NIEWIADÓW

TRAILER
USER
MANUAL

FABRYKA PRZYCZEP NIEWIADÓW
SPÓŁKA Z OGRANICZONĄ ODPOWIEDZIALNOŚCIĄ
ul. Sarmacka 19 lok. 172
02-972 Warsaw (Poland)

TABLE OF CONTENTS

1. INTRODUCTION

Thank you for purchasing a trailer made at Fabryka Przyczep Niewiadów.

Using our many years of experience, we have made a durable and safe product for you. Before using it, please read carefully this manual, which includes information on the correct use and proper maintenance of the product. Failure to follow these recommendations may put you and other road users at risk. It can also lead to the loss of your warranty rights.

The constant striving to improve the quality of our products forces us to reserve the right to introduce changes not included in this manual, and resulting from ongoing modernization.

2. TECHNICAL DATA

Basic technical data of your trailer are given in the attached 'EC certificate of conformity for a complete vehicle' and 'Declaration of data and information about the vehicle necessary for registration and entering into the records of vehicles" ('Declaration ...' is issued for trailers sold to recipients in Poland).

The actual weights and dimensions may slightly differ from those given in these documents.

3. EQUIPMENT

Our trailers are offered with basic (standard) equipment, however, depending on the version, they can be equipped with a number of additional elements.

At your disposal are: load handles, supports, support wheel, flat tarpaulin, tarpaulin on a frame, side extension, mesh extension, front railing, railings, wheel locks

CAUTION!

Additional equipment should be treated as a load, bearing in mind that its weight reduces the load capacity and that some elements additionally increase the overall dimensions of the trailer.

4. TRAILER OPERATION

4.1. Hitching (coupling with a towing vehicle)

NIEWIADÓW trailers can be equipped with a coupling head, commonly known as a coupling ball or with a towing eye. Towing eyes are installed in a small number of trailers, and the most important thing to remember when coupling with them, is strict adherence to the instructions included in the manual of the coupling device installed on the towing vehicle.

Most of the trailers produced by our company are equipped with coupling balls. To couple the trailer with the towing vehicle:

1. Hook the emergency rope on the pin under the ball off the hook:
   - in trailers without brakes, so as to prevent the coupling ball from hitting the ground in the event of unfastening of the hitch from the tow hook ball,
   - in trailers with brakes, so that in the event of unfastening of the hitch from the ball, it sets the brakes of the trailer.

   For this purpose, create a loop of the rope, put it on the pin under the ball off the hook and fasten the carabiner on the rope in a way that prevents the rope from sliding off the pin.
2. Hook the trailer's coupling ball on the vehicle's tow hook (the correct way of hooking the hitch is described in section 5.1.2. of the manual). If the trailer is equipped with a support wheel, coupling can be made by lifting the drawbar and then lowering it so that the hitch hits exactly the ball off the hook.
3. Connect the electrical system of the trailer with the socket of the towing vehicle (the connection method is described in section 5.1.8. of the manual).

CAUTION!

1. The car tow hook ball should measure ∅50$^{-0.39}$ mm.

2. The ball axis must be at the height 350 mm÷ 420 mm from the ground when the car is loaded to the allowable total weight.

4.2. Loading

When loading the trailer, it is absolutely necessary to:

1. evenly distribute the load;
2. in the case of a concentrated load (e.g., a barrel, a box), place it in the central zone of the trailer over the axle (axles) and if necessary, in order to distribute the pressure over a larger area, intermediate plates can be

used - these plates should be treated as a load and taken into account in the context of the permissible load capacity of the trailer;
3. secure the load against shifting;
4. load in such a way as to ensure the pressure on the ball of the vehicle's tow hook, the optimal value being 20 to 30 kg - higher pressure is allowed, but it must not exceed the lowest of the maximum values specified for the trailer's and tow truck's coupling devices.

CAUTION!

A loading not carried out in accordance with the principles described above may lead to negative pressure on the coupling, which may result in detaching the hitch from the hook ball.

CAUTION!

1. ***Loading and unloading is safer when the trailer is hitched to the towing vehicle.***
2. ***It is forbidden to overload the trailer and carry the load on the open side.***

4.3. Before driving

1. Check that the hitch is properly coupled with the car's coupler.
2. Check that the trailer lights are working properly.
3. Check that the load is properly distributed and secured against shifting.
4. Check the tightening of the road wheel mounting bolts.
5. Disconnect the support wheel (recommended) or pull it up to the maximum, pointing the wheel towards the trailer and lock it in this position.
6. The supports, if present, should be raised up to the maximum and locked in this position.
7. Check that all sides, doors and vents are properly closed.

4.4. Driving

While driving, remember that:
- the braking distance of the car-trailer set is longer than that of the car itself,
- you need to keep a reserve of speed and an increased distance from other vehicles to be able to increase the speed in the event of skidding
- you need to be more careful when riding down, especially on wet surfaces.

4.5. Unhitching

1. Disconnect the electrical system.
2. Disconnect the emergency rope.
3. Disconnect the trailer from the tow hook of the car (using the procedures as in section 5.1.2.).

On trailers equipped with a support wheel, use it to raise the drawbar and unfasten the hitch from the tow hook ball. When lifting the drawbar, be especially careful if the trailer is loaded.

5. OPERATION, SERVICE, MAINTENANCE

5.1. General information.

Note:
- keep the trailer clean,
- when parked, the body of the trailer was leveled and during longer stops the trailer was propped up so that the wheels did not touch the ground,
- in winter, when storing the trailer outside, remove excess snow or ice from it.

Some elements of the trailers are covered with an anti-corrosive zinc coating applied thermally (hot-dip) or galvanically. Corrosion protection is achieved by oxidation of the top layer of zinc, which at this time becomes mat (it darkens). This may take several months. As long as the zinc coating remains shiny, the oxidation process is not complete. Regardless of the manufacturer, the so-called "white corrosion" occurs on the zinc coating, which does not reduce the corrosion resistance.

Galvanized parts are not resistant to acids, salts and some chemicals. After driving on salt-sprinkled roads or transporting, for example, artificial fertilizers or other chemicals, the trailer should be thoroughly washed with clean water.

Places where the zinc coating has been damaged should be cleaned, degreased and, after drying, protected with a "cold galvanizing" agent.

During the whole time of using the trailer, make sure that the internal parts of the coupling ball are clean and greased, and that the ball socket is covered with solid grease.

5.1.1. Coupling ball

Fastening the hitch on the ball off the hook.

1. Unlock the hitch lever by pressing down on the tab on it or, on some types of hitches, pulling it upwards.
2. Turn the hitch lever towards the front.
3. Place the hitch on the ball off the hook and press it lightly. Closing and securing the hitch occurs automatically and the lever returns to its original position, which means correct coupling. This is also shown by the coupling indicator installed on some hitch models.
4. Check, even with proper coupling, that there is no perceptible clearance between the ball and the hitch. If there is any clearance, it means that the ball of the tow hook or the coupling ball socket is worn and you should not drive.

The dimensions of the tow hook ball are given in the note in section 4.1, its wear can be found after measuring with a caliper, while the condition of the hitch socket is shown by the indicator on the side wall of the hitch.

If the coupling ball is not equipped, as standard, with a lock to prevent unfastening by unauthorized persons, it can be purchased as an accessory. Other hitch safety devices are also available.

5.1.2 Suspension and wheels bearings

NIEWIADÓW trailers are equipped with axles with rubber suspension elements. The suspension system does not require maintenance, but should be inspected at least once a year. If damage is found, repair or replace it in a specialized workshop.

The other axles use compact double row bearings. Due to the long service life and the lack of the need for maintenance, these bearings are generally not damaged under normal operating conditions. In the event of noisy operation of the bearing or the appearance of an easily perceptible clearance in the bearing, contact the service center for adjustment or possible repair.

5.1.3. Road wheels

Road wheels installed in NIEWIADÓW trailers are adjusted to the allowable total weight of the trailer. The condition for correct and safe driving is to ensure the same pressure in all wheels of the trailer.

Trailers are offered for sale with wheels, the pressure of which does not exceed the nominal value given in the marking on the tire.

The table below presents the pressure ranges for trailers loaded up to the allowable total weight.

Tire dimension	**Trailer allowable total weight**	**Number of wheels**	**Pressure**
155/70 R13	500 600 750	2 2 2	140 ÷ 160 kPa 160 ÷ 180 kPa 180 ÷ 200 kPa
165/70 R13	600 750 1500	2 2 4	170 ÷ 190 kPa 200 ÷ 230 kPa 200 ÷ 230 kPa
165 R 13C	1300 2700	2 4	340 ÷ 375 kPa 320 ÷ 375 kPa
185 R 14C	1500 1800 3500	2 2 4	325 ÷ 350 kPa 425 ÷ 450 kPa 400 ÷ 450 kPa

In order to ensure a long life of tires, it is necessary to:

- maintain the required tire pressure,
- when storing the trailer for a long time, support it so that the wheels do not touch the ground, smaller trailers can be set vertically,
- avoid long-term static load.

Use a socket wrench of the correct size to tighten the wheels.

During the trailer operation, the tire treads should wear evenly. In the event of accelerated, uneven tread wear, the trailer should be inspected in a specialized workshop.

5.1.4. Braking system

Braked trailers are equipped with an overrun (inertia) braking system. It consists of an overrun (steering) device, a transmission system and wheel braking mechanisms.

During vehicle braking, the inertia force of the trailer exerts pressure on the overrun device, which activates the braking mechanisms in the trailer wheels through the transmission system links. The construction of these mechanisms allows you to drive backwards without additional maintenance.

The braking system is equipped with a parking brake, which is activated manually with a lever on the overrun device. It is effective only when the handbrake lever is pulled beyond the so-called 'blind spot' and is in the rear position, and in devices equipped with a ratchet lever, the lever is pulled over the last notch.

The parking brake ensures the braking of the trailer on slopes up to 15%. However, in the event of a longer stop on a slope, in addition to applying the handbrake, it is recommended to place chocks under the wheels.

The trailer braking system requires maintenance and adjustment by the service station, on the dates described in section 6.

When using the trailer, pay attention to the insertion depth of the coupling ball. If it is necessary to press it more than 60 mm to induce braking, it should be adjusted in the service station.

5.1.5. Support wheel

Make sure that the support wheel bolt is always lubricated with solid grease. This wheel is designed to carry a vertical load and may only be used for:

- lifting the front of the trailer during coupling and uncoupling with the car,
- rolling the unladen trailer on a sufficiently hard and even surface,
- supporting **without rolling**, of the trailer standing with load, if necessary,
- supporting when replacing the road wheel.

CAUTION!

It is not allowed to roll (maneuver) on the support wheel if the trailer is loaded especially on soft or loose ground. The performance of minimum movements of the trailer, on sufficiently hard ground, is permissible to the extent that allows to attach or detach the trailer.

5.1.6. Supports

They are used to set the trailer in a horizontal position, support it during loading, use when parked and when changing wheels. It is not advisable to leave the trailer supported only on supports for a long time - in such situations it should be supported as evenly as possible by placing e.g., wooden blocks under the frame.

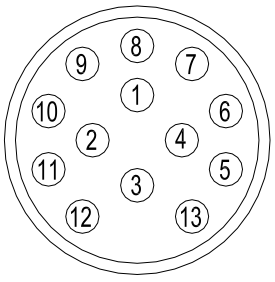
If the trailer is placed on a soft ground, pads (not supplied with the trailer) should be placed under the supports to prevent from sinking of the supports. The maintenance of the supports consists in keeping them clean and lubricating the moving parts, especially the lead screws.

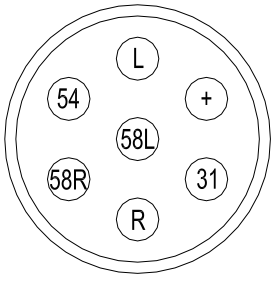
In the case of folding supports, if it is necessary to use a key to set them, use the key delivered with the trailer.

5.1.7. Signaling system

As a standard, the trailer is equipped with a signaling system suitable for the voltage of 12V. Depending on the version, a seven-pin or thirteen-pin plug can be used to connect it to the car. Below we present the markings of the plug terminals and the colors of the wires which should be connected with the corresponding lights.

Clamps of thirteen-pin connector





Clamps of seven-pin connector

No. (designation) of the clamp		Wire color	Connection
1	L	Yellow (z)	left direction indicator light
2	+	Blue (n)	fog light
3	31	White (b)	weight
4	R	Green (t)	right direction indicator light
5	58R	Brown (o)	position light, marker light and right lighting of the registration plate
6	54	Red (k)	brake light
7	58L	Black (c)	position light, marker light and left lighting of the registration plate
8	-	Grey (s)	reverse light
9	-	Brown and blue (o/n)	current (plus) - slow
13	31	Black and white (c/b)	ground for contacts 9 ÷ 12

If your car has a socket other than the trailer plug, you must purchase a suitable connection adapter ("adapter"). However, it must be remembered that in a trailer with a thirteen-pin installation (with a reversing light) connected to the seven-pin installation of the vehicle, the reverse light will not light up.

5.2. Box trailers

CAUTION!

If the trailer is equipped with side fasteners secured with a cotter pin, remember to put the cotter pin through the holes in the fastener again each time the sides are closed to prevent their automatic opening.

Trailers with steel sides

The side plates can be covered with a hot-dip zinc coating, which fulfills its anticorrosive function by oxidizing, which is manifested by fading of the surface (see section 5.1.1.), or an 'Aluzinc' coating that requires practically no preservative measures.

Trailers with plywood sides

For the plywood sides, we use foiled waterproof plywood, ensuring a high standard of use and minimum maintenance. After some time, the plywood surface may become dull, but it does not deteriorate its functional properties. To restore the shine, you can soak it with linseed oil and after a few hours wipe off the excess with a dry cloth. Any damage to the plywood should be painted with a phthalic topcoat or any wood surface protection agent.

Trailers with aluminum sides

Aluminum sides do not require maintenance, but remember not to use for cleaning any alkaline agents that may react chemically with aluminum. Also, do not use hard and sharp elements for cleaning.

Laminate covered trailers

Make sure that the laminate cover is not exposed to impacts that may cause it to break. Laminate should be cleaned and maintained with generally available agents for car bodies. Before driving, make sure that the cover is properly closed to prevent it from tearing off, which may result in serious damage.

Trailers with adjustable drawbar

In these trailers, the load box can be tilted until the rear beam rests on the ground. The box is attached to the drawbar by means of a fastener (fasteners) with a towing eye. It must be adjusted so that when closed, there is no clearance between the frame and the drawbar. If the design of the fastener does not provide an automatic lock, to secure the fastener in the closed position, it is absolutely necessary to use the pin attached to it, passing it through the holes in the housing and the lever, which will prevent automatic opening.

CAUTION!

The trailer must not be used with unsecured drawbar lock.

5.3 Platforms

Some truck trailers' bodies are built as platforms. This facilitates the loading of various goods, especially palletized ones. However, the open body makes it even more important to pay attention to the precise securing of the cargo against displacement or e.g., detachment of the packaging parts.

5.4. Trailers with box body

The bodies of the box vans can be made of foiled waterproof plywood or walls with a sandwich structure, finished on the outside with laminate or varnished aluminum sheet. This allows the trailer to be used without special maintenance. It is only recommended to keep the body clean using generally available agents for washing and maintenance of car bodies, outside. The interior can be washed with warm water with detergents and then wiped dry.

Loading and unloading should be performed when the trailer is connected to the towing car and the side supports are extended to the ground and locked.

CAUTION!

To avoid condensation inside the body interior, you should ventilate the trailer regularly, especially if it is not being used for a long time.

5.5. Trailers for motorcycles transport

These trailers are made with ramps and fastening elements in the form of gutters with bars or as platforms with a plywood or aluminum sheet floor, intended, e.g., for "Quad" vehicles. The platforms, depending on the version, are equipped with a ramp fastened in a vertical position or have a mechanically lowered deck.

Loading and unloading should be performed when the trailer is connected to the towing car. In order to load the motorcycle on the trailer, the ramp must be properly installed or the overrun ramp must be lowered and the vehicle must be entered. In the case of a drop-down deck, entry is easier as it can be done directly from the ground. After inserting, secure the motorcycle with belts and a welt. Place the belts across the trailer and hook their ends to the side handles. It is not recommended to fasten the belts diagonally across the frame. The motorcycle should be attached to its fixed structural elements, such as the frame, suspension, or by pressing the wheel directly against the gutter. If the motorcycle has a handlebar lock, it is recommended to activate it, which stiffens the motorcycle during transport.

In a trailer intended for the transport of three motorcycles, the roll bars covering the wheel shall be placed in such a position that the handlebars of the motorcycles are passed.

CAUTION!

It is forbidden to drive a motorcycle onto a trailer.

5.6. Trailers for vehicles transport

Loading and unloading should be performed when the trailer is connected to the towing car and the side supports are extended to the ground and locked. The trailer must be in a line with the vehicle to be loaded. Be sure to set the handbrake of the trailer and the towing vehicle. It is also recommended to put chocks securing the trailer wheels. Set the wheel locks on the trailer so as to maintain a safe distance between the transported vehicle and the winch bracket and to ensure proper pressure on the hook of the towing vehicle.

Ramps used to place vehicles on the trailer may be mounted on top, in a horizontal or vertical position (also as ramps) or inserted through the openings in the rear beam. Always remember that when towing a trailer, whether loaded or empty, the ramps should be firmly attached and secured with fasteners, levers and/or other elements supplied with the trailer.

In trailers with platforms (decks) raised by gas springs or shock absorbers, the vehicle is loaded by carefully driving onto the platform, the front of which is in the upper position. While overrunning, when the vehicle wheels are on the platform, it will start lowering to the horizontal position. Then, if the vehicle is not in its final position, drive to the wheel locks and apply the handbrake, then block the platform with fasteners with a hitch. The hitches in the fasteners must be set in such a way that when closed, there is no clearance between the platform and the drawbar. The fasteners are tightened until they are locked in the closed position. In the case of fasteners that do not lock automatically, block them by putting the attached cotter pin through the holes in the housing and the lever. After blocking the platform, fasten the vehicle in such a way that it cannot be moved in any way. Carry out unloading in the reverse order.

In trailers equipped with hydraulic cylinders, after extending the ramps, use these cylinders to raise the platform to the upper position and lock it by closing the valve. When all the wheels of the vehicle are on the platform, the handbrake must be applied to the vehicle. After

performing these activities, open the valve and when the platform is horizontal, close it again, and then block the platform with the use of fasteners with a hitch (as described above).

CAUTION!

It is prohibited to:

1. use the trailer with unsecured drawbar locks,

2. pull the vehicle in with a winch when the wheels of the pulled vehicle are not turning,

3. use a winch with a taut rope (belt) as a load securing device.

5.7. Trailers for boats transport

They can be adapted to the shape, dimensions and location of the boat's center of gravity, so as to ensure the greatest possible number of support points for the hull and the correct pressure on the hook of the towing vehicle. This can be done by appropriate positioning of the supports, base and stem arms, shifting the drawbar or running gear relative to the frame. Proper positioning the boat on the trailer may require loading and unloading the boat several times, but it will result in safe transportation.

Loading the boat onto the trailer can be done**:**

- by hand if it is light,
- with the help of lifting devices,
- with the help of a winch if it is part of the trailer's equipment.

In the latter case, use the space on the shore that allows the trailer to be driven into the water and safely pulled off with a load. To facilitate work and safety, the use of chocks under the wheels is recommended.

Fixed elements of the trailer should be used to secure the boat, using ropes and/or tapes with tensioners. If the boat has been pulled in with the winch rope (belt), the bow of the boat should be additionally fastened to the trailer stem so that the winch will not be used as a load securing element.

CAUTION!

Do not drive the trailer too far into the water so as not to wet the wheel hubs or the braking mechanisms.

Do not step on the fenders and fender supports.

Electrical installation

Trailers have an electrical installation disconnected at the rear part of the trailer. Before loading and unloading, separate the rear beam with lights from the trailer, taking care not to wet the contacts in the plug and socket. In trailers, where it is possible to extend the lighting beam, and due to the length of the transported boat, it is necessary to set the beam in the extended position, it should be suspended from the boat hull, which will reduce beam oscillation while driving.

Storage of the boat on the trailer

The trailer is designed mainly for transporting boats, but after the season it can also be used for storing it. Then we recommend supporting the trailer in many places, and necessarily where the hull is, through supports and stem, is based on the frame and drawbar. The number and position of supports should be set so that the wheels do not touch the ground and the frame and drawbar of the trailer do not deform and do not warp the hull.

6. Inspections

6.1 Warranty

During the warranty period, the User should perform the following inspections at the workshops indicated by the Seller:

Date	Activity type
after 2,000 km, not later than in the 6th month*	Checking the adjustment of the wheel bearings. Lubrication of the bearing sleeves of the overrun device
after 5,000 km or every 12 months*	Braking system inspection Brake shoes adjustment. Checking the adjustment of the wheel bearings. Lubrication of the bearing sleeves of the overrun device
after 10,000 km or every 12 months*	Changing the grease in the cone bearings of the wheels. Lubrication of the brake cables and other elements of the braking system

*) depending on what comes early

6.2 Post warranty

Date	Activity type
every 10,000 km or every 12 months	Checking, adjusting and lubricating the braking system. Checking the adjustment of the wheel bearings. Lubrication of the bearing sleeves of the overrun device Changing the grease in the cone bearings of the wheels.

CAUTION!

It is recommended to perform post-warranty inspections at the workshops indicated by the Seller:

7. USER GUIDELINES

- You should keep a reserve of speed and distance to vehicles in front to increase the speed of the trailer in the event of a side skid,
- You should exercise increased caution when riding down, especially on wet surfaces,
- The braking distance of the car-trailer set is longer than that of the car itself,
- When the trailer is parked on a sloping ground, place chocks under the wheels, and if the trailer is equipped with a braking system, activate the brakes with a hand lever.
- The allowable total weight of the trailer may not exceed the value specified in the documents of the towing vehicle, even if the legal regulations allow higher values.