

MANUFACTURER



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**DOUBLE-AXLE AGRICULTURAL TRAILER
THREE-SIDE DUMPER**

**T672
T672/1**

OPERATION & MAINTENANCE MANUAL

Identification of the machine

Symbol /Type:
KTM Symbol:	1026-635-847-908 for T672 1026-635-847-910 for T672/1
Serial:

The serial is stamped on the type plate and on the front of the trailer's frame. The type plate is riveted to the load-carrying body.

In the course of purchase check conformity of the serial stamped on the trailer with the serial given in the warranty card, in purchase documents and in the operation manual.

Hydraulic system is filled with HL32 hydraulic oil

Quality Inspection Sign.....

The manual and the spare parts catalogue are valid together with the annex No. from the

The manufacturer reserves the right to introduce design modifications for the purpose of simplified maintenance and improved operation quality.

Remarks and notices about design and operation of the trailer should be submitted to the manufacturer. This information allows us to evaluate objectively manufactured machines and will be used as hints for further modernisation.

Information about major design alterations will be supplied to users in the form of enclosed information leaflets (annexes).

CAUTION!

The operation & maintenance manual is the substantial equipment of the trailer.

The user should read carefully the manual before operation and observe all recommendations given in the manual. This will ensure safe maintenance and failure-free operation of the machine.

The machine has been designed in accordance with generally recognised standards, documents and currently binding legal regulations.

The trailer has the CERTIFICATE No. entitling the product to be marked with the safety sign valid from to..... issued by the Products Certification Office, IBMER Warsaw

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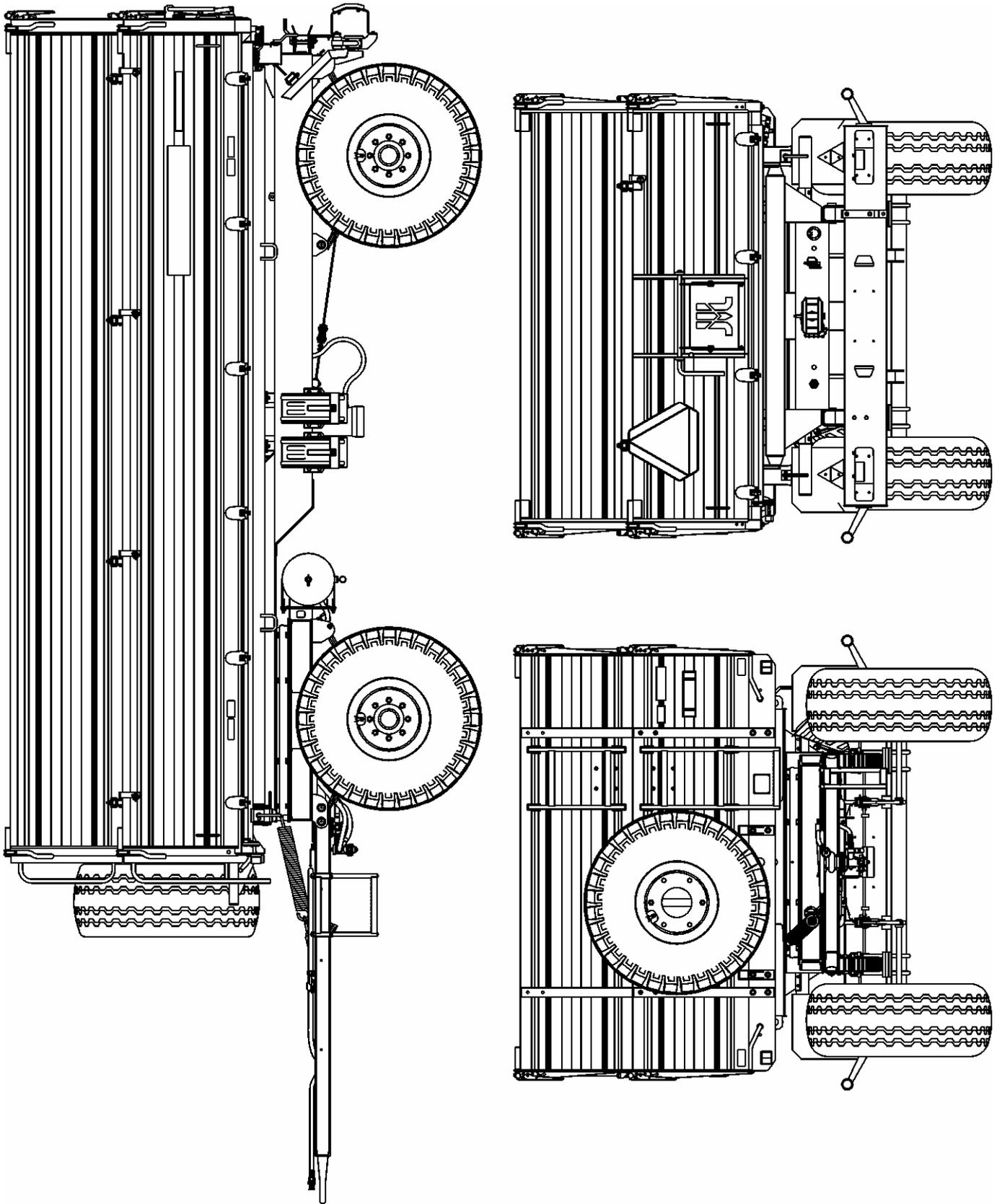


Fig. 1 T672 trailer

1 INTRODUCTION

1.1 GENERAL INFORMATION

The manual describes basic rules of safe operation & maintenance of the agricultural trailer. If information contained within the manual will be not comprehensible for the user please do not hesitate to contact your dealer or directly the manufacturer.

Especially important are information and recommendation marked in the text by bold characters or preceded by the word "CAUTION".

Information, descriptions of danger and precautions as well as commands and orders concerning safe operations are marked with following sign:



and mentioned in the chapter „Safe operation “.

1.2 APPLICATION OF THE TRAILER

The trailer is designed for transportation of of agricultural produce as well as loose and volume materials within farm limits and on public roads with the maximum speed of 30 kph.

The driving system (axes, suspension springs, wheels, tyres) fulfils requirements for agricultural trailers, which – according to Polish “Traffic regulations” – can be used with maximum admissible speed of 30 kph. Fulfilling of these requirements depends on proper maintenance and observation of rules given in present manual.

The trailer is adapted for coupling with agricultural tractors fitted with external hydraulic system and an upper towing hook. The rear coupling of the trailer is designed for coupling only with double-axle trailers.



CAUTION!

The trailer must not be used contrary to its proper application and especially:

- **for transporting of persons & animals,**
- **for transporting of loose, unprotected toxic materials if there is the possibility of environment contamination,**
- **for transporting of machinery & devices, which location of gravity centre may influence negatively on trailer’s stability,**
- **for transporting of loads, which may cause unequal load or overload of axles,**
- **for transporting of non-fastened loads, which may change their location on the trailer’s platform during drive.**

2 OPERATIONAL SAFETY



- The user should read carefully the manual before operation and observe all recommendations given in the manual during operation.
- If information contained within the manual will be not comprehensible for the user please do not hesitate to contact your dealer, who also provides repair & service or directly the manufacturer.
- Careless and improper operation & maintenance of the trailer as well as lack of observation of recommendations given in present manual may endanger human health and life.
- Lack of observation of safe use rules may endanger health of operators and third persons.
- There is the risk of residual danger; thus application of safe operation rules and reasonable utilisation should be the basic principle of trailer's use.
- Persons unauthorised for driving agricultural tractors including children and drunk persons have no right to use the trailer.
- It is prohibited to use the trailer contrary to its purposes. User, who utilise the trailer in other than prescribed manner, takes all responsibility for all consequences resulting from trailer's use.
- Any unauthorised modification absolves the PRONAR Narew from responsibility for resulted damage or health detriment.
- Prior to each trailer's use check its technical condition, especially coupling system, drive system, brakes and signalling lights.
- Check trailer's hydraulic system frequently; any oil leakage is inadmissible.
- Take special care while coupling trailer with tractor.
- While coupling the trailer with tractor use only the upper tractor's tow coupling. The rear coupling of the trailer is designed for coupling only with other double-axle trailers. Check protection devices.
- Whilst coupling the trailer with the tractor use exclusively the upper towing hook. Check the safety device.
- In the course of coupling no one is allowed to stand between trailer and tractor.
- Climbing on the trailer is allowed only if the trailer is completely stopped and tractor's engine off; the trailer should be also braked with its hand brake.
- Disconnection of the trailer while the load crate is lifted with the telescope cylinder is prohibited. Take special care by disconnecting the trailer.
- Disconnected trailer should be braked. If the trailer stands on a slope or an elevation it should be protected additionally with wedges or other blunt-edged objects placed under wheels.
- The load should be placed uniformly on the load crate surface.

- Admissible load must not be exceeded.
- Driving with lifted load crate and transporting of people & animals is prohibited.
- No one is allowed to stand in the vicinity of lifted load crate and unloaded material.
- Keep safe distance from electric lines while lifting the load crate.
- If any operation failure or damage occurs, stop operation of the trailer and repair the damage.
- Maintenance & repair of the trailer with loaded and/or lifted load crate without proper support of the crate is prohibited.
- During trailer's operation use protection gloves and proper tools.
- All maintenance & repair works should be performed with observation of safety regulations. In the case of wound wash and disinfect wounded place immediately. In the case of serious injuries consult a physician.
- The trailer is marked with information / signalling stickers as described in the table 1 below. The user should take care of legibility and cleanliness of inscriptions & warnings for all time of trailer's operation. In the case of damage or destruction replace missing stickers with new ones – available at your dealer or manufacturer.

Table 1. Information & warning stickers

Safety sign or text	Explanation	Location
	Read operation manual	Front wall
	Prior to maintenance & repair stop the engine and remove the ignition key	Front wall
	Prior to maintenance & repair secure the load crate	Right & left wall

Table 1. Information & warning stickers, continued

Safety sign or text	Explanation	Location
	Take special precautions while operating near to energetic lines	Right & left wall
<div style="border: 1px solid black; padding: 5px;"> <p>CAUTION! Maintenance & repair of the trailer with loaded and/or lifted load crate without proper support of the crate is prohibited</p> </div>		Front wall
<div style="border: 1px solid black; padding: 5px;"> <p>Prior to unloading unlock two bolts connecting the crate with the frame on the opposite side of the dump flap. The load crate is raised, keep safe distance.</p> </div>		Front wall
„Couple only with the upper tow coupling”		Front wall
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 2px 5px; margin: 2px;">1</div> <div style="border: 1px solid black; padding: 2px 5px; margin: 2px;">2</div> </div>	For hydraulic systems of I and II trailer	Cut-off valve
<div style="border: 1px solid black; padding: 5px; text-align: center;">Maximum load 8000 kg</div>		Side walls (T672)
<div style="border: 1px solid black; padding: 5px; text-align: center;">Maximum load 10000 kg</div>		Side walls (T672/1)
<div style="border: 1px solid black; padding: 2px 5px; display: inline-block;">350 kPa</div>	Tyre pressure 400/60-15.5TL 14PR	Above wheels (T672)
<div style="border: 1px solid black; padding: 2px 5px; display: inline-block;">360 kPa</div>	Tyre pressure 15.0/70-18TL 16PR	Above wheels (T672/1)

2.1 PRINCIPLES OF USE OF PUBLIC ROADS

- While driving public roads observe traffic regulations.
- Trailer’s overload may cause its damage and endanger traffic safety.
- Do not exceed the maximum speed of 30 kph. Adjust the speed to traffic conditions.
- The trailer can work on slopes up to 8°. Lift the load crate on level ground only.
- It is prohibited to leave unsecured trailer. Always activate the parking brake.
- While driving public roads the trailer should be equipped with certified or approved warning reflecting triangle.

- Rear wall should be equipped with a triangular plate for slowly moving vehicles (if the trailer is the last vehicle in a set (Fig. 2)).

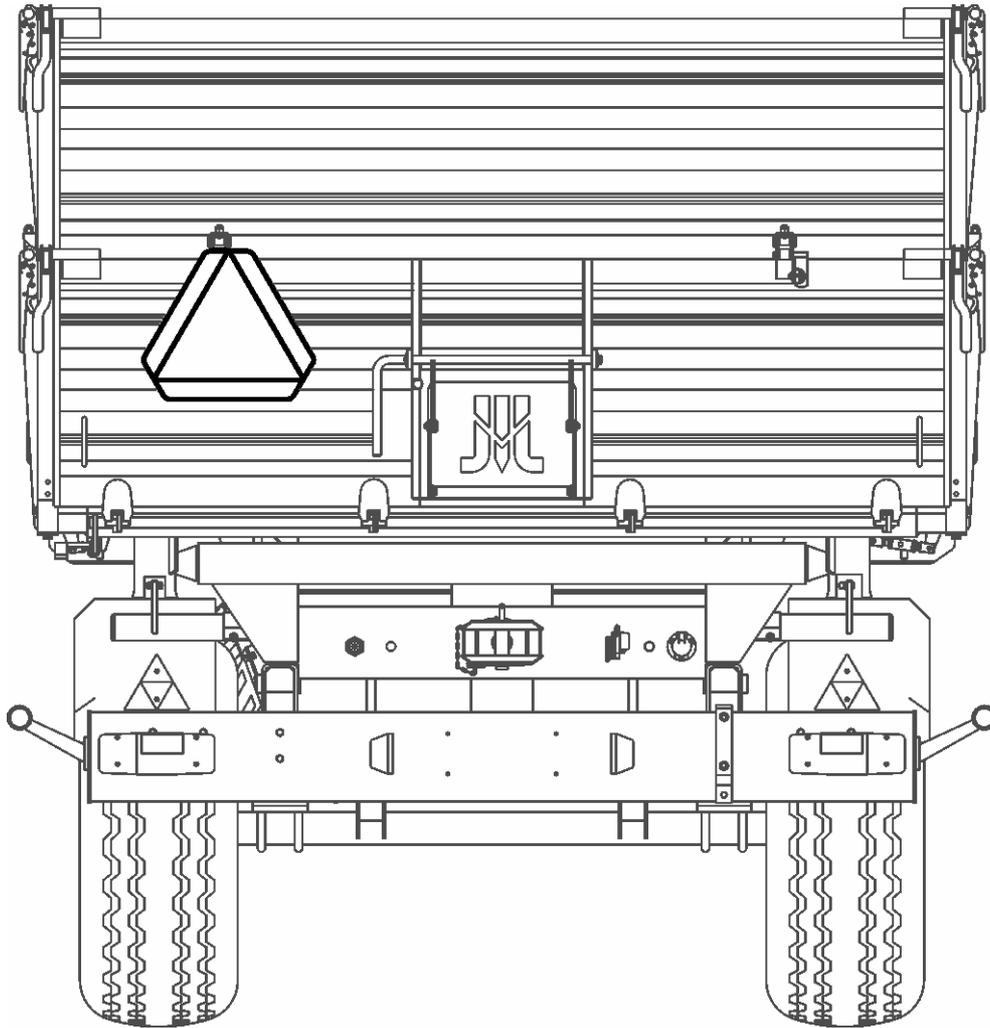


Fig. 2 Location of a triangular plate for slowly moving vehicles.

3 ADDITIONAL INFORMATION

3.1 TRAILER EQUIPMENT

Trailer equipment consists of:

- operation & maintenance manual + spare parts catalogue - 1
- warranty card - 1
- connection cable - 1
- load crate support - 1

For user's order the trailer may be equipped additionally with:

- warning reflecting triangle
- triangular plate for slowly moving vehicles



CAUTION!

Assembly & disassembly of the superstructure should be performed with help of proper platform, ladder or ramp. Two operators secured from falling down should perform this operation with special care.

3.2 WARRANTY CONDITIONS

"PRONAR" Sp. z o.o. guarantees efficient operation of the trailer if utilised according to technical & operation conditions described in the manual.

Failures detected during warranty period will be removed by the Warranty Service within no longer than 14 working days from the date of delivery to a repair station or within any other agreed period.

Normally wearing parts i.e. tyres, brake linings as well as mechanical damage, damage resulted from improper use, adjustment or maintenance are not subject of warranty.

Detailed warranty conditions are mentioned in the warranty card supplied together with the newly bought trailer.



CAUTION!

Demand your dealer to fill the warranty card and complaint coupons exactly and completely. Lack of e.g. sale date or dealer's stamp may render your possible complaint void.

3.3 TRANSPORTATION

The trailer is delivered for sale fully assembled and requires no package. Packed are only: the manual, the connection cable and – if ordered – the warning triangle.

The trailer is supplied to the user with a truck or the user can take by himself with his own tractor.



CAUTION!

If the user takes the trailer by him he should read present manual and observe all recommendations given in the manual. In the case of transportation with a truck the trailer is fastened on the load crate according to generally recognised safety rules. The truck driver should take special precautions while transporting the trailer, because the gravity centre of the loaded truck is shifted upwards.

4 OPERATIONAL INFORMATION

4.1 TECHNICAL DATA

Table 2. Basic technical data

No.	Data	Unit	T672	T672/1
1	Overall length	mm	6464	6464
2	Overall width	mm	2390	2390
3	Overall height	mm	2110	2360
4	Wheel base	mm	1730	1700
5	Load crate internal dimensions:			
	- length	mm	4440	4440
	- width (front / rear)	mm	2190/2240	2190/2240
	- height	mm	1000	1200
6	Load volume	m ³	9,8	11,8
7	Load surface	m ²	9,8	9,8
8	Load surface height above ground	mm	1227	1290
9	Weight	kg	2990	3165
10	Total permissible mass	kg	10990	13165
11	Admissible load	kg	8000	10000
12	Load crate tilt angle			
	backwards	(°)	50	50
	on sides	(°)	50	50
13	Ring		13.00x15.5	13x18
14	Tyre dimensions and PR number		400/60-15.5 TL 14PR A8	15.0/70-18 TL 16PR A8
15	Tyre pressure	kPa	350	360
16	Rated voltage	V	12	12
17	Admissible speed	km/h	30	30
18	Hydraulic oil capacity	l	13	13

4.2 STRUCTURE AND OPERATIONAL PRINCIPLE

4.2.1 Undercarriage

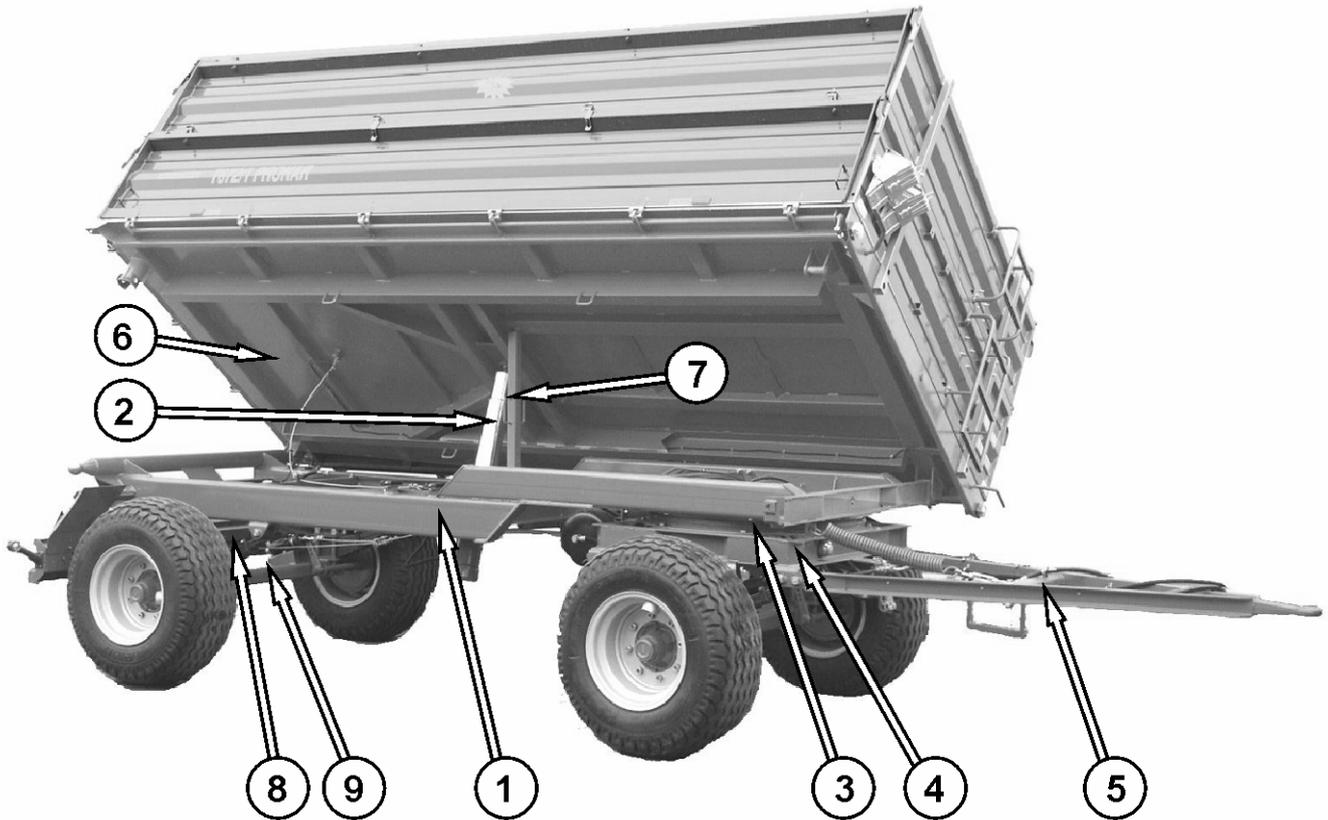


Fig. 3 Chassis and upper frame

1 - lower frame, 2 - hydraulic cylinder, 3 – turntable, 4 - turntable frame, 5 - hitch bar, 6 - upper frame, 7 – load crate support, 8 – multiple-plate spring, 9 - axle

Trailer's undercarriage consists of parts shown on the Fig. 3. The lower frame is a welded structure made of steel profiles. Main carrying elements are two stringers connected each to other with cross-bars. The rear part of the frame is fitted with bolts for mounting the upper frame, the middle part – with a seat for hydraulic cylinder. The front frame part is fitted elements of front axle suspension: turntable, turntable frame, suspension springs and hitch bar. The rear part of the frame is fitted also with mountings for the rear axle and for rear lighting elements.

Axles are made of a square rod with pivots on either end; on pivots are mounted conical bearings and on bearings – wheel hubs. The wheels are of single type, fitted with shoe brakes actuated with brake cams.

4.2.2 Load crate

The load crate consists of: upper frame welded together with floor, walls A, B and C and set of superstructures D, E and F.

The upper frame is mounted to the lower frame in articulated joints and protected with bolts, which simultaneously are the axis for tilting.

The wall & superstructure locks and the chute flap are protected against spontaneous, undesirable opening.

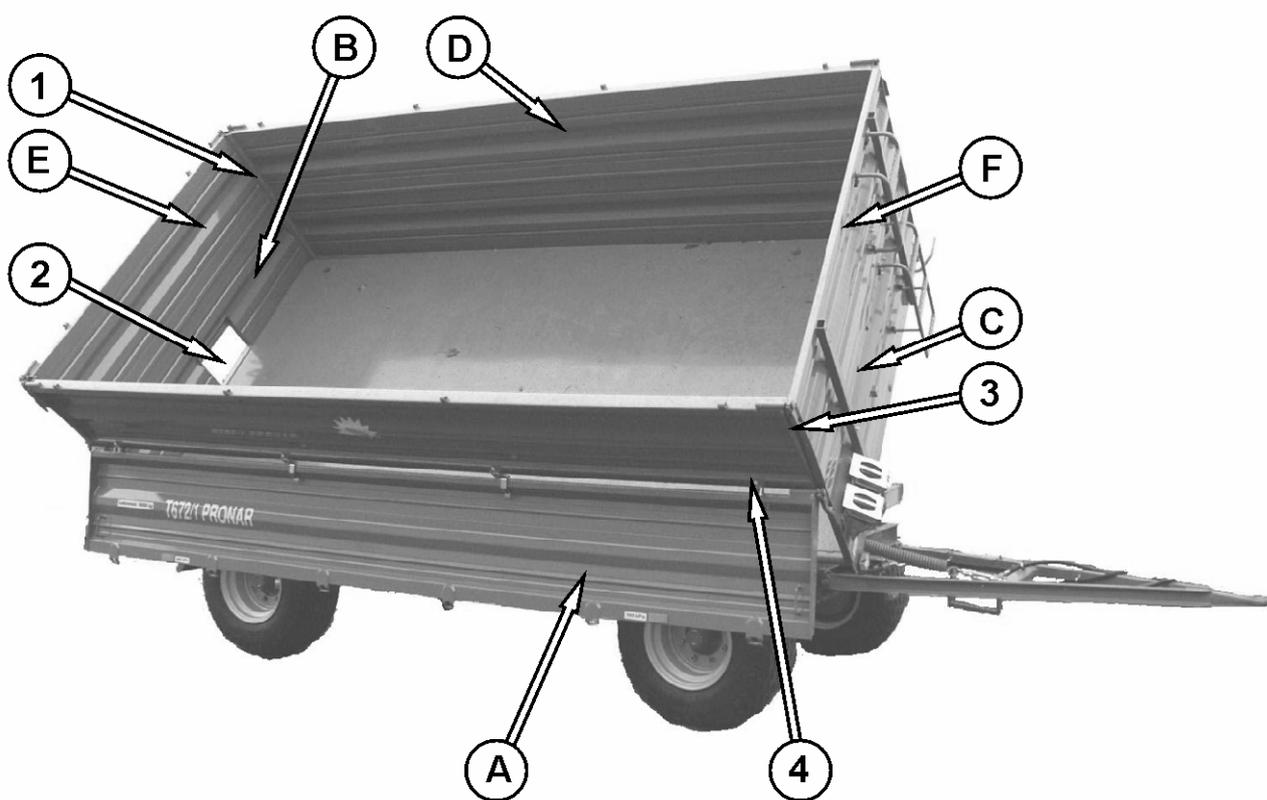


Fig. 4 Load crate elements

A – side walls, B – rear wall, C – front wall, D – side superstructure, E – rear superstructure, F – front superstructure, 1 – rear post, 2 - chute flap 3 - wall lock, 4 - hinge

4.2.3 Hydraulic tilting system

Hydraulic tilting system is designed for automated unloading of the trailer through tilting the load crate backwards or sideways. The hydraulic system is supplied with oil from tractor's hydraulic system. Tilting of the load crate is controlled with a distributor of tractor's external hydraulic system.

The trailer's hydraulic system consists of two independent circuits:

- Circuit **1** – for supplying the trailer hydraulic cylinder
- Circuit **2** – for supplying the second trailer cylinder if two trailers are coupled to the tractor.

Both circuits are operated with the control valve 2 (Fig. 5). The valve lever can be set in two positions:

- **1** – first trailer tilting system open
- **2** – second trailer tilting system open

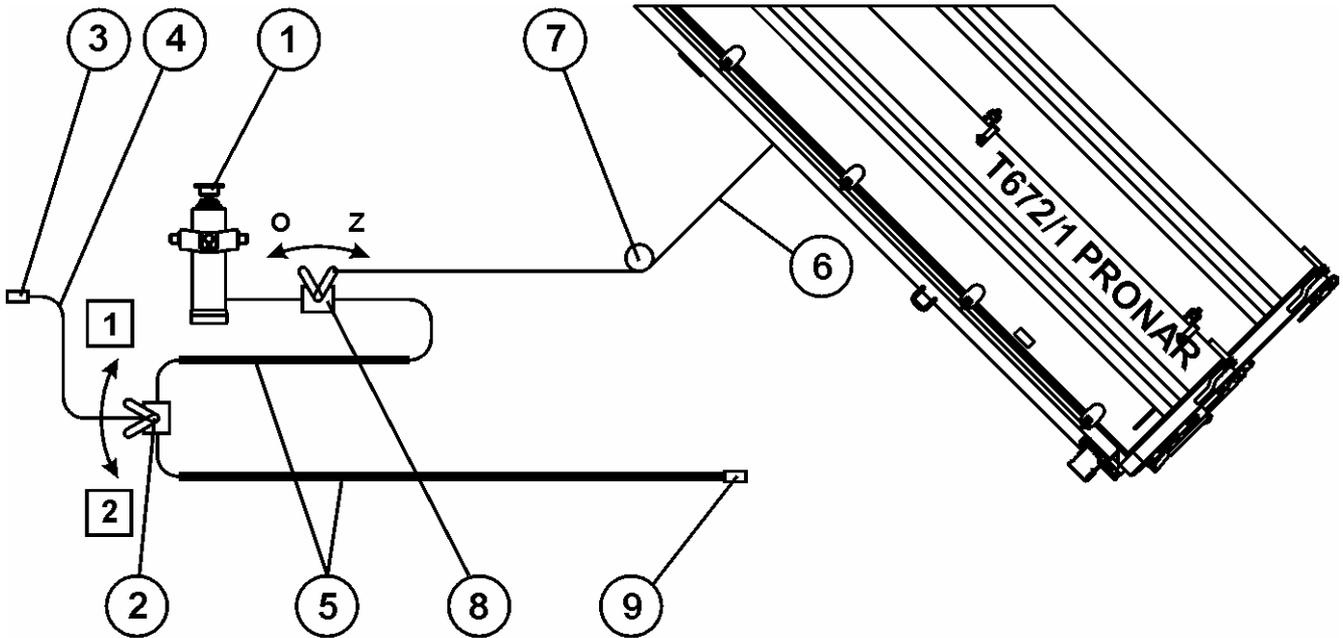


Fig. 5 Hydraulic system for tilting the load crate

1 – hydraulic cylinder, 2 – cut-off valve, 3 – connection valve plug, 4 – flexible conduits, 5 – rigid hydraulic conduits, 6 – control cable for cut off valve, 7 – roller, 8 – cut off valve, 9 – connection valve socket



CAUTION!

The cut-off valve 8 (Fig. 5) reduces load crate tilting angle while tilted sideways. The length of the cable rope is adjusted by the manufacturer and must not be readjusted by the user.

4.2.4 Braking system

The trailer is fitted with a braking system, which consists of:

- Hydraulically or pneumatically controlled operational brake
- manually operated (crank-operated) parking brake

The operational brake is actuated from driver's seat with a brake pedal. The design of pneumatic brakes causes that in the case of disconnection of the trailer from tractor's pneumatic system the brake is actuated automatically.

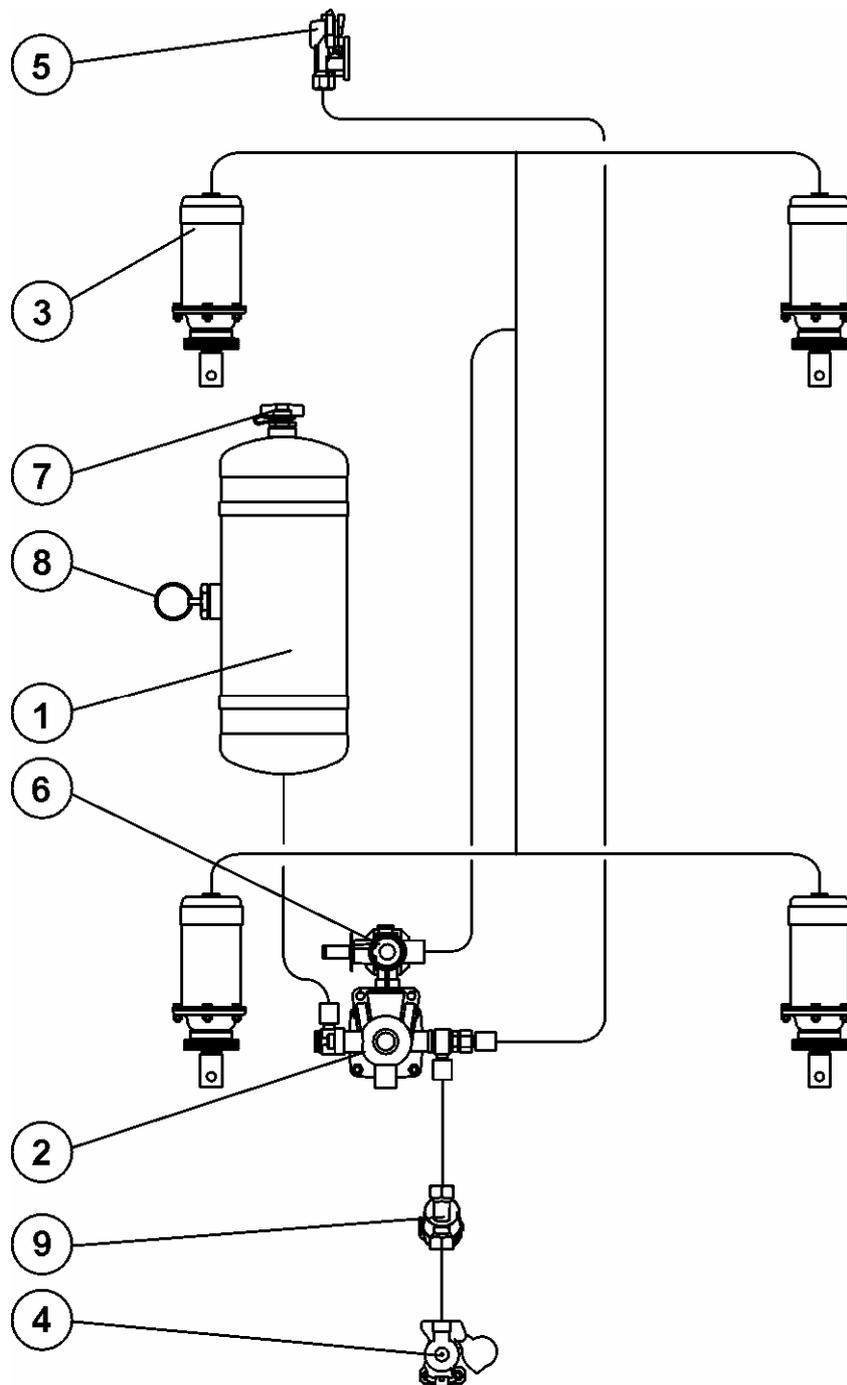


Fig. 6 Pneumatic single-conduit braking system with three-range braking force controller.

1 - air reservoir, 2 - control valve, 3 - pneumatic cylinder, 4 - connector, 5 - Conduit connector for second trailer, 6 – three-range braking force controller, 7 - air reservoir inspection connector złącze, 8 - drain valve, 9 - air filter

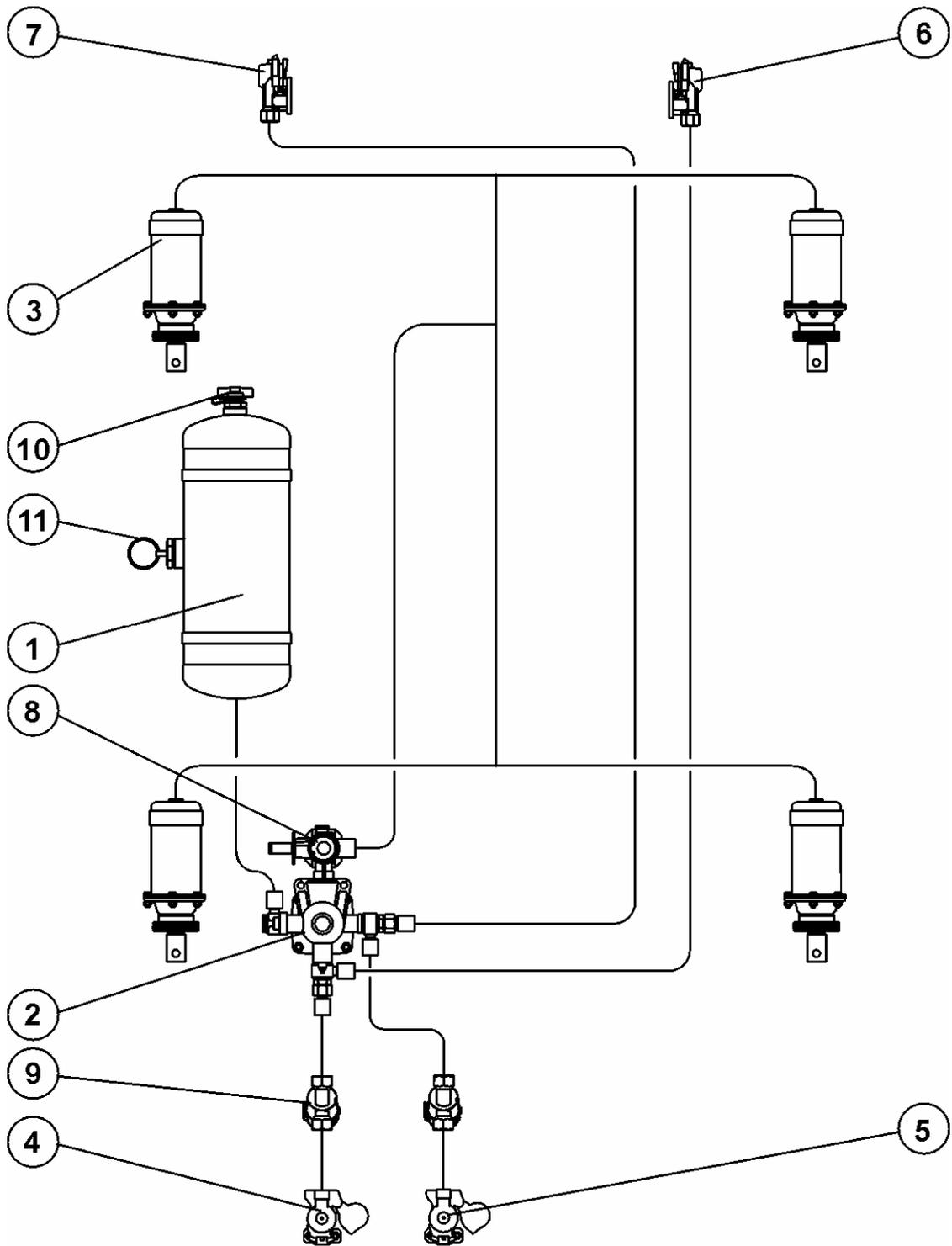


Fig. 7 Pneumatic double-conduit braking system with three-range braking force controller

1 - air reservoir, 2 - control valve, 3 - pneumatic cylinder, 4 - connector (yellow) of the control conduit for coupling with the tractor, 5 - connector (red) of the supply conduit for coupling with the tractor, 6 - connector (yellow) of the control conduit for coupling with second trailer, 7 - connector (red) of the supply conduit for coupling with second trailer, 8 - three-range braking force controller, 9 - air filter, 10 - air reservoir inspection connector, 11 - drain valve

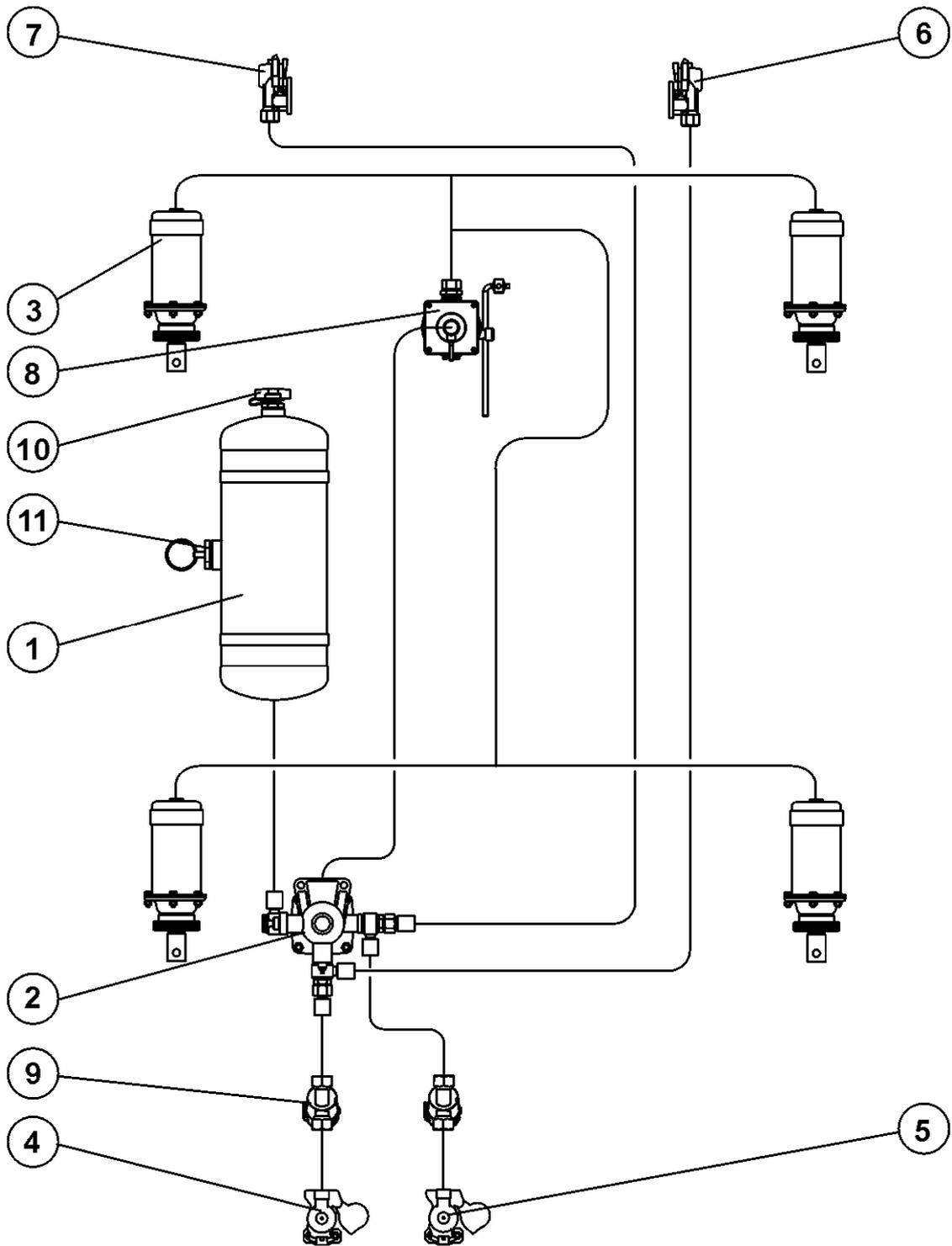


Fig. 8 Pneumatic double-conduit braking system with automatic braking force controller

1 - air reservoir, 2 - control valve, 3 - pneumatic cylinder, 4 - connector (yellow) of the control conduit for coupling with the tractor, 5 - connector (red) of the supply conduit for coupling with the tractor, 6 - connector (yellow) of the control conduit for coupling with second trailer, 7 - connector (red) of the supply conduit for coupling with second trailer, 8 - automated braking force controller, 9 - air filter, 10 - air reservoir inspection connector, 11 - drain valve

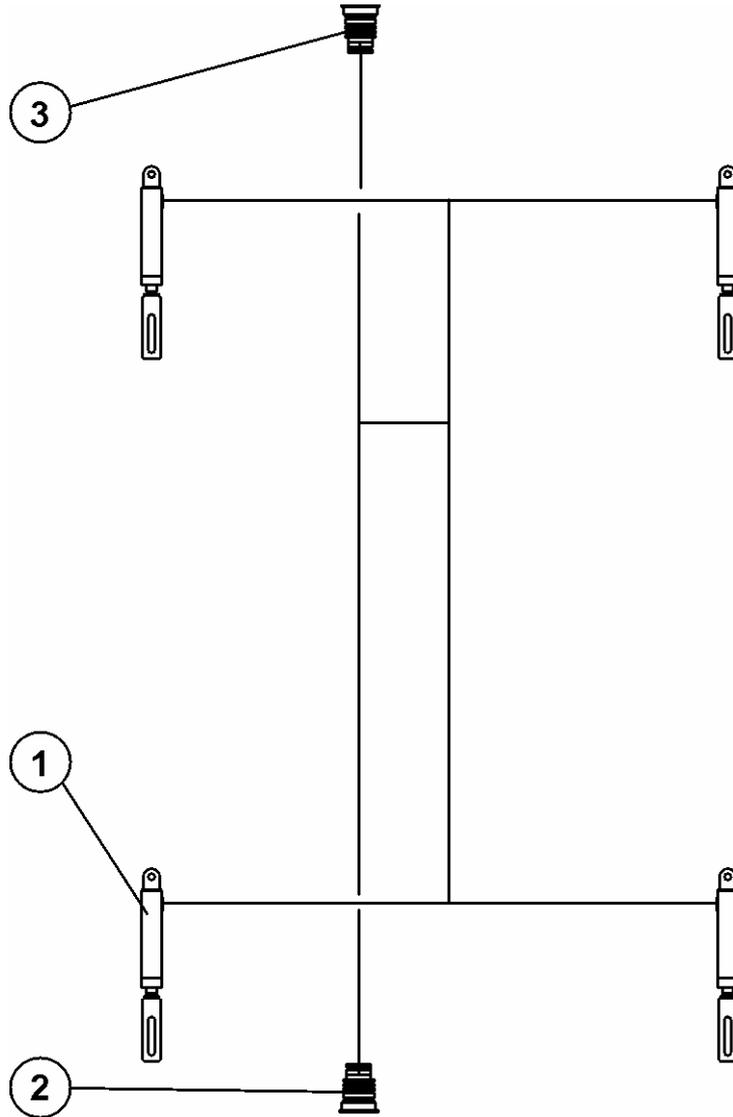


Fig. 9 Hydraulic braking system

1 – hydraulic cylinder, 2 – quick-release connector (plug), 3 – quick-release connector (socket)

4.3 WIRING, LIGHTING, SIGNALLING

The wiring system is adapted for power supply with 12 V DC. Trailer and tractor electrical systems should be connected together with suitable connection conduit.

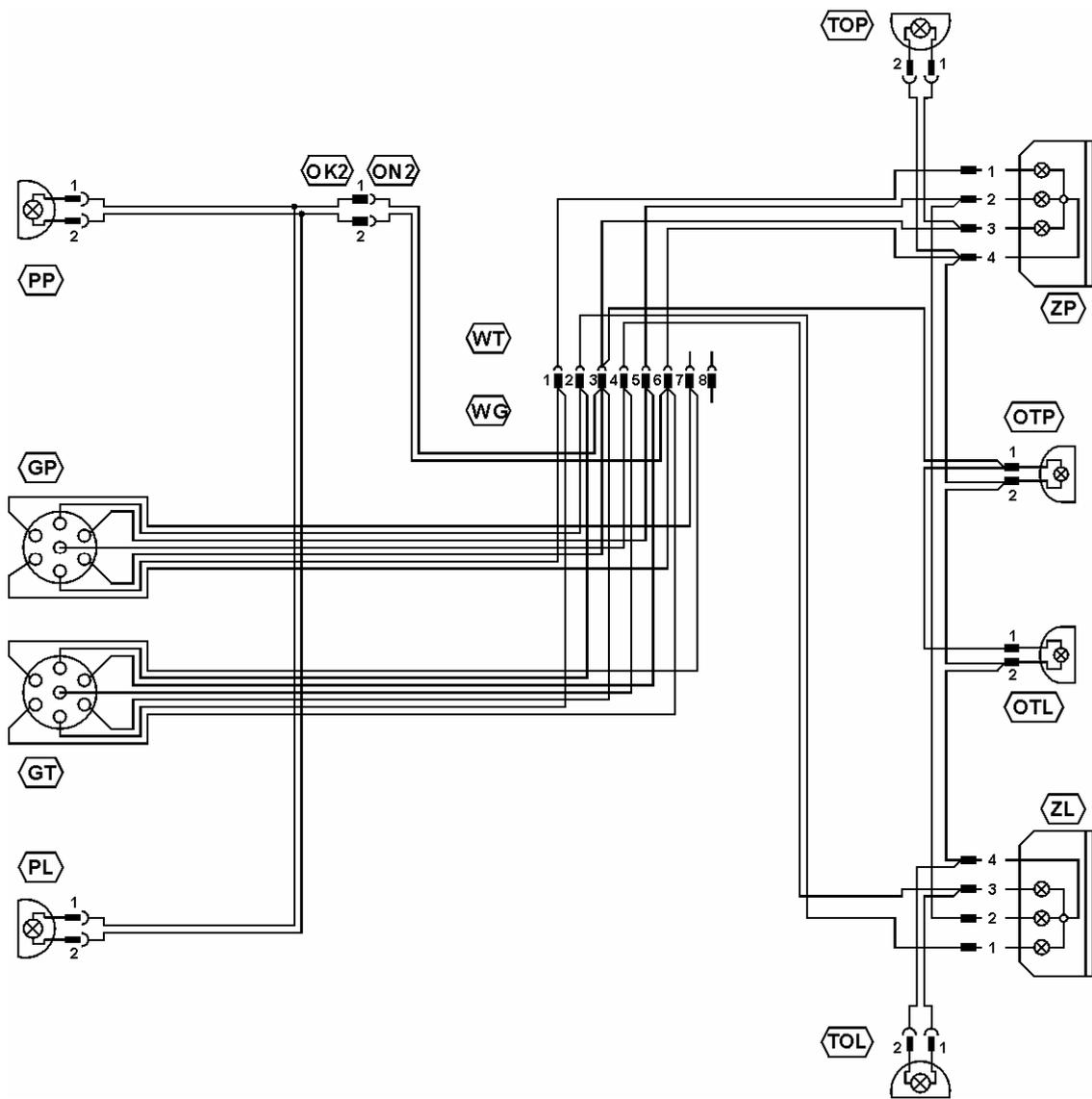


Fig. 10 Trailer wiring system

PP (PL) - right (left) front position light, ZP (ZL) - rear compact lamp right (left), OTP (OTL) - panel lighting lamp right (left), GP (GT) - front (rear) seven-pin socket, TOP (TOL) - rear contour lamp right (left)

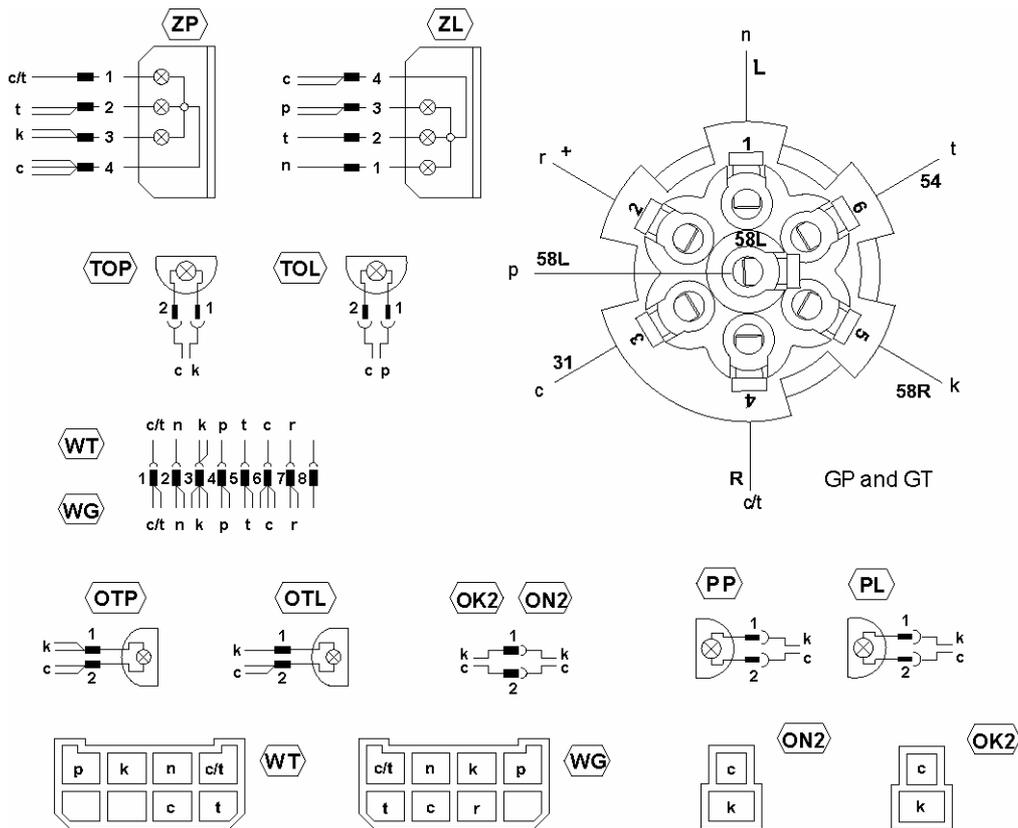


Fig. 11 Connection of conductors

Conductor colours

p – orange, c – black, k – red, r – rose, n – blue, c/t – black-green, t - green,

31 – frame, R (L) – right (left) blinker, 58R (58L) – right (left) position lamp, 54 - „STOP”, „+” – power supply +12V DC

4.4 TRAILER OPERATION PRINCIPLES

4.4.1 Coupling with tractor

Prior to coupling with tractor check if the trailer is braked with the parking brake. The tractor should be fitted with a tow hook, which is able to carry min. 8 kN (800 kg) vertical load.

To couple trailer with tractor it is necessary to perform following operations:

- Position the hitch rod eye on suitable level.
- Precise adjustment of the rod can be achieved by adjustment of the hitch spring tension with use of the tensioning screw.
- Draw back the tractor, couple hitch rod eye with the upper tow coupling on the tractor and check its fastening.
- Connect electrical, hydraulic and brake conduits to the tractor.
- Unlock the trailer parking brake.



CAUTION!

In the course of coupling no one except of operator is allowed to stand between trailer and tractor.

4.4.2 Preparation for work

During preparation for work it is necessary to check following items:

- condition of tyres and tyre pressure
- fastening of nuts fixing wheels and hitch rod
- condition of other screw connections
- function of lighting & signalling systems
- function of braking system
- condition and function of wall locks and hinges
- function of hydraulic tilting system

4.4.3 Loading the load crate

It is allowed to load the crate only if it is coupled with a tractor and stands on the level ground. Loading should be arranged uniformly on the entire load crate floor, if possible.

It is recommended to use a crane, a loader or a conveyor for loading. Prior to loading check if wall locks & hinges and the chute flap are closed.

In the case of objects, which put pressure in a few points only use thick boards as separators. Table 3 contains admissible loading heights of various materials. **The table shows clearly that – in many cases – it is impossible to use the entire loading volume without exceeding the admissible load.** It is important not to overload the trailer during loading.

Lightweight materials of great volume may be loaded above wall height but the load should be properly secured from falling down and polluting the road.

Table 3. Loading height

Type of material	Loading height [m]	
	T672	T672/1
wet gravel, wet soil, clinker, stone	0,4	0,5
cement, dry gravel, soil, brick	0,6	0,7
manure, full brick, mineral fertiliser	0,9	1,1
rye, potatoes, maize, rape, wheat	1	1,2
barley, oats, peat, coke	1	1,2



CAUTION!

- **It is prohibited to exceed the admissible trailer load. Overload may endanger traffic safety and damage the trailer.**
- **Prior to drive with the trailer check if**
 - **bolts connecting load crate with lower frame are protected against spontaneous falling out**
 - **wall hinge bolts are secured from falling out.**

4.4.4 Transport

- While driving public roads observe traffic regulations.
- Trailer's overload may cause its damage and endanger traffic safety.
- Do not exceed the maximum speed of 30 kph. Adjust the speed to traffic conditions.
- The trailer can work on slopes up to 8°. Lift the load crate on level ground only.
- It is prohibited to leave unsecured trailer. Always activate the parking brake.
- While driving public roads the trailer should be equipped with certified or approved warning reflecting triangle.
- Rear wall should be equipped with a triangular plate for slowly moving vehicles (if the trailer is the last vehicle in a set (Fig. 2)).

4.4.5 Tyre maintenance manual

- During assembly & disassembly of tyres protect the trailer against unintended movements.
- Repair or replacement of tyres should be performed by trained personnel and with suitable tools.
- After each wheel mounting tighten the nuts after first 10 hrs and check their tightening every next 50 hrs.
- Regularly check and preserve proper tyre pressure according to the manual (especially after longer standstills).
- Check the tyre pressure also during intensive daily work. Take into consideration the fact that the increase of tyre temperature may cause tyre pressure growth even by 1 bar. In the case of such pressure & temperature increase reduce the load or / and speed.
- Never reduce the tyre pressure through inflation valves if the pressure has grown due to the temperature.
- Protect tube inflation valves with suitable nuts to avoid penetration of impurities.
- Do not exceed the maximum trailer's speed.
- In the course of daily work make at least one hour lasting pause at noon.

- Make 30 minutes lasting pauses for cooling down the tyres after each 75 km or 150 minutes of continuous drive depending on which occurs first.
- Avoid holes, sudden and violent manoeuvres and reduce speed during turning.

4.4.6 Load crate unloading

Unloading is performed through tilting the load crate backwards or sideways. Automated unloading should be executed as follows:

- Place the trailer on flat ground, brake the tractor and the trailer with the parking brake. During unloading the tractor should be positioned as to drive forward.
- Place the bolts with grips connecting the load crate with lower frame on the unloading side
- Open lower locks and relevant wall locks (according to unloading direction)
- Tilt the load crate with the hydraulic cylinder



CAUTION!

- **It is allowed to tilt the load crate only when the trailer stands on hard, flat ground.**
- **Use only original bolts with grip. Use of other bolts may result in destruction of the trailer**
- **Take special precautions while opening wall locks due to load pressure on walls**
- **Take special precautions while closing walls and chute to avoid crushing fingers.**
- **Unloading of loose materials loaded higher than 1 m may be realised only by tilting the load crate backwards**
- **During unloading no one is allowed to stand in the vicinity of tilted load crate.**
- **It is allowed to tilt the load crate only if the trailer is coupled with a tractor.**
- **It is prohibited to tilt the load crate during violent wind gusts.**
- **Do not move and/or drive with the load crate in upper position.**

The rear wall is fitted with a chute, which opening can be adjusted resulting in slots of various heights. This enables adjustment of output of unloaded loose materials e.g. mineral fertilisers or cereal. To open the chute, first loose the nut of the securing clamp. While using the chute do not open rear wall locks.

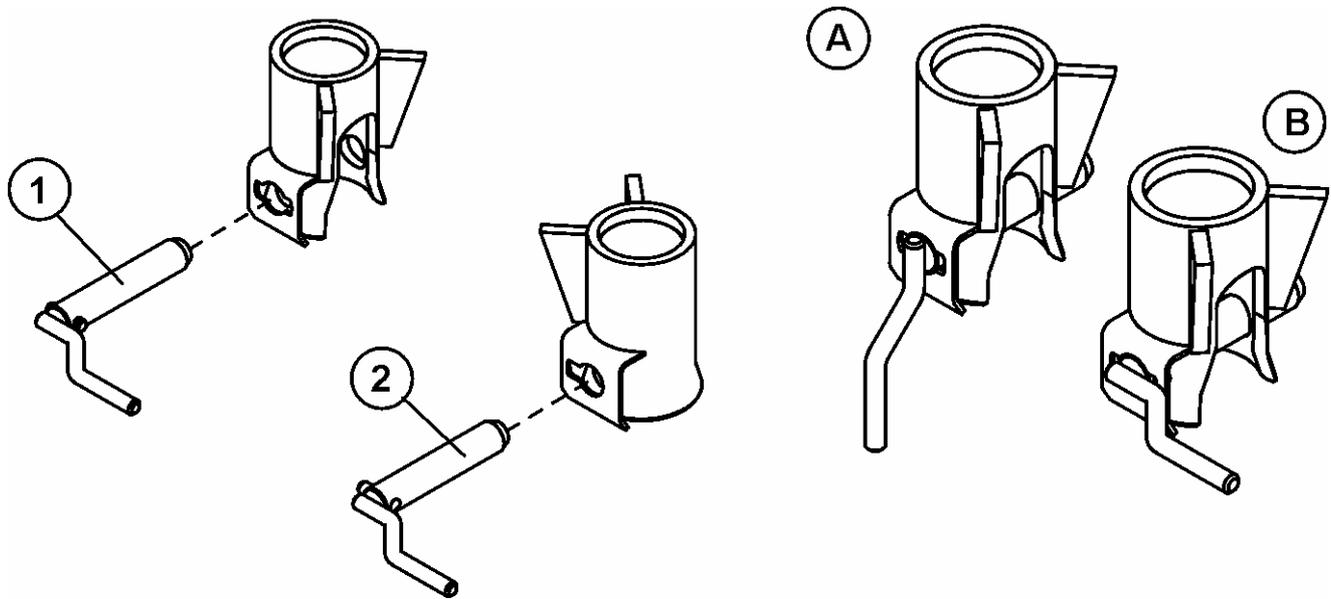


Fig. 12 Tilt bolts

1 - left rear tilt bolt (right front), 2 - right rear tilt bolt (left front)

A - tilt bolt locked, B - tilt bolt unlocked

After unloading:

- Lower the load crate
- Install and secure bolts connecting load crate with lower frame
- Clean wall edges and floor from residues or impurities. Close walls. Close locks to make spontaneous opening impossible

When unloading on sloped ground is admissible to tilt the load crate on this side, which is higher.

4.4.7 Uncoupling the tractor

To uncouple the trailer perform following actions:

- Stop the tractor and the trailer with the parking brake.
- Disconnect electric, hydraulic and brake conduits; protect their ends from dirt.
- Uncouple the hitch rod cable from the tractor's towing hook and drive away with the tractor

4.4.8 Failures and defects

Frequently appearing failures & defects and troubleshooting are given in the chapter "MAINTENANCE MANUAL".

5 MAINTENANCE

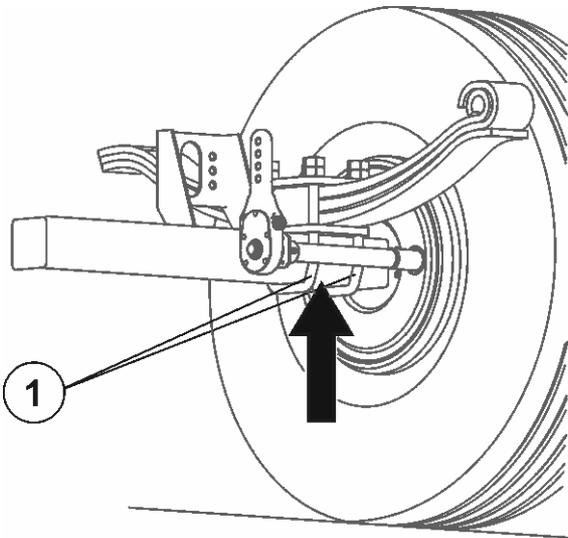


CAUTION!

- If any operation failure or damage occurs, stop operation of the trailer and repair the damage/ remove the failure.
- Maintenance & repair of the trailer with loaded and/or lifted load crate without proper support of the crate is prohibited.
- All maintenance & repair works should be performed with observation of safety regulations. In the case of wound wash and disinfect wounded place immediately. In the case of serious injuries consult a physician.
- If it is necessary to maintain the trailer with lifted load crate (e.g. replacement of the telescope cylinder) commission a specialised workshop to make repair.

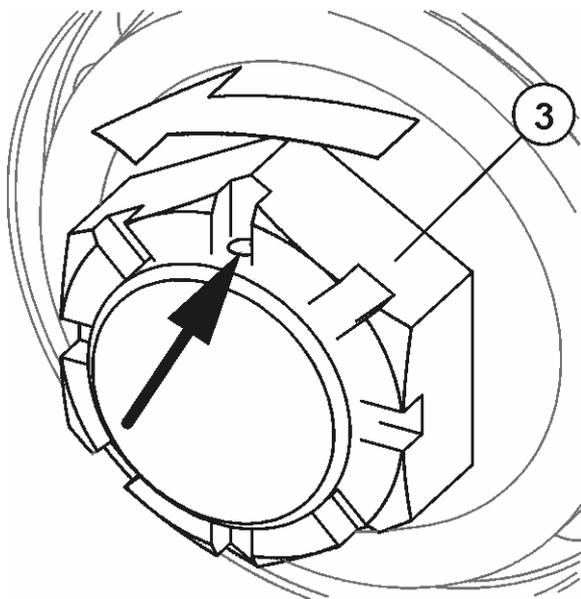
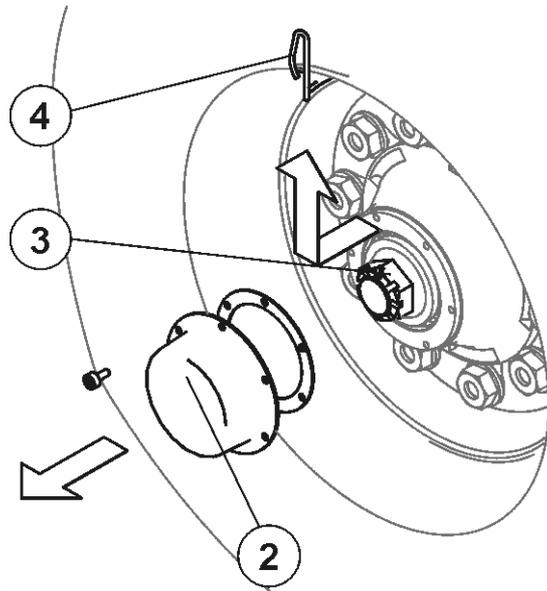
5.1 ADJUSTMENT OF WHEEL BEARINGS

After first 500 km and after every next 1500-2000 km check and – if necessary – adjust play of wheel bearings.



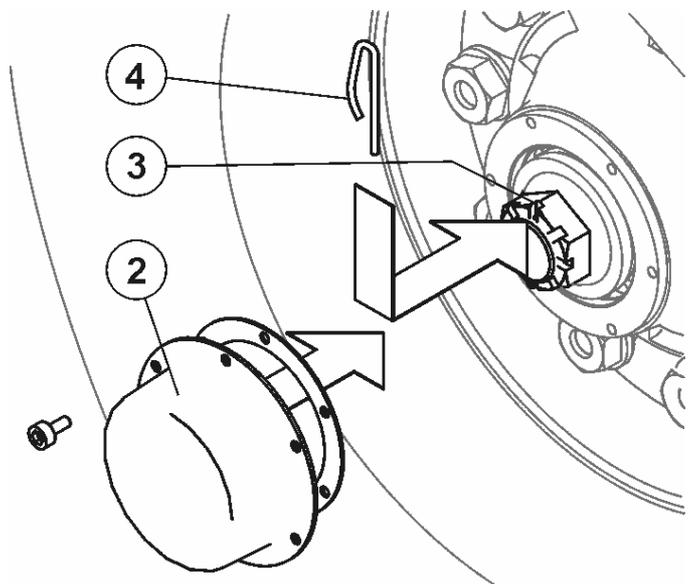
Couple the trailer with a tractor, brake the tractor, place locking wedges under trailer wheels and raise each wheel with suitable hoist. Place the hoist between bail screws (1), which fasten the suspension spring to the axle. Check play of bearings.

If the play is excessive, dismount the hub cover (2) and remove the cotter pin (4) of the crown nut (3).



While turning the wheel screw the crown nut tight until the wheel stops. Unscrew the nut by 1/3 of turn until the next cotter pin groove will be aligned with the opening in the pivot.

Secure the nut (3) with the cotter pin (4) and mount the hub cover (2). The wheel should turn smooth, without stops and perceptible resistance, which do not result from rubbing between brake shoes and the drum.



5.2 ADJUSTMENT OF BRAKES

The brakes should be adjusted if:

- excessive play between shoe and drum appears due to wear of brake shoes; braking efficiency falls down
- Brakes operate uneven and not simultaneously.

If brakes are adjusted properly braking of both wheels should take place in the same moment.

Adjustment of brakes consists in adjustment of position of the brake cam arm (1) (Fig. 11) in relation to the cam shaft (2). For this purpose loose the nut (4) and change position of the arm on the multi-groove end of the shaft (2) towards proper direction i.e.:

- backward – if the brake brakes to late
- forward – if the brakes brakes to soon

Perform adjustment separately for each wheel. After proper brake adjustment cam arms should form the angle of 90° in relation to pneumatic cylinder push rod whilst the braking power is greatest. Parking brake should be adjusted if the brake cable is excessively stretched or if cable clamps are loosened. Cable length should be matched so that by fully loosened parking and working brakes the cable would be loose and hang down by $1 \div 2$ cm.

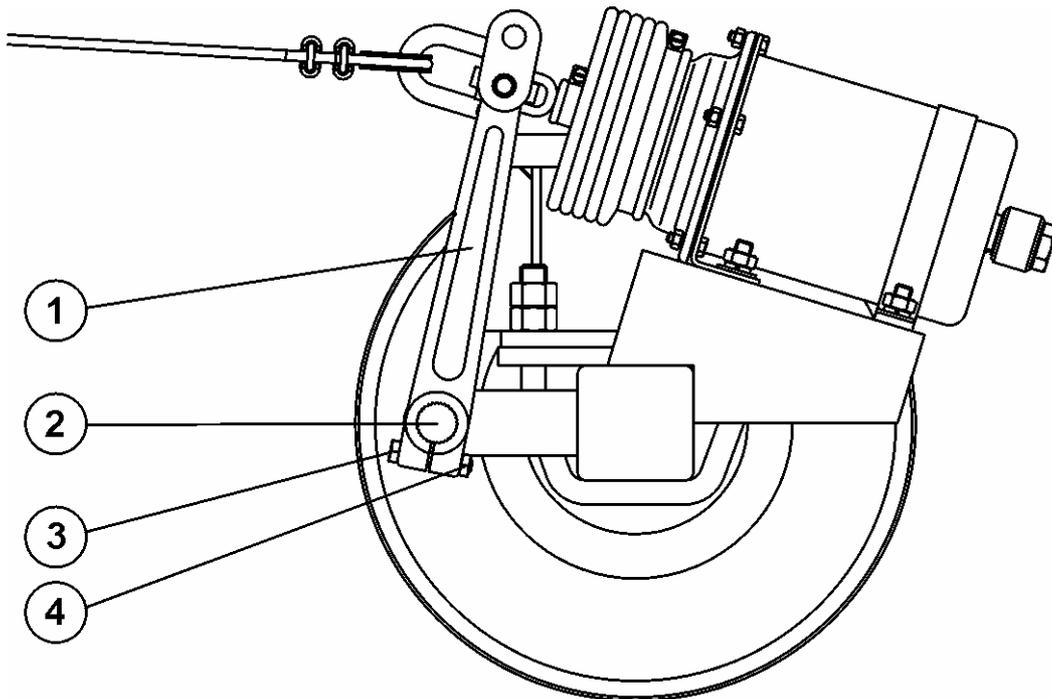


Fig. 13 Brake adjustment elements

1 – brake cam arm, 2 – brake cam shaft, 3 - screw, 4 - nut



CAUTION!

With properly adjusted brakes the braking force should be not lower than values given in the Table 4.

Table 4. Braking force.

Trailer type	Main brake braking force (kN)	Parking brake braking force (kN)
T672	32.3	19.4
T672/1	38.8	23.3

Difference between left and right wheel braking forces must not exceed 30% with assumption that the “100%” means the greater force.



CAUTION!

The trailer braking power is the sum of braking forces of both wheels.

5.3 MAINTENANCE OF PNEUMATIC SYSTEM

In the scope of maintenance operations it is necessary to perform inspection of pneumatic system tightness, especially at all connections. Tightness test should be executed with system pressure rated at ca. 600 kPa (6,0 kg/cm²).

If conduits, sealings or other elements of the system are damaged, air will get out in points of damage with typical hiss or – in the case of small leakage – in the form of small air bubbles. Small leakage can be detected with soap water or washing agent. Damaged sealings or conduits replace with new ones. If the reason of leakage is the damaged pneumatic cylinder – regenerate it.

Periodically remove condensed water from the air tank. For this purpose pull out the drain valve arbour located in the upper part of the tank. Compressed air will push the water out. After loosening the arbor the valve should close automatically and stop airflow from the tank.

Once a year just before the winter unscrew the drain valve and clean it from accumulated dirt.

5.4 MAINTENANCE OF HYDRAULIC SYSTEM

It is necessary to take as the principle that the oil in the trailer hydraulic system and the oil in the external tractor hydraulic system is of the same type. Application of different oil types is prohibited.

New trailers are filled with HL32 hydraulic oil.

The hydraulic system of the trailer should be absolutely tight. Test of tightness consists in coupling of the trailer with a tractor, activation of the hydraulic cylinder and keeping it in its maximally pulled out position for 30 s.

If oil leaks at connections of hydraulic conduits, screw the connection tightly; if leakage persists – replace the conduit or the connector with a new one. If oil leaks between connections, replace the damaged conduit. Each mechanical damage requires replacement of damaged element.

If the body of the hydraulic cylinder is polluted with oil check the reason of leakage.

While the cylinders are entirely pulled out check all sealings. Small leakage of “sweating off” type are admissible; if drops of oil are observed – stop the operation and repair the failure.



CAUTION!

Operation of the trailer with leaky tilting hydraulic system is prohibited.

It is prohibited to operate a trailer with lengthened (in relation to manufacturer’s adjustment) rope controlling the cut-off valve (8) (Fig. 5, “Hydraulic system of the load crate tilting system”)



CAUTION!

Condition of the hydraulic system should be checked all time during trailer’s operation.

If the hydraulic systems is used very intensively (great number of tilts) replace hydraulic conduits every 4 years.

5.5 LUBRICATION

The trailer should be lubricated in points shown on fig. 14, and described in the Table 5 „Lubrication points of the trailer”.

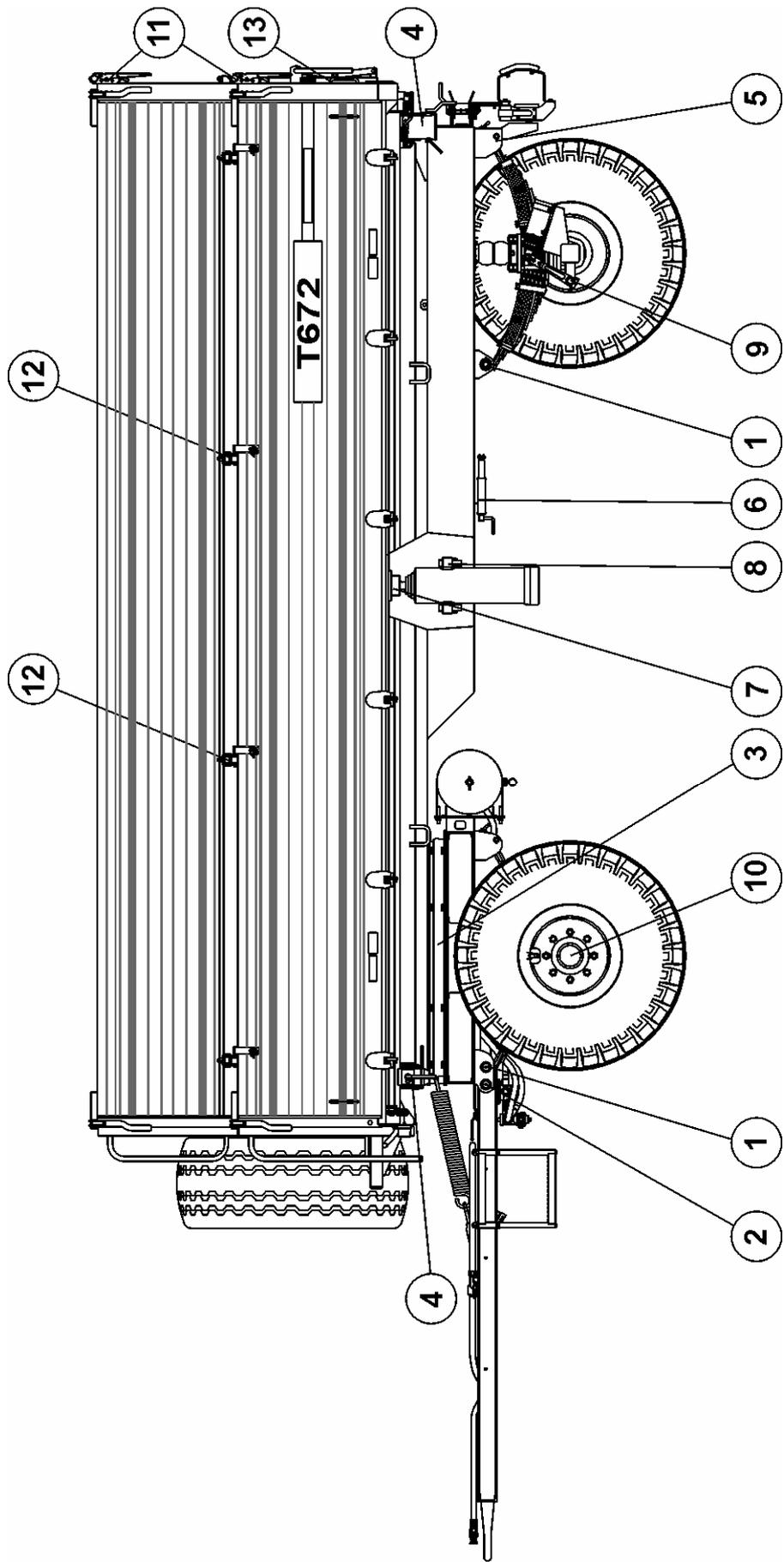


Fig. 14 Trailer lubrication points

Table 5. Trailer lubrication points

No. at fig. 14	Lubrication point	Number of points	Grease type	Frequency & method of lubrication
1	Suspension spring bolts	4	solid	every 3-4 months
2	Hitch rod bolts	2	solid	every 3-4 months
3	Turntable			every 6-8 months
4	Seats of load crate	4	solid	every 2 months cover surfaces with fresh grease
5	Suspension spring slide surfaces	4	solid	every 3-4 months
6	Parking brake screw	1	solid	every 3-4 months
7	Upper ball articulation of the cylinder	1	solid	every 6 months
8	Bolts of mounting of the hydraulic cylinder	2	solid	every 6 months cover bolts with fresh grease
9	Cam shaft sleeves	8	solid	every 6 months
10	Wheel bearings	4	solid	Replace grease every 2 years
11	Load crate wall locks	12	oil	once a month
12	Superstructure hinges	10	solid	once a month cover bolts with fresh grease
13	Chute guide	2	solid	every 3-4 months cover with very thin layer of grease

5.6 MAINTENANCE OF SUSPENSION SPRINGS

Maintenance of suspension springs consists in periodical lubrication in points given in the Table 5 and inspection of condition of suspension spring leafs.

Suspension spring leafs should be covered with thin layer of grease. Avoid accumulation of dried mud layer on suspension springs.



CAUTION!

In the case of break of a spring leaf in any suspension spring stop operating the trailer and remove the failure.

5.7 LOAD CRATE MAINTENANCE

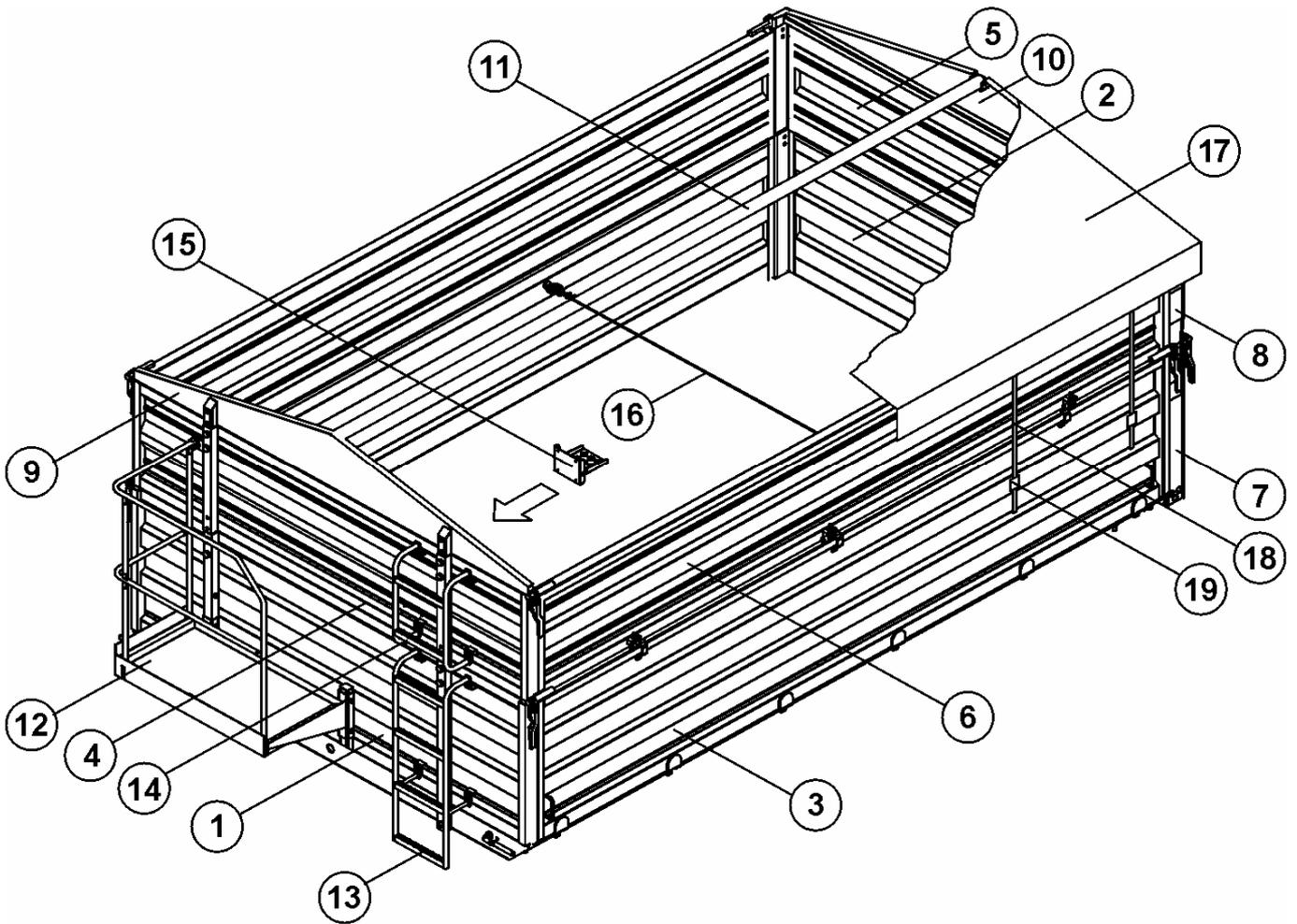


Fig. 15 Load crate

1 – front wall, 2 – rear wall, 3 – side wall, 4 – front superstructure, 5 – rear superstructure, 6 – side superstructure, 7 - post of walls, 8 - post of superstructures, 9 - front gable, 10 - rear gable, 11 – tube, 12 – platform, 13 – lower ladder, 14 – superstructure ladder, 15 – step, 16 – connecting cable, 17 - tarpaulin, 18 – tarpaulin strip, 19 – self-clamping strip lock

The load crate (standard version) consists of set of walls (1), (2), (3), (7) and superstructures (4), (5), (6), (8), lower ladder (13) and superstructure ladder (14), connecting cables (16) and steps (15). Additional equipment (for customer order) consists of a frame (9), (10), (11), tarpaulin (17) and platform (12).

5.7.1 Assembly / disassembly of superstructures

Assembly of superstructures should be performed as follows:

- fasten rear superstructure posts (8) to wall rear posts (7)
- install front (4) and rear (5) superstructure
- install side superstructures (6)
- screw the step (15) and the superstructure ladder (14)
- fasten the connection cable (20) to side superstructure posts (9).

Detailed list of screwed connections is given in the spare part catalogue. Disassembly of superstructures should be performed in an opposite order.

5.7.2 Tarpaulin & frame maintenance

The tarpaulin may be used only with the frame and the platform. The platform is situated on the front wall of the trailer. It enables comfortable and safe operator's position during tarpaulin maintenance works. The tarpaulin should be rolled up and unrolled by an operator standing on the platform. Take special precautions, stand firmly, and hold on the platform railing with one hand. Fasten the tarpaulin with strips (18).

The frame consists of the front gable (14), the rear gable (15), the front tube (17) and the rear tube (18). Installation of the frame and the tarpaulin should be performed as follows:

- install the front gable (9) on the front superstructure (4),
- install the rear gable (10) on the rear superstructure (5),
- screw the tube (11) to the front and rear gables,
- put on the tarpaulin.

Detailed list of screwed connections is given in the spare parts catalogue. Disassembly of the frame & tarpaulin should be performed in opposite order.



CAUTION!

Assembly and disassembly of superstructures and frame should be performed with help of suitable platforms, ladders or ramp. Said appliances should protect the operator against falling down. Take special precautions.

In the final phase of tarpaulin's rolling up hold on the platform railing or the front gable with one hand. Inobservance of this principle may result in operator's fall down.

During operation of the trailer fitted with third superstructures appears increased risk of following phenomena:

- **loss of trailer's stability**
- **trailer's turn over**
- **loss of strength of trailer elements**
- **insufficient visibility of movement path of trailer body elements**
- **uncontrolled body movements on the rough ground**
- **danger due to excessive load**

5.8 STORAGE & PRESERVATION

After work clean the trailer and wash with water stream. If the varnish coat is damaged, clean such place from rust and dust, degrease, and paint of the same colour and uniform layer thickness. If damaged places will not be painted immediately, cover them with thin layer of grease or anticorrosion agent.

It is recommended to store the trailer in a closed or roofed storage. If the trailer is stored outdoor for long period protect it from atmospheric influence, especially from agents causing corrosion and ageing of tyres.

**DOUBLE-AXLE AGRICULTURAL TRAILER
THREE-SIDE DUMPER**

**T672
T672/1**

SPARE PARTS CATALOGUE

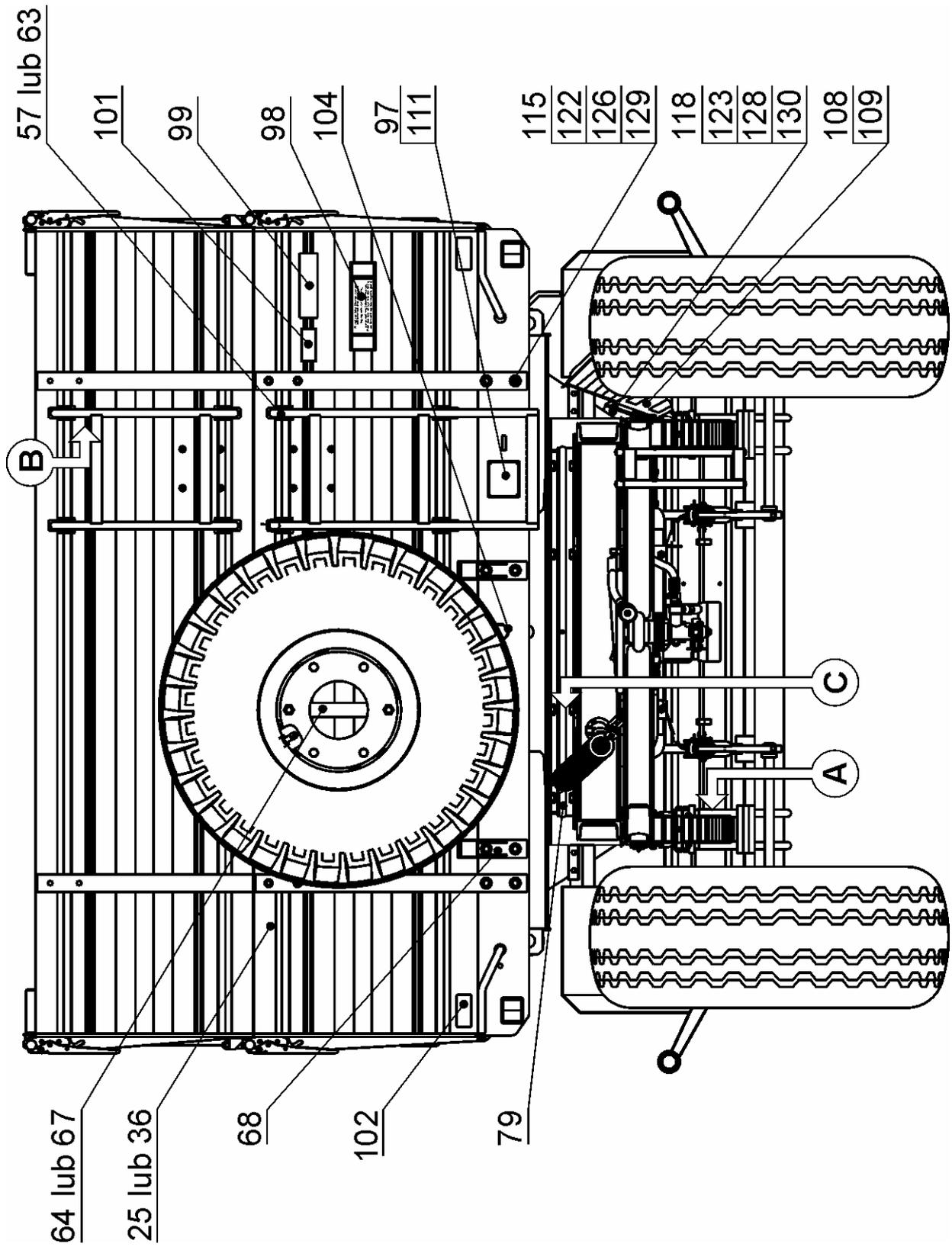
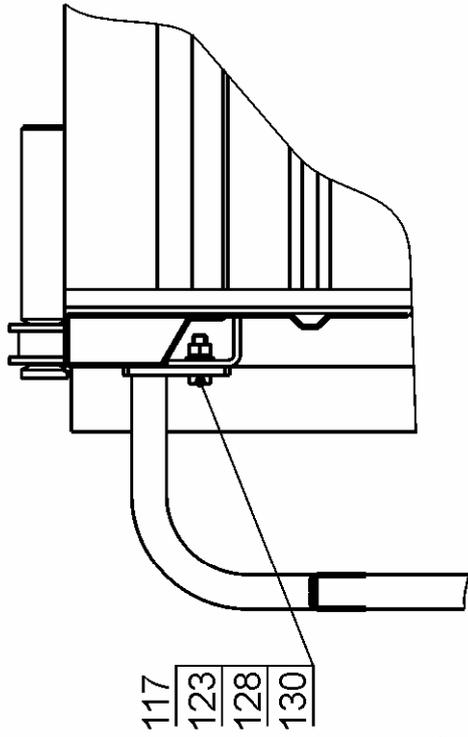
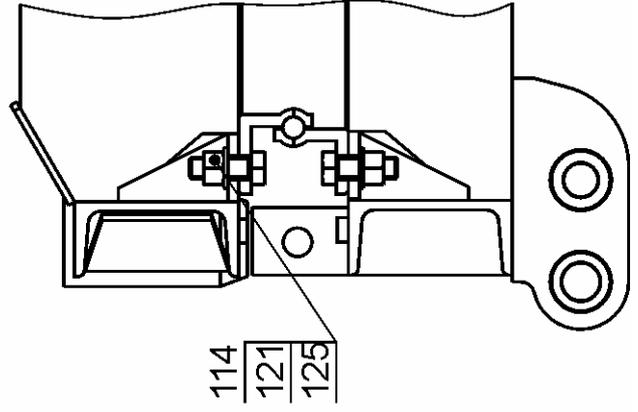


Fig. 1 Front view

Widok B



Widok C



Widok A

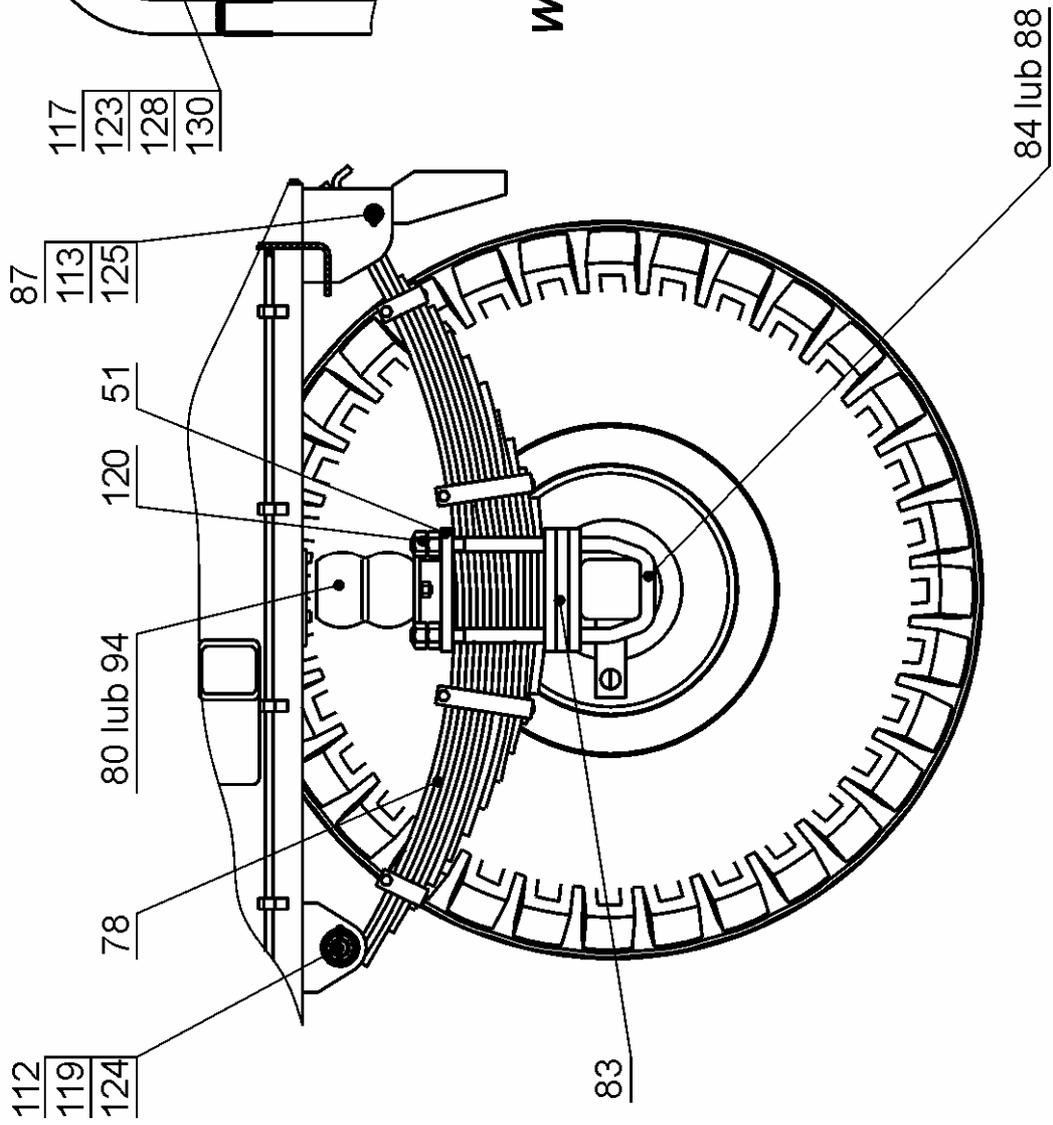


Fig. 2 Details

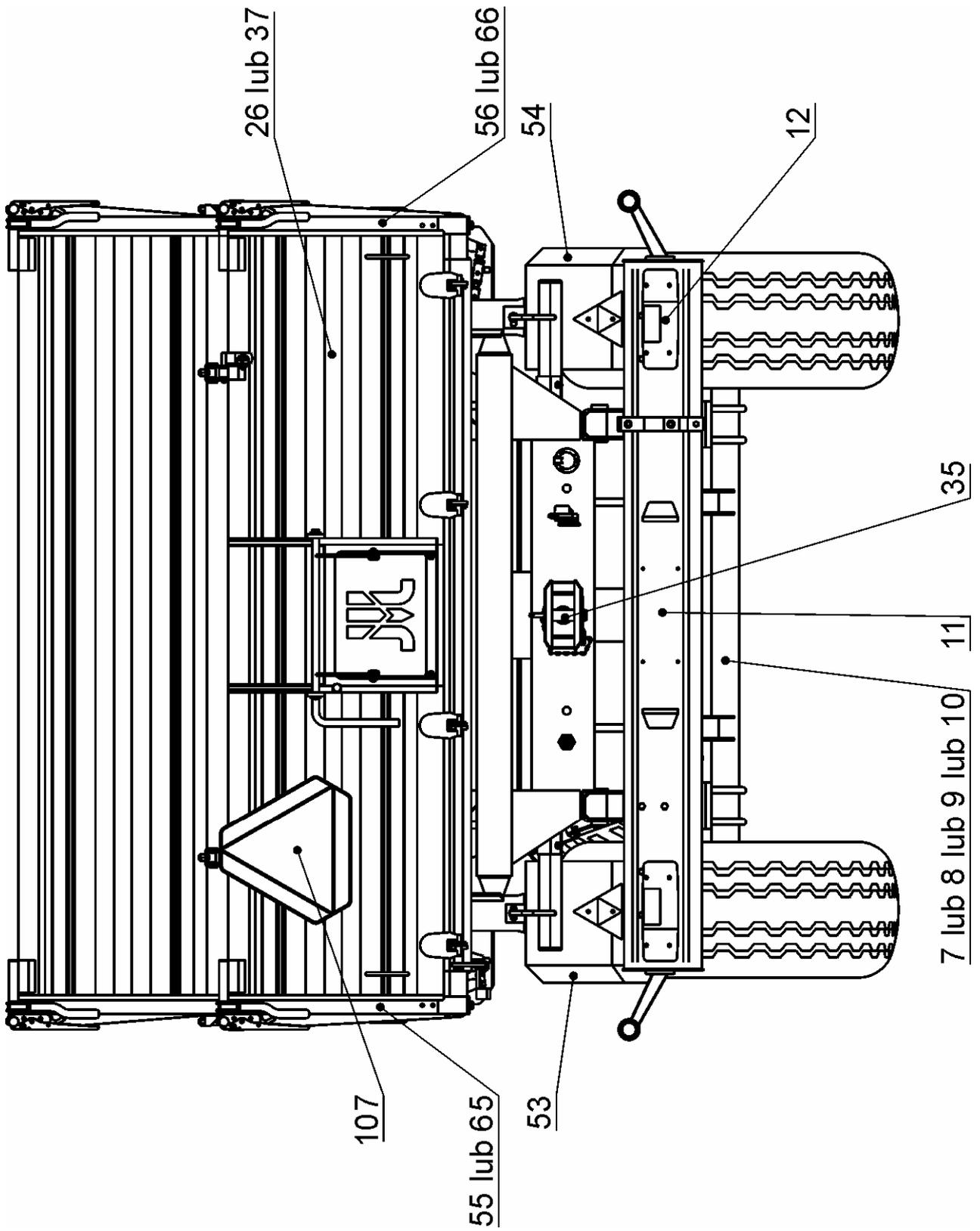


Fig. 3 Rear view

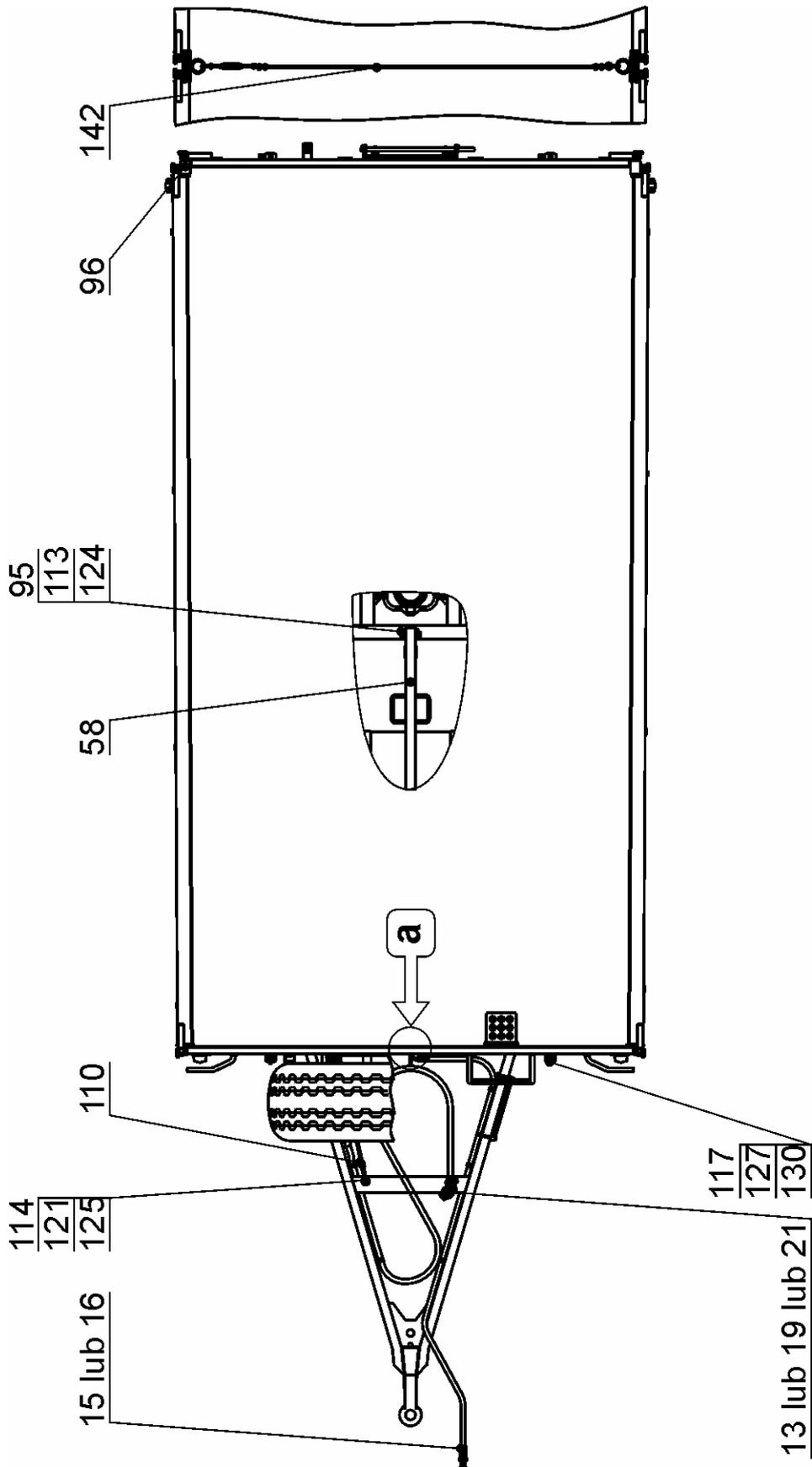


Fig. 4 Top view

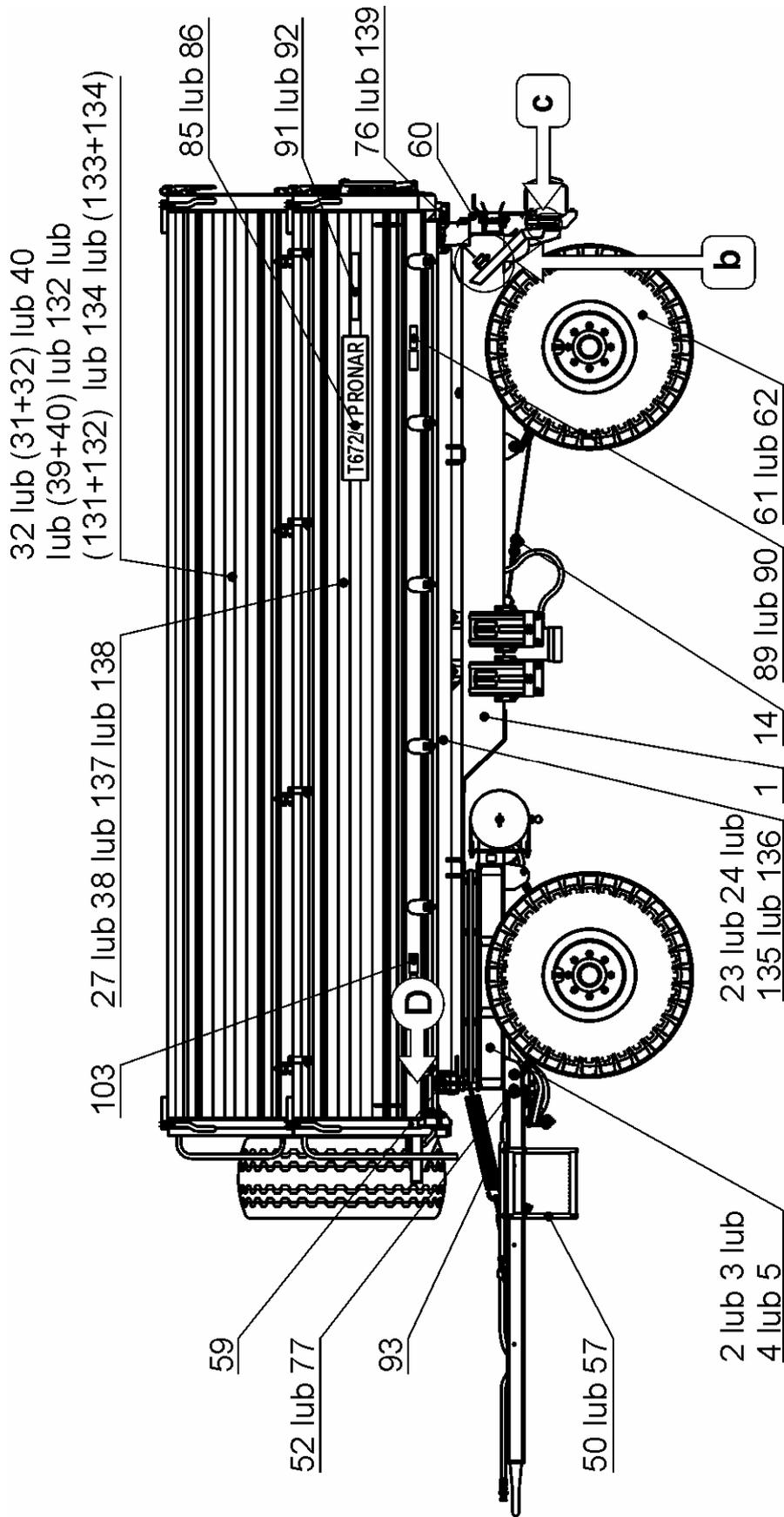


Fig. 5 Side view

Szczegół (a)

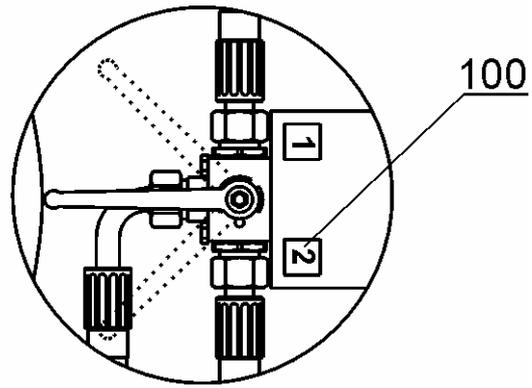
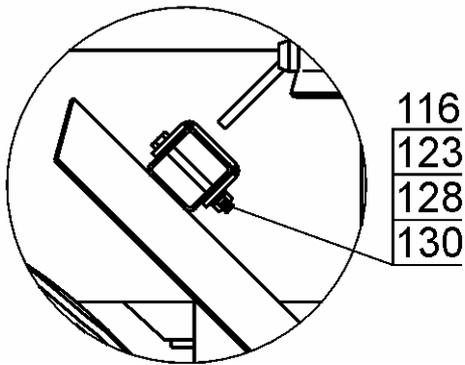


Fig. 6 Details (for Fig. 13)

Szczegół (b)



Szczegół (c)

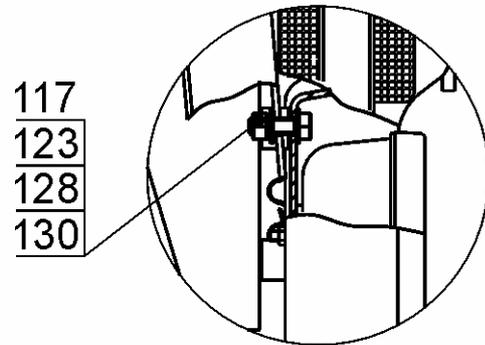


Fig. 7 Details

Widok D

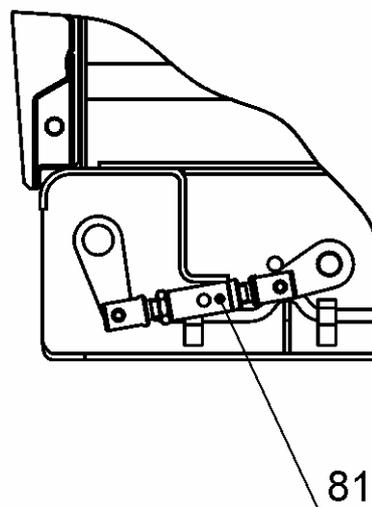


Fig. 8 Details

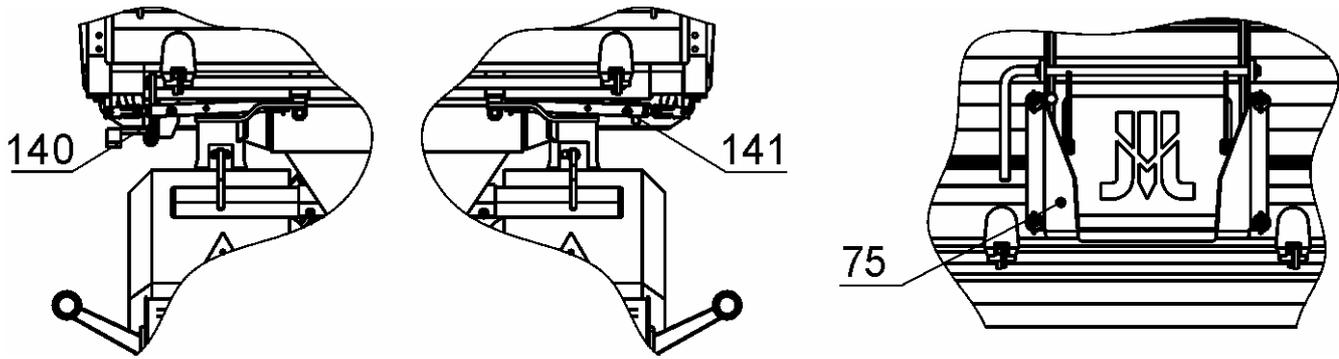


Fig. 9 Special equipment for order

Look at the appliance from behind

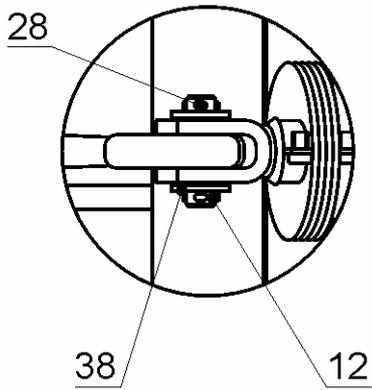
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TRAILER T672, MAIN VIEW										
Drawings No		Assembly / Part compl No								
1, 2, 3, 4, 5, 6, 7, 8, 9										
No	Part	Drawing / Standard No	T672/F	T672/AH/F	T672/AP/F	T672/D/F	T672/01/F	T672/01/AH/F	T672/01/AP/F	T672/01/D/F
1	Lower frame	53RPN-01.00.000	1	1	1	1	1	1	1	1
2	Turntable frame	53RPN-02.00.000	1	-	1	1	-	-	-	-
3	Turntable frame	53RPN-02.00.000-AH	-	1	-	-	-	-	-	-
4	Turntable frame	53RPN-03.00.000	-	-	-	-	1	-	1	1
5	Turntable frame	53RPN-03.00.000-AH	-	-	-	-	-	1	-	-
6	Hitch rod	53RPN-04.00.000	-	-	-	-	1	-	-	-
7	Axle, hydraulic brake □70	53RPN-05.00.000	-	2	-	-	-	-	-	-
8	Axle, pneumatic brake □70	53RPN-06.00.000	2	-	2	2	-	-	-	-
9	Axle, hydraulic brake □80	53RPN-07.00.000	-	-	-	-	-	2	-	-
10	Axle, pneumatic brake □80	53RPN-08.00.000	-	-	-	-	2	-	2	2
11	Lightning bar, compl.	53RPN-09.00.000	1	1	1	1	1	1	1	1
12	Wiring	53RPN-10.00.000	1	1	1	1	1	1	1	1
13	Pneumatic system	53RPN-11.00.000	1	-	1	-	1	-	1	-
14	Hand brake	53RPN-13.00.000	1	-	-	1	1	-	-	1
15	Hydraulic system	53RPN-14.00.000	-	1	-	-	-	1	-	-
16	Hydraulic system (PL)	53RPN-15.00.000	1	-	1	1	1	-	1	1
17	Hand brake lever	53RPN-16.00.000	-	1	-	-	-	1	-	-
18	Hand brake lever	53RPN-16.00.000-AH	-	-	1	-	-	-	1	-
19	Two-conduit hydraulic system	53RPN-17.00.000	1 [®]	-	1 [®]	-	1 [®]	-	1 [®]	-
20	Hitch rod (Austria)	53RPN-18.00.000	-	-	-	-	-	1	1	-
21	Two-conduit hydraulic system ALB	53RPN-19.00.000	-	-	-	1	-	-	-	1
22	Hitch rod (DE)	53RPN-20.00.000	-	-	-	1	-	-	-	1
23	Upper frame	45RPN-02.00.000	1	1	1	1	-	-	-	-
24	Upper frame	45RPN-02.00.000-01	-	-	-	-	1	1	1	1
25	Front wall (F 600)	45RPN-07.00.000	-	-	-	-	1	1	1	1
26	Rear wall, compl. (F 600)	45RPN-08.00.000	-	-	-	-	1	1	1	1
27	Side wall (F 600)	45RPN-09.00.000	-	-	-	-	2	2	2	2
32	Superstructure, compl (F 600)	45RPN-18.00.000	-	-	-	-	1	1	1	1
35	Rear hook, compl.	45RPN-23.00.000	1	1	1	1	1	1	1	1
36	Front wall (F 500)	45RPN-28.00.000	1	1	1	1	-	-	-	-
37	Rear wall, compl. (F 500)	45RPN-29.00.000	1	1	1	1	-	-	-	-
38	Side wall (F 500)	45RPN-30.00.000	2	2	2	2	-	-	-	-

Assembly			Qty							
TRAILER T672, MAIN VIEW										
Drawings No		Assembly / Part compl No								
1, 2, 3, 4, 5, 6, 7, 8, 9										
No	Part	Drawing / Standard No	T672/F	T672/AH/F	T672/AP/F	T672/D/F	T672/O1/F	T672/O1/AH/F	T672/O1/AP/F	T672/O1/D/F
40	Superstructure, compl (F 500)	45RPN-32.00.000	1	1	1	1	-	-	-	-
46	Frame + tarpaulin	45RPN-49.00.000	1 [⊗]							
47	Balcony, compl.	45RPN-50.00.000	1 [⊗]							
48	Hitch rod	29RPN-04.00.000	1	-	-	-	-	-	-	-
49	Hitch rod (Austria)	29RPN-16.00.000	-	1	1	-	-	-	-	-
50	Hitch rod ladder	53RPN-00.01.000	-	-	-	-	1	1	1	1
51	Upper suspension spring plate, compl.	53RPN-00.02.000	4	4	4	4	4	4	4	4
52	Hitch rod bolt, compl.	53RPN-00.03.000	-	-	-	-	2	2	2	2
53	Wing left	53RPN-00.04.000	1	1	1	1	1	1	1	1
54	Wing right	53RPN-00.05.000	1	1	1	1	1	1	1	1
55	Post left (FUHRMANN)	45RPN-00.01.000	-	-	-	-	1	1	1	1
56	Post right (FUHRMANN)	45RPN-00.02.000	-	-	-	-	1	1	1	1
57	Lower ladder	45RPN-00.05.000	-	-	-	-	1	1	1	1
58	Prop	45RPN-00.06.000	1	1	1	1	1	1	1	1
59	Tilt bolt I	45RPN-00.07.000	1	1	1	1	1	1	1	1
60	Tilt bolt II	45RPN-00.08.000	1	1	1	1	1	1	1	1
61	Wheel compl.	45RPN-00.09.000	4(5 [⊗])	4(5 [⊗])	4(5 [⊗])	4(5 [⊗])	-	-	-	-
62	Wheel compl.	45RPN-00.10.000	-	-	-	-	4(5 [⊗])	4(5 [⊗])	4(5 [⊗])	4(5 [⊗])
63	Lower ladder (500)	45RPN-00.16.000	1	1	1	1	-	-	-	-
64	Spare wheel hanger compl. 500	45RPN-00.17.000	1 [⊗]	1 [⊗]	1 [⊗]	1 [⊗]	-	-	-	-
65	Post left (500 FUHRMANN)	45RPN-00.18.000	1	1	1	1	-	-	-	-
66	Post right (500 FUHRMANN)	45RPN-00.19.000	1	1	1	1	-	-	-	-
67	Spare wheel hanger compl.	45RPN-00.20.000	-	-	-	-	1 [⊗]	1 [⊗]	1 [⊗]	1 [⊗]
68	Spare wheel bracket	45RPN-00.21.000	2 [⊗]							
73	Board guy	45RPN-00.26.000	-	-	-	-	1 [⊗]	1 [⊗]	1 [⊗]	1 [⊗]
74	Board guy (500)	45RPN-00.27.000	1 [⊗]	1 [⊗]	1 [⊗]	1 [⊗]	-	-	-	-
75	Chute compl.	45RPN-00.29.000	1 [⊗]							
76	Rear lock	29RPN-00.02.000	1	1	1	1	1	1	1	1
77	Bolt, compl.	29RPN-00.07.000	6	6	6	6	6	6	6	6
78	Suspension spring 70 x 9 13 feathers	53RPN-00.00.100	4	4	4	4	4	4	4	4
79	Turntable	53RPN-00.00.200	1	1	1	1	1	1	1	1
80	Fender, compl. R2K37	53RPN-00.00.300	-	-	-	-	4	4	4	4
81	Pull rod, compl.	29RPN-00.00.300	2	2	2	2	2	2	2	2
82	Hitch rod ladder	29RPN-00.03.900	1	1	1	1	-	-	-	-
83	Lower spring plate	53RPN-05.03.001	-	-	-	-	8	8	8	8
84	Bail screw I	53RPN-00.00.001	8	8	8	8	-	-	-	-
85	Sticker T672	53RPN-00.00.002	2	-	-	2	-	-	-	-
86	Sticker T672-1	53RPN-00.00.003	-	-	-	-	2	-	-	2
87	Suspension spring bolt	53RPN-00.00.004	4	4	4	4	4	4	4	4
88	Bail screw II	53RPN-00.00.007	-	-	-	-	8	8	8	8
89	Sticker – 350 kPa	45RPN-00.00.005	4	-	-	4	-	-	-	-
90	Sticker – 360 kPa	45RPN-00.00.006	-	-	-	-	4	-	-	4
91	Sticker Load 8000 kg	45RPN-00.00.008	2	-	-	2	-	-	-	-
92	Sticker Load 10000 kg	45RPN-00.00.009	-	-	-	-	2	-	-	2
93	Spring	29RPN-00.00.001	1	1	1	1	1	1	1	1
94	Fender, compl. R2K30	29RPN-00.00.200	4	4	4	4	-	-	-	-
95	Prop bolt	29RPN-00.00.009	1	1	1	1	1	1	1	1
96	Post plug	29RPN-00.00.010	2	2	2	2	2	2	2	2
97	Type plate I	29RPN-00.00.025	1	-	-	-	1	-	-	-
98	Information sticker I	29RPN-00.00.012	1	-	-	-	1	-	-	-

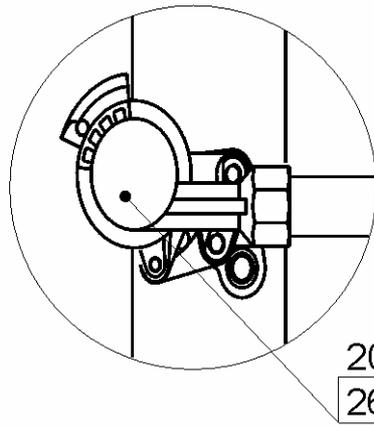
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99	Information sticker II	29RPN-00.00.022	1	-	-	-	1	-	-	-
100	Sticker 1/2	29RPN-00.00.023	1	-	-	-	1	-	-	-
101	Information sticker III	29RPN-00.00.024	1	-	-	-	1	-	-	-
102	Reflection sticker white DOB35		2	2	2	2	2	2	2	2
103	Reflection sticker yellow DOB35		4	4	4	4	4	4	4	4
104	Plug IKP45		1	1	1	1	1	1	1	1
105	Hole plug	145301569903	4 [⊗]							
106	Plate for slow-moving vehicles		1 [⊗]							
107	Warning reflection triangle		1 [⊗]							
108	Wheel wedge	No. kat. 244374	2	2	2	2	2	2	2	2
109	Wedge grip	No. kat. 244377	2	2	2	2	2	2	2	2
110	Stretcher M12 S.11076		1	1	1	1	1	1	1	1
111	Rivet P Al/Fe 3x8	PN-83/M-82971	4	-	-	-	4	-	-	-
112	Cotter pin S-Zn 4x50	PN-76/M-8001	6	6	6	6	6	6	6	6
113	Cotter pin S-Zn 4x32	PN-76/M-8001	10	10	10	10	10	10	10	10
114	Screw M16x45-8.8-B-Fe/Zn	PN-85/M-82105	17	17	17	17	17	17	17	17
115	Screw M10x30-8.8-B-Fe/Zn5	PN-85/M-82105	4(8) [⊗]							
116	Screw M8x75-8.8-B-Fe/Zn5	PN-85/M-82101	4	4	4	4	4	4	4	4
117	Screw M8x25-8.8-B-Fe/Zn5	PN-85/M-82105	12	12	12	12	12	12	12	12
118	Screw M8x16-8.8-B-Fe/Zn5	PN-85/M-82105	8	8	8	8	8	8	8	8
119	Crown nut M20-5-C-Fe/Zn5	PN-86/M-82148	6	6	6	6	6	6	6	6
120	Nut M20x1.5-5-B-Fe/Zn5	PN-86/M-82144	32	32	32	32	32	32	32	32
121	Nut M16-8-B-Fe/Zn5	PN-85/M-82175	17	17	17	17	17	17	17	17
122	Nut M10-5-B-Fe/Zn5	PN-86/M-82144	4(8) [⊗]							
123	Nut M8-5-B-Fe/Zn5	PN-86/M-82144	16	16	16	16	16	16	16	16
124	Washer 21-Fe/Zn5	PN-78/M-82005	6	6	6	6	6	6	6	6
125	Washer 17-Fe/Zn5	PN-78/M-82005	25	25	25	25	25	25	25	25
126	Washer 10.5-Fe/Zn5	PN-86/M-82030	4(8) [⊗]							
127	Washer 8.5-Fe/Zn5	PN-86/M-82030	4	4	4	4	4	4	4	4
128	Washer 8.4-Fe/Zn5	PN-78/M-82005	16	16	16	16	16	16	16	16
129	Washer Z10.2-Fe/Zn5	PN-77/M-82008	4(8) [⊗]							
130	Washer Z8.2-Fe/Zn5	PN-77/M-82008	20	20	20	20	20	20	20	20
132	Compl. superstructure – SD (F600)	45RPN-18.00.000-SD	-	-	-	-	1 [⊗]	1 [⊗]	1 [⊗]	1 [⊗]
134	Compl. superstructure – SD (F500)	45RPN-32.00.000-SD	1 [⊗]	1 [⊗]	1 [⊗]	1 [⊗]	-	-	-	-
135	Upper frame for dividable side walls	45RPN-41.00.000	1 [⊗]	1 [⊗]	1 [⊗]	1 [⊗]	-	-	-	-
136	Upper frame for dividable side walls	45RPN-41.00.000-01	-	-	-	-	1 [⊗]	1 [⊗]	1 [⊗]	1 [⊗]
137	Side wall dividable, compl. (F600)	45RPN-42.00.000	-	-	-	-	2 [⊗]	2 [⊗]	2 [⊗]	2 [⊗]
138	Side wall dividable, compl. (F500)	45RPN-43.00.000	2 [⊗]	2 [⊗]	2 [⊗]	2 [⊗]	-	-	-	-
139	Rear lock –SD	45RPN-44.00.000	1 [⊗]							
140	Side lock left	45RPN-45.00.000	1 [⊗]							
141	Side lock right	45RPN-46.00.000	1 [⊗]							
142	Connection rope	45RPN-00.28.000	1 [⊗]							

⊗ - Special version for order

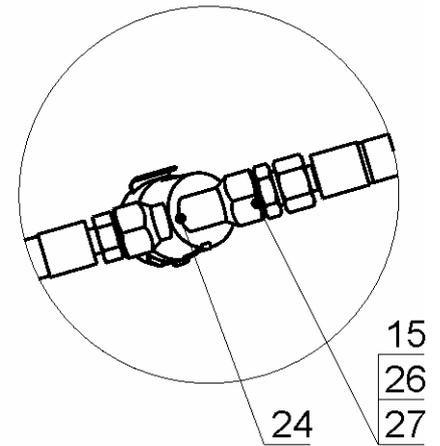
Szczegół (a)



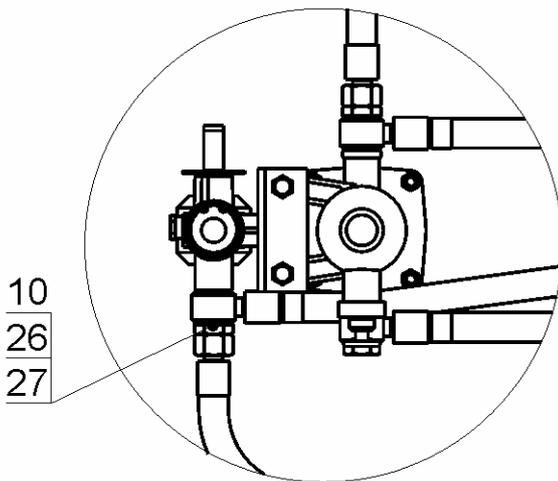
Szczegół (b)



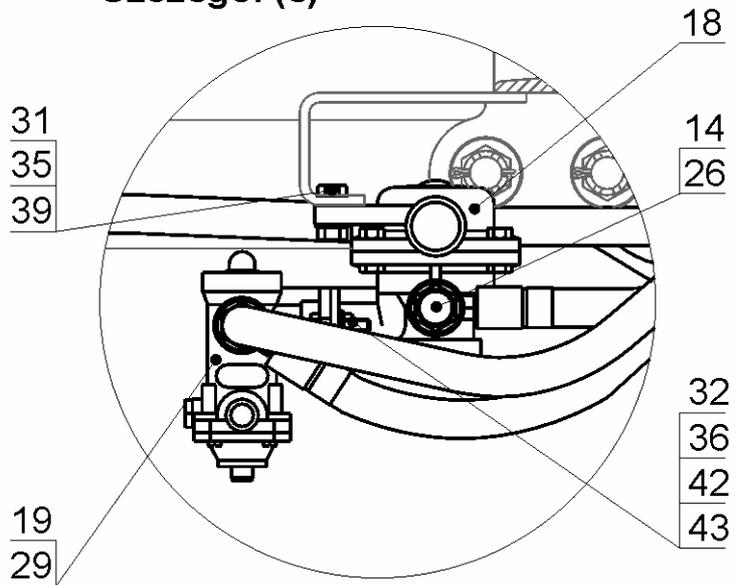
Szczegół (c)



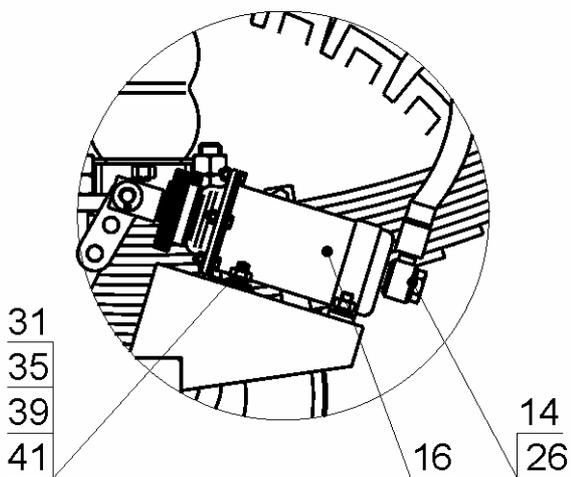
Szczegół (d)



Szczegół (e)



Szczegół (f)



Szczegół (g)

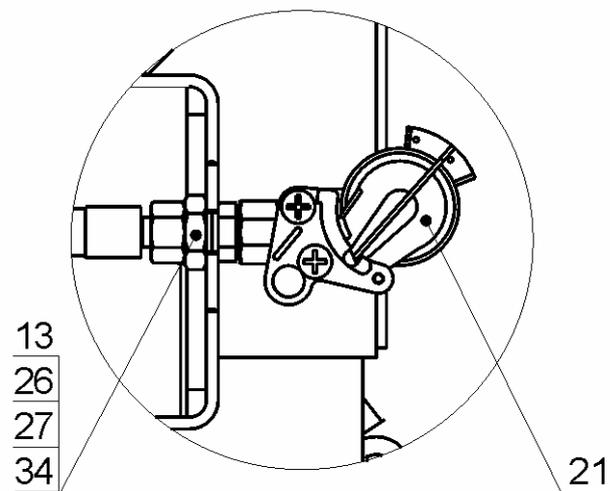


Fig. 11 Single-conduit pneumatic system, continued

Assembly SINGLE-CONDUIT PNEUMATIC SYSTEM			Qty							
Drawings No 11, 12		Assembly / Part compl No	T672/F	T672/AH/F	T672/API/F	T672/D/F	T672/01/F	T672/01/AH/F	T672/01/AP/F	T672/01/D/F
No	Part	Drawing / Standard No								
1	Conduit W-W 5050	53RPN-11.01.000	1	-	1	-	1	-	1	-
2	Conduit O-W 4600	53RPN-11.02.000	1	-	1	-	1	-	1	-
3	Conduit O-W 900	53RPN-11.03.000	2	-	2	-	2	-	2	-
4	Conduit O-O 1850	53RPN-11.04.000	1	-	1	-	1	-	1	-
5	Conduit O-W 1100	53RPN-11.05.000	1	-	1	-	1	-	1	-
6	Conduit O-W 650	45RPN-11.05.000	2	-	2	-	2	-	2	-
7	Conduit Z-Z 2300	29RPN-11.09.000	1	-	1	-	1	-	1	-
8	Conduit W-W 700	29RPN-11.08.000	1	-	1	-	1	-	1	-
9	Air tank band	45RPN-00.13.000	2	-	2	-	2	-	2	-
10	Special connection screw	29RPN-11.00.001	2	-	2	-	2	-	2	-
11	T-connector	29RPN-11.00.003	2	-	2	-	2	-	2	-
12	Bolt	29RPN-11.00.004	2	-	2	-	2	-	2	-
13	Connector, long	6RPN-01.00.06	1	-	1	-	1	-	1	-
14	Connection screw	6RPN-01.00.10	6	-	6	-	6	-	6	-
15	Connector, short	6RPN-01.00.11	1	-	1	-	1	-	1	-
16	Pneumatic cyl.φ80X53.12.00/A e=14 mm		4	-	4	-	4	-	4	-
17	Air tank 529 000 000		1	-	1	-	1	-	1	-
18	Control valve 44.11.011.0		1	-	1	-	1	-	1	-
19	Brake force controller 61.11.012.0		1	-	1	-	1	-	1	-
20	Conduit connection 87.30.010.0		1	-	1	-	1	-	1	-
21	Conduit connection 87.30.011.0		1	-	1	-	1	-	1	-
22	Drain valve 83.10.012.0		1	-	1	-	1	-	1	-
23	Inspection connection 88.10..011.0		1	-	1	-	1	-	1	-
24	Conduit filter 81.01.010.0		1	-	1	-	1	-	1	-
25	Band RIBENCLIP 22		12	-	12	-	12	-	12	-
26	Washer Cu 27/22/2		22	-	22	-	22	-	22	-
27	Washer Cu 20/12.5/2		10	-	10	-	10	-	10	-
28	Cotter pin S-Zn 3.2x25	PN-76/M-82001	4	-	4	-	4	-	4	-
29	Sealing ring, round φ20x5	PN-64/M-73093	1	-	1	-	1	-	1	-
30	Self-tapping screw φ5.5x19	DIN7504-K	9	-	9	-	9	-	9	-
31	Screw M10x35-5.8 B-Fe/Zn5	PN-85/M-82105	18	-	18	-	18	-	18	-
32	Screw M8x30-5.8 B-Fe/Zn5	PN-85/M-82105	2	-	2	-	2	-	2	-
33	Screw M6x16-5.8 B-Fe/Zn5	PN-85/M-82105	3	-	3	-	3	-	3	-
34	Nut M22x1.5-0.4 B-Fe/Zn5	PN-86/M-82153	1	-	1	-	1	-	1	-
35	Nut M10-5 B-Fe/Zn5	PN-86/M-82144	22	-	22	-	22	-	22	-
36	Nut M8-5 B-Fe/Zn5	PN-86/M-82144	2	-	2	-	2	-	2	-
37	Nut M6-5 B-Fe/Zn5	PN-86/M-82144	3	-	3	-	3	-	3	-
38	Washer 13-Fe/Zn5	PN-78/M-82005	4	-	4	-	4	-	4	-
39	Washer 10.5-Fe/Zn5	PN-78/M-82005	16	-	16	-	16	-	16	-
40	Washer 6.4-Fe/Zn5	PN-78/M-82005	3	-	3	-	3	-	3	-
41	Washer Z10.2-Fe/Zn5	PN-77/M-82006	22	-	22	-	22	-	22	-
42	Washer 8.4-Fe/Zn5	PN-78/M-82005	2	-	2	-	2	-	2	-
43	Spring washer Z8.2-Fe/Zn5	PN-77/M-82006	2	-	2	-	2	-	2	-
44	Spring washer Z6.1-Fe/Zn5	PN-77/M-82006	3	-	3	-	3	-	3	-

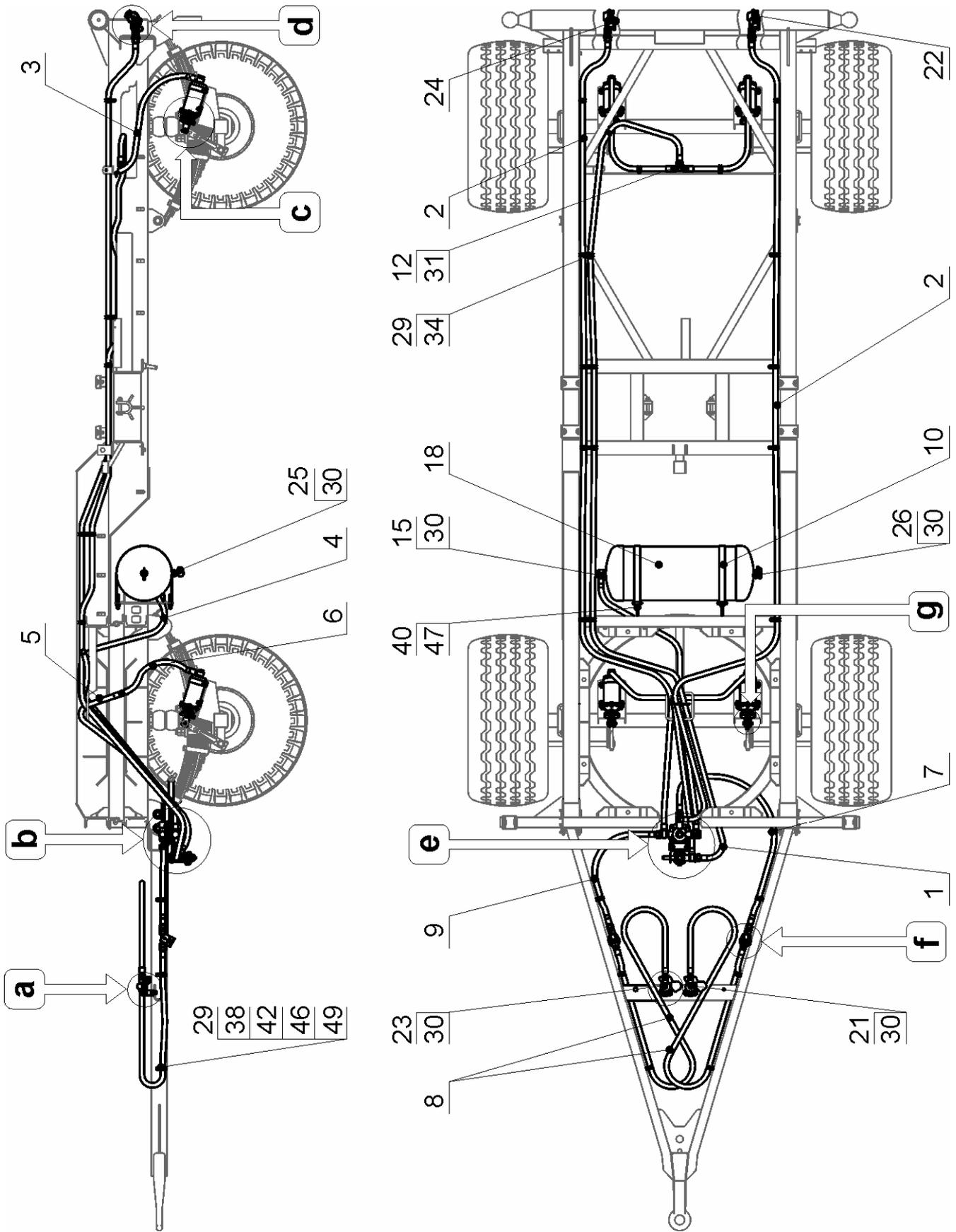
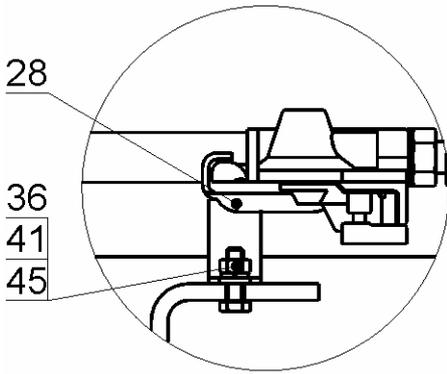
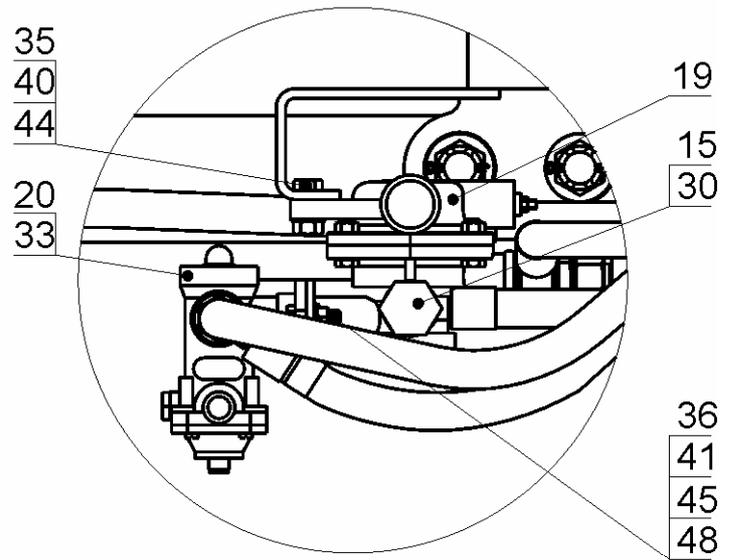


Fig. 12 Double-conduit pneumatic system

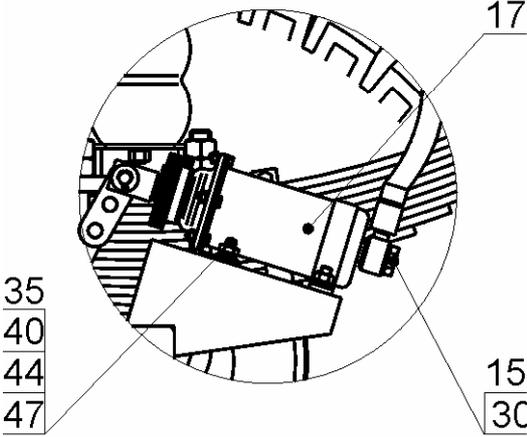
Szczegół (a)



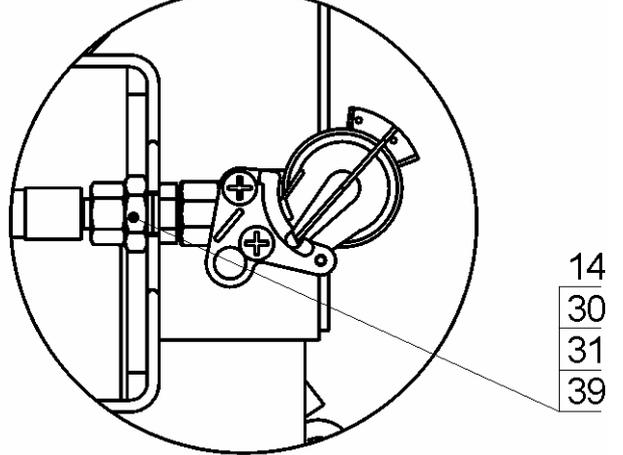
Szczegół (b)



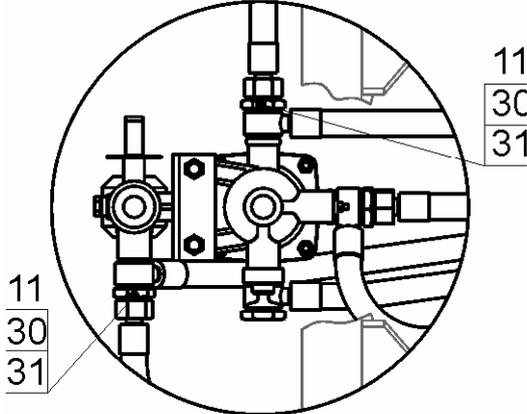
Szczegół (c)



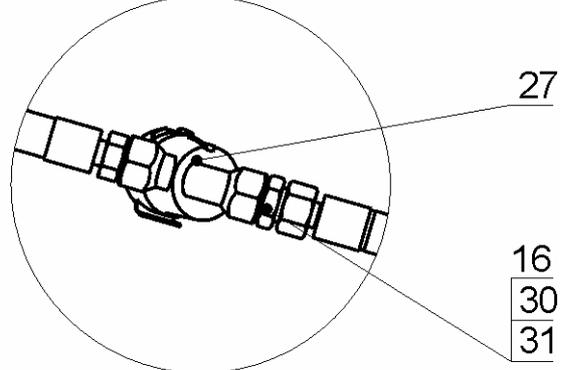
Szczegół (d)



Szczegół (e)



Szczegół (f)



Szczegół (g)

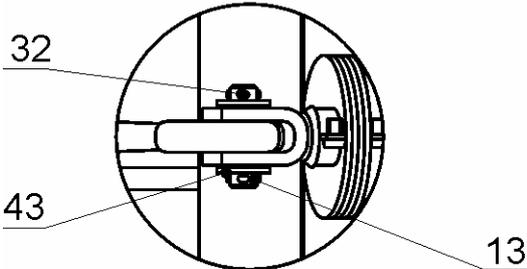


Fig. 13 Double-conduit pneumatic system, continued

Assembly DOUBLE-CONDUIT PNEUMATIC SYSTEM			Qty							
Drawings No 12, 13		Assembly / Part compl No	T672/F	T672/AH/F	T672/AP/F	T672/D/F	T672/O1/F	T672/O1/AH/F	T672/O1/AP/F	T672/O1/D/F
No	Part	Drawing / Standard No								
1	Conduit W-W 5050	53RPN-11.01.000	1	-	1	-	1	-	1	-
2	Conduit O-W 4600	53RPN-11.02.000	2	-	2	-	2	-	2	-
3	Conduit O-W 900	53RPN-11.03.000	2	-	2	-	2	-	2	-
4	Conduit O-O 1850	53RPN-11.04.000	1	-	1	-	1	-	1	-
5	Conduit O-W 1100	53RPN-11.05.000	1	-	1	-	1	-	1	-
6	Conduit O-W 650	45RPN-11.05.000	2	-	2	-	2	-	2	-
7	Conduit O-W 1300	45RPN-11.01.000	1	-	1	-	1	-	1	-
8	Conduit Z-Z 2300	29RPN-11.09.000	2	-	2	-	2	-	2	-
9	Conduit W-W 700	29RPN-11.08.000	1	-	1	-	1	-	1	-
10	Air tank band	45RPN-00.13.000	2	-	2	-	2	-	2	-
11	Special connection screw	29RPN-11.00.001	3	-	3	-	3	-	3	-
12	T-connector	29RPN-11.00.003	2	-	2	-	2	-	2	-
13	Bolt	29RPN-11.00.004	2	-	2	-	2	-	2	-
14	Connector, long	6RPN-01.00.06	2	-	2	-	2	-	2	-
15	Connection screw	6RPN-01.00.10	6	-	6	-	6	-	6	-
16	Connector, short	6RPN-01.00.11	2	-	2	-	2	-	2	-
17	Pneumatic cyl. $\phi 80 \times 53.12.00/A$ e=14		4	-	4	-	4	-	4	-
18	Air tank 529 000 000		1	-	1	-	1	-	1	-
19	Control valve 44.12.010.0		1	-	1	-	1	-	1	-
20	Brake force controller 61.11.012.0		1	-	1	-	1	-	1	-
21	Conduit connection 87.10.030.0		1	-	1	-	1	-	1	-
22	Conduit connection 87.15.030.0		1	-	1	-	1	-	1	-
23	Conduit connection 87.10.020.0		1	-	1	-	1	-	1	-
24	Conduit connection 87.15.020.0		1	-	1	-	1	-	1	-
25	Drain valve 83.10.012.0		1	-	1	-	1	-	1	-
26	Inspection connection 88.10.011.0		1	-	1	-	1	-	1	-
27	Conduit filter 81.01.010.0		2	-	2	-	2	-	2	-
28	Connector catch Art.-331000 Fliegi		2	-	2	-	2	-	2	-
29	Band RIBENCLIP 22		23	-	23	-	23	-	23	-
30	Washer Cu 27/22/2		28	-	28	-	28	-	28	-
31	Washer Cu 20/12.5/2		14	-	14	-	14	-	14	-
32	Cotter pin S-Zn 3.2x25	PN-76/M-82001	4	-	4	-	4	-	4	-
33	Sealing ring, round $\phi 20 \times 5$	PN-64/M-73093	1	-	1	-	1	-	1	-
34	Self-tapping screw $\phi 5.5 \times 19$	DIN-7504-K	13	-	13	-	13	-	13	-
35	Screw M10x35-5.8-B-Fe/Zn5	PN-85/M-82105	18	-	18	-	18	-	18	-
36	Screw M8x30-5.8-B-Fe/Zn5	PN-85/M-82105	2	-	2	-	2	-	2	-
37	Screw M8x25-5.8-B-Fe/Zn5	PN-85/M-82105	4	-	4	-	4	-	4	-
38	Screw M6x16-5.8-B-Fe/Zn5	PN-85/M-82105	6	-	6	-	6	-	6	-
39	Nut M22x1.5-04-B-Fe/Zn5	PN-86/M-82153	2	-	2	-	2	-	2	-
40	Nut M10-5-B-Fe/Zn5	PN-86/M-82144	22	-	22	-	22	-	22	-
41	Nut M8-5-B-Fe/Zn5	PN-86/M-82144	6	-	6	-	6	-	6	-
42	Nut M6-5-B-Fe/Zn5	PN-86/M-82144	6	-	6	-	6	-	6	-
43	Washer 13-Fe/Zn5	PN-78/M-82005	4	-	4	-	4	-	4	-
44	Washer 10.5-Fe/Zn5	PN-78/M-82005	16	-	16	-	16	-	16	-
45	Washer 8.4-Fe/Zn5	PN-78/M-82005	2	-	2	-	2	-	2	-
46	Washer 6.4-Fe/Zn5	PN-78/M-82005	6	-	6	-	6	-	6	-
47	Washer Z10.2-Fe/Zn5	PN-77/M-82008	22	-	22	-	22	-	22	-
48	Washer Z8.2-Fe/Zn5	PN-77/M-82008	6	-	6	-	6	-	6	-
49	Washer Z6.1-Fe/Zn5	PN-77/M-82008	6	-	6	-	6	-	6	-

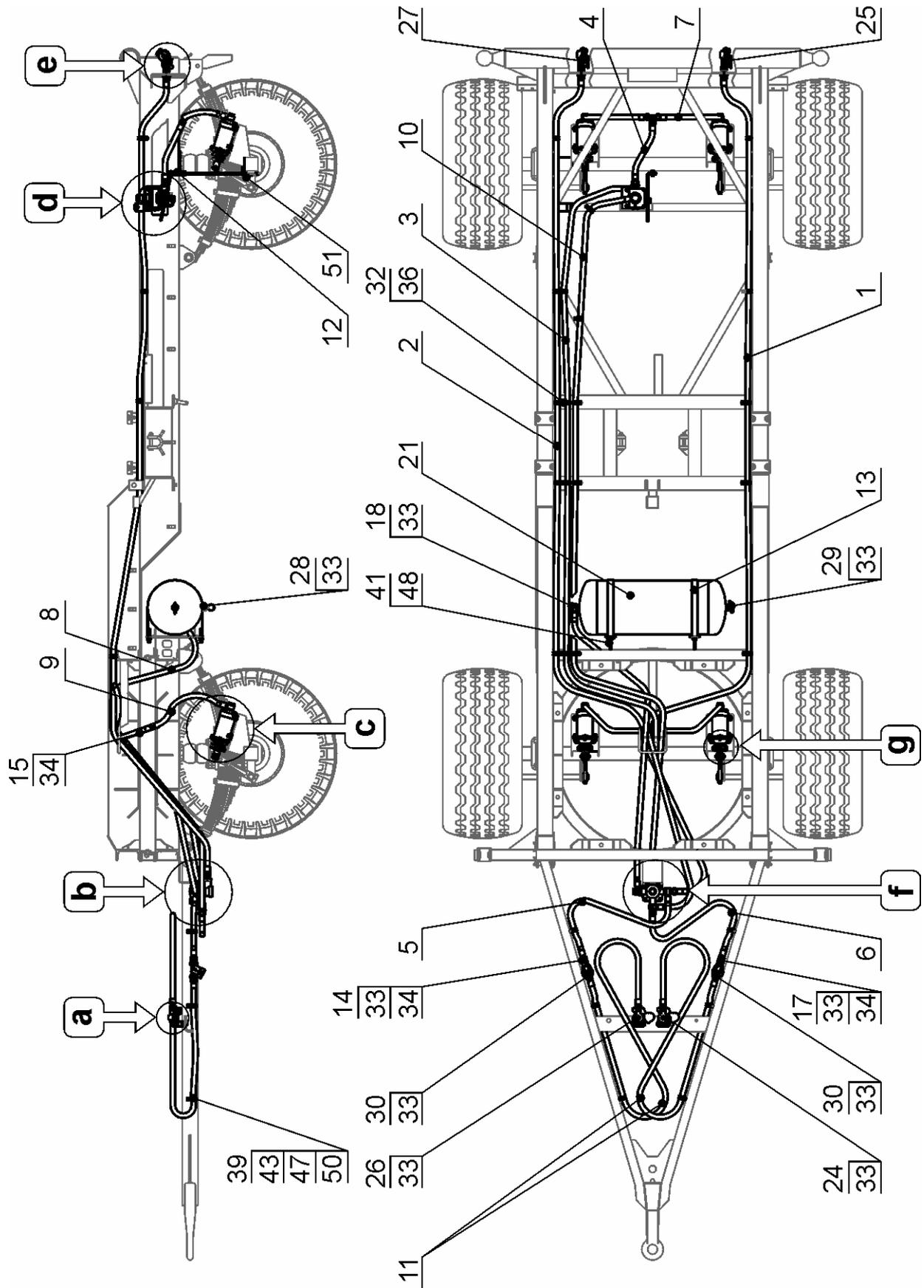
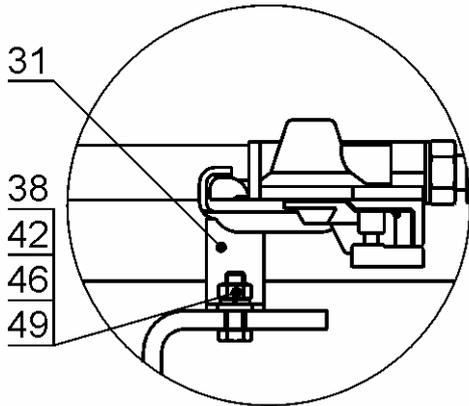
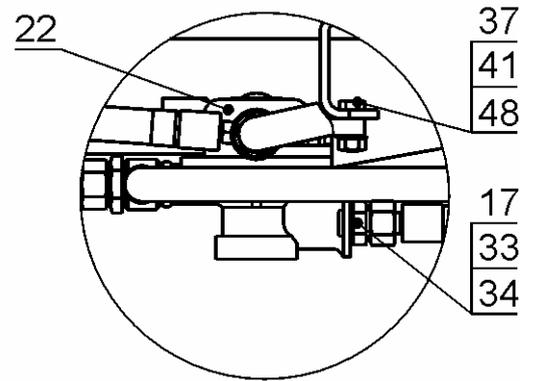


Fig. 14 Double-conduit pneumatic system ALB

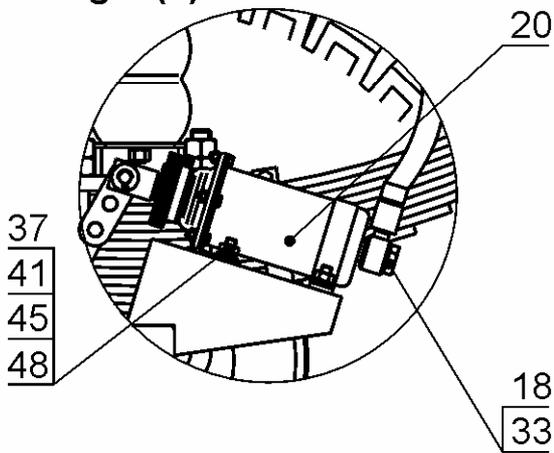
Szczegół (a)



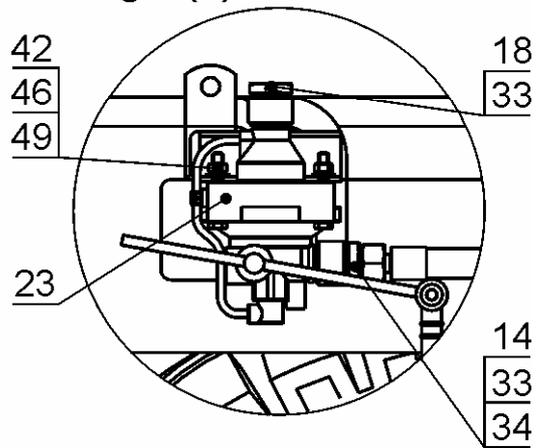
Szczegół (b)



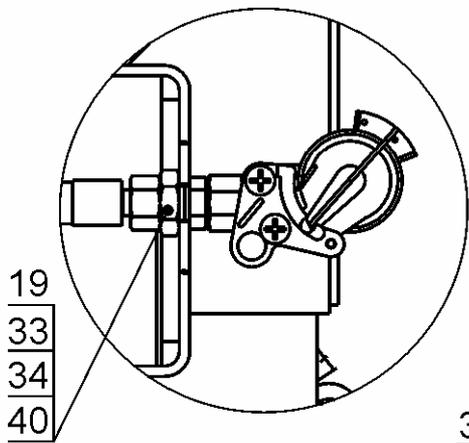
Szczegół (c)



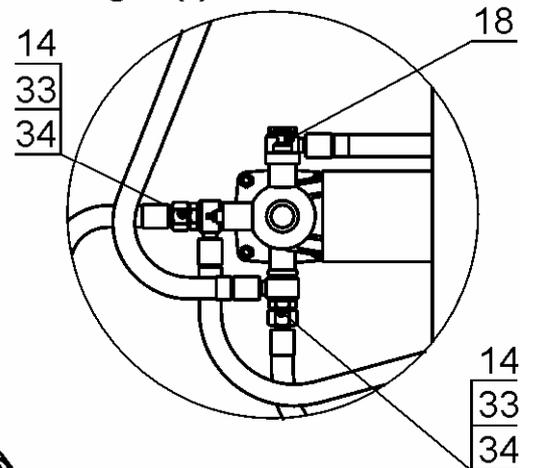
Szczegół (d)



Szczegół (e)



Szczegół (f)



Szczegół (g)

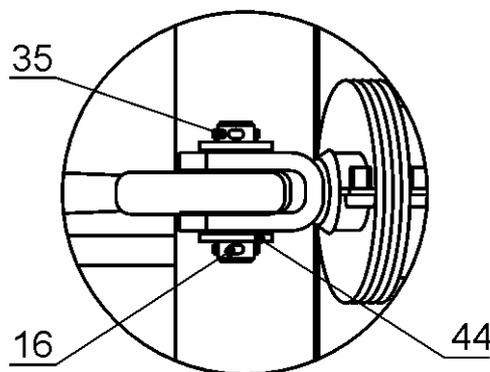


Fig. 15 Double-conduit pneumatic system ALB, continued

Assembly DOUBLE-CONDUIT PNEUMATIC SYSTEM ALB			Qty							
Drawings No 14, 15		Assembly / Part compl No	T672/F	T672/AH/F	T672/API/F	T672/D/F	T672/I01/F	T672/I01/AH/F	T672/I01/AP/F	T672/I01/D/F
No	Part	Drawing / Standard No								
1	Conduit O-W 5000	53RPN-19.01.000	-	-	-	1	-	-	-	1
2	Conduit W-W 4850	53RPN-19.02.000	-	-	-	1	-	-	-	1
3	Conduit O-W 3800	53RPN-19.03.000	-	-	-	1	-	-	-	1
4	Conduit W-W 400	53RPN-19.04.000	-	-	-	1	-	-	-	1
5	Conduit O-W 1000	53RPN-19.05.000	-	-	-	1	-	-	-	1
6	Conduit W-W 850	53RPN-19.06.000	-	-	-	1	-	-	-	1
7	Conduit W-W 500	57RPN-00.01.000	-	-	-	2	-	-	-	2
8	Conduit O-O 1850	53RPN-11.04.000	-	-	-	1	-	-	-	1
9	Conduit O-W 650	45RPN-11.05.000	-	-	-	2	-	-	-	2
10	Conduit O-W 4250	45RPN-11.07.000	-	-	-	1	-	-	-	1
11	Conduit Z-Z 2300	29RPN-11.09.000	-	-	-	2	-	-	-	2
12	Stab	53RPN-19.00.001	-	-	-	1	-	-	-	1
13	Air tank band	45RPN-00.13.000	-	-	-	2	-	-	-	2
14	Special connection screw	29RPN-11.00.001	-	-	-	3	-	-	-	3
15	T-connector	29RPN-11.00.003	-	-	-	2	-	-	-	2
16	Bolt	29RPN-11.00.004	-	-	-	2	-	-	-	2
17	Connector, long	6RPN-01.00.11	-	-	-	3	-	-	-	3
18	Connection screw	6RPN-01.00.10	-	-	-	7	-	-	-	7
19	Connector, short	6RPN-01.00.06	-	-	-	2	-	-	-	2
20	Pneumatic cyl. ϕ 80X53.12.00/A e=14mm		-	-	-	4	-	-	-	4
21	Air tank 529 000 000		-	-	-	1	-	-	-	1
22	Control valve 44.12.010.0		-	-	-	1	-	-	-	1
23	Brake force controller 61.20.015.0		-	-	-	1	-	-	-	1
24	Conduit connection 87.10.030.0		-	-	-	1	-	-	-	1
25	Conduit connection 87.15.030.0		-	-	-	1	-	-	-	1
26	Conduit connection 87.10.020.0		-	-	-	1	-	-	-	1
27	Conduit connection 87.15.020.0		-	-	-	1	-	-	-	1
28	Drain valve		-	-	-	1	-	-	-	1
29	Inspection connection		-	-	-	1	-	-	-	1
30	Conduit filter 81.01.010.0		-	-	-	2	-	-	-	2
31	Connector catch Art.-331000		-	-	-	2	-	-	-	2
32	Band RIBENCLIP 22		-	-	-	24	-	-	-	24
33	Washer Cu 27/22/2		-	-	-	31	-	-	-	31
34	Washer Cu 20/12.5/2		-	-	-	14	-	-	-	14
35	Cotter pin S-Zn 3.2x25	PN-76/M-82001	-	-	-	4	-	-	-	4
36	Self-tapping screw ϕ 5.5x19	DIN-7504-K	-	-	-	15	-	-	-	15
37	Screw M10x35-5.8-B-Fe/Zn5	PN-85/M-82105	-	-	-	18	-	-	-	18
38	Screw M8x25-5.8-B-Fe/Zn5	PN-85/M-82105	-	-	-	4	-	-	-	4
39	Screw M6x16-5.8-B-Fe/Zn5	PN-85/M-82105	-	-	-	6	-	-	-	6
40	Nut M22x1.5-04-B-Fe/Zn5	PN-86/M-82153	-	-	-	2	-	-	-	2
41	Nut M10-5-B-Fe/Zn5	PN-86/M-82144	-	-	-	22	-	-	-	22
42	Nut M8-5-B-Fe/Zn5	PN-86/M-82144	-	-	-	6	-	-	-	6
43	Nut M6-5-B-Fe/Zn5	PN-86/M-82144	-	-	-	6	-	-	-	6
44	Washer 13-Fe/Zn5	PN-78/M-82005	-	-	-	4	-	-	-	4
45	Washer 10.5-Fe/Zn5	PN-78/M-82005	-	-	-	16	-	-	-	16
46	Washer 8.4-Fe/Zn5	PN-78/M-82005	-	-	-	2	-	-	-	2
47	Washer 6.4-Fe/Zn5	PN-78/M-82005	-	-	-	6	-	-	-	6
48	Washer Z10.2-Fe/Zn5	PN-77/M-82008	-	-	-	22	-	-	-	22
49	Washer Z8.2-Fe/Zn5	PN-77/M-82008	-	-	-	6	-	-	-	6
50	Washer Z6.1-Fe/Zn5	PN-77/M-82008	-	-	-	6	-	-	-	6
51	Screw M5x20-4.8-B-Fe/Zn5	PN-85/M-82215	-	-	-	1	-	-	-	1

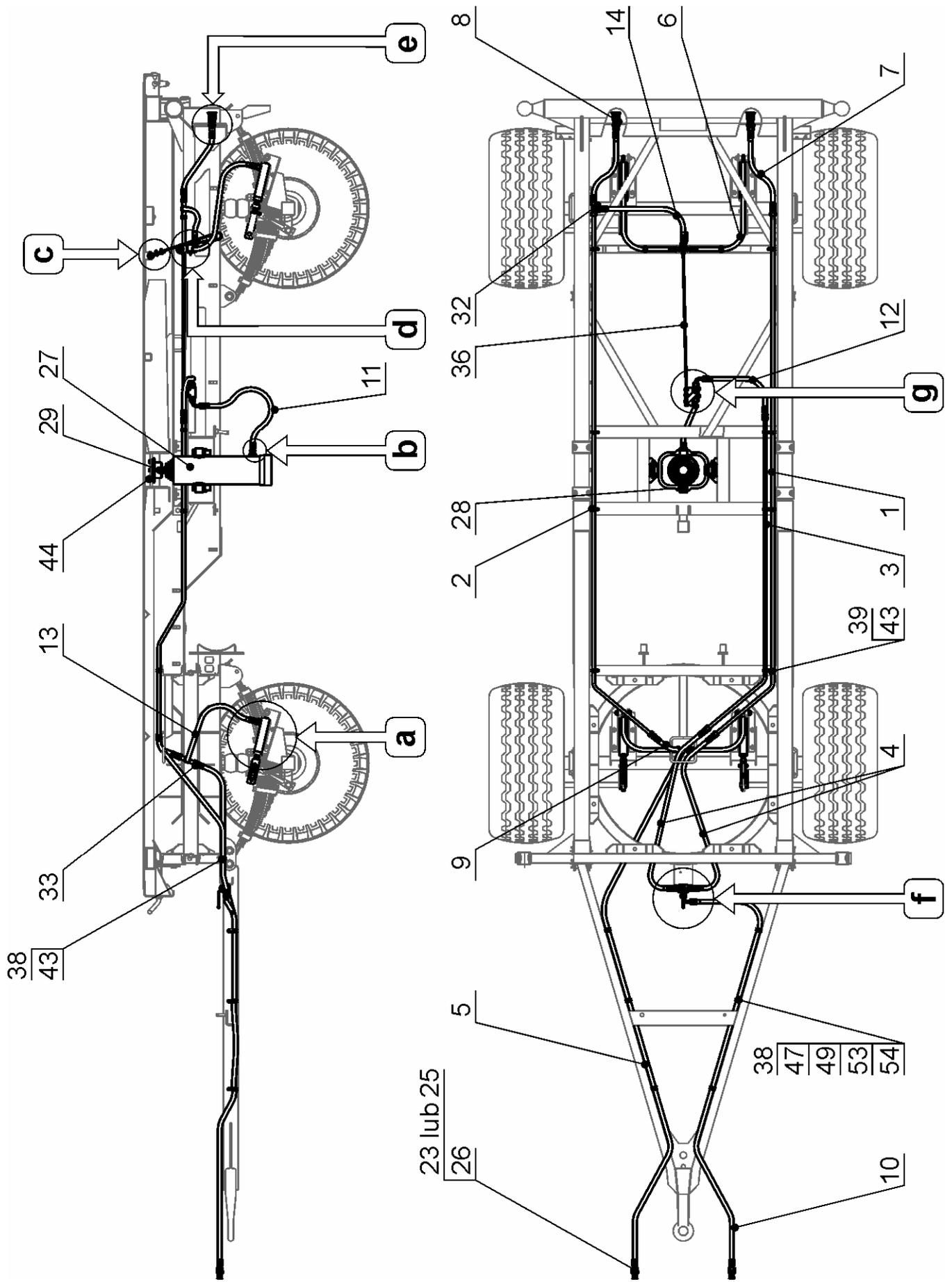
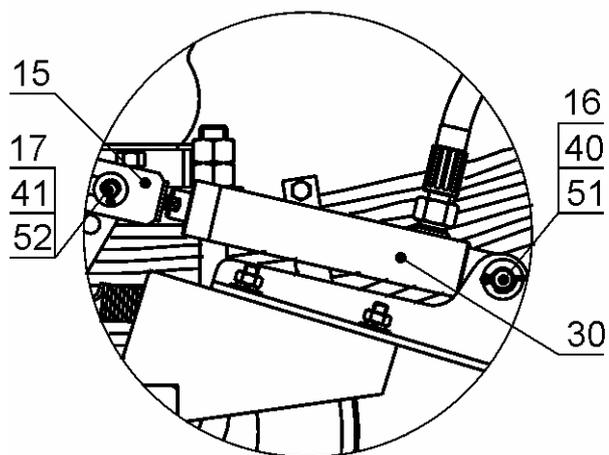
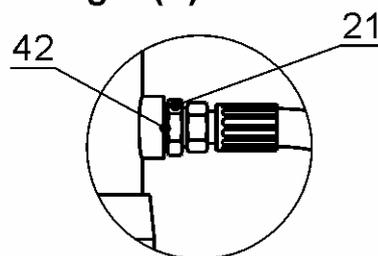


Fig. 16 Hydraulic system

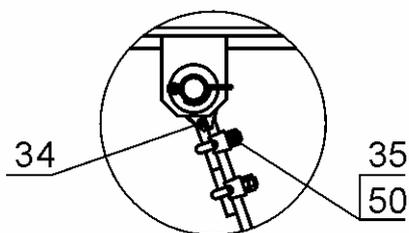
Szczegół (a)



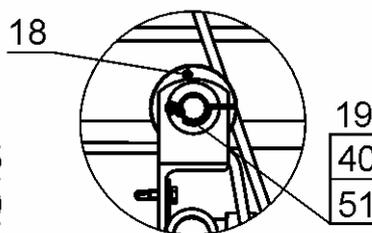
Szczegół (b)



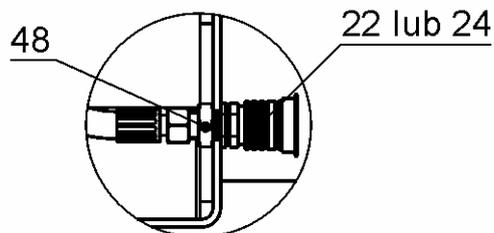
Szczegół (c)



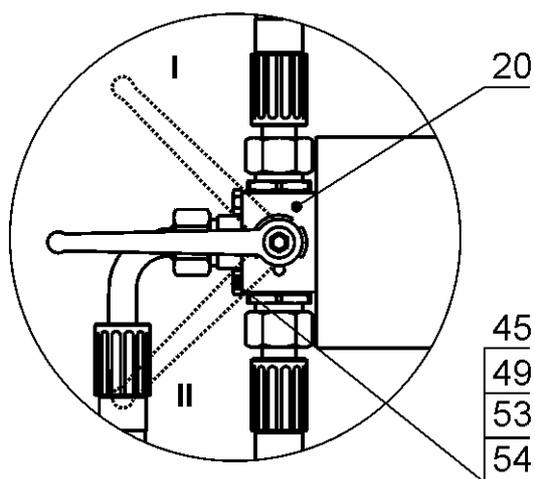
Szczegół (d)



Szczegół (e)



Szczegół (f)



I - zasilanie I przycpepy
II - zasilanie II przycpepy

Szczegół (g)

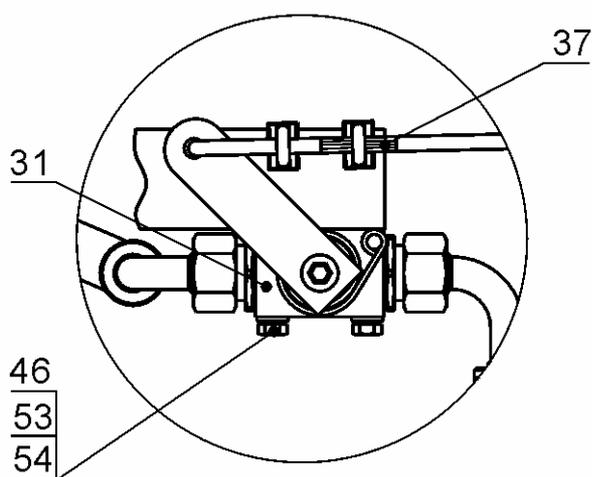


Fig. 17 Hydraulic system, continued

Assembly			Qty							
HYDRAULIC SYSTEM										
Drawings No		Assembly / Part compl No	T672/F	T672/AH/F	T672/AP/F	T672/D/F	T672/01/F	T672/01/AH/F	T672/01/AP/F	T672/01/D/F
16, 17										
No	Part	Drawing / Standard No								
1	Pipe I compl.	53RPN-14.01.000	1	1	1	1	1	1	1	1
2	Pipe II compl.	53RPN-14.02.000	-	1	-	-	-	1	-	-
3	Pipe III compl.	53RPN-14.03.000	1	1	1	1	1	1	1	1
4	Conduit DN13 H2.12 H4.13 1300	53RPN-14.04.000	2	2	2	2	2	2	2	2
5	Conduit DN13 H2.12 H4.13 3700	53RPN-14.05.000	-	1	-	-	-	1	-	-
6	Conduit DN13 H2.12 H2.12 1000	53RPN-14.06.000	-	2	-	-	-	2	-	-
7	Conduit DN13 H2.12 H4.13 650	53RPN-14.07.000	1	1	1	1	1	1	1	1
8	Conduit DN13 H2.12 H2.12 650	53RPN-14.08.000	-	1	-	-	-	1	-	-
9	Conduit DN13 H2.12 H4.13 1300	53RPN-14.09.000	-	1	-	-	-	1	-	-
10	Conduit DN13 H17.8 H2.12 3100	53RPN-14.10.000	1	1	1	1	1	1	1	1
11	Conduit DN13 H17.8H2.12 800	45RPN-12.05.000	1	1	1	1	1	1	1	1
12	Conduit Dn13 H17.8H4.13 500	45RPN-12.06.000	1	1	1	1	1	1	1	1
13	Conduit DN13 H2.12H2.12 850	45RPN-12.08.000	-	2	-	-	-	2	-	-
14	Conduit DN13 H2.12H2.12 650	45RPN-12.09.000	-	1	-	-	-	1	-	-
15	Fork-shaped end	37RPN-19.02.000	-	4	-	-	-	4	-	-
16	Cylinder bolt	45RPN-12.00.001	-	4	-	-	-	4	-	-
17	Bolt	29RPN-11.00.004	-	2	-	-	-	2	-	-
18	Rope wheel	29RPN-13.00.001	1	1	1	1	1	1	1	1
19	Wheel axle	29RPN-13.00.002	2	2	2	2	2	2	2	2
20	3-way valve, hydraulic	29RPN-13.00.003	1	1	1	1	1	1	1	1
21	Connector body	12RPN-18.00.002	1	1	1	1	1	1	1	1
22	Quick connector – Socket SZ12-G06L		1 [⊗]	2	1 [⊗]	1 [⊗]	1 [⊗]	2	1 [⊗]	1 [⊗]
23	Quick connector – Plug SZ12-W06		1 [⊗]	2	1 [⊗]	1 [⊗]	1 [⊗]	2	1 [⊗]	1 [⊗]
24	Socket ZSR32-G01L	ZSR6-160-13/100	1	-	1	1	1	-	1	1
25	Plug ZSR32-W01	ZSR6-160-13/200	1	-	1	1	1	-	1	1
26	Plug cap ISO 12.5		1	2	1	1	1	2	1	1
27	Telesc. cylinder CT-S129-75/4/1700		1	1	1	1	1	1	1	1
28	Cylinder hinge ZCT-S01-120		1	1	1	1	1	1	1	1
29	Ball bearing 55 ŁK-S01-55/0.00		1	1	1	1	1	1	1	1
30	Cylinder CN-S04-16-22/140		-	4	-	-	-	4	-	-
31	Cut-off valve Pister	HBKH-15L-DN13	1	1	1	1	1	1	1	1
32	3-way connector body 1613	PN-66/M-73147	-	2	-	-	-	2	-	-
33	4- way connector body 1613	PN-66/M-73149	-	1	-	-	-	1	-	-
34	Thimble A6 zinc-coated.	PN-66/M-80247	1	1	1	1	1	1	1	1
35	Bail clamp 6.5 zinc-coated.	PN-73/M-80241	4	4	4	4	4	4	4	4
36	Rope φ6 6x19+P+p l=1920		1	1	1	1	1	1	1	1
37	Heat-shrinkable pipe PBF 12/6 l=30	BN-89/C-89209	2	2	2	2	2	2	2	2
38	Band RIBENCLIP 22		5	11	5	5	5	11	5	5
39	Band RIBENCLIP 16		7	11	7	7	7	11	7	7
40	Cotter pin S-Zn 4x32	PN-76/M-82001	4	12	4	4	4	12	4	4
41	Cotter pin S-Zn 3.2x25	PN-76/M-82001	-	4	-	-	-	4	-	-
42	Washer Cu 27/22/2		1	1	1	1	1	1	1	1
43	Self-tapping screw φ5.5x19	DIN 7504-K	7	14	7	7	7	14	7	7
44	Screw M12x25-8.8-B-Fe/Zn5	DIN 7991	6	6	6	6	6	6	6	6
45	Screw M6x50-6.8-B-Fe/Zn5	PN-85/M-82101	2	2	2	2	2	2	2	2
46	Screw M6x45-5.8-B-Fe/Zn5	PN-85/M-82101	2	2	2	2	2	2	2	2
47	Screw M6x16-5.8-B-Fe/Zn5	PN-85/M-82105	3	6	3	3	3	6	3	3
48	Nut M22x1.5-04-B-Fe/Zn5	PN-86/M-82153	1	2	1	1	1	2	1	1
49	Nut M6-5-B-Fe/Zn5	PN-86/M-82144	5	8	5	5	5	8	5	5

Assembly			Qty							
HYDRAULIC SYSTEM										
Drawings No		Assembly / Part compl No								
16, 17										
No	Part	Drawing / Standard No	T672/F	T672/AH/F	T672/AP/F	T672/D/F	T672/01/F	T672/01/AH/F	T672/01/AP/F	T672/01/D/F
50	Nut M5-5-B-Fe/Zn5	PN-86/M-82144	8	8	8	8	8	8	8	8
51	Washer 17-Fe/Zn5	PN-78/M-82005	4	12	4	4	4	12	4	4
52	Washer 13-Fe/Zn5	PN-78/M-82005	-	4	-	-	-	4	-	-
53	Washer 6.4-Fe/Zn5	PN-78/M-82005	7	10	7	7	7	10	7	7
54	Washer 6.1-Fe/Zn5	PN-77/M-82008	7	10	7	7	7	10	7	7

⊗- Special equipment for order, instead of socket & ZSR plug

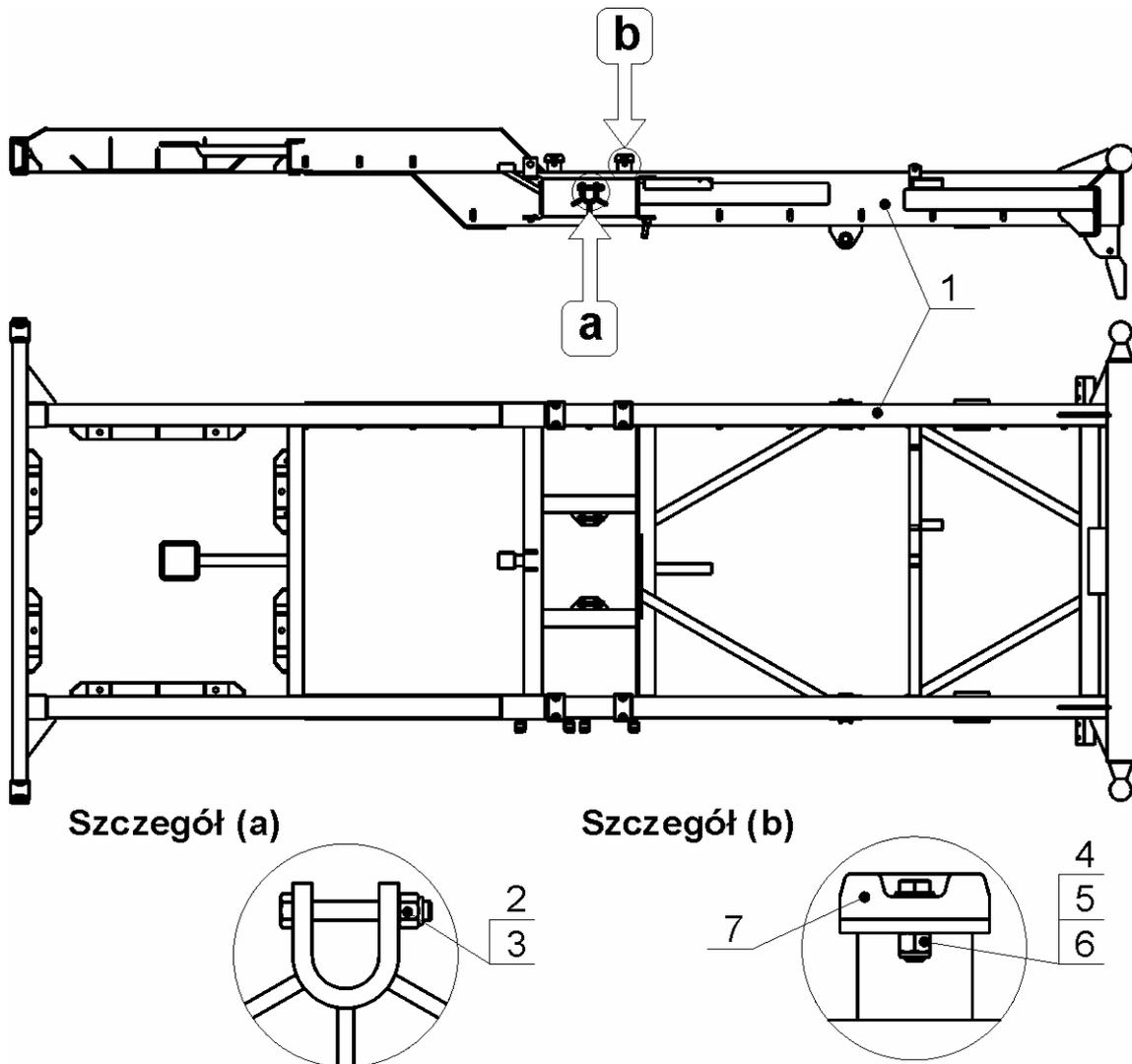


Fig. 18 Lower frame

Assembly				Qty									
LOWER FRAME													
Drawings No		Assembly / Part compl No											
18				T672/F	T672/AH/F	T672/AP/F	T672/D/F	T672/O1/F	T672/O1/AH/F	T672/O1/AP/F	T672/O1/D/F		
No	Part	Drawing / Standard No											
1	Lower frame			1	1	1	1	1	1	1	1	1	1
2	Screw M12x85-5.8-B-Fe/Zn5	PN-85/M-82101		2	2	2	2	2	2	2	2	2	2
3	Nut M12-5-B-Fe/Zn5	PN-85/M-82175		2	2	2	2	2	2	2	2	2	2
4	Screw M8 x30-5.8-B-Fe/Zn5	PN-85/M-82105		8	8	8	8	8	8	8	8	8	8
5	Nut M8-5-B-Fe/Zn5	PN-85/M-82175		8	8	8	8	8	8	8	8	8	8
6	Washer 8.4 Fe/Zn5	PN-78/M-82005		8	8	8	8	8	8	8	8	8	8
7	Washer	29RPN-00.00.002		4	4	4	4	4	4	4	4	4	4

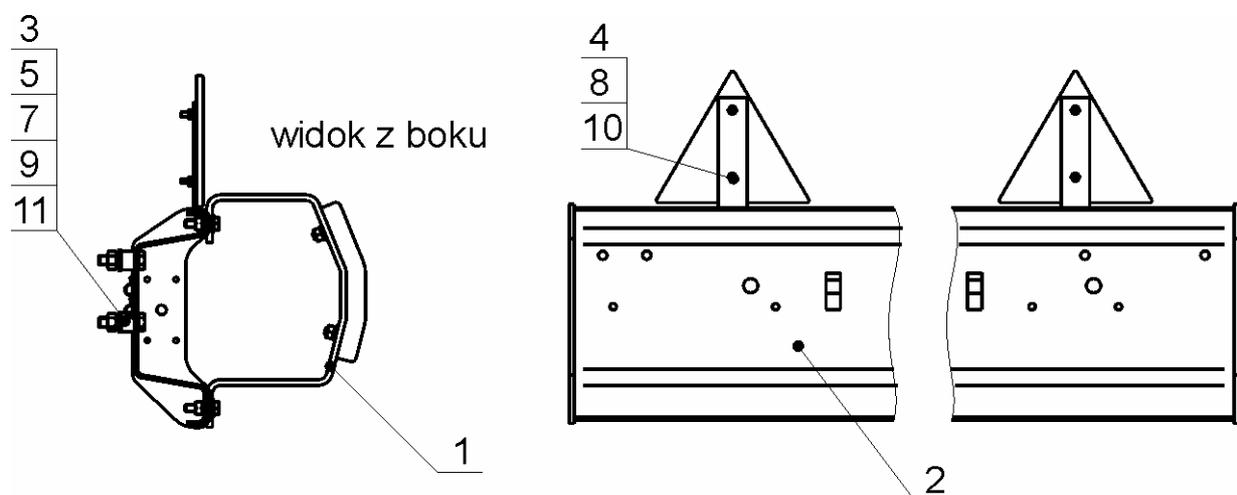


Fig. 19 Lightning bar

Assembly				Qty									
LIGHTNING BAR													
Drawings No		Assembly / Part compl No											
19		53RPN-09.00.000		T672/F	T672/AH/F	T672/AP/F	T672/D/F	T672/O1/F	T672/O1/AH/F	T672/O1/AP/F	T672/O1/D/F		
No	Part	Drawing / Standard No											
1	Rear wall fender, compl.	53RPN-09.01.000		1	1	1	1	1	1	1	1	1	1
2	Lightning bar profile	53RPN-09.00.001		1	1	1	1	1	1	1	1	1	1
3	Lightning bar spacer	29RPN-10.00.001		4	4	4	4	4	4	4	4	4	4
4	Reflection triangle DOB31			2	2	2	2	2	2	2	2	2	2
5	Screw M10x35-8-B-Fe/Zn5	PN-75/M-82105		4	4	4	4	4	4	4	4	4	4
6	Screw M5x20-4.8-B-Fe/Zn5	PN-85/M-82215		4	4	4	4	4	4	4	4	4	4
7	Nut M10-8-B-Fe/Zn5	PN-86/M-82144		4	4	4	4	4	4	4	4	4	4
8	Nut M5-5-B-Fe/Zn5	PN-86/M-82144		4	4	4	4	4	4	4	4	4	4
9	Washer Z10.2-Fe/Zn5	PN-77/M-82008		4	4	4	4	4	4	4	4	4	4
10	Washer Z5.1-Fe/Zn5	PN-77/M-82008		4	4	4	4	4	4	4	4	4	4
11	Washer 10.5-Fe/Zn5	PN-86/M-82005		4	4	4	4	4	4	4	4	4	4

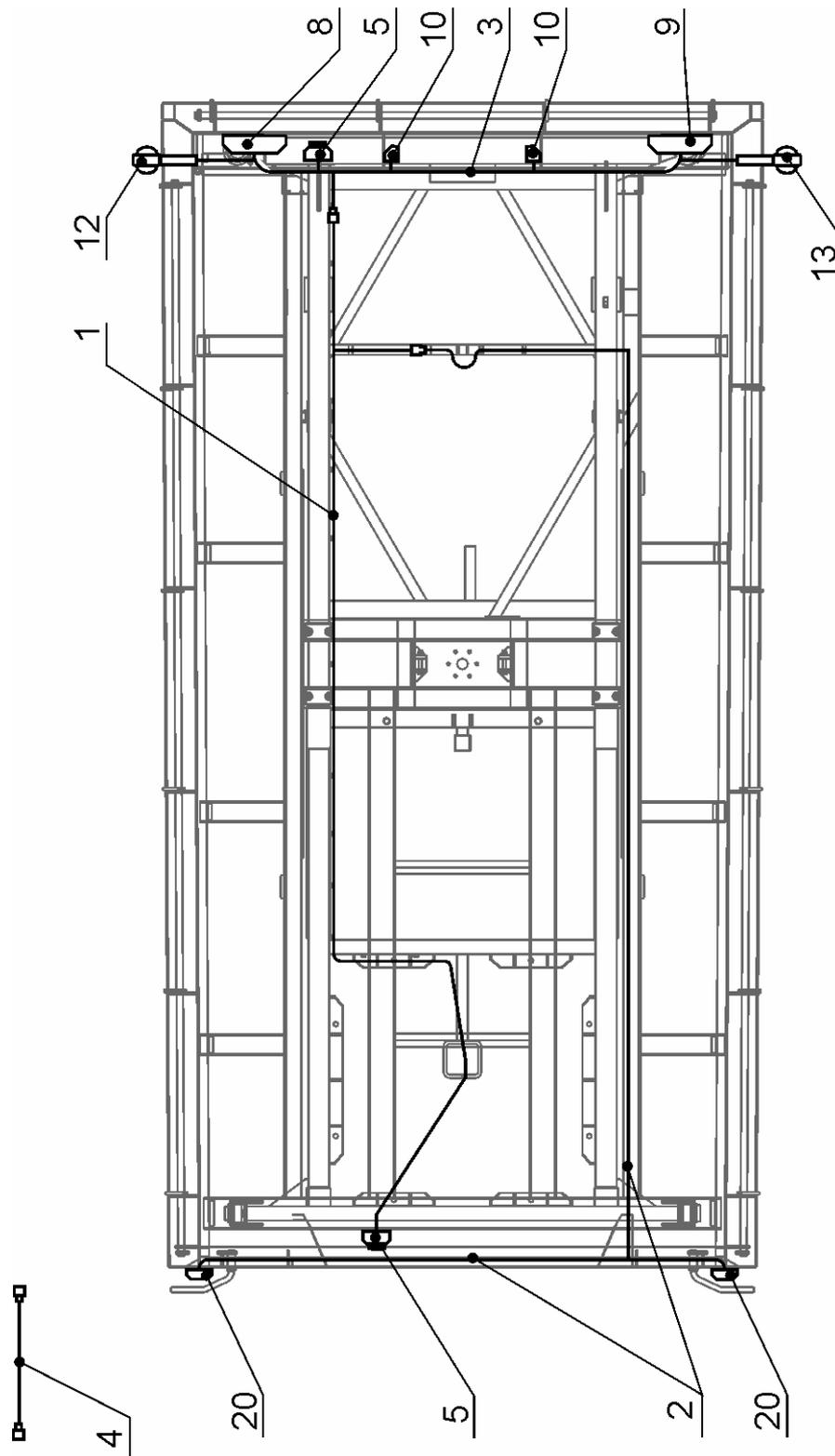


Fig. 20 Wiring

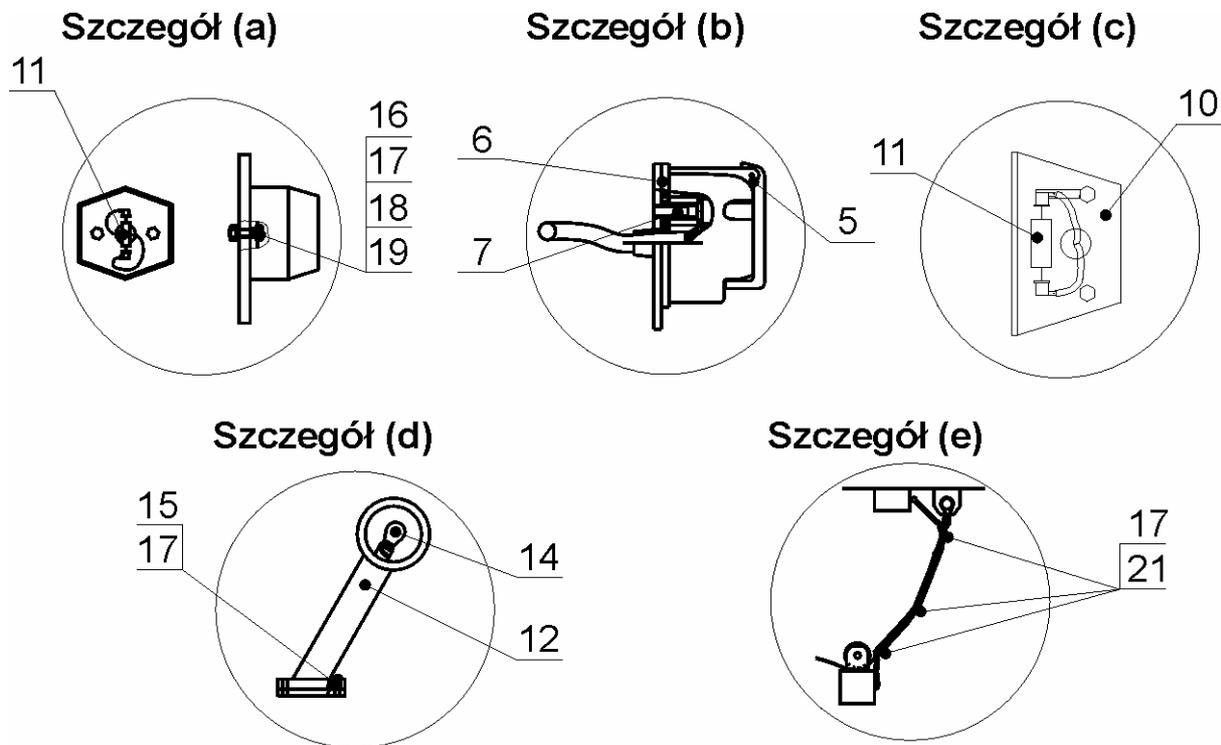


Fig. 21 Wiring, continued

Assembly				Qty							
WIRING											
Drawings No		Assembly / Part compl No		T672/F	T672/AH/F	T672/AP/F	T672/D/F	T672/O1/F	T672/O1/AH/F	T672/O1/AP/F	T672/O1/D/F
20, 21											
No	Part	Drawing / Standard No									
1	Central bundle	53RPN-10.01.00		1	1	1	1	1	1	1	1
2	Front bundle	53RPN-10.02.00		1	1	1	1	1	1	1	1
3	Rear bundle	53RPN-10.03.00		1	1	1	1	1	1	1	1
4	Connection cable	29RPN-10.05.00		1	1	1	1	1	1	1	1
5	Socket GN-7(X7)	8JB001941-002		2	2	2	2	2	2	2	2
6	Washer, 7-pole socket	006004.60		2	2	2	2	2	2	2	2
7	Screw M5x35-5.8 Fe/Zn5	PN/M-82207		6	6	6	6	6	6	6	6
8	Compact lamp, rear WE 549P	04		1	1	1	1	1	1	1	1
9	Compact lamp, rear WE 549L	03		1	1	1	1	1	1	1	1
10	Number plate light LT-120			2	2	2	2	2	2	2	2
11	Bulb C5W-SV 8,5			4	4	4	4	4	4	4	4
12	Contour light right	127.023.00.00		1	1	1	1	1	1	1	1
13	Contour light left	127.022.00.00		1	1	1	1	1	1	1	1
14	Bulb R5W			2	2	2	2	2	2	2	2
15	Screw M5x16 B Fe/Zn5	PN/M-82201		8	8	8	8	8	8	8	8
16	Spring washer 5.1 Fe/Zn9	PN/M-82008		4	4	4	4	4	4	4	4
17	Washer 5.3 Fe/Zn5	PN/M-82005		12	12	12	12	12	12	12	12
18	Nut M5-8-Fe/Zn5	PN/M-82144		4	4	4	4	4	4	4	4
19	Screw M5x25-B-Fe/Zn5	PN/M-82105		4	4	4	4	4	4	4	4
20	Front position light LO-110PP			2	2	2	2	2	2	2	2
21	Band clamp 4.5x160	AC RZ-46KT		3	3	3	3	3	3	3	3

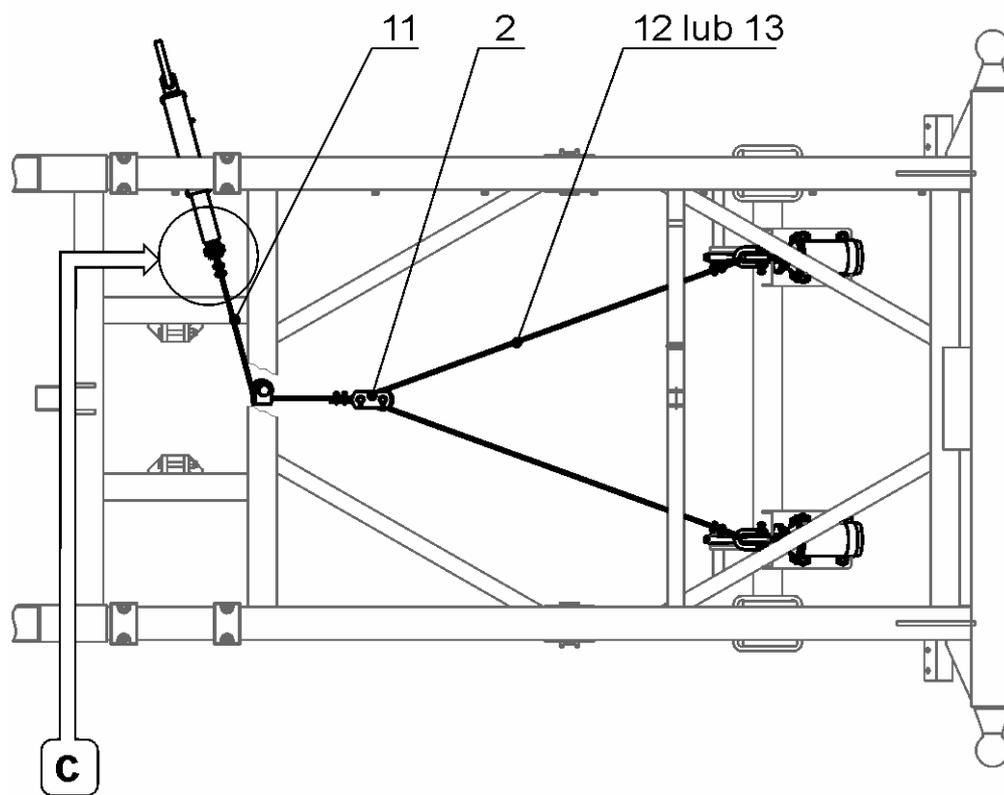
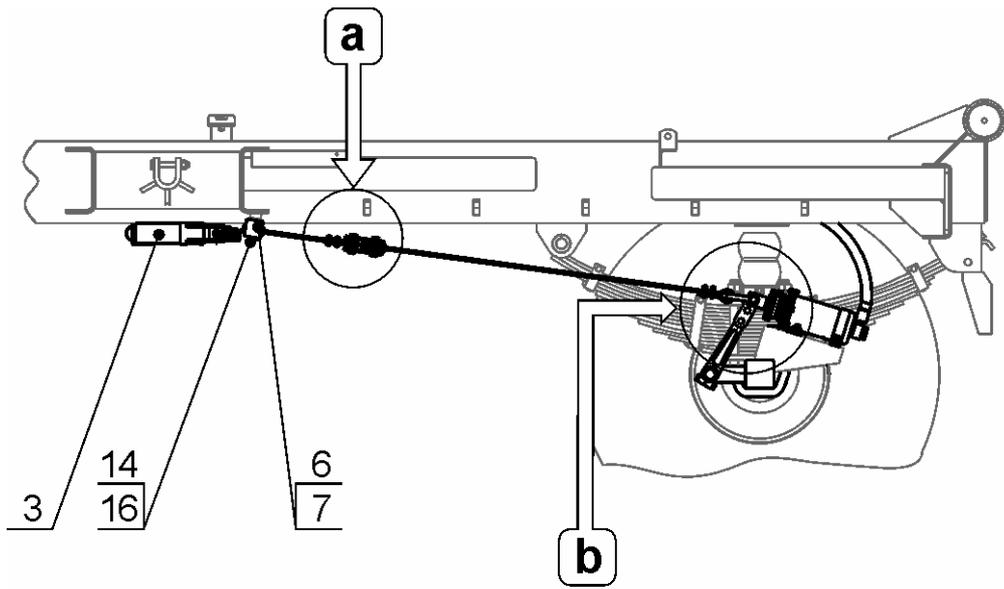


Fig. 22 Crank hand brake

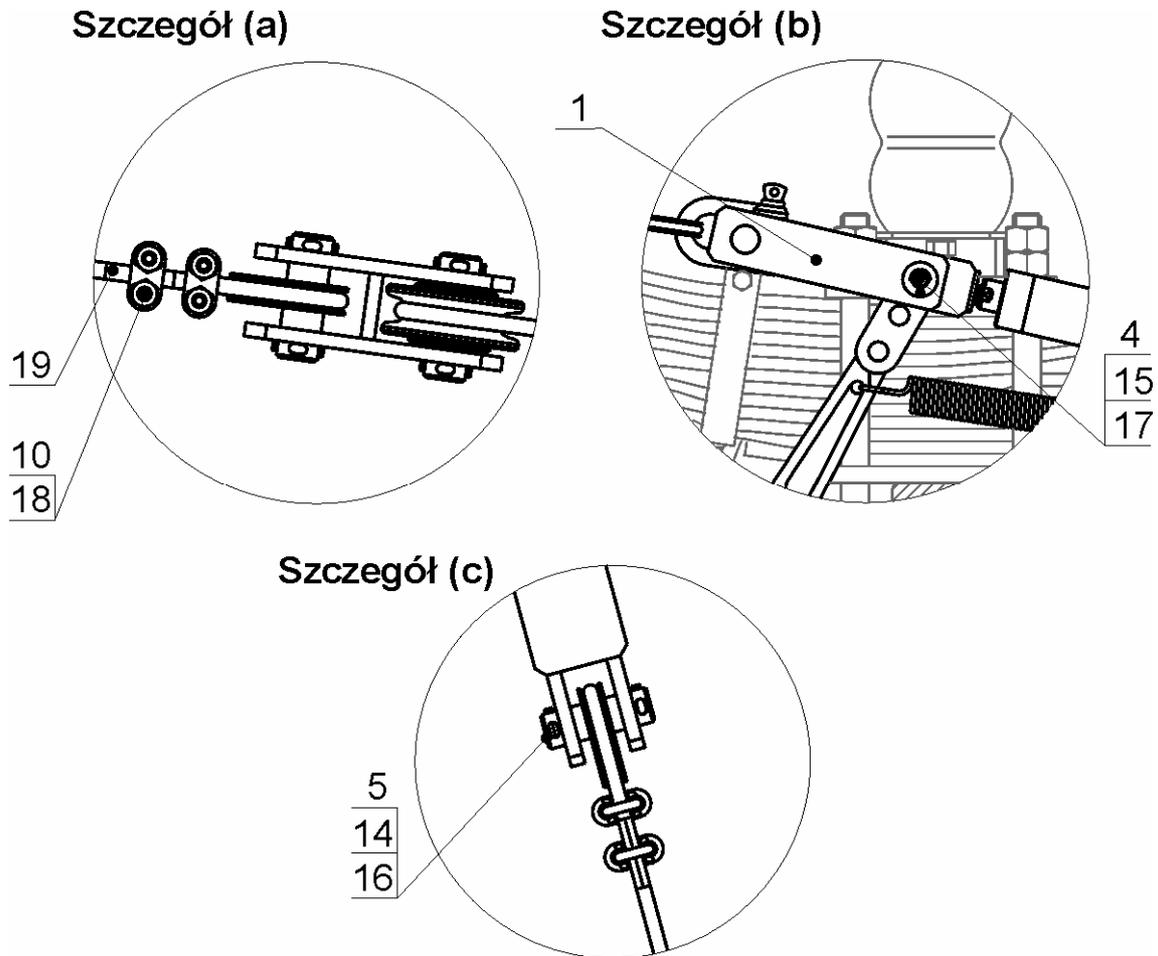


Fig. 23 Crank hand brake

Assembly			Qty								
CRANK HAND BRAKE											
Drawings No		Assembly / Part compl No		T672/F	T672/AH/F	T672/AP/F	T672/D/F	T672/01/F	T672/01/AH/F	T672/01/AP/F	T672/01/D/F
22, 23											
No	Part	Drawing / Standard No									
1	Hand brake guy	45RPN-22.01.000		-	-	-	-	-	-	-	-
2	Brake system	31RPN-05.01.000		1	-	-	1	1	-	-	1
3	Hand brake lever	29RPN-12.01.000		1	-	-	1	1	-	-	1
4	Brake bolt	45RPN-22.00.002		-	-	-	-	-	-	-	-
5	Bolt	29RPN-12.00.001		1	-	-	1	1	-	-	1
6	Rope catch	29RPN-01.00.018		1	-	-	1	1	-	-	1
7	Rope wheel	29RPN-13.00.001		1	-	-	1	1	-	-	1
8	Screw shackle S.2768	„SPAREX”		2	-	-	2	2	-	-	2
9	Thimble A6 zinc-coated	PN-86/M-80247		4	-	-	4	4	-	-	4
10	Bail clamp 6.5 zinc-coated	PN-73/M-80241		8	-	-	8	8	-	-	8
11	Rope I $\phi 6$ 6x19+P+p l=900			1	-	-	1	1	-	-	1
12	Rope II $\phi 6$ 6x19+P+p l=2200			1	-	-	1	1	-	-	1
13	Rope III $\phi 6$ 6x19+P+p l=2000			-	-	-	-	-	-	-	-
14	Washer 17 Fe/Zn5	PN-78/M-82005		3	-	-	3	3	-	-	3
15	Washer 13 Fe/Zn5	PN-78/M-82005		-	-	-	-	-	-	-	-
16	Cotter pin S-Zn-4x40	PN-76/M-82001		3	-	-	3	3	-	-	3
17	Cotter pin S-Zn-3.2x25	PN-76.M-82001		-	-	-	-	-	-	-	-
18	Nut M5-5-B Fe/Zn5	PN-86/M-82144		16	-	-	16	16	-	-	16
19	Heat-shrinkable pipe PBF 12/6 l=30	PN-89/C-89209		4	-	-	4	4	-	-	4

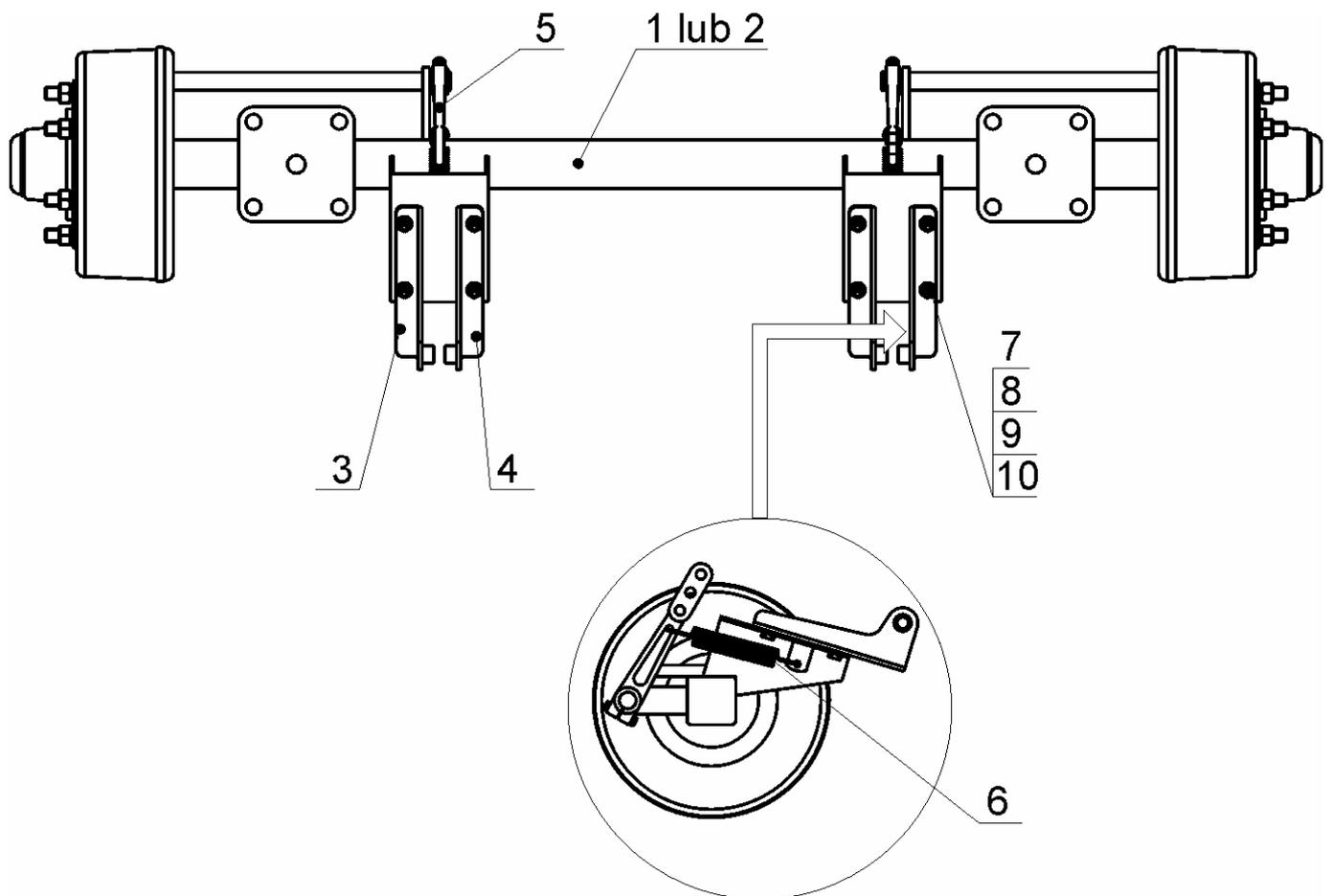


Fig. 24 Axle

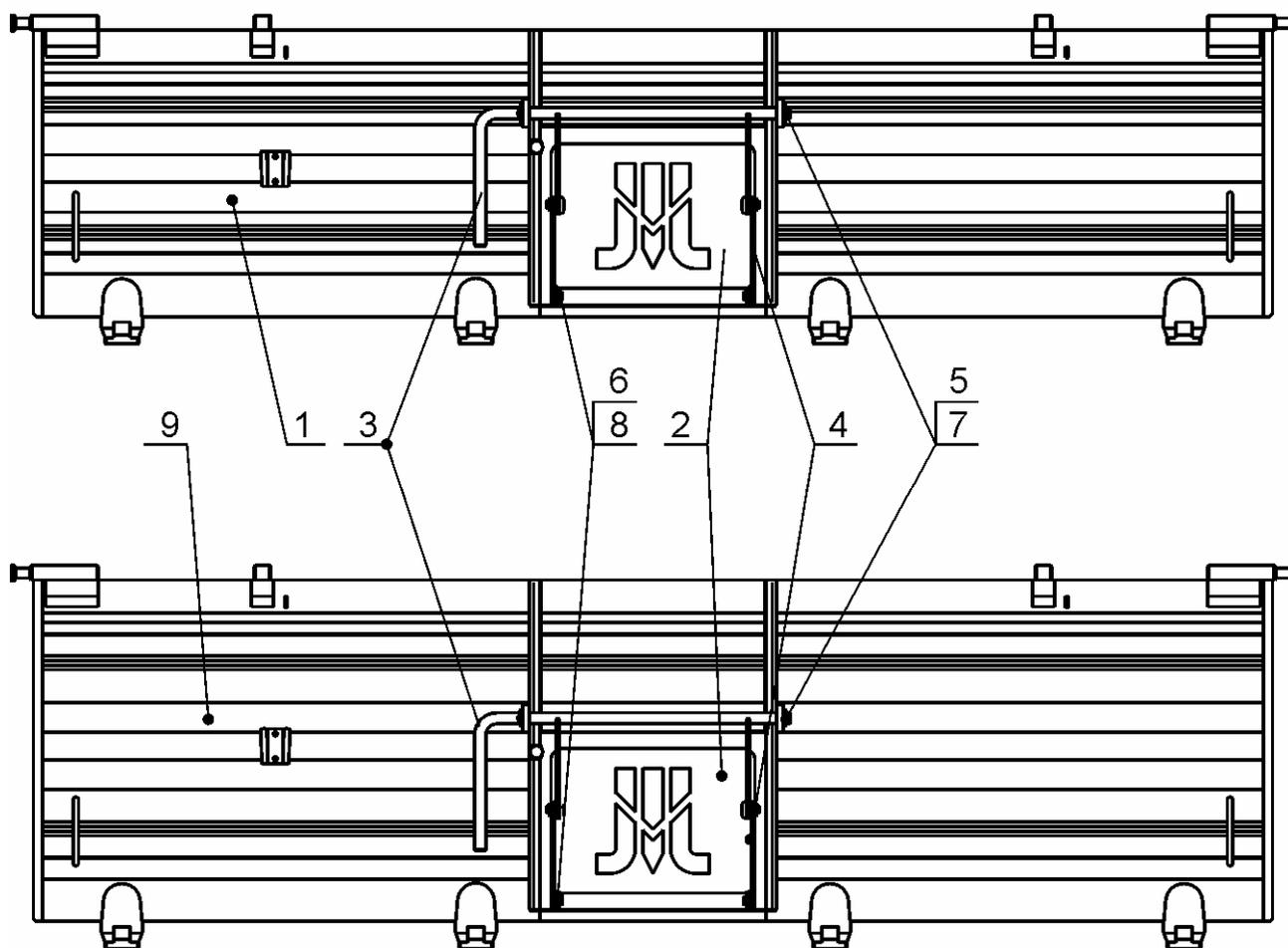
Assembly			Qty								
AXLE											
Drawings No		Assembly / Part compl No									
24		53RPN-05.00.000, 53 RPN-06.000 53RPN-07.00.000, 53 RPN-08.000		T672/F	T672/AH/F	T672/AP/F	T672/D/F	T672/O1/F	T672/O1/AH/F	T672/O1/AP/F	T672/O1/D/F
No	Part	Drawing / Standard No		T672/F	T672/AH/F	T672/AP/F	T672/D/F	T672/O1/F	T672/O1/AH/F	T672/O1/AP/F	T672/O1/D/F
1	Axle \square 70 mm, compl. [⊗]	45RPN-05.01.000		1	1	1	1	1	-	1	1
2	Axle \square 80 mm, compl.	45RPN-24.01.000		-	-	-	-	-	1	-	-
3	Eye left, compl.	45RPN-05.03.000		-	2	-	-	-	2	-	-
4	Eye right, compl.	45RPN-05.04.000		-	2	-	-	-	2	-	-
5	Cam lever	45RPN-05.00.003		2	2	2	2	2	2	2	2
6	Spring ^{⊗⊗}	45RPN-05.00.002		-	2	-	-	-	2	-	-
7	Screw M10x30-5.8-B-Fe/Zn5 ^{⊗⊗}	PN-85/M-82105		-	8	-	-	-	8	-	-
8	Nut M10-5-B-Fe/Zn5 ^{⊗⊗}	PN-86/M-82144		-	8	-	-	-	8	-	-
9	Washer 10.5-Fe/Zn5 ^{⊗⊗}	PN-78/M-82005		-	8	-	-	-	8	-	-
10	Washer 10.2-Fe/Zn5 ^{⊗⊗}	PN-77/M-82008		-	8	-	-	-	8	-	-

Caution! Qty for one axle

[⊗] - axle with hydraulic or pneumatic brake

^{⊗⊗} - only axle with hydraulic brake

Ściana tylna FUHRMANN 500



Ściana tylna FUHRMANN 600

Fig. 25 Rear wall (FUHRMANN 500, FUHRMANN 600), compl.

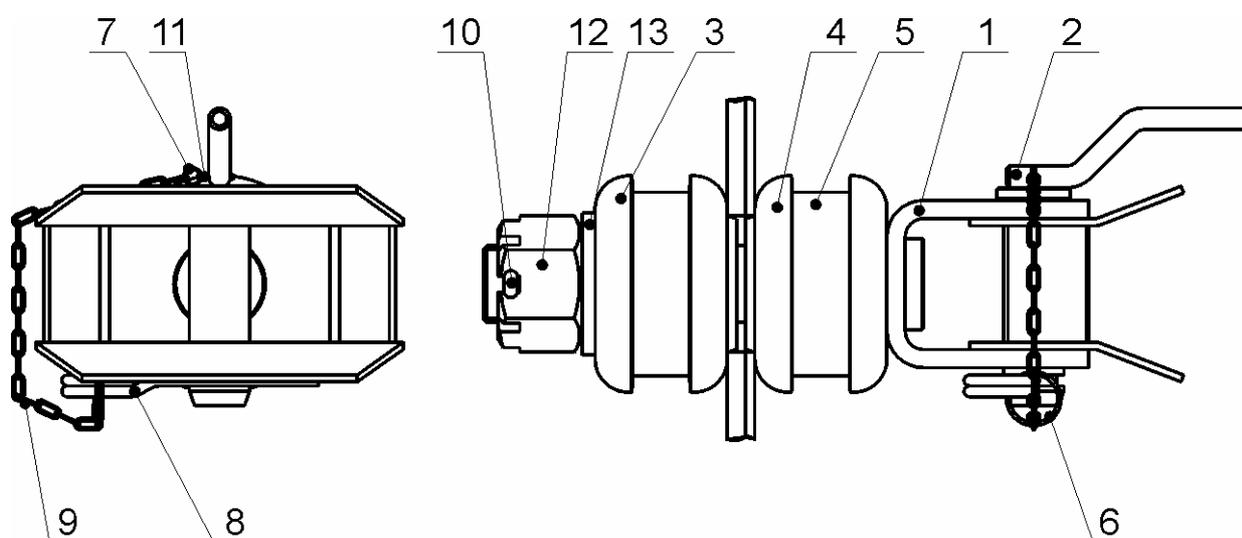


Fig. 26 Rear hook

Assembly				Qty							
REAR WALL, FUHRMANN 500, FUHRMANN 600											
Drawings No		Assembly / Part compl No		T672/F	T672/AH/F	T672/AP/F	T672/D/F	T672/01/F	T672/01/AH/F	T672/01/AP/F	T672/01/D/F
25		45RPN-08.00.000 45RPN-29.00.000									
No	Part	Drawing / Standard No									
1	Rear wall FUHRMANN 500	45RPN-29.01.000		1	1	1	1	-	-	-	-
2	Slider, compl.	29RPN-06.02.000		1	1	1	1	1	1	1	1
3	Lever	29RPN-06.03.000		1	1	1	1	1	1	1	1
4	Pull rod	29RPN-06.04.000		2	2	2	2	2	2	2	2
5	Washer 21 Fe/Zn5	PN-78/M-82005		2	2	2	2	2	2	2	2
6	Washer 13 Fe/Zn5	PN-78/M-82005		6	6	6	6	6	6	6	6
7	Cotter pin S-Zn 5x28	PN-76/M-82001		2	2	2	2	2	2	2	2
8	Cotter pin S-Zn 3.2x16	PN-76/M-82001		4	4	4	4	4	4	4	4
9	Rear wall FUHRMANN 600	45RPN-08.01.000		-	-	-	-	1	1	1	1

Assembly				Qty							
REAR HOOK											
Drawings No		Assembly / Part compl No		T672/F	T672/AH/F	T672/AP/F	T672/D/F	T672/01/F	T672/01/AH/F	T672/01/AP/F	T672/01/D/F
26		45RPN-23.00.000									
No	Part	Drawing / Standard No									
1	Coupling body	45RPN-23.01.000		1	1	1	1	1	1	1	1
2	Bolt, compl.	29RPN-00.01.200		1	1	1	1	1	1	1	1
3	Shock absorber socket I	45RPN-23.00.001		2	2	2	2	2	2	2	2
4	Shock absorber socket II	45RPN-23.00.002		2	2	2	2	2	2	2	2
5	Shock absorber	45RPN-23.00.003		2	2	2	2	2	2	2	2
6	Wheel I	29RPN-14.06.203		1	1	1	1	1	1	1	1
7	Wheel II	29RPN-14.06.204		1	1	1	1	1	1	1	1
8	Spring cotter pin 5x110-Fe/Zn6C	PN-ISO 7072		1	1	1	1	1	1	1	1
9	Sanitary chain L=250mm			1	1	1	1	1	1	1	1
10	Cotter pin S-Zn-8x80	PN-76/M-82001		1	1	1	1	1	1	1	1
11	Cotter pin S-Zn-3.2x25	PN-76/M-82001		1	1	1	1	1	1	1	1
12	Crown nut	PN-86/M-82148		1	1	1	1	1	1	1	1
13	Washer 43 Fe/Zn	PN-78/M-82005		1	1	1	1	1	1	1	1

Assembly				Qty							
CONNECTION ROPE											
Drawings No		Assembly / Part compl No		T672/F	T672/AH/F	T672/AP/F	T672/D/F	T672/01/F	T672/01/AH/F	T672/01/AP/F	T672/01/D/F
27		45RPN-00.28.000									
No	Part	Drawing / Standard No									
1	Shackle zinc-coated. S.4869			2	2	2	2	2	2	2	2
2	Stretcher M8x100 zinc-coated. S.11074			1	1	1	1	1	1	1	1
3	Thimble A6 zinc-coated	PN-66/M-80247		1	1	1	1	1	1	1	1
4	Bail clamp 6.5 zinc-coated	PN-73/M-80241		4	4	4	4	4	4	4	4
5	Rope ϕ 5.5 T6x37+A0 l=1900			1	1	1	1	1	1	1	1
6	Nut M8-5-B Fe/Zn5	PN-86/M-82144		1	1	1	1	1	1	1	1
7	Nut M5-5-B Fe/Zn5	PN-86/M-82144		8	8	8	8	8	8	8	8
8	Heat-shrinkable pipe PBF 12/6 l=30	BN-89/C-89209		2	2	2	2	2	2	2	2

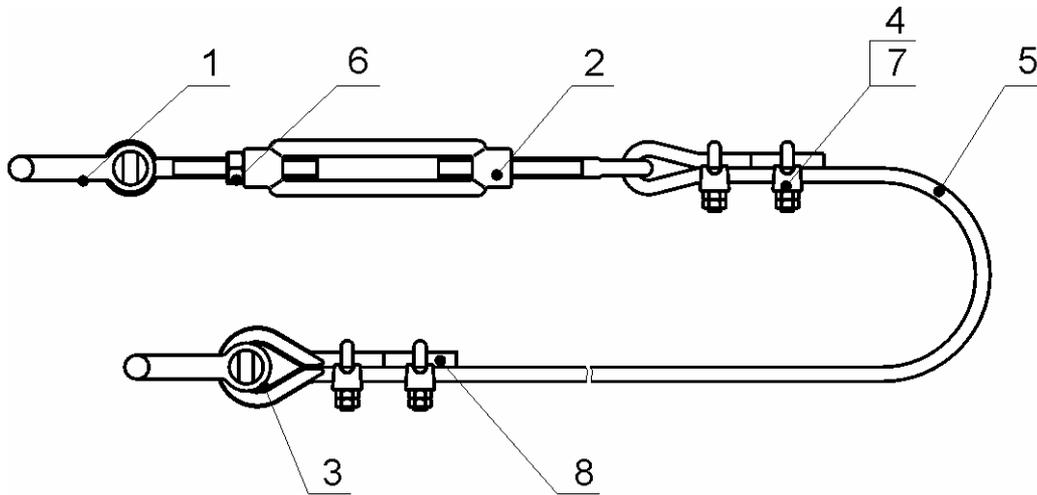


Fig. 27 Connection rope

Caution! The connection rope is supplied only with dividable walls (compl)

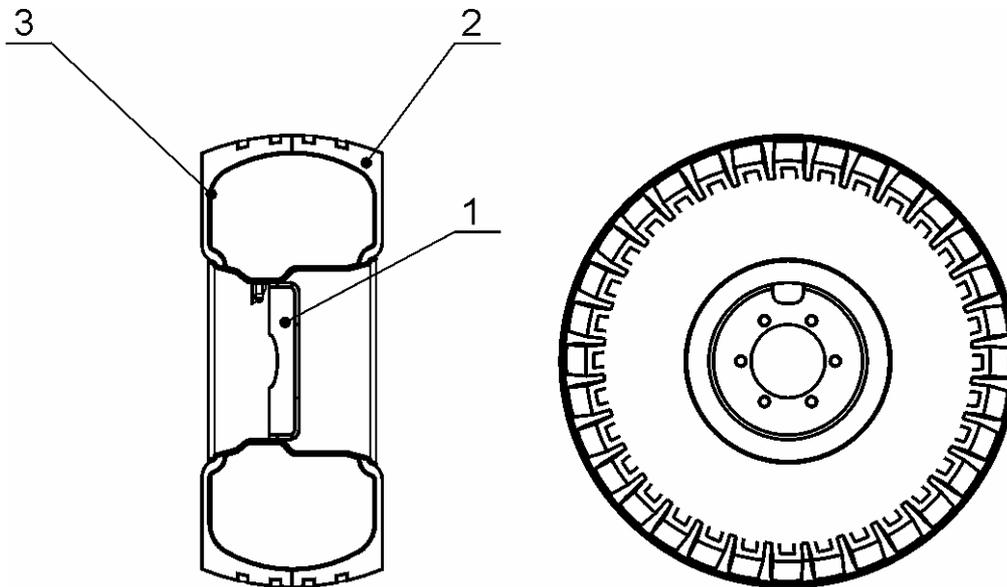


Fig. 28 Wheel, compl.

Assembly				Qty							
WHEEL, COMPL.											
Drawings No		Assembly / Part compl No		T672/F	T672/AH/F	T672/AP/F	T672/D/F	T672/O1/F	T672/O1/AH/F	T672/O1/AP/F	T672/O1/D/F
28		45RPN-00.09.000 45RPN-00.10.000									
No	Part	Drawing / Standard No									
1	Disc wheel 13.00x15.5	155.13.01		1	1	1	1	-	-	-	-
1	Disc wheel 13x18	18.13.05		-	-	-	-	1	1	1	1
2	Tyre 400/60-15.5 TL 14PR A8			1	1	1	1	-	-	-	-
2	Tyre 15.0/70-18 TL 14 PR A8			-	-	-	-	1	1	1	1
3	Air tube 14.0/65-16+400/60-15.5 TR15			1	1	1	1	-	-	-	-
3	Air tube 15.0/70 -18 with. TR15			-	-	-	-	1	1	1	1

Caution! Qty for one wheel

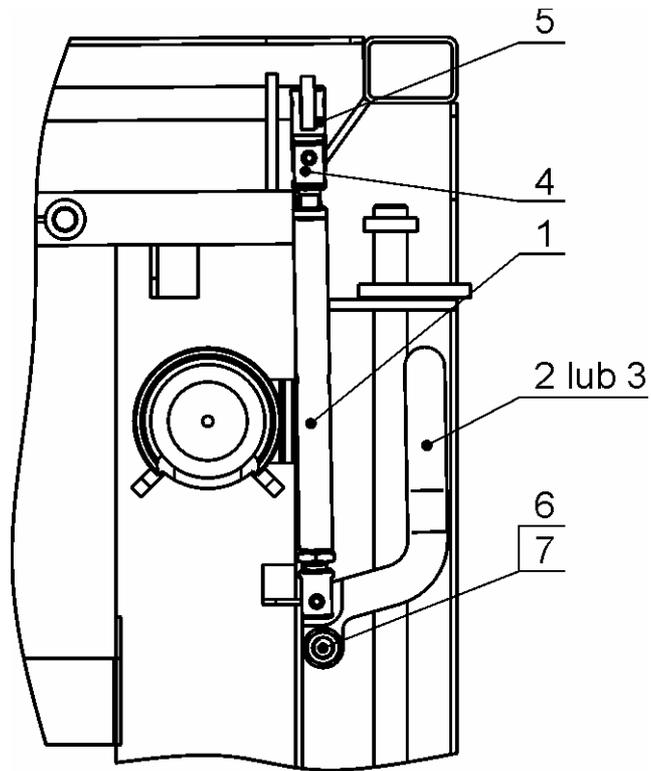


Fig. 29 Side lock left / right

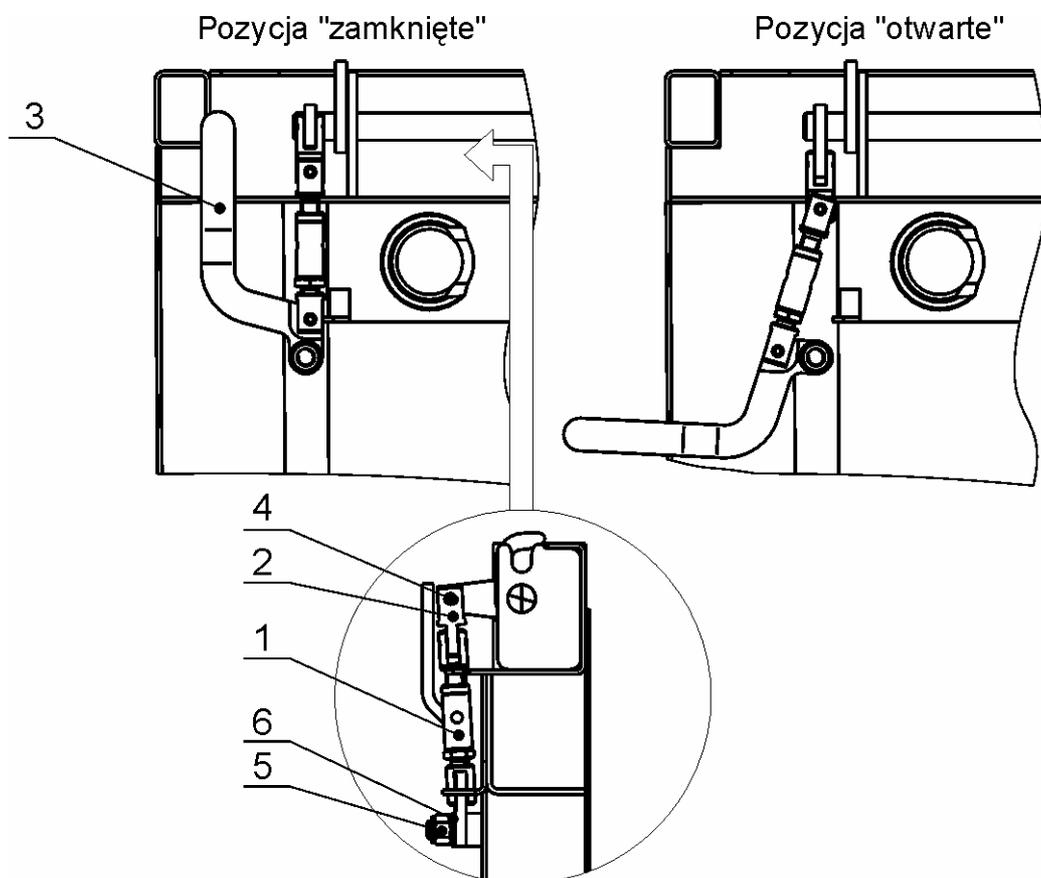


Fig. 30 Rear lock

Assembly			Qty							
SIDE LOCK LEFT										
Drawings No		Assembly / Part compl No								
29		45RPN-45.00.000								
No	Part	Drawing / Standard No	T672/F	T672/AH/F	T672/AP/F	T672/D/F	T672/01/F	T672/01/AH/F	T672/01/AP/F	T672/01/D/F
1	Pull rod, compl.	45RPN-45.00.100	1	1	1	1	1	1	1	1
2	Lever, left	45RPN-45.00.001	1	1	1	1	1	1	1	1
4	Connector	29RPN-00.02.001	1	1	1	1	1	1	1	1
5	Spring pin 10x25	PN-89/M-85023	1	1	1	1	1	1	1	1
6	Self-locking nut M16-6-B Fe/Zn5	PN-85/M-82175	1	1	1	1	1	1	1	1
7	Washer 17 Fe/Zn5	PN-75/M-82005	1	1	1	1	1	1	1	1

Assembly			Qty							
SIDE LOCK RIGHT										
Drawings No		Assembly / Part compl No								
29		45RPN-46.00.000								
No	Part	Drawing / Standard No	T672/F	T672/AH/F	T672/AP/F	T672/D/F	T672/01/F	T672/01/AH/F	T672/01/AP/F	T672/01/D/F
1	Pull rod, compl.	45RPN-45.00.100	1	1	1	1	1	1	1	1
3	Lever, left	45RPN-45.00.002	1	1	1	1	1	1	1	1
4	Connector	29RPN-00.02.001	1	1	1	1	1	1	1	1
5	Spring pin 10x25	PN-89/M-85023	1	1	1	1	1	1	1	1
6	Self-locking nut M16-6-B Fe/Zn5	PN-85/M-82175	1	1	1	1	1	1	1	1
7	Washer 17 Fe/Zn5	PN-75/M-82005	1	1	1	1	1	1	1	1

Assembly			Qty							
REAR LOCK										
Drawings No		Assembly / Part compl No								
30		29RPN-00.02.000								
No	Part	Drawing / Standard No	T672/F	T672/AH/F	T672/AP/F	T672/D/F	T672/01/F	T672/01/AH/F	T672/01/AP/F	T672/01/D/F
1	Pull rod, compl.	29RPN-00.00.300	1	1	1	1	1	1	1	1
2	Connector	29RPN-00.02.001	1	1	1	1	1	1	1	1
3	Lever	29RPN-00.02.002	1	1	1	1	1	1	1	1
4	Spring pin 10x25	PN-89/M-85023	1	1	1	1	1	1	1	1
5	Self-locking nut M16-6-B Fe/Zn5	PN-85/M-82175	1	1	1	1	1	1	1	1
6	Washer 17 Fe/Zn5	PN-78/M-82005	1	1	1	1	1	1	1	1

Stupek lewy

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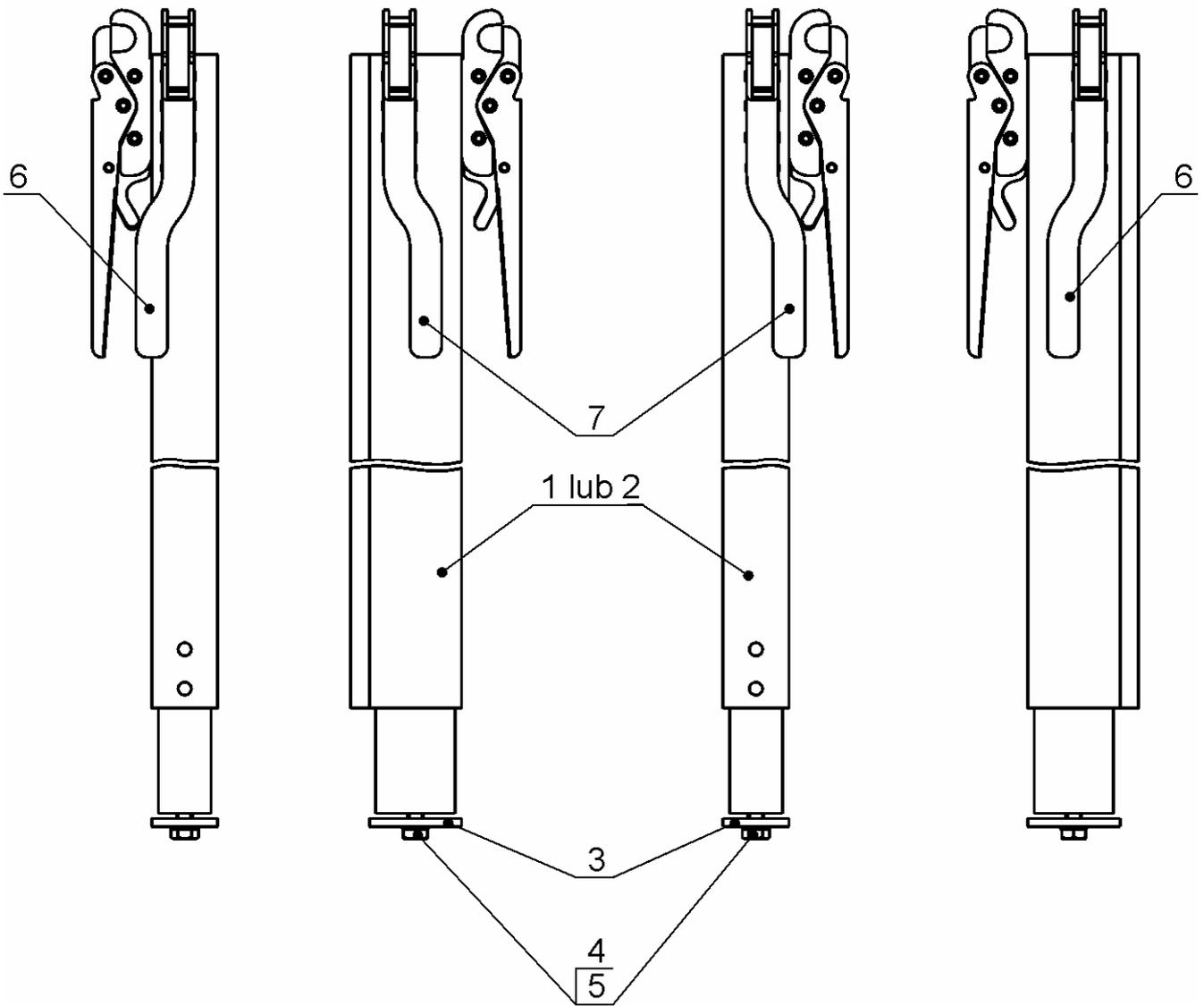
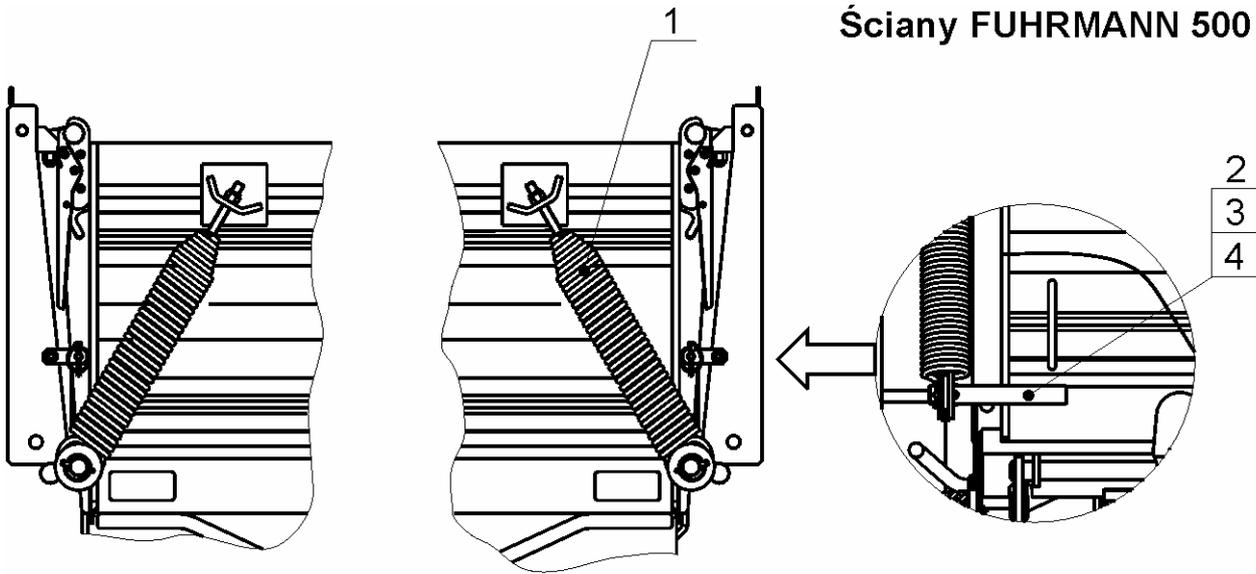


Fig. 31 Post FUHRMANN

Assembly			Qty								
POST FUHRMANN											
Drawings No		Assembly / Part compl No									
31		45RPN-00.01.000, 45RPN- 00.02.000 45RPN-00.18.000, 45RPN- 00.19.000		T672/F	T672/AH/F	T672/AP/F	T672/D/F	T672/O1/F	T672/O1/AH/F	T672/O1/AP/F	T672/O1/D/F
No	Part	Drawing / Standard No		T672/F	T672/AH/F	T672/AP/F	T672/D/F	T672/O1/F	T672/O1/AH/F	T672/O1/AP/F	T672/O1/D/F
1	Post FUHRMANN 500	45RPN-00.18.100		1	1	1	1	-	-	-	-
2	Post FUHRMANN 600	45RPN-00.01.100		-	-	-	-	1	1	1	1
3	Pressure plate	29RPN-00.03.001		1	1	1	1	1	1	1	1
4	Screw M12x30-8.8-B-Fe/Zn5	PN-85/M-82105		1	1	1	1	1	1	1	1
5	Washer 12.2 Fe/Zn5	PN-77/M-82008		1	1	1	1	1	1	1	1
6	Lock, right	29RPN-05.02.000		1	1	1	1	1	1	1	1
7	Lock, left	29RPN-05.01.000		1	1	1	1	1	1	1	1

Caution! Qty for one post

Ściany FUHRMANN 500



Ściany FUHRMANN 600

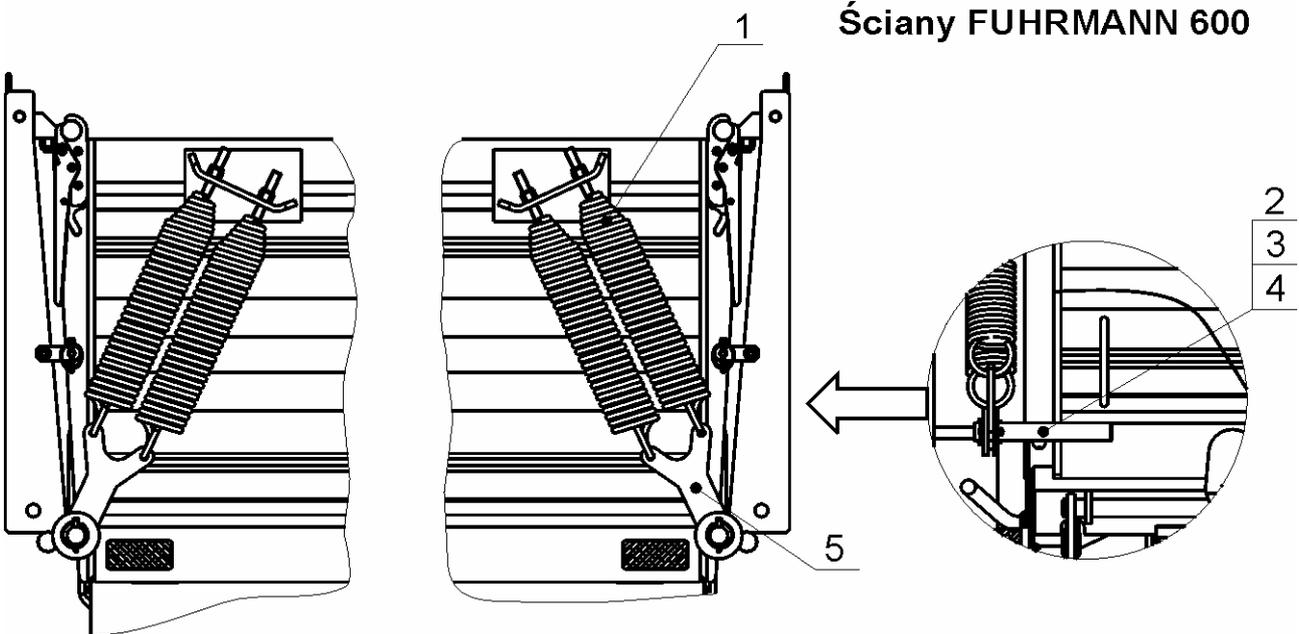


Fig. 32 Board guy

Assembly			Qty								
BOARD GUY											
Drawings No		Assembly / Part compl No									
32		45RPN-00.26.000 45RPN-00.27.000		T672/F	T672/AH/F	T672/AP/F	T672/D/F	T672/01/F	T672/01/AH/F	T672/01/AP/F	T672/01/D/F
No	Part	Drawing / Standard No									
1	Spring Art.-350021			2	2	2	2	4	4	4	4
2	Stud S.3545			2	2	2	2	2	2	2	2
3	Cotter pin S-Zn 4x40	PN-76/M-82001		2	2	2	2	2	2	2	2
4	Washer, round 25	PN-59/M-82030		4	4	4	4	4	4	4	4
5	Eye	45RPN-00.26.005		-	-	-	-	2	2	2	2

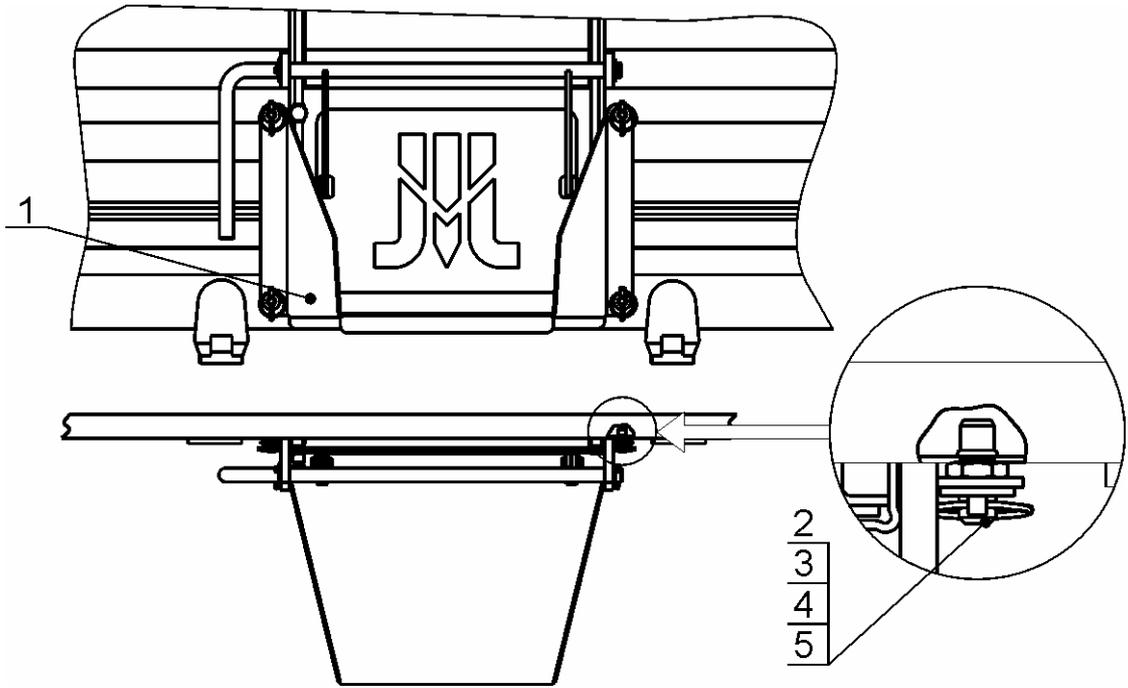


Fig. 33 Chute, compl.

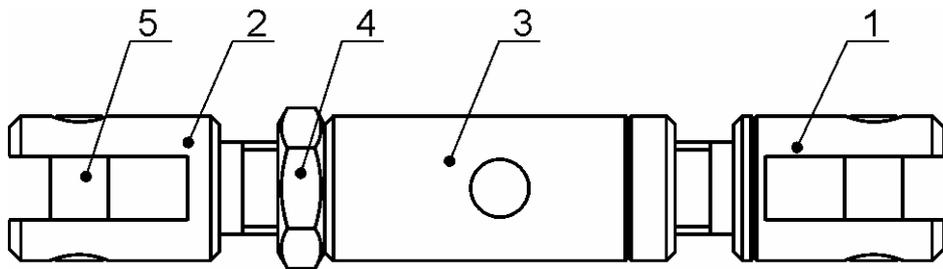


Fig. 34 Pull rod, compl.

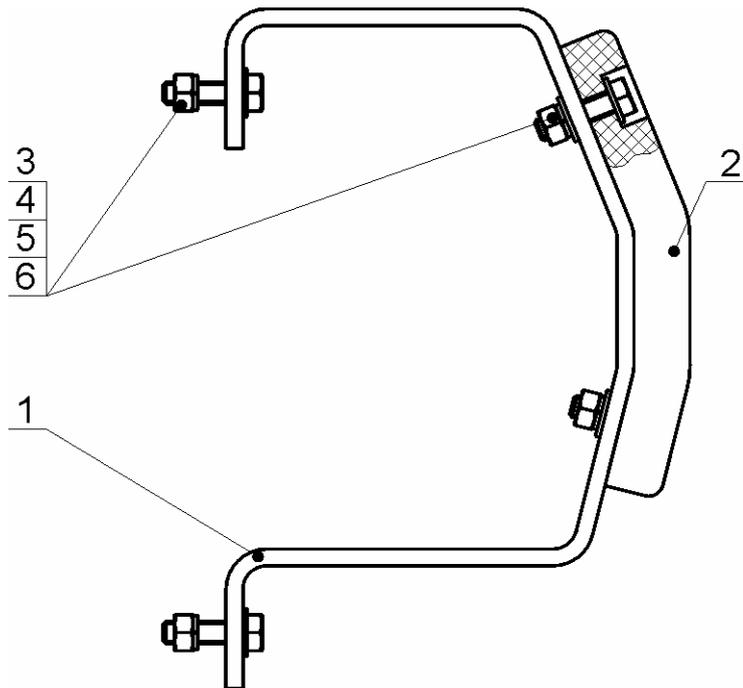


Fig. 35 Rear wall fender

Assembly			Qty							
CHUTE, COMPL.										
Drawings No		Assembly / Part compl No								
33		45RPN-00.29.000								
No	Part	Drawing / Standard No	T672/F	T672/AH/F	T672/AP/F	T672/D/F	T672/01/F	T672/01/AH/F	T672/01/AP/F	T672/01/D/F
1	Chute	45RPN-00.29.001	1	1	1	1	1	1	1	1
2	Chute screw	58RPN-00.08.002	4	4	4	4	4	4	4	4
3	Stud S.3545		4	4	4	4	4	4	4	4
4	Knurled nut M8		4	4	4	4	4	4	4	4
5	Washer 13 Fe/Zn5	PN-78/M-82005	4	4	4	4	4	4	4	4

Assembly			Qty							
PULL ROD, COMPL										
Drawings No		Assembly / Part compl No								
34		29RPN-00.00.300								
No	Part	Drawing / Standard No	T672/F	T672/AH/F	T672/AP/F	T672/D/F	T672/01/F	T672/01/AH/F	T672/01/AP/F	T672/01/D/F
1	Screw left	29RPN-00.00.301	1	1	1	1	1	1	1	1
2	Screw right	29RPN-00.00.302	1	1	1	1	1	1	1	1
3	Threaded sleeve	29RPN-00.00.303	1	1	1	1	1	1	1	1
4	Nut M16-05-B-Fe/Zn5	PN-86/M-82153	1	1	1	1	1	1	1	1
5	Spring pin 1-x25	PN-89/M-85023	2	2	2	2	2	2	2	2

Caution! Qty for one pull rod

Assembly			Qty							
REAR WALL FENDER, COMPL.										
Drawings No		Assembly / Part compl No								
35		53RPN-09.01.000								
No	Part	Drawing / Standard No	T672/F	T672/AH/F	T672/AP/F	T672/D/F	T672/01/F	T672/01/AH/F	T672/01/AP/F	T672/01/D/F
1	Fender body	53RPN-09.01.001	1	1	1	1	1	1	1	1
2	Fishplate	29RPN-00.00.003	1	1	1	1	1	1	1	1
3	Screw M8x30-5.8-B-Fe/Zn5	PN-85/M-82105	4	4	4	4	4	4	4	4
4	Nut M8-5-B-Fe/Zn5	PN-86/M-82144	4	4	4	4	4	4	4	4
5	Washer 8.4 Fe/Zn5	PN-78/M-82005	6	6	6	6	6	6	6	6
6	Spring washer 28.2 Fe/Zn5	PN-77/M-82008	4	4	4	4	4	4	4	4

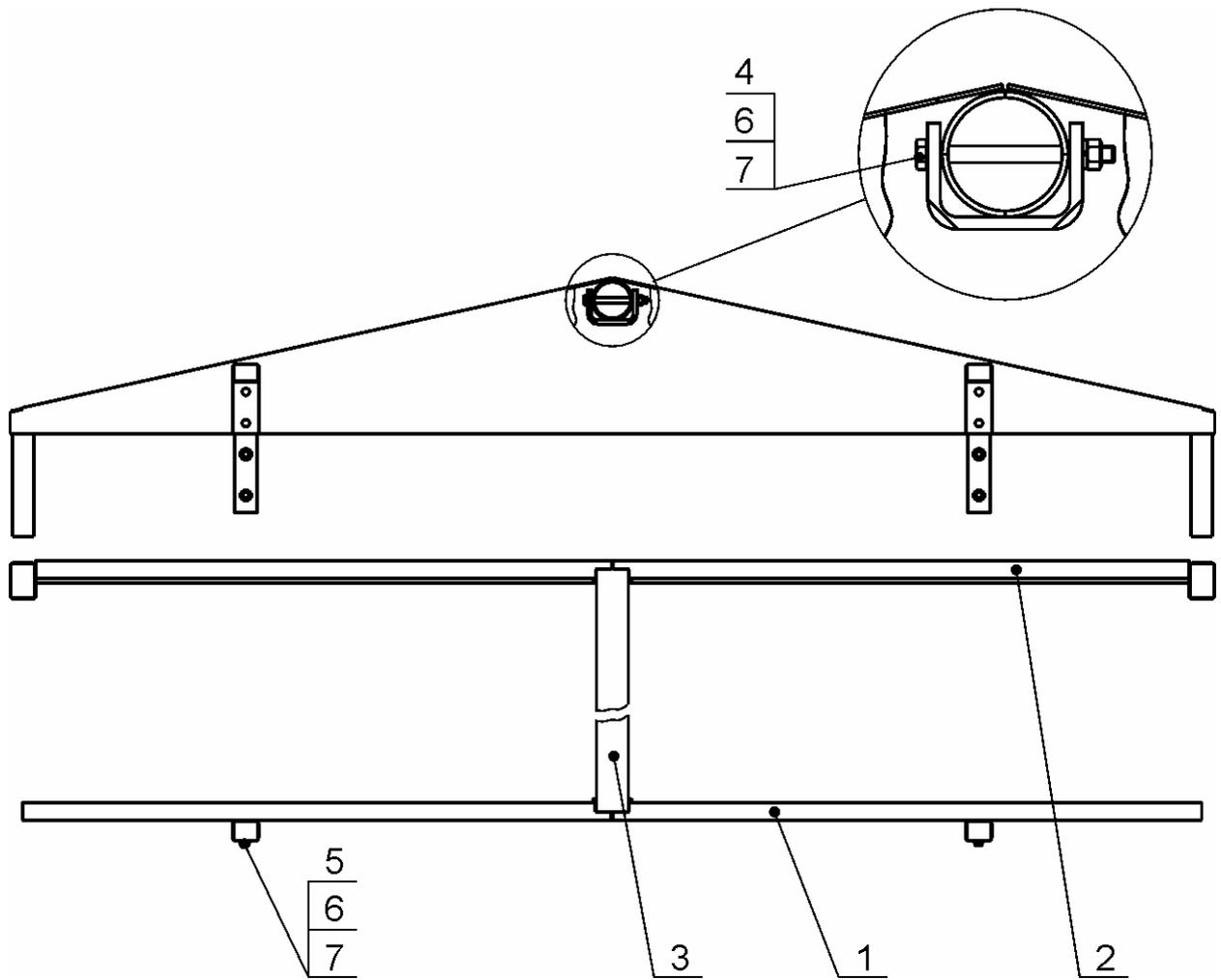


Fig. 36 Frame

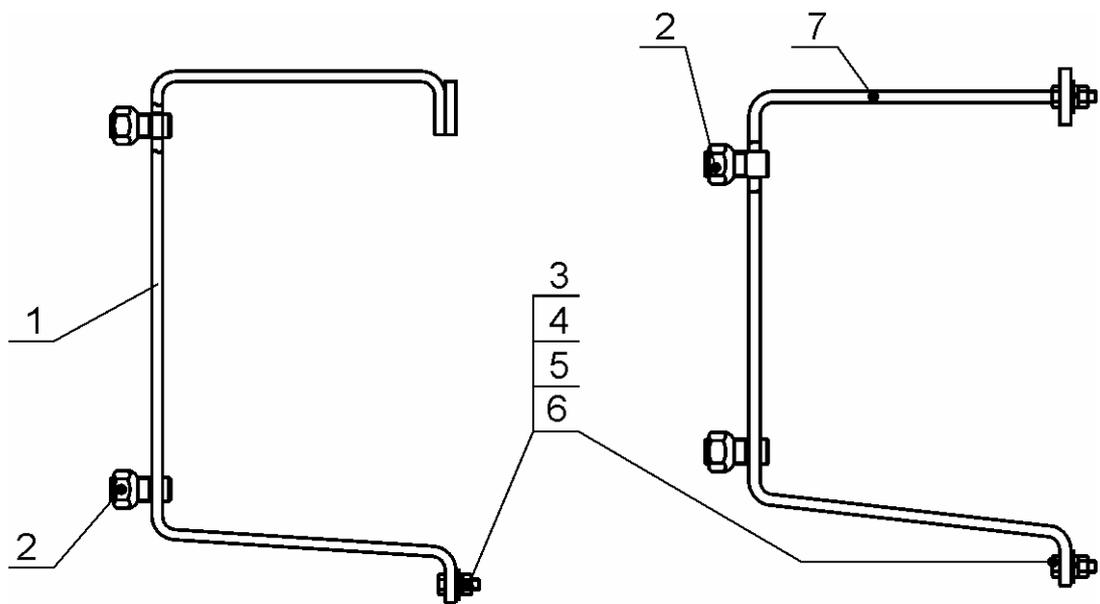


Fig. 37 Spare wheel hanger

Assembly				Qty									
FRAME, COMPL.													
Drawings No		Assembly / Part compl No											
36		45RPN-49.01.000		T672/F	T672/AH/F	T672/AP/F	T672/D/F	T672/O1/F	T672/O1/AH/F	T672/O1/AP/F	T672/O1/D/F		
No	Part	Drawing / Standard No											
1	Front gable	45RPN-49.01.100		1	1	1	1	1	1	1	1	1	1
2	Rear gable	45RPN-49.01.200		1	1	1	1	1	1	1	1	1	1
3	Pipe	45RPN-49.01.001		1	1	1	1	1	1	1	1	1	1
4	Screw M8x90-5.8-B-Fe/Zn5	PN-85/M-82101		2	2	2	2	2	2	2	2	2	2
5	Screw M8x25-8.8-B-Fe/Zn5	PN-85/M-82105		4	4	4	4	4	4	4	4	4	4
6	Nut M8-5-B-Fe/Zn5	PN-86/M-82144		6	6	6	6	6	6	6	6	6	6
7	Spring washer Z8.2-Fe/Zn5	PN-77/M-82008		6	6	6	6	6	6	6	6	6	6

Assembly				Qty									
SPARE WHEEL HANGER, COMPL													
Drawings No		Assembly / Part compl No											
37		45RPN-00.17.000 45RPN-00.20.000		T672/F	T672/AH/F	T672/AP/F	T672/D/F	T672/O1/F	T672/O1/AH/F	T672/O1/AP/F	T672/O1/D/F		
No	Part	Drawing / Standard No											
1	Spare wheel hanger 500	45RPN-00.17.100		1	1	1	1	-	-	-	-	-	-
2	Nut DM 18x1,5-10	PN-88/S-91240/62		2	2	2	2	2	2	2	2	2	2
3	Screw M25 -8.8-B-Fe/Zn5	PN-85/M-82105		3	3	3	3	3	3	3	3	3	3
4	Nut M8-B-Fe/Zn5	PN-86/M-82144		3	3	3	3	3	3	3	3	3	3
5	Spring washer Z8.2 Fe/Zn5	PN-77/M-82008		3	3	3	3	3	3	3	3	3	3
6	Washer, round 8,5 zinc-coated	PN-59/M-82030		3	3	3	3	3	3	3	3	3	3
7	Spare wheel hanger	45RPN-00.20.100		-	-	-	-	1	1	1	1	1	1

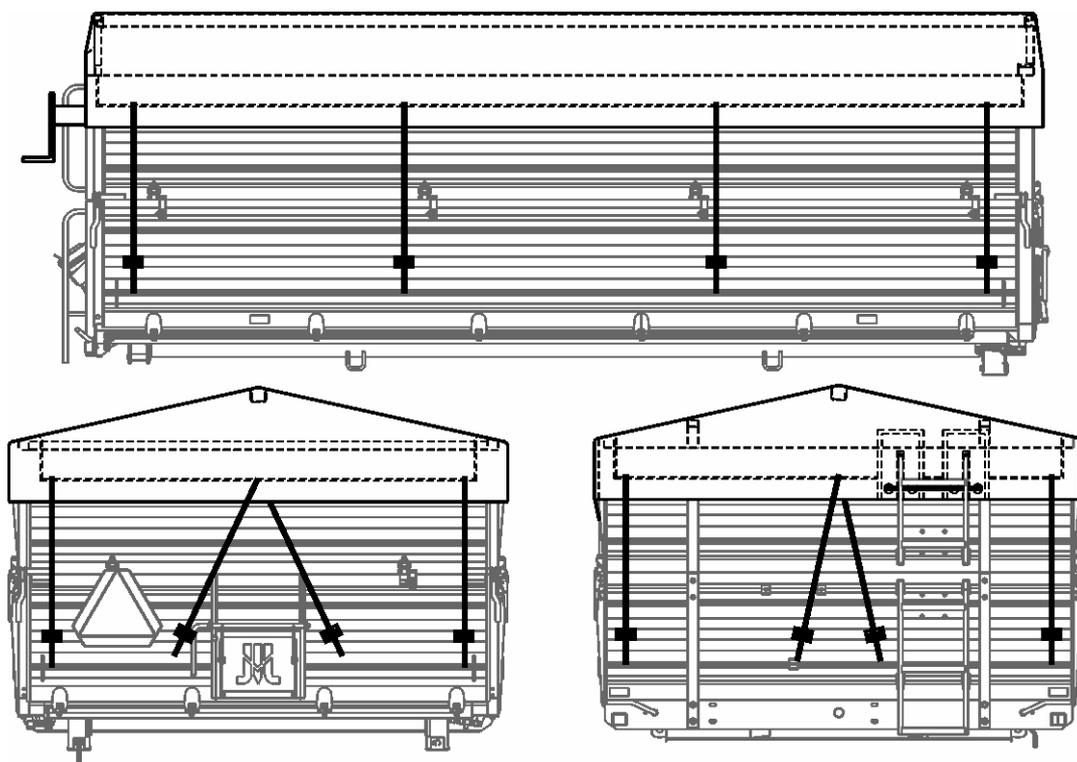


Fig. 38 Fastening of the tarpaulin & frame

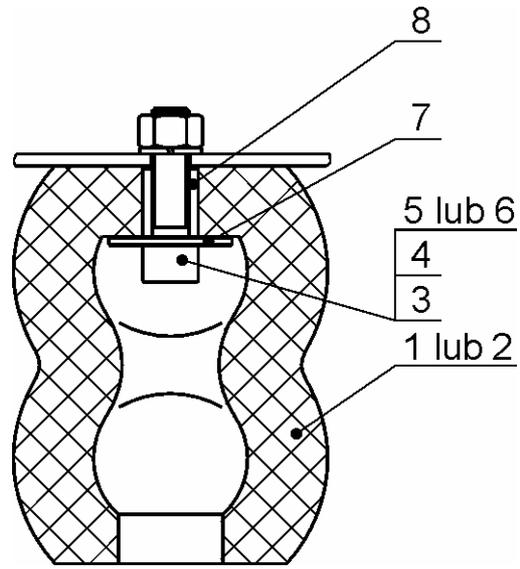


Fig. 39 Fender R2K30 and R2K37

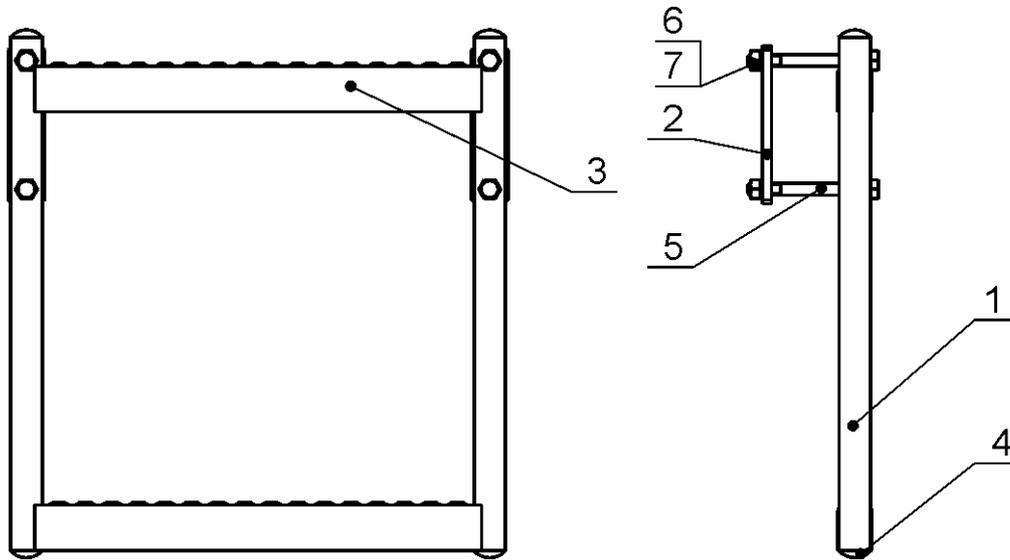


Fig. 40 Hitch rod ladder

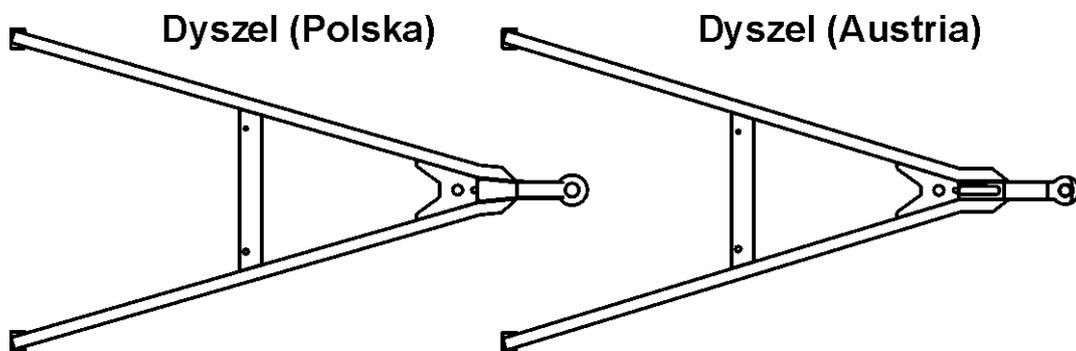


Fig. 41 Hitch rod

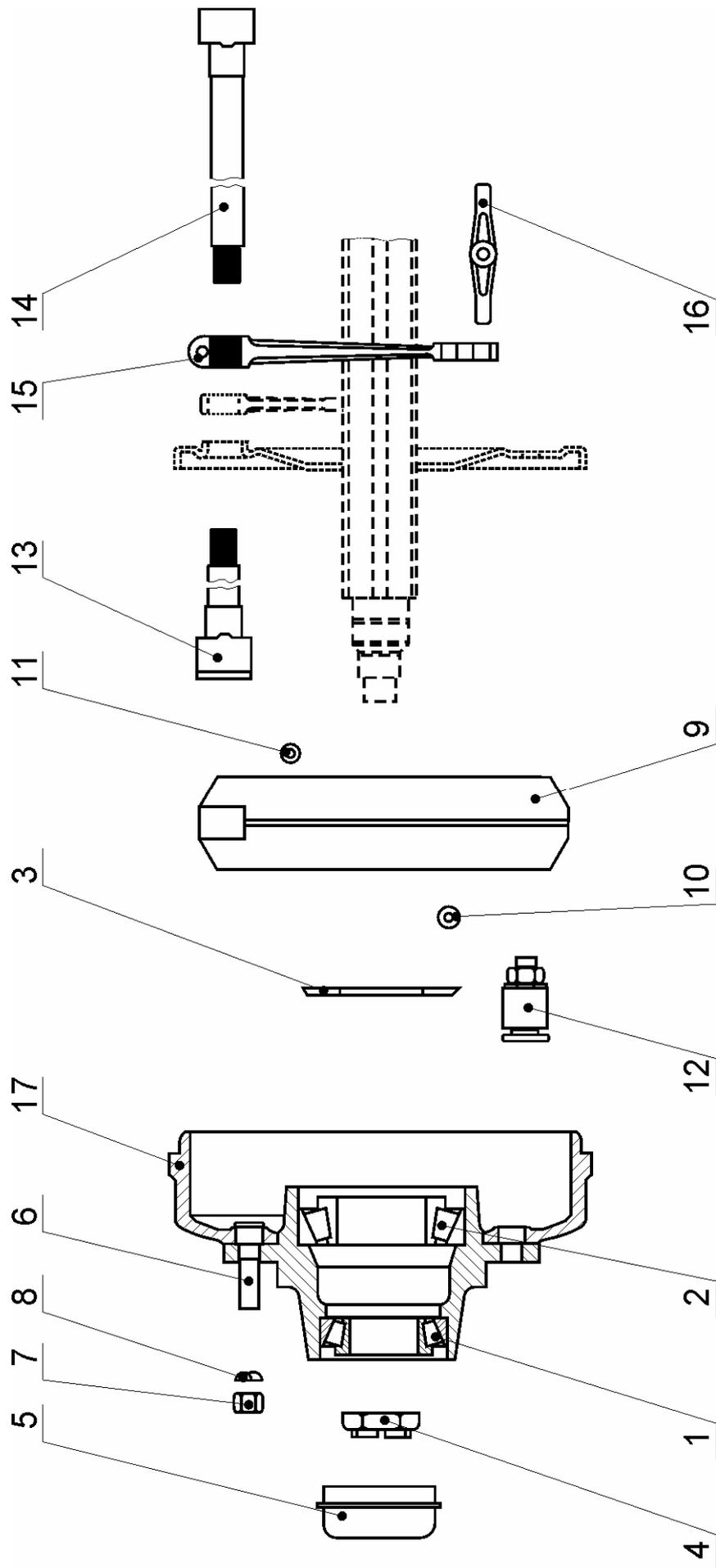


Fig. 42 Axle

Assembly			Qty							
FENDER R2K30, R2K37										
Drawings No		Assembly / Part compl No	T672/F	T672/AH/F	T672/AP/F	T672/D/F	T672/01/F	T672/01/AH/F	T672/01/AP/F	T672/01/D/F
39		29RPN-00.00.200 53RPN-00.00.300								
No	Part	Drawing / Standard No								
1	Rubber suspension spring R2K30	29RPN-00.00.004	1	1	1	1	1	1	1	1
2	Rubber suspension spring R2K37	53RPN-00.00.008	1	1	1	1	1	1	1	1
3	Space sleeve	29RPN-00.00.201	1	1	1	1	1	1	1	1
4	Washer	29RPN-00.00.202	1	1	1	1	1	1	1	1
5	Screw M12x45-8.8-B Fe/Zn5	PN-87/M-82302	1	1	1	1	1	1	1	1
6	Screw M12x50-8.8-B Fe/Zn5	PN-87/M-82302	1	1	1	1	1	1	1	1
7	Nut M12-8-B Fe/Zn5	PN-86/M-82144	1	1	1	1	1	1	1	1
8	Spring washer Z12.5 Fe/Zn5	PN-77/M-82008	1	1	1	1	1	1	1	1

Caution! Qty for one fender

Assembly			Qty							
HITCH ROD LADDER										
Drawings No		Assembly / Part compl No	T672/F	T672/AH/F	T672/AP/F	T672/D/F	T672/01/F	T672/01/AH/F	T672/01/AP/F	T672/01/D/F
40		53RPN-00.01.000								
No	Part	Drawing / Standard No								
1	Handrail	53RPN-00.01.001	2	2	2	2	2	2	2	2
2	Fastening plate	53RPN-00.01.002	2	2	2	2	2	2	2	2
3	Ladder run	EB 20-209 L=304	2	2	2	2	2	2	2	2
4	Plug IK22	PPHU Piast Trading	4	4	4	4	4	4	4	4
5	Screw M8x50-5.8-B-Fe/Zn5	PN-85/M-82101	4	4	4	4	4	4	4	4
6	Nut M8-5-B-Fe/Zn5	PN-86/M-82144	4	4	4	4	4	4	4	4
7	Spring washer Z8.2-Fe/Zn5	PN-77/M-82008	4	4	4	4	4	4	4	4

No	Part, (Drawing 42)	Cat. No	Qty
	Axle compl.	44.00	1
1	Outer bearing	44.01	2
2	Inner bearing	44.02	2
3	Sealing ring	44.03	2
4	Crown nut	44.04	2
5	Cover	44.05	2
6	Stud	44.06	12
7	Nut M18x1,5	44.07	12
8	Ball washer	44.08	12
9	Brake shoe + lining	44.09	4
10	Spring, front	44.10	2
11	Spring, rear	44.11	2
12	Fastening bolt for brake shoe	44.12	2
13	Stretcher, left	44.13	1
14	Stretcher, right	44.14	1
15	Brake lever	44.15	2
16	Brake cross-bar	44.16	1
17	Hub / drum	44.17	2

Caution: Qty for single axle. While ordering an axle or spare parts give serial & type of the trailer and type of the axle (as on the type plate)