

MULAG

Innovative Technologies for Roadside Maintenance

Ergonomics
ensured

Axle loads
observed

Residual
wheel load
maintained

Mounting
coordinated

Work safety
guaranteed

Your safety with

MULAG Products

A long-standing partnership

Mercedes-Benz
Unimog ExpertPartner



On the basis of an **intensive cooperation between MULAG und Unimog since 1972** MULAG Fahrzeugwerk was one of the first to be awarded by Daimler AG with **the highest partnership level Mercedes-Benz Unimog Expert-Partner** in the context of the new partnership model for equipment body manufacturers.

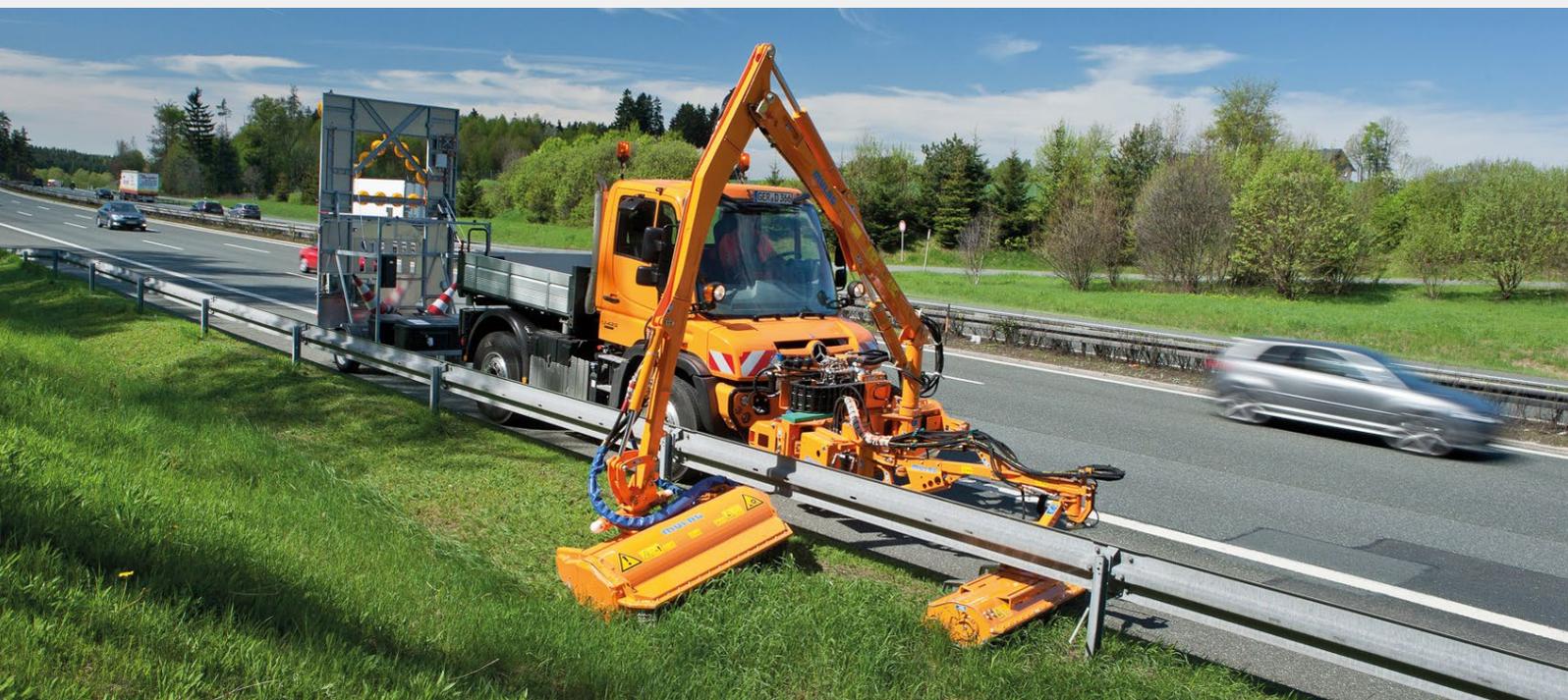
In this extended cooperation which stands for the joint development of equipment, drive concepts and interfaces in the best quality, **MULAG has fulfilled the requirements to the highest level in the areas of quality, sales, service and technology**, which Mercedes-Benz Special Trucks sets for body manufacturers in the field of individual body solutions.

What does that mean for you as a customer?

With the MULAG attachments optimally matched to the Unimog, you can be sure that all aspects of the Unimog mounting and assembly guidelines are fulfilled and certified with a letter of con-

firmation. In particular, it is necessary to prove compliance with important aspects in order to obtain this document:

- **Compliance with permissible axle loads** and the maximum total weight
- **Reliable stability** due to tested residual wheel load with maximum extension of the boom
- **High-capacity hydraulics** with adequate cooling and filtering
- **Tested interfaces** – mechanical, electrical and hydraulic
- **Reduction of the roll angle** in operation due to torsion frame and rear axle locking

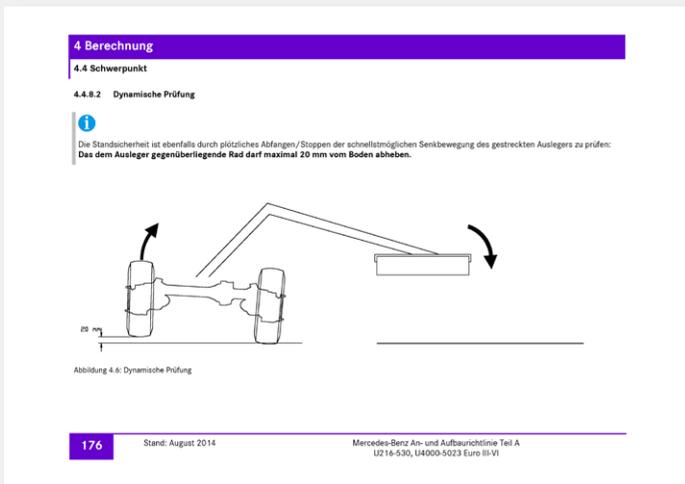


The Unimog mounting and assembly guidelines



The Unimog mounting and assembly guidelines Part B

With the Unimog mounting and assembly guidelines, Daimler AG has defined a precise specification as to how devices must be designed for proper mounting on the Unimog. The operating manual of the vehicle also clearly points out the advantages of an existing letter of confirmation:



Excerpt from the Unimog mounting and assembly guidelines Part A

This is where the advantages of collaborating closely as a Unimog ExpertPartner come into play. Intensive technical coordination ensures that the attachments work optimally together with the carrier vehicle and that all Daimler AG guidelines are fulfilled.



Letter of confirmation for the MFK 500

Unimog Warranty

The warranty for the Unimog can be endangered if these mounting and assembly guidelines are not observed. General requirements such as sufficient stability, maintained axle loads and trouble-free interfaces are prerequisites for the safe use of the vehicle/device combination.



Unimog operating instructions

MULAG original spare parts

In the case of performance-critical parts such as hydraulic components, gears and filters, safety-critical parts such as protective chains and sensors and wearing parts such as flail cutters, cutting knives and mounting parts, no compromises should be made in the quality of spare parts in order to avoid endangering the safety of users and equipment.

Original parts also increase cost-effectiveness through greater availability, higher energy efficiency and an extended service life. The GS safety mark is only valid if original parts are used. Non-original parts, on the other hand, invalidate the warranty.



Original parts offer proven safety

Product details for more safety

Increased operator safety through know-how

The operator's safety increases tremendously if he does not have to leave the cab during the work assignment. MULAG offers various product details to make adjustments to the boom and the carrier vehicle conveniently and safely from the cab.



Unimog with hydraulic torsion frame and hydraulic rotating device

Hydraulic torsion frame

Front axle locking device for the Unimog to prevent chassis distortion (one-sided deflection) when the arm is in mowing position, activated via a toggle switch in the driver's cab.



Hydraulic wheel support

For reducing the roll angle of rear-mounted boom units.

The operator can lock the suspension of the rear axle from the control panel in the cab. The operator does not have to get out of the vehicle.



Hydraulic rotating device



The rotational range is 230°, continuously controlled by the operating panel. The rotational range can be adapted during operation.

Safety-Stop

All our working attachments can be brought to a standstill within approx. 4 seconds by means of a brake valve. On attachments equipped with the **m|tronic** flail arm relief control system, the cutter shaft stops automatically when it lifts off the ground. This means extra safety when using the equipment.



4 sec

From 2000 rpm down to 0 rpm within 4 seconds!



Stone-chipping tests increase safety in operation

MULAG mowing heads are tested in stone-chipping tests according to EN 13524 and EN 17106.

Recognised testing and certification institutes document the successful results with GS certificates for our equipment.

Boom protection system

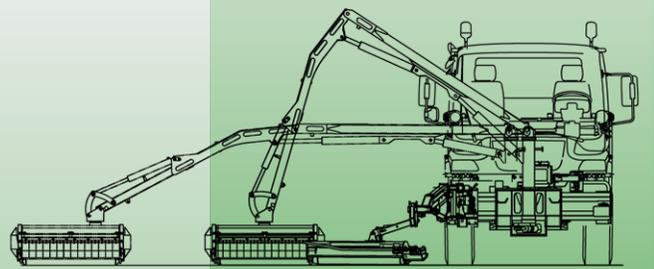
Depending on the reach our boom systems are hydraulically secured and retract in the event of an obstacle.



In the vicinity of the vehicle, the hydraulic maximum pressure for the swivel boom function is low, in the outside area, the hydraulic maximum pressure for the swivel boom function is high. This ensures that the actual maximum permissible starting force against an obstacle remains almost constant, regardless of the current reach of the boom.

Outside area

Intensive area



Ergonomics in the workplace



Multifunction joystick m|pilot in operation

A professional solution

The patented MULAG joystick m|pilot with 6-fold proportional control on one level, adjustable hand rest and a design adapted to the shape of the hand, considerably improves the operating comfort when working with MULAG equipment. All 6 functions can be controlled simultaneously and independently of each other.

4 proportional setting wheel functions

6 function keys

Ergonomic shaped joystick

Proportional, dual cross control

Control panel base with on/off buttons, potentiometer and emergency stop button

More functions on one level considerably reduce level switching. For further applications, the joystick is equipped with 6 function keys to simplify one-hand operation of all options of the equipment.



Right-hand operation (with mowing door)

More safety and comfort for the operator

A compact colour display with a clear and easy to read user interface and pushbuttons with clear feedback (softkey) constitutes the information centre of m|control.



Operator information system

MULAG also breaks new ground in ergonomic device operation: The modular assembly of individual control components into a **single-handed control, combination control or convenient seat control** offers operators the greatest flexibility. The control elements can be individually selected and attached for each vehicle and product. This gives you optimal solutions for professional one and two-man operation.



Armrest seat control for two-man operation

Control system m|control

The **MULAG device control m|control** provides you with a simple and efficient control concept for the combination use of boom devices: Up to six proportional functions can be called up on one level.

By simply switching between levels, two boom units can be controlled comfortably with one joystick. Important information and operating functions are clearly shown in a colour display and made available for activation depending on the operating status.

Advantages of m|tronic power arm relief

- Simple retrofitting options for m|tronic
- High working speed
- Operational reliability and convenience

Ergonomic multifunction controls

Our multifunction controls may be used in various configurations – even the most challenging control tasks can be mastered easily and ergonomically.

Ensure that you have the right products



Accredited testing and certification centres test **the compliance of our products with relevant safety standards** and document their success with a GS mark of conformity. MULAG mowing heads are, for example, subject to **a safety test in accordance with EN 13524 or EN 17106.**

With certification according to **DIN EN ISO 9001:2015** we document through regular **external audits by TÜV Süd** that our quality management system (QMS) meets the requirements of **customer orientation, process orientation and continuous improvement of product quality.**



With the **CE label** we as the manufacturer confirm that our products comply to valid European directives, particularly in connection with **product safety**. This label ensures that the end customer receives safe products **from free trade within the EU.**



EMC testing ensures that technical devices do not interfere with each other by unwanted electrical or electromagnetic effects. This ensures **smooth operation with the Unimog carrier vehicle.**



Unimog Partner since 1972

- decades of intensive cooperation
- today Mercedes-Benz Unimog ExpertPartner

Compliance with equipment mounting directives

- observance of technical specifications
- implementation of the testing standards

MULAG original spare parts

- maintaining the MULAG warranty
- tested and proven components

MULAG Products

Regular testing procedures

- recognised testing and certification institutes
- customer-oriented QMS

Safety-relevant product details

- high operator safety
- above-average occupational safety

High standards in work ergonomics

- ergonomic control units
- user-friendly product details

Distributor

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