

ROTOS Running Gear

DriveTechnology for Your Trailer

Success Story

More and more of our customers are opting for in-house produced ROTOS running gear when configuring a Schmitz Cargobull trailer. When we introduced the ROTOS back in 2005, our aim was to take responsibility for all aspects of the trailer. We believe that the running gear is the key component as it sets the bar for the performance of the trailer as a whole. This assembly also has a serious impact on safety and, not least, the Total Cost of Ownership. That represents a major challenge for our in-house Development and Production, a challenge overcome by know-how, expertise, experience and uncompromising quality.



Our seal of quality

The 1,000,000 km warranty on the ROTOS running gear.*



See the video at YouTube.
ROTOS. The running gear.

* excluding wear parts. Restrictions apply to offroad use, Norway and tipper trucks.





Your benefits with ROTOS running gear

- Less heat generation results in greater brake performance
- Maintenance-free wheel bearings save costs
- Lower weight of the unsprung mass gives better vehicle handling
- Flexibility in terms of adjustment to trailer heights and loading ramps
- Standard driver assistance systems improve safety

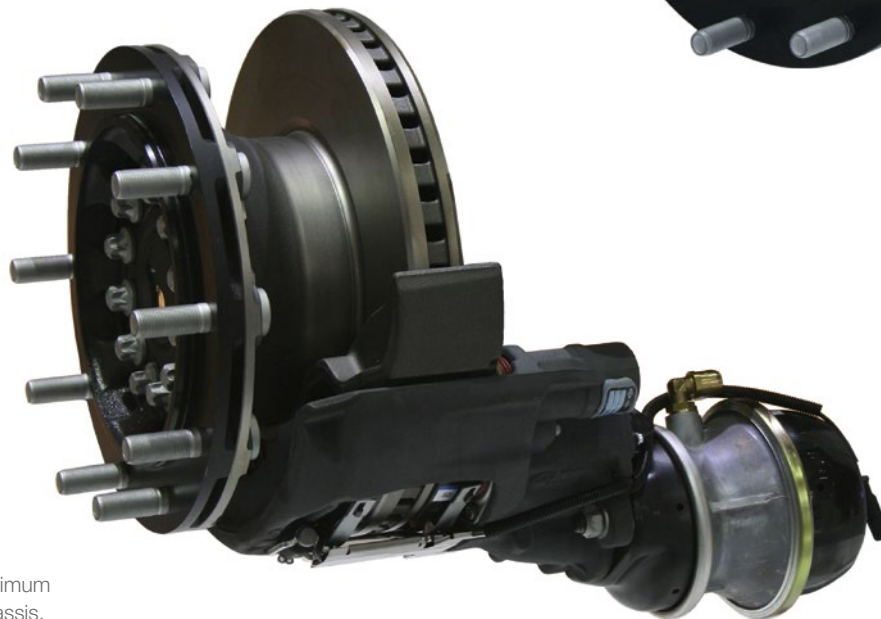
Wide Range of Running Gear

ROTOS running gear is available with all requisite axle designs to meet the wide range of Schmitz Cargobull vehicles. Whether a vehicle needs good braking power, a running gear with a compact design, maximum floor clearance, or maximum durability, there is a ROTOS running gear solution for everything.



19.5" axle hub

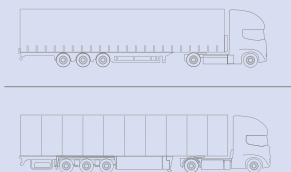
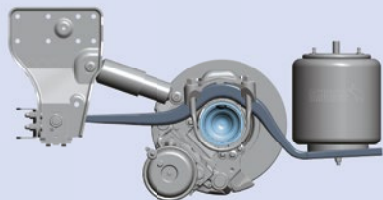
Smaller brake discs with a diameter of just 370 mm help to save weight – the running gear is around 72 kg lighter on a vehicle with 3 axles. Can also be combined with 22.5" wheels.



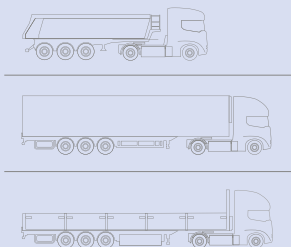
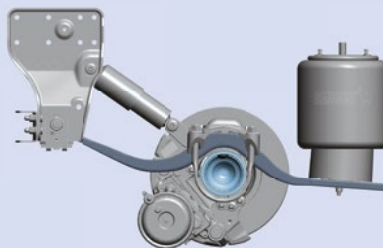
22.5" axle hub

430 mm diameter brake disc for maximum performance of standard and HD chassis.

Low construction height



High construction height



Self-steering axle

Greater manoeuvrability



Axles with a low construction height

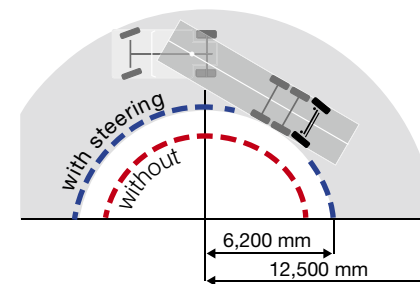
The compact axle units are used with 19.5" wheels on the S.CS MEGA to enable the maximum height of the body, or with 22.5" wheel sizes with the S.KO box body vehicles.

Axles with a high construction height

Vehicles, such as tipper semi-trailers, require maximum ground clearance and can therefore be fitted with an axle with an adapted link spring. This higher construction also forms the basis of refrigerated trailers and the S.PR platform semi-trailer.

Self-steering axle

The demands are stringent when it comes to the manoeuvrability of articulated load trains in road traffic. The rear tyres of a three-axle chassis, for example, are subject to increased friction. A self-steering third axle therefore helps to reduce wear-and-tear. Not only does this increase manoeuvrability, it also improves the tyres' service life as a result of less friction and less contact with the kerb. It also helps to save fuel. ROTOS running gear with self-steering axle improves cost-effectiveness and generates perfect handling. A load-dependent restraint system and steering damper make sure that the vehicle runs smoothly and quietly. The locking system for the rollback lock works either automatically or manually.



Taking the corner

The self-steering axle for when you are in a tight corner.

Maximum Performance

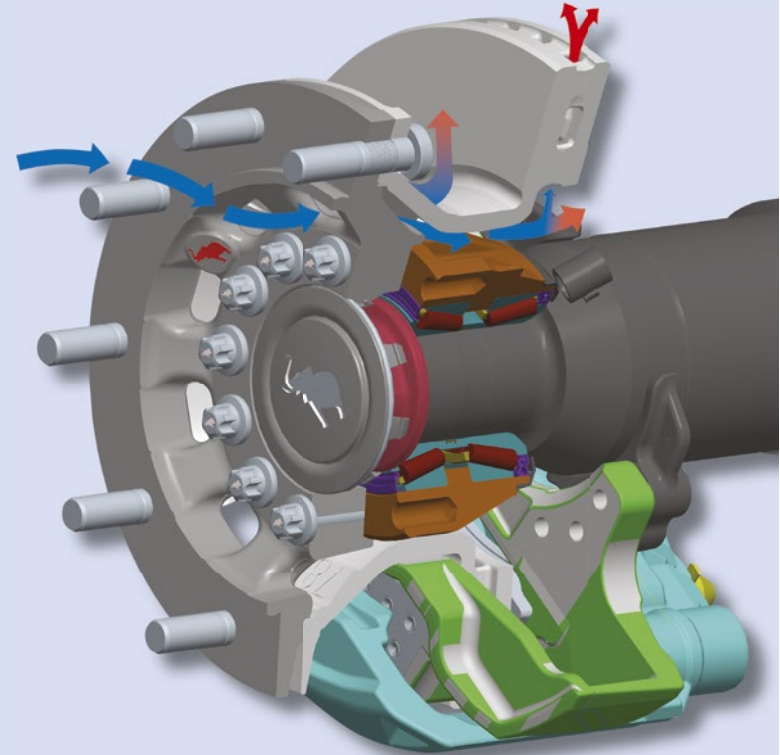
Keeping a cool head has always been a successful strategy. Cool temperatures are also beneficial for brake systems and wheel bearings. This helps to prevent brake fade and reduce wear-and-tear in the bearings.

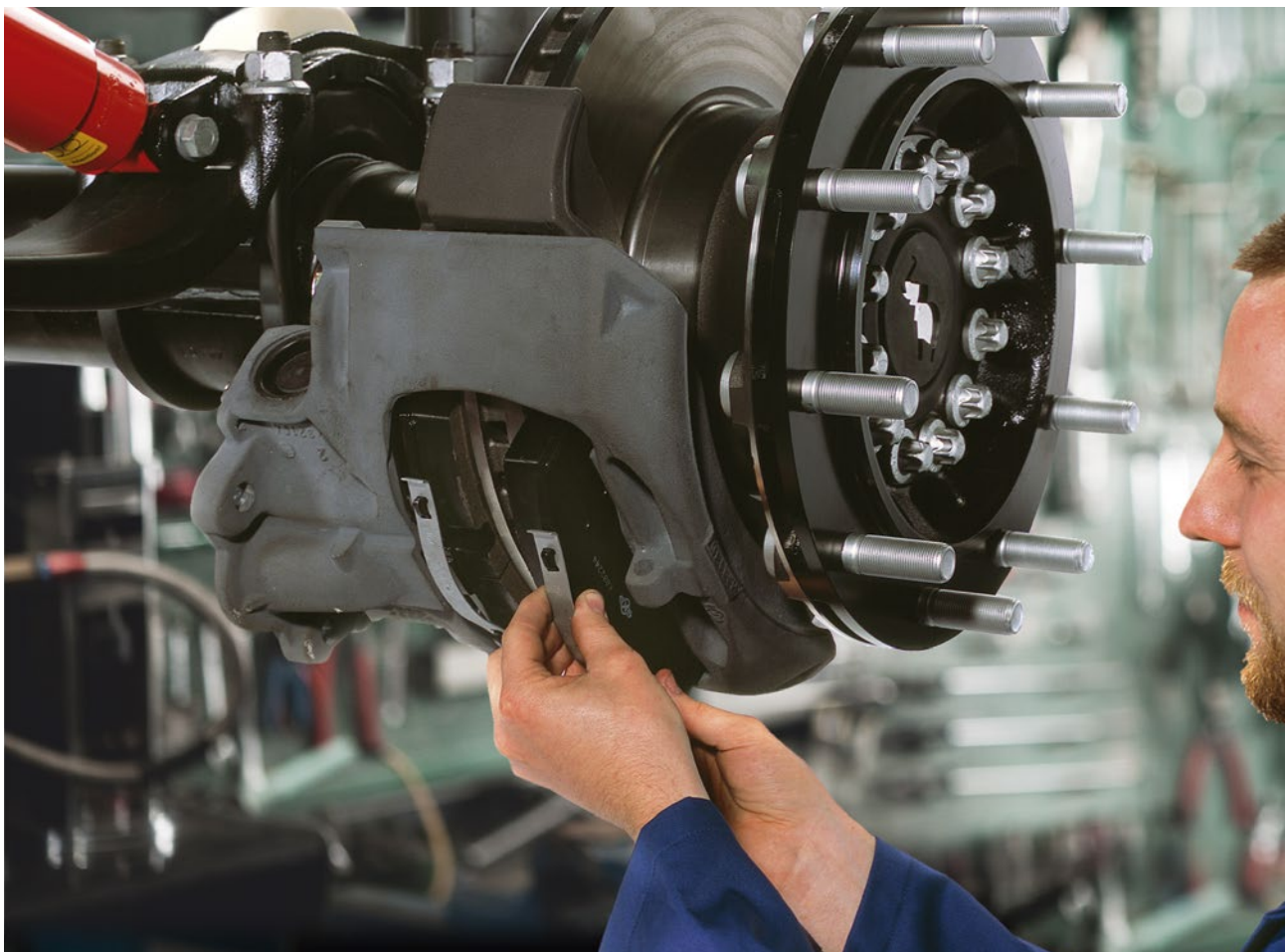
Braking is based on friction and friction produces heat. The aim is therefore to divert heat quickly before the materials are put under too much stress. The design of the ROTOS running gear ensures that the maximum amount of air is applied to the spot where heat is being generated. This means that air is applied to the brake pads from the outside but also directly into the brake disc. The inner cast grooves of the double brake discs enable air to be circulated and prevent continuous cracks.

The wheel bearings also benefit from the axle's well thought-out design. The bearings heat up less because they are well cooled and the brake disc does not have direct contact with the bearing or wheel hub. Keeping everything cool and creating a feeling of safety even when things are "getting heated".

Innovative ventilation system

Design does't get better than this. Air is drawn in from the outside past the hub, and directed both onto and into the brake disc, transporting cold air onto the brakes and wheel bearings.





Simple and high-quality design

Durable, robust and easy to access. The floating brake callipers ensure smooth and even brake pad wear.

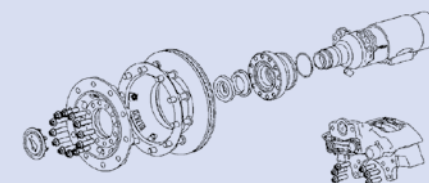
The pre-lubricated wheel bearings require no maintenance and do not even have to be removed if work is required on the brake system.

24 h Service

What cannot be avoided should at least be over quickly. Brake pads or brake discs can be replaced within a minimum amount of time, thanks to their good accessibility. Nevertheless, the brake system remains well protected inside the wheel. Once the brake pad has been replaced, no time needs to be spent adjusting the system as this will occur automatically.

Apart from our service-friendly design, our expertly trained service partners and quick spare parts supply will make you secure in the knowledge that your truck will be out on the road again in no time. To find the closest of our 1,700 certified service partners, simply visit our website www.cargobull.com.

Over 48,000 original spare parts from all renowned brand-name manufacturers are usually available within 24 hours. Customers and workshops have access to the EPOS database, which contains extensive documentation and availability data at www.cargobull-serviceportal.de.



Speedy replacement parts supply

With a quick search in the EPOS database and a speedy ordering process, you'll have your spare part in next to no time. This takes the stress away from any repair work required on your trailer.

Pneumatic Suspension and LSP

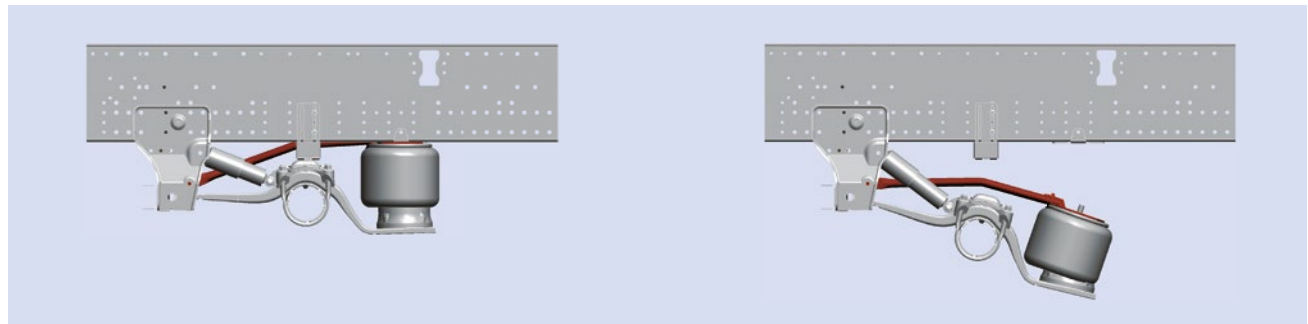
What good is even the best running gear if it is unable to react to tough conditions? In the everyday life of a trailer, the loading ramps aren't the right height, sometimes the freight is not distributed correctly, sometimes the road is too narrow, and sometimes your tyre pressure isn't right. That's why ROTOS running gears boast the technical equipment that enables them to adapt to the current situation, providing the perfect working conditions for you.

Adjusted height

Multi-Ride Height pneumatic suspension (MRH) makes your vehicle more stable on the road, thanks to its load-independent suspension. It also ensures that the fifth wheel height is correct and enables you to adjust the height to suit the loading ramp. The standard Auto Reset Function resets the exact driving height at the start of the journey.

Adjusted fifth wheel load

By reducing the load on one of the axles, the Load Spread Program (LSP) allows you to adjust the trailer's centre of gravity. As such, the trailer always applies the perfect amount of pressure on the tractor, no matter how the weight is distributed.



Safety for multi-modal transport

The loading process for multi-modal transport requires the trailer to be lifted time and again. The splitter separates the air bellows from the vehicle frame to prevent the pneumatic suspension from being put under too much pressure by the suspended running gear. The running gear can now swing freely without overloading the pneumatic suspension.

Stability with Assistance Systems

Always the perfect conditions

The trailer runs quietly, even when the running gear is working at full power. Schmitz Cargobull provides drivers with electronic assistance systems as standard. They control more quickly and more precisely than any human.

The **electronic brake system (EBS)** prevents the brakes from blocking, reducing the braking distance. For the perfect balance, the roll stability program (RPS) stops the trailer from swaying when driving round corners. The high safety standards we have come to expect from tractor unit manufacturers are now also available for trailers.

More manoeuvrability with LSP

The trailer's manoeuvrability improves when the pneumatic suspension removes pressure from an axle, as the theoretical wheelbase is changed. This results in a smaller turning circle.



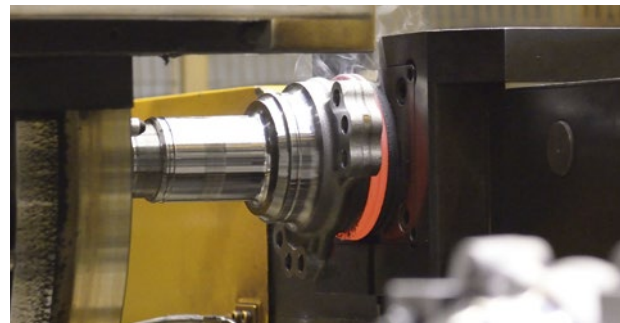
Tyre safety

An integrated tyre pressure control system with automatic re-inflation function coupled with brake pad wear control help to save fuel, minimise tyre wear and avoid a complete write-off caused by faulty tyres. This is all possible thanks to automatic checks carried out by tyre pressure sensors, the TIS (Trailer Information System) display, the TrailerConnect® trailer telematics system or a direct display in the semi-trailer tractor.

Produced in Our Own Factory

The ROTOS running gear is produced at the Schmitz Cargobull plant in Altenberge. Our company's philosophy follows the objective of achieving the greatest possible manufacturing depth with the highest possible quality. We take this responsibility seriously. We invest in research and development. This begins with the design process making use of our expertise and FEM tools, moves on to a sophisticated system of production monitoring, and ends with a number of rigorous tests at the Schmitz Cargobull Validation Centre (CVC).

Our production facilities consist of a series of synchronised processes and a wide range of quality gates, setting the benchmark in the industry. This achieves an efficiency which enables us to maintain and improve our high "Made in Germany" quality at this site.



Innovative technology

The connection between the axle tube and stub axle is produced on a state-of-the-art machine by friction welding without thermal distortion. The high level of quality achieved using this process is reflected in the finished running gear's excellent directional stability.



Unerring precision

The precision of the manufactured axles is compared, measured point by point, with the data of a computer-modelled ideal axle. This means that each and every running gear meets the highest of our quality requirements.

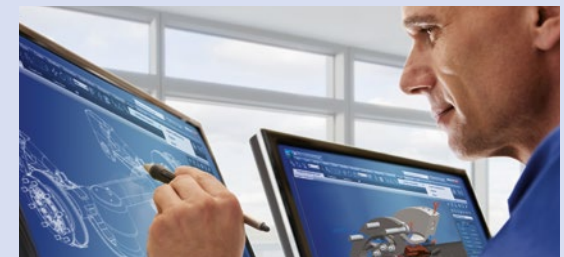


The most stringent of tests

The Schmitz Cargobull Validation Centre uses hydropulsers to hydraulically simulate distances of 1 million kilometres, which exceeds even the tough testing standards used by passenger vehicle manufacturers.

Certified Quality

Our innovative developments are only approved for series production once we are sure that the product meets all day-to-day working requirements. Apart from computer-aided simulation at the development state, the prototypes are exposed to real loads in a comprehensive test environment in the Schmitz Cargobull Validation Center (CVC). All Schmitz Cargobull components and vehicles are therefore well and truly tried-and-tested before they make it onto the roads.



Always thinking ahead

By applying the finite element design method (FEM), we are able to assess the properties of all components at a very early stage and, as a result, develop practical solutions.

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CARGOBULL 
The Trailer Company.



Find out more at:
www.cargobull.com



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