

# **TR41 S and TR45 S 4-Wheel Steer Trailers**

**Operator's Manual**

262672 Revision A

Original Instruction



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**EC Declaration of Conformity**  
[according to the directive No. 2006/42/EC]

**OROS Division, LINAMAR HUNGARY Co., 27 Csorvási Road, Orosháza, H-5900**

as a manufacturer declares under its sole responsibility that the following product

Machine	Type	Commercial name	Serial number
<b>Header trailer</b>	<b>LHT-L</b>	<b>MacDon TR41 S / OROS TR41 S MacDon TR45 S / OROS TR45 S</b>	

fulfills all the essential health and safety requirements set out in the following documents:

Legislation:

Directive 2006/42/EC of the European Parliament and of the Council

Harmonized standards which have been taken into account:

EN ISO 4254-1                      Agricultural machinery. Safety. Part 1: General requirements  
EN ISO 12100                      Safety of machinery. General principles for design. Risk  
assessment and risk reduction.

Name and position of the person authorized to compile the technical documentation:

András Pádár, Construction Department Leader, Linamar Hungary Zrt., Oros Division.

Date, Orosháza .....

**Roland Szokolai**  
Engineering manager

***UK Declaration of Conformity***

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Legislation:

2008 No. 1597                      Supply of Machinery (Safety) Regulations 2008

Designated standards used are:

EN ISO 4254-1                      Agricultural machinery. Safety. Part 1: General requirements  
EN ISO 12100                      Safety of machinery. General principles for design. Risk  
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András Pádár, Construction Department Leader, Linamar Hungary Zrt., Oros Division.

Date, Orosháza .....

**Roland Szokolai**  
Engineering manager

### 1. Identification, technical data

This operating instruction is for the MacDon TR41 S and MacDon TR45 S commercial type header trailer. The header trailer classified in S2a category according to the EU regulation.

**WARNING!**

**For the official use on public roads, national or individual (single) vehicle approval is needed.**



The vehicle is equipped with a statutory plate, which is placed at the front of the main frame, on the right.

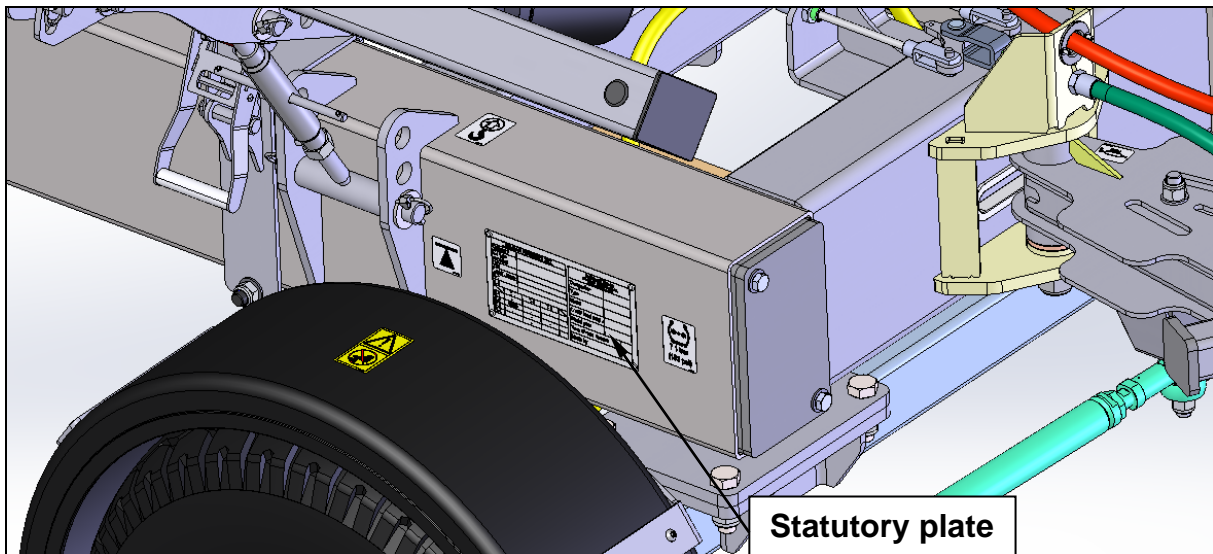
<b>LINAMAR HUNGARY ZRT.</b>					<b>MacDon®</b> MacDon Industries Ltd.		
Category					Designation		Header trailer
Type approval					Type		
VIN					Model		
Laden mass					SN		
A-1					Unladen mass		Max. kg
A-2					Useful load length		mm
					Model year		
					Year of manufacture		
					Made by		 Linamar Hungary Zrt. Orosháza, Hungary
							2.406.184

	T-1	T-2	T-3	
B-1	-	-	-	kg
B-2	-	-	-	kg
B-3	-	-	-	kg
B-4	-	-	-	kg

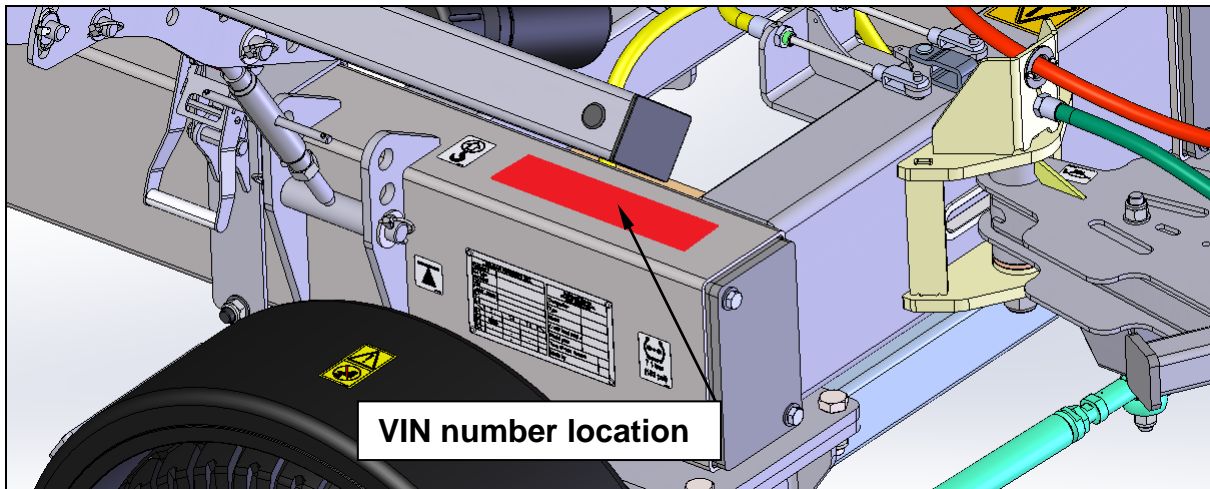
(EU) 2015/208, (EU) 2015/504

Location of the statutory plate





The vehicle also has a vehicle identification number (VIN) according to ISO 3779 in accordance with Regulation (EU) 2015/504. The vehicle identification number (chassis number) is located at the front of the main chassis, at the top.

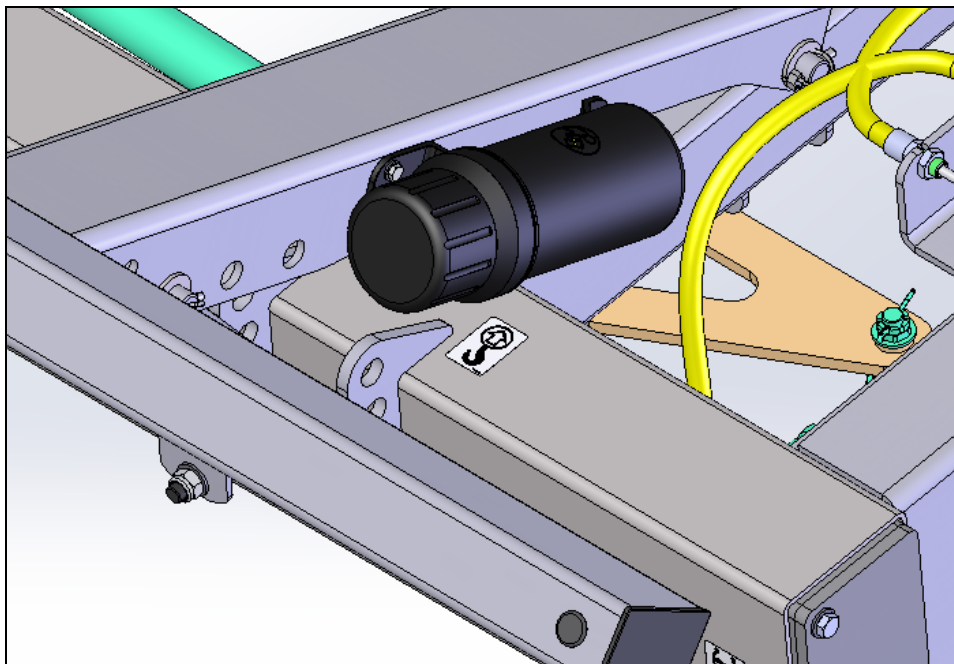


## 2. Introductions

Dear Customer!

Thank you for choosing our product. In the description below, we would like to give you some useful information and help for the optimal operation of the trailer. You have purchased a modern header trailer; **the operator's manual should be read carefully before use.** The operator's manual provides comprehensive information on safe vehicle operation, necessary precautions, accessories, and maintenance instructions. Adherence to the instructions in this manual is essential to ensure operational safety, reliability and value retention.

The operator's manual can be stored in a lockable plastic box on the first support arm from the front.



The vehicle also bears the CE marking, which means that it complies with the safety requirements of Regulation 2006/42/EC on the safety of machinery, or requirements of the relevant harmonized standards.

## 2.1 Intended use

The header trailer is an agricultural vehicle that is only applicable for transporting a harvesting header (cutting table, draper) in the field or on the public road in accordance with the traffic regulations of the given country. The TR41 S header trailer is designed to carry maximum 41' wide, the TR45 S header trailer is designed to carry maximum 45' wide MacDon draper headers or corn headers with similar length (MacDon FD235/FD240/FD241/FD245, C5018, C5518, C7512, C7516, C9512).

The vehicle may be towed by a combine harvester, self-propelled swather or tractor in accordance with the applicable traffic regulations and restrictions (e.g.: size and speed limits). The design of the header trailer allows the header to be properly secured.

### **WARNING!**

**Towing the trailers with certain type of combine,  
the turning radius may be too large.**



## 2.2 Unintended use

The trailer is intended exclusively for normal use in agricultural and similar work. Any other use in excess of these requirements shall be considered as unintended use. The manufacturer accepts no liability for damage resulting from this form of use. The risk is borne solely by the operator. Intended use includes maintaining the operating, maintenance and service conditions specified by the manufacturer.

### 3. Warranty, customer service, ordering spare parts.

- a) Supplier shall certify the quality of its products with the "Quality Certificates" specified by Regulation (EU) 2015/504 on agricultural vehicles and Regulation (EC) No 2006/42/EC on machinery.
- b) Supplier warrants the product delivered by it for a period of 12 months from the date of commissioning, however, may not exceed 18 months from the date of delivery.
- c) Supplier commits itself to supply spare parts for 10 years after delivery of the product.

When commissioning the vehicle, Warranty Registration should be sent to MacDon Warranty via your dealer, with the following information:

- Address of the owner
- Phone number of the owner
- E-mail address of the owner
- Vehicle identification number (VIN)
- Date of commissioning

You can get detailed information about the warranty conditions from our customer service representative. Contact your dealer for warranty and customer service issues.

**As the manufacturer has no influence on the full observance of the lubrication, maintenance, cleaning and storage instructions, accepts no liability for damage and injury resulting from non-observance and intended use.**

Wearing parts are not covered by the warranty. The order for the spare part, together with the type and serial number of the header trailer, shall be forwarded to the distributor / dealer, with the part number can be found in the spare parts list.

The warranty of the vehicle covers only manufacturing and the resulting defects, the manufacturer is not liable for any other damage.

The warranty only applies to the vehicle used for its intended purpose, and the manufacturer is not liable for any damage occurs during unintended use of the vehicle. In case of special, ruthless treatment, the product warranty will be forfeited.

**Additional warranty conditions are set out in the sales contract.**

**Please note:**

The manufacturer / reseller is not liable for damages resulting from the use of parts, accessories and other devices not manufactured, tested or approved by Linamar Hungary Zrt.

Unauthorized modifications release the manufacturer from any resulting complaints.

Linamar Hungary Zrt. continuously develops its products to meet the needs of farmers, therefore it reserves the right to make improvements and changes to its products at any time without making changes and additions to previously sold products.



### Declaration

Undersigned

.....

(Buyer / Dealer name and address)

I declare that I have purchased the vehicle specified below. I also confirm that I was presented with the operating instructions when the machine was delivered. I undertake to read these operating and installation instructions comprehensively and thoroughly before using the vehicle. Moreover, I undertake to commission and operate the vehicle in accordance with its contents. I will enclose these documents with the vehicle even if it is resold, and I will inform the buyer that he is obliged to pass the instructions with the vehicle. I am aware that a warranty claim against the manufacturer can only be made if the manufacturer has received a completed and signed version of this declaration. In addition, I understand that the warranty period begins on the date I received the vehicle, regardless of the date on which this declaration was returned.

Type of the vehicle:

VIN number of the vehicle:

Date:

.....

Signature of Owner

## 4. Safety regulations

### 4.1 General description of safety regulations

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This is the safety alert symbol.

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If you see this mark on the machine or in this operator's manual, be especially careful, as non-compliance with the relevant regulations may result in an accident. Read all safety notes and instructions found on the machine or in the manual carefully and comply them fully to avoid accidents resulting in serious injury or death.

Explanation of warning words:

#### **DANGER!**

Indicates a hazardous situation which, if not avoided, could result in death or serious injury. To indicate the most serious emergencies.

#### **WARNING!**

There is less risk of occurrence, but it can result in the same serious or fatal injury as the situation indicated by the word DANGER if not prevented.

#### **CAUTION!**

Refers to potentially hazardous situations with minor injuries. It also used in cases where we draw attention to incorrect practices in a given situation.

#### **NOTE!**

Indicates a situation that endangers the proper use of the vehicle and the safety of the accessories.

#### **WARNING!**

Keep the safety labels and signs in a clearly visible condition, replace them if they are incomplete or damaged!  
Safety labels are available from the manufacturer. It is **FORBIDDEN** to remove the labels from the machine!

---



**WARNING!**

**Before commissioning, read the operating instructions and learn how to operate, inspect and maintain the machine safely. Do not allow anyone to operate the machine without following the instructions!**

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Keep the machine in good working condition. Improper or unauthorized modifications may impair the function, service life and safety of the machine.

**4.2 Personnel qualification and training**

The machine may only be used, serviced and repaired by those persons who are familiar with it and have been informed of the dangers which it presents. The owner must clearly establish the areas of responsibility and monitoring of personnel. Personnel lacking any requisite knowledge must be trained and instructed. The owner must ensure that the personnel have read and understood the specifications of the operating instructions entirely. Repair work not described in these operating instructions may only be performed by an authorized specialist workshop.

**4.3 The risks resulting from non-compliance with safety warnings**

Failure to comply with the safety instructions can result in hazards for persons, the environment and the machine itself. Failure to comply with the safety instructions can result in loss of all liability cover.

Non-compliance can result in the following hazards:

- Hazards to persons through unsecured working areas
- The failure of important machine functions
- The failure of the prescribed methods of maintenance and repair
- The endangerment of persons from mechanical and chemical influences



#### 4.4 Safety-conscious work

Follow the warnings in this manual, all applicable accident prevention regulations and all internal work, operation and safety regulations. Compliance with the health, safety and accident prevention regulations of the relevant professional associations is mandatory. Follow the vehicle manufacturer's safety warnings. When using on the road, observe the relevant regulations (e.g., StVZO and StVO in Germany). Prepare for any emergency. Keep fire extinguishers and first aid kits nearby. Display the emergency number for medical and fire services on each telephone.

#### 4.5 Safety precautions before operation

- In addition to the information in these operating instructions, comply with all the generally valid safety and accident prevention regulations.
- Familiarize yourself with the road traffic regulations in your county.
- Familiarize yourself with the accident prevention regulations for connection to the towing vehicle.
- Check the general condition of the header trailer.
- Check the tightness of the fasteners (bolts, nuts, etc.) at regular intervals and tighten if necessary.
- Check the tire pressure at regular intervals.
- Make sure that the mirrors on the towing vehicle allow both sides of the towed transport vehicle to be seen.
- Make sure that the lights of the trailer are working properly.
- Make sure that no one is working or presented on the trailer and the towing vehicle.
- Make sure that nobody is in the working area of the trailer and the towing vehicle. Before starting, warn people nearby by switching on the audible warning device of the towing vehicle several times.
- Check the trailer and the towing vehicle for foreign objects that could interfere with maneuvering.
- Operating personnel should wear tight-fitting clothing. Avoid wearing any loose clothing, hair and jewelry.

**4.6 Safety and accident prevention regulation during operation.**

- Make sure that the towing vehicle's engine is switched off and the ignition key is removed.
- Make sure that the parking brake is applied when the trailer is not connected to the towing vehicle.
- Follow the safety and accident prevention regulation when working with the towing vehicle (e.g., safety belt use).
- Only one person is allowed to work on the trailer at a time.
- Make sure that people around the trailer and the towing vehicle are at a safe distance.
- Always keep children away from the vehicle
- When connecting and disconnecting to the towing vehicle, follow the relevant accident prevention regulations in the operating instruction of the towing vehicle.
- Make sure that the drawbar of the trailer is suitable for the hitch of the towing vehicle.
- When connecting to the towing vehicle, make sure that no one is between the trailer and the towing vehicle when reversing. As the visibility of the connection is limited from the cab of the towing vehicle, check the connecting process and the correct height of the towing device regularly after stopping the movement and applying the parking brake.
- Before disconnecting the trailer, park the towing vehicle on a horizontal ground and secure the trailer with parking brake and wheel chocks.
- Depending on the nature of the work to be performed, remove the header from the trailer before carrying out any work.
- When the towing vehicle is stationary, secure it with the wheel chocks.
- If possible, always place the header on horizontal ground or remove it from the trailer.
- Always check that the locking pins are in place when the header is on the trailer. Only remove the retaining pins when removing the header.
- In the event of a failure, stop the operation immediately and secure the trailer in a stationary position. Malfunction must be rectified immediately.

- Do not place driven header on the trailer! Stop the drive of the header before placing it on the trailer.
- Use personal protective equipment (e.g., gloves, glasses).  
If possible, never go under the load. If it is still necessary to be under the load, secure the trailer with the parking brake and / or wheel chocks.

**DANGER!**

**Keep a safe distance from the header while the combine is placing the machine on the trailer. The raised and unsecured header may fall unexpectedly.**

**CAUTION!**

**Movable, adjustable parts can cause pinching, these locations are marked with this label. Never reach into areas where there is a risk of crushing until these units have been securely fastened!**

**4.7 Safety and accident prevention regulations for road use**

- Follow the local road traffic regulations in the respective country.
- Keep the trailer in a roadworthy condition.
- Observe the maximum dimensions permitted for road transport.
- Observe the maximum permissible axle, bearing and wheel loads and the maximum permissible load of the trailer in order to maintain correct steering and braking performance.
- Make sure the locking pins are in place.
- It is forbidden to drive with inoperative lights, turn signals or brake lights.
- It is forbidden to transport a header other than specified in this operating instruction with the trailer (see Chapter 5).
- It is forbidden to travel on the trailer or to carry a person.
- It is forbidden to drive the vehicle at a speed higher than 40 km/h.
- Do not fit any non-authorized wheels or tires.
- Do not overload the tires laterally or with an impermissible wheel offset.

**WARNING!**

**Always follow the traffic rules and restrictions which are in force in the respective country (e.g., size and speed restrictions)!**

---

**4.8 Safety and accident prevention regulations during maintenance.**

- Repair, maintenance, cleaning work and the elimination of malfunction should only ever be performed once the engine of the towing machine has been switched off. – Remove the ignition key.
- Make sure that the parking brake is applied, and the wheel chocks are correctly positioned when the trailer is not connected to the towing vehicle.
- Check all nuts and bolts for their tightness regularly and tighten if necessary. The recommended tightening torques for the fasteners can be found in this operating instruction or in a separate description of the respective component.
- Ensure that the header trailer is secured against falling with appropriate support elements, when performing maintenance work on the raised machine.
- Ensure that the power supply of the trailer is disconnected when performing electrical welding work on the vehicle and connected devices. Disconnect the power supply via the battery main switch or remove the cable lugs from the battery poles.

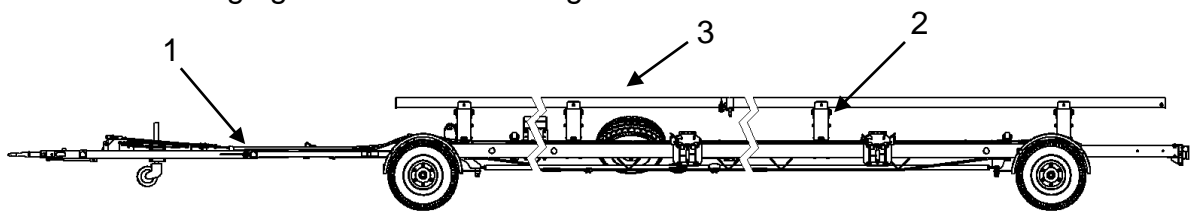
The spare parts must comply with the technical specifications of the manufacturer, as a minimum. The use of other parts may invalidate any liability for the resulting consequences.

#### 4.9 List of dangerous areas

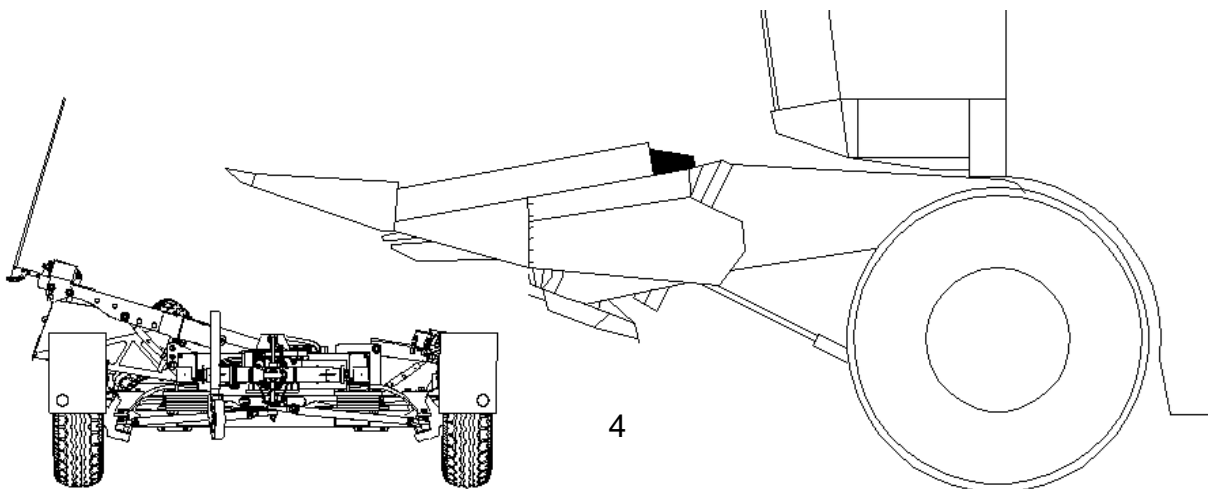
The danger zones are summarized in the table below.

Nr.	Dangerous machine element, equipment	Danger
1.	Brake levers and wires	Risk of pinching
2.	Header support arms	Risk of pinching
3.	Trailer loading area	Risk of bruising
4.	Space between towing vehicle and the trailer	Risk of bruising

The following figures shows the dangerous areas:



*Dangerous places (side view)*

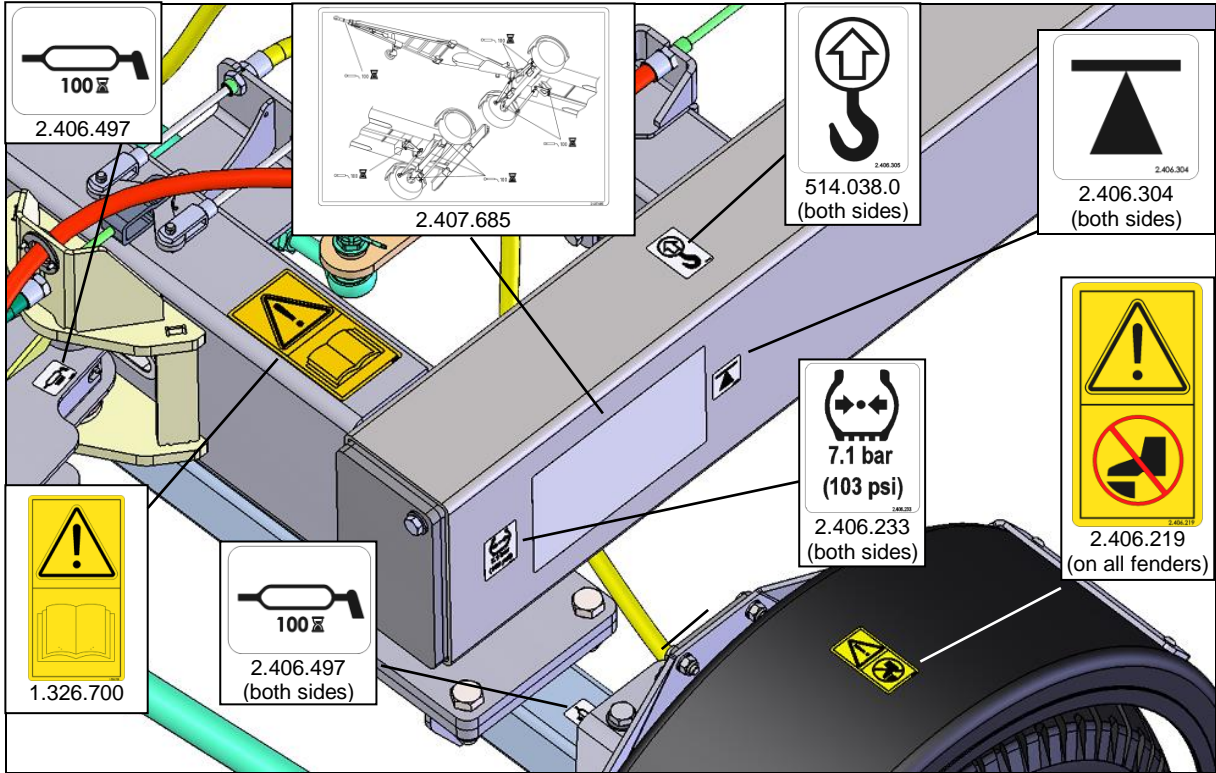


*Dangerous places (front view)*

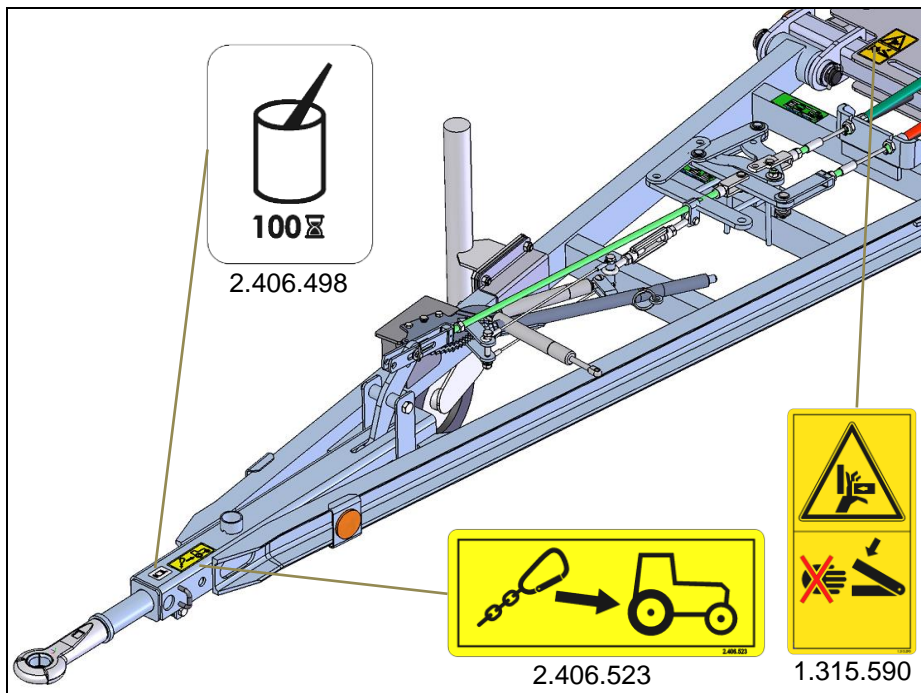
### 4.10 Location of safety labels and pictograms

The following illustrations show the location of the safety labels and pictograms.

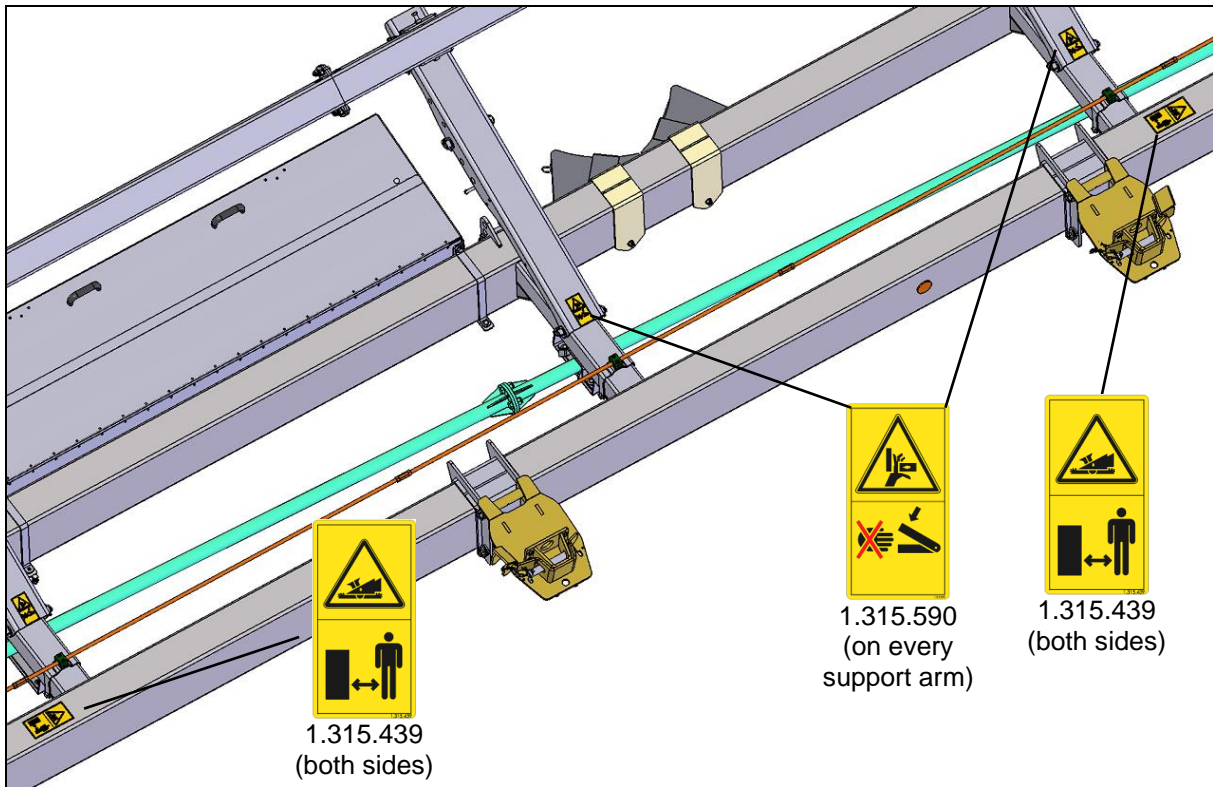
#### 4.10.1 Front axle



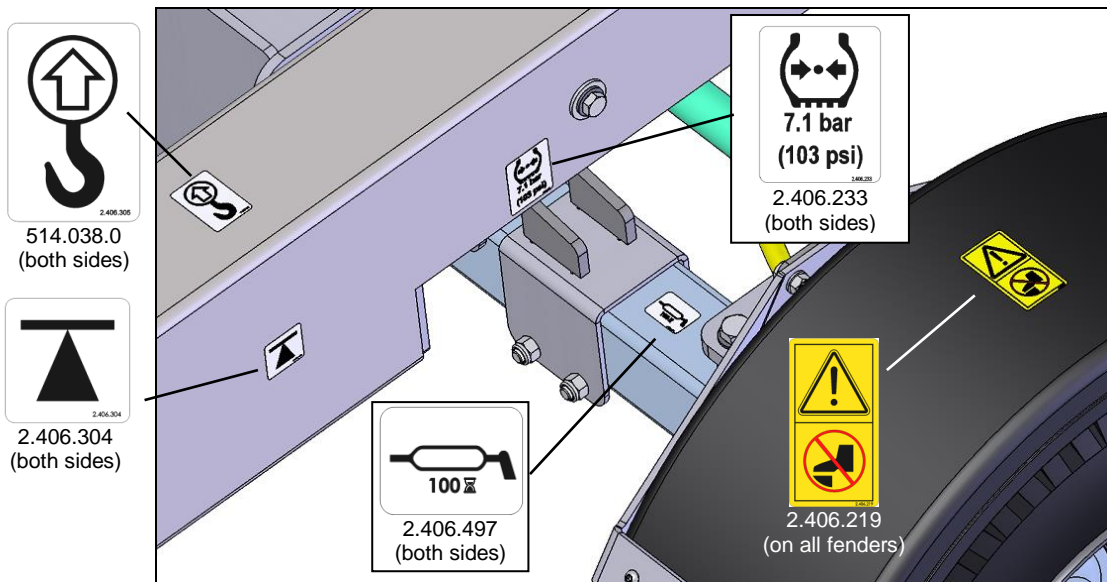
#### 4.10.2 Drawbar



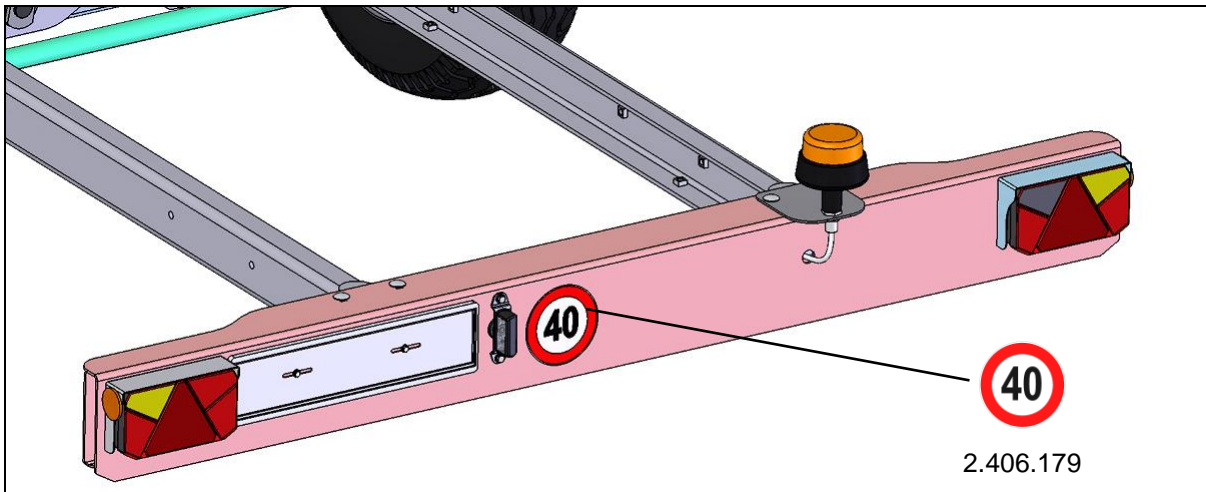
### 4.10.3 Main frame



### 4.10.4 Rear axle



4.10.5 Rear underrun protection device

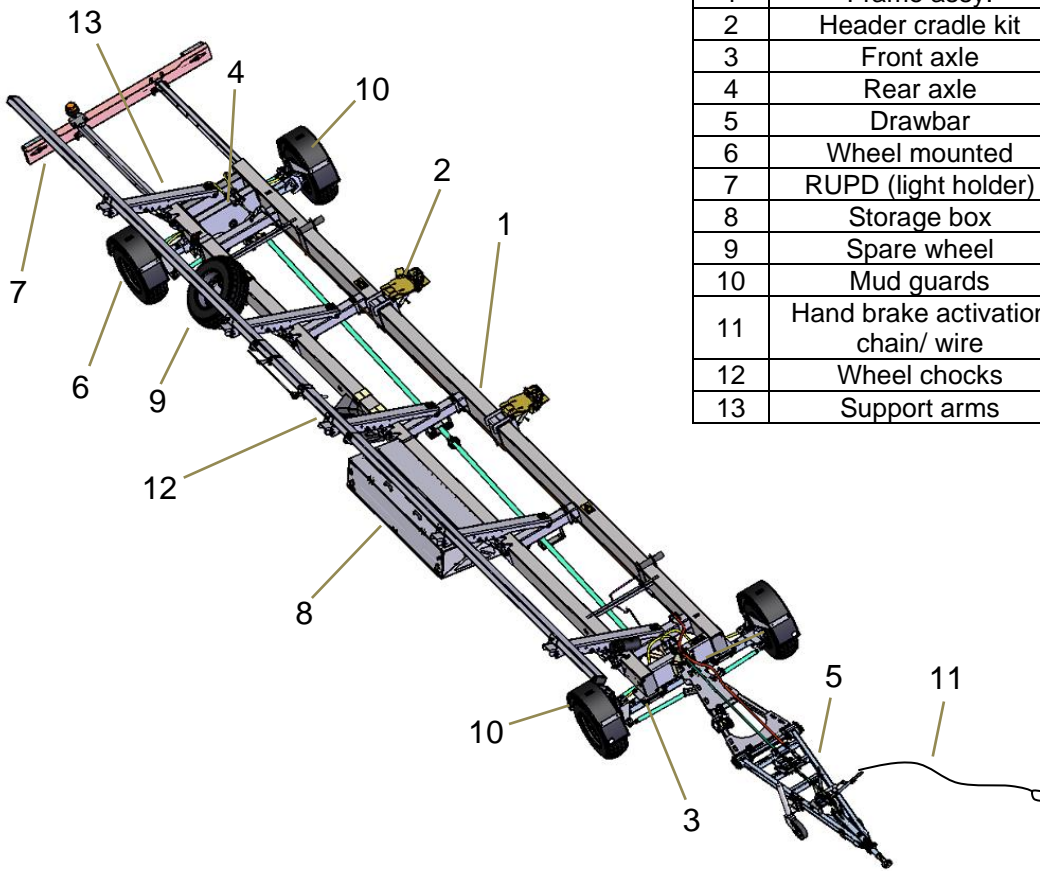


4.11 Descriptions of the labels

	<p>Read the manual!</p>		<p>Do not step on it!</p>		<p>Pinch point!</p>
	<p>Keep distance!</p>		<p>Tire pressure</p>		<p>Hooking point (crane)</p>
	<p>Jacking point</p>		<p>Lubrication chart</p>		<p>Lubrication point (grease nipple)</p>
	<p>Lubrication point (brush)</p>		<p>Connection of breakaway chain/wire</p>		



### 5. General structural features



Main components

	Item	Note
1	Frame assy.	-
2	Header cradle kit	DC, CH
3	Front axle	-
4	Rear axle	-
5	Drawbar	-
6	Wheel mounted	-
7	RUPD (light holder)	-
8	Storage box	Optional
9	Spare wheel	Optional
10	Mud guards	-
11	Hand brake activation chain/ wire	-
12	Wheel chocks	-
13	Support arms	-

Depending on the type of header to be transported on the trailer, the vehicle shall be equipped with the following cradle kits:

Header type	Cradle kit mark
MacDon draper for Combine	DC
MacDon corn header	CH

#### 5.1 Unladen masses

Unladen masses in running order:

Commercial name	Mass (kg)	
	Min.	Max.
MacDon TR41 S	2350	2670
MacDon TR45 S	2380	2700

#### 5.2 Load capacity

Technically permissible maximum laden mass of the vehicle: 8000 kg

Technically permissible maximum mass per axle:

Front axle: 4000 kg

Rear axle: 4000 kg

### 5.3 Mass and tires

Tires must have a 132 load index and A8 speed index.

The parameters of the tires used by the manufacturer:

Brand of tire	Tire dimension incl load capacity index & speed category symbol	Rolling radius [mm]	Tire pressure values [psi / bar]	Maximum permissible mass per tire [kg]		Maximum permissible mass per axle based on the tire specification [kg]	
				25 km/h	40 km/h	25 km/h	40 km/h
Alliance	10.0/75-15.3 - 135 A8	367	72.5 / 5	2118	1780	4236	3560
			87 / 6	2356	1980	4712	3960
			103 / 7.1	2594	2180	5188	4360
Mitas	10.0/75-15.3 - 143 A8	356	87 / 6	2420	2160	4840	4320
			94.3 / 6.5	2705	2425	5410	4850
			103 / 7.1	3050	2725	6100	5450

**WARNING!**



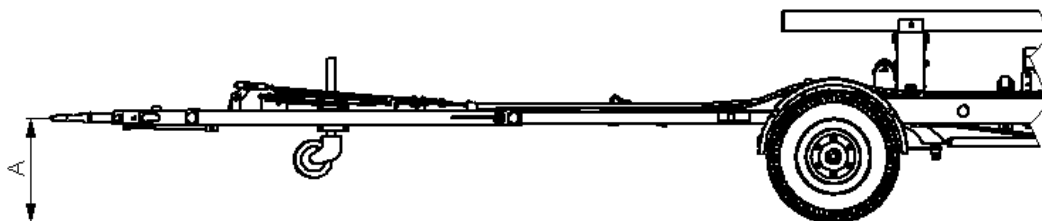
Use tires of the same make and load capacity at least per axle!

**NOTE!**

For the mass values of the drapers and headers, please refer to their operator's manual.

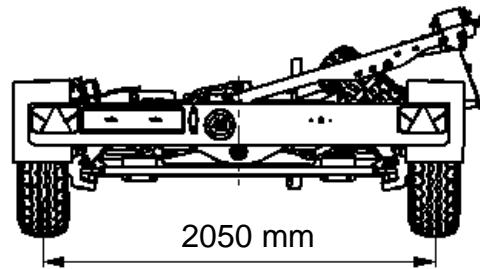


### 5.4 Coupling point height above ground

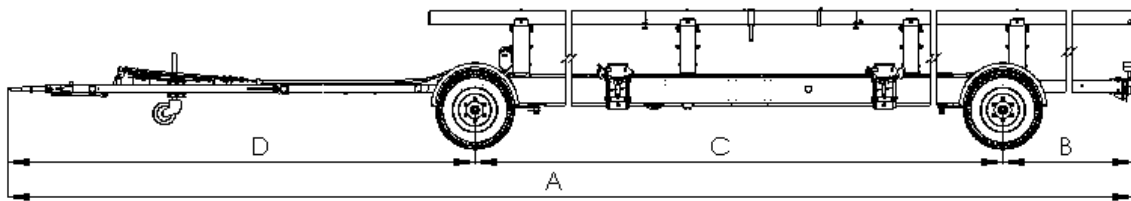


A = 440... 800 mm

5.5 Track width

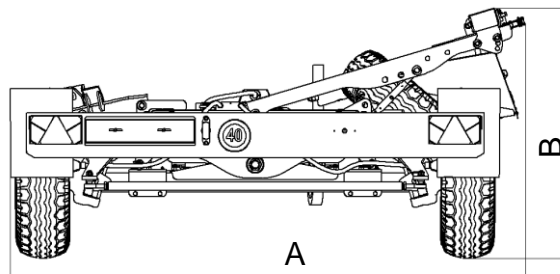


5.6 Length and wheelbase



Commercial name	A		B		C	D
	Min	Max	Min	Max		
MacDon TR41 S	14996	16496	774	2274	9785	4437
MacDon TR45 S	16596	18096				6037

5.7 Width and height



A		B	
Min.	Max.	Min.	Max.
2300	2500	1100	1450

5.8 Brake system

5.8.1 Service brake

The brake system operates fully automatically.

The brake system of the trailer is equipped with S 3006-7 brakes.

Service braking system: The mass forces exerted on the drawbar actuate the mechanical drum brake via the force transmission system. The inertia brake rod tightens bifurcated bowden cables in front of the axles, also performing

braking force compensation between the axles. The braking forces between the wheels are also compensated by a rocker arm at both axles.

### **5.8.2 Parking brake**

Manually operated mechanical braking system acting on both axles, which is able to compensate the forces between the two wheel-brakes.

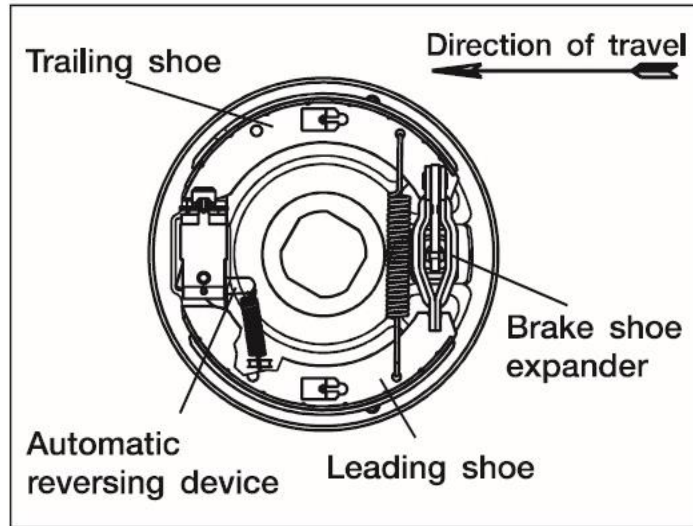
The parking brake works as follows:

1. Firmly pull the parking brake lever beyond the dead center point (min. 3 teeth)
2. The parking brake lever will be re-tensioned automatically by the gas spring if the trailer tends to roll backwards. Compressing the drawbar with the towing vehicle makes operation of the parking brake lever easier. In this case, the wheel brake is normally pushed into the automatic reversing mechanism and the parking brake lever can be pulled up to the end position (12th teeth).
3. The towing vehicle must be connected to the parking brake lever by means of a breakaway chain/cable. In the event of the trailer breaking away from the towing vehicle, the trailer is stopped by the parking brake lever in conjunction with the breakaway chain/cable.

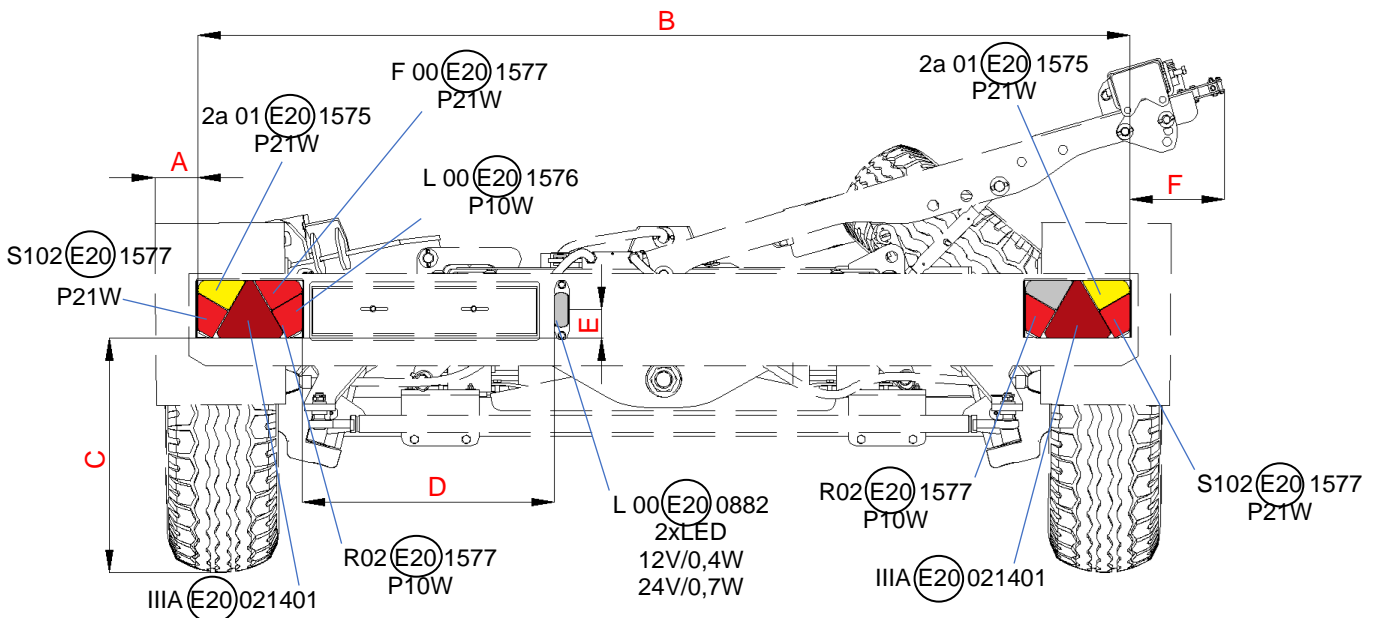
### **5.8.3 Automatic reversing system**

The special brake shoe support arrangement in the wheel brake terminates the braking effect when reversing and thereby ensures the vehicle can effortlessly back up at any time, even uphill. This design eliminates the need for a separate locking arm to secure the vehicle. Normal brake operation is restored immediately when the vehicle moves forward. The overrun device connected to the reversing system is equipped with a gas pressure-assisted hydraulic shock absorber maximising control in both driving and braking conditions.

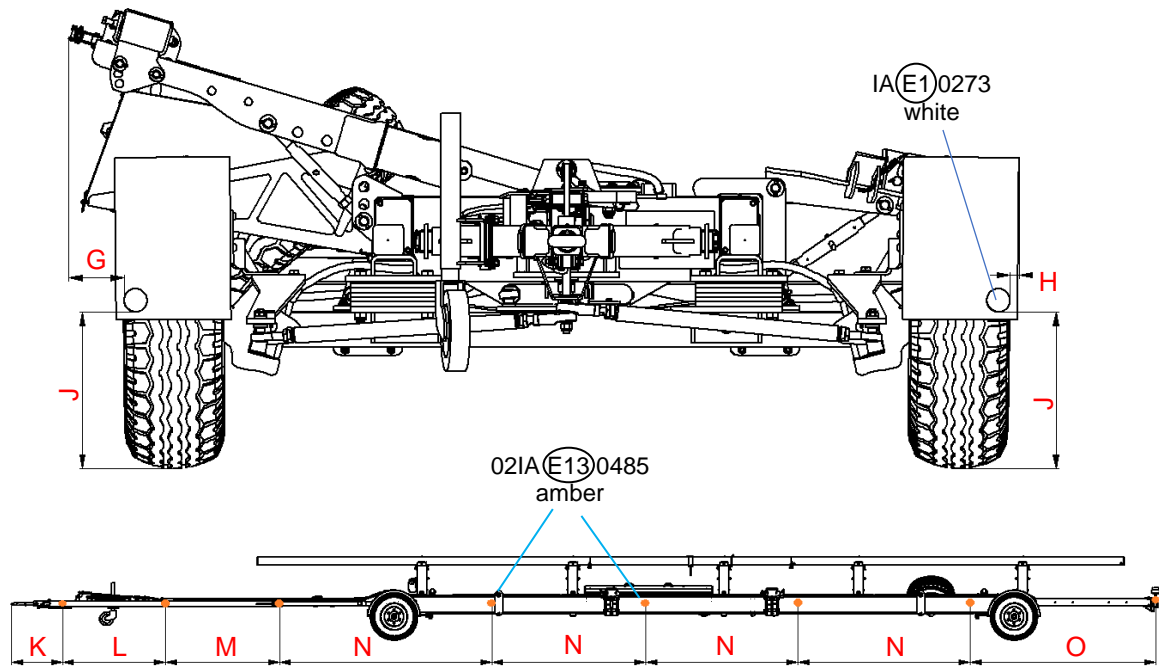
The individual components, namely the wheel brake, the transmission and the overrun mechanism are designed as a system to ensure efficient performance.



5.9 Lighting and light signaling equipment



Mark	Name	Commercial name	Qty	Emitted color
IA	Side marker retro-reflector	TR41S	14	amber
		TR45S	16	
	Front retro-reflector	All variants	2	white
IIIA	Rear triangle retro-reflector		2	red
2a	Direction-indicator lamp		2	amber
R	Rear position lamp		2	red
L	License plate lamp (source: rear position lamp)		1	white
L (LED)	License plate lamp		1	white
S1	Stop lamp		2	red
F	Rear fog lamp		1	red
AR	Reversing lamp		n/a	white



Mark	Min. (mm)	Max. (mm)
A	80	110
B	2100	2200
C	500	650
D	580	590
E	50	70
F	100	250
G	50	200
H	30	50
J	380	450

Mark	Commercial name	Min. (mm)	Max. (mm)
K	TR41 S/TR45 S	800	
L	TR41 S	-	-
	TR45 S	1500	1650
L+M	TR41 S/TR45 S	1700	1850
N	TR41 S/TR45 S	2400	3000
O	TR41 S/TR45 S	1400	3000

## 5.10 Optional accessories

The trailer is available with the following optional accessories.

- storage box
- spare wheel with holder
- gauge wheel holder (for MacDon drapers)
- fenders (if not mandatory)

Optional accessories can be ordered separately afterwards. The part numbers of the accessories can be found in the spare parts list on the <https://www.macdon.com/> website in the „**PARTS INFORMATION**” menu item.

## 6. Delivery, unpacking

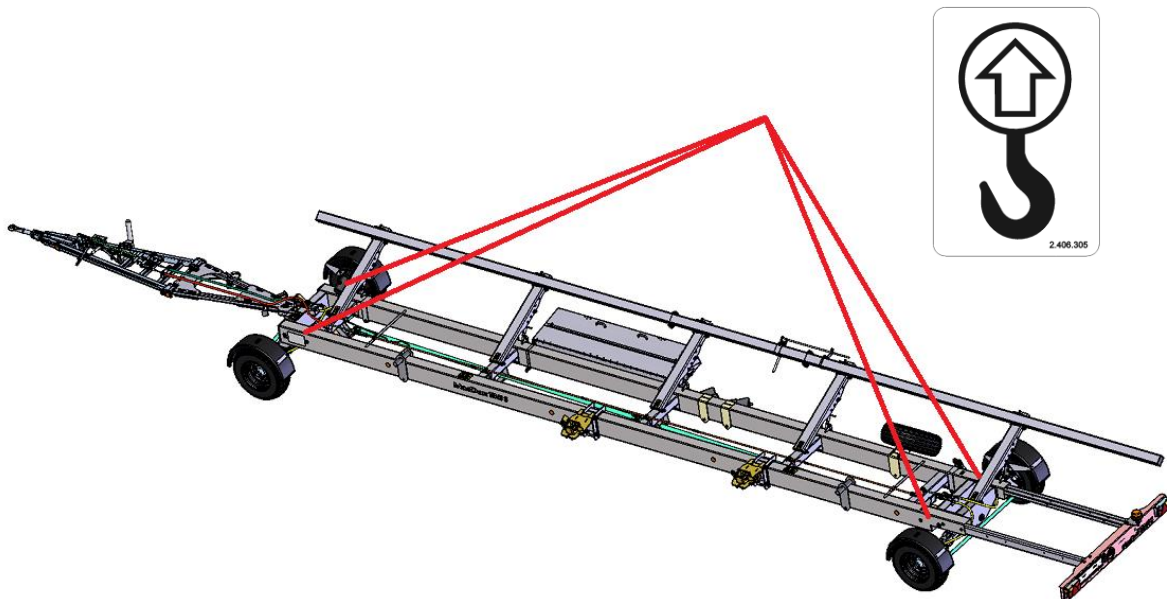
### 6.1 Delivery options

The trailer can be delivered fully assembled, in running order (with optional accessories if required) or partially assembled to reduce shipping costs.

In the case of the transport of several trailer together, after unloading the partly assembled trailer(s) must be assembled in running order with the drawbar, support arms and storage box (if available) as described in Chapter 7.

### 6.2 Lifting

To avoid injury, the trailer must only be lifted by crane. When lifting with a crane, secure trailer as shown in 4 positions, two of which can be found near the rear axle and two behind the front axle. Use an appropriate strap to prevent damage to the truck. Make sure that the straps do not press on the brake system or steering components.

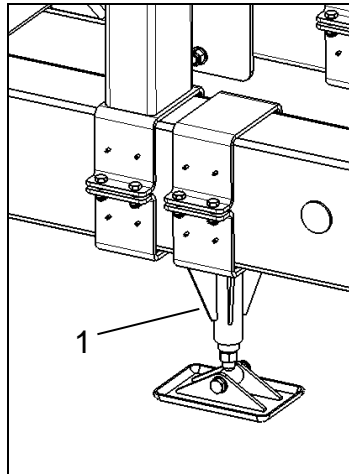




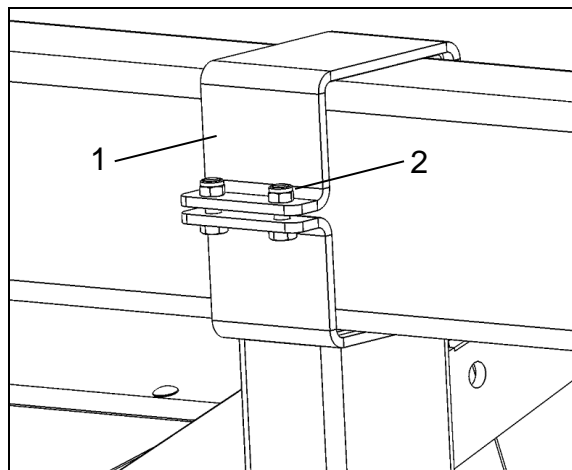
### 6.3 Unloading

When transporting more trailers together, it is recommended to unload the trailers as follows:

1. If 4 trailers are transported together, raise, or remove the support legs Nr.1 from under the lowest trailer.

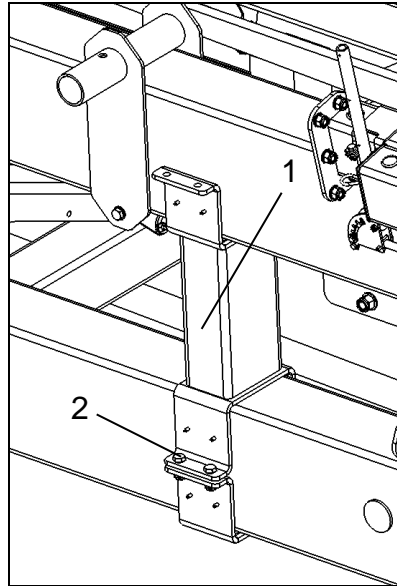


2. After removing the securing ratchet straps tow / roll the trailer stack off the truck platform using a ramp.
3. Cut off and remove the wires / straps used only for shipping.
4. Attach the 4 lifting straps or chains to the top trailer at the hooking points.
5. Tighten the lifting straps / chains by moving the crane.
6. Remove the hinge plates Nr.1 from the top trailer after removing the 2 pcs of M12x35 DIN 933 hex. bolts and M12 DIN 985 plastic nuts Nr. 2.



7. Lift the top trailer slowly off the columns.

8. Remove spacer column Nr.1 from the next trailer after removing M12x35 DIN 933 hex. bolts and M12 DIN 985 plastic nuts Nr.2.



9. Attach the 4 lifting straps / chains to the next trailer at the hooking points.
10. Lift the next trailer slowly off the columns.

## 7. Commissioning

### **DANGER!**



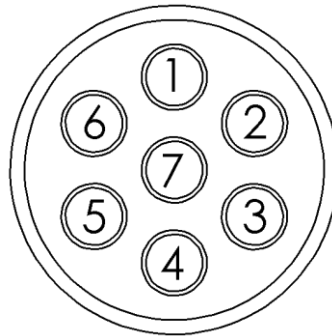
**Always wear personal protective equipment (protective gloves, goggles etc.) when working on the trailer.**

If more transport trailers are transported together, it may be necessary to fit the drawbar, header support arms or wheels during the commissioning.

### 7.1 Electronic connection

Install the connecting cable between the towing vehicle and the trailer so that it cannot be strained when cornering and does not contact the wheels of the towing vehicle or the transport vehicle.

Electrical connection according to the standards: MSZ1195, MSZ 13938-73, DIN 72577, ISO 1724

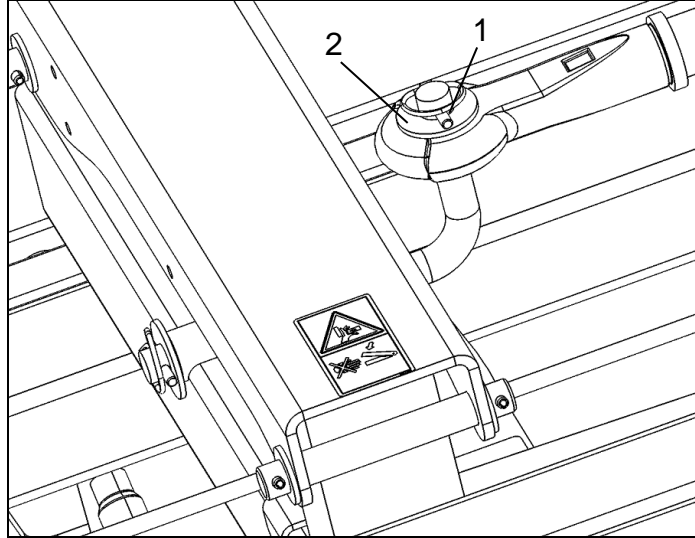


Pin number	Function	Wire colour
1 (L)	Left turn signal	Black wire 1
2 (54g)	Fog light	Black wire 2
3 (31)	Ground	Black wire 3
4 (R)	Right turn signal	Black wire 4
5 (58R)	Right position indicator	Black wire 5
6 (54)	Brake lamps	Black wire 6
7 (58L)	Left position indicator	Green-yellow wire 7

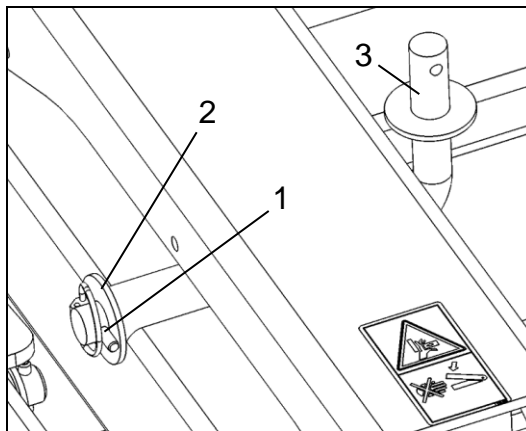
## 7.2 Mounting the drawbar

At first, remove the drawbar from its shipping place as follows:

1. After cutting off the straps, remove lynch pin Nr.1 and washer Nr.2 and remove the drawbar from the trailer.

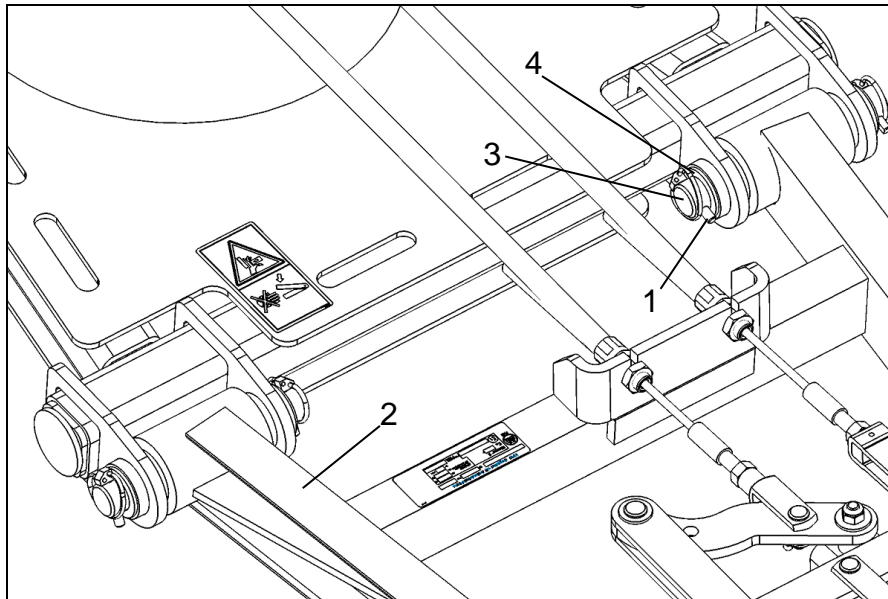


2. Remove the lynch pin Nr.1 and washer Nr.2 and the L-shaped pin Nr.3 from the trailer.

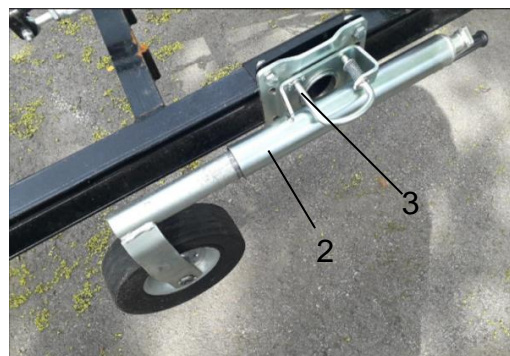


After that, install the towbar as follows:

1. Remove one lynch pin Nr.1 from pin Nr.3 of the drawbar Nr.2.
2. Remove the pin Nr.3 and washer Nr.4.
3. Place the drawbar Nr.2 on the welded towing component of the trailer so that the bushings are coaxial, then insert the pin Nr.3 through the bushings and the washer Nr.4.
4. Replace the lynch pin Nr.1.

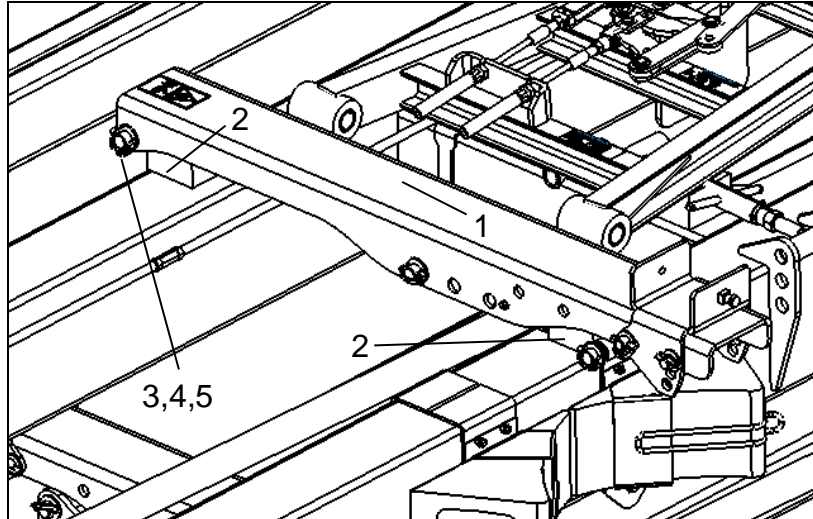


5. Adjust the height of the drawbar eye (if necessary). For this, turn the lever Nr.1 clockwise or counterclockwise. After connecting the trailer to the towing machine, fold the trailer jack Nr.2 up to 90° pulling out the U-shaped pin Nr.3.

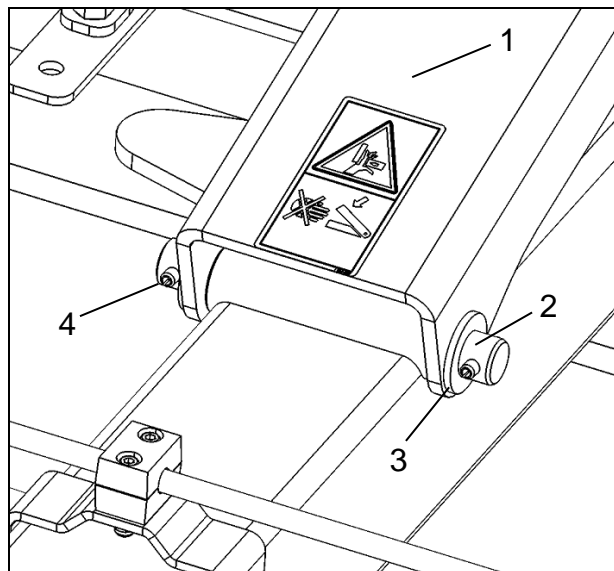


### 7.3 Mounting the header support arm

1. After cutting off the straps, remove the arm Nr.1 from its shipping place. Remove the wooden blocks Nr. 2 as well.
2. Remove the spring pin, the washer and the pin Nr.3, Nr.4 and Nr.5.

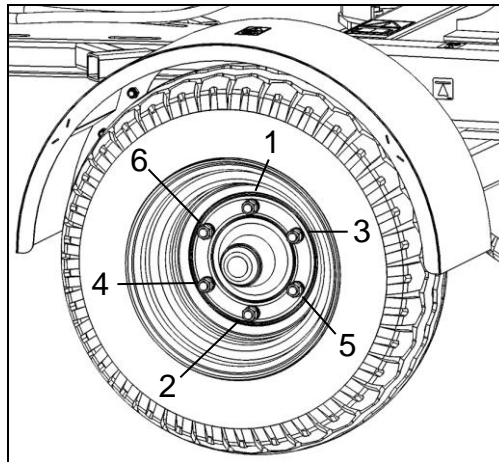


3. Place the header support arm Nr.1 on the trailer frame so that the bushing and the holes are coaxial, then insert the pin Nr.2 through the bushings and the support arm.
4. Put the washer and spring pin Nr.3 and Nr.4 back on the pin Nr.2.



## 7.4 Mounting the wheels

Always tighten the wheel nuts diagonally in the following order:



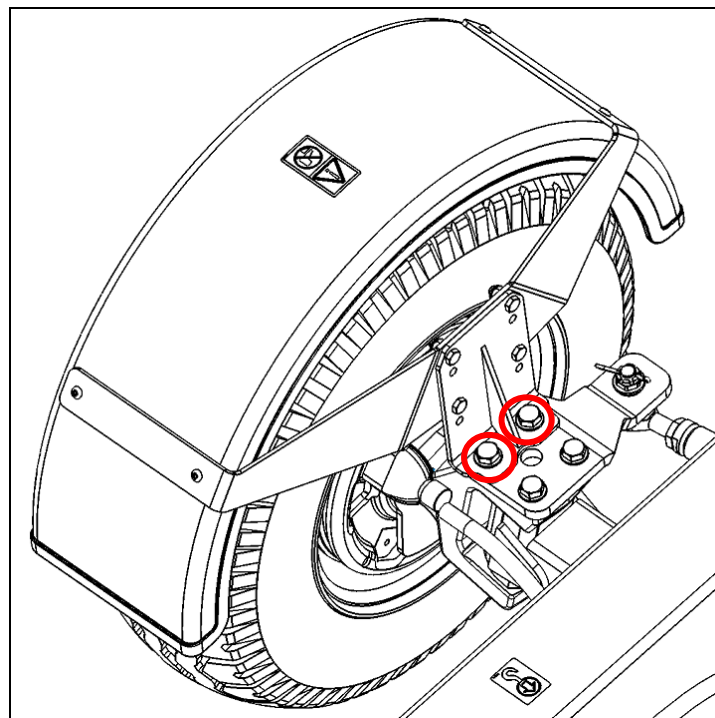
### **WARNING!**



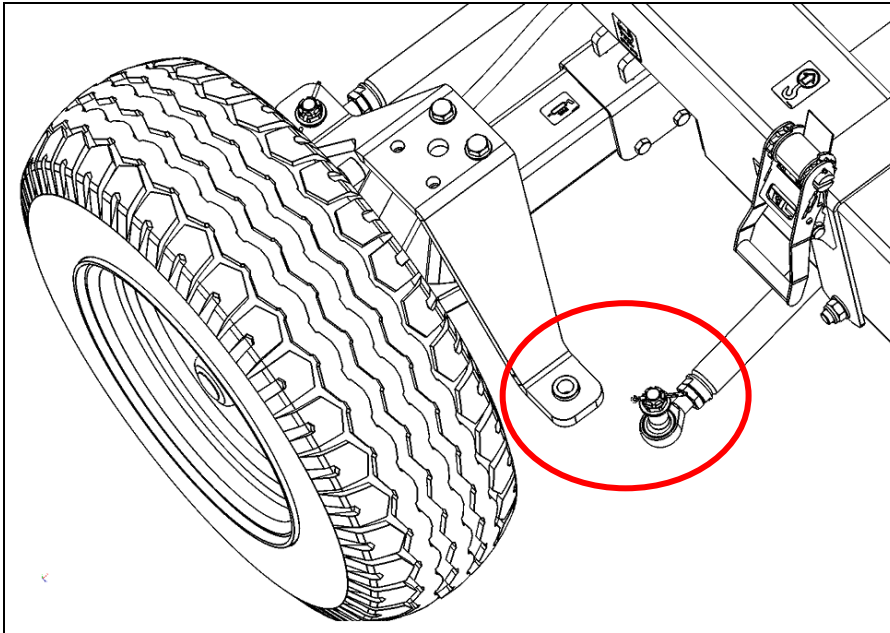
**Make sure that there is a conical wheel nut washer under the nuts! The tightening torque of the wheel nuts is 270-290 Nm**

## 7.5 Wheel parallelism and drawbar adjustment

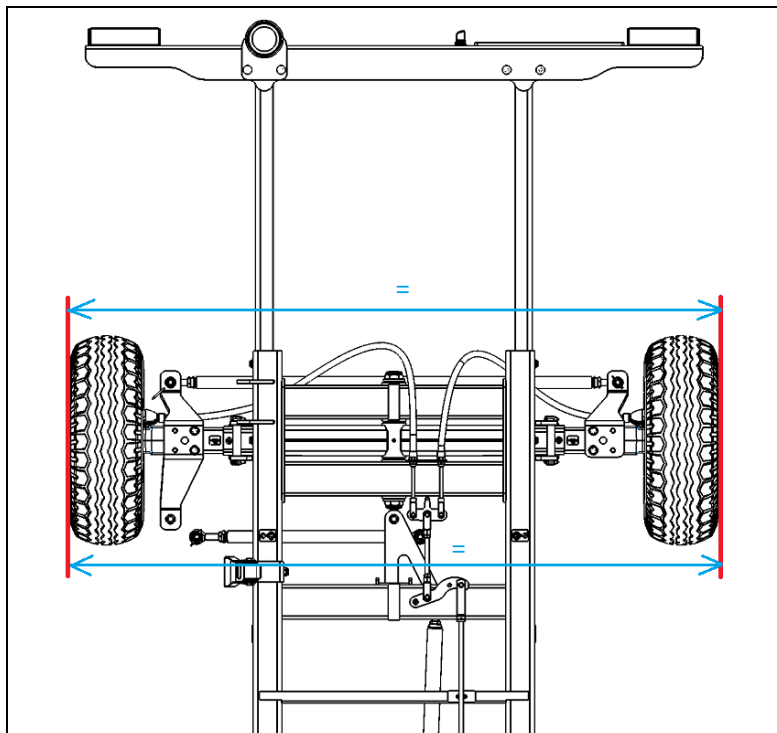
1. Remove the mudguards (if available) by removing the M16x40 DIN 933 hex. head bolts as shown on the figure.



2. After the cotter pin and the crown nut has been removed, disconnect the rear, short steering rod.



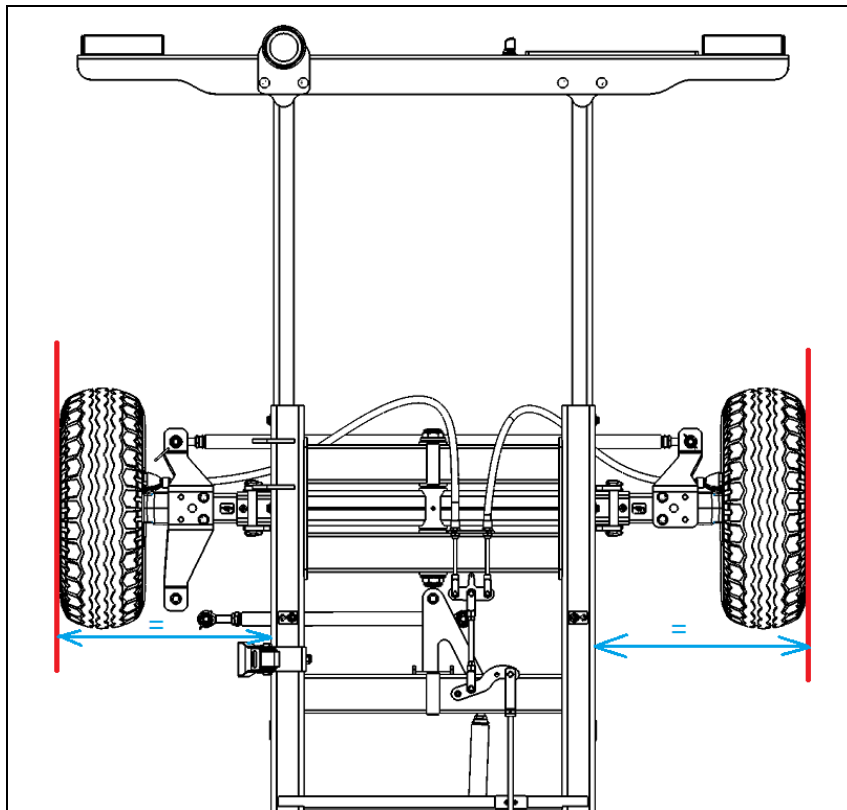
3. Attach a bar (marked in red in the figures below) to the side of the wheel. A more accurate adjustment is achieved when the bar is in contact with the rim.
4. After loosening the counter nut, adjust the parallelism of the wheels by turning the rear long track rod. The distance of the adjustment rods measured in front of the wheels must be the same as the distance measured behind the wheels. After adjustment, tighten the lock nuts.



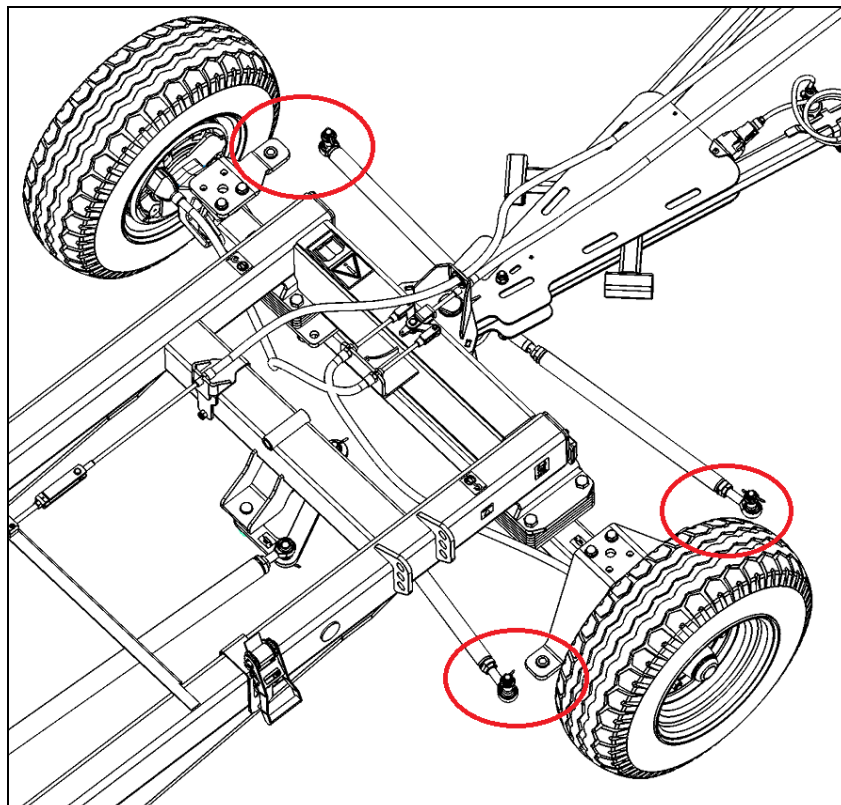


5. Set the rear wheels in the direction of travel.

The distance between the adjusting rod and the frame must be the same in both sides.

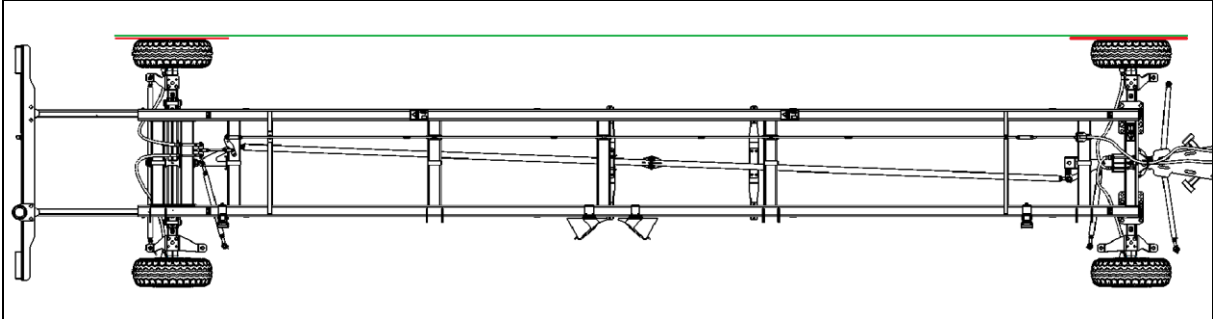


6. Disconnect the front track rods as well.

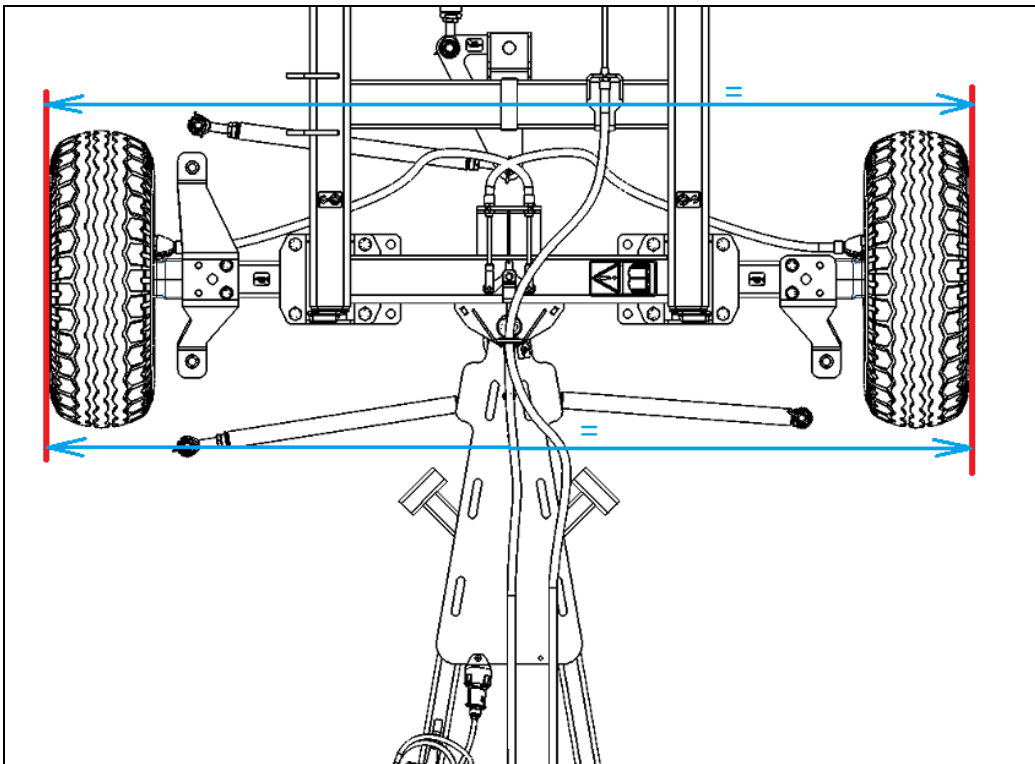


7. Align the front wheels with the rear wheels.

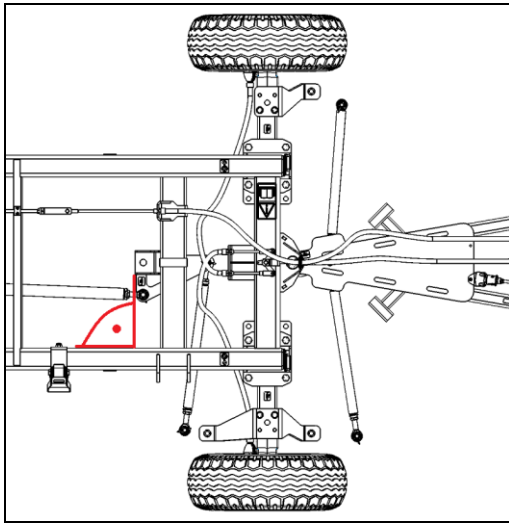
Stretch a string along the rear and front adjustment rods (see with green in the figure). The front wheels should be adjusted so that the tensioned line touches or runs parallel to the front and rear adjustment bars for their full length.



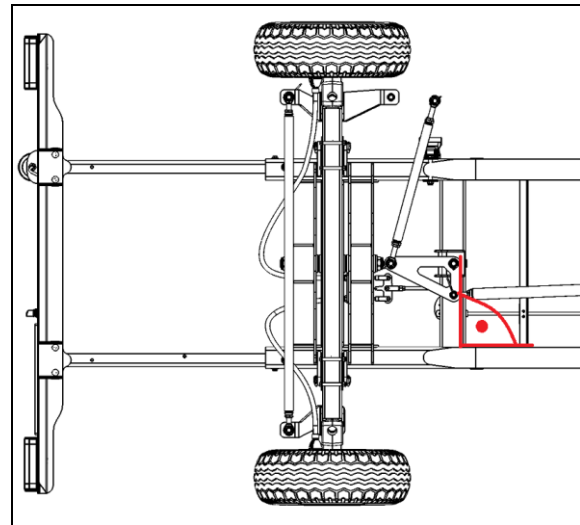
8. Adjust the parallelism of the wheels as described in point 4.



9. Set the triangular arms in the position shown in the figure, perpendicular to the longitudinal axis.

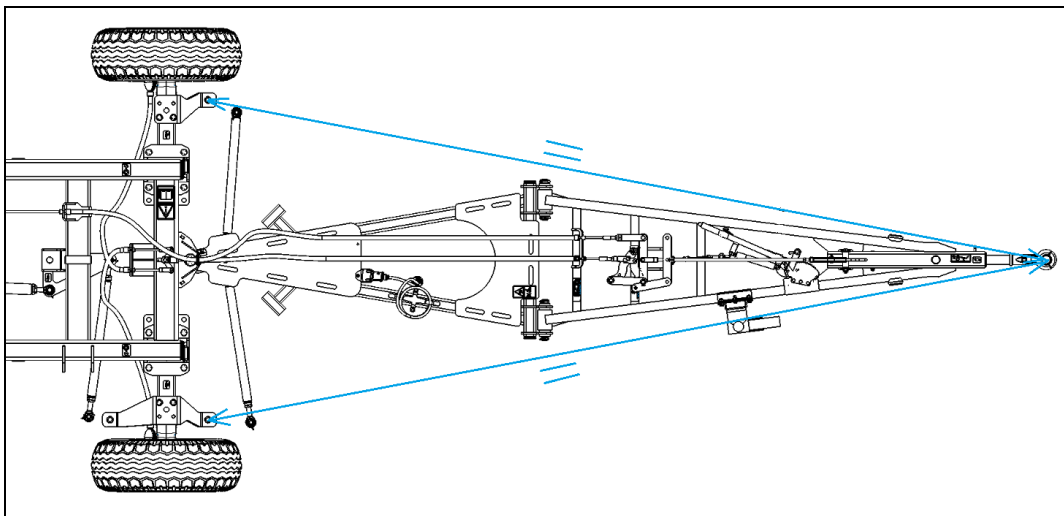


At the front



At the rear

10. Adjust the drawbar so that the distance between the drawbar eye and the control arms is the same on both sides.



11. Set the appropriate joint distances by turning the threaded joints and rods  
 12. Reattach the track rods using the crown nut and cotter pin.

**WARNING!**

After making the adjustments,  
 tighten the counter nuts and check  
 the cotter pin lock on the crown  
 nuts!



## 7.6 Adjustment and inspection tasks before placing the header on to the trailer

### 7.6.1 Adjusting the support arms, checking their position

#### **WARNING!**

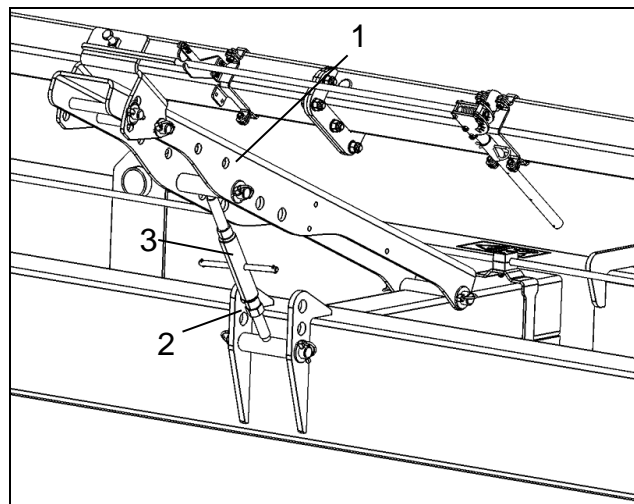
**The support arms shall be adjusted on a trailer which parked on level ground.**



The header trailer is shipped from the factory adjusted to the type of header specified when ordering, but as the angular position and lifting height may vary by combine / tractor type, it may be necessary to change the factory setting. The securing of the header may vary depending on the mounting brackets. The support brackets have different designs depending on the type of header. See the following sections for more information on the different designs.

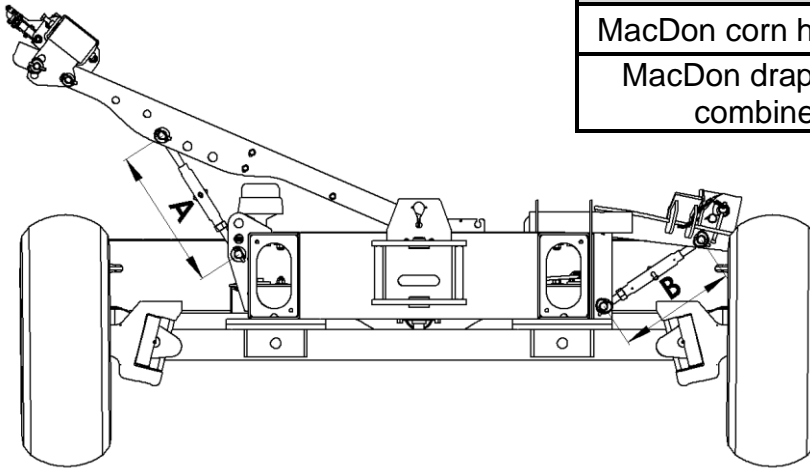
#### 7.6.1.1 Adjusting the support beam holder – for each support arm kit

The support arms for the supporting of the header can be tilted if necessary. To tilt the arm Nr.1, loosen the M20 locknut Nr.2 and turn the turnbuckle Nr.3 in the appropriate direction. After adjusting the correct angle position, retighten the locknut Nr.2.



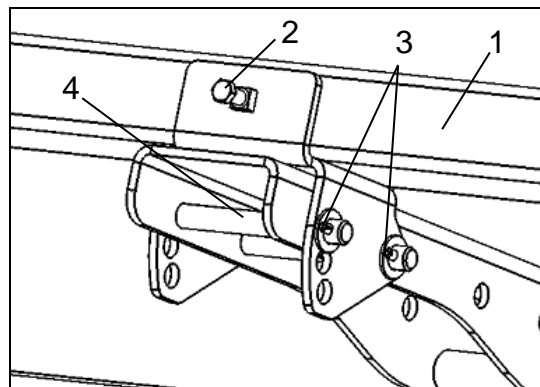
Default factory settings of the header support arms as follows:

Header	A (mm)	B (mm)
MacDon corn headers	354	280
MacDon draper on combine	410	344



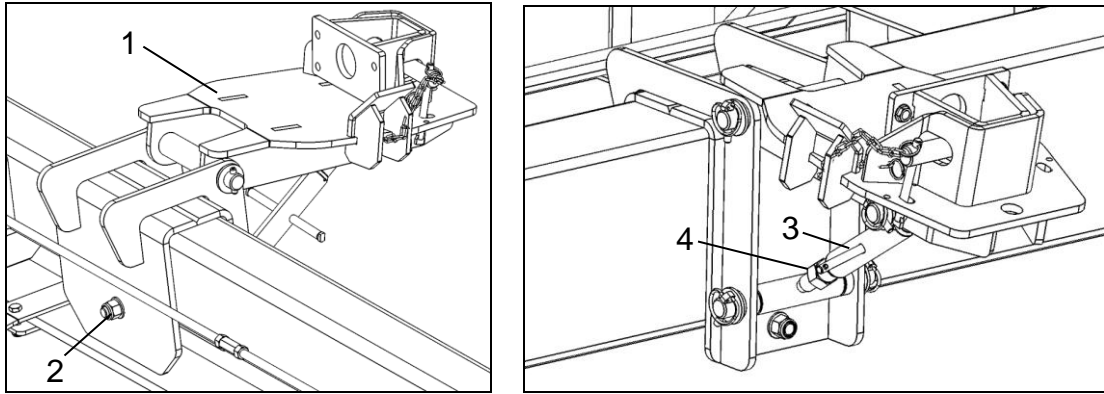
#### 7.6.1.2 Displacing and tilting the support beam for each support arm kit

To move the support beam Nr.1, loosen the M12x70 bolts Nr.2 and move the support beam longitudinally to the desired position. To tilt the support beam, remove the spring pin Nr.3 and remove the locking pin Nr.4. After setting the desired angle, replace the locking pin in the appropriate hole and replace the spring pin.



#### 7.6.2 Position of rear cradle (for each type of headers)

To move the support cradle Nr.1 along the frame, loosen the M16 lock nut Nr.2. The support cradle can be tilted by the turnbuckle Nr.3 after the lock nut Nr.4 has been loosened.

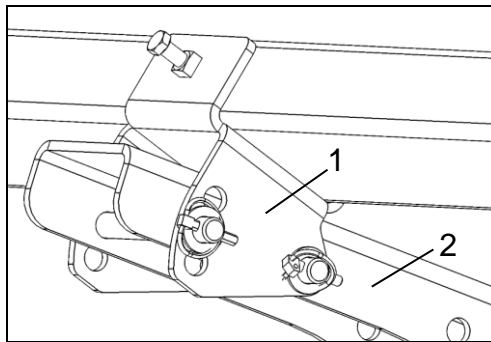


After the adjustment of the cradle, retighten the locknuts.

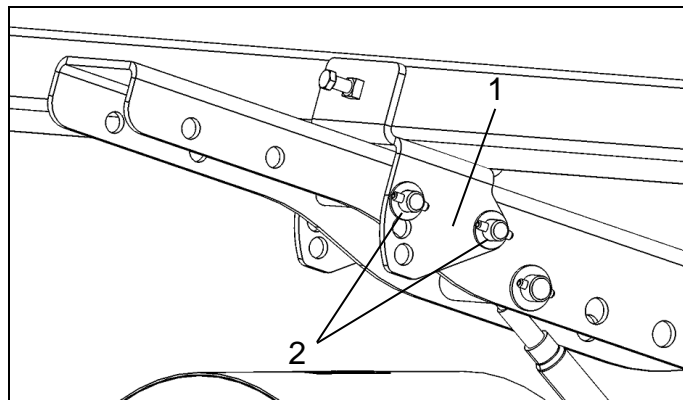
### 7.6.3 Adjusting the front support beam

The holes on the front support beam brackets Nr.1 shall coincide with the holes on the arm Nr.2, as shown in the following figure.

#### 7.6.3.1 Combine-operated draper (DC)



#### 7.6.3.2 MacDon corn header (CH) kit

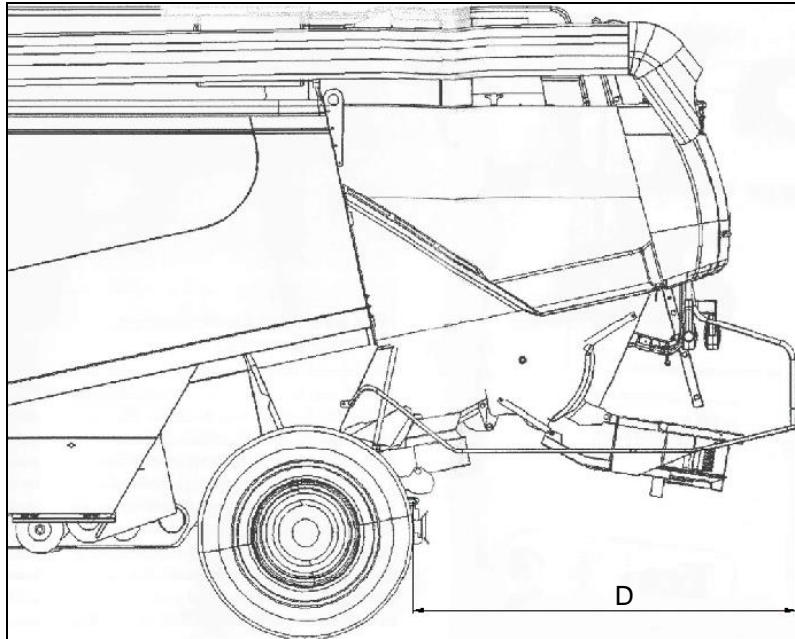
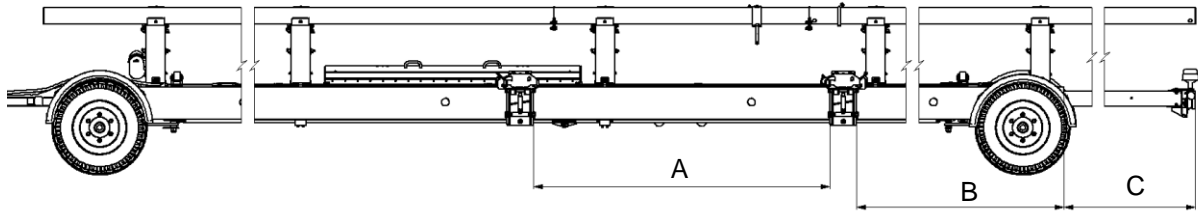


**WARNING!**



The setting of the support arms may differ from the specified values in the case of certain combine types and depending on the field conditions. The arms should be adjusted so that during the fit-up, when the front of the header rests on the front support beam, there is no more than 4-6 cm between the back of the header and the rear cradle.

### 7.6.4 Position of support cradles depending on header types

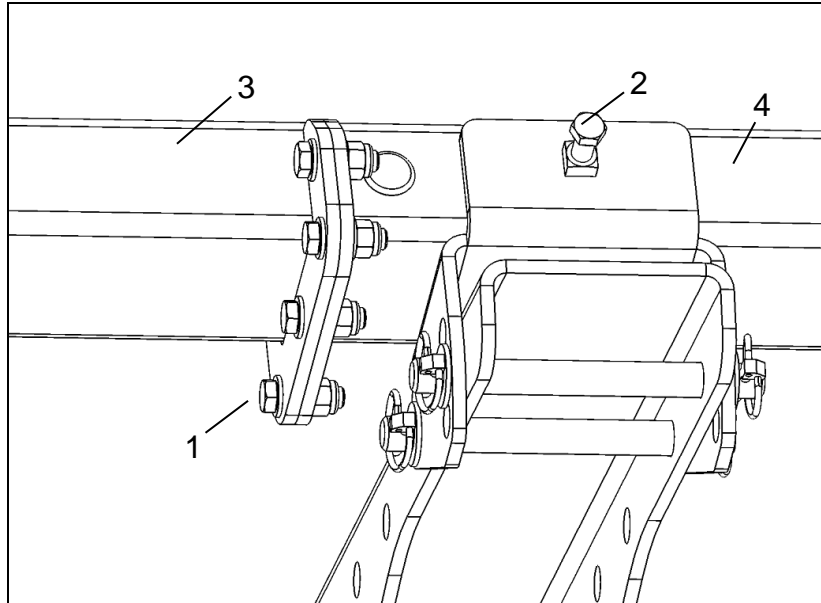


Cradle kit mark	DC			CH	
	MacDon FD235	MacDon FD240-241	MacDon FD245	12R/70-76,2 16R/50, 18R/50-56	16R/70 12R/96 16R/76,2
A (mm)	2320	2320	2320	2760	2760
B (mm) D>2100	3720	2920	4030	3000	3000
B(mm) D<2100		3720			
C (mm) D>2100	454	1954	1954	454	1304
C (mm) D<2100		1304			

### 7.6.5 Installation of the front support beam extension

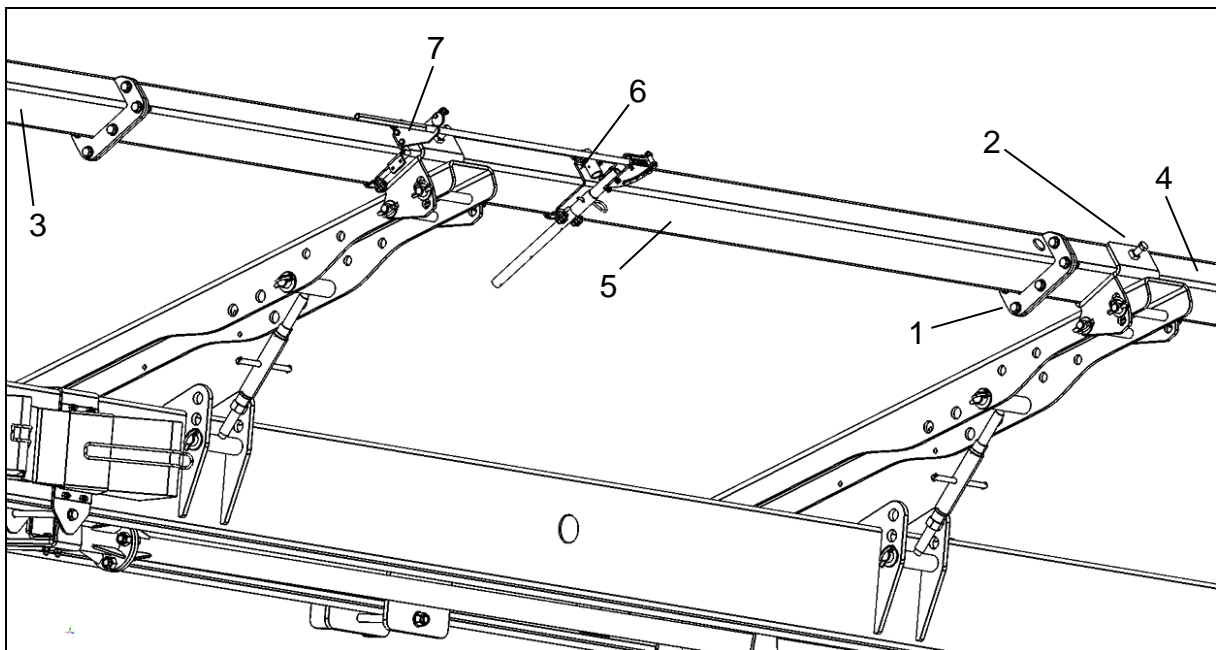
The header trailers are delivered with RUPD mounted in the short position and with no central support beam extension installed. If 40' or 41' draper header wants to be installed, mount the central support beam on which is delivered with the trailer, as follows.

Remove the M12 fasteners Nr.1. After loosening the M12x40 bolts Nr.2, move the beams Nr.3 and Nr.4 away from each other.



After that, place the central beam extension Nr.5 between the beam Nr.3 and Nr.4, replace and tighten the bolts Nr.1. Tighten the fasteners Nr.2 after the adjustment of the support beam.

Relocate the header alignment gauge Nr.6 and its holder Nr.7 on the central beam in the position where it will best assist you in positioning the header.

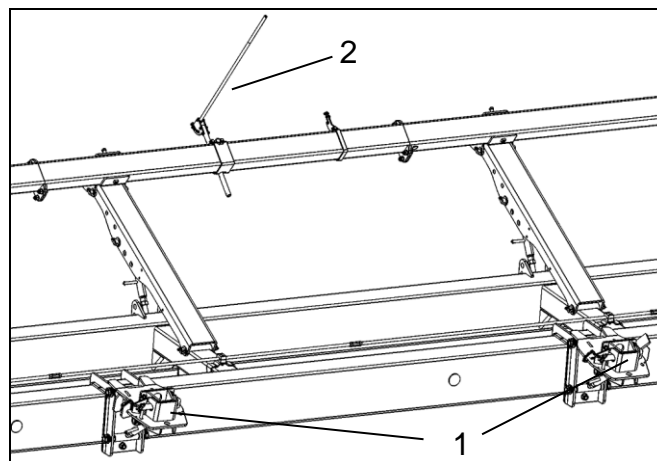




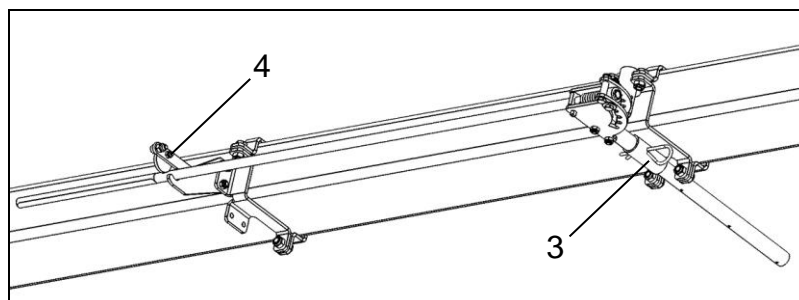
## 7.7 Attaching the header to the trailer

After completing the previous steps, place the header on the trailer as follows:

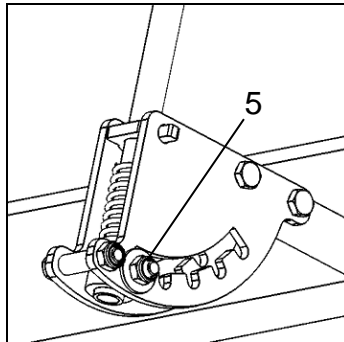
1. Stop the header drive.
2. Disconnect the header from the combine (hydraulic and mechanical couplers).
3. Set the header snouts (if available) to shipping positions, put the vertical knives (if available) into the storage box.
4. Approach the trailer from the left in the direction of travel.
5. Raise the header with the combine until the header fits securely over the brackets.
6. Drive straight ahead with the combine or the tractor until the front of the header is above the support beam. Use the header alignment gauge Nr.2 as a reference point. Check that the back of the header is exactly above the brackets Nr.1.



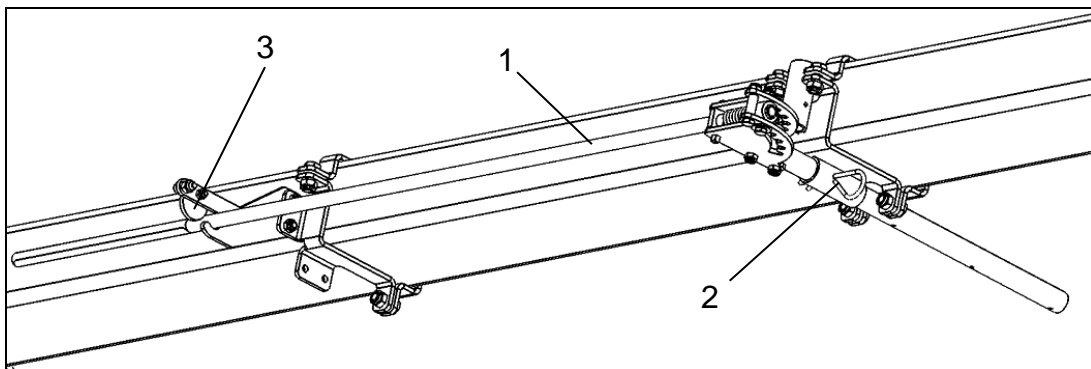
To use the alignment gauge Nr.2, remove the retaining pin Nr.3, take the alignment gauge out of the support Nr.4 and pull the alignment gauge out of the support tube. Turn the alignment gauge 90 degrees and then put the retaining pin back into the corresponding hole.



To adjust the tilt of the alignment gauge, pull the alignment gauge up against the spring, and after adjusting the desired tilt, release it so that the locking screw Nr.5 fits into the appropriate groove.



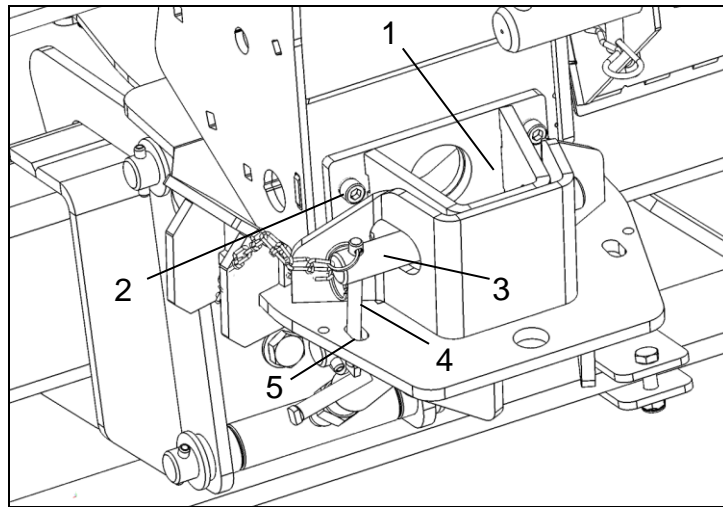
7. Slowly lower the header while the front of it touches the support beam.
8. Slowly lower the header further while constantly monitoring that the header is in the correct position.
9. If the back of the header is not positioned well in relation to the brackets, raise the header completely again, then move it on the appropriate position and try to place it on the trailer again.
10. Lower the feeder house until the feeder hook is released, then gently reverse with the combine.
11. After placing the header on the trailer, remove the retaining pin Nr.2, turn the alignment gauge parallel to the beam and set the alignment gauge back to the first groove and set it to the holder Nr.3.



## 7.8 Securing the header to the trailer

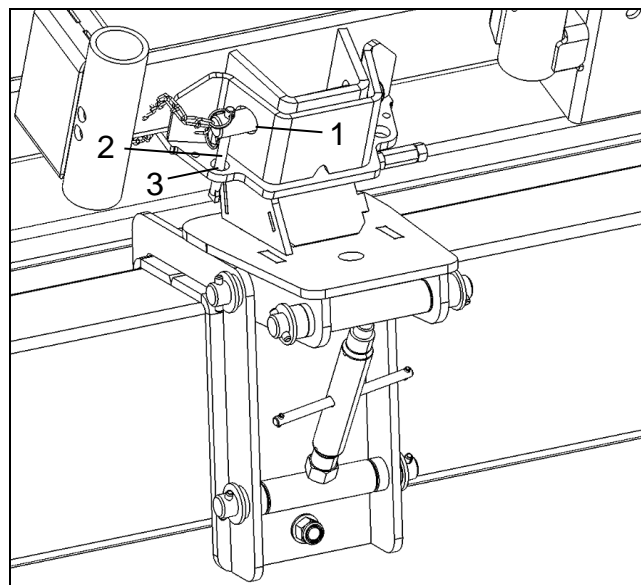
### 7.8.1 Combine-operated draper (DC) kit

For locking the back of the header, assemble the bracket Nr. 1 to the header with 4 pcs of M10x20 DIN 7500 self-taping bolts with ISO 7980 spring washers Nr.2 and remove the locking pin Nr.3. Make sure that the fasteners are tightened by the required torque (see 9.2.7.). After loading the header on the trailer, secure the header with pin Nr.3 so, that the securing pin Nr.4 is placed into the slot Nr.5.



### 7.8.2 MacDon corn header (CH) kit

For locking the back of the header, remove the locking pin Nr.1. After loading the header on the trailer, secure the header with pin Nr.1 so, that the securing pin Nr.2 is placed into the slot Nr.3.



If a locking pin is not available to secure the header at the rear and/or at the front of it, use the ratchet straps provided with the header trailer for any support kit.

**WARNING!**

Use edge protector on sharp edges when applying ratchet strap. Make sure that the strap is not stretched by easily deformable parts of the trailer (e.g., brake system components).

**WARNING!**

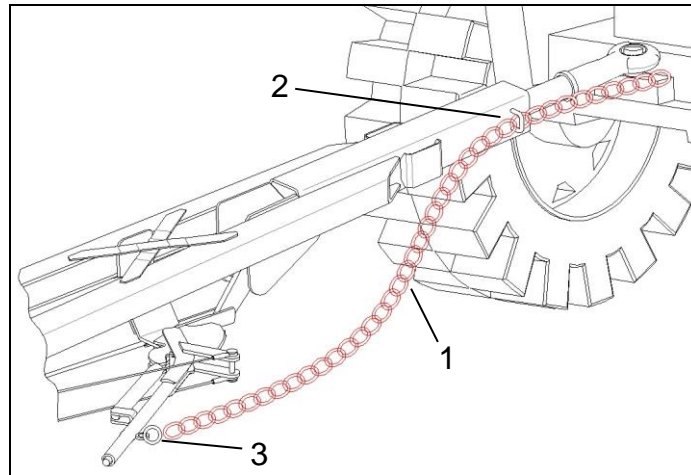
Improperly supported and secured headers can move, fall, and cause an accident during shipping.

## 7.9 Commissioning

1. After attaching the header, make sure that the header rests properly on the brackets. Make sure the locking pins are in place (if available).
2. Check that the lighting equipment is working properly.
3. Check the tire pressure (see 5.3).
4. Hook up the trailer to the towing vehicle.
5. Secure the safety chain/cable, which activates the parking brake if the trailer detaches from the towing vehicle accidentally.

**WARNING!**

The breakaway chain/wire Nr.1 shall be threaded through the tab Nr.2 and connected to the towing vehicle. The other end of the chain/wire shall be connected to the split ring Nr.3 on the park brake lever.



7. Remove the wheel chocks from the wheels and put them back in the chock holder.
8. Tow the trailer at a maximum speed of 40 km/h.

## 8. Installation of optional accessories

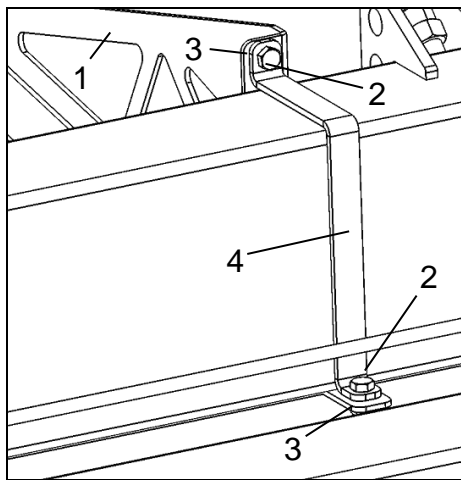
Certain parts of the trailer or the optional items subsequently ordered mentioned above must be installed after unpacking.

If necessary, assemble the components as follows.

### 8.1 Mounting the storage box

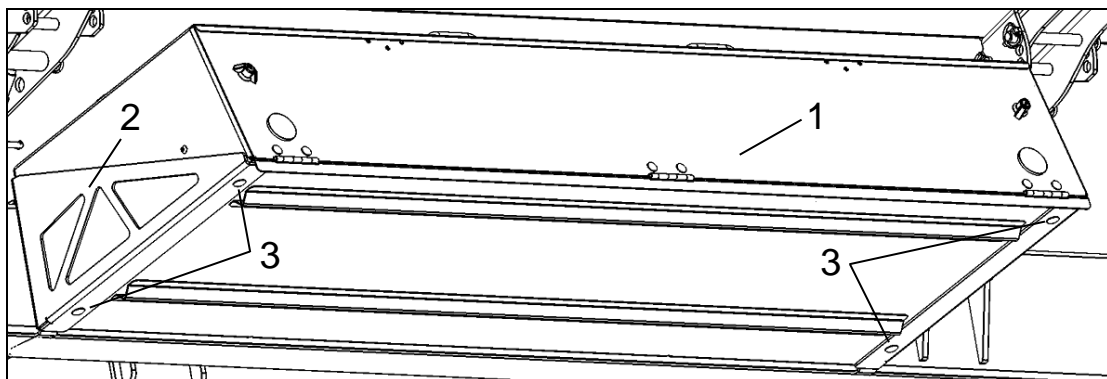
#### 8.1.1 Mounting storage box brackets

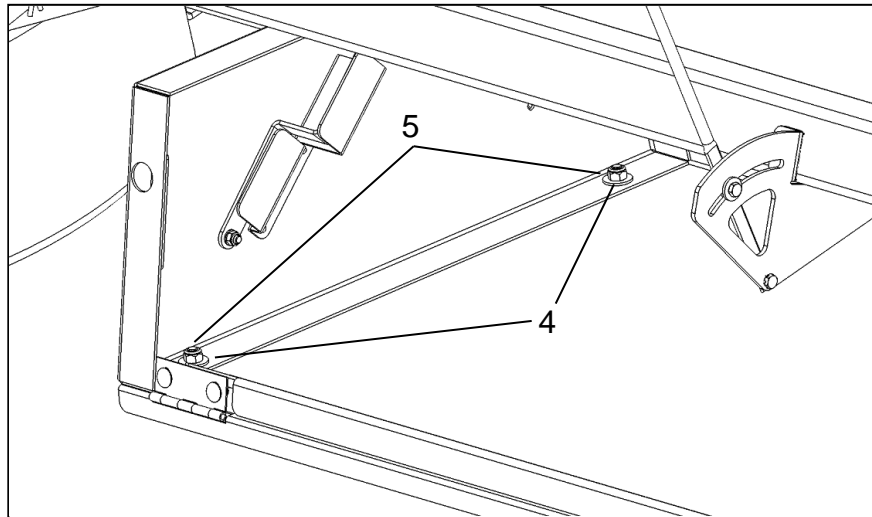
To install the storage box, first install the mounting brackets Nr.1 with the M12x30 DIN 933 hexagon head bolts Nr.2 and the M12 DIN 982 plastic insert lock nuts Nr.3 using the clamp plate Nr.4.



#### 8.1.2 Mounting storage box

To install storage box Nr.1, place the storage box between the brackets Nr.2 and secure it with 4 pcs of M10x25 DIN 603 carriage bolts Nr.3, DIN 9021 washers N.4 and M10 DIN 982 plastic insert nuts Nr.5. You can install washers Nr.4 and nuts Nr.5 after opening the storage box.

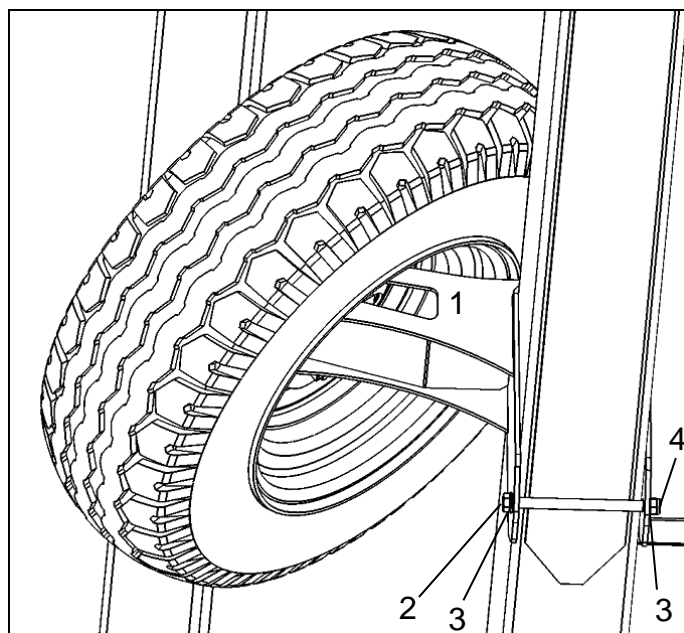




## 8.2 Mounting the spare wheel

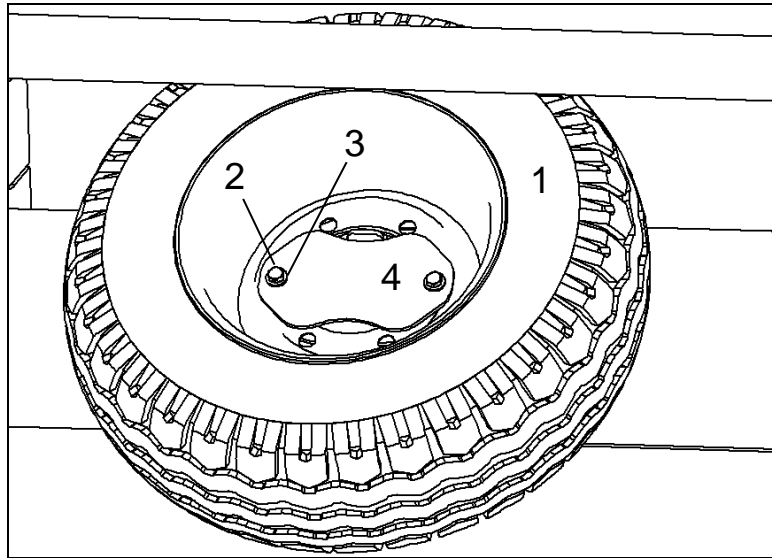
### 8.2.1 Mounting support bracket onto the frame

To install the spare wheel support bracket Nr.1, place the bracket on the frame as shown in the picture and secure it with the M12x180 DIN 931 hex head bolt Nr.2, DIN125 washer Nr.3 and the M12 DIN 982 plastic insert lock nut Nr.4.



### 8.2.2 Securing the spare wheel

Secure the spare wheel Nr.1 with 2 pcs of M12x40 DIN 933 hex bolts Nr.2 and spring washer Nr.3 using the clamping plate Nr.4.



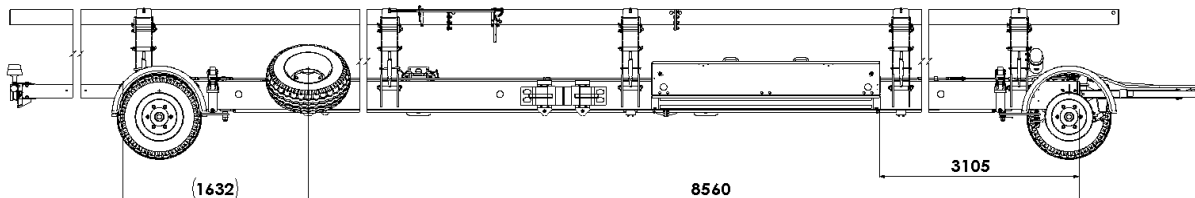
#### **WARNING!**



If necessary, attach the spare wheel to the wheel hub and secure with the wheel nuts. It is necessary to retighten the wheel nuts before using a new trailer, at every wheel change and approx. after the first 30 km!

### 8.3 Position of the storage box and spare wheel

Install the storage box and/or the spare wheel to the shown distance from the front of the frame.

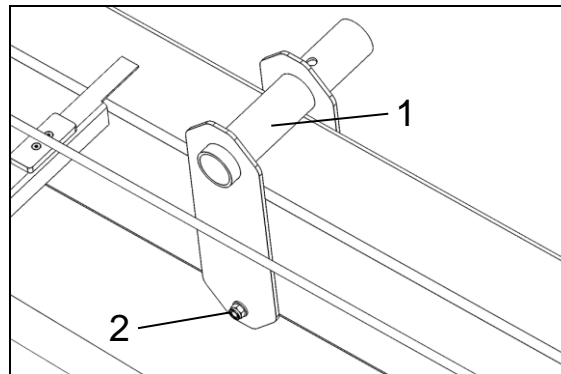




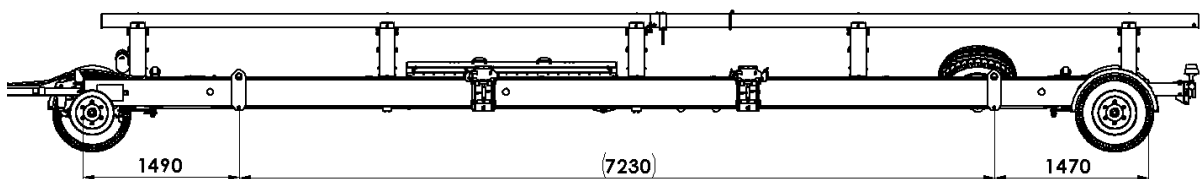
#### 8.4 Mounting the gauge wheel holder (for MacDon draper headers)

In case of transporting a MacDon draper header equipped with larger gauge (stabilizer) wheels, it might be required to remove them. Install the gauge wheel holder(s) as follows.

Put the holder Nr.1 onto the frame and fix it by M12x180 DIN 933 bolt, washers and M12 DIN 985 plastic insert nut Nr.2.



Install the gauge wheel holder(s) into the following location(s):



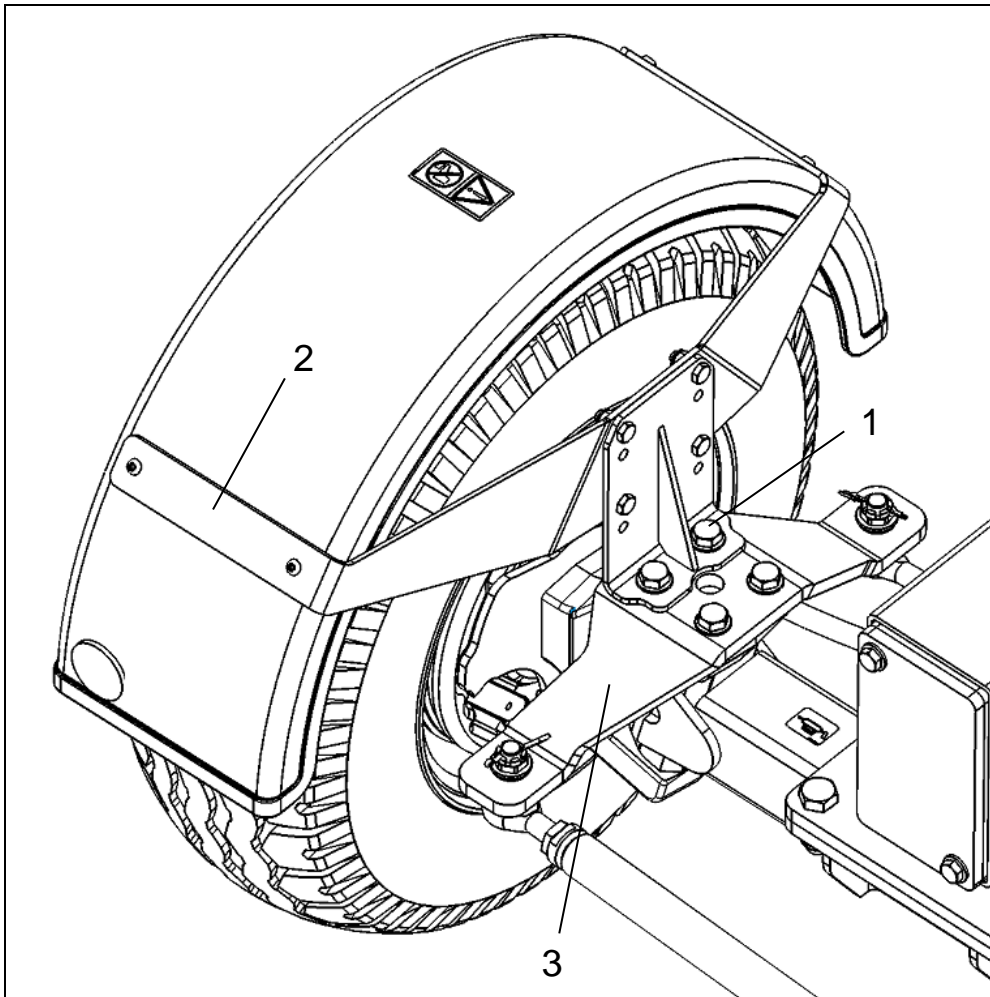
After removing the cotter pin Nr.1 and pin Nr.2, place the gauge wheel Nr.3 in the holder. Use the fasteners Nr.1 and Nr.2 to fix the gauge wheel in the holder.



### 8.5 Mounting the fenders

If it is a safety requirement in your country, you will receive the trailers equipped with fenders. If it is not mandatory to equip the trailer with fenders, they can be ordered separately as optional items. The fenders can be installed on the trailer as follows.

Remove the M16x40 DIN 933 bolts and the washers. Place the pre-assembled fender Nr.2 on the arm Nr.3 and fix it by the fasteners Nr.1.

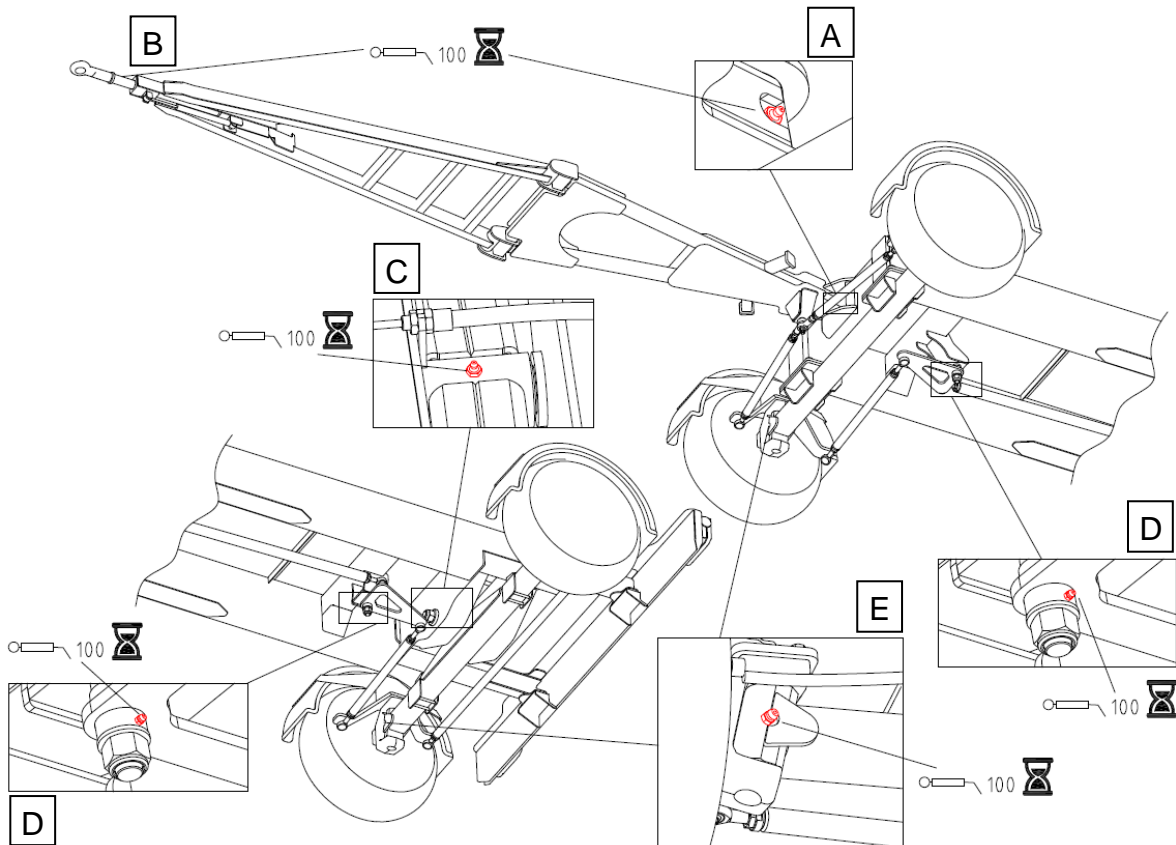


## 9. Lubrication and maintenance

### 9.1 Lubrication

#### 9.1.1 Lubrication locations

Make sure that the rotating shafts and pins are properly lubricated!



Mark	Name	Lubrication interval	Recommended lubricant
A	Front pivot pin	Every 100 hours, but at least once a year.	EP NLGI 2 grease
B	Inertia brake towing eye		
C	Rear pivot pin		
D	Steering lever pin	Every 100 hours, but at least twice a year.	
E	Axle king pin		

**WARNING!**



**Some brake wires might be fitted with grease point.**

### 9.1.2 Lubrication steps

1. Stop the engine of the towing vehicle and remove the ignition key.
2. Secure the towing vehicle and the trailer with the wheel chocks against rolling away.
3. Remove the grease nipple cap (if available).
4. Clean the grease nipple from dirt.
5. Apply the lubricant to the correct position via the grease nipple. Use a brush to grease the moving surface of towing eye.
6. Remove excess lubricant.
7. Replace the grease nipple cover (if available).

#### **WARNING!**



**The use of liquid lubricants is not permitted!**

---

## 9.2 Maintenance

### 9.2.1 Wheels

- Always check the tire pressure before operating the trailer (see 5.3).
- If the wheels are removed, follow the sequence for tightening the wheel nuts in section 7.4 when refitting.
- The damaged tire shall be changed or repaired in a service workshop which has the relevant authorization.
- In case of changing or repairing the tire the manufacturer's instruction shall be followed.
- When removing the tire, the tire pressure must not exceed **2,5 bar (35 PSI)**.

#### **WARNING!**



**Make sure that there is a conical wheel nut washer under the nuts! The tightening torque of the wheel nuts is 270-290 Nm.**

---

**WARNING!**

Improper tire mounting and working with higher than permitted tire pressure can result in tire damage and/or personal injury.

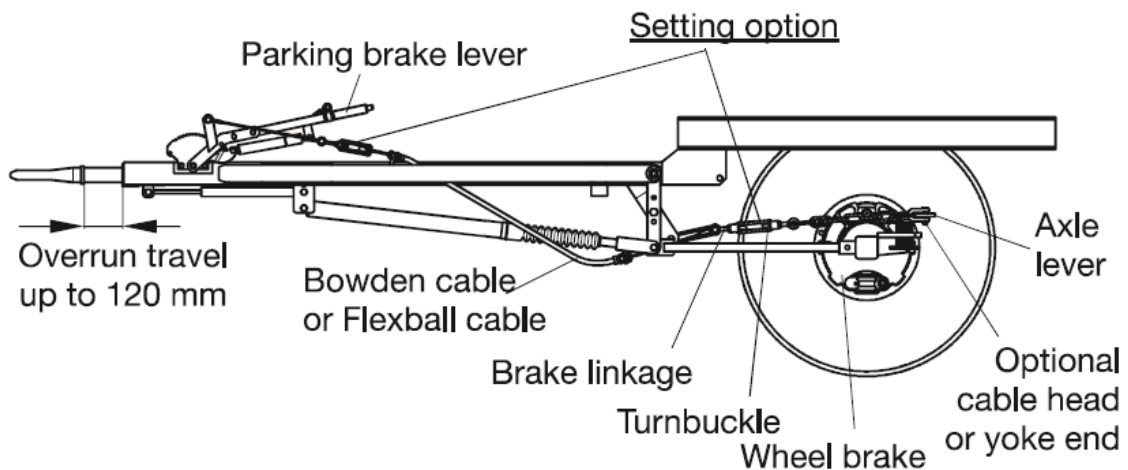
## 9.2.2 Axles and braking system

### 9.2.2.1 General information

The installed axles and brake system manufactured and distributed by BPW Hungária Kft. The original maintenance instructions for the brake system can be found here.

English: <https://bpwagrar.com/en/products/axles/axles-with-reversing-mechanism/>

German: <https://bpwagrar.com/produkte/achsen/achsen-mit-ruckfahrautomatik/>



### 9.2.2.2 Axle maintenance plan

1. Check the tightness of the wheel nuts after the first load operation, every time the wheel and brake linings are replaced, then every 500 operating hours, but at least every six months.
2. Check the suspension of the wheel bearing, adjust, if necessary, after the first loaded operation, every time the wheel and brake linings are replaced, then every 500 operating hours, but at least every six months.
3. Check the brake lining thickness every 200 operating hours for each brake lining change, but at least every six months.

4. Check the brake setting on the brake lever, adjust, if necessary, every 200 operating hours, every time the brake linings are replaced, but at least every six months.
5. Check the brake setting on the inertia brake, adjust, if necessary, every 200 operating hours, every time the brake linings are replaced, but at least every six months.
6. Check the hub cap for tightness every 200 hours of operation, every time the brake linings are replaced, but at least every six months.
7. Check the condition and strength of the brake drums every time the wheel and brake linings are replaced, then every 500 operating hours, but at least every six months.

### **9.2.3 Cleaning of fenders**

As the vehicle can often be used on dirt roads during its intended use, check the fenders for dirt on the wheel side regularly. Remove the dirt accumulated on the inner surface of the fender.

## 9.2.4 Brake system installation, maintenance

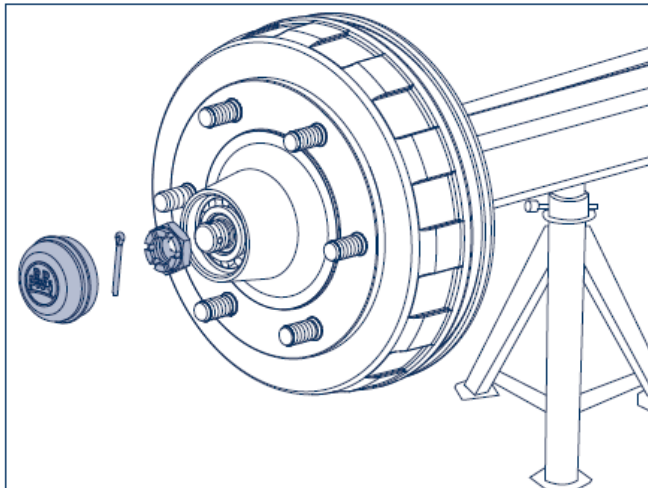
### 9.2.4.1 Disassembling the hub

#### **DANGER!**



**Secure the vehicle against rolling away. Only release the service brake and parking brake after lifting!**

1. Use a jack to raise the vehicle until the tires are off the ground.
2. Remove cap from the wheel hub, pull out the cotter pin from the hole and unscrew the castle nut.



3. Before removing the brake drum, the brake shoes must be set back to basis position by turning the adjusting bolt counterclockwise.

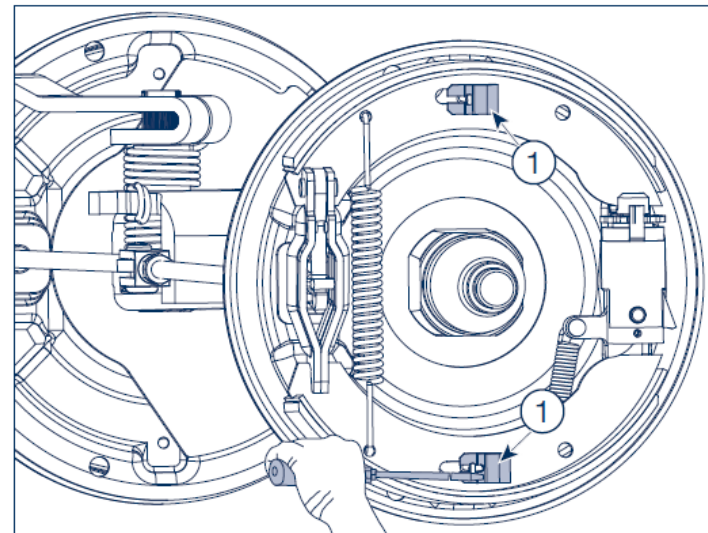
#### **NOTE!**

**Be careful not to interchange the hubs and bearings. It is important that the same bearing ring and the same tapered roller bearing return to the same hub.**



### 9.2.4.2 Disassembling the brake shoes

4. Push the tension plate Nr.1 with a screwdriver while pushing it to the side and remove it.

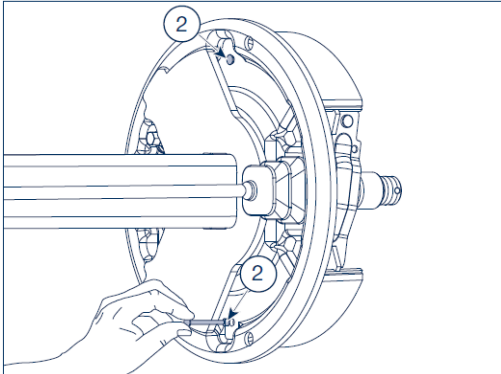


#### **NOTE!**

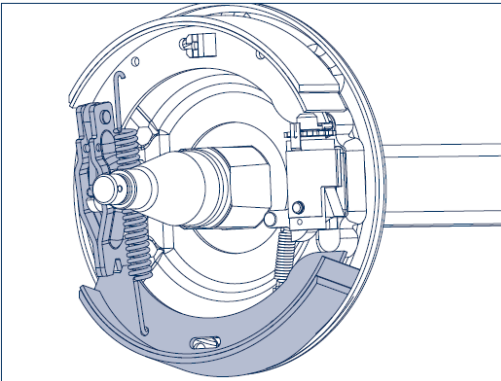
**The brake shoe must be secured against falling!**



5. Remove the retaining pin Nr.2 at the rear and remove the brake shoe.

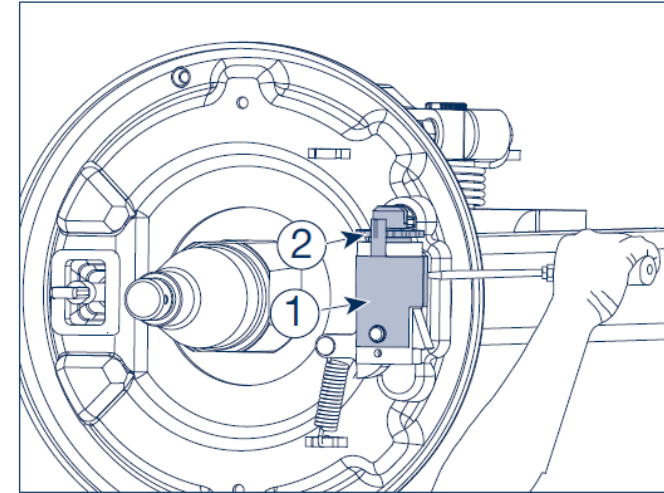


6. Remove the expander clutch from the brake shoe and unhook the spring from the brake shoe eyelets.



#### 9.2.4.3 Brake installation – adjusting nut.

7. Remove the retaining clip N.1 with a screwdriver. Replace in case of damage or wear! Remove adjusting nut Nr.2 from the bracket.



#### **NOTE!**

Check the teeth of the adjusting nut and replace if worn or damaged. Lightly grease the thread (M18) with special long-life BPW grease (ECO-Li 91).



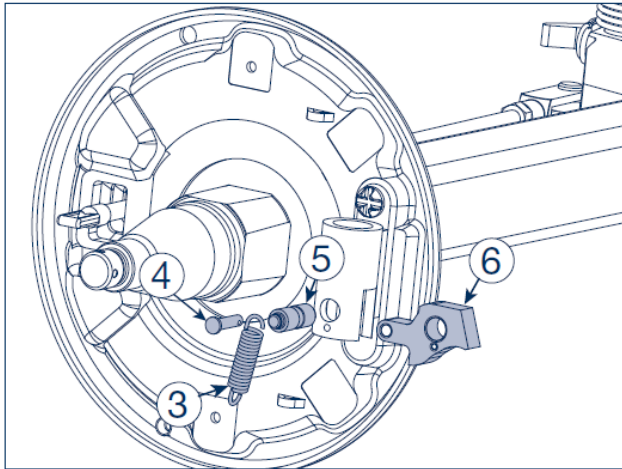
8. Unhook the return spring Nr.3 of the auto-reverse lever and remove the bolt Nr.4. Remove the bolts Nr.5 and the auto-reverse lever Nr.6.

#### **NOTE!**

The return spring of the automatic reverse system must be replaced



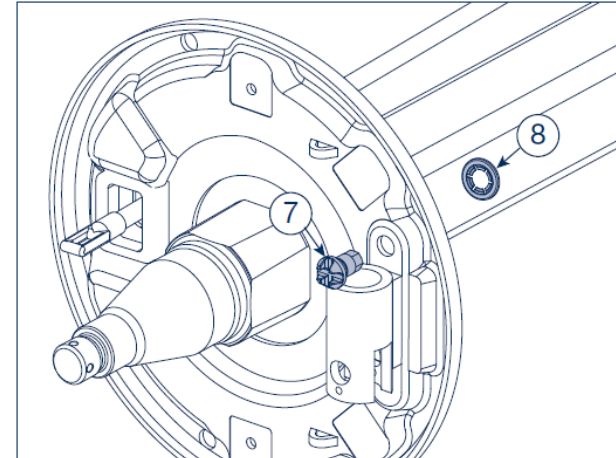


**NOTE!**

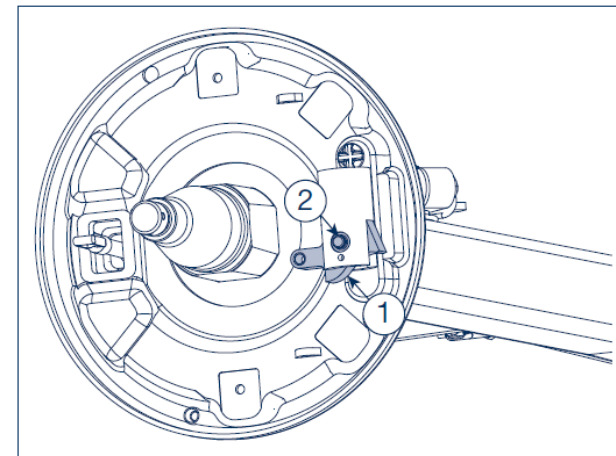
**Check the contact surface of the auto-reverse lever for wear and replace if necessary**



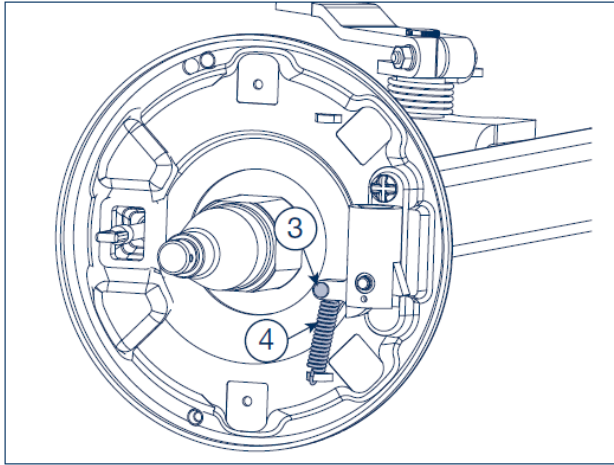
9. Check adjusting screw Nr.7, replace if worn or damaged. To do this, remove the retaining ring Nr.8 from the outside and remove the adjusting screw.



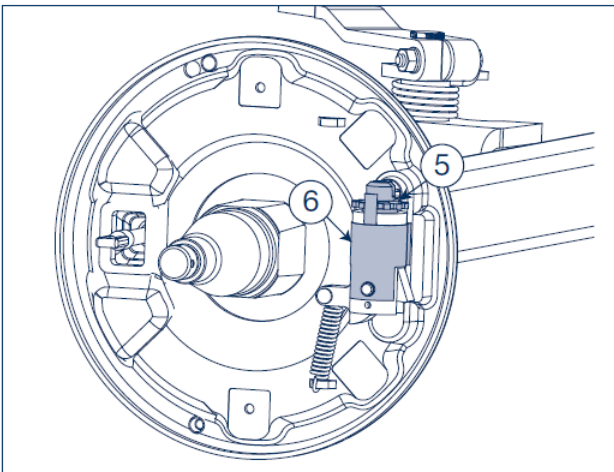
10. Insert the auto-reverse lever in correct position and fix it by a retaining bolt.



11. Install bolt Nr.3 and install the return spring Nr.4 of the auto-reverse lever.



12. Insert the adjusting nut Nr.5 and install the retaining clip Nr. 6.

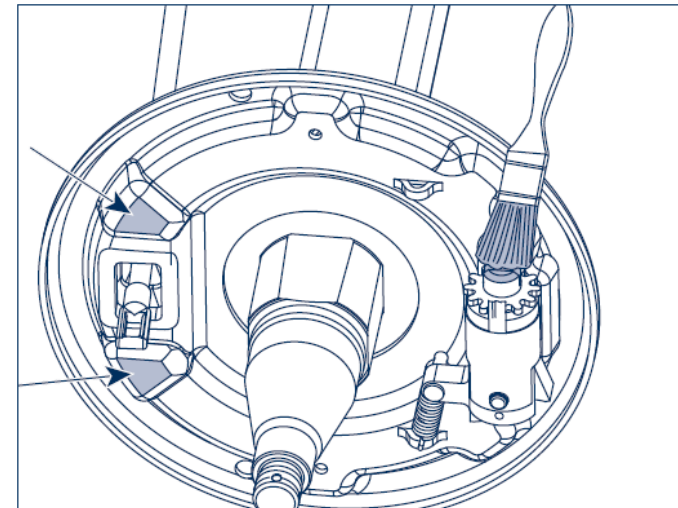
**NOTE!**

Prior to the installation, the adjusting nut (outside) must be lubricated with special long-life BPW grease (ECO-Li91)!



## 9.2.4.4 Assembly of the brake shoes

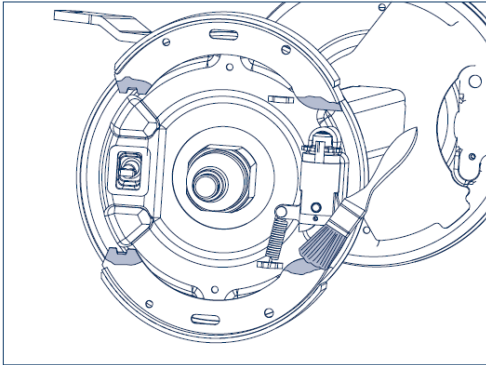
13. Lightly grease the contact surfaces of the brake shoes on the brake carrier (marked with arrows) with special long-life BPW grease (ECO-Li 91).

**NOTE!**

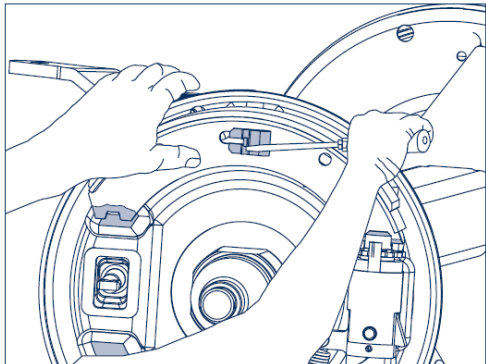
Clean the brake dust from the brake carrier.



14. Grease the contact surface of the brake shoes too!



15. The components must be assembled in reverse order. Lift the upper brake shoe in place and fasten it.

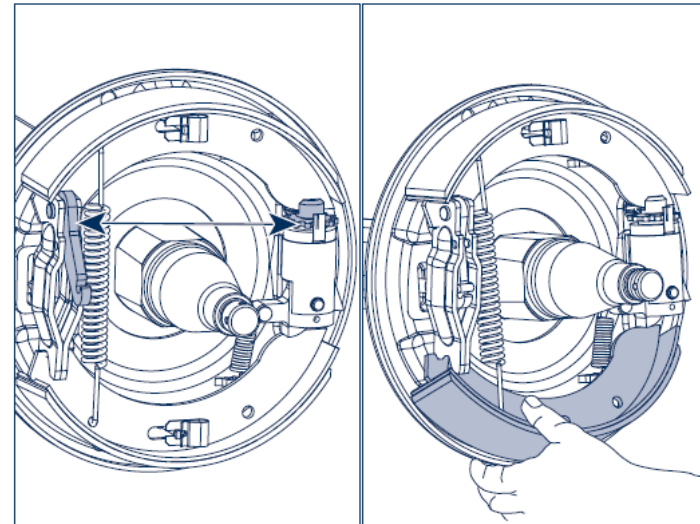


### **NOTE!**

Before installing the brake shoe, the function of the automatic reverse system must be checked! Make sure that the auto-reverse lever works smoothly!



16. Insert the new tension spring into the eyelets of the brake shoes. Place the expander clutch in the correct position, as shown in the picture. The moving hook of the expander clutch is always in the same plane as the adjusting nut.

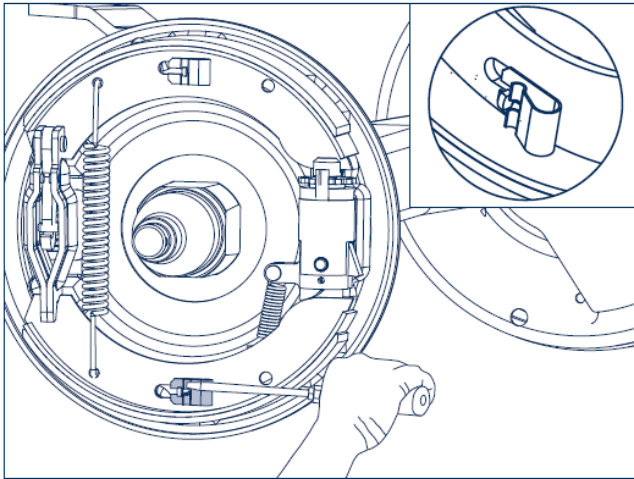


### **NOTE!**

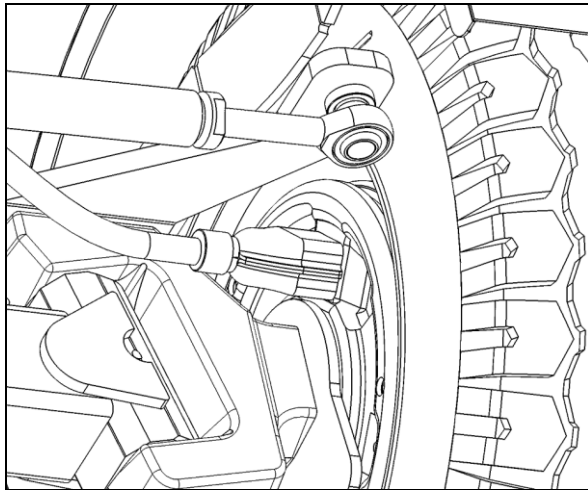
A new tension spring must be used at every brake lining replacement. The tension spring of the brake shoes should be installed facing forward. The attachment points of the tension spring should be lightly greased. Make sure that the expander clutch is installed correctly.



17. Insert the lower brake shoe.



18. Insert the dust prevent plates on the brake backplate to avoid contamination.



19. Replace the wheel hub and adjust the brake.

#### 9.2.4.5 Adjusting the wheel brake

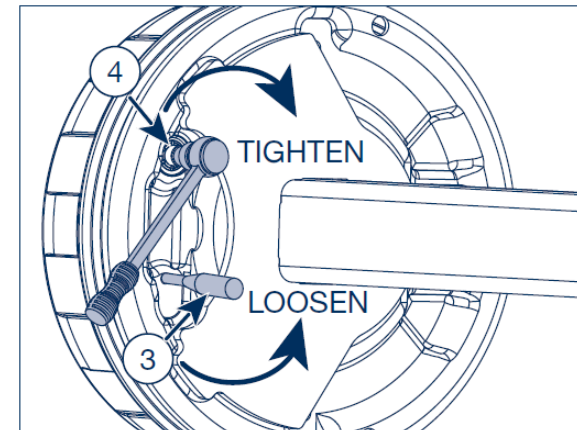
Adjust the brake after every 200 hours of operation and every brake lining replacement.

#### **NOTE!**

**To ensure the proper functioning of the brake, the wheel brake must be adjusted before. Prior to the adjustment of the wheel brake, the transmission device must be loose and free of tension.**



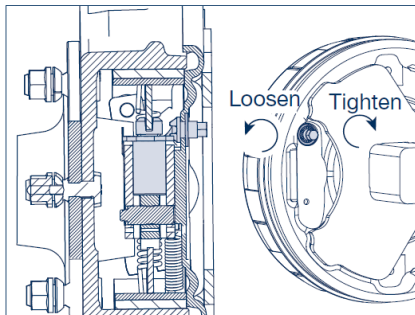
1. Lock the automatic reverse lever of the wheel brake by the aid of the  $\varnothing 3.5$  mm stud Nr.3 from the outside via the adjusting hole (push the pin at least 30 mm deep). Turn the wheel brake adjusting nut with the adjusting screw Nr.4 until turning the wheel in the direction of travel of the vehicle it becomes tight slightly.



2. Center the brake shoes by pulling the park brake lever several times. Repeat the above-mentioned adjustment if necessary.

**NOTE!**

Remove the mounting stud (Ø3.5 mm) of the automatic reverse lever after adjustment.

**NOTE!**

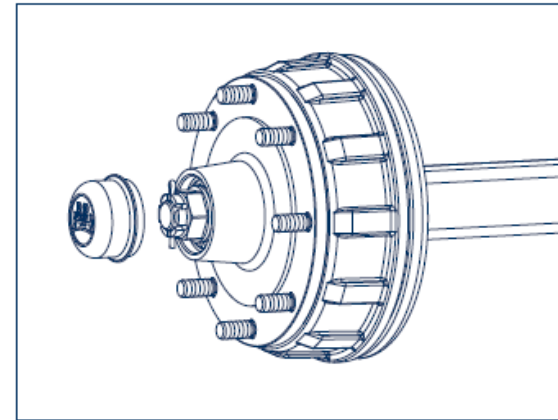
The wheel brake must always be adjusted before the transmission device is adjusted (braking cables)



3. Adjust the compensating lever so that there is no play or tension on the pivot shaft or equalising compensator.
4. All compensating levers must be perpendicular to the brake rod. Tighten all locknuts in the brake transmission system.

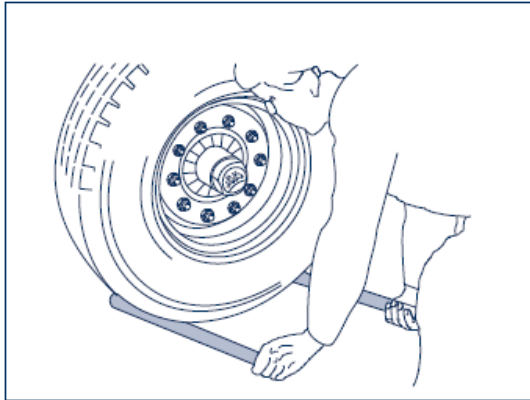
**9.2.5 Installation and inspection work on the hub****9.2.5.1 Checking the protective cap.**

Check the tension of the protective cap after every 500 operating hours, every time the brake linings are replaced, but at least annually!

**9.2.5.2 Checking the wheel bearing play**

Check the play of the wheel bearing after every 500 operating hours, every time the brake linings are replaced, but at least annually.

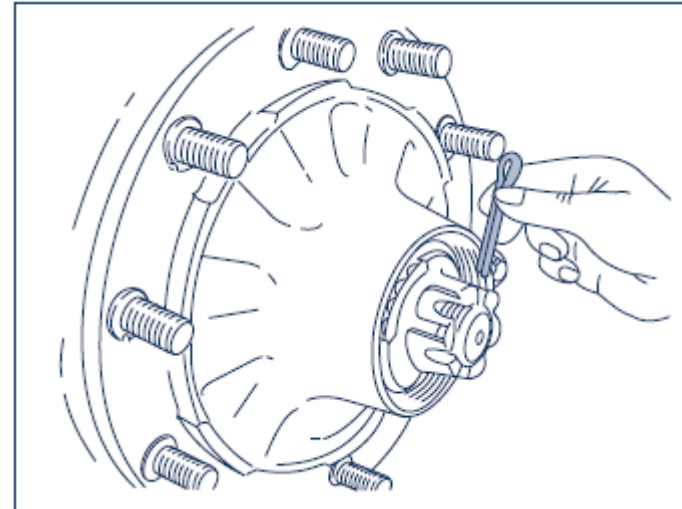
1. Raise the trailer with a jack until the wheel is off the ground. Use minimum 4 tons load capacity jack.
2. Release the brake. Place a lever between the ground and the wheel and check the hanging of the wheel bearing.

**DANGER!**

**Secure the vehicle against rolling away.  
Only release the service and parking  
brake after lifting.**

3. In the event of excessive sagging, remove the wheel and hub cap, then remove the retaining pin and tighten the castle nut to **40-45 Nm** torque.

4. If the cotter pin hole does not free after tightening, loosen the nut back to the next hole. The maximum hole deviation can be 30°.



5. Carefully bend the shanks of the cotter pin.
6. Refill the hub cap with special long-life BPW grease (ECO Li91) and replace the cup.

### 9.2.5.3 Brake lining (brake shoe) replacement

1. To check the thickness of the brake lining, open the inspection hole by removing the rubber or plastic cap.



2. Check the thickness of the brake lining. The minimum permissible thickness of the brake lining is **2mm**.
3. Follow the instruction is 9.2.4.1 and 9.2.4.2 to install the brake shoes!
4. Check the brake drum for wear. The diameter of the brake drum must not exceed **303mm**.
5. Replace the springs and reassemble the brake shoe as described in section 9.2.4.4!
6. Mount the wheel hub with the brake drum, bearing and seals on the axle.

7. Tighten the castle nut and secure it with the cotter pin.
8. Mount the wheels and secure them with the wheel nuts.
9. Replace the hub cup.

### 9.2.6 Wheel change (puncture)

1. In the event of a puncture of the wheel, ensure that the vehicle has been parked correctly and secured against rolling away (wheel chocks).

#### **WARNING!**

**The fitting of wheels and tires requires sufficient knowledge and specified tools! Mounting the wheels and tires shall be performed only by specialists!**



2. Remove the bolts Nr.2 and washers Nr.3 shown in 8.2.2.
3. Remove the spare wheel by removing the clamping plate Nr.4.
4. Raise the trailer with a hydraulic jack with a load capacity of at least 4 tons. Place the jack under or near the axles.

5. Remove the defective wheel by removing the M18x1.5 wheel nuts and washers.
6. Mount the spare wheel according to section 7.4, as described.

### 9.2.7 Tightening torques of fasteners

Type	Size	Torque
Wheel nuts	M18x1,5	270-290 Nm
Brake arm nuts	M10	38 Nm
Wheel hub castle nut	M27x1,5	40-45 Nm

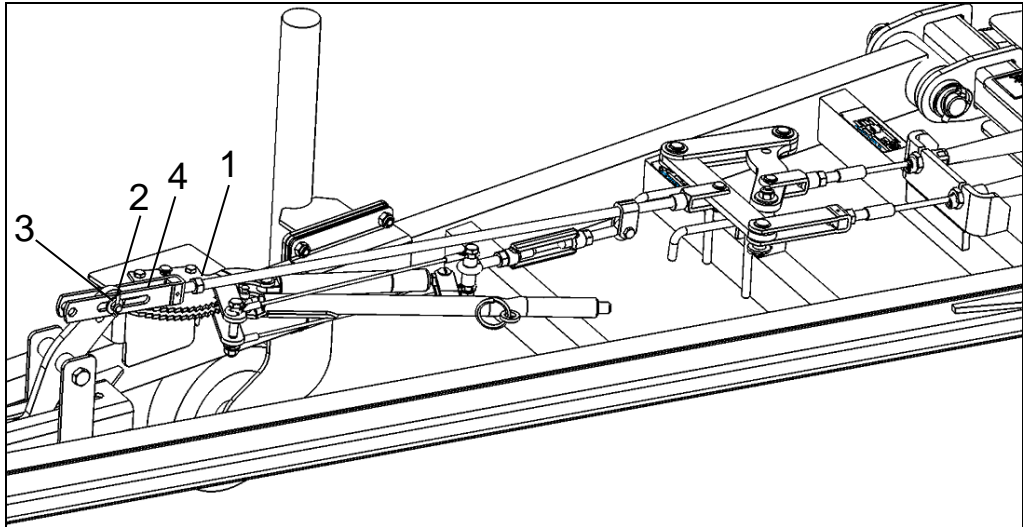
Size	Grade		
	8.8	10.9	12.9
Screws	8.8	10.9	12.9
Nuts	8.	10.	12.
M6	10	14	16
M8	23	33	40
M10	45	63	75
M12	78	110	130
M14	122	175	210
M16	195	270	325
M18	260	370	440
M20	370	525	630
M24	640	900	1080
M30	1260	1800	2160
M48	4900	6900	8280



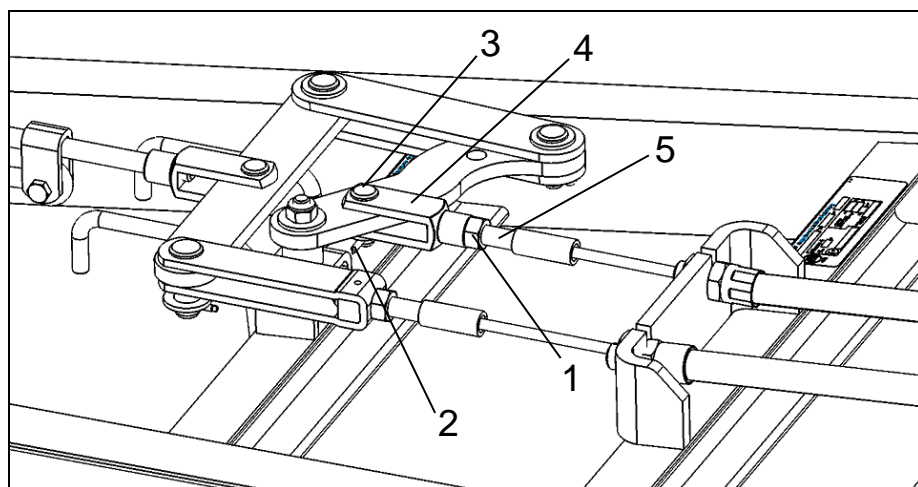
### 9.2.8 Readjusting on the transmission system

Due to frequent use, stretching of the wires, and wear of the brake pads, it may be necessary to readjust the brake transmission system.

- a. If adjustment is required to the same extent on both axes, loosen the fixing nut Nr.1, remove the cotter pin Nr.2 and the pin Nr.3, then turn the fork Nr.4 further by 2-3 turns. Then replace the pin and cotter pin and tighten the lock nut at the end of the fork.



- b. If adjustment is required only on the front axle, loosen the nut Nr.1, remove the cotter pin Nr.2, and the pin Nr.3, then turn the fork Nr.4 on the threaded pin Nr.5 by 1-2 turns. Then replace the pin and cotter pin and tighten the lock nut at the end of the fork.



**WARNING!**

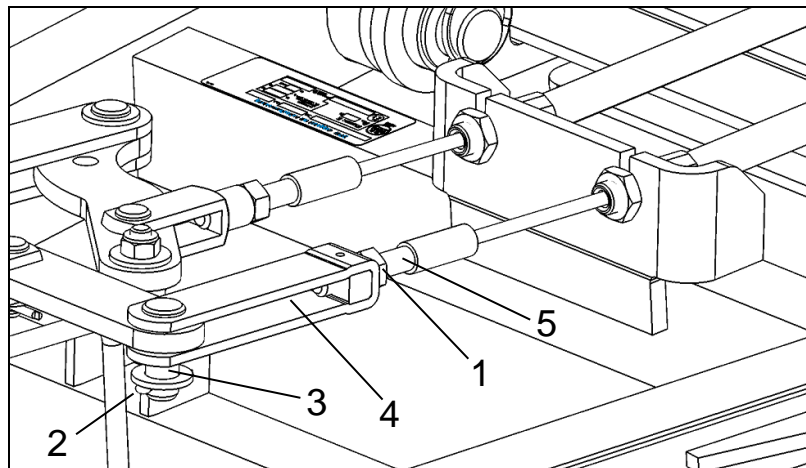
The braking effect of the parking brake is appropriate, if pulling the arm by a medium strength (350-450N) the latch can be placed into the 4<sup>th</sup>-8<sup>th</sup> tooth space. If the wires adjusted too tight (e.g., the latch can be placed only in the 2<sup>nd</sup> or 3<sup>rd</sup> tooth space) the park braking effect can be insufficient.

**WARNING!**

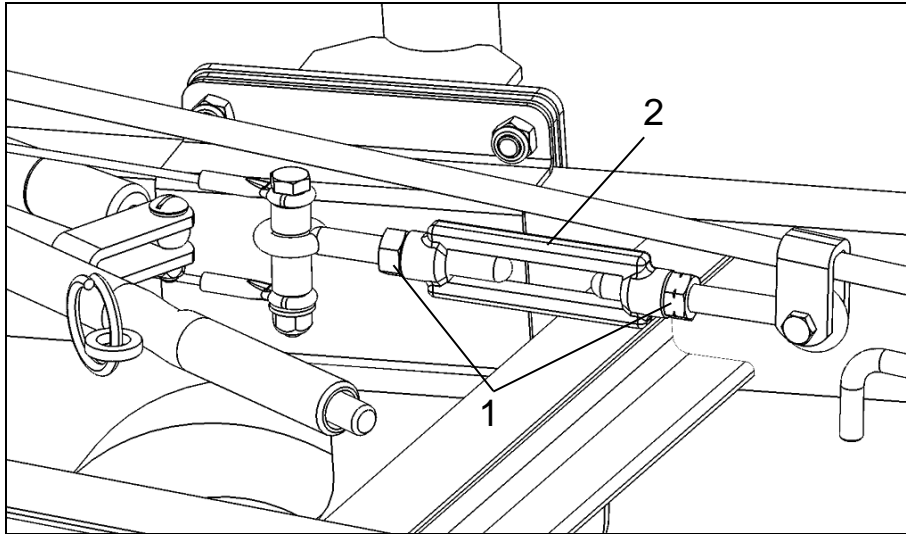
Before any new adjustment (or between the adjustments) on the braking wires, make sure that the brake is not collapsed (it is recommended to turn the wheels or roll the trailer forward).



- c. If adjustment is required only on the rear axle, loosen the fixing nut Nr.1, remove the cotter pin Nr.2 and the pin Nr.3, then turn the fork Nr.4 on the threaded end of the wire Nr.5 by 1-2 turns. Then replace the pin and cotter pin and tighten the lock nut at the end of the fork.



- d. If adjustment is required on the parking brake, loosen the fixing nuts Nr.1 and then turn the turnbuckle Nr.2.



## 10. Troubleshooting

In this chapter, we have considered the most common problems. Of course, we cannot count on all possibilities, so if you encounter a phenomenon that is not listed in the table, or the suggested solution seems ineffective, please contact your dealer.

Problem 1. Braking effect too weak	
Possible causes	Suggested solutions
Lack of initial wear of brake linings	Intended use of the brakes
Brake linings are worn out	Checking and changing brake linings if needed (9.2.5.3)
Towing eye slides in completely	Re-adjustment of the brake system (9.2.4.5 and 9.2.8)
Too much friction loss	Checking the unhindered movement of the brake power transmission system (ropes, rockers) and lubricate the lubrication points (9.1)
Problem 2. Excessive resistance when reversing	
Possible causes	Suggested solutions
The braking system is too rigid	Re-adjustment of the brake system (9.2.4.5 and 9.2.8)
Problem 3. Unusual handling	
Possible causes	Suggested solutions
Improper adjustment of the brake system.	Re-adjustment of the brake system (9.2.4.5 and 9.2.8)
Axle retaining bolts loosened up	Tightness of the bolts has to be checked, fastening if needed
Problem 4. Parking brake performance is too weak.	
Possible causes	Suggested solutions
Lack of initial wear of brake linings	Intended use of the brakes
Brake linings are worn out	Checking and changing brake linings if needed (9.2.5.3)
Too much friction loss	Checking the unhindered movement of the brake power transmission system (ropes, rockers) and lubricate the lubrication points (9.1)
Adjustment of brake power transmission system is inappropriate	Brake power transmission system has to be adjusted properly (9.2.8).
Problem 5. The load is moving, slide on the trailer.	
Possible causes	Suggested solutions
Improperly secured load	Proper securing of cargo (7.8)

Problem 6. The lighting does not work.	
Possible causes	Suggested solutions
Improper wire connection	Check the connection of the cables and the 7-pin socket or plug
Defective bulb	Change the defective bulb
Fuse failure on the towing vehicle	Inspection and replacement of the towing vehicle fuse(s), if necessary
Problem 7: The trailer waggles during loading or operating.	
Possible causes	Suggested solutions
Low tire pressure	Check the tire pressure, change the punctured wheel (9.2.6)
Improper adjustment of support arms	Proper adjustment of supporting arms (7.6)

## 11. Storing the trailer in winter.

After harvesting, wash the trailer, remove the dirt! Perform lubrication tasks according to section 9.1. Repair worn paint, if this can not be done, grease the metal parts! If possible, store the header trailer in a dry, covered place. Replace the safety labels if necessary. Replace damaged parts. Use only factory-supplied spare parts. Perform maintenance tasks according to section 9.2.

## 12. Environmental and health protection

### 12.1 Impact of the operation on human bodies

Due to the size of the machine, there is a risk of accident. In order to work safely, fully observe the safety instructions in the manual and carry out the required maintenance! Use the specified lubricants for maintenance!

### 12.2 Solid and other wastes

The following wastes may be generated during the commissioning and operation of the machine:

- Wood used for packaging: environmentally friendly element, no special regulations are required for storage or disposal.
- Greases and oils used for lubrication: Collect used lubricants in a separate closed container and dispose of them at the nearest collection point, e.g., gas station.
- Worn, replaced metal parts: collect the parts and take them to the nearest waste collection plant.

- Dispose of the plastic film and plastic strap used for packing to your local public waste disposal company. It can be handed over for recovery to a waste recycling company.

If the machine is worn out or taken out of service, the above must also be observed.

### 12.3 Noise emission

The machine does not contain strong noise sources or moving, rotating parts. The strongest noise comes from the rolling of the wheels while in use, but it does not exceed 85dB.

## 13. Contact



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