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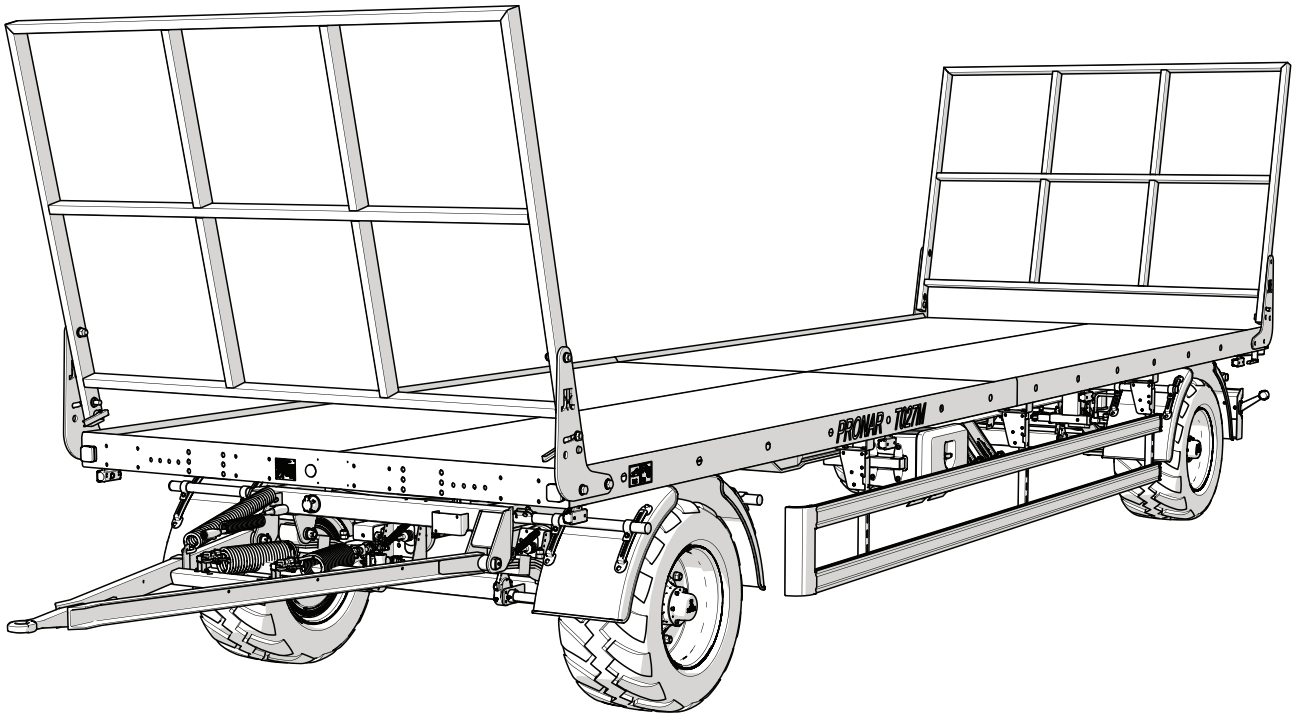
www.pronar.pl

USER MANUAL

AGRICULTURAL TRAILER

PRONAR T027M

TRANSLATION OF THE ORIGINAL MANUAL



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This manual contains important safety and operating instructions for the machine. The manual should be kept near the machine so that it is available for authorized persons.

Keep this manual for future reference. If the manual is lost or damaged, contact the seller or the manufacturer for a duplicate.

Thank you for purchasing our trailer. In the interests of your safety and care for the reliability and durability of the machine, we ask that you familiarise yourself with the content of this manual.

Remember!!!

Before using the trailer for the first time, check if the wheels are properly tightened!!! Regularly check the technical condition of the machine in accordance with the attached schedule.

INTRODUCTION

INTRODUCTION

The information contained in the publication is current at the date of publication. As a result of improvement, some sizes and illustrations contained in this publication may not correspond to the actual state of the machine delivered to the user. The manufacturer reserves the right to introduce constructional changes in the manufactured machines to facilitate operation and improve the quality of their work, without making any current changes to this publication.

The operating instruction is the basic equipment of the machine. Before using the machine, the user must read the contents of this manual and observe all recommendations contained therein. This will guarantee safe and trouble-free operation of the machine. The machine was constructed in accordance with applicable standards, documents and current legal regulations.

If the information contained, in the operating instructions does not turn out to be comprehensible, please contact the sales office where the machine was purchased or directly to the Manufacturer. After purchasing the machine, write down the serial numbers of the machine in the fields below

.

Machine serial number

U.10.1.PL

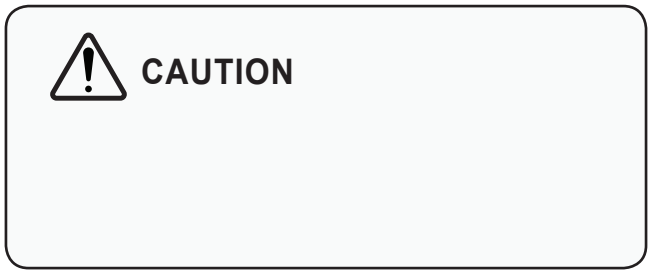
SYMBOL USED IN THE USER MANUAL

DANGER

IInformation, descriptions of hazards and precautions as well as instructions and orders related to the safety of use in the content of the manual are marked with a frame with the word DANGER. Failure to comply with these recommendations may endanger the health or life of persons operating the machine or bystanders.

CAUTION

Particularly important information and recommendations, the observance of which is absolutely necessary, are highlighted in the text with a frame and word CAUTION. Failure to comply with these recommendations creates the risk of damage to the machine due to improper handling, adjustment or use.



ADVICE

Additional instructions contained in the manual describe useful information on operating the machine and are marked with a frame with the word ADVICE.

U.02.1.PL

DIRECTIONS SPECIFIED IN THE MANUAL

Left side – the left hand side of the observer facing the machine in the forward direction.

Right side - the right hand side of the observer facing the machine in the forward direction.

Turn right – turn the mechanism clockwise (operator facing the mechanism).

Turn left – turn the mechanism counterclockwise (operator facing the mechanism)..

U.03.1.PL

CHECKING THE TRAILER AFTER DELIVERY

The manufacturer ensures that the trailer is fully functional, has been checked in accordance with control procedures and is approved for use. However, this does not release the user from the obligation to check the vehicle after delivery and before commissioning. The machine is delivered to the user completely assembled.

SCOPE OF CONTROL ACTIVITIES

- Check whether the completion of the delivered machine corresponds to your order.
- Check the condition of the paint coating.
- Inspect the trailer's elements for mechanical damage, e.g. due to improper transport of the machine.

ADVICE

The handover of the trailer includes a detailed inspection and checking of the machine's operation, as well as instructing the buyer on the basic rules of use. The first commissioning takes place in the presence of the Seller.

- Check the condition of the tires on the road wheels and the air pressure in the tires.
- Check the technical condition of flexible conduits of the hydraulic and pneumatic systems.
- Make sure there are no hydraulic oil leaks.
- Check the electric lamps of the trailer lighting.

U.11.1.PL

THE FIRST START OF THE TRAILER

- Read the contents of this USER'S MANUAL and follow the recommendations contained therein.
- Adjust the height of the drawbar to the hitch on your agricultural tractor.
- Perform a daily inspection of the trailer in accordance with the guidelines contained in the inspection schedule.
- Connect the machine to the tractor.
- By activating the individual lights, check the correct operation of the electrical system.
- Release the tractor parking brake. Check the trailer's braking performance while driving.
- Stop the tractor and turn off the engine, immobilize the tractor and trailer with parking brake.

CAUTION

The first start-up consists in checking the trailer in the presence of the seller. The seller is obliged to conduct training in the safe and proper operation of the machine..

If during the test run, alarming symptoms appear, such as:

- excessive noise and unnatural noises from rubbing moving parts,
- leakage of the braking system,
- incorrect operation of the brake cylinders,
- other faults,
- do not use the trailer until the removal of fault. If the fault cannot be rectified or remedied, you will void the warranty, contact the place of purchase for clarification or repair.

U.12.1.PL

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EC DECLARATION OF CONFORMITY OF THE MACHINERY

PRONAR Sp. z o.o. declares with full responsibility, that the machine:

Description and identification of the machinery	
Generic denomination and function:	**TRAILER**
Type:	**T027**
Model:	–
Serial number:	
Commercial name:	**TRAILER PRONAR T027M**

to which this declaration relates, fulfills all the relevant provisions of the Directive **2006/42/EC** of The European Parliament and of The Council of 17 May 2006 on machinery, and amending Directive 95/16/EC (Official Journal of the EU, L 157/24 of 09.06.2006).

The person authorized to compile the technical file is the Head of Research and Development Department at PRONAR Sp. z o.o., 17-210 Narew, ul. Mickiewicza 101A, Poland.

This declaration relates exclusively to the machinery in the state in which it was placed on the market, and excludes components which are added and/or operations carried out subsequently by the final user.

Z-CA DYREKTORA
d/s [illegible]

Narew, the 2020-05-06

Place and date

Full name of the empowered person position, signature

PRONAR Spółka z o.o.
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TECHNICAL SERVICE

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GENERAL

CHAPTER 1

1.1 IDENTIFICATION

The trailer is marked with a nameplate (1) placed on the front beam of the frame and a serial number (2) stamped above the data plate. The meaning of the individual fields on the nameplate is shown in the table (1.1).

When purchasing the machine check the compliance of the serial numbers on the machine with the number written in the *Warranty Card*, in the sales documents and in *the User Manual*.

The axle serial number and its type are stamped on the nameplate attached to the axle beam

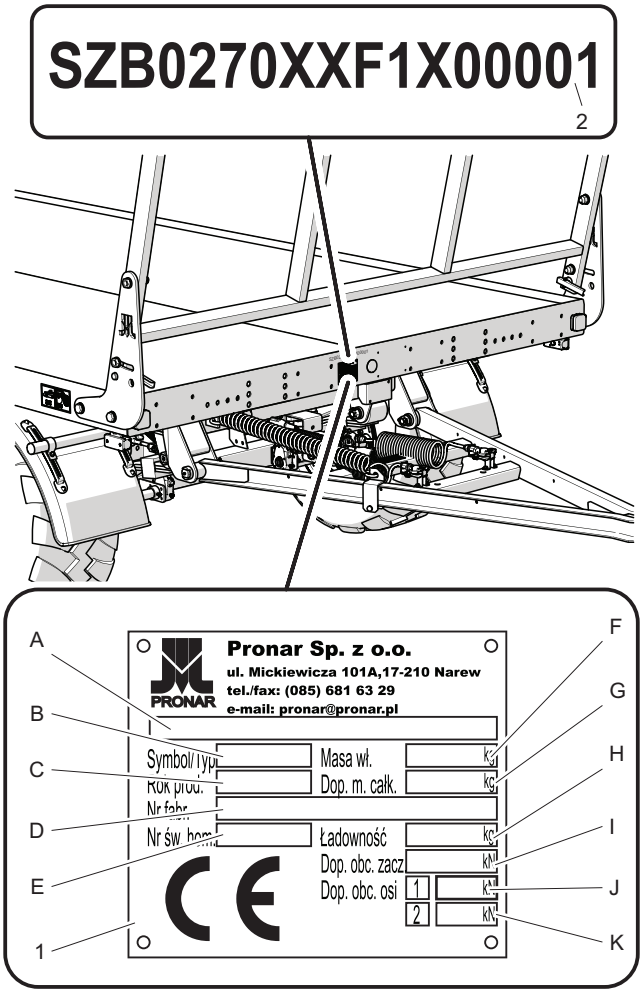

Figure 1.1 Location of the nameplate.

Table 1.1 Nameplate markings

Item	Meaning
A	General information and function
B	Trailer symbol / type
C	Year of production
D	VIN number
E	Approval certificate number
F	Karb weight
G	Permissible total weight
H	Loading capacity
I	Permissible load on the coupling
J	Permissible axle 1 load
B	Permissible axle 2 load

ADVICE

Contacting of the service department requires providing the trailer's serial number and often the axle numbers, so we recommend that you write down these numbers in the manual and have access to them.

The data given on the rating plate (2) - figure *Identyfikacja osi jezdnej*, are exemplary values and do not have to correspond to the actual state.

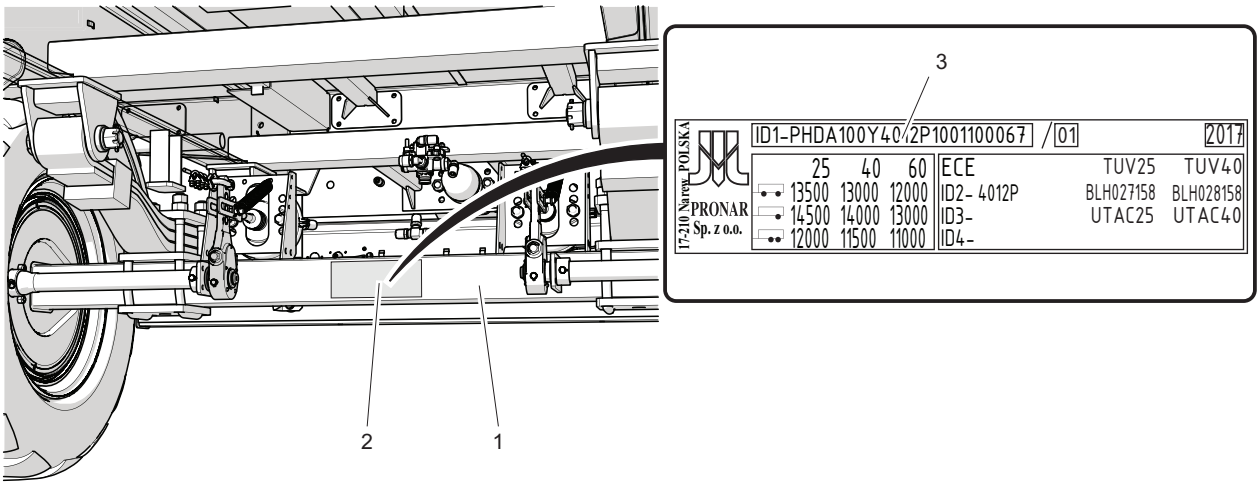

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Figure 1.2 Driving axle identification
(1) road axle (2) nameplate (3) serial number of the axle

The serial number of the axles and their type are stamped on the nameplate (2) attached to the axle beam. After purchasing the trailer, it is recommended to enter the individual serial numbers of axle in the fields below.

E.3.1.526.01.1.EN

1.2 PURPOSE

The agricultural trailer is designed to transport crops and agricultural products in the form of bales or pressed cubes within the farm and on public roads. The machine is also adapted to the transport of crops and agricultural products transported on euro-pallets and euro crates.

Transport of the crops and agricultural products listed above is possible provided that the recommendations contained in this manual are followed, in particular the recommendations regarding securing loads contained in the *Securing of the load* chapter.

The trailer cannot transport long materials, e.g. wood.

The trailer may only be aggregated with agricultural tractors that meet all the requirements set out in table *Wymagania ciągnika.*

The braking system as well as the lighting and signalling system meet the requirements arising from traffic regulations. Do not exceed the permissible speed of the set (the speed limit results from the road traffic law and depends on the country in which the trailer is used). However, the speed of the trailer may not be greater than the permissible design speed - table (3.1)

DANGER

The machine may not be used for purposes other than those for which it is intended.

Intended use also includes all activities related to the correct and safe operation and maintenance of the machine. Therefore, the user is obliged to:

- Read the content of the*USER MANUAL*and with *WARRANTY CARD* and to the guidelines contained in these documents,
- understand the principle of machine operation and the safe and proper operation,
- act in compliance with established maintenance and adjustment plans,
- work in compliance with general safety regulations,
- accident prevention,
- comply with the road traffic regulations and transport regulations in force in the country in which the machine is used,
- become familiar with the content of the tractor unit operator's manual and follow its recommendations,
- couple the vehicle only with such an agricultural tractor that meets all the requirements set by the trailer

Manufacturer.

The machine may only be used by persons who:

- become familiar with the contents of publications and documents attached to the machine and the contents of manual of an agricultural tractor,
- have been trained in the use of the trailer and work safety,
- have the required driving license and are familiar with the road traffic regulations and transport regulations.

Table 1.2 Agricultural tractor requirements.

Content	Unit	Requirements
2-wire pneumatic braking system		
Connections	-	PN-ISO 1728:2007
Nominal pressure of the system	bar	6.5
2-wire pneumatic braking system ALB		
Connections	-	PN-ISO 1728:2007
Nominal pressure of the system	bar	6.5
Hydraulic braking system		
Connections	-	ISO 7241-A
Nominal pressure of the system	MPa	16
Electrical connection (combined installation with electrical protection)	-	3-pin, 12V
Lighting electrical installation		
Connections	-	7-pole according to ISO 1724
Rated voltage	V	12
Other requirements		
Minimum tractor power requirement	kW/HP	80.3 / 109.2

E.3.1.526.02.1.EN

1.3 EQUIPMENT

STANDARD EQUIPMENT

- *User manual*
- *Warranty Card*
- connection cable of the electrical system
- wheel chocks

ADDITIONAL AND OPTIONAL EQUIPMENT

- Distinguishing plate
- Tool box
- Warning reflective triangle
- Right overrun protection
- A set of mudguards
- Spare wheel

DRAWBAR

- V-type, 40mm
- Y-type, 40mm

INSTALLATION OF THE SERVICE BRAKE:

- pneumatic 2-wire ALB without outputs
- pneumatic 2-wire ALB with outputs
- pneumatic 2-wire without outputs
- pneumatic 2-wire with outputs
- combined with electrical protection
- hydraulic without outputs
- hydraulic with outputs

E.3.1.526.03.1.EN

1.4 TERMS OF WARRANTY

ADVICE

You should require the seller to carefully fill out the *Warranty Card* and complaint coupons. The lack of e.g. date of sale or point of sale stamp exposes the user to not accept any complaints.

PRONAR Sp. z o.o. in Narew guarantees easy operation of the machine when it is used in accordance with the technical and operational conditions described in the *USER MANUAL*. Deadline for completion of repairs is specified in the *Warranty Card*.

The warranty does not apply to parts and sub-assemblies of the machine, which are subject to wear in normal operating conditions, regardless of the warranty period. The group of these elements includes, among others, the following parts/components:

- drawbar eye,
- filters on the connections of the pneumatic system,
- tires,
- seals,
- bearings,
- bulbs and LED lamps,
- brake shoes.

The warranty services apply only to such cases as: mechanical damage not attributable to the user, factory defects of parts, etc.

In the event that the damage arose as a result of:

- mechanical damage caused by the fault of the user, a road accident,
- from improper operation, adjustment and maintenance, misuse,
- use of a damaged machine,
- performing repairs by unauthorized persons, improper repairs,
- execution of user changes in machine design,

the user loses the warranty.

The user is obliged to immediately report all noticed defects in the paint coatings or traces of corrosion, and order removal of defects regardless of whether the damage is covered by the warranty or not. Detailed warranty conditions are given in the *WARRANTY CARD* attached to the newly purchased machine.

DANGER

Incorrect application of securing measures may cause an accident.

Modifications to the machine without the written consent of the Manufacturer are prohibited. In particular, welding, drilling, cutting and heating the main structural elements of the machine, which directly affect the safety during use, are unacceptable.

E.3.1.526.04.1.EN

1.5 TRANSPORT

The machine is ready for sale completely assembled and does not require packing. Only the machine's technical documentation and any additional equipment elements are packed. Delivery to the user is carried out by road or independent transport (towing of the trailer with an agricultural tractor).

TRUCKING

DANGER

During road transport, the trailer must be mounted on the platform of the vehicle in accordance with safety requirements and regulations.
The driver of the car should exercise particular care while driving. This is due to the vehicle's centre of gravity shifting upwards with the machine loaded.
Use only approved and technically reliable securing measures. Read the operating instructions of the securing measures manufacturer.

Loading and unloading of a trailer from a car should be carried out using a loading ramp with a farm tractor. During work act in compliance with the general principles of workplace health and safety for reloading work. Persons operating reloading equipment must have the required permissions to use these devices. The trailer must be correctly connected to the tractor in accordance with the requirements of this manual. The trailer braking system must be started and checked before driving off or onto the ramp.

The trailer should be attached firmly to the platform of the vehicle using straps, chains, lashings or other fastening devices, equipped with a tensioning mechanism. Attach the securing elements to the intended transport lugs. Transport lugs are welded to the longitudinal members of the lower frame.

Use certified and technically efficient securing measures. Worn straps, cracked fasteners, bent or corroded hooks or other damage may disqualify the agent from use. Familiarize yourself with the information contained in the operating instructions of the manufacturer of the securing agent used. Chocks or other elements without sharp edges should be

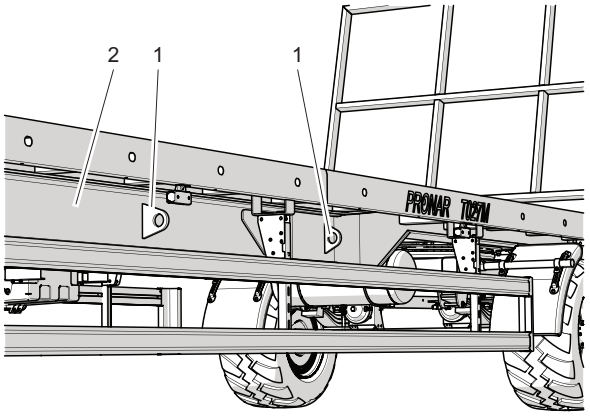

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Figure 1.3 Trailer attachment points
(1) transport handle (2) frame

NOTES

It is forbidden to attach slings and any kind of load fastening elements to the elements of the hydraulic system, electric system and fragile elements of the machine (e.g. covers, wires)

placed under the trailer wheels, protecting the machine against rolling. The trailer wheel lock must be fixed to the vehicle's loading platform in a way that prevents it from moving. The number of fastening elements (ropes, belts, chains, lashings, etc.) and the force needed to tension them depend, among others, on the weight of the trailer's own, the structure of the trailer transporting car, travel speed and other conditions. A properly attached trailer will not change its position relative to the transporting vehicle. The fastening means must be selected in accordance with the guidelines of the manufacturer of these elements. In case of doubt, a larger number of attachment and securing points for the trailer should be used. If necessary, protect the sharp edges of the trailer, thus securing the securing means against damage during transport.

During reloading work, pay special attention not to damage elements of the machine equipment and the paint coating. The curb weight of the trailer in running order is given in table (3.1).

USER'S TRANSPORT

In case of independent transport by the user after purchasing the trailer, read the trailer's *User Manual* and follow its recommendations. Independent transport involves towing a trailer with own agricultural tractor to its destination. While driving, adjust the speed to the prevailing road conditions, but it must not be greater than the maximum design speed.

E.3.1.526.05.1.EN

1.6 ENVIRONMENTAL HAZARD

DANGER

Do not store waste oil in food containers.
Store used oil in hydrocarbon-resistant containers.

A hydraulic oil leak is a direct threat to the environment due to the limited biodegradability of the substance. When carrying out maintenance and repair works where there is a risk of leakage of oil, perform these works in rooms with an oil-resistant surface. In the event of oil leaking into the environment, first of all contain the source of the leak, and then collect the leaked oil using available means. Collect the remaining oil with sorbents or mix the oil with sand, sawdust or other absorbent materials. The collected oil contamination should be stored in a sealed and marked container, resistant to hydrocarbons, and then sent to the point dealing with oil waste utilization. The container should be kept away from heat sources, flammable materials and food.

Oil which has been used up or is unsuitable for further use due to the loss of its properties is recommended to be stored in its original packaging in the same conditions as described previously. Waste code 13 01 10 (hydraulic oil). Detailed information on oil can be found in the product safety data sheet.

NOTES

Oil waste may only be delivered to a point dealing with the utilization or regeneration of oils. It is forbidden to throw or pour oil into drains or water reservoirs.

E.3.1.526.06.1.EN

1.7 WITHDRAWAL

DANGER

During dismantling, use appropriate tools and equipment (overhead cranes, elevators, lifts, etc.) and use personal protective equipment, i.e. protective clothing, footwear, gloves, glasses, etc.

If the user decides to withdraw the machine from use, comply with the provisions in force in the given country regarding withdrawal from use and recycling of machines withdrawn from use.

Before proceeding to dismantle of the machine, the oil must be completely removed from the hydraulic system.

In the event of parts being replaced, worn or damaged parts should be taken to a recycling centre. Used oil a as well as rubber or plastic elements should be delivered to plants dealing with the utilization of this type of waste.

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CHAPTER 2

SAFETY OF USE

2.1 BASIC SAFETY RULES

- Using the trailer contrary to its intended use is prohibited. Everyone who uses the machine in a manner contrary to its intended use, thus takes full responsibility for all consequences arising from its use. Using of the trailer in a manner not in accordance with the manufacturer's instructions may void the warranty.
- Before using the trailer, carefully read the content of this publication and the *Warranty Card*. During operation, all recommendations contained therein must be observed.
- The trailer may only be used and operated by persons qualified to drive agricultural tractors with a trailer.
- Familiarize yourself with all machine controls before starting work. When it is in use, it will be too late. Do not use the machine without knowing its function.
- Familiarize yourself with the construction, operation and principles of safe operation of the machine.
- Before each start-up of the trailer, check that it is properly prepared for work, first of all in terms of safety.
- If the information contained in the User's Manual is difficult to understand, contact a seller who runs an authorized technical service on behalf of the manufacturer, or contact the manufacturer directly.
- Access to the trailer is possible only with the machine absolutely still. Stop the agricultural tractor, remove the tractor's ignition key, secure the trailer and the tractor against rolling by placing wedges. Immobilize the trailer and the tractor with the parking brake. Use a platform or ladder of appropriate height and strength to get on.
- Careless and improper use and operation of the trailer as well as non-compliance with the recommendations contained in this manual puts the health and life of unauthorized persons and/or the machine operator at risk.
- The trailer may only be used when all shields and other protective elements are operational and properly attached.
- Pronar sp.z o.o. warns of the existence of a residual risk, therefore the application of the principles of safe and wise use should be the basic principle for trailer use. Remember

that your safety is the most important thing.

- Do not allow unauthorized and incapable persons to use the machine, in particular children, persons under the influence of alcohol, persons under the influence of drugs or other intoxicants, etc.
- Any modification of the trailer is prohibited and exempts Pronar from liability for any damage or injury.

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2.2 SAFETY DURING COUPLING OF THE MACHINE

- Be especially careful when connecting the machine.
- When attaching, there must be nobody between the trailer and the tractor.
- Do not aggregate the trailer if the agricultural tractor does not meet the minimum requirements set by the Manufacturer.
- Before connecting the trailer, make sure that the oil in the external hydraulic system of the tractor may be mixed with the hydraulic oil of the trailer.
- Before coupling of the trailer, make sure that both machines are technically sound.
- When connecting the trailer, use the appropriate tractor hitch. After completing the coupling of the machines, check the coupling protection. Refer to the tractor manual if necessary.
- If the tractor is equipped with an automatic hitch, make sure that the coupling operation has been completed.
- The trailer may only be hitched and uncoupled when the machine is immobilized with the parking brake.

F.3.1.526.02.1.EN

2.3 SAFETY RULES WHEN OPERATING HYDRAULIC AND PNEUMATIC SYSTEMS

- The hydraulic and pneumatic systems are under high pressure during operation.
- Regularly check the technical condition of the connections and the hydraulic and pneumatic lines. Trailer operation with a leaking system is forbidden.
- In the event of a failure of the hydraulic or pneumatic system, the trailer should be disconnected from use until the failure is remedied.
- When connecting the hydraulic conduits to the tractor, make sure that the tractor and trailer hydraulic systems are not under pressure. If necessary, reduce the residual pressure in the installation.
- In the event of injuries being caused by pressurized hydraulic oil, contact a doctor immediately. Hydraulic oil can penetrate the skin and cause infection. If the oil gets into the eyes, rinse with plenty of water and if irritation occurs, contact a doctor. In the event of contact of oil with skin wash the area of contact with water and soap. Do not use organic solvents (petrol, kerosene).
- Use hydraulic oil recommended by the manufacturer.
- Hand over the used oil for disposal. Used oil or oil which has lost its properties should be stored in original containers or replacement packaging resistant to hydrocarbons. Replacement containers must be accurately described and properly stored.
- It is forbidden to store oil in packaging intended for food storage.
- Rubber hydraulic conduits must be replaced every 4 years regardless of their technical condition.

F.3.1.526.03.1.EN

2.4 PRINCIPLES OF SAFE MAINTENANCE

- It is forbidden to perform service and repair work under a loaded or raised and unsecured attachment. After the end of the warranty period, it is recommended that any repairs to the trailer be carried out by specialized workshops.
- In the event of any faults or damage, withdraw the trailer from use until it is repaired.
- During maintenance work, use appropriate, close-fitting protective clothing, gloves, shoes, glasses and the right tools.
- Any modifications to the trailer release the manufacturer of the trailer from liability for any damage or injury.
- Regularly check the technical condition of the safety devices and the correct tightening of the screw connections (in particular the drawbar and wheels). Checking the tightness of the nuts is described in the chapter *Maintenance*.
- Carry out inspections of the trailer in accordance with the frequency specified in this manual.
- Before commencing repair works on hydraulic or pneumatic systems, reduce oil or air pressure completely.
- Perform maintenance and repair activities applying the general principles of health and safety at work. In case of injury, wash and disinfect the wound immediately. If you experience more serious injury, seek medical advice.
- Carry out repair, maintenance and cleaning works only with the tractor engine turned off and the ignition key removed. Secure the tractor and the trailer with the parking brake and chocks placed under the wheel of the trailer. Close the tractor cab and secure it against unauthorized access.
- During maintenance or repair work, the trailer may be disconnected from the tractor, but it must be secured with chocks and parking brake.
- If it is necessary to replace individual elements, use only the parts recommended by the Manufacturer. Failure to comply with these requirements may pose a threat to the health or life of bystanders or persons operating the trailer, contribute to damage to the machine and is the basis for voiding the warranty.
- Before welding or electrical work, the trailer should be disconnected from

the power supply. Clean the paint coating. Burning paint fumes are poisonous to humans and animals. Welding work should be performed in a well-lit and ventilated room.

- During welding work pay attention to flammable or fusible elements (elements of pneumatic, electric and hydraulic systems, elements made of plastics). If there is a risk that they will catch fire or be damaged, remove them or cover them with non-flammable material before welding. Before starting work, have a CO_2 fire extinguisher or foam extinguisher ready.
- In the event of work requiring the trailer to be raised, use appropriate and certified hydraulic or mechanical lifts for this purpose. After lifting the machine, stable and durable supports must also be used. It is forbidden to work under a trailer raised only with a lift.
- It is forbidden to support the trailer with fragile elements (bricks, hollow bricks, concrete blocks).
- The used lift should have adequate load capacity, it should be technically sound. The jack must be placed on an even, hard surface that will prevent it from sinking or slipping during operation. If necessary, use properly selected underlays to reduce the unit pressure of the jack base on the ground in order to prevent sinking into the ground.
- After completing work connected with lubrication, remove excess oil or grease. The trailer must be kept clean.
- It is forbidden to make independent repairs of hydraulic or pneumatic system components, i.e. control valves, actuators and regulators. In case of damage to these elements, the repair should be entrusted to authorized repair centres or replace the elements with new ones.
- It is forbidden to install additional devices or accessories that are inconsistent with the manufacturer's specifications.
- It is allowed to tow a trailer only if the chassis, lighting and braking systems are in good working order.
- Repair of the drawbar and drawbar eye (welding, surfacing, straightening, etc.) is prohibited and requires replacement of parts with new ones.

F.3.1.526.04.1.EN

2.5 SAFE DRIVING RULES

- When driving on public roads, comply with the road traffic regulations and transport regulations in force in the country in which the trailer is used.
- When driving, adjust your driving speed to the prevailing road conditions and restrictions resulting from the provisions of the road traffic law. Excessive speed may result in loss of control of the set, damage to the trailer and/or tractor, and reduced braking effectiveness of the set.
- It is forbidden to leave the machine unsecured. When unhitched from the tractor, secure the trailer against rolling with the parking brake and chocks placed under the wheel of the vehicle. Chocks should be placed on one axle, at the front and rear of the wheel.
- Before driving, make sure that the machine is correctly attached to the tractor.
- Before driving, make sure that the trailer is technically efficient.
- Before moving off, make sure that the parking brake is released and the brake force regulator is in the correct position.
- Prolonged driving on slopes creates the risk of losing braking efficiency.
- When driving on public roads, the tractor operator must ensure that the machine and the tractor are equipped with an attested or approved reflective warning triangle.
- Reckless driving and excessive speed are the most common causes of accidents.
- Mark a load protruding beyond the outline of the trailer according to the road traffic regulations. It is forbidden to transfer materials not permitted by the Manufacturer.
- If possible avoid driving over rough terrain and unexpected turns.
- It is forbidden to get on the trailer while driving.
- On the rear ladder, mount a triangular

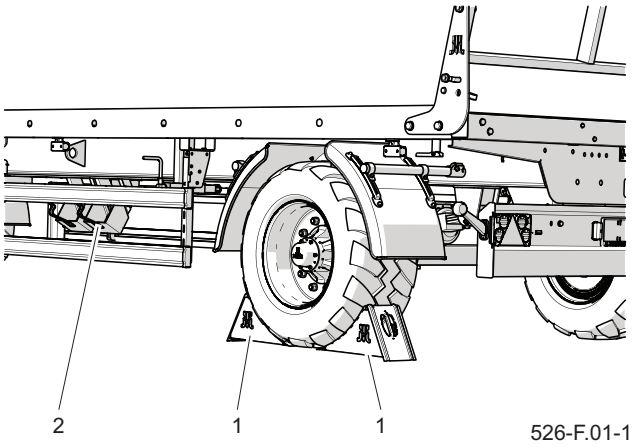

Figure 2.1 How to set the wheel chocks
(1) chocks (2) chock holder

sign for slow-moving vehicles, if the trailer is the last vehicle in the set. The distinguishing plate (1) should be placed in a holder specially prepared for this purpose.

- Do not exceed the permissible load capacity of the trailer, as this may damage the machine, cause loss of stability while driving, spilling of the load and causing danger while driving.
- The braking system of the machine has been adjusted to the total weight of the trailer, exceeding which will drastically reduce the operation of the main brake.
- When reversing (especially in the case of limited visibility), we recommend using the help of a second person. While manoeuvring, the helping person must keep a safe distance from the danger zones and be visible to the tractor operator at all times.
- Be especially careful when driving near overhead power lines.
- Driving the trailer on public roads with the frame extended is prohibited.

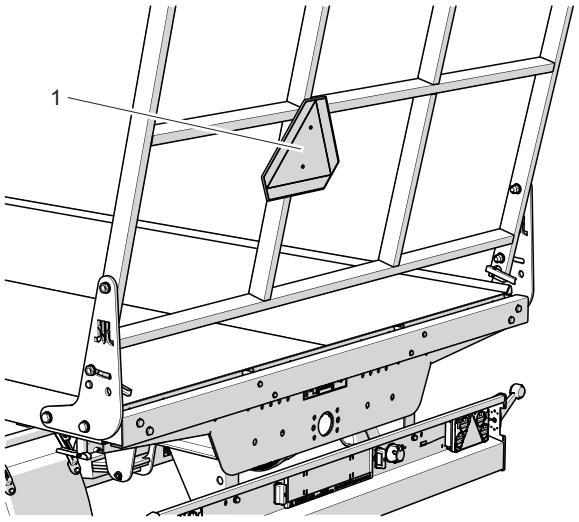

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Figure 2.2 Location of the plate
(1) Distinguishing plate

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2.6 LOADING AND UNLOADING OF THE TRAILER

- Loading and unloading work should be carried out by a person experienced in this type of work.
- The trailer is not designed to transport people, animals or dangerous materials.
- The load must be arranged in such a way that it does not threaten the stability of the trailer and does not hinder driving.
- Secure the load against shifting with belts, chains, tapes or other approved fastening means with a tightening mechanism.
- The distribution of the load must not overload the chassis.
- Improperly selected load distribution and overloading of the machine may cause the trailer to overturn or damage its elements.
- Do not stay on the loading platform during loading.
- The trailer may be unloaded and loaded only when the machine is positioned on level and hard ground and connected to the tractor. Tractor and the trailer must be placed straight-ahead driving.
- Make sure that there are no bystanders in the unloading / loading area.
- Be careful when folding and unfolding of the ladders and extension frame due to the risk of pinching your fingers.

F.3.1.526.06.1.EN

2.7 TIRES

- When working with tires, the trailer should be secured against rolling by placing chocks or other elements without sharp edges under the wheels. The wheel can be dismantled only when the trailer is not loaded.
- Repair work on wheels or tires should be performed by persons trained and authorized for this purpose. These works should be performed with the use of appropriately selected tools.
- Check the correctness of tightening the nuts of the road wheels in accordance with the assumed schedule.
- Damaged road surfaces, sudden and variable manoeuvres and high speed when turning should be avoided.
- Check tire pressure regularly. Tire pressure should also be checked during all-day intensive work. It should be taken into account that an increase in tire temperature may increase the pressure inside the tyre. With this increase in temperature and pressure, reduce load or speed. Never reduce the pressure by venting if it increases due to temperature.
- Tire valves should be protected with appropriate caps to prevent the penetration of contaminants.

F.3.1.526.07.1.EN

2.8 DESCRIPTION OF RESIDUAL RISK

Pronar Sp. z o. o. in Narew has made every effort to eliminate the risk of an accident. However, there is some residual risk that can lead to an accident and is primarily associated with the following activities:

- using the trailer contrary to its intended use,
- being between the tractor and the trailer when the engine is running and when connecting the machine,
- being on the machine during engine work,
- work with the machine with removed or inoperative guards,
- not keeping a safe distance from dangerous zones or standing in these zones while the machine is operating,
- operation of the trailer by unauthorized persons or persons under the influence of alcohol,
- cleaning, maintenance and technical inspection of the machine,

Residual risk can be reduced to a minimum by following these recommendations:

- prudent and unhurried operation of the trailer,
- sensible application of the remarks and recommendations contained in the operating instructions,
- performing maintenance and repair work in accordance with the principles of operating safety,
- maintenance work carried out by trained personnel,
- using appropriate fitted protective clothing,
- securing the machine against access by unauthorized persons, especially children,
- keeping a safe distance from prohibited and dangerous places,
- a ban on being on the machine while it is working

F.3.1.526.08.1.EN

2.9 INFORMATION AND WARNING STICKERS

The machine is marked with information and warning decals mentioned in table 2.1. The machine user is obliged to ensure that the inscriptions, warning and information symbols placed on the machine are legible throughout the entire period of use. In the event of their destruction, they must be replaced. Stickers with inscriptions and symbols are available from the Manufacturer or in the place where the machine was purchased. New assemblies replaced during repair must be marked again with the appropriate safety signs. When cleaning of the machine do not use solvents that may damage the label coating and do not direct a strong stream of water at them.

Table 2.1 INFORMATION AND WARNING STICKERS

Item	Description	Catalogue number
1	Caution. Before starting work, read the User's Manual.	70N-00000004
2	Shut off the engine and remove the ignition key before starting any repair, maintenance or other service.	70N-00000005
3	Danger of the whole body crushing. Keep a safe distance from ladders and the drawbar.	147N-00000002
4	Regularly lubricate the trailer according to the schedule.	104N-00000004
5	Regularly check the correct tightening of wheel nuts and other screw connections.	104N-00000006
6	Machine type sticker.	526N-00000001

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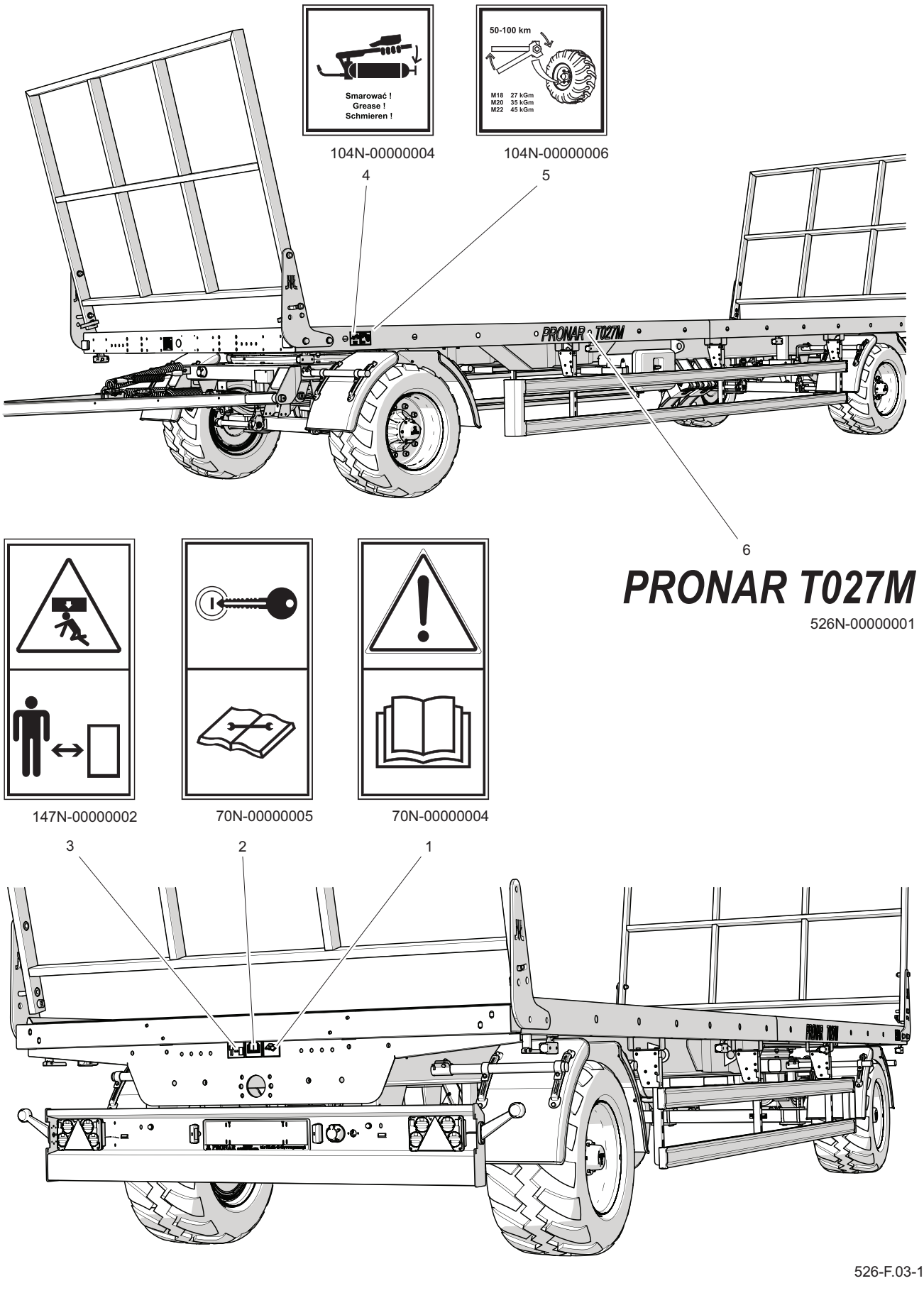

Figure 2.3 Arrangement of information and warning stickers

CHAPTER 3

CONSTRUCTION AND PRINCIPLE OF OPERATION

3.1 TECHNICAL CHARACTERISTICS

Table 3.1 Basic technical data

Content	Unit	T027M
Dimensions		
Length		
with the rear frame extended	mm	11,700
with the rear frame retracted	mm	10,600
Width	mm	2,530
Height	mm	2,900
Loading platforms dimensions		
Length of the loading plane		
with the rear frame extended	mm	9,600
with the rear frame retracted	mm	8,500
Total width / between side edges	mm	2,470 / 2,400
Performance parameters		
Loading capacity	kg	13,200
Permissible total weight	kg	18 00
Carb weight of the trailer	kg	4,800
Platform height from the ground	mm	10
Loading plan		
with the rear frame extended	m^2	23.0
with the rear frame retracted	m^2	20.4
Other information		
Connection of electrical installation	V	12
Track width	mm	1,960
Permissible design speed	km/h	40
Min. tractor power	KM / kW	109.2 / 80.3

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3.2 GENERAL STRUCTURE

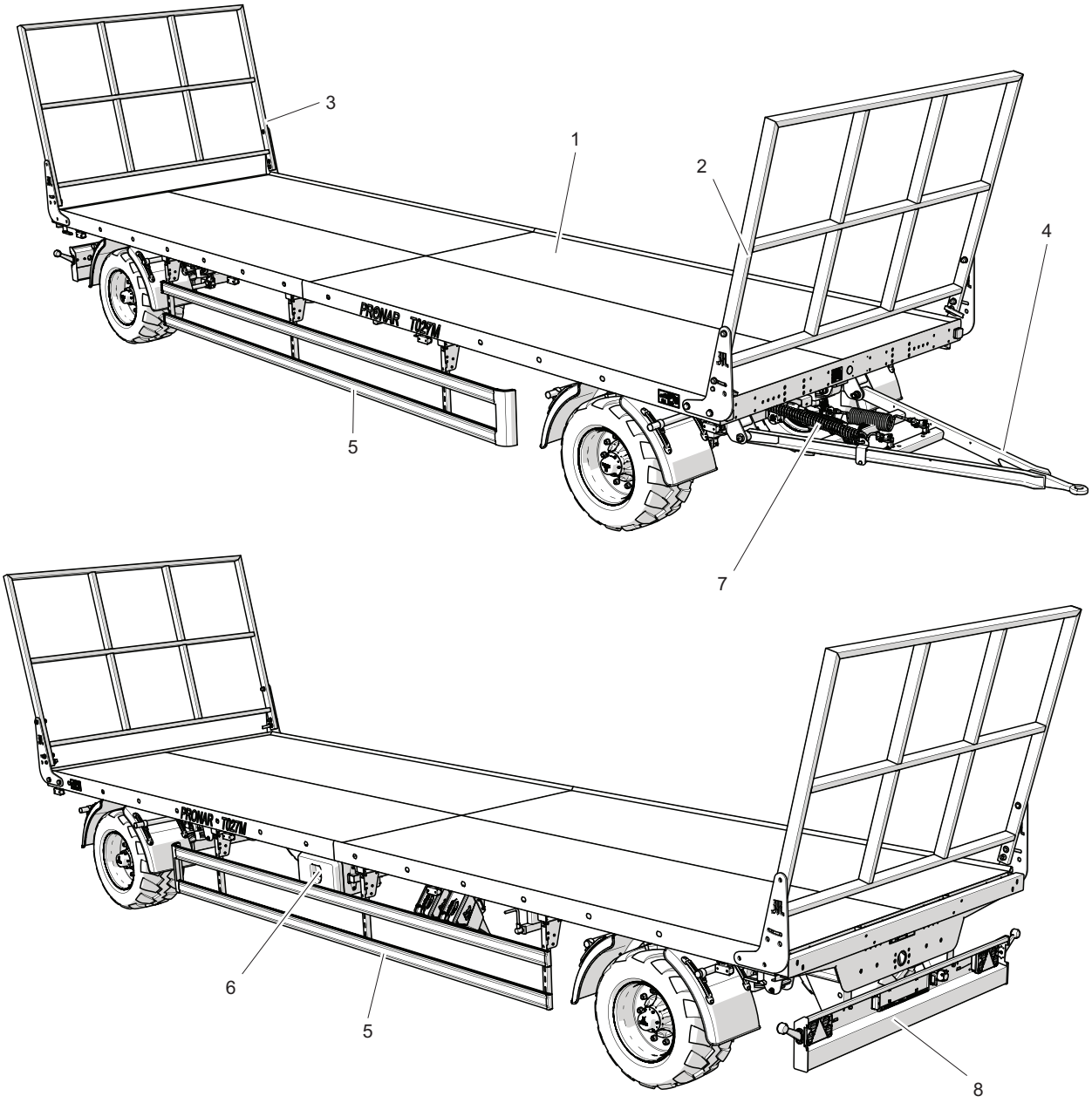

Figure 3.1 Construction of a trailer
(1) frame (2) front ladder (3) rear ladder
(4) drawbar (5) side cover (6) toolbox
(7) spring (8) lighting beam

Frame (1) - loading platform, is a structure welded from steel sections. The main load-bearing elements are stringers connected with crossbars. The loading platform in the front and rear part is limited by ladders (2) and (3). Both ladders can be placed in an

upright or tilted position.

The trailer frame ends with a lighting beam (5), which is designed for mounting electrical equipment, license plate and rear lamps.

The drawbar (2) - figure (3.3) is attached to the turntable frame (1) with bolts. The height of the drawbar eye can be adjusted by moving the hitch (5) securing the spring to the drawbar.

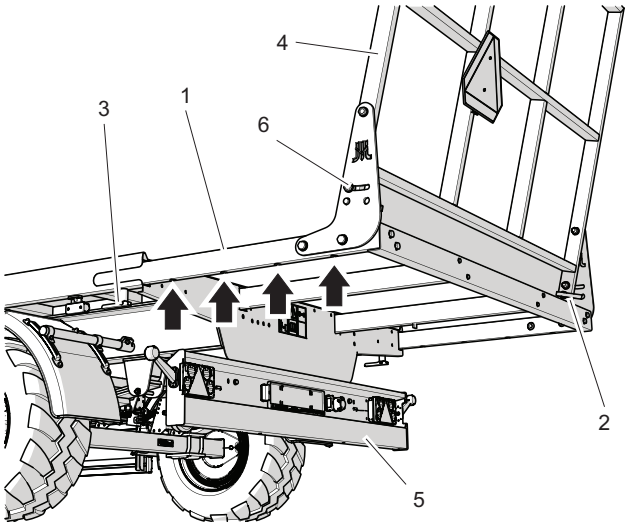

Figure 3.2 Construction of a trailer

(1) pull-out frame (2) latch
(3) latch (4) ladder
(5) lighting beam (6) locking screw

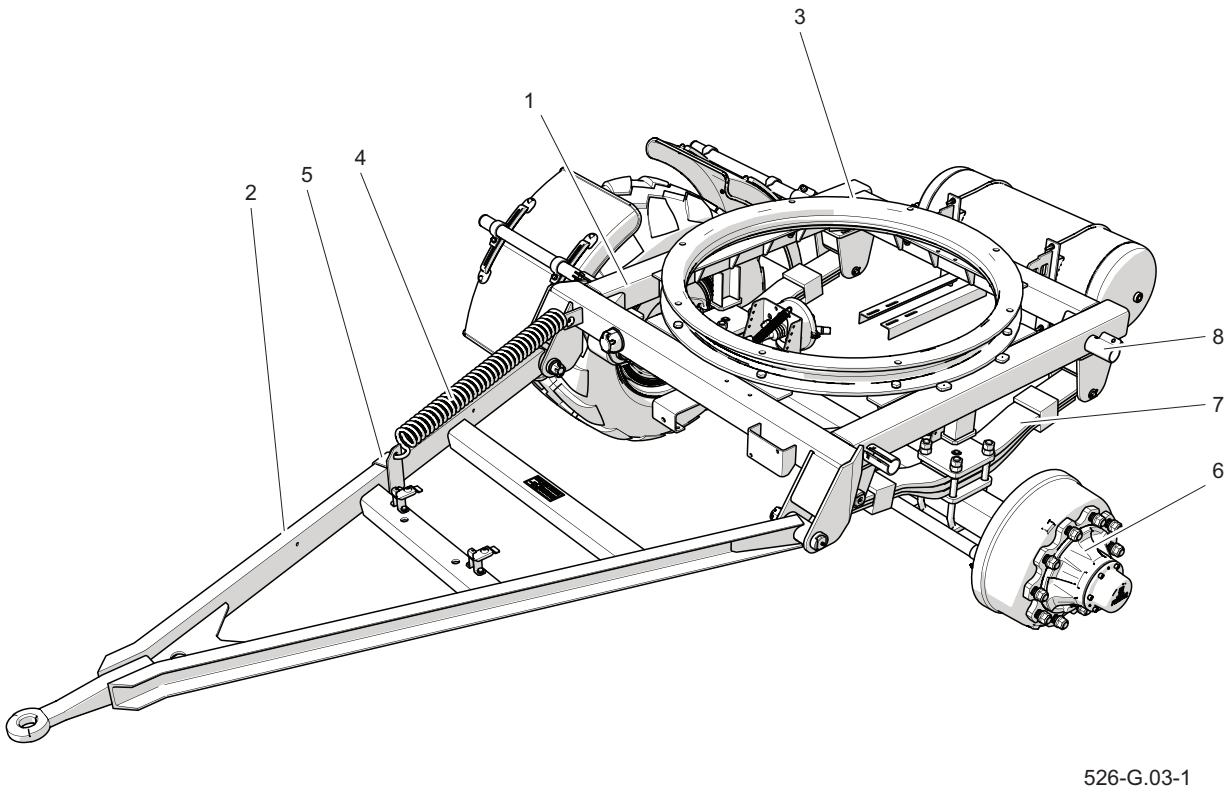

Figure 3.3 Construction of a trailer

(1) turntable frame (2) drawbar (3) turntable
(4) spring (5) spring catch (6) axle
(7) suspension spring (8) mudguard holder

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3.3 SERVICE BRAKE

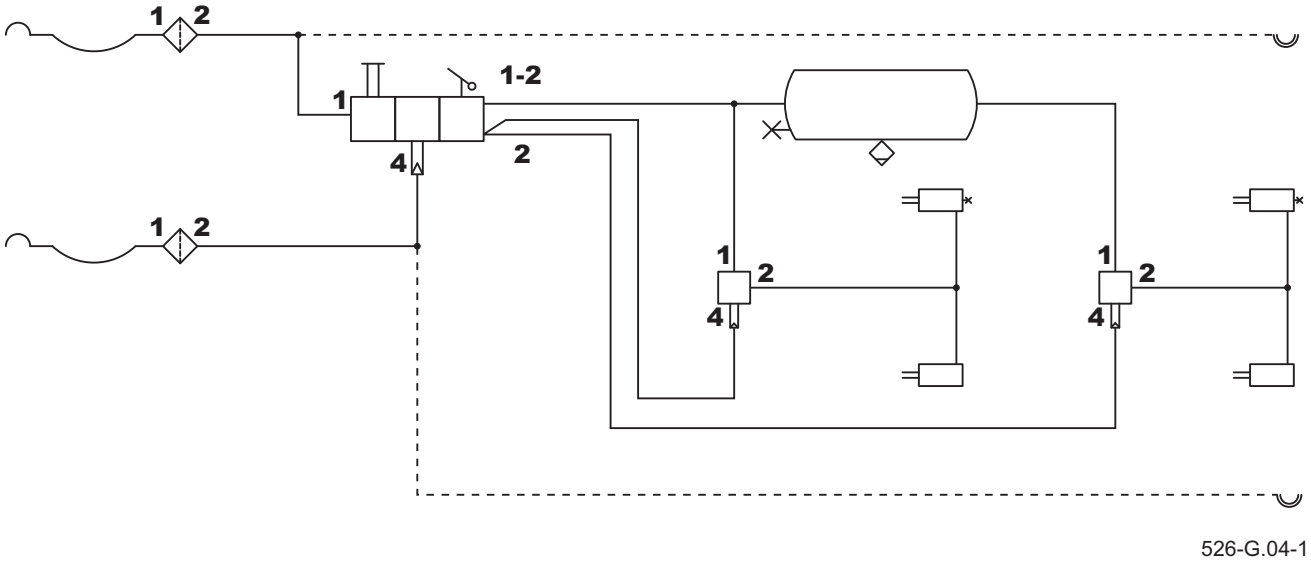


Figure 3.4 Diagram of the double line pneumatic system with a manual regulator

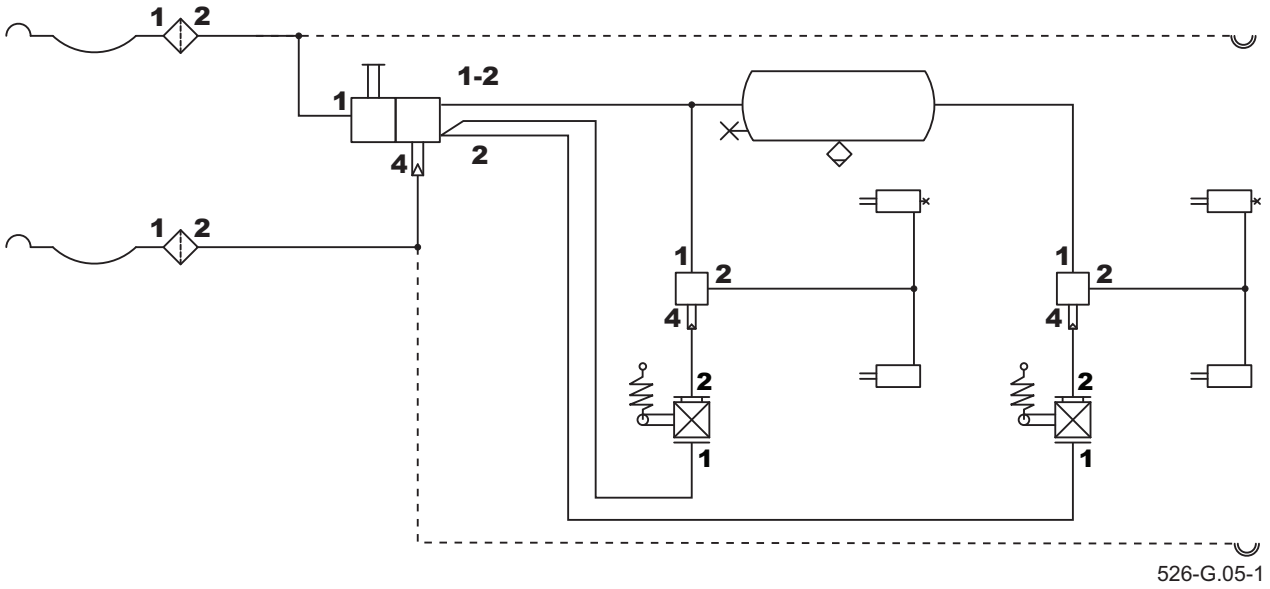


Figure 3.5 Diagram of the double line pneumatic system with an automatic regulator

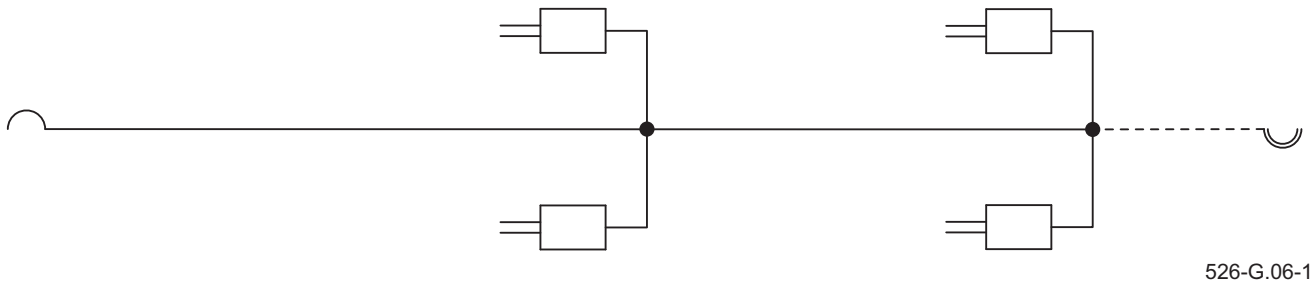


Figure 3.6 Diagram of the hydraulic brake system

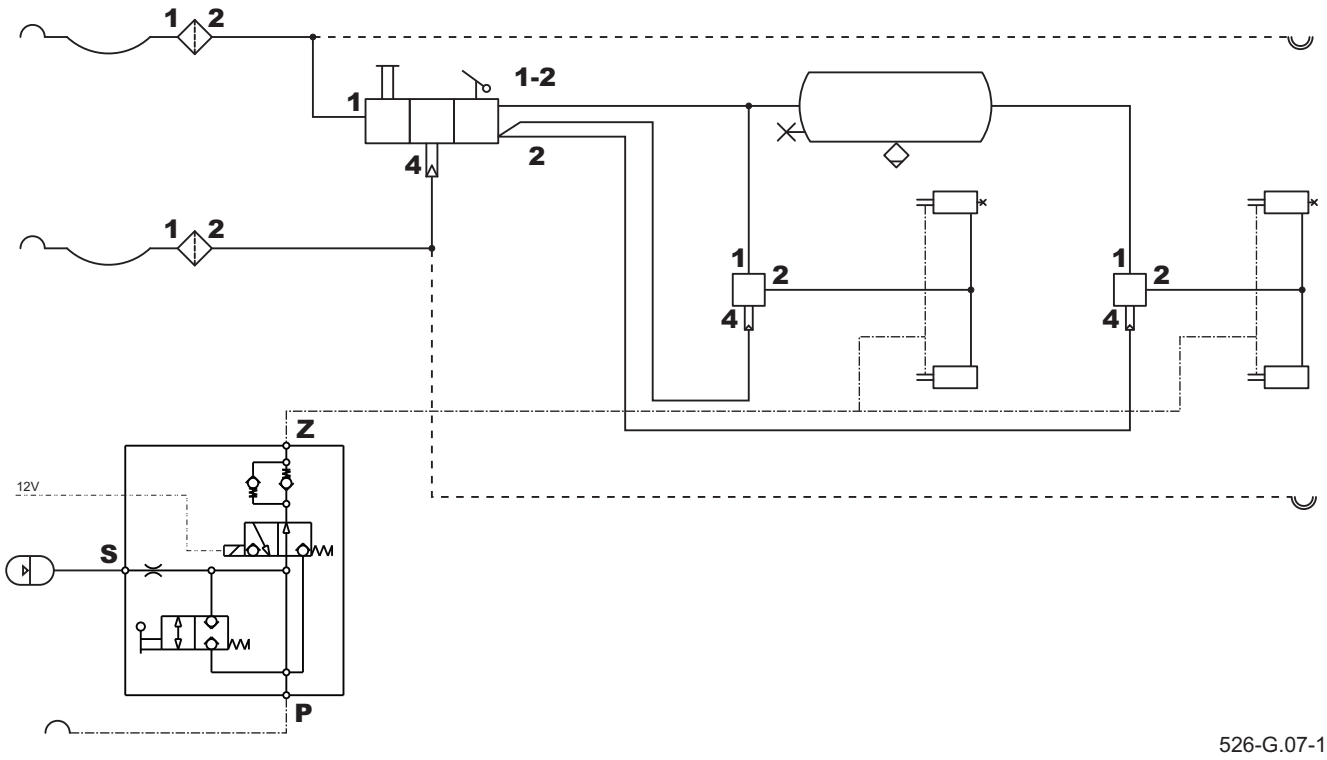


Figure 3.7 Diagram of combined brake installation with electrical protection

Depending on the version of the trailer, the machine is equipped with one of four types of service brake:

- double line pneumatic system with a manual regulator - figure (3.4),
- double line pneumatic system with an automatic regulator - figure (3.5),
- hydraulic brake system - figure (3.6),

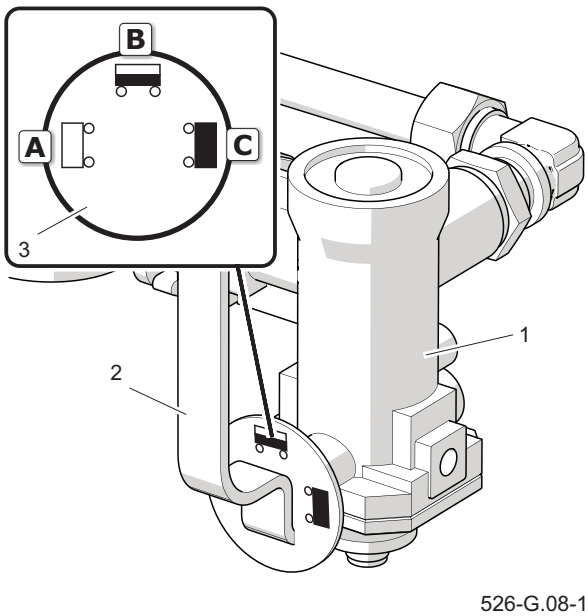


Figure 3.9 Three-range brake force regulator
(1) regulator (2) lever
(3) disc (A) (B) (C) setting

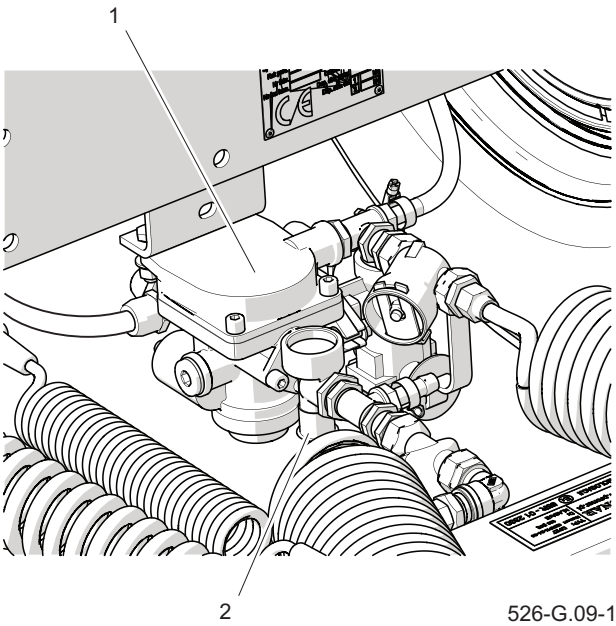
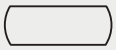
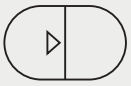
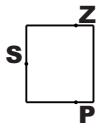


Figure 3.8 Control valve
(1) control valve (2) brake release button

Table 3.2 List of symbols used in diagrams

Symbol	Description
	Pneumatic connection, plug
	Pneumatic connection, seat
	Drain valve
	Main control valve
	Relay valve
	Automatic brake force regulator
	Manual braking force regulator
	Connection of wires
	Air reservoir
	Brake cylinder
	Control valve (connector)
	Air filter
	Hydraulic accumulator
	Electro-hydraulic brake valve

- combined hydraulic system with electrical protection - figure (3.7)

The main brake (pneumatic or hydraulic) is activated from the operator's cabin by pressing the tractor brake pedal. The task of the control valve is to activate the trailer's brakes simultaneously with the activation of the tractor's brakes. Moreover, in the event of an unexpected disconnection of the conduit between the trailer and the tractor, the control valve automatically activates the machine's brake - it applies only to pneumatic systems. The three-range brake force regulator used

in pneumatic systems adjusts the brake force depending on the setting. Switching to the appropriate operating mode is done manually by the machine operator before starting travel using the lever (2). There are three working positions:

- A - "No Load"
- B - "Half Load"
- C - "Full load".

G.3.1.526.03.1.EN

3.4 PARKING BRAKE

The parking brake is used to immobilize the trailer when parked. The brake crank mechanism, located in the front on the left side is connected by a steel cable to the expander levers of the driving axle. By turning the crank of the mechanism, the steel cable is tightened. The expander arms exerting pressure on the brake shoes, causing the axle to become immobilized. Before driving off, the parking brake must be released - the steel rope must hang loosely.

In the version of the trailer with overrun brake, the crank mechanism is replaced by a lever brake located on the overrun drawbar.

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3.5 ELECTRICAL LIGHTING INSTALLATION

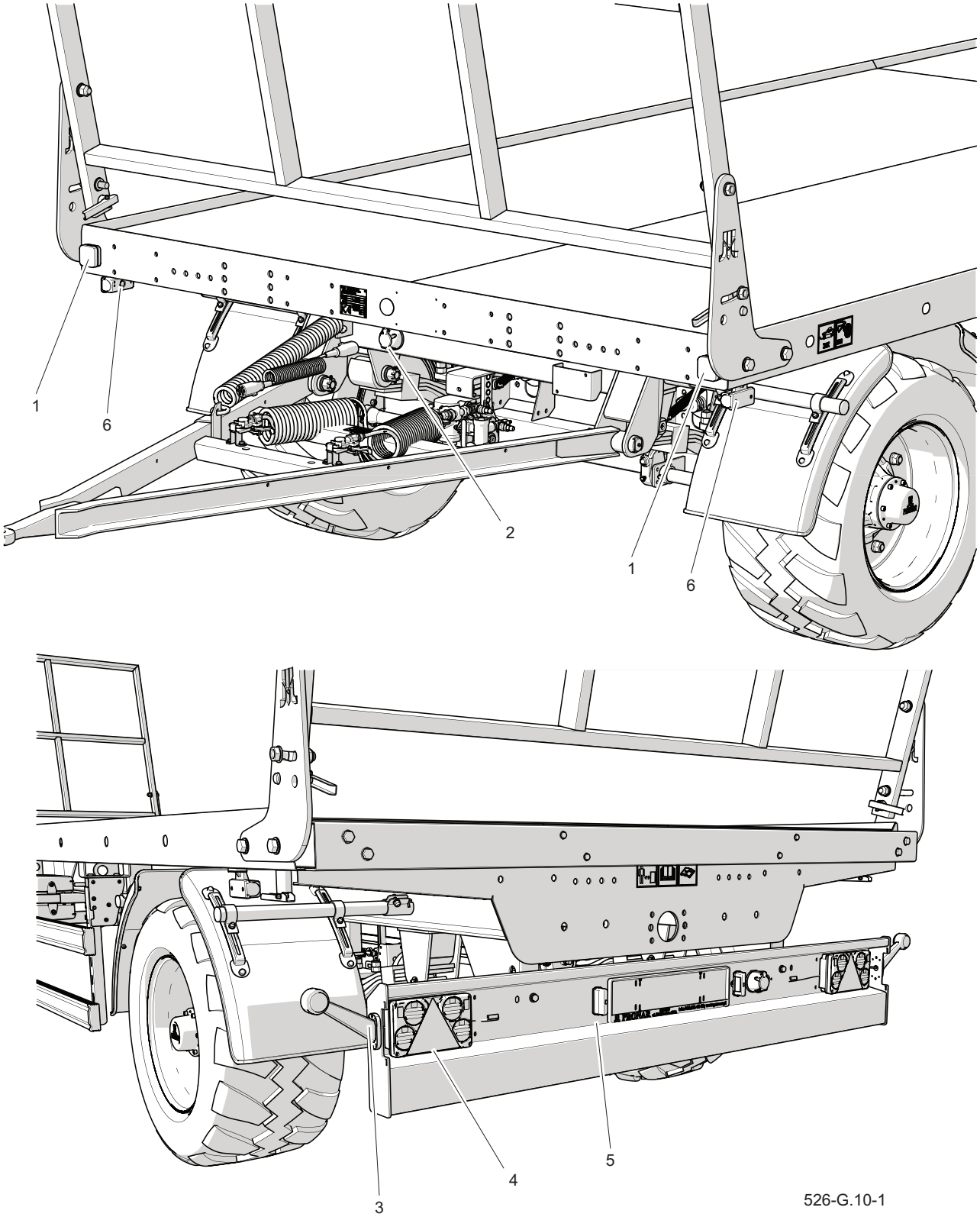

Figure 3.10 Arrangement of elements of electrical installation

(1) white front position lamp (2) 7pin connection socket (3) rear marker lamp

(4) rear combination lamp (5) license plate lamp (6) side table lamp

The trailer's electrical system is designed to be powered from a 12 V DC source. To connect the machine to a tractor, use the connection cable provided as standard equipment.

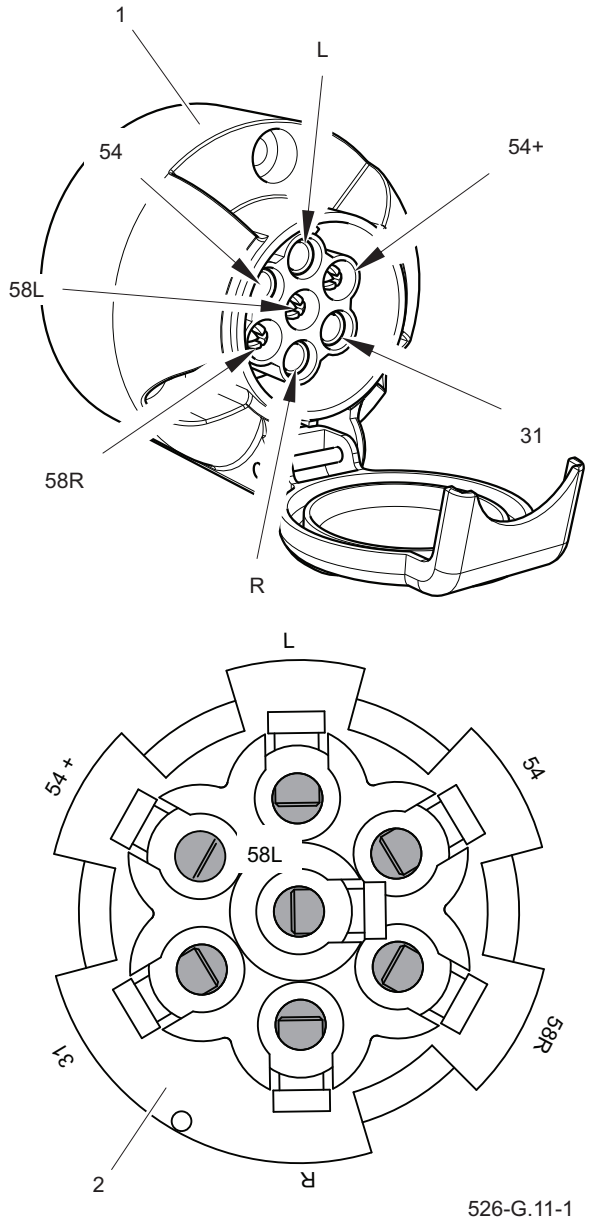

Figure 3.11 Connection socket
(1) socket (2) view from the beam side

Table 3.3 Connection markings for the connection socket

Marking	Function
31	Weight
54+	Power supply + 12V
L	Left direction indicator
R	Right direction indicator
54	STOP light
58L	Left rear position lamp
58R	Right rear position lamp
R	Right direction indicator

Table 3.4 Electrical diagram designations

Symbol	Function
ZP	Right rear combination lamp
ZL	Left rear combination lamp
GP	Front 7-pin socket
GT	Rear 7-pin socket
PP	Front right position lamp
PL	Front left position lamp
OBP1...4	Right side marker lamp
OBL1...4	Left side marker lamp
OT1...2	Plate illumination lamp
OP	Right marker lamp
OL	Left marker lamp

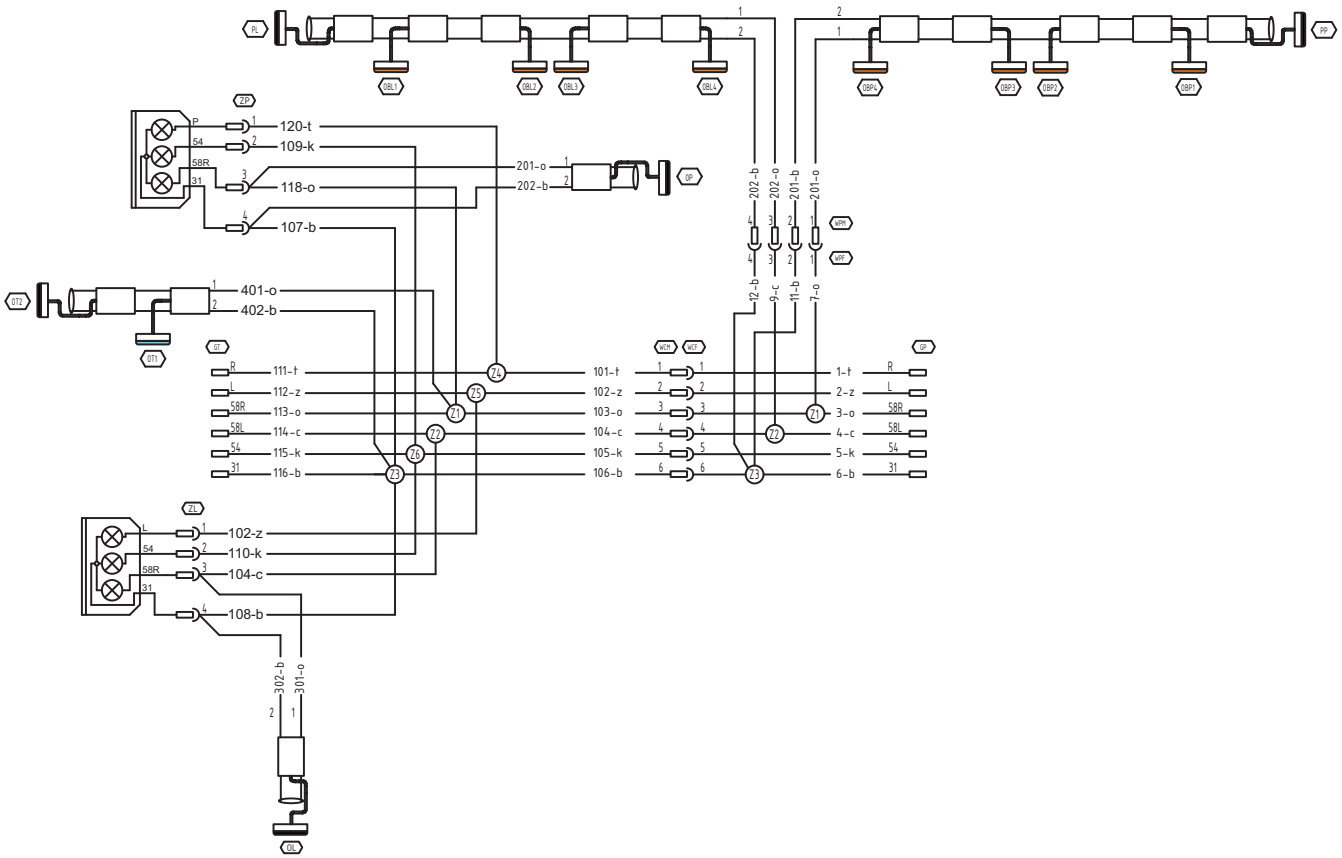

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Figure 3.12 Diagram of the electrical system

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RULES OF USE

CHAPTER 4

4.1 FOLDING AND UNFOLDING OF THE LADDERS

Ladders (rear and front) can be set in two selected positions (vertical and tilted).

- Unlock the two lock levers (2) - detail (C).
- Set the ladder in the desired position.
- Secure the ladder with the lock.

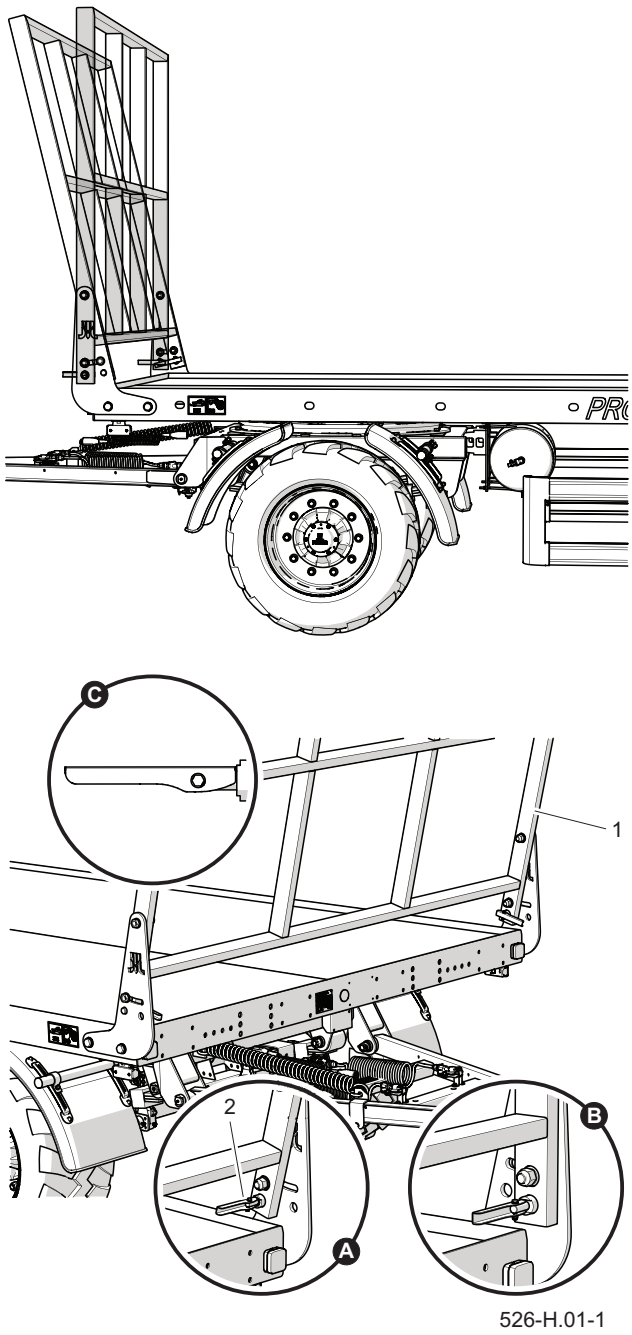

Figure 4.1 Setting up ladders

(1) front ladder (2) lock lever

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4.2 OPERATION OF SIDE UNDERRUN GUARDS

LIFTING

- Grasp the lower cover strip.
- Pull the barrier towards you and lift it to the height where the barrier can be locked.
- Move the barrier along the oblong hole marked with a black arrow in the picture.

LOWERING

- Pull the barrier towards you.
- Lower the barrier to the vertical position and press it until it clicks into the holder.

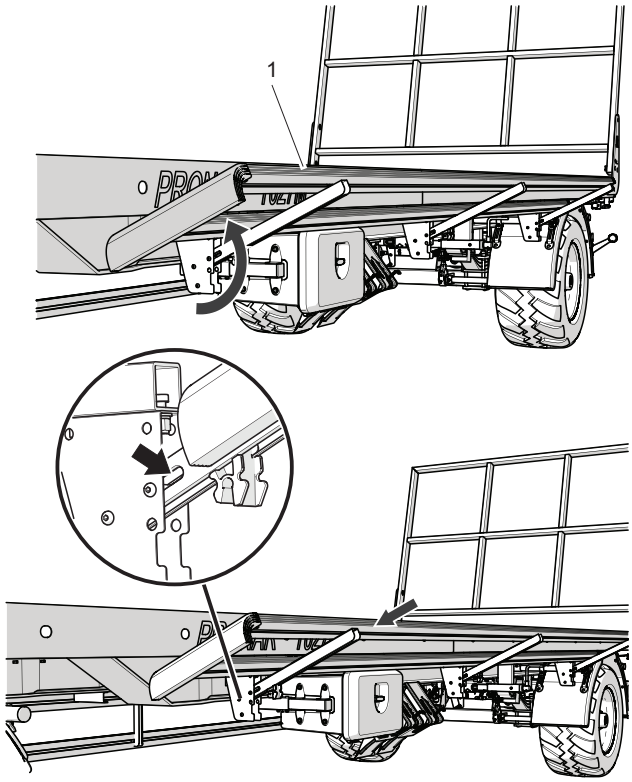

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Figure 4.2 Left overrun protection

(1) shield barrier

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4.3 CONNECTING OF THE TRAILER

DANGER

During hitching, there must be no bystanders between the trailer and the tractor. The agricultural tractor operator when connecting the machine should take particular care during work and make sure that unauthorized persons are not in the danger zone during coupling.
When connecting the hydraulic or pneumatic conduits to the tractor, make sure that the tractor and trailer installations are not under pressure.
Ensure good visibility during coupling.

CONNECTING OF THE TRAILER TO THE TRACTOR HITCH

- Make sure the trailer is immobilized with the parking brake.

  Turn the brake mechanism clockwise as far as it will go.
  Make sure that blocking chocks are placed under the trailer wheel.
- Position the agricultural tractor directly in front of the drawbar eye.
- Reverse the tractor and connect the trailer to the appropriate hitch.
- Check the coupling lock protecting the machine against accidental disconnection.
- If an automatic coupling is used in the tractor, make sure that the

CAUTION

After completing the coupling check the safety of the pin hitch.
After connecting the trailer, perform a daily inspection of the machine before driving.
The external examination of the machine without connecting it to the tractor will not allow verification of its technical condition. Detailed information on inspections can be found in chapter 5.

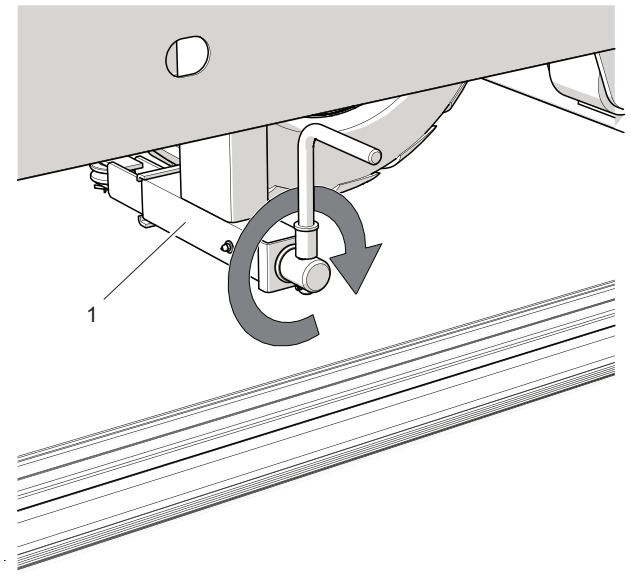

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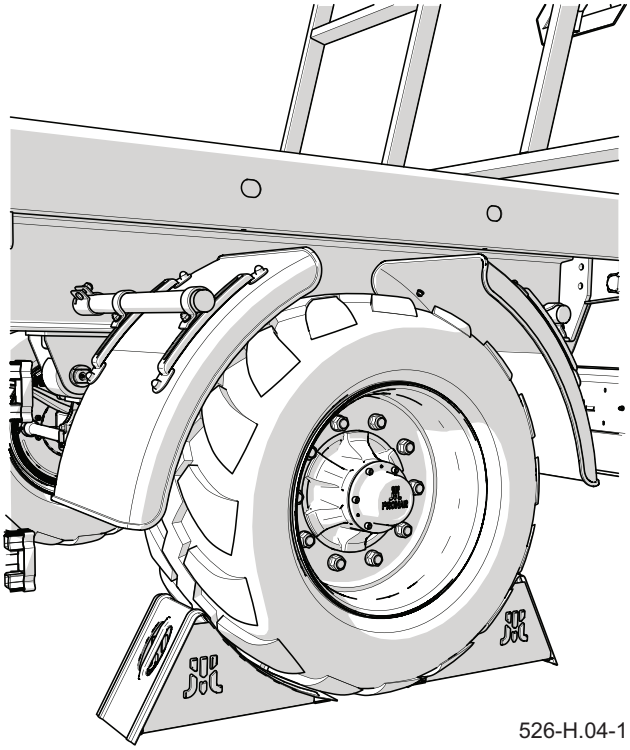
Figure 4.3 Parking brake
(1) brake mechanism



526-H.04-1

Figure 4.4 Locking wedges

aggregation operation is completed and the drawbar eye is secured.

CONNECTING OF THE BRAKING SYSTEM

CAUTION

When connecting the pneumatic lines of a two-line system, first connect the yellow line and then the red line.

- Turn off the tractor engine and remove the ignition key. Secure tractor with parking brake.
- Depending on the trailer configuration, connect the braking system connectors to the appropriate tractor sockets. If the trailer is equipped with an electro-hydraulic brake valve with electrical protection, also connect the cable with a 3-pin plug (3) to the tractor - figure (4.5).

DANGER

It is forbidden to use an inefficient trailer.

CONNECTING OF THE LIGHTING ELECTRICAL INSTALLATION

- Connect the connection cable of the electrical system to the 7-pin socket in the trailer and to the 7-pin socket in the tractor.

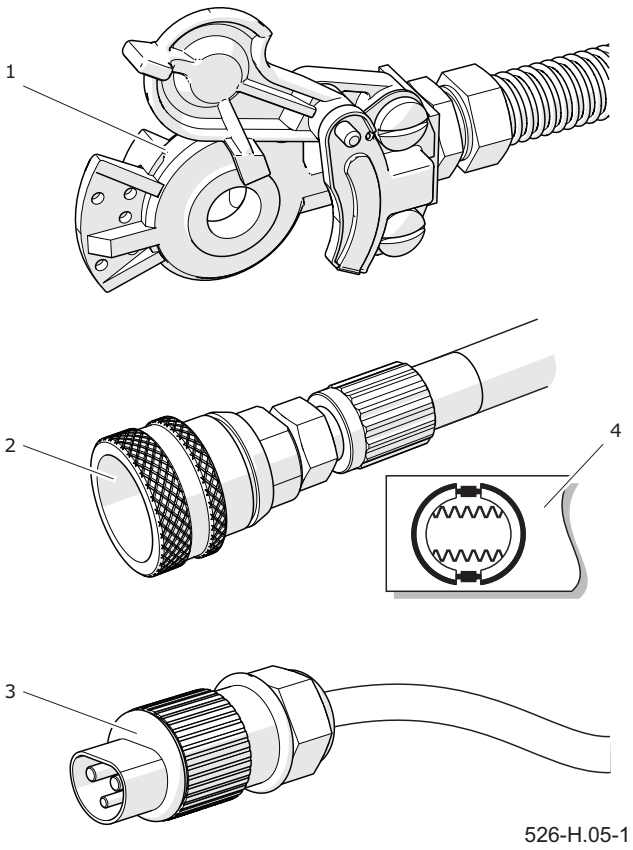


Figure 4.5 Brake connections

(1) pneumatic plug in 2-wire installations

(2) hydraulic plug (3) electric plug

(4) sticker

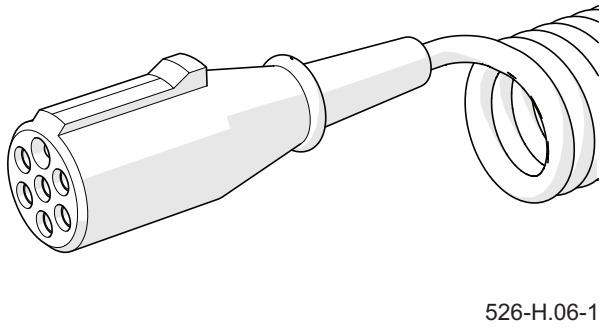


Figure 4.6 Electric connection cable

ADDITIONAL INFORMATION

- After completing the connection of all cables make sure that they will not get entangled in moving parts of the tractor or trailer during operation. Secure cables if necessary.
- Perform daily inspection of the trailer.

- If the trailer is in good state, you can start working.
- Immediately before driving, remove the wheel chocks and release the machine's parking brake.

  Turn the brake mechanism crank counterclockwise as far as it will go.

CAUTION

The machine may be connected to an agricultural tractor, provided that all connections (electric, hydraulic and pneumatic) and the hitch on the agricultural tractor comply with the requirements of the manufacturer of the machine.

CAUTION

When the trailer is parked for a longer period, it may turn out that the air pressure in the air braking system is insufficient to release the brake shoes. In this case, wait until the air in the pneumatic system tank is replenished after starting the tractor and the air compressor.

H.3.1.526.03.1.EN

4.4 UNCOUPLING

DANGER

When disconnecting the trailer from the tractor, take particular care. Ensure good visibility. Unless it is necessary, do not stay between the trailer and the tractor.
Before disconnecting the hoses and the drawbar eye, turn off the tractor engine and remove the ignition key. Immobilize the tractor with the parking brake.

- Place the trailer on a hard and flat surface.
- Turn off the tractor engine and remove the ignition key, secure the tractor with the parking brake.
- Block the trailer with parking brake.
- Place blocking wedges under one wheel of the trailer, one in the rear and the other in front of the wheel.
- Disconnect all the cables one by one and protect the plugs against dirt by placing them in specially prepared sockets.
- Release the drawbar eye, start the tractor and drive away.

CAUTION

When disconnecting pneumatic conduits of a double conduit system, disconnect the conduit marked red first, and only then the conduit marked yellow.
It is forbidden to disconnect and leave a loaded trailer at a standstill.

H.3.1.526.04.1.EN

4.5 LOADING

DANGER

Uneven distribution of the load can overload the chassis of the trailer.
During work, keep a safe distance from overhead power lines.
When loading or unloading, bystanders must be careful and keep a safe distance from hazardous areas.

The agricultural trailer is designed to transport crops and agricultural products in the form of bales or pressed cubes within the farm and on public roads.

The trailer must be positioned to drive straight ahead and connected to the tractor. Loading process should take place only when the trailer is placed on level and stable ground. Depending on the type of transported load, adjust the position of the ladders.

It is recommended to use a loader, conveyor or forklift truck to load the trailer. Keep a safe distance. Keep bystanders away from the working area of the machine.

The load should be evenly distributed along the length and width of the platform to ensure proper distribution of axle loads and proper stability of the trailer. The load must not protrude beyond the outline of the load platform. The number of load layers depends on the size of the bales or pressed cubes, their distribution on the loading platform and the weight. However, the maximum height specified by road traffic regulations and the maximum load capacity of the trailer may not be exceeded. When loading of goods on pallets, pay attention to how they are placed on the platform. Pallets must be secured in such a way that they cannot slide freely on the platform. It is forbidden to stack the pallets in layers.

The load should be placed starting from the front ladder.

CAUTION

It is forbidden to exceed the permissible load capacity of the trailer.
The load on the platform must be evenly distributed and properly secured.
The load must be arranged in such a way that it does not threaten the stability of the trailer and does not hinder driving.
Loading should be performed by a person with appropriate authorizations to operate the equipment (if required).

H.3.1.526.05.1.EN

4.6 SECURING OF THE LOAD

The load must be properly secured against shifting with straps with a tightening mechanism. Belts can be attached to the following structural elements:

- front beam,
- rear beam of the sliding frame,
- oblong construction holes in the side part of the profiled floor,

The number of security measures used depends on the method of loading, the type of load and the size of the load. If the transport will take place on slopes and/or in strong gusts of wind, the height of the load should be limited depending on the situation.

Regardless of the type of transported load, the user is obliged to secure it in such a way that the load cannot move freely and cause contamination of the road.

Due to the variety of materials, tools, methods of securing and securing cargo, it is not possible to describe all the methods of loading. When working, be guided by reason and your own experience. The trailer user is obliged to familiarize himself with the regulations concerning road transport and adhere to their recommendations.

H.3.1.526.06.1.EN

4.7 LOAD TRANSPORTATION

During the journey, comply with traffic regulations, be prudent and prudent.

- Before driving, make sure that the trailer is in good working order. It is forbidden to drive a trailer with damaged lighting or brake signaling, faulty drawbar or suspension system.
- Before moving make sure that there are no bystanders, especially children, near the trailer and tractor. Ensure proper visibility.
- Make sure that the trailer is correctly connected to the tractor and tractor's hitch is properly secured.
- Before driving, adjust the braking force of the trailer by setting the lever of the brake force regulator.

DANGER

Trailer overloading, inefficient loading and securing of loads are the most common causes of accidents during transport.
Uneven distribution of the load can overload the chassis of the trailer.
It is forbidden to transport people and animals.

- The trailer must not be overloaded, the load must be evenly distributed so that the maximum permissible axle loads are not exceeded. Exceeding the permissible load capacity of the vehicle is prohibited and may cause damage to the machine, and may also pose a threat to the tractor and trailer operator or other road users when travelling on the road.
- The permissible design speed and speed resulting from restrictions on road traffic regulations must not be exceeded. The travel speed should be adjusted to the prevailing road conditions, trailer load condition, type of load carried and other conditions.
- The trailer disconnected from the tractor must be secured by immobilising it with the parking brake and placing chocks under the wheels. It is prohibited to leave the trailer

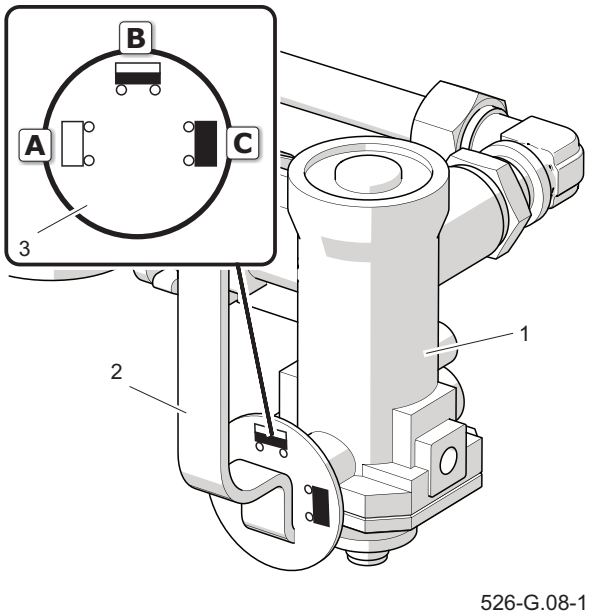


Figure 4.7 Three-range brake force regulator
(1) regulator (2) lever
(3) disc (A) (B) (C) setting

unsecured. In the event of a machine breakdown, stop at the side of the road without endangering other road users and mark the stopping place in accordance with traffic regulations.

- When driving on public roads, the trailer must be marked with a slow-moving vehicle sign on the rear wall of the load box, if the trailer is the last vehicle in the group.
- The tractor operator is required to equip the trailer with an approved or approved warning reflective triangle.
- While driving, obey the road traffic regulations, use turn signals to signal a change of direction, keep clean and maintain the technical condition of lighting and signalling installations. Damaged or lost lighting and signalling components must be repaired or replaced immediately.
- Avoid ruts, depressions, ditches, or driving along roadside slopes. Driving across such obstacles can cause the trailer and tractor to tilt suddenly. This is particularly important because the centre of gravity of a trailer with a load (and especially with a volumetric load) adversely affects driving safety. Driving near the edge of ditches or canals is dangerous due to the risk of landslides under the wheels of the trailer or tractor.
- The travel speed should be reduced sufficiently in advance of driving to curves, when driving on uneven or sloping terrain.
- When driving, avoid sharp turns, especially on slopes.
- While driving on public roads, the extendable frame must be retracted.
- Control the behaviour of the trailer while driving on uneven terrain.
- Prolonged driving on slopes creates the risk of losing braking efficiency.
- It should be remembered that the braking distance of the set increases significantly with the increase in the weight of the transported load and the increase in speed.
- When driving with a load, be careful when driving under power lines, bridges, overpasses, etc.

CAUTION

It is forbidden to exceed the permissible load capacity of the trailer.
The load on the platform must be evenly distributed and properly secured.
While driving on public roads, the extendable frame must be retracted.
The load must be arranged in such a way that it does not threaten the stability of the trailer and does not hinder driving.

4.8 UNLOADING

DANGER

Be careful when removing the safety belts.
Make sure that nobody is in the vicinity of the cargo during unloading.
During work, keep a safe distance from overhead power lines.

The trailer must be positioned to drive straight ahead and connected to the tractor. Unloading should take place only when the trailer is placed on level and stable ground.

It is recommended to use a loader, conveyor or forklift truck to unload the trailer. When working, ensure yourself good visibility and exercise extreme caution. Immobilize trailer and tractor with parking brake and turn tractor engine off. Place wedges under one wheel of the trailer. Remove all securing means (straps, ropes, etc.) immediately before unloading. Unload the trailer according to generally accepted health and safety rules.

H.3.1.526.08.1.EN

4.9 RULES FOR THE USE OF TIRES

- When working with tires the trailer should be secured against rolling by placing chocks under the wheels. The wheel can be dismantled only when the trailer is not loaded.
- Repair work on wheels or tires should be performed by persons trained and authorized for this purpose. These works should be performed with the use of appropriately selected tools.
- Regularly check the correct tightening of the wheel nuts.
- Regularly check and maintain proper tire pressure as recommended in the instructions (especially after a long break in the trailer use).
- Tire pressure should also be checked during all-day intensive work. Take into account that an increase in tire temperature can increase the pressure by up to 1 bar. With this increase in temperature and pressure, reduce load or speed.
- Never reduce the pressure by venting if it increases due to temperature.
- Tire valves should be protected with the appropriate caps to avoid their contamination.
- Do not exceed the maximum trailer speed.
- During the whole day cycle, take a minimum of one hour break at noon.
- Take breaks while driving to cool the tires.
- Avoid damaged surfaces, sudden and variable manoeuvres, and high speeds when turning.

H.3.1.526.09.1.EN

CHAPTER 5

PERIODICAL INSPECTION SCHEDULE

5.1 GENERAL

This chapter describes all activities related to periodic inspections that you, as the user, are obliged to perform in accordance with the assumed schedule. Constant inspection of the technical condition and performance of maintenance procedures are necessary to keep the machine in good technical condition. Maintenance activities that can be performed by the user themselves are described in the *Maintenance section*.

Repair of the machine during the warranty period may only be performed by Authorized Sales and Service Points (APSiO). In the event of unauthorized repairs, changes to factory settings or activities that have not been considered as being possible by the trailer operator (not described in this manual), the user loses the warranty.

The trailer's warranty inspection is only carried out by authorized service centres.

NOTES

It is forbidden to use a damaged trailer.
It is allowed to tow a trailer only when the braking system, lighting system, drawbar and chassis are in good working order.
Repairs during the warranty period may only be carried out by authorized service centres.

I.3.1.526.01.1.EN

5.2 TRAILER PERIODIC INSPECTIONS

Table 5.1 Inspection categories

Category	Description	Performs	Frequency
A	Daily review	Operator	Inspection carried every day before first start-up or every 10 hours of continuous shift work.
B	Maintenance	Operator	Inspection performed periodically every 1000 kilometers driven or every month of trailer operation, whichever comes first. Each time before carrying out this inspection, a daily inspection should be performed.
C	Maintenance	Operator	Inspection performed periodically every 3 months. Before each performance of this inspection, a daily inspection should be performed and a monthly inspection of the trailer should be performed.
D	Maintenance	Operator	Inspection performed periodically every 6 months. Before each performance of this inspection, it is necessary to perform a daily inspection, inspection every 1 month of using the trailer and inspection every 3 months.
E	Maintenance	Operator	Inspection performed periodically every 12 months. Before each performance of this inspection, it is necessary to perform a daily inspection, inspection every 1 month of using the trailer and inspection every 3 months.
F	Maintenance	Service (1)	Inspection performed every 4 years of trailer use

(1) - post-warranty service

Table 5.2 Technical inspection schedule

Description of activities	A	B	C	D	E	F	Page
Kontrola ciśnienia powietrza	•						5.7
Odwodnienie zbiornika powietrza	•						5.8
Kontrola wtyków i gniazd przyłączy	•						5.9
Kontrola osłon	•						5.10
Kontrola przyczepy przed rozpoczęciem jazdy	•						5.11
Pomiar ciśnienia powietrza, kontrola ogumienia i felg		•					5.12
Czyszczenie filtrów powietrza			•				5.13
Kontrola zużycia okładzin szczęk hamulcowych				•			5.14
Kontrola luzu łożysk osi jezdnych				•			5.15
Kontrola hamulców mechanicznych				•			5.16
Czyszczenie zaworu odwadniającego				•			5.17
Kontrola napięcia linki hamulca postojowego					•		5.18
Kontrola instalacji hydraulicznej					•		5.19
Kontrola instalacji pneumatycznej					•		5.20
Smarowanie	See table: *Trailer lubrication schedule*						5.21
Kontrola połączeń śrubowych	See table: *Schedule for tightening of the critical bolted connections*						5.25
Replacement of hydraulic hoses						•	5.30

Table 5.3 Control parameters and settings

Description	Value	Notes
Breaking system		
Piston rod stroke in pneumatic systems	25 - 45 mm	
Piston rod stroke in hydraulic systems	25 - 45 mm	
Piston rod stroke in pneumatic and hydraulic systems	25 - 45 mm	
Minimum brake lining thickness	5 mm	
An angle between the expander axis and the fork	90^{O}	With the brake applied
Parking brake		
Permissible clearance in the parking brake cable	20 mm	

I.3.1.526.02.1.EN

5.3 TRAILER PREPARATION

DANGER

Secure the tractor cab against unauthorized access.
When working with the jack, the user must read the instructions for this device and follow the manufacturer's instructions. The jack must stand firmly against the ground and the trailer elements
Before starting maintenance and repair work with the trailer lifted, make sure that the trailer is properly secured and will not roll during operation.

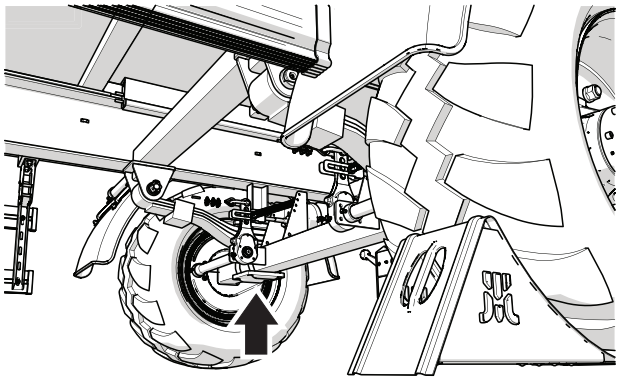


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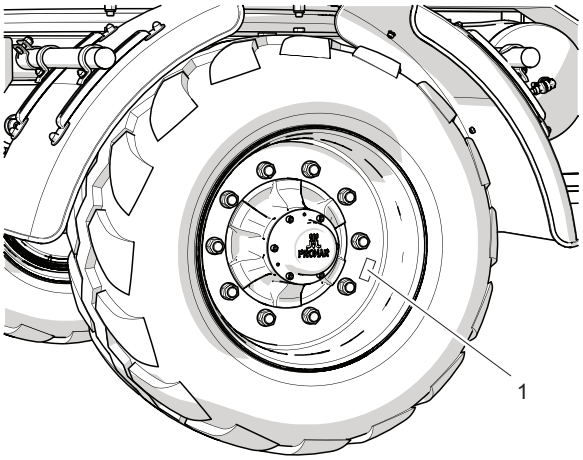
Figure 5.1 Recommended jack substitution points

- Connect the trailer to tractor.
- Place the tractor and trailer on firm and level ground. Position the tractor for straight-ahead travel.
- Apply the tractor parking brake.
- Turn off the tractor engine and remove the ignition key. Close the tractor cabin, thus protecting the tractor against unauthorized access.
- Place the safety wedges under the trailer wheel. Make sure that the trailer will not roll during the inspection.
- In case when the wheel needs to be raised during the inspection, place the locking wedges on the opposite side. Place the jack in places marked with an arrow. Remember! The jack must rest on a firm and stable surface.
- The jack must be suited to the trailer's carb weight.
- In exceptional cases, you will have to release the parking brake of the trailer, e.g. when measuring the play of the half-shaft bearings. Be especially careful.

I.3.1.526.03.1.EN

5.4 CHECKING OF THE AIR PRESSURE IN THE WHEELS

- Visually assess the condition of inflation of the road wheels.
- If you feel that the wheel is not getting enough air, check the air pressure with a pressure gauge. If necessary, inflate the wheel to the required pressure.



526-I.02-1

Figure 5.2 Trailer's wheel
(1) information sticker

NOTES

Using a trailer in which tires are not properly inflated may lead to permanent tire damage as a result of delamination of the material.
Incorrect tire pressure also causes faster wear of the tire.

ADVICE

The tire pressure value can be found on the information sticker glued to the rim.

I.3.1.526.04.1.EN

5.5 AIR RESERVOIR DRAINING

- Press the stem of the drain valve (1) located at the bottom of the tank (2).

  The compressed air in the tank will remove water outside.

- After releasing the spindle, the valve should automatically close and stop air flow from the tank.
- If the valve stem does not want to return to its position, wait until the tank empties. Then unscrew and clean or replace the valve with a new one.

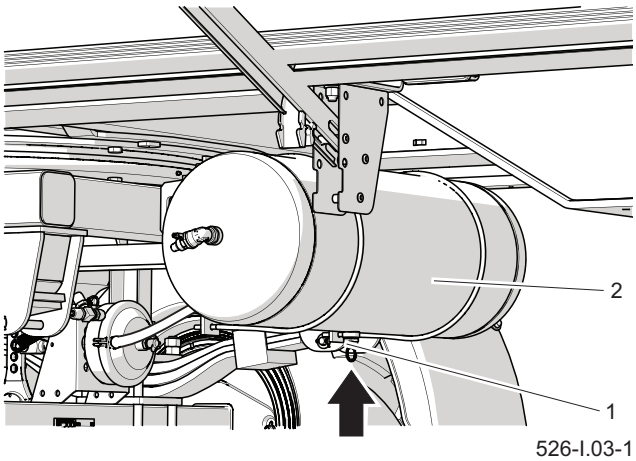


Figure 5.3 Air reservoir
(1) drain valve (2) air reservoir

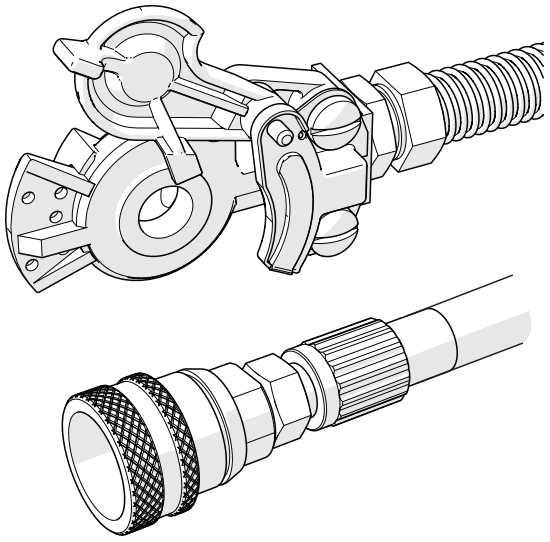
I.3.1.526.05.1.EN

5.6 CHECKING OF PLUGS AND CONNECTION SOCKETS

Damaged connector body or receptacle to connecting a second trailer qualifies them for replacement. In the event of damage to the cover or gasket, replace these elements with new, functional ones. Contact of pneumatic connection seals with oils, grease, gasoline etc. may damage them and accelerate the aging process.

If the trailer is disconnected from the tractor, connections should be protected with covers or placed in their designated sockets. Before the winter period, it is recommended to preserve the seal with preparations intended for this purpose (e.g. silicone lubricants for rubber elements).

Each time before connecting the machine, check the technical condition and degree of cleanliness of connections and sockets on the agricultural tractor. If necessary clean or repair tractor sockets.



526-I.04-1

Figure 5.4 Trailer connections

I.3.1.526.06.1.EN

5.7 GUARD INSPECTION

DANGER

It is forbidden to use the trailer with damaged or incomplete guards.

The guards protect the user of the trailer against loss of health or life and are a protective element of the machine's components. For this reason, their technical condition must be checked before starting work. Damaged or missing items must be repaired or replaced.

- Check the completeness of the protective covers.
- Check that the covers are properly installed. Check whether the side underrun guards are latched in the lower driving position, assess the condition of the mudguards.
- Check the completeness of the hub covers.
- Tighten the screw connections of the cover fixings if necessary.

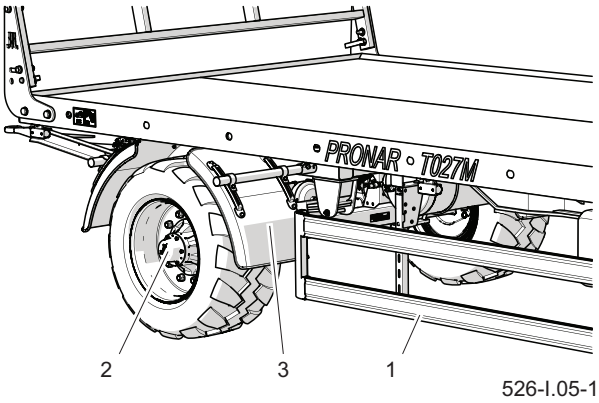


Figure 5.5 Trailer guards
(1) side cover (2) axle caps (3) plastic fender

I.3.1.526.07.1.EN

5.8 CHECKING OF THE TRAILER BEFORE DRIVING

- Before connecting trailer to the tractor make sure that the hydraulic and pneumatic conduits are not damaged.
- Check the completeness, technical condition and correct functioning of the trailer lighting.
- Check the cleanliness of all electric lamps and reflectors.
- Check the correct mounting of the triangular sign holder for slow moving vehicles and the plate itself.
- Make sure that the tractor has a reflective warning triangle.
- Check the that the actuator ventilation openings are not clogged with dirt and that there is no water or ice inside. Check the correct mounting of the actuator.

  Clean the actuator if necessary. In winter, it may be necessary to defrost the actuator and remove the accumulated water through the blocked vents. If any damage is found, replace the actuator. When mounting the actuator, keep its original position relative to the bracket.

- While moving off, check the operation of the main brake system. Re-

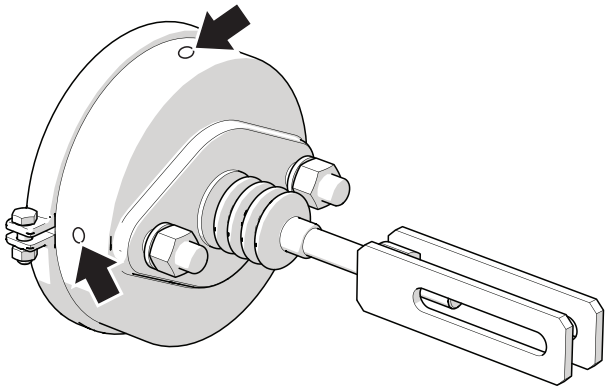


Figure 5.6 Brake cylinder

member! For proper operation of the pneumatic system, an appropriate level of air pressure in the trailer air tank is required.

- Check the correct operation of the other systems while operating the trailer.

DANGER

Driving with faulty lighting or brake system is prohibited.
In the event of damage to the trailer, do not use it until it is repaired.

I.3.1.526.08.1.EN

5.9 AIR PRESSURE MEASUREMENT, TIRE AND RIM INSPECTION

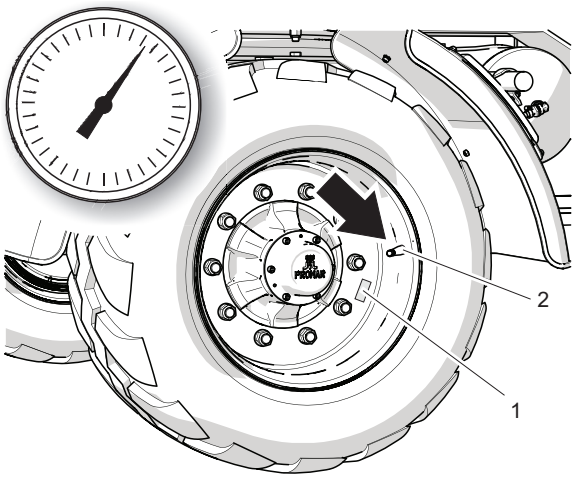
The trailer must be unloaded during pressure measurement. The inspection should be performed before driving, when the tires are not warm, or after the trailer has been parked for a longer period of time.

THE SCOPE OF ACTIVITIES

- Connect the pressure gauge to the valve.
- Check the air pressure.
- If necessary, inflate the wheel to the required pressure.

  The required air pressure is described on a sticker (1) on the rim.
- Check the tread depth.
- Check the side wall of the tire.
- Inspect the tire for defects, cuts, deformations, bumps indicating mechanical damage to the tire.
- Check that the tire is correctly positioned on the rim.
- Check the tire age.

When checking the pressure, pay attention to the technical condition of the rims and tires. look at the sidewalls of the tyres, check the condition of the tread. In the event of mechanical damage, consult your nearest tire service centre and ensure that your tire defect is eligible for replacement. Rims should be checked for deformation, material cracks, weld cracks, corrosion, especially around welds and in the place contact with the tire.



526-I.07-1

Figure 5.7 Trailer's wheel
(1) sticker (2) valve

ADVICE

In the event of intensive use of the trailer, we recommend more frequent pressure checks.

NOTES

Using a trailer in which tires are not properly inflated may lead to permanent tire damage as a result of delamination of the material.
Incorrect tire pressure also causes faster wear of the tire.

I.3.1.526.09.1.EN

5.10 CLEANING OF THE AIR FILTERS

THE SCOPE OF ACTIVITIES

- Reduce pressure in the supply line.

  The pressure in the pipe can be reduced by pushing the plug of the pneumatic connection as far as it will go.

- Slide out the securing lock (1).
- Hold the filter cover (2).
- Hold the filter cover (2) with your other hand. After removing the latch, the cover will be pushed out by the spring located in the filter housing.
- The cartridge and the filter body should be thoroughly washed and blowed out with compressed air. Installation should be made in reverse order.

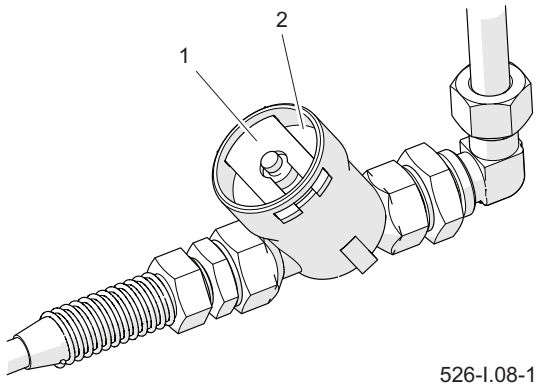


Figure 5.8 Air filter
((1) filter slide (2) cover

I.3.1.526.10.1.EN

5.11 CHECKING OF THE BRAKE LINING WEAR

- Find the inspection hole (depending on the version of the wheel axle, the inspection hole may be located in a different place than shown in the drawing, but it will always be located on the brake shield).
- Remove the upper and lower plugs and then check the thickness of the lining.
- The brake shoes must be replaced if the thickness of the brake lining is less than 5 mm.
- Check the the remaining linings for wear.

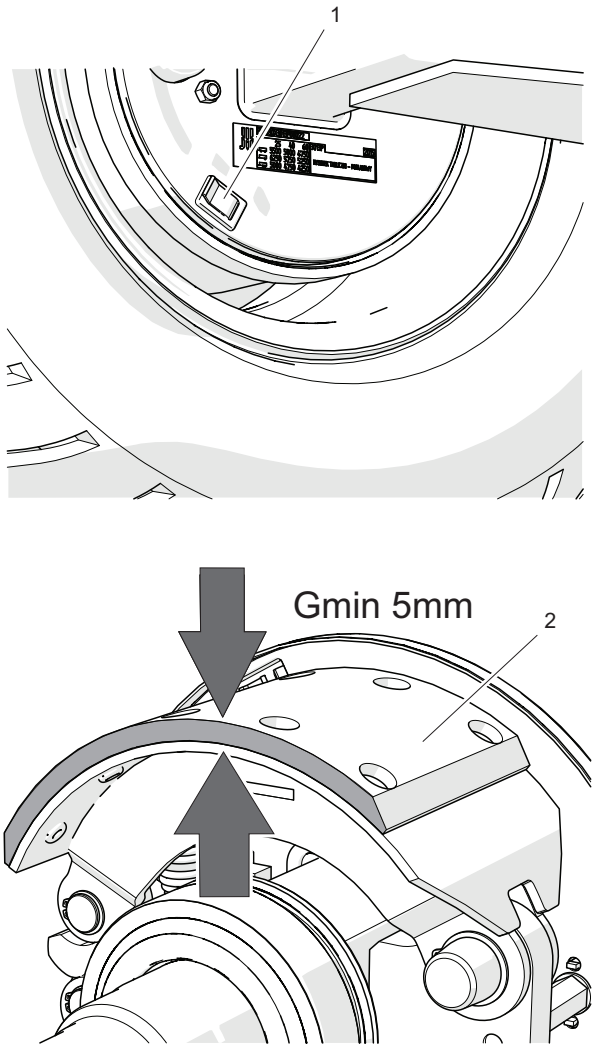


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Figure 5.9 Checking the brake lining thickness

(1) end cap (2) brake lining

I.3.1.526.11.1.EN

5.12 CHECKING OF THE CLEARANCE OF THE AXLE BEARINGS

- Raise the wheel with a jack.
- Turn the wheel slowly in two directions. Check that the movement is smooth and the wheel rotates without excessive resistance and jamming.
- Turn the wheel so that it rotates very quickly, check the that the bearing does not make any unusual sounds.
- Try to feel looseness by moving the wheel.
- Repeat for each wheel separately, remembering that the jack must be on the opposite side of the chocks.
- If looseness is felt, adjust the bearings. Unnatural sounds coming from the bearing may be symptoms of excessive wear, dirt or damage. In this case, the bearing together with the sealing rings should be replaced or cleaned and re-greased. When checking bearings, make sure that any noticeable looseness comes from the bearings, not the suspension system (e.g. looseness on the spring pins, etc.).
- Check the the technical condition of the hub cover, replace if necessary.

526-I.10-1

Figure 5.10 Clearance checking

ADVICE

A damaged hub cover or lack of it will cause the penetration of dirt and moisture to the hub, which will result in much faster wear of the bearings and hub seals.
Bearing life depends on trailer operating conditions, load, vehicle speed and lubrication conditions.

I.3.1.526.12.1.EN

5.13 CHECKING OF THE MECHANICAL BRAKES

In a correctly adjusted brake, the stroke of the actuator piston rod should be within the range given in table (5.3) and depends on the type of actuator used. When the wheel is fully braked, the optimal angle between the expander lever and the piston rod should be approx. 90 °. In this setting, the braking force is optimal. The brakes are checked by measuring this angle and the stroke of the piston rod in each wheel.

SCOPE OF CONTROL ACTIVITIES

- Measure the distance X with the tractor brake pedal released.
- Measure the distance Y with the tractor brake pedal pressed.
- Calculate the distance difference.
- Check the angle between the axis of the actuator piston rod and the expander lever.

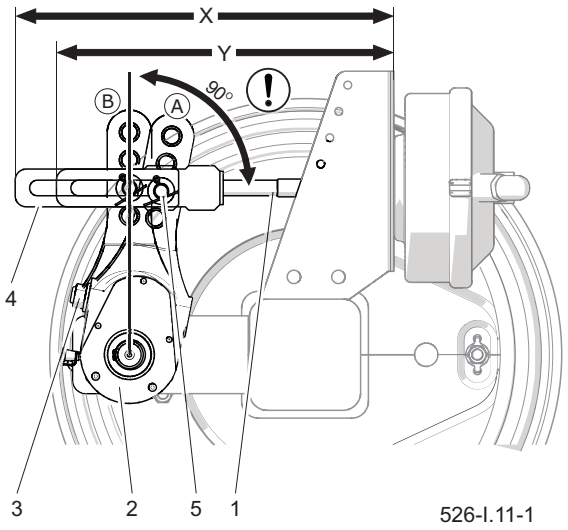

Figure 5.11 Brake check
(1) actuator piston rod (2) expander lever
(3) adjusting screw (4) cylinder fork
(5) pin position
(A) position of the arm in the unbraked position
(B) position of the arm in the brake position

- If the angle of the expander arm (2) and the piston rod stroke exceed the range given in table (5.3), the brake should be adjusted.

I.3.1.526.13.1.EN

5.14 CLEANING OF THE DRAINAGE VALVE

SCOPE OF SERVICE ACTIVITIES

- Fully reduce the pressure in the air reservoir (2).

  The pressure in the tank can be reduced by swinging the drain valve stem.

- Unscrew the valve (1).
- Clean the valve, blow with compressed air.
- Replace the gasket.
- Screw in the valve, fill the tank with air, check the tank for leaks.

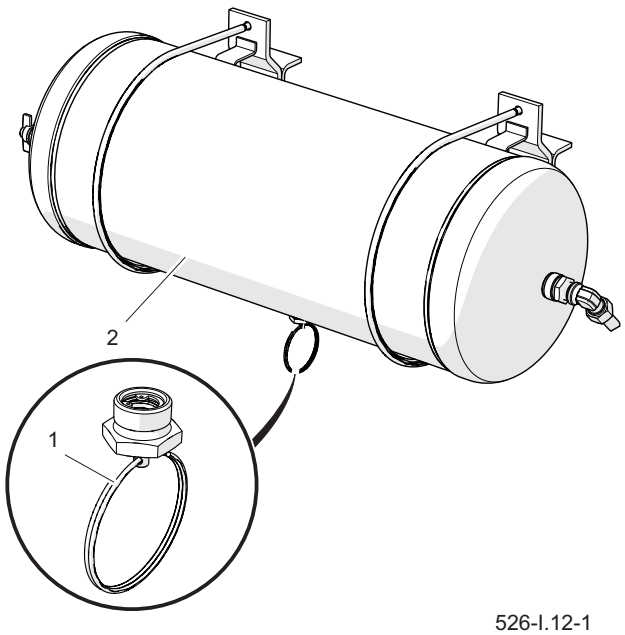

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Figure 5.12 Air reservoir
(1) drain valve (2) tank

I.3.1.526.14.1.EN

5.15 ADJUSTING OF THE PARKING BRAKE CABLE TENSION

TENSION CONTROL

Check the parking brake after checking the mechanical brake of the axle.

- Turn the parking brake crank (2) towards (B) and apply the parking brake.
- Check the cable tension (1).
- When the mechanism screw is completely removed, the cable should hang about 10 to 20 mm.

CABLE TENSION ADJUSTMENT

- Unscrew the bolt of the brake mechanism (2) as far as possible by turning the crank in direction (A).
- Loosen the the nuts (4) of the bow clamps (3) on the handbrake cable (1).
- Tighten the cable (1) and tighten the the nuts (4) of the clamps.
- Apply the parking brake and release it again. Check (approximately) cable slack. With the service and parking brakes fully released, the cable should hang about 10-20 mm. The axle spreader levers should be in the rest position.

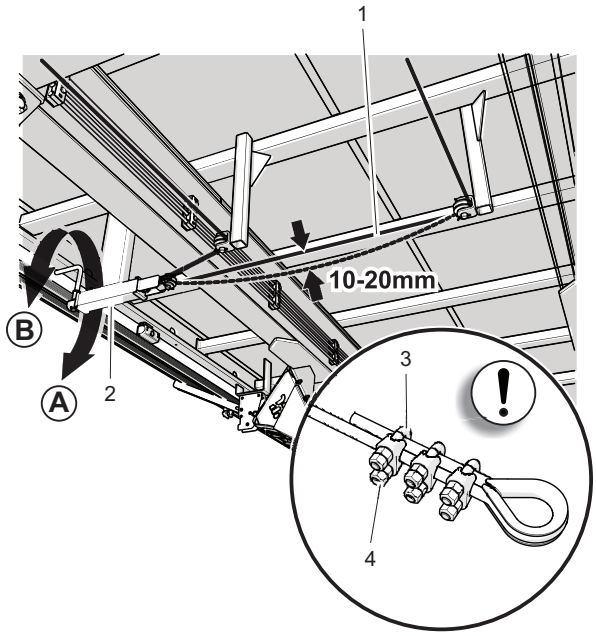

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Figure 5.13 Cable tension adjustment
(1) cable (2) brake mechanism (3) U-shaped clamp
(4) clamp nut

If the brake cable needs to be replaced, refer to *Replacing of the parking brake cable.*

I.3.1.526.15.1.EN

5.16 CHECKING OF THE TIGHTNESS OF THE HYDRAULIC SYSTEM

SCOPE OF ACTIVITIES

- Connect the trailer to tractor.
- Immobilize the tractor and trailer with parking brake.
- Clean the hose connections, hydraulic cylinders and couplings.
- Press and hold the brake pedal (applies to hydraulic and combined brake systems).
- Switch off the tractor engine.
- Check all hydraulic systems for leaks.

REMOVAL OF LEAKS

If visible moisture appears on the cable connectors tighten the the connector with a specified torque and carry out the test again. If the problem persists replace the leaking element.

In the event of oiling on the hydraulic cylinder body, the nature of the leakage must be check. When the cylinder is fully extended, check the the seal locations. Minor leaks with symptoms of "sweating" are acceptable, but if you notice "drop" leaks, stop using the trailer until the fault is repaired. It is forbidden to drive the trailer with a damaged system until the fault is repaired.

I.3.1.526.16.1.EN

5.17 THE PNEUMATIC SYSTEM INSPECTION

SCOPE OF ACTIVITIES

- Start the tractor to supplement the air in the trailer braking system tank.
- Switch off the tractor engine.
- Check the system components with the tractor brake pedal released.
- Pay special attention to cable connections and brake actuators.
- Repeat the system check with the tractor brake pedal depressed.

REMOVAL OF LEAKS

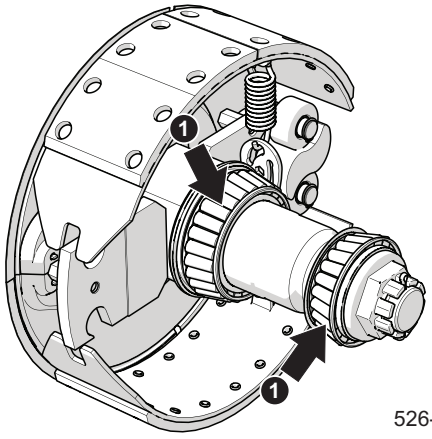
In the event of a leak, compressed air will leak out from the damaged areas with a characteristic hissing sound. The leakage of the system can detect coating checked elements for washing or foaming preparation, which will not interact aggressively to the elements of the installation. Damaged elements should be replaced or sent for repair. If the leak appeared around the connections, user can tighten the connector on their own. If the air continues to leak replace the elements of the connector or sealing into new ones.

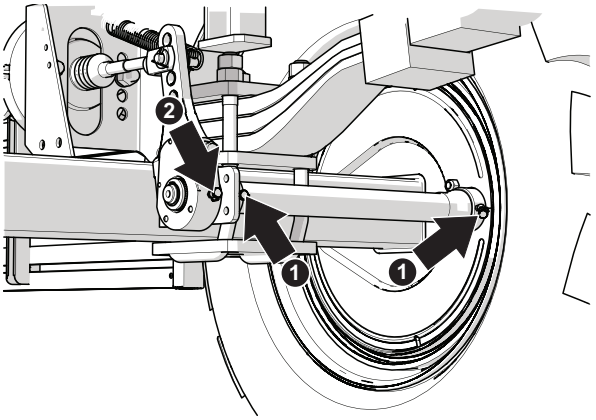
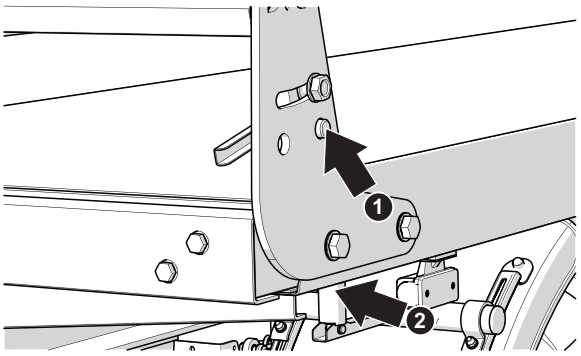
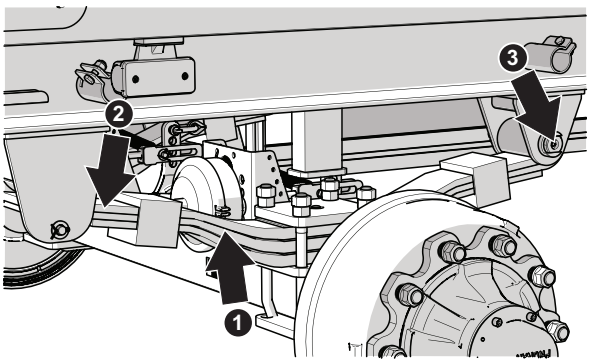
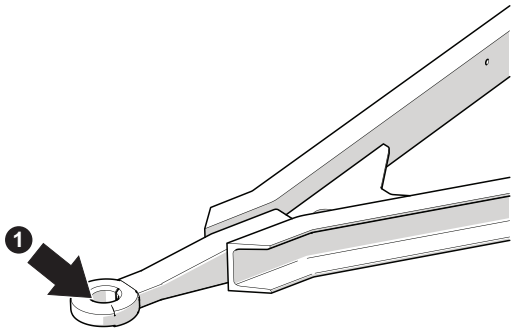
I.3.1.526.17.1.PL

5.18 LUBRICATION

- The trailer should be lubricated with a hand or foot grease gun, filled with the recommended lubricant. If possible, remove old grease and other contaminants before starting work. After finishing work, wipe off excess grease.
- Parts that should be lubricated using machine oil should be wiped with a dry and clean cloth. Apply the oil with a brush or oiler. Wipe off excess oil.
- The replacement of grease in wheel hub bearings should be entrusted to specialized service points equipped with the appropriate tools. Dismantle the entire hub, remove the bearings and individual sealing rings. After thorough cleaning and inspection, install lubricated components. If necessary, replace bearings and seals.
- Empty containers of grease or oil be disposed of in accordance with the lubricant manufacturer's instructions.

Table 5.4 Trailer lubrication schedule

Name	Number of	Type of grease	Frequency	
Hub bearing (1) (2 pieces in each hub)	8	A	24M	 526-I.19-1

Expander shaft bushings (1)	8	A	3M	 526-I.20-1
Expander arm (2)	4	A	3M	
Ladder lock pin (1) and pull-out frame lock pin (2)	6	A	3M	 526-I.21-1
Spring leaves (1)	4	C	3M	 526-I.22-1
Spring sliding surfaces (2)	4	B	1M	
Spring pin (3)	4	B	1M	
Drawbar eye (1)	1	A	14D	 526-I.23-1

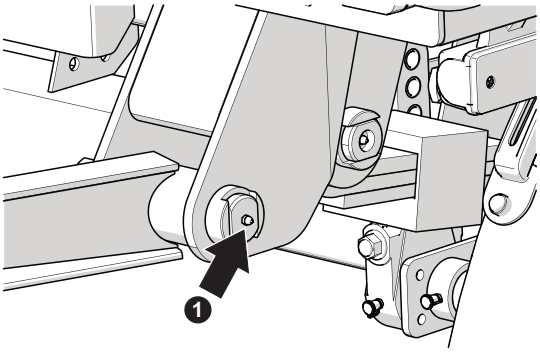
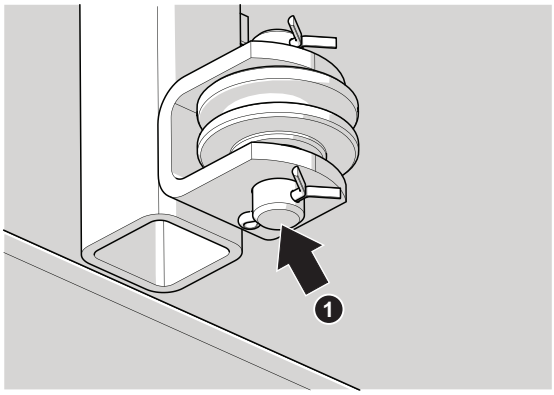
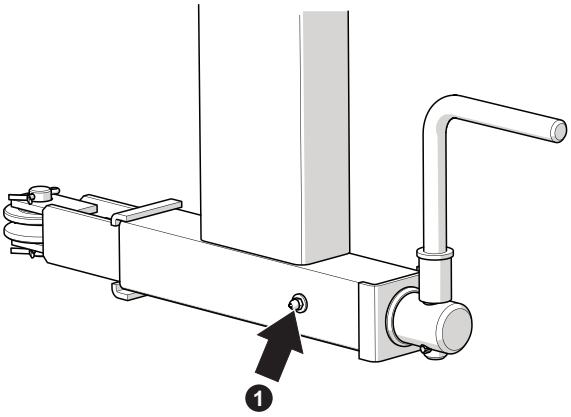
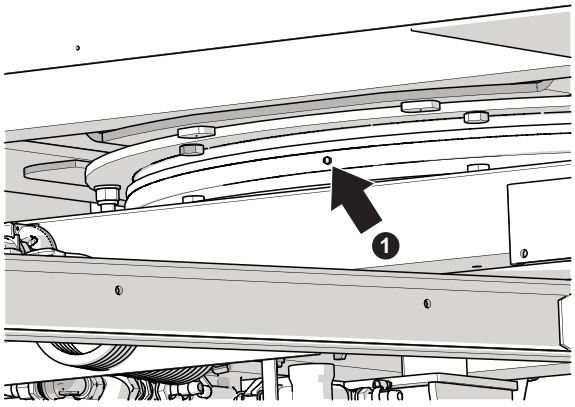
Drawbar pin (1)	2	B	3M	 526-I.24-1
Brake cable guide axle	3	A	6M	 526-I.25-1
Handbrake mechanism	1	A	6M	 526-I.26-1
Turntable	2	B	3M	 526-I.27-1

Table 5.5 Lubricants

Item	Symbol	Description
1	A	General purpose machine grease (lithium, calcium),
2	B	Solid grease for heavily loaded components with the addition of MoS_2 or graphite
3	C	anticorrosive spray
4	D	regular machine oil, silicone spray grease

ADVICE

Lubrication frequency (Table *Trailer lubrication schedule*):
D - working day (8 hours of trailer),
M - month

I.3.1.526.18.1.EN

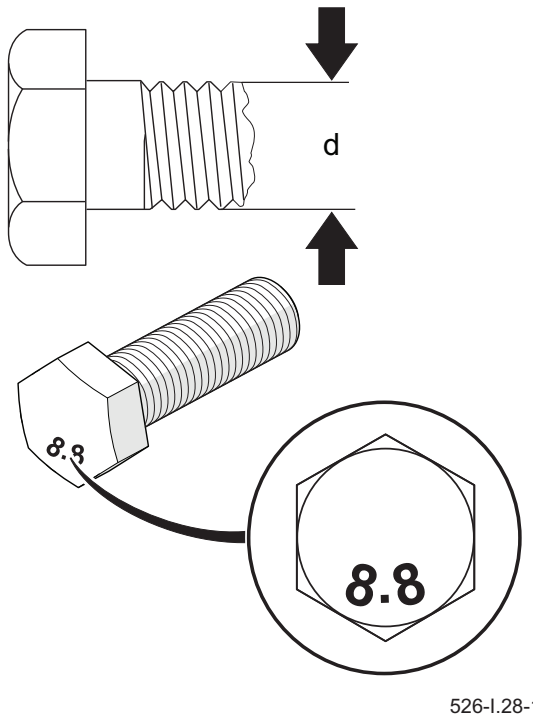
5.19 CHECKING THE TIGHTNESS OF SCREW CONNECTIONS

TIGHTENING TORQUES FOR SCREW CONNECTIONS

During maintenance and repair work, apply appropriate tightening torques to screw connections, unless other tightening parameters are given. Recommended tightening torques for the most commonly used bolted connections are shown in the Table (5.6). The given values apply to non-lubricated steel bolts.

Hydraulic conduits should be tightened with a torque of 50-70Nm.

Check the tightness using a torque wrench. During the daily inspection of the trailer, pay attention to loose connections and tighten the connection if necessary. Replace the lost elements with new ones.



526-I.28-1

Figure 5.14 Screw with metric thread.

Table 5.6 Tightening torque

Metric	Tightening torque:		
	5.8	**8.8**	**10.9**
M8	18	25	36
M10	37	49	72
M12	64	85	125
M14	100	135	200
M16	160	210	310
M20	300	425	610
M24	530	730	1,050
M27	820	1,150	1,650
M30	1,050	1,450	2,100

The wheel nuts be tightened gradually diagonally (in several stages until the required tightening torque is achieved), using a torque wrench. The recommended order of tightening of the nuts and the tightening torque is shown on the figure *Kolejność dokręcania nakrętek*.

Wheel nuts must not be tightened with impact wrenches, due to the danger of exceeding the permissible tightening torque, which may result in breaking the connection thread or breaking the hub pin.

The wheels should be tightened according to the following scheme:

- after first use of the trailer (one-time inspection),
- every 2-3 hours of driving during the first month of use,
- every 30 driving hours.

If the wheel was dismantled, repeat the above steps.

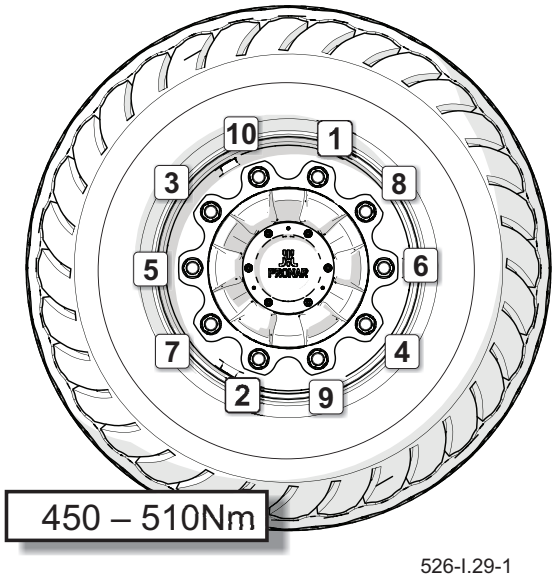
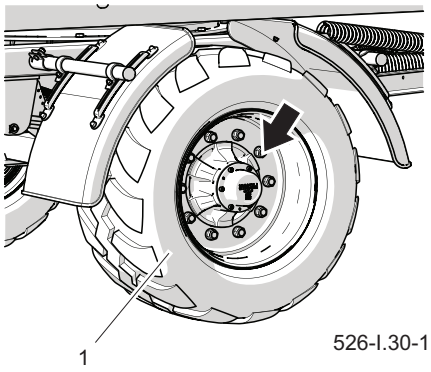
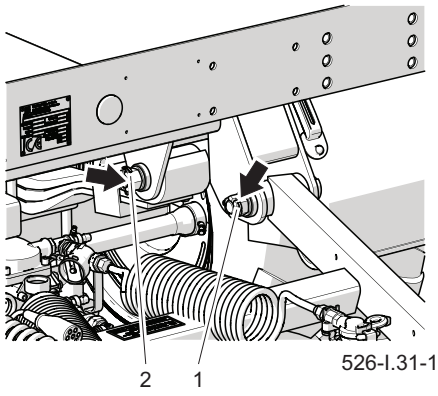
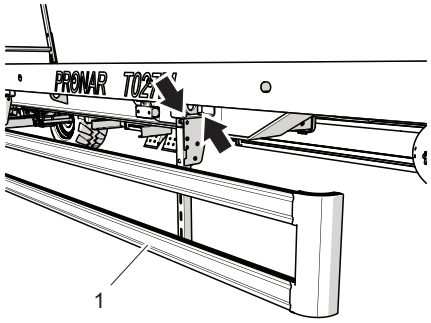
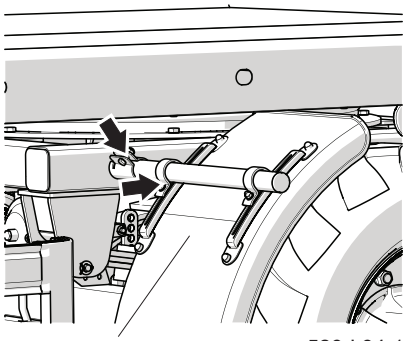
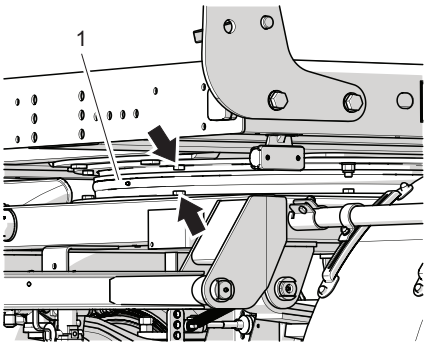
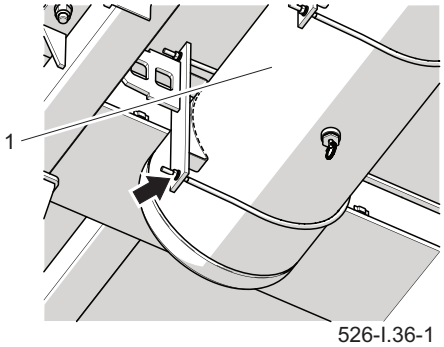
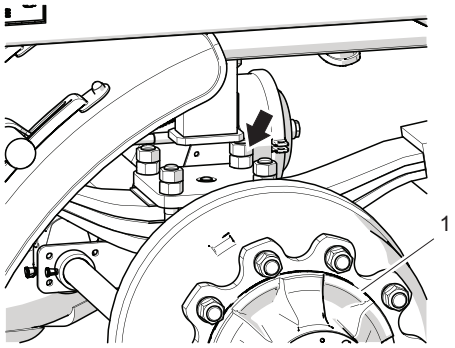
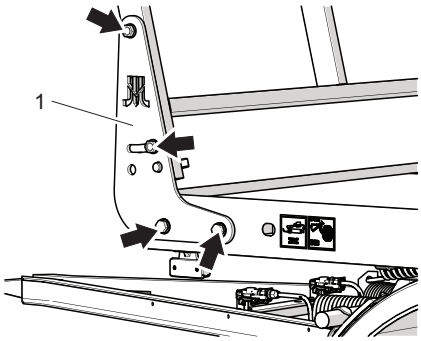
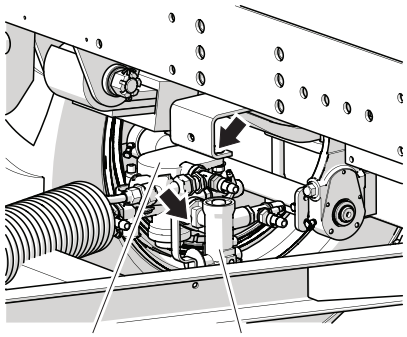
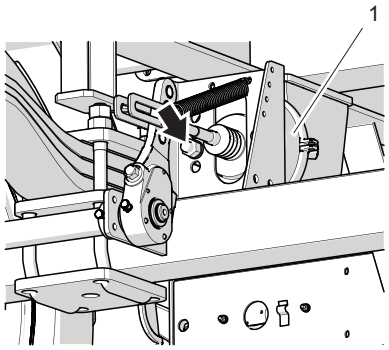


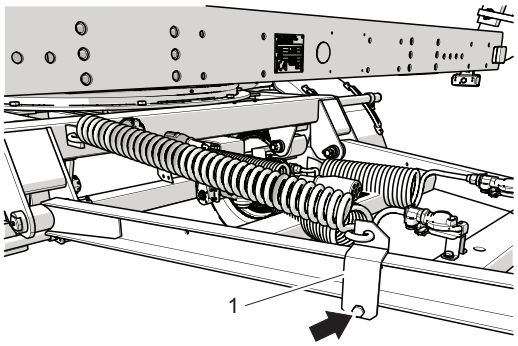
Figure 5.15 Sequence of the nuts tightening

Table 5.7 Schedule for tightening of the critical bolted connections

Layout / part name	Frequency	
Wheel nuts (1)	according to the chapter *Dokręcanie kół jezdnych na stronie <?>*	
Drawbar pin (1) Spring pin (2)	3M	

Layout / part name	Frequency	
Side entry barrier	6M	 526-I.33-1
Mudguards (1)	6M	 526-I.34-1
Turntable	30H	 526-I.35-1
Tank	6M	 526-I.36-1

Layout / part name	Frequency	
Wheel axle (1), (attachment of wheel axle with U-bolts)		 526-I.37-1
Rear ladder (1) /front	3M	 526-I.38-1
Control valve (1), brake force regulator (2)	6M	 526-I.39-1
Brake cylinder (1)	3M	 526-I.40-1

Layout / part name	Frequency	
Spring fixing (1)	3M	 526-I.41-1

I.3.1.526.19.1.PL

5.20 REPLACEMENT OF HYDRAULIC HOSES

Rubber hydraulic hoses should be replaced every 4 years regardless of their technical condition. This operation should be entrusted to specialized workshops.

I.3.1.526.20.1.EN

TECHNICAL SERVICE

CHAPTER 6

6.1 WHEEL INSTALLATION AND REMOVAL

REMOVING OF THE WHEEL

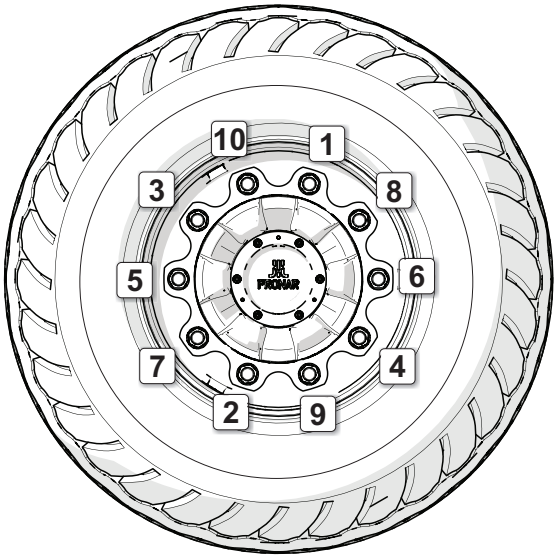
- Before lifting the wheel to be removed, loosen the wheel nuts in the order shown in the drawing.
- Place a jack under the axle sleeper between the U-bolts.
- Raise the trailer to such a height that the wheel to be replaced is not resting on the ground.
- The used lift should have adequate load capacity, it should be technically sound.
- The jack must be placed on an even, hard surface that will prevent it from sinking or slipping during operation.
- If necessary, use properly selected underlays to reduce the unit pressure of the jack base on the ground in order to prevent sinking into the ground.
- Remove the wheel.

WHEEL ATTACHMENT

- Use a wire brush to clean the axle pins and nuts from dirt. If necessary, degrease the thread.

  Do not lubricate the thread of the nut and stud.

- Check the condition of pins and nuts, replace if necessary.
- Put the wheel on the hub, tighten the nuts in such a way that the wheel rim adheres exactly to the hub.
- Lower the trailer, tighten the nuts according to the recommended torque and the given order.



526-I.14-1

Figure 6.1 Sequence of the nuts tightening

DANGER

Before starting work, read the instructions for the lift and follow the manufacturer's instructions.
The jack must stand stably on the ground and the spring plate.
Make sure that the trailer will not roll while removing the wheels.

J.3.1.526.01.1.EN

6.2 REPLACING THE PARKING BRAKE CABLE

- Secure the trailer with additional chokes.
- Unscrew the brake crank bolt (2) as far as it will go.
- Loosen the nuts (4) of the U-clamps (5).
- Remove the shackles, pins, clamps and cable.
- Clean the parking brake components.
- Lubricate the parking brake crank mechanism.
- Attach the thimble, shackle and shackle clamps to one end of the rope. Pay attention to the correct installation of the clamps.
- Install one end of the rope, put on the pin and secure it with new cotter pins.
- Install the other end of the rope in the same way, adjusting the tension of the rope.
- Tighten the nuts.
- Tighten the cable with the crank mechanism and loosen again. Adjust brake cable tension if necessary.

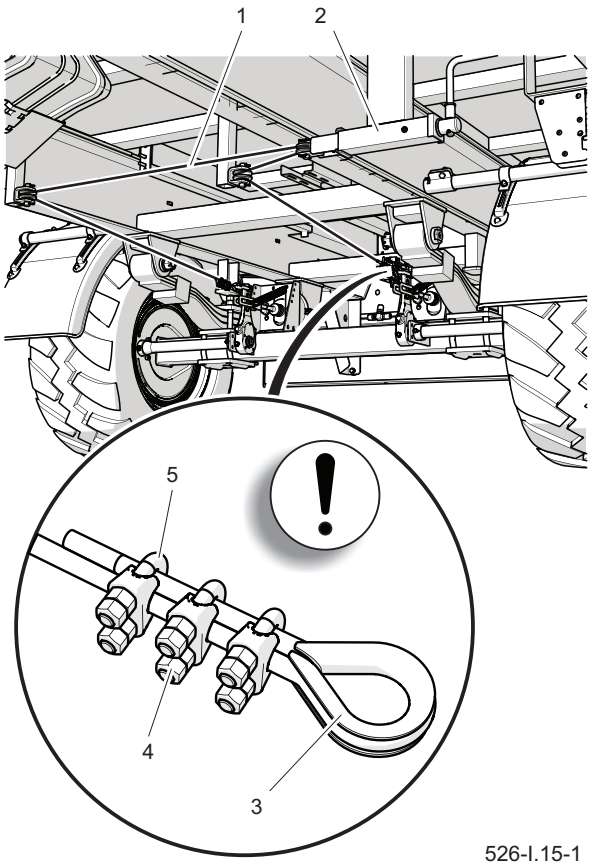


Figure 6.2 Replacing of the parking brake cable

(1) brake cable *(2) brake mechanism*
(3) thimble (4) nut *(5) clamp*

NOTES

The jaws of the clamps must be placed on the side of the load carrying cable - see figure.
Secure the cable ends with heat shrink tubing.
The distance between the clamps should be 40 mm, with the first clamp placed as close to the thimble as possible.

J.3.1.526.02.1.EN

6.3 ADJUSTMENT OF THE CLEARANCE OF WHEEL AXLE BEARINGS

- Remove the hub cover (1).
- Remove the cotter pin (2) securing the castellated nut (3).
- Tighten the castellated nut to remove slack.

  The wheel should rotate with slight resistance.
- Unscrew the nut (3) (not less than 1/3 of a turn) to cover the nearest groove of the nut with a hole in the journal of the axle (the pin's hole is marked with a black arrow in the drawing). The wheel should rotate without excessive resistance.

  The wheel should rotate without excessive resistance. Too strong pressure is not recommended due to the deterioration of bearings.
- Secure the castle nut with a cotter pin and assemble the cap (1).
- Gently tap the hub with a rubber or wooden hammer.

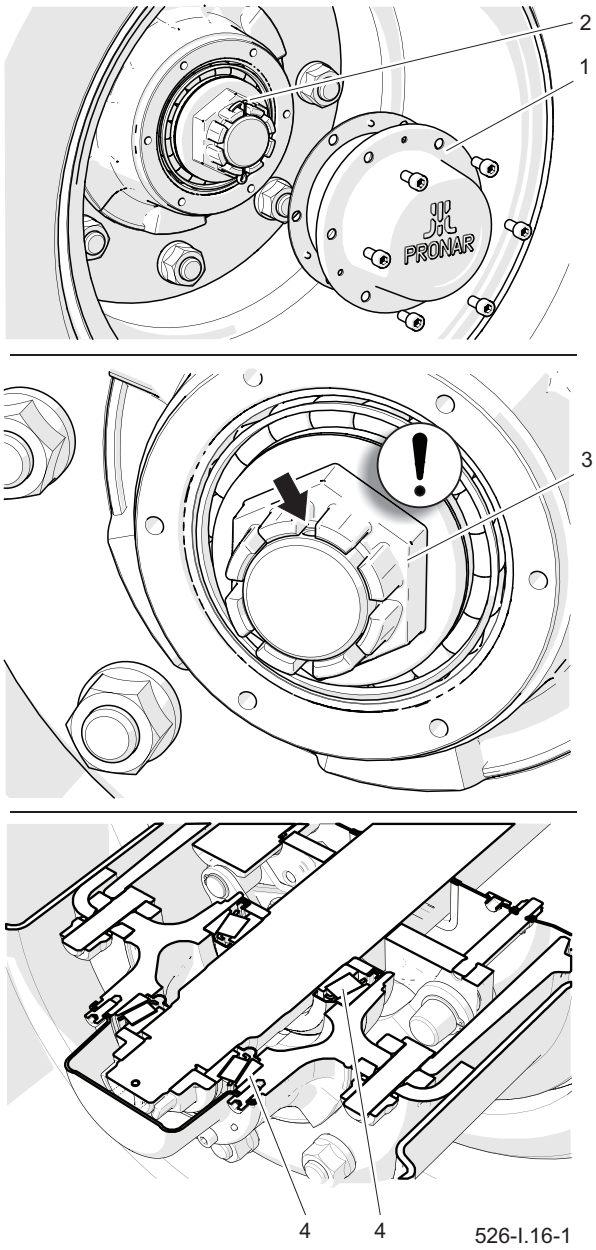


Figure 6.3 The principle of bearing clearance adjustment

(1) hub cover *(2) cotter pin*

(3) nut *(4) tapered roller bearing*

CAUTION

Bearing clearance can be adjusted only and exclusively when the trailer (without load and container) is hitched to the tractor.

J.3.1.526.03.1.EN

6.4 BRAKE ADJUSTMENT

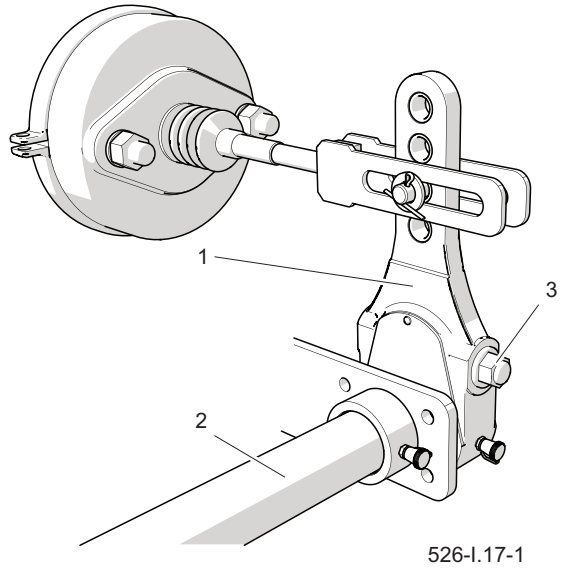


Figure 6.4 Adjustment

(1) expander lever (2) expander shaft

(3) adjustment screw

- Secure the trailer with additional chokes.
- Release the trailer parking brake.
- Remove the cylinder fork pin.
- On the actuator piston rod (1) - figure (6.5) mark with a line the position of the maximum retraction of the piston rod (A).
- Press the brake pedal in the tractor, mark with a line the position of the maximum extension of the piston rod (B).
- Measure the distance between the lines (A) and (B). If the stroke of the piston rod is not within the correct operating range - table (5.3), adjust the expander lever.
- Remember or mark the original position of the pin (6) - figure (6.5) in the hole of the expander lever (3).
- Check the that the cylinder piston moves freely and within the full nominal range.
- Check the correct mounting of the actuator.
- Check the that the actuator ventilation openings are not clogged with dirt and that there is no water or ice inside.

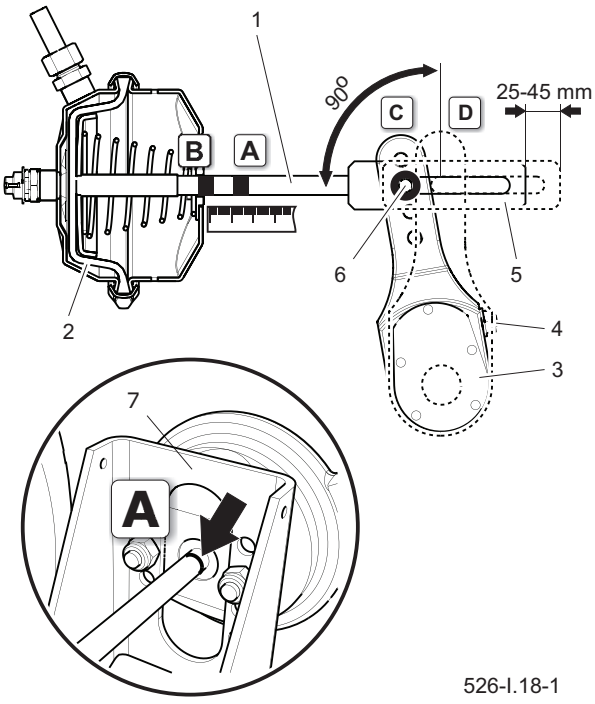


Figure 6.5 Brake adjustment principle

(1) piston rod (2) diaphragm

(3) expander lever (4) adjusting screw

(5) cylinder fork (6) pin position

(7) cylinder support

(A) mark on the piston rod in the released position

(B) the mark on the piston rod in the braked position

(C) position of the arm in the unbraked position

(D) arm in full stop position

- Clean the cylinder, defrost if necessary and drain water through the unblocked ventilation holes. If damage is found, replace the actuator with a new one. When mounting the actuator, keep its original position relative to the bracket (7).
- Turn the adjusting screw (4) so that the marked hole of the expander arm coincides with the hole of the cylinder fork.

  During adjustment, the diaphragm (2) must rest against the rear wall of the actuator.

- Install the piston rod fork pin and washers and secure the pin with cotter pins.
- Turn the adjusting screw (4) clockwise to make one or two clicks in the expander arm adjustment mechanism.
- Repeat the adjustments on the remaining cylinders.
- Apply the brake.
- Wipe previous markings and measure piston rod stroke again.
- If the piston rod stroke is not within the correct operating range, repeat the adjustment.

FUNCTIONAL CHECK

- After completing the adjustment, carry out out a test drive.
- Perform several brakes. Stop the trailer and check the temperature of the brake drums.
- If any drum is too hot, correct the brake adjustment and perform the test drive again.

J.3.1.526.04.1.EN

6.5 CONSUMABLES

HYDRAULIC OIL

It is absolutely necessary to observe that the oil in the trailer's hydraulic system and the tractor's hydraulic system must be of the same type. If different types of oil are used, make sure that both hydraulic means can be mixed together. The use of different types of oil may cause damage to the trailer or agricultural tractor. The new machine is filled with L HL32 Lotos hydraulic oil.

If you need to change the hydraulic oil for another, read the oil manufacturer's instructions carefully. If it recommends flushing of the system with an appropriate preparation, follow these recommendations. It should be ensured that the chemicals used for this purpose do not attack the materials of the hydraulic system. During normal operation of the trailer, it is not necessary to change the hydraulic oil, however, if necessary, this operation should be entrusted to specialist service centres.

Due to its composition, the oil used is not classified as a dangerous substance, however, long-term action on the skin or eyes may cause irritation. In the event of contact of oil with skin, wash the area of contact with water and soap. Do not use organic solvents (petrol, kerosene). Dirty clothing should be removed to prevent oil from getting on your skin. If the oil gets into your eyes, flush them with plenty of water and in case of irritation contact your doctor. Hydraulic oil under normal conditions is not harmful to the respiratory tract. There is only a risk when the oil is sprayed strongly (oil mist) or in the event of a fire where poisonous compounds may be released.

Table 6.1 Characteristics of the L-HL 32 oil

Item	Name	Unit	
1	Viscosity classification according to ISO 3448VG	-	32
2	Kinematic viscosity at 400C	mm^2/s	28.8 – 35.2
3	Quality classification according to ISO 6743/99	-	HL
4	Quality classification according to DIN 51502	-	HL
5	Flash-point	C	230

The oil must be extinguished with carbon dioxide, foam or extinguishing steam. Do not use water to extinguish a fire.

LUBRICANTS

For heavily loaded parts, it is recommended to use lithium grease with the addition of molybdenum disulphide (MOS_2) or graphite. For less loaded components, it is recommended to use general-purpose machine greases that contain anti-corrosive additives and are highly resistant to water washout. Similar properties should be characteristic of aerosol preparations (silicone lubricants, anti-corrosive lubricants).

Before using lubricants, read the information leaflet for the selected product. Particularly important are safety rules and how to handle a given lubricant and how to dispose of waste (used containers, contaminated rags, etc.). The information leaflet (product card) shall be stored together with the grease.

ADVICE

Lubrication frequency (Table Trailer lubrication schedule):
D - working day (8 hours of trailer),
M - month

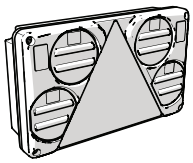
Table 6.2 Lubricants

Item	Symbol	Description
1	A	General purpose machine grease (lithium, calcium),
2	B	Solid grease for heavily loaded components with the addition of MoS_2 or graphite
3	C	anticorrosive spray
4	D	regular machine oil, silicone spray grease

J.3.1.526.05.1.EN

6.6 BULBS

Table 6.3 List of light bulbs used in the lighting installation

Name	Unit	Bulbs	Number of lamps	Bulbs qty
Right rear combination lamp (1)		R10W P21W	1	1 3
Left rear combination lamp (1)		R10W P21W	1	1 3

(1) - does not apply to the version with LED diodes

ADVICE

The light source in the other lamps, not listed in the table, are LEDs and in the event of damage, they are replaced only as a complete lamp, without the possibility of repair or regeneration.

J.3.1.526.06.1.EN

6.7 FAULTS AND METHODS TO REMOVE THEM

Table 6.4 Faults and methods to remove them

Fault	Cause	Removal method
Trouble with starting	Braking system conduits not connected	Connect the brake lines (applies to pneumatic systems)
	Parking brake applied	Release the parking brake.
	Damaged pneumatic system connection conduits	Replace.
	Connections leak	Tighten, replace washers or sealing kits, replace lines.
	Defective control valve or brake force regulator	Check valve, repair or replace.
Noise in the wheel axle hub	Excessive clearance in the bearings	Check the clearance and adjust if necessary
	Defective bearings.	Replace bearings
	Damaged hub components	Replace.
Low efficiency of the braking system	System pressure too low	Check the pressure on the manometer in the tractor, wait until the compressor fills the tank to the required pressure. Damaged air compressor in the tractor. Repair or replace. Damaged brake valve on the tractor. Repair or replace. Installation leak. Check systems for leaks.
Excessive heating of wheel axle hub	Incorrectly adjusted main or parking brake	Adjust the position of the expander arms
	Worn brake linings	Replace the brake shoes
Incorrect hydraulic system operation	Incorrect hydraulic oil viscosity	Check the oil quality make sure that the oils in both machines are of the same grade. If necessary, change the oil in the tractor and/or trailer

Incorrect hydraulic system operation	Insufficient tractor hydraulic pump performance, tractor hydraulic pump defective..	Check the hydraulic pump in the tractor.
	Damaged or dirty actuator	Check the actuator piston rod (bending, corrosion), check the actuator for tightness (piston rod seal), repair or replace the actuator if necessary.
	The actuator is overloaded	Check and if necessary reduce the load on the actuator.
	Damaged hydraulic lines	Check and make sure that the hydraulic conduits are tight, not kinked and properly tightened. Replace or tighten if necessary.
Excessive wear on both sides of the left and right shoulder of the tire.	Air pressure too low. Driving speed too high when cornering with a loaded trailer. Too fast loss of air due to a damaged rim, valve, puncture, etc.	Check air pressure. Check the road tires for proper inflation regularly. Trailer load too high. Do not exceed the permissible total weight of the machine. Reduce travel speed when cornering on paved surfaces. Check the rim and valve. Replace damaged parts.
Excessive wear of the tire in the centre section.	Air pressure too high.	Check air pressure. Check the road tires for proper inflation regularly.
Excessive one-sided wear of the left or right shoulder tire	Incorrect convergence. Driving axles incorrectly adjusted.	Damaged spring leaf on one side of the suspension. Replace the springs.
Tread wear.	Damaged suspension system, broken spring. Damaged brake system, blocking of the brakes, incorrectly adjusted brake system. Too frequent and sudden braking.	Check the clearance in the suspension system, check the springs. Replace damaged or worn parts. Check the brake system for malfunction. Adjust the trailer levers.

Lateral fracture.	Long-term driving on a tire with low air pressure. Trailer load too high.	Check tire pressure regularly. Check the weight of the load while loading.
Abrasions on the lateral outer edge of the tire.	Driving over sharp, high obstacles (e.g. curbs) too often.	Control your driving technique.
Damage to the rim (hardening and cracking in the area of the rim), crumbling of the tire.	Incorrect braking technique. Too frequent sudden braking. Damaged braking system.	Check the braking system. Control braking technique. The damage is caused by excessive heating of the hub and, as a result, of the road wheel rim.

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COMPLETION OF TIRES

CHAPTER 7

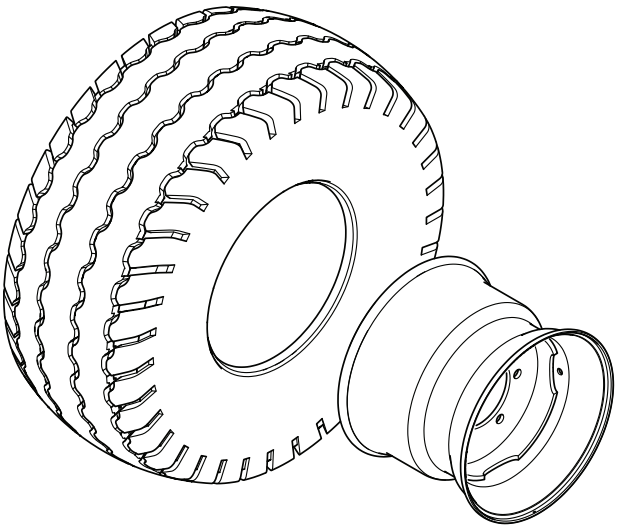

Table 7.1 Trailer tires

Item	Tire	Rim
1	445/45R19.5; 160J, KINBLY (DOUBLESTAR) TAX106/ DSR106	14x19,5 ET=-30
2	445/45R19.5; 160J, LINGLONG T820	14x19,5 ET=-30
3	445/45R19.5; 160J, LEAO T820	14x19,5 ET=-30
4	445/45R19.5; 160J, Longmarch LM168	14x19,5 ET=-30
5	560/45 R22,5 Alliance 390 152D (163A8) TL	16.00x22.5H2 ET=+10
6	560/45 R22,5 RIDEMAX FL-693M 152D 149E (163A8) TL	16.00x22.5H2 ET=+10
7	560/45 R22,5 COUNTRY KING 152D (163A8) TL	16.00x22.5H2 ET=+10
8	560/45 R22,5 FLOTATION PRO 152D (163A8) TL	16.00x22.5H2 ET=+10
9	500/60R22,5 165A8, „Dneproshina” DT-45 UN	16.00x22.5H2; ET=-30
10	500/60R22,5 155D (166A8), „BKT” AGRIMAX FL-630 TL	16.00x22.5H2; ET=-30
11	500/60R22,5 155D (166A8), „Nokian” Country King TL	16.00x22.5H2; ET=-30
12	500/60R22,5 155D (166A8), „Trelleborg” Twin Radial TL	16.00x22.5H2; ET=-30
13	500/60R22,5 155D (166A8), „Alliance” Flotation 390	16.00x22.5H2; ET=-30
14	500/60R22,5 155D (166A8), „Alliance” Flotation 388	16.00x22.5H2; ET=-30
15	500/60R22,5 155D (166A8), „Michelin” CargoXbib	16.00x22.5H2; ET=-30
16	500/60R22,5 155D (166A8), „TianLi” AgroGrip	16.00x22.5H2; ET=-30
17	385/65 R22.5 TL BU49, Barum	11.75x22.5 ET=-30
18	385/65 R22.5 TL Cargo MS, Sava	11.75x22.5 ET=-30
19	385/65 R22.5 TL TMP3000, Firestone	11.75x22.5 ET=-30

Item	Tire	Rim
20	385/65 R22.5 TL M748, BRIDGESTONE	11.75x22.5 ET=-30
21	385/65 R22.5 TL Cargo C4, Sava	11.75x22.5 ET=-30
22	385/65 R22.5 TL Ling Long LLA18, Ling Long	11.75x22.5 ET=-30
23	385/65 R22.5 TL Double Star 588, DOUBLE STAR	11.75x22.5 ET=-30
24	385/65 R22.5 TL Double Star 118, DOUBLE STAR	11.75x22.5 ET=-30
25	385/65R22.5reg. 160F TL, „Bandenmarkt” *Y1	11.75x22.5 ET=-30
26	385/65R22.5reg. 160F TL, „Geyer&Hosaja” FARMER-Y1	11.75x22.5 ET=-30
27	385/65R22.5reg. 160F TL, „DeMolen” MY-1	11.75x22.5 ET=-30
28	385/65R22.5reg. 160F TL, „Guma-Bolechowo” Y-1	11.75x22.5 ET=-30
29	385/65R22.5reg. 160F TL, „Mitas” AR-01	11.75x22.5 ET=-30