

**Goldhofer**



**SERVICES  
AIRPORT TECHNOLOGY**

ALWAYS WITHIN REACH

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**MADE FOR YOUR MISSION**

# GOLDHOFER ALWAYS THE RIGHT SOLUTION FOR YOUR TRANSPORT TASK



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When acquiring your new vehicle, you want smooth processes in which you can concentrate on your core business. From this moment on, our service is available to you anywhere, any time.

With a comprehensive range of service products and services, individually adapted to your needs and wishes, you save time and money in daily use.

At five Goldhofer locations worldwide and with a large number of qualified and authorized service partners, we are always close to you and ensure a rapid supply of wear and spare parts.

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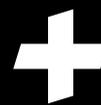
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E-MOBILITY





# DIAGNOSIS AND OVERHAUL

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To ensure low operating costs and optimal use of the vehicles, it makes sense to know the condition of the vehicle and its components and to initiate appropriate maintenance measures. In addition, Goldhofer offers a wide range of services.

- + Vehicle diagnosis and appraisal
- + Component overhaul and revision
- + Vehicle overhaul



# VEHICLE DIAGNOSIS VEHICLE APPRAISAL

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For the sustainable and efficient operation of your vehicles, our service technicians carry out a coordinated test procedure. Here, all vehicle details are recorded, evaluated and documented.

Our specialists check safety-relevant components for completeness and correct function, so you are always on the safe side.

You benefit from a complete technical overview of your vehicle as well as concrete recommendations for repairs or the replacement of components. After the test, we will provide you with a detailed test report with all important information.



## 1. COMPLETE OVERHAUL

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We get your vehicle to nearly good-as-new condition, including warranty

## 2. MAIN COMPONENTS OVERHAUL

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Increases the reliability and availability of your vehicle

## 3. VEHICLE-SPECIFIC REPAIRS

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We repair your vehicle according to your wishes; for example, in order to continue operating it for a defined period of time

## 4. TEST REPORT WHAT IS TESTED?

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- + Frames and superstructures: Inspection of all relevant welded and bolted joints
- + Power train: Motor, hydraulic pumps, hydraulic drive motors and gears
- + Complete hydraulic system
- + Hoses, filters, accumulators, hydraulic pumps and hydraulic tanks
- + Control unit error memories are read out and evaluated
- + Overall sensor system of the aircraft tractor is checked and adjusted if necessary
- + Cooling capacity of the cooling systems is measured, all components are checked
- + All electronic components and wiring
- + Safety-relevant components such as brakes and steering
- + Safety devices, such as the emergency stop functions and GOTIS

### PURCHASING

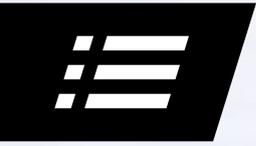
- » Sound foundation for determining the necessary repair requirements for budget planning
- » Decision support on the profitability of an overhaul, repair, or new procurement
- » Investment security when buying used vehicles

### APPLICATION

- » Detailed overview of the vehicle's overall condition
- » Testing and evaluation of safety-relevant components
- » Increasing the reliability of your vehicle after carrying out the proposed repairs

### MAINTENANCE

- » Information on the operational safety of the vehicle and the options for getting it to safe, reliable condition
- » Identification of potential for reducing operating costs
- » Optimization of TCO

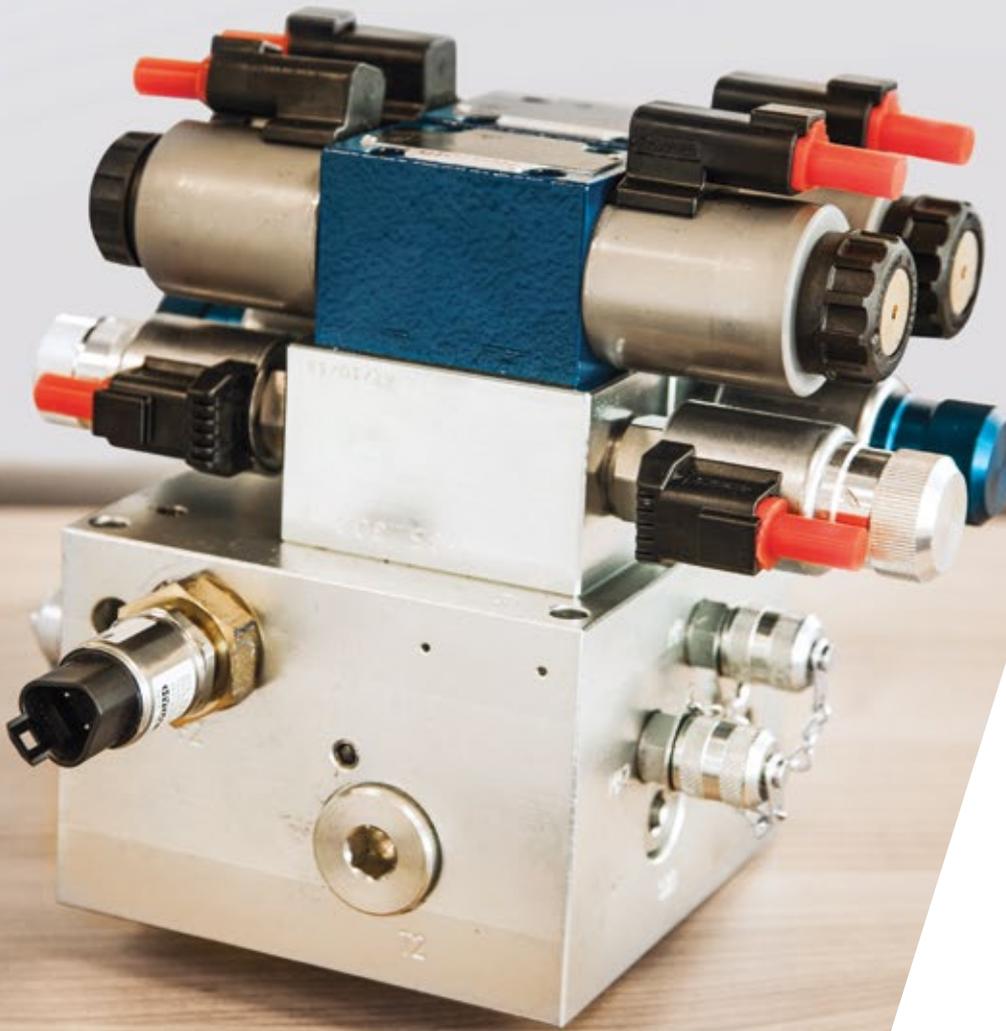


# REVISIONS AND COMPONENT OVERHAULS

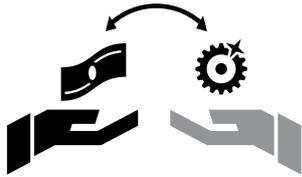
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Whether diesel or electric vehicles – with our components cycle, you can make your vehicle fleet reliable and efficient again, while saving a lot of money at the same time.

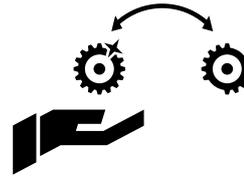
This not only saves you cash, but also enables you to use your vehicles for an especially long, efficient and thus sustainable period of time.



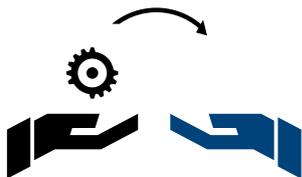
## 1. PURCHASE A REPLACEMENT PART



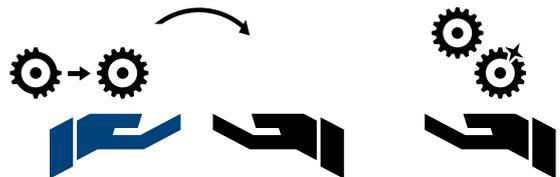
## 2. EXCHANGE COMPONENTS



## 3. RETURN EXCHANGED COMPONENTS TO GOLDHOFER



## 4. RETURN OVERHAULED COMPONENTS TO CUSTOMER



Compared to new parts, you save about 20% when buying overhauled components. If you have your own components overhauled, savings of up to 50% are possible.

### PURCHASING

- » Overhaul saves up to 50%
- » Economic continued operation of the vehicle
- » Optimization of operating costs and TCO

### APPLICATION

- » Overhauled and tested by OEM
- » 12-month warranty
- » Like-new overhauled components

### MAINTENANCE

- » Round exchange possible for fleets
- » Components replaced by new parts can be overhauled and stocked as future replacements



# VEHICLE OVERHAUL OPTIONS

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With a general overhaul, your vehicles will be overhauled from the ground up with the manufacturer's expert know-how, modernized and perfectly adapted to the current requirements.

We recommend this for approx. 15,000-20,000 operating hours. Your vehicle will be overhauled and brought up to the latest technical standard.

This means that aircraft tractors with well over ten years of service will continue to perform well every day for many years to come.



## 1. PREMIUM OVERHAUL (TECHNICAL AND VISUAL)

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- + Vehicle inspection on site or receiving inspection at the factory
- + Complete dismantling of the aircraft tractor
- + Crack testing on the frame and load-bearing elements
- + Overhaul of all main components
- + New wiring throughout the vehicle
- + Overhaul of steering, axles and mounting device
- + New paint
- + Accident repair (if necessary)
- + Testing of all electronic components (controls, operating devices, etc.)
- + Replacement of all small electronic components (sensors, switches, relays, fuses, etc.)
- + Complete functional test and assurance of safety functions
- + Revision of the vehicle documentation according to current condition
- + A TÜV certificate can optionally be issued

## 2. EFFICIENT OVERHAUL (TECHNICAL)

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- + Vehicle inspection on site or receiving inspection at the factory
- + Partial dismantling of the aircraft tractor
- + Crack testing on the frame and load-bearing elements
- + Overhaul of all main components
- + Wiring is tested and replaced if necessary
- + Overhaul of steering, axles and mounting device
- + Testing of all electronic components (controls, operating devices, etc.)
- + Complete functional test and assurance of safety functions
- + Revision of the vehicle documentation according to current condition
- + A TÜV certificate can optionally be issued

## 3. INDIVIDUAL OVERHAUL (FREELY DEFINABLE)

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- + Costs and scheduling
- + Vehicle inspection on site
- + Individual composition of exchange parts
- + Carrying out the overhaul on site
- + Complete functional test and assurance of safety functions
- + Further additions according to your specifications and our abilities

### PURCHASING

- » Alternatives to suit your budget
- » Vehicle use for another 8-10 years
- » Higher resale value, optimization of TCO

### APPLICATION

- » Vehicle condition after the complete overhaul corresponds approximately to that of a new vehicle
- » Increased reliability, reduced operating costs
- » Updating of vehicle systems (electrics, hydraulics, software, etc.)

### MAINTENANCE

- » Complete service from a single source
- » Higher availability and performance, 12 months warranty on the entire vehicle (for premium overhauls)





# SERVICES

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**To ensure that your operating and workshop personnel are familiar with the new vehicle and its technology, intensive vehicle training is an integral part of every delivery. We offer training not only in our own delivery center, but also directly on your premises or at the future location of your new vehicle.**

- + Modifications and modernizations**
- + Training**
- + Full service**



# MODIFICATIONS AND MODERNIZATIONS

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To enable you to react flexibly to changing requirements, guidelines or structures, many of our vehicle innovations can also be retrofitted to older models.

This way, you can be sure that you not only comply with all legal requirements, but also ensure a sustained, high degree of cost-effectiveness, safety and flexibility of use.



**As your area of operation grows, our aircraft tractors will grow with it:**

**Conventional tractors can often be adapted to other aircraft types with additional ballast weights.**

**For towbarless tractors, this is possible through software upgrades and smaller reconstruction measures, depending on the vehicle type.**

**Options can also be retrofitted to cargo and luggage tractors in order to adapt the vehicles to new operating conditions.**

#### **POTENTIAL MEASURES:**

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- + Ballasting
- + Installation of various couplings
- + Damped clutch
- + Fire extinguishing systems
- + Expansion of the towbarless tractors' aircraft range
- + Air conditioning/parking heaters
- + Camera systems
- + Customer-specific features

#### **PURCHASING**

- » Increased economic efficiency of the vehicle through reduced operating costs
- » Investment and planning security
- » Retrofitting increases the range of applications
- » Optimization of TCO

#### **APPLICATION**

- » Adaptation to changing operating conditions
- » Efficient use of vehicles
- » Improved ergonomics

#### **MAINTENANCE**

- » Optimization through additional safety systems
- » Retrofitting of technical developments
- » Increased ease of use



# TRAINING

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**Our training program is as individual as your deployment requirements; we therefore tailor our training exactly to your requirements so that you can be sure that you are always using your fleet as efficiently as possible.**

**Because with the latest technology, our vehicles are designed for optimal, profitable use.**



# 1. DRIVER TRAINING

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To ensure particularly safe and economical operation, we train your driving and operating personnel in all relevant functions of your vehicle. We attach particular importance to safety and economy.

# 2. TECHNICAL WORKSHOP TRAINING

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Various technical training courses around our products turn your workshop personnel into Goldhofer professionals. In particular, the potential of our electrically powered vehicles with »IonMaster« technology can be optimally exploited by competent workshop personnel.

# 3. INDIVIDUAL TRAINING

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To optimally train your personnel, we create tailor-made training courses according to your requirements and wishes. We carry out all training courses both directly at our factory and at your premises.

## PURCHASING

- » Increased safety in vehicle operation
- » Targeted execution of work by certified drivers and technicians
- » Reduction of wear through optimal use and maintenance

## APPLICATION

- » Optimal use of vehicles
- » Increasing the acceptance of vehicles by drivers and technicians
- » Qualification and certification of your employees to the satisfaction of your customers

## MAINTENANCE

- » Reduction of costs caused by operating mistakes
- » Economic operation of vehicles
- » Reduction of maintenance costs due to higher maintenance quality
- » Optimization of TCO



# FULL SERVICE

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**We take over the planning and execution of all service work, repairs and point out necessary modifications and modernizations to you.**

**Concentrate on your core business – we'll take care of the service!**





## POSSIBLE SERVICES:

- + Execution of all repair and service work by our service technicians or authorized Goldhofer service partners on site
- + Repair maintenance
- + Preventive maintenance, execution of all prescribed maintenance tasks
- + Maintenance beyond the prescribed maintenance requirements
- + Exclusive use of original parts
- + Replacement vehicles
- + Scope and services individually configurable

### PURCHASING

- » Investment security through long-term and fixed, predictable costs
- » Reduced administrative outlay  
Reduced workload for your staff
- » Preservation of vehicle value, higher resale value and optimization of TCO

### APPLICATION

- » Shorter vehicle downtimes for higher availability and reduced operating costs
- » Exclusive use of original parts
- » High operational safety

### MAINTENANCE

- » Spare parts management and maintenance according to operating conditions
- » Everything from a single source
- » Reduction of operating costs



# SPARE PARTS

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In order to be able to call up the optimum performance, individual components are specifically matched to our vehicles. Get to know our Goldhofer original parts here:

- + Filter packages
- + Original Goldhofer parts





## FILTER PACKAGES:

- + Save up to 45% on individual orders when you use full maintenance packages for your vehicles according to our maintenance schedules
- + We are also happy to put together individually tailored filter packages for your special requirements; for example, for dusty environments or extreme cold

## ORIGINAL GOLDHOFER PARTS

- + Flexibility for all future challenges enables economic planning of the vehicle fleet
- + Highest operational reliability due to proven components from the original manufacturer
- + Maximum operational availability through smooth interaction of all components
- + Wear and spare parts packages save you time, money and guarantee parts completeness

### PURCHASING

- » Securing your investment
- » Guaranteed consistent quality
- » Warranty on the vehicle is maintained

### APPLICATION

- » Guarantees a reliably running vehicle
- » Clear planning and easy handling for the technician
- » Short-term availability ex warehouse

### MAINTENANCE

- » Order via a spare part number  
Minimization of costs for organization and procurement
- » Economical and sustainable by avoiding the wrong parts
- » State-of-the-art vehicle technology, technical modifications are incorporated into original parts





# **SPECIAL TOOLS, DIAGNOSTIC TOOLS AND REPAIR SETS**

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**We offer you special tools, diagnostic tools and repair kits for fast and reliable diagnosis of malfunctions and economical servicing of your vehicles.**

**For example, you can use your laptop and our diagnostic software for carrying out repairs, safe commissioning, and setting all necessary parameters following repair.**

**+ Special tools, diagnostic tools and repair kit**



# SPECIAL TOOLS, DIAGNOSTIC TOOLS AND REPAIR SETS

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Our electronic and hydraulic measuring devices completely cover the required measuring range for your vehicle.

Safety-relevant systems can be tested and adjusted with our diagnostic tools according to manufacturer specifications. Some of our special tools (e.g. GOTIS test tool) can also be rented for the duration of a repair.

We are happy to advise you, even for older vehicle models and put together the necessary tools according to your needs.

	»SHERPA« D	»SHERPA« E	»BISON« D	»BISON« E	F396	AST-1X	»PHOENIX« AST-2P/X	
<b>+</b> UNIVERSAL FILLING AND TEST ADAPTER FOR PRESSURE RESERVOIRS	+	+	+	+	+	+	+	+ Maintenance/commissioning of pressure reservoirs in the hydraulic system
DIGITAL HYDRAULIC PRESSURE GAUGE	+	+	+	+	+	+	+	+ 0-600 bar + Min./Max. value storage + With adapter and mini cable, 3 m
MOBILE MEASURING DEVICE MULTIHANDY 2020	+	+	+	+	+	+	+	+ For the recording, storage and evaluation of measurement data + Pressure + Flow rate + Temperature + 3 channels
EMERGENCY RELEASE DEVICE WHEEL TRANSMISSION						+		+ For emergency operation and towing of the vehicle
GOTIS TEST TOOLS						+	+	+ To perform the mandatory GOTIS measuring cell test
VACUUM PUMP						+	+	+ With spiral hose and adapter for hydraulic tank + No leaks when opening the hydraulic system
TIRE PRESSURE GAUGE						+	+	+ 0-16 bar
JACK						+		+ For emergencies + 2 stamps + Mobile use + Hand pump + Ready for immediate use
MEASURING DEVICE FOR ACCELERATION AND DECELERATION FORCES	+	+	+	+	+	+	+	
HYDRAULIC TEST CASE	+	+	+	+	+	+	+	+ 0-400 bar + Stable, oil-resistant plastic case + Free compartments are available for extended use + All pressure gauges are mounted in a protective case with a magnetic holder + 3 measuring hoses 2,000 mm long M16X2 + Reducing spigot G 1/2" + 3 pressure gauges 0-40/0-250/0-400 bar
BREAK-OUT BOX						+		+ To perform troubleshooting and electrical measurements on the electrical system (I/O modules)
DIAGNOSTIC INTERFACE INCL. SOFTWARE FOR STEERING SYSTEMS			+	+				
DIAGNOSTIC INTERFACE FOR POWER SHIFT TRANSMISSION DANA	+	+						
WORKSHOP DONGLE			+	+				+ Allows access to a service-specific menu in the central display



# SERVICE FOR E-MOBILITY

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In order to configure the perfect e-vehicle for your requirements, our specialists are at your side with help and advice.

We also support you with training and repairs after the purchase has been made. Although electric fleets are generally very low-maintenance, we offer various services to make sure you can use your fleet as efficient as possible.

- + User training
- + Workshop training – customizable
- + Provisioning/planning for spare parts



# CONSULTING

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**For the best overall performance and efficiency, our electric vehicles can be individually configured. To do so, we need to ask four important questions:**

## **1. WHAT IS THE REQUIREMENTS PROFILE FOR THE VEHICLES?**

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The first step is to determine which routes and performance your new e-vehicle will cover. If you have bigger differences in altitude or long alternative routes, these factors must be taken into account in the configuration from the outset.

## **3. HOW MANY E-VEHICLES DO YOU NEED?**

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The first two questions automatically determine the size of the fleet required. Due to the individual configuration and more efficient use, fewer e-vehicles are often sufficient for the same application profile.

## **2. WHAT IS YOUR CHARGING INFRASTRUCTURE LIKE?**

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Optimal economic and sustainable use of your electric vehicle is guaranteed with 400V lithium-ion battery. This makes the proverbial "charging during a coffee break" possible and guarantees the efficient use of your electric fleet. Using our four different charging options, as well as your existing conditions in terms of charging stations and electrical capacities, we develop the ideal charging infrastructure for you.

## **4. HOW DO YOU MANAGE YOUR ELECTRIC FLEET?**

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As soon as your e-vehicles are in use, they have to be used efficiently. Here, too, Goldhofer offers support in the form of training and advice – because electric vehicles cannot be treated the same as diesel vehicles and driving and refueling habits have to be re-trained.

## CONTACT GET IN TOUCH WITH US!

### GOLDHOFER AIRPORT TECHNOLOGY

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Location: Donaustrasse 95, 87700 Memmingen/Germany  
Location: Parkstrasse 19-21, 73760 Ostfildern/Germany  
Web: [www.goldhofer.com](http://www.goldhofer.com), E-Mail: [info@goldhofer.com](mailto:info@goldhofer.com)

### SALES

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Telephone: +49 8331 15-343  
E-Mail: [sales-airporttechnology@goldhofer.com](mailto:sales-airporttechnology@goldhofer.com)

### SERVICES AND SPARE PARTS

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Telephone: +49 8331 962 99 99, Fax: +49 8331 15-247  
E-Mail: [service-airporttechnology@goldhofer.com](mailto:service-airporttechnology@goldhofer.com)