

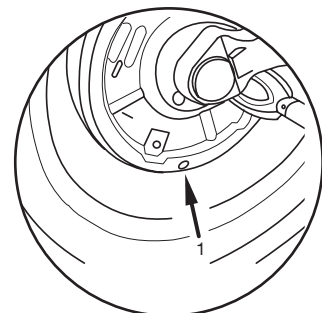
OWNERS GUIDE



-TRAILER

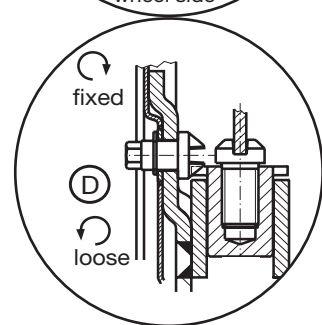
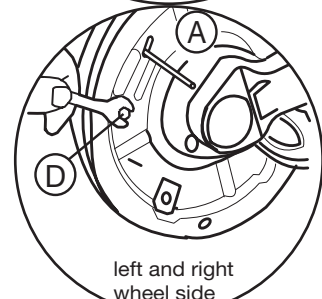
BRAKES

- Check brake lining wear - every 5,000 km
- Brake lining wear is dependent on the style of driving. Careful driving saves brake linings and tyres. As soon as a brake lining has been worn to a thickness of 2 mm, the brake shoe must be replaced. Stiff or stretched brake springs, the coils of which are no longer closed tightly together, must also be replaced.
- Brake shoe assemblies must be replaced as a set for each axle.
- For a visual check, remove the plug (arrow) from the brake backplate.



RE-ADJUSTMENT OF THE BRAKE SYSTEM

- Wheel brake - every 2,000 to 3,000 kms of travel.
- Jack up the trailer. Release the towing equipment, handbrake lever and brake linkage (free from tension).
- Lock the reversing cam of the wheel brake from outside by means of a locking pin (A) and insert pin through the hole in the backplate (D).
- With an 8 mm spanner, turn adjuster until the wheel locks in the forward direction of travel. Activate parking brake several times to centralise the brake shoes.
- Turn the hex adjuster anti-clockwise until wheel is running free in forward direction of travel (approx. 2 full turns).
- With parking brake activated, check equaliser bar is at right angles to brake rod. It may be necessary to re-adjust brakes or adjust length of brake cables (screw clevis in/out as required).
- To test, partially apply parking brakes and check for similar brake torque on all wheels (in forward direction of travel).
- Remove 4 mm locking pin from reversing cam.

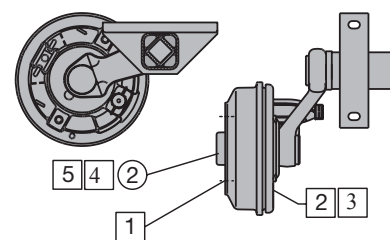


AXLE MAINTENANCE INSTRUCTIONS

The following installation, operating and maintenance instructions relate to BPW rubber suspension axles. They are a constituent part of the warranty conditions.

Completion of the maintenance work in accordance with the prescribed intervals is essential in order to maintain the operating safety and roadworthiness of the vehicle.

The correction of any defects found, or the replacement of any worn parts should be carried out by a BPW accredited service workshop unless the vehicle user has at his disposal appropriately skilled in-company employees and the necessary workshop facilities. It is strongly recommended that only original BPW components are used. Our warranty becomes null and void if spare parts other than original BPW parts are used.



Lubrication maintenance work	Initially	After 500 km	Every 2,000 - 3,000 km or annually	After 2 years	Every 5,000 km
Change wheel hub bearing grease (does not apply to compact bearings).				✓	
Maintenance work					
1. Check wheel bolts for firm seating.	✓				
2. Check brake play. If necessary, re-adjust.	✓		✓		
3. Check brake lining wear.				✓	
4. Check lateral play of wheel bearing. If necessary, re-adjust: Compact bearings Conventional bearings		✓	✓		✓
5. Check hub caps for firm seating. - check tyres for uneven wear			✓		

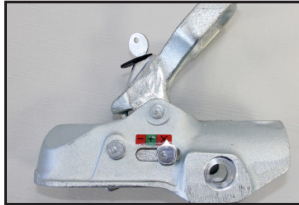
HANDLING (Operation)

Coupling and uncoupling

Note: The handle of the ball hitch and the handbrake lever must not be used as a manoeuvring aid. There is a risk of damage to the internal components!

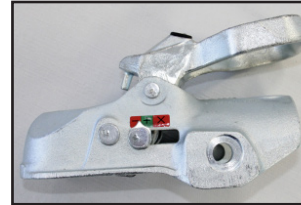
The coupling head (ball-head hitch) on your BPW chassis is design-tested. The maximum load supported at the coupling point must be complied with. Lower the jockey wheel to the ground. Reverse the towing vehicle up to the trailer or (if the trailer is small) move the trailer to the coupling point.

Locking Coupling



Coupling

- Mount open ball-head hitch on the ball and press downwards until the operating lever is horizontal to the ball-head hitch.
- Connect the breakaway cable and electrical plug to the towing vehicle.
- Wind up the jockey wheel fully and secure by firmly clamping it. Release parking brake before setting off.
- Visual check: the ball-head should no longer be visible in the coupled condition.



Uncoupling

- Lower the jockey wheel down. Disconnect breakaway cable and electrical plug.
- If fitted, press the operating knob on the parking brake and apply the parking brake with a force of 600 N (60 kg). Open the ball-head hitch by swinging the operating lever in the direction of travel and lift up off the ball.
- Secure the trailer with chocks.

Inspired Safety Coupling

Coupling

Place the open ball-head hitch on the ball-head of the towing vehicle (grease-free). If pressed simultaneously downwards - usually the support load is sufficient - the ball-head is closed automatically and locked securely. The stabilising device is activated by moving the operating lever down to the stop, i.e. opposite to the direction of travel. In doing so the spring element is tensioned, thus generating via the friction pads, the contact pressure onto the ball-head of the coupling. Connect the breakaway cable and electrical plug to the towing vehicle.

Raise the jockey wheel fully upwards and secure. Release parking brake before setting off.

VISUAL CHECK - the ball-head should no longer be visible in the coupled condition.

Noises may occur during driving as a result of the friction between the friction pads and the ball hitch. However, these noises do not have any effect on the function of the trailer ball hitch.

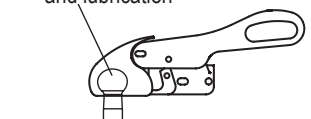
Uncoupling:

Lower the jockey wheel down.

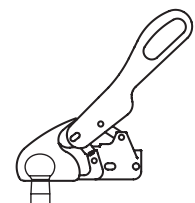
Disconnect breakaway cable and electrical plug. If fitted, press the operating knob on the parking brake and apply the parking brake with a force of 600 N (60 kg). Lift the operating lever to the fully opened position.

Lift the safety coupling. Secure the trailer with chocks.

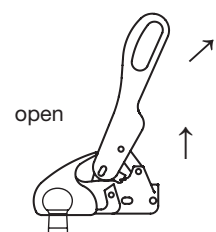
Ball-head must be free from oil and lubrication



Safety coupling closed, stabilising activated



Safety coupling closed, stabilising not activated

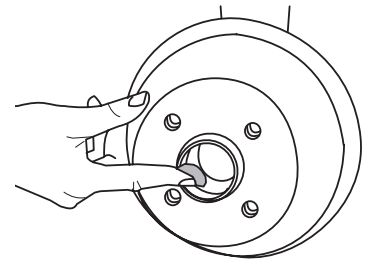
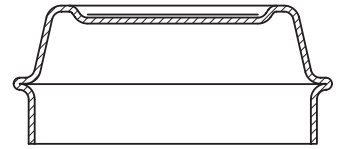


Uncoupling position

AXLE MAINTENANCE INSTRUCTIONS - BEARINGS

TAPER ROLLER BEARINGS

- Axles fitted with taper roller bearings are recognisable by a tapered type hub cap.
- Remove wheels and wheel hubs. Mark dismantled wheel hubs and bearing races so that their identity is not mistaken during re-assembly.
- Clean wheel hubs thoroughly inside and outside. Completely remove any grease.
- Clean taper roller bearings and seals (using diesel oil) and check for re-useability.
- Work BPW special longlife grease ECO Li91 into the cavities between the taper roller and cage. Smear grease into the hub's outer bearing race.
- Fill the hub caps $\frac{3}{4}$ full with grease.
- Fit wheel hubs, adjust the bearing play and refit the hub caps.

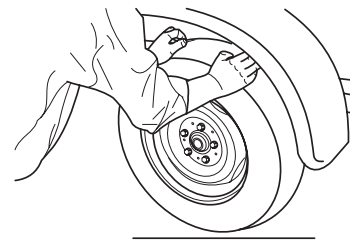


CHECK LATERAL PLAY OF WHEEL BEARING - if necessary, re-adjust.

Jack up the trailer, release brakes, turn wheels manually and rock. If any bearing play is noticeable, adjust the bearings.

CONVENTIONAL TAPER ROLLER BEARINGS

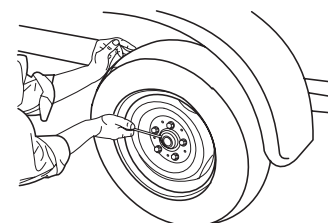
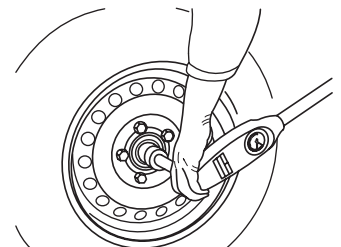
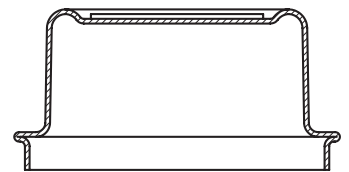
After the first run under load conditions, then every 2,000 - 3,000 kms - Taper roller bearings are recognisable by the conical profile of the rollers. Lever off hub cap. Remove split pin from axle nut and tighten so that rotation of the wheel is slightly braked. Turn back the axle nut to the next possible split pin and bend ends slightly outwards. Check wheel rotation, refit hub cap.



IMPORTANT - The grease in the hub and bearing must not be contaminated with dirt during this work!

COMPACT BEARINGS - every two years.

Compact bearings are recognisable by their cylindrical cap shape. Compact bearings comply with the latest durability requirements. They are maintenance-free due to permanent lubrication and are designed for high mileages. The brakes are accessible more easily. With the ECO hub system (up to manufacture in 6/97) the entire bearing system with hub can simply be pulled off the axle stub with the integrated axle nut and re-installed. With axles manufactured after 6/97, first dismantle the axle nut. The brake drum with the compact bearing can then be removed from the axle stub.



Tightening torques:

AF 32 M = 280 Nm

AF 41 M = 330 Nm

(no bearing play adjustment)

If noticeable bearing play is felt, the compact bearings should be replaced.

Check hub caps for firm seating - every 2,000 - 3,000 kms

Check for firm seating with a screwdriver.

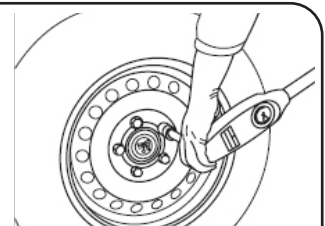
- Wheels tyres used are:

155/70R12C (90 PSI).

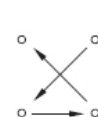
- Check wheel bolts for firm seating :
After the first run under load conditions, likewise after each wheel change.

Tighten wheels bolts crosswise using a torque wrench to the correct tightening torque (below).

M12 x 1.5 bolt 90-100 Nm 19 mm A/F socket size



Tightening sequence



4 wheel studs



5 wheel studs

BPW HITCH MAINTENANCE

LUBRICATION AND MAINTENANCE WORK

Lubrication and maintenance work	Initially	Prior to each run	After 500 km	Every 5,000 km or annually	ZAF
					Every 10,000 - 12,000 km or annually
Function test					
• Check coupling.		✓			
• Apply the handbrake lever and check the linkage.		✓			
• Check height adjustment facility.		✓			
Lubrication					
• Lubricate the coupling head.	✓			✓	✓
• Drawbar bearings at the housing of the overrun hitch.	✓			✓	✓
• Oil or grease brake lever.	✓			✓	✓
• Oil or grease moving parts such as bolts and joints.	✓			✓	✓
• Grease sliding points on the height-adjusting device.				✓	
- grease bearing					
- oil threaded parts					
Maintenance Work					
• Check height adjusting facility.	✓		✓	✓	
• Check drawbar, handbrake lever, spring actuator, reversing lever linkage and all movable parts for ease of movement.	✓		✓	✓	✓
• Check safety cable for damage.				✓	✓
• Check bowden cable on height-adjustable connection devices for damage.				✓	
• Overrun hitch function check.				✓	
• Check permitted vertical play.				✓	✓
• Check screw connection of ball hitch or drawbar.				✓	✓

FUNCTION TEST

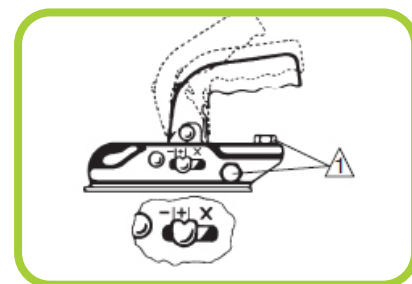
Check coupling head

Prior to each run:

Check coupling head for wear and correct operation.

Check the wear indicator (use within the "+" range only).

Check the coupling head fastenings (see item 1) at regular intervals for firm seating.



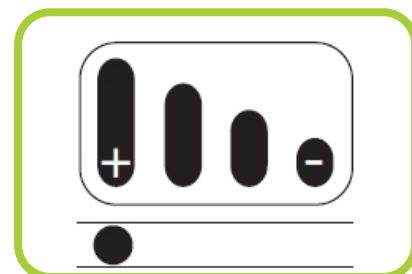
Safety coupling ISC

Checking the stabilising facility:

The condition of the friction pads can be checked after coupling and activating the stabilising facility.

The nameplate attached to the operating lever shows a triangle marked with +/- signs parallel to the slot in the lever which runs in the direction of travel. The ball-head hitch is factory set so that the head of a pin visible in the slot lies between the triangle and the side marked with the + sign.

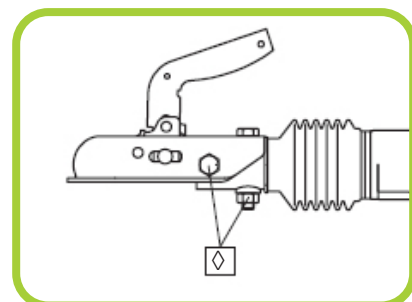
For versions with green and red wear indicators, showing red requires new friction pads or the ball dimension is less than 50mm.



Check screw connection of ball hitch or drawbar

Every 5,000 kilometers or annually.

After the tightening torques



Brake lever (2)

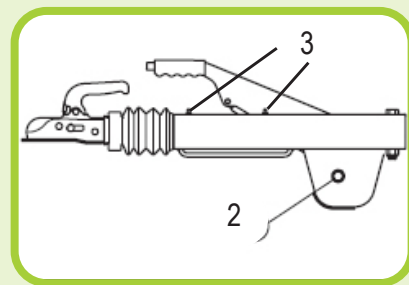
Initially, every 5,000 km.

For ZAF-2 every 10,000 - 12,000 km annually.

Check brake lever for ease of movement.

If fitted, apply BPW ECO-Li 91 grease via the grease nipple until fresh grease can be seen emerging from the bush.

If grease nipples are not fitted then apply oil to the reversing lever bush.

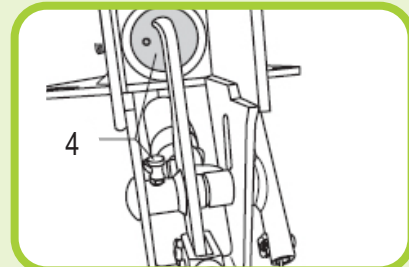


Draw tube (3)

Apply BPW ECO-Li 91 grease via the grease nipples.

ZAF version (5)

Lubricate the contact surface between the brake lever and the drawbar end plate.



BREAKAWAY CABLE

This cable is a safety critical item and forms part of the EC Certification of the hitch assembly.

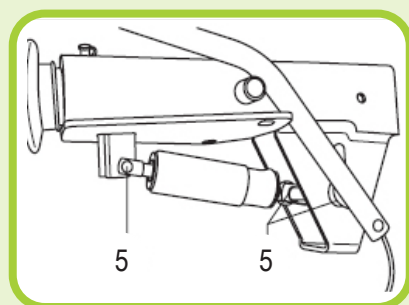
Only genuine BPW Breakaway cables comply to the given standard.

Lubricate all moving parts and pivot pins at the overrun hitch (4)

Initially, every 5,000 km.

For ZAF-2 every 10,000 - 12,000 km annually.

All moving parts of drawbar, handbrake lever, spring actuator, reversing lever, linkages etc., to be oiled or greased as required.



Lubrication work

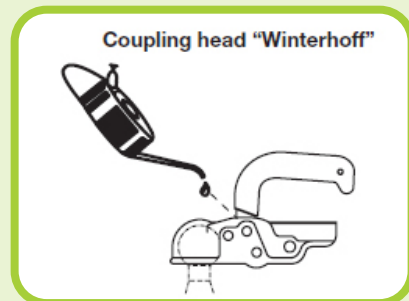
Lubricate the coupling head

At regular intervals

For ZAF-2 every 10,000 - 12,000 km or annually.

Oil ball hitch at regular intervals at the specified locations and moving parts.

Grease the contact surface of the ball of the towing vehicle.



CAUTION:

If safety couplings are used (e.g. ISC) the towing ball/hitch connection must be free of grease and oil.

Ball hitch / towing eye	Drawbar	Tightening torque
Ball hitch with sheet metal housing	Tubular drawbar without spacer bushes	45 - 50 Nm
	Tubular drawbar with spacer bushes or drawbar made from round steel rod	60 - 70 Nm
Ball hitch with a cast steel body	Tubular drawbar without spacer bushes	60 - 70 Nm
	Tubular drawbar with spacer bushes or drawbar made from round steel rod	80 - 90 Nm
Towing eye (DIN, NATO, etc)	Tubular drawbar	80 - 90 Nm
WS 3000 ball hitch	Round tube 46 - 50 mm	Horizontal 75 - 80 Nm
	Round tube 51 - 65 mm	Vertical 60 - 65 Nm
		90 - 100 Nm



we think transport

ISC - BPW ANTI-SNAKING COUPLING

Where safety meets stylish design



ADDED SAFETY AND SECURITY FOR TRAILERS UP TO 3500 KG

- Outstanding stability control in sway and pitch
- Better driving comfort
- No dirty grease on towball
- All operations can be carried out using only one hand
- Hitching and unhitching
- Deploying and retracting stabiliser
- Compact design
- Low weight
- Indicators for correct hitching and friction pad wear
- Replaceable friction pads
- Uses standard towball



REPLACEMENT FRICTION PADS



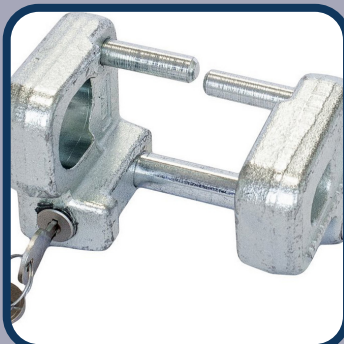
Easy to fit



Simply 'click' into position

ROBSTOP BPW HITCH LOCK Gold standard security

Awarded Gold Standard rating by the British Testing Body, Sold Secure, and listed as an approved product for trailer insurance reductions.



CONTACT ECO-TRAILER FOR ALL GENUINE BPW SPARE PARTS or visit our WEBSTORE at www.eco-trailer.co.uk

Warranty

Your new Eco-Trailer is the only covered car trailer on the market to be guaranteed by such a comprehensive warranty. We are happy to offer this due to our products excellent reliability record.

Velocity iQ covered car trailer = 8 year warranty

Eco-Shuttle covered car trailer = 5 year warranty

Titan covered car trailer = 5 year warranty

We like to reassure our customers that their new trailer will meet their expectations. To ensure this we have made our extensive warranty very easy to understand. Below we list everything that we offer;

All of our warranties exclude damage or failure due to wear and tear.

VELOCITY IQ - Warranty Coverage

***8 year replacement / repair;**

Integrity of fiberglass body, Integrity of Chassis, Hinges, Handles, Tie down points.

***2 year replacement/repair;**

All BPW/Al-Ko & Starco supplied components (to include Axles, Drawbar, Coupling, Hitch locks, & wheels), Ermax supplied lighting looms, connectors and light units.

***12 month replacement/repair;**

Floor boards, ramp boards and locks, winch & battery components.

ECO-SHUTTLE & TITAN - Warranty Coverage

***5 year replacement/repair;**

Integrity of fiberglass body, Integrity of Chassis, Hinges, Handles, Tie down points.

***2 year replacement/repair;**

All BPW supplied components (to include Axles, Drawbar, Coupling, Hitch locks, & wheels), Ermax supplied lighting looms, connectors and light units.

***12 month replacement/repair;**

Floor boards, ramp boards and locks.



Terms of use:

There are no contracts to sign, once your trailer is paid for in full and you take delivery the warranty is valid. We ask that any warranty claim be notified to Eco-Trailer by email (info@eco-trailerco.uk). We will then issue instructions, we may ask that the trailer be returned to our factory for further investigation/fitting of the faulty components. (Eco-Trailer address as shown on the contact us page of our website) Eco-Trailer will have the final decision on whether a part is warrantable or failed due to wear & tear. Individual items are warranted against manufacturing defect. BPW/Al-Ko, Starco, Ermax and Aspöck parts are covered under their own warranty and are subject to their own terms and conditions. Eco-Trailer have no authority over this element of the warranty. For further details please refer to BPW/Ermax or Aspöck respectively.

How do I couple my trailer to the towing vehicle?

Depending on which coupling head you have fitted to your trailer this may vary slightly but the basics are the same.

We are soon adding video tutorials to our website and they will show the correct method of attachment for the Winterhoff WW30, Winterhoff WS3000 and BPW iSC trailer couplings.

- 1) Ensure that the tow vehicle's tow bar is in good condition, if this is a removable type make sure it is secured correctly.
- 2) If using a stability type coupling (Winterhoff WS3000 or BPW iSC) then the vehicle tow ball should not be greased.
- 3) Lower the jockey wheel until the coupling head is higher than the towing ball and position the coupling head directly over the ball. *It is VERY IMPORTANT that the ball is not positioned too far back towards the trailer itself as this will not allow the tongue inside the coupling to click under the ball, instead it will be pushed up over.*
- 4) Make sure the coupling is in the open position, with the handle in its up/open position. Lower the trailer nose onto the ball using the jockey wheel, once the ball is in the correct position the handle (WW30 only) will drop down and lock. The position indicator on the side should be in the GREEN position. If you have a stability coupling you should now be able to push down on the handle to lock it into the closed position. You should see the GREEN indicator pin protruding from above the coupling head and the GREEN indicator arrow on the side.
- 5) Closely inspect the coupling to make sure it is securely attached. Wind the jockey wheel all the way up, and where necessary loosen the jockey wheel clamp and raise the jockey wheel tube as high as possible then re-tighten the clamp. The jockey wheel itself must be tightened fully to prevent it from unwinding during transit.
- 6) Your trailer has a breakaway cable (usually blue), this must be connected to the towing vehicle. The clip should be attached to a loop or fixed component on the towing bracket. It is NOT legal to simply loop this cable around the tow ball itself. *The cable should be replaced if it ever becomes damaged or removed.*
- 7) Your Eco-Trailer is fitted with the relatively new European standard 13 pin type lighting plug. Most UK vehicles still use the old 7 pin socket and therefore your trailer is supplied with a 7>13 pin adapter.

Plug the trailer cable into your towing vehicle making sure it is secure. If using the supplied adapter please make sure the 3 locators inside the plug are all twisted into the adapter. If it is not positioned correctly this can cause lighting problems. The cable has enough length to allow free movement of the trailer when manoeuvring, but not long enough to rub on the ground during transit. Once it is connected you should always test the light function. Please note that when using the adapter you will lose the Reverse light function and battery charge function.
- 8) Check the handbrake is in the off position, do a walk around check of the trailer making sure the load is secure, all doors are closed and locked and look under the trailer to make sure nothing is hanging down from the trailer and check the tyres look in a suitable condition and pressure. You are then ready to tow.

What should I use to secure the vehicle inside the trailer?

It is of great importance that the vehicle is secured properly.

We recommend at least one strap per wheel. The load rating of the straps should be at a minimum twice that of the load.

For a 2000kg load we recommend a 3000kg strap on each wheel. We can supply straps if you require them.

With straps you tend to get what you pay for, do not be tempted to buy cheap load straps.

What is Type Approval, can I use my trailer abroad?

All Eco-Trailer Car Trailers are built in conformity with European Whole Vehicle Type Approval (ECWVTA).

It is European law that any manufacturer of trailers must have this accreditation. We are recognised by RDW in The Netherlands and our workshop systems, quality control, product control and design are audited and monitored in line with ECWVTA.

This allows our trailers which are all supplied with a EC Certificate of Conformity to be registered in any EC member state.

If you wish to do this then please contact either ourselves or the Eco-Trailer distributor in that country to assist with registration the procedure.

How should I position the car inside the trailer & what should the nose weight be?

This is VERY IMPORTANT when towing both for safety but also comfort and stability.

The maximum nose weight of the coupling head is shown on the type plate of the coupling itself. This is normally 150kg for our Tempo and Velocity RS car trailers and 100kg for the Nano motorbike trailer.

We recommend with out Tempo and Velocity Enclosed car trailers that the nose weight when loaded be kept between 70kg and 120kg.

This should make towing comfortable and stable.

If the nose weight is too high you will feel the load on the back of the towing vehicle and this can make the ride quite harsh. If the nose weight is too low then the trailer will be unstable and can cause it to swerve at speed. Neither are desirable!

If you are towing the same cars regularly then there is a very simple process to ensure you always tow with the correct nose weight;

- 1) Couple your unloaded trailer to your car. (The unloaded nose weight is usually around 60kg). Measure the height of the coupling from the ground.
- 2) Load your trailer as usual making sure you have a positive nose weight.
- 3) Using a set of scales, lower the jockey wheel onto the scales and uncouple the trailer from the towing vehicle.
- 4) Move the towing vehicle away then lower the nose of the trailer using the jockey wheel until the coupling is the same height FROM THE GROUND (not the scales) as it was previously when unloaded on the towing vehicle.
- 5) Re-position the load inside the trailer until you have the desired nose weight (70kg – 120kg).
- 6) Position the telescopic wheel stop bar inside the trailer so it is touching the front wheels of the car, you can mark its position. This way when you next load it you can simply drive up to the bar.
- 7) Re-couple to the towing vehicle and unload your trailer. You can do this for each vehicle you transport ensuring safe towing on each journey. If you find that you often transport other equipment, spear wheels etc then this must be taken into account.

What is the correct procedure for loading and unloading the trailer?

It is important that when loading you follow the correct procedure for safety but also to ensure no damage is done to the trailer or vehicle.

Please always follow these guidelines;

- 1) Position the trailer so that you have enough space to open the rear door and unload the vehicle. The trailer should always be attached to the towing vehicle during loading.
- 2) Whilst the vehicle is still secured safely inside the trailer tilt the bed using the mechanism at the front. Do not exceed its maximum tilt which is reached when the bottom end of the outer tubing is 30mm above the steel 'Z' shaped mounting bracket.

We always recommend tilting this to the maximum amount possible allowed by the terrain. This means that the rear of the trailer and the legs on the rear door are as close as possible to the ground.
- 3) Open the rear door and check that the legs are close to the ground to prevent any overloading of the trailer bed.
- 4) Make sure the winch clutch is engaged and that the winch is holding the car in place. You can then remove the straps securing the car. Never stand behind the car when unstrapping it.
- 5) Stand clear of the vehicle and winch the car out using the wireless control. Always keep the car in the centre of the ramp, loading at an angle can damage the locks and ramp itself.
- 6) Loading is done in the same way, strapping of car is important and should be done using suitable straps with a load rating heavy enough for the load. The winch should not be relied on for securing the car during transit.

What should the tyre pressures be?

For our most common wheel tyre combination – 155/70R12 with 5 stud wheel the tyre pressure should be 90 psi / 6.2 Bar.

In addition to this all wheel bolts and axle/hitch bolts should be torqued to 80 – 100 n/meters.

IMPORTANT OPERATING INSTRUCTIONS

Always comply to the basic principles

NEVER OVERLOAD!

- No overloading of the vehicles in excess of the permissible total weight.
- Avoid over-stressing of the hitch or suspension system. Avoid subjecting the axles to any impacts or jolting.
Adapt your driving speed to the road conditions and the load condition of the trailer. This applies particularly when negotiating bends.
- No one-sided loading. The load should be stowed over the axle and as low as possible.
- Ensure that wheels and tyres are not overloaded.
- Protect the brakes against overheating on long downhill stretches, such as mountain passes in the Alps, by taking breaks in driving.
- Always use the maximum possible drawbar load. The upper limit is the lowest value for the drawbar load on the type plates of the trailer coupling on the towing vehicle, the trailer or overrun hitch.
- Only use the jacking points provided by the vehicle manufacturer.
IMPORTANT: Make sure the jack is secure (danger of tipping-over or crushing).

OPERATING INSTRUCTIONS WHICH SHOULD ALSO BE ADHERED TO BY THE DRIVER

- Do not leave the handbrake on for long periods of time.
- The handbrake, when in good working order, will retard the trailer by 18%. When parking on steep slopes it is highly recommended that wheel chocks are used.

Inspections prior to each run:

- Tyre pressure and tyre condition.
- Wheel fastening.
- Functioning of lighting and the braking systems.
- Raise and secure the jockey wheel. The jockey wheel should be parallel to the direction of travel at all times.
- Inspect the hitch. The coupling must fully enclose the ball-head and be locked.
- Secure the breakaway cable to the towing vehicle.
- Release parking brake.

GENERAL TRAILER MAINTENANCE

- It is advisable, periodically, to check drawbar pivot bolts (tilt bed models) and all bolts/nuts on your trailer.
- During winter months, we strongly recommend that you wash off any evidence of road salt from your trailer as this can discolour and harm galvanized finish.

PROCUREMENT OF SPARE PARTS:

The code and type numbers of the axle and hitch components enable us to quickly determine your exact spares requirements when ordering from us. It is therefore recommended that you enter the dates as shown on the type plate in the following table so that it is readily available when required.

The type plate is located on the axle tube or on the housing of the towing equipment and couplings.

Eco-Trailer

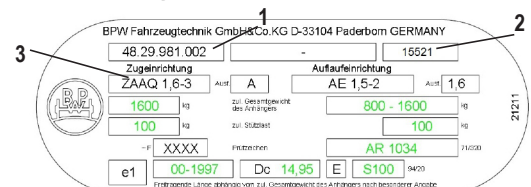
Nunthorpe, Middlesbrough TS7 0PF
Sales & Service: 07960 590952 (24hr)
info@eco-trailer.co.uk
www.eco-trailer.co.uk

Technical data on axles and brakes

Axle type plate



Overrun hitch type plate



KEY: 1 = Part number 2 = Serial number 3 = Product type