

PEGA

INSTRUCTIONS FOR USE

PEGA BOAT TRAILERS

INSTRUCTIONS FOR USE

General Information

This documentation was produced by PEGA b.v.

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About the Trailer

This user documentation relates to every trailer. For further information, see the type plate on the trailer.

About the Manufacturer

The trailer was manufactured by:

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Foreword

This general user documentation describes the operation and periodic maintenance of every type of trailer.

This documentation is an essential part of the trailer! It is therefore important to keep this documentation in a safe place. It contains information that can be useful or necessary later for repair work or maintenance. We recommend keeping one copy with the trailer and another copy in a safe place, in the archives of your technical services department, for instance. Pega b.v. or the dealer can provide you with an extra copy if required. By transfer of the trailer, the documentation should also be provided to the new user.

Besides the terms and conditions described in this documentation, statutory regulations also apply to the use of trailers. For instance: number plate registration, number plate, maximum speeds etc. These statutory regulations can differ from country to country and can be amended in the course of time. Keep yourself informed!

Using this Documentation

The descriptions of components are only relevant if they are actually part of the trailer.

The instructions in this documentation are split by type of user. In chapter 2, a further indication is given of which demands are made of the various users, if necessary.

The following terms are used throughout this documentation:

User	: everyone who works on or with the trailer.
Operator	: the daily user of the trailer. See the chapter Introduction, Safety and Operating Requirements.
Service personnel	: people with the training, experience and support tools required for the tasks described.
Security Officer	: the person responsible for working conditions in the user's company. In the event that such a person has not been appointed, this will be the employer himself or herself. For more information about this, see the chapters <i>Safety and Specifications</i>

Tasks not covered by this documentation should be carried out by Pega b.v. personnel, in consultation with them or the dealer.

The illustrations included in the text are examples and intended only to aid understanding of the text, for example to indicate the location and function of operating instruments or components. The actual design and dimensions may be different.

Guarantee and Liability

Guarantee

Unless otherwise agreed in writing, the following guarantee terms and conditions apply.

- The manufacturer provides a guarantee to the first user for 12 months after delivery, unless otherwise required by law.
- Faults in support wheels (if present) are excluded from the warranty review.
- Faults must be reported to the manufacturer before the guarantee term expires.
- The guarantee applies to faults that:
 - occur during normal use of the trailer;
 - originate from defective construction or materials;
 - originate from substandard workmanship from the manufacturer.
- The guarantee does not apply to faults caused by:
 - normal wear and tear;
 - unprofessional or inappropriate use;
 - use of other than the prescribed articles.
- If faults occur, the manufacturer will:
 - replace the components; the manufacturer then becomes the owner of the replaced components;
 - repair the faults;
 - choose a different replacement solution, if repair is not possible, within reason.
- The customer must give the manufacturer the opportunity to remedy any faults.
- For built-in components from third parties, the guarantee terms and conditions of the supplier in question apply. The guarantee term can differ from what is indicated above.
- The manufacturer reserves the right to change his products without any warning beforehand.

Liability

The manufacturer is not liable for dangerous situations, accidents or damage caused by ignoring warnings or requirements as shown on the trailer or in this documentation, for example:

- unprofessional or incorrect operation or maintenance;
- the use of other applications or in other circumstances than indicated in this documentation;
- the use of other than prescribed components, repairs without the manufacturer's permission;
- changes to the trailer. These include:
 - changes to the controls;
 - welding, mechanical adaptations etc.;
 - additions to the trailer or the controls.

The manufacturer is **not** liable:

- if the customer has not met all his obligations towards the manufacturer (financial or otherwise);
- for subsequent damage by breakdowns or faults in the trailer (for example, damage to products to be processed, interruption to business, delays etc.).

1. Introduction

1.1 Purpose and Function of the Trailer

The trailer is intended for loading and transporting motorboats, dinghies and yachts. The concept at the core of all Pega boat trailers is an extra substantial chassis, so that you can rely on your trailer, even in extreme circumstances.

2. Safety

2.1 Introduction

This trailer has been designed in such a way that it can be safely used and maintained. This applies to the use, the circumstances and the requirements as described in this documentation. Reading this documentation and following the instructions are necessary for everyone who works with or on this trailer. In the case of professional use, it is the responsibility of the employer to ensure that these instructions are known and followed.

There may be extra safety regulations prescribed by the company or the country where the trailer is in use. In particular relating to working conditions. This documentation does not describe how these regulations must be met. However, the necessary information about the trailer is given. In case of doubt, consult your government authorities or safety officer.

In this documentation, a distinction is made between *Normal Use* (chapter 3 Operational Requirements) and *Other Tasks* (chapter 4) on the trailer. The reason for this is that different demands are imposed on service personnel than on operators, particularly in terms of safety.

The simple maintenance tasks mentioned in the operating requirements can be carried out by the operators. Tasks not described in the operating requirements, may only be carried out by professional personnel. The accompanying instruments supplied to limit access to certain parts or functions, may not be stored on or near the trailer. Only people with the required level of expertise are allowed to make use of them.

2.2 Safety Regulations

- Only people who have read and understood the operational requirements may use the trailer.
- Never climb up on the trailer if it is not coupled.
- Any safety facilities may not be removed or taken out of operation.
- Keep the workplace clean and free of obstacles and ensure sufficient lighting in the surroundings.
- Watch out for getting trapped between trailer and frame.
- Do not exceed the maximum load (see type/construction plate)
- Do not exceed the maximum allowable nose weight (see type/construction plate); ensure a minimum nose weight of around 50 kg.
- Adjust your speed, never drive faster than 80 km per hour with a boat trailer!
- Do not overload the boat trailer. The maximum allowable weight is stated on the construction / type plate.
- Ensure that the lighting is functioning well.
- Leave the safety catch on the winch when lowering the boat into the water, or raising it out of the water. This prevents the handle slipping out of your hands. Never let go of the handle!

2.3 Unauthorized use

We would like to draw your attention to the following uses for which the trailer is not suitable:

- Transporting people or animals on the trailer.
- Unloading packaged goods possibly with a dumper.
- Using as auto-hoist for people or goods.

2.4 Users

2.4.1 Operators

The trailer can be operated by any adult, who knows and acts upon the contents of the chapters about safety and operating requirements in this documentation. Special training is not necessary. For driving with the trailer, a relevant driving licence is naturally necessary.

2.4.2 Service Personnel

Special knowledge, experience and/or training are required. For the vehicular part, knowledge and experience in the field of motor vehicle maintenance is required. For the hydraulic part, knowledge and experience in the field of hydraulic system maintenance is required.

2.5 Warnings on the Trailer

The warnings fitted to the trailer must always remain clearly legible. If necessary, they should be replaced. The text of the warnings on the trailer are included in the chapter "Specifications on the Trailer". The dangers in question are described further in the operating and maintenance instructions.

2.6 Substances Harmful to People and the Environment

2.6.1 General

The following substances in the trailer demand special attention:

- hydraulic oil (if present).

2.6.2 Storage

Always store hazardous substances in a space that is not accessible to unauthorized people. Statutory requirements may exist for the storage of substances. Consult the relevant authority for the requirements applicable and the necessary permits.

2.6.3 Protecting the Environment

Environmental pollution hazards could be present in the form of:

- hydraulic oil.

Remove these substances according to the rules of the environmental laws in force.

2.6.4 Scrapping the Trailer

If the trailer is being scrapped, the regulations applying to the processing of waste, relevant to the place and time the trailer is scrapped, must be adhered to.

Any oil present in the trailer should be treated as chemical waste and processed as such. This is also true for the tyres. It is possible that kinetic energy is stored in the handbrake. When scrapping the trailer, attention needs to be paid to ensure that this energy is released safely.

Apart from the above, only generally known materials have been incorporated. At the time of construction, there were possibilities for waste processing and there were no special risks known for people responsible for scrapping activities. See also paragraph 2.6.3 "Protecting the Environment".

3. Operational Requirements

Before operating the trailer, the information in the chapter "Safety" must be known. This chapter is intended for operators as described in paragraph 2.4.1.

Tasks not covered in this chapter may only be carried out by service personnel (see chapter 2.4.2).

3.1 Construction and Operating Instruments

If any operating instruments are removed, that could mean that the vehicle no longer satisfies the legal requirements.

3.2 Working with the Trailer

3.2.1 Coupling and Uncoupling the Trailer

Coupling

Raise the coupling handle and then turn it towards the front. The connection is now open and the coupling handle stays in this position.

- Place the coupling head on the tow ball and let it gently drop or push it down; the coupling head closes and locks itself in position automatically.
- Connect the breakaway cable and the lighting plug.

Uncoupling

3.2.2 Loading the Trailer

Maximum Load

The maximum load must not be exceeded. The maximum load is the same as the empty weight of the trailer plus the load carrying capacity.

Maximum Load = empty weight + load carrying capacity

Empty Weight

The weight of the trailer when ready for operation, that is including any spare parts or tools that are part of the usual equipment, however excluding the boat.

Load Carrying Capacity

The maximum load or the maximum load weight.

Weight Distribution

For good braking and road handling the load's centre of gravity should lie as close as possible above the axle:

- Distribute the boat as evenly as possible over the right and left sides of the trailer.
- Avoid point loads.
- The boat must always be well-secured. Each country has its own regulations; consult the regulations in force.
- When loading or unloading the trailer, it must always be coupled to the towcar.
- Ensure a nose weight of around 75 kg.

Fastening/Securing Boat

The vessel must always be anchored firmly and securely to the trailer with instruments suitable for the vessel. For lashing down, use only good quality lashing binders designed for the purpose, which fulfil the requirements.

Support Legs

For loading the trailer, support legs can be used which are mounted against the chassis.

Nose Weight

The maximum allowable nose weight (see the specifications of your towbar or vehicle and the type plate on your trailer) may not be exceeded. You can increase or decrease the nose weight by shifting the axle or axles further forwards or backwards. The optimum nose weight lies around the maximum nose weight. Negative nose weight (meaning that there is upwards thrust on your towbar) is strictly forbidden.

Careless loading creates danger of skidding or lurching. Adapt your speed to match the condition of the road and the load as well. This is particularly important at bends. Ensure the wheels do not have sideways damage and the tyres are not out of balance.

3.2.3 Before Driving Away

- Check the coupling and breakaway security. Ensure correct positioning.
- Check tyre pressure and nose weight.
- Check that the boat is well secured.
- Check the lighting: direction indicators, rear lights, brake lights. The lighting must never be masked by the load.
- Check that the coupled trailer is locked in place before you drive away.

The trailer is equipped with automatic reverse. To reverse, the inertia brake does not need to be locked.

3.2.4 Lowering the Boat into the Water

- Dismantle the lighting by removing the wing nuts.
- Drive the boat trailer until its tyres reach the water.
- Turn any cushions downwards so that the boat is resting on only its rollers.
- If tiltable, remove the tilt nut.
- Lower the handle until the boat floats.

IMPORTANT

- Always check that the boat trailer is properly coupled, by moving the shaft up and downwards.
- Ensure that the nose wheel is always fully turned upwards and cannot touch the ground during the run.
- Give your lighting and breakaway cables sufficient space to move.

3.3 Maintenance

Carry out maintenance according to the following schedule:

Frequency	Maintenance item	Special attention for
After 1,000 km or 6 months.	Check bolted joints. Check slack in wheel bearings. Check brake system. Check wheel nuts and bolts.	Lighting, wheel bearings and brake system.
Every 3.000 km.	General check.	Lighting, wheel bearings and brake system.
Every 10.000 km or annually.	Major service.	Lighting, wheel bearings and brake system.

Have the service carried out by an authorized trailer company or dealer.

Maintenance Items

- Check wheel nuts and bolts regularly (torque 80/100 Nm).
After the first trip, check if the wheel nuts are tightened enough; if not, tighten further. Follow the torque table in the chapter 'Specifications' for this.
Repeat this every time a wheel has been loosened, for example if a tyre has been changed.
- Regularly clean and lubricate all the pivot points of the coupling, hand brake and moving parts.
- The boat trailer stays in the best condition by housing it in a dry atmosphere.
- Have any damage repaired as quickly as possible.
- Check the plug for dirt, corrosion and damage.

3.4 Cleaning

The trailer can be hosed off with water. We advise you not to neglect this task after the trailer has been in contact with salt or acid, because the zinc elements can be permanently damaged by these substances. At any rate, the protective action of the zinc layer is not diminished by any stains that may appear. In order to prevent these stains as much as possible on thermogalvanized components, make sure there is enough air circulation during storage, so that no film of water can develop between the metal surfaces.

Make sure at all times that the electrical components never come in contact with water or other liquids.

4. Other Tasks

The tasks mentioned in this chapter may only be carried out by service personnel as described in paragraph 2.4.2.

4.1 Repairs, Maintenance and Faults

4.1.1 Maintenance Requirements

The trailer should be inspected after every 3,000 km, but at any rate at least once a year. The following items are particularly important:

- checking the bearings;
- checking the brakes and brake linings;
- checking the hydraulic piping and components for leakage and damage;
- lubricating the grease nipple(s) on the cylinder (towball);
- checking the lighting;
- checking the tyres (tyre pressure).

The following components are liable to wear and tear and should be replaced if the value mentioned is exceeded:

- brake linings if the thickness is less than 1 mm.

4.1.2 Repairs / Parts Replacement

During the guarantee period, repairs may only be carried out under the direction of Pega or their dealer. At a minimum, any parts needing replacement must meet the specifications of the original parts. All parts can be ordered through Pega or their dealer.

The trailer consists of standard components (available in the open market) and specific components (produced only for this trailer).

Standard Components

It is preferable to use the original make. If in doubt about the specifications, consult Pega or one of the dealers.

Specific Components

Only replacement components supplied by Pega or their dealer may be used.

4.1.3 Faults

In most cases, it is advisable to have a fault fixed by your dealer, because they have access to the correct specifications and tools.

Fault	Cause	Solution
Insufficient brake power	<ul style="list-style-type: none"> - brake lining worn - brakes not properly adjusted - brake linings damaged - brake linings greasy 	<ul style="list-style-type: none"> - renew linings - adjust brakes - renew linings - renew linings and seals
Push rod bent	-	- renew push rod
Insufficient power hand brake	- incorrect adjustment	- adjust brakes
Overheating of the brakes	<ul style="list-style-type: none"> - hand brake not completely released - brakes not properly adjusted - brake drums dirty - non-standard brake cables 	<ul style="list-style-type: none"> - release hand brake - adjust brakes - clean - renew brake cable
Spring too slack/broken	-	- renew spring
Reversing is heavy / impossible	- brake system too tightly adjusted	- adjust brakes
Jerky braking	<ul style="list-style-type: none"> - shock absorber defective - too much slack brake system 	<ul style="list-style-type: none"> - replace shock absorber - adjust brakes
Boat trailer cannot be coupled	<ul style="list-style-type: none"> - towball not correct diameter - coupling defective 	<ul style="list-style-type: none"> - check towball, min. 49.5 mm, max. 50.0 mm - check/replace coupling
Boat trailer cannot be uncoupled	<ul style="list-style-type: none"> - towball not round - coupling immovable 	<ul style="list-style-type: none"> - check towball - lubricate/replace coupling
Coupling can move too much on towball	- coupling or towball worn	- check/replace
Extreme wear on tyres	<ul style="list-style-type: none"> - tracking axles - incorrect tyre pressure - rim pushed out of shape 	<ul style="list-style-type: none"> - check axle arms - check tyre pressure - check/replace
Meandering handling	<ul style="list-style-type: none"> - incorrect tyre pressure - incorrect distribution boat 	<ul style="list-style-type: none"> - check tyre pressure - check nose weight
Trailer lighting does not work	<ul style="list-style-type: none"> - the socket / plug on the towbar usually contains scale (after not being used for a while) - pins / hollow contacts in the socket / plug on the towbar are not making contact - defective bulb 	<ul style="list-style-type: none"> - sanding the pins and hollow contacts helps. - push a screwdriver in between so that the 4 move further apart from each other. Do not push too far otherwise the plug will no longer fit
Incidents	<ul style="list-style-type: none"> - someone has tinkered with the contacts and connected the wires in the wrong order 	<ul style="list-style-type: none"> - the problem is usually in the plug - check the connections. See also 5.1.2.

5. Specifications

5.1 Trailer

5.1.1 Wheels and Tyres

Torque wheel nuts

Screw thread mm	Wrench width mm	Max. torque Nm
12	17 / 19	80

Optimum tyre pressure

The optimum tyre pressure depends on the type of tyre and can be asked for at any garage. Do not use other tyres than Pega or first enquire by them or their dealer.

Tyre Size Diameter / Inch" size	Tyre Pressure	
	Ply	Bar
400-8	4 Ply	3.5
500-10	4 Ply	2.4
145-10	4 Ply	2.4
155-13	4 Ply	2.2
175-13	4 Ply	2.2
185-70-13	4 Ply	2.2
185-14	8 Ply	4.0
195-50-13	8 Ply	4.0
205-14	8 Ply	4.0
265-70-15	8 Ply	3.0

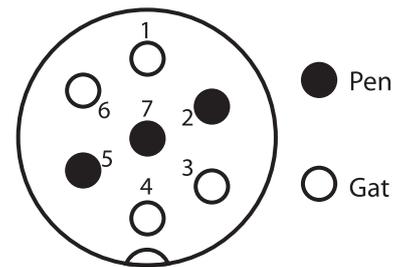
5.1.2 Electrical Installation

We have brought together the most usual types of plugs and wiring plans for you here. In general, three types of plugs are used for the connection between the car and the trailer. These are:

- 7 pin plug;
- 13 pin plug (Multicon);
- 13 pin plug (Jaeger).

Wiring Plan 7 pinig

Number	Code	Function
1	L	direction indicator lamp left
2	54G	rear fog light (formerly: continuous current wire)
3	31	mass
4	R	direction indicator lamp right
5	58R	rear lamp right, front light and number plate lighting
6	54	brake lights left and right
7	58L	lighting left



If you only have one rear light wire, connect this to 58L or number 7.

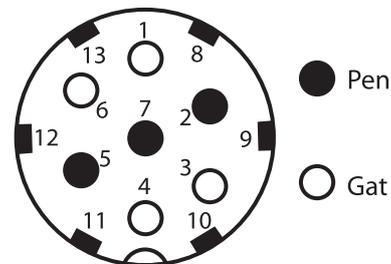
Wiring Plan 13 pin Multicon and Multicon We-ST

The Multicon plug comes in two variants: the Multicon and the Multicon We-ST. These are not interchangeable. However it is possible to connect a 7 pin plug (made of plastic and not metal!) to a Multicon (or Multicon We-ST) socket on the car. For example, you can still use a bicycle carrier with a 7 pin plug. The reverse is not possible.

The Multicon and Multicon We-ST plug have 13 pins so the fog lamp mandatory in new trailers can be connected. There is also a connection free now for the battery, fridge, reversing lights and reversing radar, for instance.

The standard Multicon is illustrated here. In the Multicon We-ST the flat contacts at the edge are replaced with round pins at the same place. What you see here is the part located on the car (so the plug on the trailer is the mirror image).

Number	Code	Function
1	L	direction indicator lamp left
2	54G	rear fog light (formerly: continuous current wire)
3	31	Mass (for contact 1 to 8)
4	R	direction indicator lamp right
5	58R	rear light right
6	54	brake lights left and right
7	58L	lighting left
8		reversing lights
9		permanent current wire
10		charging current for battery
11		free
12		free
13		mass (for contact 9 to 12)

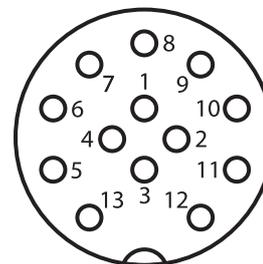


Jaeger

The Jaeger is also a 13 pin plug and is not interchangeable with the other plugs.

Illustrated is the Jaeger socket (the part located on the car). So the plug on the trailer is its mirror image (vertically).

Number	Function
1	direction indicator lamp left
2	fog lamp
3	mass (for contact 1 to 8)
4	direction indicator lamp right
5	lighting right
6	brake lights
7	lighting left
8	reversing lights
9	permanent current wire
10	charging current for battery
11	free
12	free
13	mass (for contact 9 to 12)



Lighting powered by the towcar.

5.3 Physical Use Circumstances

The trailer is not suitable for use in surroundings with a danger of explosion.

5.4 Guidelines and Norms Applicable

This trailer conforms to the requirements laid down in the Road Transport Act 1994 and has been granted the necessary type approval by the National Vehicle Authority.

6. Specifications on the Trailer

6.1 Type / Construction Plate

The trailer conforms to the requirements laid down in the Road Transport Act 1994 and the necessary type approval has been granted by the National Vehicle Authority, so a type/construction plate has to be fitted.

This type/construction plate contains the following information:

- Approval number.
- Chassis number.
- Load carrying capacity.
- Number of axles.
- Model / Type.

All warning and type plates fitted to the vehicle must always be clearly legible. Damaged plates and plates which are no longer legible should be replaced.

6.2 Warnings

If you remove the lighting elements from the vehicle, there is a danger that you cannot be seen. In that case, use a warning triangle to make yourself visible.

6.3 Vehicle Information

You can fill in the vehicle details below:

Vehicle

Identification number:

Type:

Max. total weight:

Axle

Make:

Type:

Approval number:

Inertia brake

Make:

Type:

Approval number:

Wheel brake

Make:

Type:

Approval number:

6.4 Registration Information

Boat trailers with a gross load carrying capacity greater than 750 kg have their own registration certificate. This is issued by the dealer and should be put into the user's name before the vehicle takes to the road.