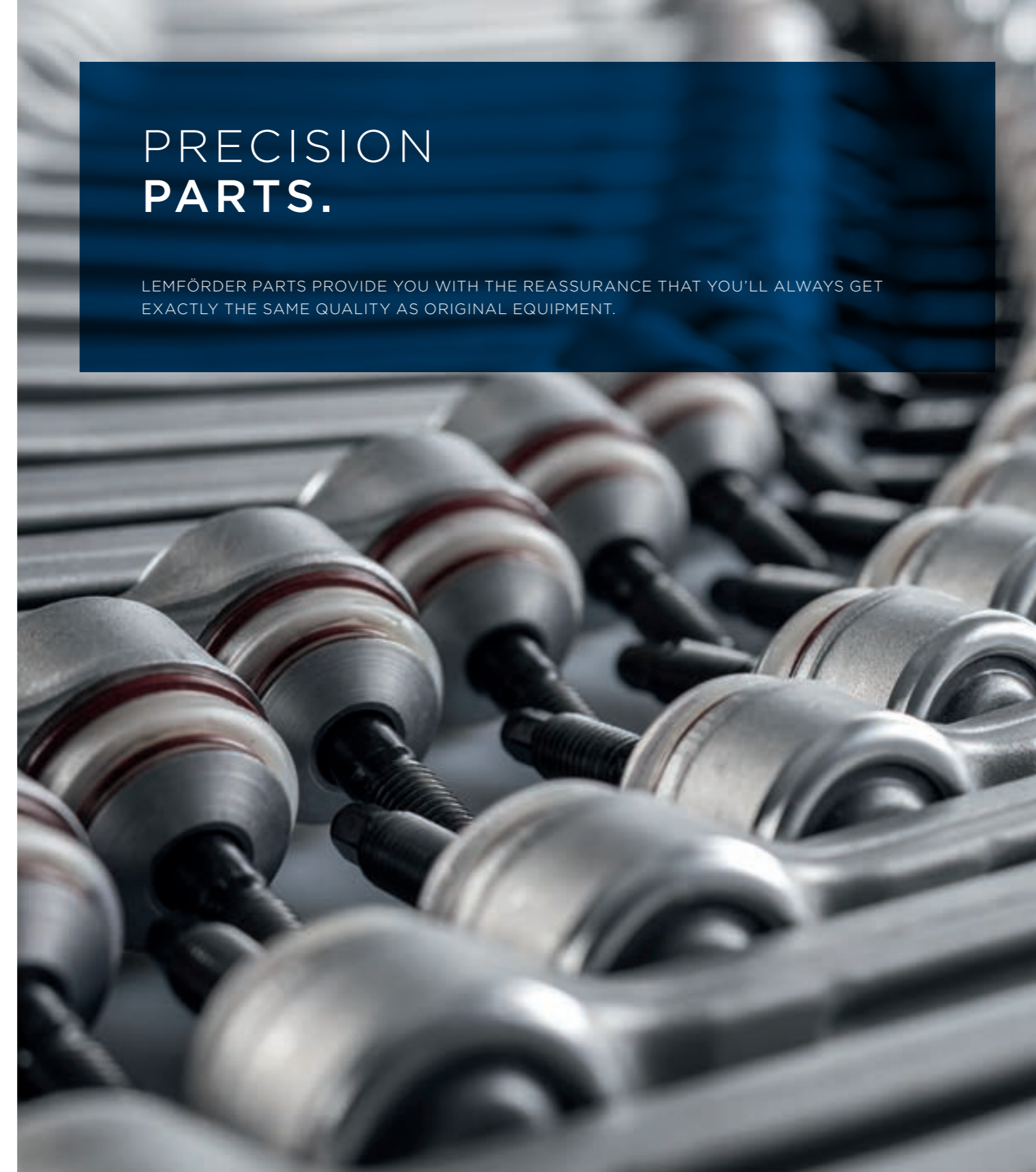
► PRECISE APPLICATION OF SPECIAL GREASING

applied evenly to the whole ball for longer life and better steering.



PRECISION PARTS.

LEMFÖRDER PARTS PROVIDE YOU WITH THE REASSURANCE THAT YOU'LL ALWAYS GET EXACTLY THE SAME QUALITY AS ORIGINAL EQUIPMENT.



SUPPORTING CONTROL ARMS.

Perfect wheel guidance enhances steering, whilst precisely adjusted ball joints and link mounts increase driving safety.



GUIDING CONTROL ARMS.

Up to 23% lighter than conventional control arms, resulting in lower unsprung masses, which in turn causes the vehicle to respond better.



STABILIZER LINKS.

Superb stability on a curve incline or uneven surfaces, ensuring maximum driving safety and comfort at all times. LEMFÖRDER sway bar links are made of weight-saving high-tech materials, with pendulum support in hybrid construction made of carbon fibre reinforced plastic (CFRP), polyamide and high-strength steel, delivering design that pushes innovation to the limit.



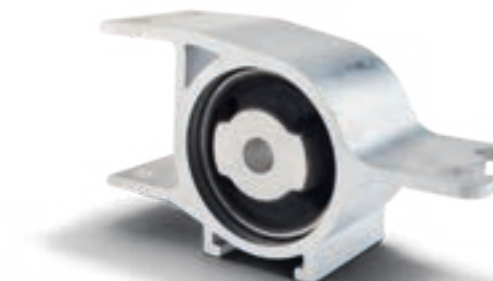
TIE RODS.

Constructed of the highest quality, for precise steering and safe vehicle handling. LEMFÖRDER tie rods offer a wide range of high-quality solutions, each one optimized for installation space and materials used, providing perfect steering, controllability and safe vehicle handling.



RUBBER TO METAL DRIVELINE.

A solid combination of rubber and metal creates multifunctional LEMFÖRDER automotive driveline components that transmit forces, enable defined movements, isolate noise and dampen vibrations.



RUBBER TO METAL CHASSIS.

Through specific dimensioning and shaping, it is possible to influence the tuning of the chassis, influencing noise generation and transfer, steering behavior and driving stability on bumpy roads, as well as during braking and obstacle-avoidance maneuvers.



CROSS-AXIS JOINTS.

Constructed from high quality materials and built to last, they permit the transfer of extremely high dynamic forces with no align torque.



SERVICE PACKS.

LEMFÖRDER provides not only OE quality parts but also everything you need for the perfect OE assembly, including replacements for any worn hardware securing adjacent components that may have been removed during the repair.

DRIVING DYNAMICS.

AKC* FORWARD-THINKING FOR THE REAR AXLE.

For decades, auto developers have sought to adjust rear axle tracking, thus improving almost every driving situation. Now, ZF engineers have achieved it, thanks to AKC* (Active Kinematics Control) and the modular axle concept mSTARS.

AKC* is a state-of-the-art suspension system capable of adjusting its characteristics as the vehicle is driving along, AKC* means more dynamic and agile cornering, improved driving stability and safety at high speeds, as well as all-round easier parking and turning. Another example of true innovation, technological achievement and automotive excellence.

mSTARS AXLE CONCEPT.

mSTARS is a modular system that enables a basic axle to be converted to an electric or a standard powertrain module and/or an AKC* rear axle steering system, depending on the customer's request. Only minor modifications to the car body are required to install the system, and it can be fitted in all kinds of passenger cars, from compact mid-size vehicles to luxury and sports cars.

Advantages:

- Versatile modular design.
- Compatible with complex standard multilink rear suspensions.
- Offers enhanced comfort, agility and stability.

To find out more, visit zf.com



NEW ZF TECHNOLOGY AT THE FOREFRONT OF INNOVATION.

Forward-thinking and innovative, ZF continues to lead the way, creating technology that is unparalleled and supplying parts today for the chassis of tomorrow. ▲

INVALUABLE SUPPORT.

FROM TRAINING TO REPAIR, WE SUPPORT YOU 100% WITH A SERVICE NETWORK AND SERVICES THAT ARE AS COMPREHENSIVE AS THEY ARE INVALUABLE. ALL THE KNOWLEDGE YOU NEED TO GET AHEAD - AND STAY AHEAD.

THE ZF AFTERMARKET TRAINING PROGRAM.

Extensive training on high-tech components in the areas of driveline, chassis system, and active and passive safety technology, as well as transmission, axle and steering systems. ZF's Aftermarket Training also covers hybrid and electrical vehicles - continuously expanded, updated and enhanced.

WORKSHOP CONCEPTS.

Supporting our workshop partners with training and initiatives to help improve the quality and efficiency of your day-to-day work. Enhancing professional competence, providing essential assembly tips as well as access to the latest technical information.

HIGH VOLTAGE TRAINING.

Those who master the high degree of system networking and the different functions of mild hybrid, hybrid and electric vehicles can play a leading role in the businesses of tomorrow. Future proof your business with ZF Aftermarket's innovative training concept for workshops - giving you competent job specific knowledge through modular, coordinated e-learning and practical exercises.

With our high voltage training you can begin by learning the fundamental principles of electrical systems and progress towards a high voltage qualification, enabling you to carry out practical work at an advanced level.

EXTENSIVE SUPPORT.

ZF Aftermarket provides an extensive service for workshops, with a focus on technical information and advice, solid training and expert marketing support - including a technical hotline that provides assistance with the installation and maintenance of ZF Aftermarket products. ZF Aftermarket is a reliable partner who supports you throughout the lifecycle of your vehicles and applications with its own comprehensive service network and an entire range of aftersales services from a single source.

Find out more at
aftermarket.zf.com



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