



REPAIR & MAINTENANCE MANUAL
FARM TRAILER
T711

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ATTENTION!

When repairing and maintaining this machine, use only the Repair & Maintenance Manual specified for this machine's model.

1. Trailer identification

The trailer is identified by means of the rating plate and the VIN number. The rating plate is located on the right-hand side of the front crossbar of the trailer-load=platform frame. The VIN is stamped on the right-hand side of the front crossbar of the trailer-chassis frame, and on the rating plate (Fig. 1).

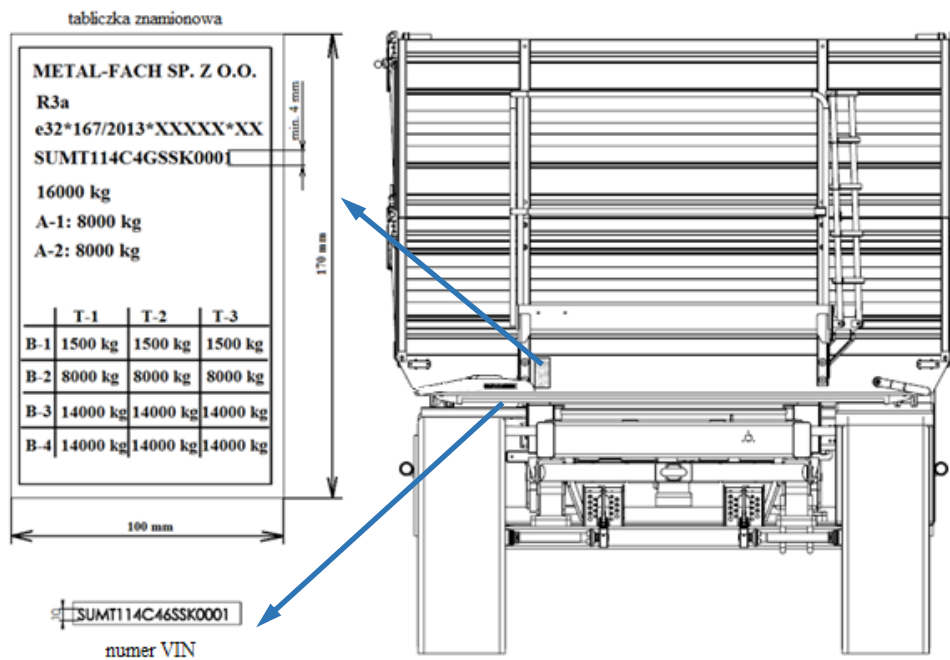
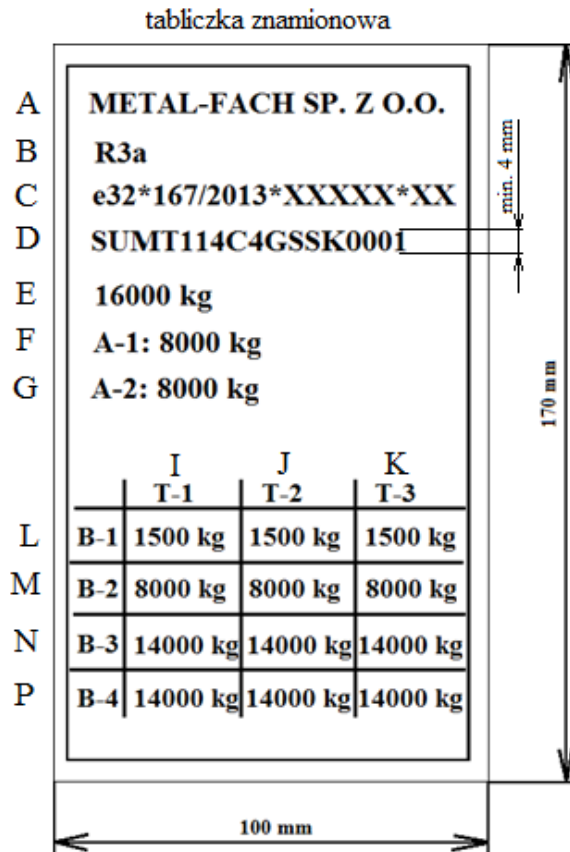


Figure 1 Rating plate and VIN number



Key to the fields on the nameplate

- A - Name of manufacturer
- B - Vehicle category, together with sub-category and speed code
- C - EU type-approval number
- D - VIN
- E - Technically permissible maximum laden mass
- F - Technically permissible maximum laden mass on the front axle
- G - Technically permissible maximum laden mass on the rear axle
- I - Technically permissible towable laden mass with a drawbar
- J - Technically permissible towable laden mass with a rigid drawbar
- K - Technically permissible maximum towable laden mass with a centre axle
- L - Technically permissible towable laden mass without a brake
- M - Technically permissible towable laden mass with an inertia-braking system
- N - Technically permissible maximum towable laden mass with a continuous or semi-continuous braking system
- P - Technically permissible towable laden mass with a hydraulic or pneumatic braking system

2. Storage

The trailer should be protected against the direct effects of the weather (e.g. sunlight, rain) and should stand on a solid surface with its drive wheels secured with chocks. Reduce pressure in the tyres and cover them in case they are exposed to prolonged sunlight.

If the trailer is exposed to weather conditions, check from time to time that no rainwater is accumulating on it. Make sure the painted surface is intact. Any damage to the protective coating must be cleaned, degreased and then reapplied, using the same colour and uniform thickness as the protective coating.

Long-term storage is only permitted indoors.

3. Cleaning the trailer

Clean the machine before any prolonged period of inactivity, and after transporting any corrosive material, or whenever necessary. Comply with the following guidelines for cleaning the trailer.

The machine should be cleaned in areas designated for this purpose, at an air temperature above zero degrees.

The first step in the trailer cleaning is to open the side panels and extensions of the trailer to remove any material left after transport operations. After this preparation you can start washing the trailer.

The trailer should be washed with clean water or water and a detergent. Prior to using different types of detergents, read the information on their applicability and assess whether they can be used to wash the trailer.

The use of any sort of organic solvents, or other substances which could damage the painted surfaces or the rubber or plastic parts, is prohibited.

A pressure washer can be used to wash the trailer. Beforehand, please read the operating instructions supplied with the washer. When using a pressure washer, maintain a safe distance between the nozzle and the surface of the trailer. The minimum distance is 50 cm. When cleaning the trailer with a pressure washer, it is forbidden to direct the water stream onto hydraulic and pneumatic system components, i.e. onto hoses, valves, cylinders, plugs, electrical connectors, etc., or onto lubrication points, information and warning signs or onto the rating plate of the trailer.

The trailer comes with elements made of plastic, for which the use of clean water, or water with a special detergent specially for this type of surface, is recommended.

Oil or grease-stained surfaces should be cleaned with agents designed for this type of contamination. Other degreasing agents can also be used to clean this type of contamination. Before you use them, it is recommended to read the information on how to use them to clean a specific surface. After degreasing a soiled surface, wash it with water and a detergent intended for this purpose.

When using various types of detergent and organic agents, bear in mind that they can have an adverse effect on the components of the machine, especially gaskets and flexible hoses. Some substances can promote wear of the material. Only special cleaning and maintenance agents made for the surfaces in question can be used. Always read and go by the information provided with the cleaning and maintenance products.

Lubricate all lubrication points after washing and drying the machine.

4. Storage

Store the trailer in a covered area (preferably on a level and hard surface) and in such a way as to preclude injury to persons and animals.

If the trailer is not to be used for a long period of time, ensure that the machine is protected from the weather conditions. Preparations to leave the trailer unused for a long time include the thorough cleaning and drying of all machine components, including tyres and rims, according to guidelines described in section 1.6. "Cleaning the trailer".

Care must be taken to ensure that there are no corroded areas. For this purpose, these patches should be coated with primer paint (after the appropriate preparation) and a top coat. Follow the instructions of the paint manufacturer.

When preparing the trailer for a long period of inactivity, lubricate the machine parts regardless of the date of the previous lubrication.

Check the below from time to time during prolonged periods of inactivity. If the pressure is too low, inflate the tyres.

It is recommended to reposition the wheel in relation to the ground every 14 days, so that the contact surface between the tyre and the ground changes during prolonged periods of inactivity.

The trailer's tarpaulin should be washed and dried before being stored for an extended period of time. Store the tarpaulin unfolded, or in a folded way which does not result in creasing the material.

5. Trailer dismantling and disposal

If the user decides to dispose of the machine, the regulations in force in the respective country regarding the disposal and recycling of end-of-life machines must be observed. A certificate, issued at a scrapyards designated by the competent authority, shall be the basis for the trailer de-registration.

The first step in the trailer disassembly is to completely remove the fluid from the hydraulic system. Then, completely reduce the air pressure in the pneumatic-brake systems.

Redundant or worn-out components, or those which are not fit for the regeneration or repair processes, should be handed over to a suitable facility which collects recyclable materials. For environmental reasons, the hydraulic fluid must be handed over to the plant which deals with the disposal of such material

6. Preparing the machine for operation

The operator must check the technical condition of the trailer before each operation. Read the operating instructions and observe all the instructions and notes set out there. It is essential for the safe use of the machine that you know its design and principles of its operation.



ATTENTION!

The user is obliged to inspect the trailer on delivery, and prior to the first use, and to read the operating instructions.

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The trailer must be inspected for

- completeness of standard and optional equipment
- coating condition
- the condition of the road wheels and tyre pressure
- the technical condition of the hydraulic hose lines
- the technical condition of the air hoses
- lighting components.

The trailer must be prepared before it can be coupled up for the first time. To do this, check that the nuts fixing the road wheels are tightened correctly and drain the air tank in the braking system.

6.1. Coupling and uncoupling the trailer from the tractor

Make sure the trailer and the tractor are in good technical condition before coupling up the trailer. Only use the tractor's upper transport link when coupling the trailer. Carefully check the hitch safety device. If the tractor is fitted with an automatic hitch, make sure that the coupling operation has been successful. Use special caution when coupling and uncoupling the machines.

It is forbidden to stand between the trailer and the tractor when coupling them. It is forbidden to uncouple the trailer when the load platform is raised. When coupling and uncoupling the trailer, the machine must be held stationary by means of the parking brake.

Improper use or failure to follow the instructions in the user manual can endanger the health of both the trailer operators and bystanders.

6.2. Trailer start-up



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ATTENTION!

The tractor operator must read the instructions manual and follow the guidelines in it.

The trailer must be combined only with a tractor which is in good working order and which is fitted with an operational transport hitch, and a pneumatic system, as well as signalling and warning systems.

The trailer may only be used and operated by persons authorised to drive farm tractors with trailers.

If you do not fully understand the information in the User Manual, please contact your dealer or technical service.

Before the trailer start-up, follow the procedure

- 1) Learn the names and positions of the individual trailer units/components,
- 2) Check the tyre pressures
- 3) Couple up the trailer to the tractor
 - Set the drawbar eye at the height of the transport hitch of the tractor.
 - Couple the drawbar eye with the tractor hitch
 - Secure the hitch pin against falling out
 - Switch off the tractor engine
 - Apply the tractor parking brake
 - Couple the pneumatic and electric systems to the corresponding sockets on the tractor
 - Check the functioning and air-tightness of the trailer's and tractor's pneumatic and electrical systems
 - Check all the devices their connection and protection against unintentional disconnection or repositioning.
- 4) Switch off the trailer's parking brake

This must be done at each start of the trailer.

6.3. The safety tarpaulin

The trailer can optionally be equipped with a safety tarpaulin. The tarpaulin is used for the temporary protection of the trailer against weather conditions and against the falling out of loose loads during transport passes. Care should be taken not to leave rainwater on the tarpaulin, as it causes its deformation. The tarpaulin protection is not suitable for use in frosty conditions. Low temperatures make the tarpaulin material weaken, which manifests itself in cracking.

6.4. Coupling and uncoupling a second trailer

It is possible to couple a second trailer to the first one. Before coupling the second trailer, read its User Manual and observe its instructions. Remember the following when coupling an additional trailer:

- The permissible weight of the towed trailer depends on the trailer variant and must not exceed the weight of the first trailer

- Before coupling the trailer, check whether both trailers are in good working order
- Standing between the machines during coupling is forbidden. Any person assisting with the machine coupling activity must keep away from the danger area and be visible to the operator.

The procedure for coupling the second trailer.

- 1) Park the tractor with the first trailer coupling straight in front of the drawbar of the second trailer.
- 2) Use the parking brake to immobilise the second trailer.
- 3) Remove the rear coupling pin in the first trailer.
- 4) Set the drawbar of the second trailer in a position to be coupled.
- 5) When reversing the tractor, drive the rear hitch of the first trailer onto the other one's drawbar.
- 6) Secure the connection with the pin, and the pin with a locking pin.
- 7) Connect the pneumatic and electrical lines according to the instructions in the User Manual.

6.5. The pneumatic and hydraulic systems

The pneumatic system is under high pressure. When connecting the pneumatic hoses to the tractor's pneumatic system, ensure that the valves on the tractor and trailer are not under pressure. Check the air connection regularly and replace parts if damaged or worn. Check the lines for leaks, as escaping air is not to be allowed. The replacement of the lines must follow the manufacturer's technical requirements. Replace flexible hoses every five years, unless damage is found earlier.

Before carrying out any repair work, remove pressure from the pneumatic system and switch off the tractor engine. Any repairs of the pneumatic system may be carried out only by an authorised representative of the trailer manufacturer.

The trailer's hydraulic system is also under high pressure. Check the condition of hydraulic lines on a regular basis. Oil leaks are not to be left unsealed. In the hydraulic system, there is a shut-off valve which limits the tilt angle of the load platform. The User is forbidden to adjust the length of the control rope.

When coupling the hydraulic hoses to the tractor, make sure that the hydraulic system on the tractor and trailer is depressurised. If necessary, reduce the residual pressure in the system.

There is a risk of injury from strong hydraulic fluid jets. In such cases, seek medical advice immediately. If oil gets into your eyes, rinse them with plenty of water. However, if your eyes are irritated, you must see a doctor. Use soap and water to wash the skin which has come into contact with oil. Do not use organic solvents such as kerosene or gasoline.

After replacement, dispose of the used oil. Storing the used oil in their original containers, or in replacement packaging resistant to hydrocarbons is recommended. Replacement containers may be used provided they are properly described and stored. It is forbidden to store the oil in food-storage containers.

Hydraulic rubber hoses are to be replaced every four years, regardless of their technical condition, unless any faults have been found earlier.

In the event of any failure in the pneumatic or hydraulic systems, the trailer must be disconnected from operation immediately.



Replace the flexible pneumatic hoses every five years, unless damage is found earlier.

Hydraulic rubber hoses are to be replaced every four years, regardless of their technical condition, unless any faults have been found earlier.



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The hydraulic oil purity required according to ISO 4406-1996 is 20/18/15.

6.6. Information about tyres

During any work with the tyres, apply the parking brake and secure the wheels with chocks to immobilise the machine.

Wheel disassembly is only permitted when the trailer-load platform is empty. Use suitable tools to repair the wheels. In relation to the risks associated with the handling and repair of the tyres, the service technician must be appropriately qualified. It is recommended to check the nuts after the first use, after the first pass with the load, and then, during intensive use of the machine, every 100 kilometres. Repeat the inspection every time you remove the wheels.

Regularly check the tyre pressures. The tyre pressure can change during all day use. Adjust the speed and load capacity to the tyre pressure. Recommended Sava tyre pressure is 9.0 bar.

Overinflating the tyre can cause blow-outs.

Clean the spray-suppression system regularly.



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ATTENTION!

Maintain the correct tyre pressures.



Clean the spray-suppression system regularly.

The placement points of the lifting jack are shown in Fig. 2.

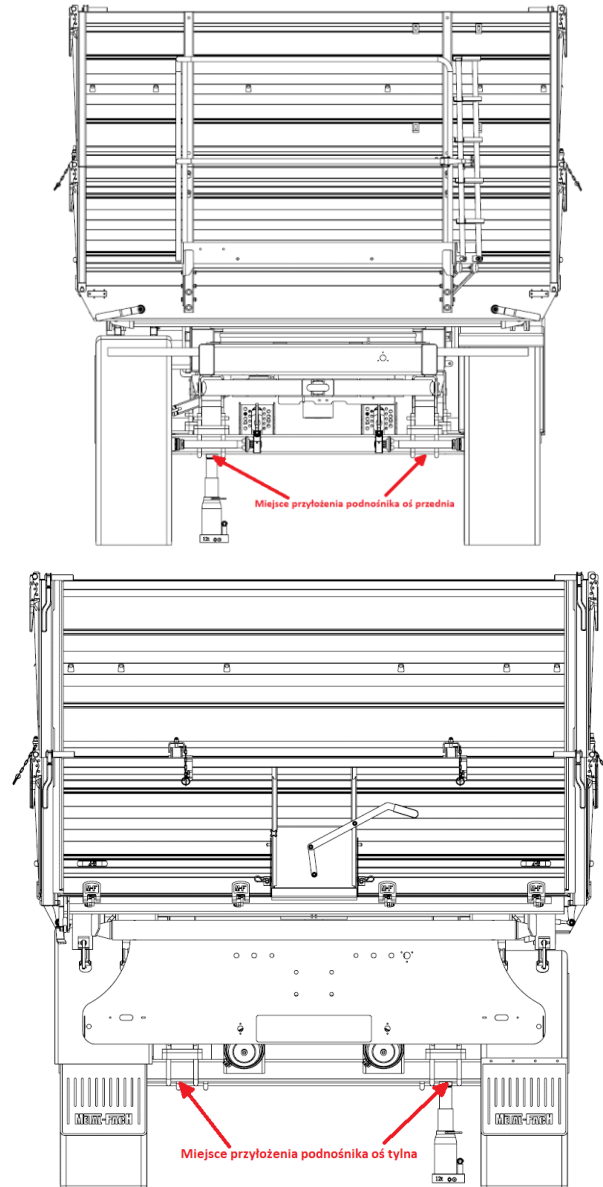


Figure 2 The lifting-jack placement points

6.7. Checking the bearing play of the running-axle bearings

It is advisable to check the bearing play of the running axle regularly. This inspection should be carried out on your newly purchased trailer after you have driven the first 100 km. During operation, after approximately 1500-2000 km, check the play again, and, if necessary, adjust it.

Follow the procedure below to adjust the bearing play.

- 1) Couple the trailer to the tractor and apply the tractor's parking brake.
- 2) Raise one side of the trailer so that the wheel does not touch the ground, and secure it against falling.
- 3) If the wheel shows excessive play, remove the hub cover and remove the locking pin which secures the castellated nut against accidental loosening.
- 4) Keep on rotating the wheel and simultaneously tighten the castellated nut until the wheel comes to a complete stop.
- 5) Loosen the nut by 1/6-1/3 turns, enough for the nearest pin groove to be in line with the hole in the hub pin.
- 6) Secure the nut with a new locking pin, then replace and screw on the hub cover. Couple the trailer to the tractor and apply the tractor's parking brake.
- 8) Raise one side of the trailer so that the wheel does not touch the ground, and secure it against falling.
- 9) If the wheel shows excessive play, remove the hub cover and remove the locking pin which secures the castellated nut against accidental loosening.
- 10) Keep on rotating the wheel and simultaneously tighten the castellated nut until the wheel comes to a complete stop.
- 11) Loosen the nut by 1/6-1/3 turns, enough for the nearest pin groove to be in line with the hole in the hub pin.
- 12) Secure the nut with a new locking pin, then replace and screw on the hub cover.

If the bearing-play adjustment is carried out correctly, the wheel should rotate freely, without hindrance or evident resistance (other than from the friction of the brake shoes against the drum). Slight friction of the shoes against the drum in a new machine or after brake replacement is a typical occurrence. The correct adjustment of the bearing play must ultimately be checked by monitoring how much the hubs heat up after a few kilometres' ride. In addition to the improper adjustment of bearing play, significant resistance to wheel rotation, and hub heating, can be caused by grease, dirt, or bearing damage. The above symptoms require the wheel hub to be removed and the malfunction to be rectified.

6.8. Lubrication

Proper lubrication is one of the most-important factors on which the smooth operation of individual trailer units and mechanisms depends.


Adhering to the manufacturer's lubrication instructions significantly reduces the risk of damage or premature wear to individual components.

Lubrication must be carried out in accordance with the following procedure

- Clean the grease nipple before pumping the grease
- The grease must be pumped until fresh grease appears in the gaps through which the used grease escapes during pumping
- After the lubrication, leave some grease on the grease-nipple head.

Use oil to lubricate all threaded connections, lever junctions, etc.

Checking the lubrication of the wheel-hub bearings at least once every 3 months is recommended. Change or refill the bearing grease once a year. When changing the grease, dismantle the hub, remove the used grease, evaluate the condition of the bearings (replace with new ones if necessary) and after you have applied fresh grease and mounted the hub adjust the bearing play.



ATTENTION!
Use only high-grade bearing grease.
It is forbidden to drive without the hub cover, as dirt (sand) will damage the wheel bearings.

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Table 1. Lubrication points

Point of lubrication	Grease grade	Lubrication interval
Wheel hub bearings	ŁT 43	At least every 3 months
Hydraulic cylinder-head socket	Graphite grease	At least every 3 months
Load-platform tilting system components	ŁT 43	At least every 3 months
Eye hitch	ŁT 43	At least every 3 months

Other components which require regular lubrication

- 1) Movable parts of locks, hinges and articulated joints
- 2) Moving brake components (levers and pins)

If the lubrication of the brake-shoe axle bearings is necessary, it must be carried out with very little grease.

6.9. Loading and unloading the load platform

The loading and unloading of the load platform must be carried out by a person experienced in this type of work.

The platform may only be loaded if the trailer is coupled with the tractor, standing on level ground, and with the drawbar in the straight direction of the ride. The use of mechanical loading devices (crane, loader, conveyor, etc.) is advisable for loading. Before loading, make sure that the side panels and extensions are locked. When loading a trailer, ensure that the load is evenly distributed over the entire floor surface of the load platform. When transporting materials which exert a point load on the floor of the platform (concentrated loads, e.g. large stones), thick boards should be placed on the floor before loading. This will reduce the surface load on the floor and protect it from damage. When transporting materials protruding beyond the contour planes of the trailer, the road-traffic regulations must be observed, and the protruding load must be marked accordingly. Keep a safe distance from overhead power lines when lifting the load platform. Special care must be taken when operating the load platform to avoid crushing your fingers.

The transport of persons, animals and dangerous materials is prohibited. It is forbidden to lift the load platform when the side panels are closed. It is forbidden to jerk the trailer forward if the loose bulk loads or loads which are difficult to dump have not been unloaded yet. After unloading has been finished, make sure that the load platform is empty. Riding with the load platform lifted is strictly prohibited. It is forbidden to enter or reach between the open side

panels and the load platform. Standing in the unloading/loading area is forbidden. The operator must ensure adequate visibility, and that there are no bystanders in the loading/unloading area.

When rectifying defects in the load platform, lower the platform or, if it is necessary to raise it, secure it with a prop. The load platform must be empty, and the trailer must be secured with the parking brake and wheel chocks.



	<p>ATTENTION! It is forbidden to exceed the permissible load capacity of the trailer and the permissible axle loads, as this endangers road safety, and can damage the trailer. The load carried must be protected against change of position, excessive noise, and spillage on the road.</p>
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	<p>ATTENTION! The carriage of persons on a trailer is prohibited.</p>
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Table 2. Lubrication points

Point of lubrication	Grease grade	Lubrication interval
Wheel-hub bearings	ŁT 43	At least every 3 months
Hydraulic cylinder-head socket	Graphite grease	At least every 3 months
Load platform-tilting system components	ŁT 43	At least every 3 months
Eye hitch	ŁT 43	At least every 3 months

Other components which require regular lubrication

- Movable parts of locks, hinges and articulated joints
- Moving brake components (levers and pins)

If the lubrication of the brake shoe axle bearings is necessary, it must be carried out with very little grease.

7. Scheduled maintenance

7.1. Technical-service activities

The transport capacity and long service life of farm trailers can only be achieved if they are handled correctly and used reasonably, within the limits of the structural and functional parameters.

Any minor negligence in the operation of the trailer can have serious consequences. Any defect revealed over time is easy to be remedied at minimum cost and effort, and with maximum effect.

Any defect in the trailer can only be revealed quickly if the trailer is cleaned on a regular basis and inspected carefully.

Therefore, wash the trailer frequently and note any possible damage or malfunctions.

The trailer shall also be subject to periodic technical inspection. The trailer must be lubricated in accordance with the lubrication instructions.

Storage of the trailer is recommended in a covered area in order to protect the trailer from the detrimental impact of changeable weather conditions.

For the trailer to function properly, it must be maintained, repaired in good time and monitored with great care during operation.

The daily maintenance of the trailer (before starting works) involves at least the following activities to be performed

- Ensure that the fixing components are tightened properly and secure them against accidental loosening;
- Inspect the play of the devices and articulated joints for correctness
- Check the hydraulic system for leaks and remove, if any
- Check the tightness of the pneumatic system
- Check the correct functioning of the devices
- Check the machine for correct lubrication and carry out lubrication according to the Manual
- Check the tyre pressures
- Check whether the side-panel locks are properly engaged and secured
- When working with the side-panel extensions, check whether they function properly, and do not endanger the safety of the traffic and the operator
- Check the braking and warning systems for the function.

7.2. The repair manual

When you carry out minor repairs due to accidental faults, pay special care to cleanness and ensure that all the parts are correctly fitted in their places, and also make any required adjustments necessary for the proper functioning of the trailer.

Minor repairs during operation (in the field) must be carried out by the operators on site.

When storing the parts disassembled during repair, protect them from dust or other contamination. Particular attention must be paid to the protection and cleanness of the bearings.

During field repairs, ensure the parts to be assembled are kept clean (in particular, those which fall to the ground must be washed or at least cleaned of the dirt to a degree which allows them to function properly).

During ruining repairs or major overhauls, the set of technical rules for disassembling and reassembling parts and components must be followed to thus ensure the quality and efficiency of the work.

After each repair of the trailer devices, their functioning must be checked.

7.3. Metrical bolt-tightening torques

Optimised tightening torque values for bolts or screws and nuts [Nm] are shown in Table 6.

Table 3. Bolt-tightening torques

Bolt-tightening torques metrical bolts in Nm							
Size Ø mm	Pitch mm	Bolt version strength classes					Wheel nuts, wheel bolts
		4.8	5.8	8.8	10.9	12.9	
3	0.50	0.9	1.1	1.8	2.6	3.0	
4	0.70	1.6	2.0	3.1	4.5	5.3	
5	0.80	3.2	4.0	6.1	8.9	10.4	
6	1.00	5.5	6.8	10.4	15.3	17.9	
7	1.00	9.3	11.5	17.2	25	30	
8	1.25	13.6	16.8	25	37	44	
8	1.00	14.5	18	27	40	47	
10	1.50	26.6	33	50	73	86	45
10	1.25	28	35	53	78	91	
12	1.75	46	56	86	127	148	
12	1.50						80
12	1.25	50	62	95	139	163	
14	2.00	73	90	137	201	235	
14	1.50	79	96	150	220	257	140
16	2.00	113	141	214	314	369	
16	1.50	121	150	229	336	393	220
18	2.50	157	194	306	435	509	
18	1.50	178	220	345	491	575	300
20	2.50	222	275	432	615	719	
20	1.50	248	307	482	687	804	400
22	2.50	305	376	502	843	987	
22	2.00						450
22	1.50	337	416	654	932	1090	500
24	3.00	383	474	744	1080	1240	
24	2.00	420	519	814	1160	1360	
24	1.50						550
27	3.00	568	703	100	1,570	1,840	
27	2.00	615	760	1,200	1,700	1,990	
30	3.50	772	995	1,500	2,130	2,500	
30	2.00	850	1,060	1,670	2,370	2,380	



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SERVICE

ul. Kresowa 62, 16-100 Sokółka
Tel. +48 85 711 07 80; Fax +48 85 711 07 93
serwis@metalfach.com.pl

SALES

ul. Kresowa 62, 16-100 Sokółka
Tel. +48 85 711 07 88; Fax +48 85 711 07 89
handel@metalfach.com.pl

SPARE-PARTS WHOLESALE STORE

ul. Kresowa 62, 16-100 Sokółka

Wholesale

Tel. +48 85 711 07 80; Fax +48 85 711 07 93

serwis@metalfach.com.pl

Retail

Tel. +48 85 711 07 80; Fax +48 85 711 07 93
serwis@metalfach.com.pl

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