



Manual

Transfer Vehicles/Chaser Bin

GTU 21 / GTU 25 / GTU 32



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Dear client,

We are pleased to hear that you have decided for a Transfer vehicle from the "Maschinen - und Antriebstechnik GmbH & Co. KG".

To achieve the maximum performance and to avoid operating errors, we advice you to read this manual before putting the machine into operation.

If you have any queries or want to order replacement equipment, please contact us by calling the listed telephone numbers.

We wish you a successful and effective work with your new transport and transfer vehicle from Güstrow.

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Our transport and transfer techniques are constantly evolving. We reserve the rights to apply technical adjustments without prior announcement.

For damages and operational errors resulting of disregarding of the manual, the MuA Landtechnik GmbH & Co. KG will assume no liability and guarantee.

1. Intended use

The transfer vehicle is a working device for transporting and transferring of crop, free flowing fertilizer and seed, as usually used in the agriculture.

Any further use is not intended, therefore the user has to bear the risk.

To the intended use also belongs the observance of the care and maintenance conditions and the security advices as well as the exclusive use of the original spare parts.

2. Security advice

1. When loading, transferring and driving no person may be located on the transfer vehicle.
2. The warning advices and security instalments located at the trailer must not be removed or changed.
3. Before decoupling assure yourself that the vehicle is front-heavy to avoid a rear-up.
4. The decoupled trailer must not be loaded.
5. While driving backwards a banksman is required.
6. Make sure all protection devices are installed before the drive shaft is switched on when using the pto.
7. It is not possible to brake, while the braking power regulator is on position "loose".

8. After the first loaded tour the wheel bearing has to be checked (after that every 50 working hours) and all screw connections, especially wheel bolt and towing eye, have to be checked.
9. The engine of the carrier vehicle needs to be switched off and the ignition key to be pulled out when working in or at the transfer vehicle.
10. Every care and maintenance work as well as repairs may only be done with a switched off engine and a completely emptied bin. The spreader has to stand unendangered and secured against rolling.
11. After repairs every protection device is to be reinstalled. Operating without them is strictly forbidden.
12. Before driving on public streets the spout has to be fold in.
13. The allowed axle load, permitted drawbar load, the over-all weight and the maximum speed need to be considered.
14. When having brake malfunctions instantly stop the carrier vehicle and rectify the problem.
15. When coupling and starting no persons are allowed to be between the carrier vehicle and the trailer. If a work-related stay is required, carrier and transfer vehicle need to be secured against rolling.
16. The door under the horizontal auger is to be closed before the machine is activated.
17. The cleaning points at the bottom of the vertical auger always need to be closed before the machine is activated.
18. In the range of the entire hydraulic system exists the danger to be injured by pressurised leaking hydraulic oil. Damaged or defect parts of the hydraulic system have to be changed immediately by professionals.
19. When opening the unloading auger take care that in there are no obstacles in the moving range. Opening near electric overhead wires is strictly forbidden.
20. Always make sure of free escape of the material from the unloading auger.
21. The use, care and maintenance of the chaser basically need to take place with carefulness and respect to every relevant security advice, regulation and law by persons who are familiar with it and are well informed about the dangers.

1.2 Warning Stickers



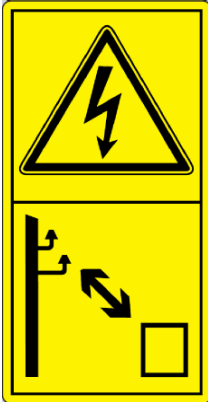



Warning stickers point out possible dangerous situations. They serve the security of all persons, who deal with the transfer vehicle.

All imaged signs have to be installed well readable on the transport and transfer vehicles from Güstrow.

Missing or unreadable stickers have to be replaced instantly!

Caution!

Missing or unreadable stickers can be obtained at authorized dealers or directly at the firm MuA Güstrow.

<ul style="list-style-type: none">Risk of crushing during operation  A yellow rectangular sign with a black border. The top half contains a triangular warning symbol with a black silhouette of a person being crushed by a falling object. The bottom half contains a black silhouette of a hand being crushed by a rotating auger, with a red 'X' over the hand.	<ul style="list-style-type: none">No riders during work and transport  A yellow rectangular sign with a black border. The top half contains a triangular warning symbol with a black silhouette of a person falling from a height. The bottom half contains a black silhouette of a person standing next to a moving part, with a red 'X' over the person.
<ul style="list-style-type: none">Keep sufficient distance from electric overhead wires especially with open unloading auger (install sign in driving cab)  A yellow rectangular sign with a black border. The top half contains a triangular warning symbol with a black lightning bolt. The bottom half contains a black silhouette of a hand reaching towards an overhead wire, with a red 'X' over the hand.	<ul style="list-style-type: none">Do not stand in operating range of moving parts  A yellow rectangular sign with a black border. The top half contains a triangular warning symbol with a black silhouette of a person being struck by a moving part. The bottom half contains a black silhouette of a person standing in the operating range of a moving part, with a red 'X' over the person.
<ul style="list-style-type: none">Never reach in the turning augers  A yellow rectangular sign with a black border. The top half contains a triangular warning symbol with a black silhouette of a person being struck by a rotating auger. The bottom half contains a black silhouette of a hand reaching into a rotating auger, with a red 'X' over the hand.	<ul style="list-style-type: none">While operating do not open or remove protection equipment  A yellow rectangular sign with a black border. The top half contains a triangular warning symbol with a black silhouette of a hand reaching into a rotating auger. The bottom half contains a black silhouette of a hand reaching into a rotating auger, with a red 'X' over the hand.

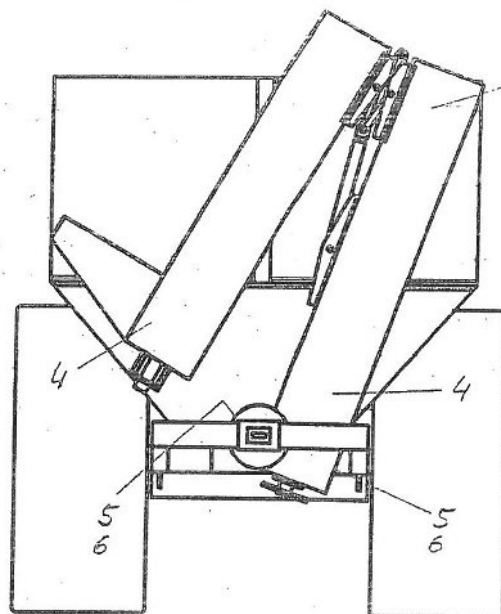
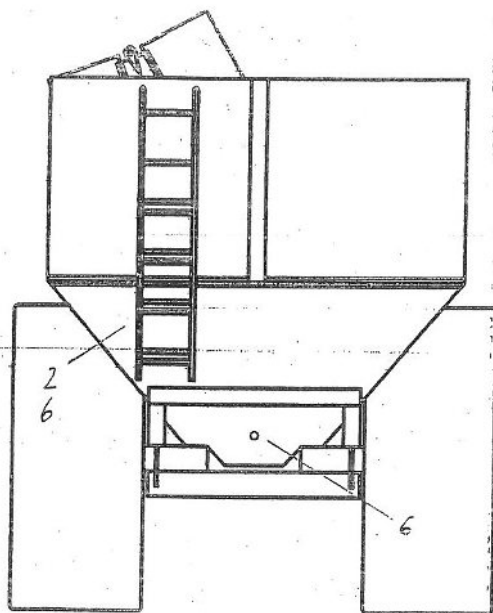


Abb.1 overview of the warning stickers

3. Manual

This manual corresponds to the technical details at time of supply. We reserve changes at any time. Claims of any kind cannot be taken from this manual.

3.1 Coupling

The height of the towing eye has to be adjusted to the bolt coupling of the tractor. (chassis has to be located horizontally or slightly leant to the front) The same applies for the models with ball-shaped head coupling type 80.

Couple the chassis to the tractor.

Raise the jack fully, (the foot can be removed if this catches the straw swath)

(The bolt coupling needs to conform to the TÜV-guidelines.)

Connect the lines of the compressed air braking system (red: store pipe, yellow: braking line) and the electric wires.

Adjust the braking power regulator, check brake and lights..

Connect hydraulic couplings and shaft. **Check that the speed of the unloading auger opening is restricted to provide a smooth, slow and controlled movement for both opening and closing by adjusting the tractor spool valve.** The hydraulic slide need to work on the most conveniently controlled spool valve on the tractor as this stops the flow of material in an emergency.

Loose hand brake at trailer, remove wheel wedges.

The trailer is ready for use.

3.2 Operation of the transfer vehicle

Chasers with steering axle (GTU25 / GTU32) the operating ran of the hydraulic system has to be set to retracted/floating position to activate the steering. When reversing the steering control rams need to be fully extended, to ensure the steering is locked.

Before loading the trailer close the hydraulic slides. The display on the front side of the vehicle is located on position "closed".

When filling the transfer vehicle take care that no foreign substances reach into the trailer. Should the vehicle be loaded with a loader, crane or the like, we recommend using a screen (screen look "Additional equipment").

After filling the trailer only unload on a level work place. Open the unloading auger, Activate the augers by operating the pto shaft. The pto rev should amount between 540 and 1000 rpm depending on conveying good; an operation above 1000 rpm is forbidden. Get the rev slowly to the rated-speed. When filling the seed drills and fertilizer spreaders we recommend using a rev of 540 rpm, for transferring of crop a rev of 1000 rpm. Then open the hydraulic slides and adjust it to the favoured unloading speed. The pointers for the position of the slider at the front of the machine are moving to the position "open". The bin is unloading. After the transferring process has ended, **first close the hydraulic slides** then stop the augers when they **are completely empty**. Then fold in the unloading auger.

Caution!

Stopping the augers full can cause serious damage to the driveline, always close slides and run augers empty before stopping, If the unloading auger is folded before it is emptied, material will run out of the hinge point.

The vehicle can now be loaded again.

3.2.1 Interrupt of the transfer process

When interrupting the transfer process the same steps have to be proceeded as after the end of the transfer process.

Caution!

When interrupting the unloading process make sure, that at first the slides are closed and then the augers are shut off to avoid a start up of the augers under full load. If the unloading auger is folded before it is empty, material will run out of the hinge point.

3.2.2 Driving on public roads

When driving on public roads the following points need to be considered:

The jack has to be lifted completely.

The hydraulic lines between carrier vehicle and trailer have to be locked to avoid an opening during the tour.

The unloading auger has to be folded in.

Chasers with steering axle (GTU25 / GTU32) the operating ran of the hydraulic system has to be set to retracted/floating position to activate the steering. When reversing the steering control rams need to be fully extended, to ensure the steering is locked.

3.3 Parking of the transfer vehicle

The transfer vehicle always has to be parked completely empty. Proceed the following steps:

- pull the parking brake, in slope areas put wedges in front of the wheels
- separate shaft, hydraulic and braking pipes as well as electric junction from the tractor and put them in the designated holders
- extend jack
- open cleaning door, so that intruding water can drain
- uncouple transfer vehicle

4. Care and maintenance

4.1 Measures of care

The most important measures of care are the regular cleaning and following greasing of the transfer vehicle. By that aggressive substances like fertilizers and the like are removed and the functionality is kept.

After every campaign it should be cleaned thoroughly.

It has to be especially taken care of the removal of straw in the range of the augers to avoid a winding round the spinning parts.

4.2 Cleaning and greasing

While cleaning and greasing switch of the engine of the carrier vehicle, pull out the ignition key and pull the parking brake.

When cleaning with a pressure washer a spray nozzle distance of a minimum of 400mm is to be maintained.

The water temperature may not exceed 60°.

Before starting the cleaning the door/slides of the transfer vehicle has to be opened:

- Horizontal auger : door beneath the screw
 hydraulic slide
- Emptying auger: cleaning doors below the screw

4.2.1 Lubricants

For greasing the trailer only the lubricants with the following described characteristics may be used.

lubricant	sort	quality
oil	transmission oil SAE 90 EP	API - GL 5
grease	Li - grease	DIN 51502 KP 2K

4.2.2 Greasing plan

The following grease spots of the transfer vehicle need to be greased every 50 operation hours:

- base of brake camshaft
- base of the level arm of the brake
- bearing at the conveyor augers
- bearing at the hinge of the emptying auger
- actuation set of the parking brake

The following grease spots of the transfer vehicle need to be greased every 200 operation hours:

- return shaft of the hand brake system
- heads of the hydraulic cylinders
- oil change in transmission

The pto shaft should be greased every 8 operation hours. For the handling and maintenance the manual of the producer of the shaft has to be considered.

4.3 Maintenance

Before maintenance work at the coupled trailer the engine of the carrier vehicle has to be switched off and the ignition key to be pulled out. If the engine has to be started during checks and inspections, special caution is to be exercised.

When working under the jacked transfer vehicle, the vehicle needs to be secured with appropriate stands.

Maintenance work at the brake and hydraulic system may only be done by trained professionals under observance of the security advices.

The following maintenance works need to be executed daily:

- check tyre pressure

Caution!

tyre pressures see Point 5.2. "Weights"

- drain water from compressed air supply tank
- check brake system and parking brake on their function
- check electric system on its function
- grease shaft
- check hydraulic system for any damage
- check drive chain tension
-

The following maintenance works need to be executed after 50 operating hours:

- check and adjust the actuation distance of the brake cylinder
- grease every greasing spots as written in the greasing plan
- check auger wear
- check wheel bearings
- check if every screw connection is solidly fixed, especially the towing eye

The following maintenance works need to be executed after 100 operating hours:

- check wheel nuts on fastening torque

thread	Fastening torque in Nm at bolt performance		
	8.8.	10.9.	12.9.
M18 x 1,5	290	320	350
M20 x 1,5	380	420	460
M22 x 1,5	510	560	610

- check entire compressed air system on function, density and secure fixing
- clear line filter of the braking pipes
- clear wheel hub bearing

The following maintenance works need to be executed after 200 operating hours:

- Grease every greasing spot as written in the greasing plan.

During care and maintenance work leaking oils and grease substances have to be caught with the proper tools and be disposed environmentally compatible.

5. Technical Data

5.1 Deviation

	GTU 16	GTU 21	GTU 25	GTU 29	GTU32
over-all length	7785	7785	8720	9690	10240
bin length	5000	5000	5700	6700	7250
track width	2150	2150	2225	2225	2050
bin width	2550	2550	2550	2550	2550
over-all width	2800	2950	2875(2975)	2875(2975)	2750
framework height	1050	1135	1330	1330	1100
loading height	2850	3200	3500	3420	3300
transfer height	4500	4500	4670	4670	4430

all data in mm

The data refer to widest wheel equipment (also see point 5.2 Weights). All devices with a rolling tarpaulin or hopper extension have a greater loading height.

- height with tarpaulin +80mm

5.2 Weights

	GTU16	GTU21	GTU25	GTU29	GTU32
over-all weight empty	4800	4960	6500	7620	11000
axle load empty	3890	4020	5525	6500	9300
stabilising load empty	910	940	1000	1140	1700

all data in kg

Caution!

Devices with a weighing system and other equipment differ from the weights given in the table. Binding for the transport on public streets are the declarations in the TÜV report! The over-all weights and payloads on public streets refer to the respective wheel with a tyre pressure of 1,5 bar.

The tyre pressures for the technically possible payload correspond to the recommendations of the tyre manufacturer.

GTU 16

Wheel BKT 650/60-30,5 16TL

allowed over-all weight on public streets 2000 kg

payload on public streets 7100 kg

technical payload at 2,2 bar 25 km/h 11480 kg

technical payload at 2,2 bar 40 km/h 10000 kg

GTU 21

Wheel Alliance 800/65 R32 172 A8

allowed over-all weight on public streets 12000 kg

payload on public streets 6970 kg

technical payload at 2,4 bar 25 km/h 11340 kg

technical payload at 2,4 bar 40 km/h 9830 kg

Wheel Continental 800/65 R32 172 A8

allowed over-all weight on public streets 12000 kg
payload on public streets 6970 kg
technical payload at 3,1 bar 25 km/h 15170 kg
technical payload at 3,1 bar 40 km/h 13500 kg

GTU 25

Wheels BKT 650/65-30,5 16 TL

allowed over-all weight on public streets 22000 kg
payload on public streets 15200 kg
technical payload at 2,2 bar 25 km/h 17500 kg
technical payload at 2,2 bar 40 km/h 17500 kg

Wheels Alliance 750/60 R30,5 181D

allowed over-all weight on public streets 22500 kg
payload on public streets 15100 kg
technical payload at 1,7 bar 25 km/h 17500 kg
technical payload at 1,7 bar 40 km/h 17500 kg

GTU 29

Wheels BKT 650/65-30,5 16 TL

allowed over-all weight on public streets 22000 kg
payload on public streets 15200 kg
technical payload at 2,2 bar 25 km/h 17500 kg
technical payload at 2,2 bar 40 km/h 17500 kg

Wheels Alliance 750/60 R30,5 181D

allowed over-all weight on public streets 22500 kg
payload on public streets 15100 kg
technical payload at 1,7 bar 25 km/h 17500 kg
technical payload at 1,7 bar 40 km/h 17500 kg

GTU 32

Wheels 700/50-26,5 174 A8

allowed over-all weight on public streets 28500 kg
payload on public streets 16900 kg
technical payload at 2,4 bar 25 km/h 25600 kg
technical payload at 2,4 bar 40 km/h 24800 kg

6. Equipment

Due to the equipment parts the fields of application and the characteristics of your transport and transfer vehicle from Güstrow are improved.
It would give us a great pleasure to receive further suggestions and ideas.

6.1 Rolling tarpaulin (basic equipment)

The rolling tarpaulin is operated via a crank from the ground. The crank is located on the back of the trailer. Take care that the crank is always fixed before beginning the tour. That applies to the position "tarpaulin rolled up" as well as to the position "tarpaulin unrolled".

6.2 Installation to fill sowing machine or fertilizer spreader (hydraulically controlled tube) and hydraulically controlled screw to fill sowing machine and fertilizer spreader

The flexible installation to fill sowing machine or fertilizer spreader contains of a hydraulic pivoted chute, which is to be bolted on the unloading auger chute. By that the loading of a fertilizer spreader or of a seed drill is possible.

While working with fertiliser the rev of the pto shaft must not exceed 540 rpm. The slides above the horizontal auger should only to be opened to position "half".

At greater distances between the transfer vehicle and the drill a hydraulically controlled auger to fill sowing machine and fertilizer spreader can be installed on the unloading auger, which helps to increase the unloading from the bin to a distance of 7m.

6.3 Working Searchlight

With the help of a working search light it is possible to illuminate the unloading area to guarantee a secure transfer especially during the harvest campaign in the evening and night sessions.

The working light is powered from the tail lights of the bin, a switch to turn on the searchlight is located on the junction box at the front of the transfer vehicle. The searchlight is turnable and pivoted and may be adjusted individually.

While driving on public streets the working searchlights may not be switched on.

6.4 Camera system

The camera system allows the driver to monitor the transfer resp. loading process without effort. It is possible to install either a camera displaying the interior of the bin or a camera pointing at the transfer place or both.

The cameras has a sun shield and installed infrared - LEDs to deliver a marvellous image quality even at extreme conditions of illumination. The case of the camera is water-proofed (level of protection IP68), the operation temperature may not exceed the range of -30°C to +50°C

A 4,5" monochrome screen is used, which can be installed with the help of the supplied holder in driver's cab. The monitor has two camera ports, an installed sun shield as well as a dimmer switch for night operation.

The power supply of the system is made via the onboard electric of the tractor (socket in driver's cab), universal voltage 12-24V DC.

6.5 Weighing system

The weighing system consists of multiple weighing poles, a weigh indicator and the junction box as well as the respective cable system.

A printer and a chip card interface can be optionally upgraded.

Before installing, controlling and operating with the weighing system please read the manual of the weighing system producer carefully and completely.