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# USER HANDBOOK

Serial Number .....

Model.....

*Thank you for choosing a Motiv Trailer*

These instructions are provided to help you to get the best possible service from your trailer. They offer clear guidelines on how to use and maintain your trailer and we strongly recommend that the instructions are read and followed by all users.

Oct 2017 - Version 1

Part no. X2663\_1

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**IMPORTANT**

Should you sell your trailer please pass on this handbook to the new owner. Used carefully and maintained in accordance with the guidelines outlined in this handbook your Motiv Trailer should provide you with safe and reliable service. If you require any further assistance do not hesitate to contact us.

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**Warranty**

\*Please note jockey wheels and tyres are not included in the warranty \*

**New Trailers**

Motiv Warranty - 12 months mechanical and 5 years chassis

*Misuse may invalidate warranty*

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**Record any Key Numbers here**

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## 1. IMPORTANT NOTES

### ALWAYS

- ✓ Use an approved towing bracket and coupling ball/jaw on the towing vehicle
- ✓ Follow all recommendations for maximum trailer weights given in the handbook of your towing vehicle
- ✓ Observe any advice/warning stickers fitted to trailer
- ✓ Check tyre pressures before every journey
- ✓ Check wheel bolts before every journey
- ✓ Check lighting equipment before every journey
- ✓ Use the breakaway cable
- ✓ Use the handbrake or chock the wheels when the trailer is parked
- ✓ Ensure the bed of the trailer is level when coupled to the towing vehicle
- ✓ Secure all loads in your trailer

Please Note - We recommend that you chock the wheels of your trailer when parking for long periods and leave the handbrake off. This reduces the risk of the brake shoes adhering to the brake drum surface.

### NEVER

- × Exceed the maximum gross weight shown on your trailer ID plate
- × Exceed the recommended towing speeds
- × Unhitch a loaded trailer (unless in an emergency)
- × Exceed the maximum recommended nose weight shown on the coupling
- × Tow loads that are not evenly distributed
- × Detach the breakaway cable before uncoupling the trailer
- × Make structural alterations to your trailer. The integrity/stability of your trailer could be seriously impacted by any welding and/or drilling operations

## 2. USING YOUR MOTIV TRAILER

### 2.1 TOWING LICENCE

Those who passed their driving test after 1/1/1997 will require additional training and a test to be able to tow any trailers over 750kg gross weight.

### 2.2 BREAKAWAY CABLE

The breakaway cable is designed to operate the handbrake if the trailer becomes detached from the towing vehicle. It will then detach itself by the spring ring opening out. After use, the cable and spring ring should be replaced to ensure correct future operation. This is particular to braked trailers. Trailers without brakes should have a loop or chain as a secondary coupling device.

### 2.3 COUPLING BALL - SEQUENCE OF OPERATION

- Check the condition of the breakaway cable. If frayed or kinked replace before using trailer.
- Ensure both the trailer and the towing vehicle are on level ground.
- Check the cleanliness of the ball.
- Ensure the trailer handbrake is fully applied.
- After ensuring the jockey wheel clamp handle is tight, using the jockey wheel jack handle, raise the coupling to a height greater than that of the coupling ball. Take greater care when the trailer is loaded.
- Reverse the towing vehicle up to the trailer so that the coupling head is directly over the towing ball. Fully apply the towing vehicle handbrake.
- Grasp locking handle on top of the coupling and pull the trigger backwards with your thumb. Then lift the handle until the automatic coupling mechanism engages and holds the locking handle in open position. You can now release the handle and trigger.
- Attach the breakaway cable to the towing vehicle (**the practice of wrapping the cable around the stem of the coupling ball is not recommended**).
- Press the release button on the coupling head and lift the handle. Lower the coupling head by means of the jockey wheel jack handle until the coupling head is in place over the towing ball and release the handle. At this point the mechanism should be fully locked onto the ball.

- Test the ball is fully engaged by attempting to lift the coupling off the ball with the jockey wheel.
- Retract the jockey wheel, taking care that the wheel is wound up fully and positioned well clear of the brake linkage as follows - Before releasing the clamp, wind up the wheel until the forks are tight against the stem. Release the clamp, lift the stem and tighten the clamp with the wheel facing forward and in contact with the inside of the drawbar channel. On empty trailers check the tightness of the jockey wheel regularly as vibration can cause them to work loose during a journey.
- Attach the electrical plug and check that all the lighting is operating correctly.
- Release the trailer handbrake.

## **2.4 EYE COUPLING - SEQUENCE OF OPERATION**

- Check the condition of the breakaway cable. If frayed or kinked replace before using trailer.
- Ensure both the trailer and the towing vehicle are on level ground.
- Clean the towing eye and jaw and apply grease to the pin and eye.
- Ensure the trailer handbrake is fully applied.
- After ensuring the jockey wheel clamp handle is tight, using the jockey wheel jack handle, raise the coupling eye to the height of the towing jaw opening.
- Dependent on the device fitted, remove the safety clip or release the safety catch on the towing jaw and remove the pin. The specific manufacturer's instructions must be followed to ensure safe/correct operation.
- Reverse tow vehicle to trailer. Engage eye into jaw and fit pin. Ensure tow vehicle handbrake is fully applied.

- Attach the breakaway cable to the towing vehicle. **(The practice of wrapping the cable around the towing pin is not recommended).**
- Retract the jockey wheel, taking care to ensure the wheel is wound up fully and positioned well clear of the brake linkage as follows -
  - Before releasing the clamp, wind up the wheel until the forks are tight against the stem. Release the clamp. lift the stem and tighten the clamp with the wheel facing forward and in contact with the inside of the drawbar channel. On empty trailers check the tightness of the jockey wheel regularly as vibration can cause them to work loose during a journey.
- Attach the electrical plug and check that all lighting is operating correctly.
- Release the trailer handbrake.

## **3 TOWING / PARKING YOUR MOTIV TRAILER**

### **3.1 SPEED RESTRICTIONS**

A 60mph speed limit is only permissible on motorways and unrestricted dual carriageways. On other unrestricted roads the limit is 50mph. However, when transporting unevenly distributed loads we recommend the towing speed must be reduced to suit the particular circumstance. On certain Motiv Trailer models a recommended maximum speed limit applies. Please contact Motiv Trailers if unsure.

### **3.2 LOADING / LOAD SECURITY**

- Always load a trailer when it is hitched to a tow vehicle.
- If loading the trailer with ramps at the rear to load machinery or vehicles, always deploy rear stabiliser prop stands if fitted and ensure the vehicle and trailer handbrake are fully applied.
- When loading and unloading trailers keep bystanders at a safe distance.
- Use suitable load restraint devices, ratchet straps/chains wheel chocks to retain the load. Pay attention that the load will be most likely to move forward in the case of an emergency stop situation.
- If loading with rear tailgates and or doors open or lowered on the roadside. Take steps to ensure the trailer is visible to other road users as the rear lights and indicators may be obscured.
- Once loaded it is good practice to drive for a few minutes and then stop to re-tighten load bindings before continuing with the journey as they may work loose initially.
- Load the trailer with the load centre over the trailer axles or slightly forward to ensure stable towing. Do not place heavy loads at the rear and high up.
- In wet or winter weather when loading vehicles or machinery be aware that the vehicle/ machine may slip on the trailer bed.
- Trailer floors are designed for evenly distributed loads. If you have an item with a heavy point load then place timber/plywood spreading bearers between it and the trailer floor.



### **3.3 PARKING YOUR TRAILER ON LEVEL GROUND OR FACING DOWNHILL (braked trailers only)**

Sequence of Operation -

- Fully apply the towing vehicle and trailer handbrakes.
- Remove the lighting plug and stow in a safe position.
- Release the jockey wheel clamp and lower the jockey wheel to the ground. Firmly tighten clamp by hand.
- Uncouple the trailer using the jockey wheel to raise the coupling free of the coupling ball. For eye couplings remove the pin from the towing jaw ensuring the towing jaw manufacturers instructions are followed at all times.
- Always chock the wheels if the trailer is loaded.
- Detach the breakaway cable.

### **3.4 PARKING YOUR TRAILER ON LEVEL GROUND OR FACING UPHILL (Braked trailers only )**

- Remove the lighting plug and stow safely.
- Check the trailer handbrake is fully applied. As you uncouple the trailer may roll back a few inches and the handbrake will raise up on its own. This is normal. Manually re apply the handbrake to ensure trailer brakes hold
- Chock wheels if loaded trailer.
- Lower the jockey wheel and clamp securely.
- Detach the breakaway cable.

### **3.5 PARKING FOR EXTENDED DURATIONS**

If your trailer is parked for long periods it is recommended that the wheels are chocked up and the handbrake released to avoid the possibility of the brake shoes adhering to the brake drums. This does not apply to unbraked trailers.

## 4 BRAKE ADJUSTMENT

### Sequence of Operation -

- Check that the hitch drawshaft is fully extended, this is most important.
- Jack up the wheels clear of the ground and release the parking brake.
- Always use suitable axle stands or similar.
- **IMPORTANT** - During brake adjustment the drum must be rotated in a **FORWARD direction only**. Rotating the drum backwards can activate the auto-reverse mechanism and thus prevent correct adjustment.
- Check the linkage is free and adequately lubricated.
- Spin the wheels in a **forward** direction to ensure the brake shoes are in the correct running position.
- Locate the brake adjuster on the back plate directly opposite the cable entry point. Rotate the adjuster in a clockwise direction whilst also rotating the wheel until the wheel nut locks. Some axles are fitted with internal "star wheel " brake adjusters which are accessed through a hole in the brake backplate with a plastic dust bung over it.
- Before proceeding to the next stage of brake adjustment check the brake linkages are free from slack. To achieve this pull the central brake rod forward to take up all the free play, at the same time push the brake rod trunnion on the hitch back to its rear position. In this position there should be minimum clearance between the rear of the nut and its trunnions. Adjust the nyloc nut and domed nut to remove excessive clearance. Approx clearance should be 6mm. Do not have tension in the brake rod/linkage.
- Return to the wheels to adjust the brake by turning the adjuster anti-clockwise until the wheels spin freely just catching the brake shoe. It is advisable to gently tap the adjuster to ensure that it has seated correctly.
- Lower the jacks. These adjustments correctly applied should provide a smooth braking condition.

It is recommended that the brakes are re-adjusted after the first 500 miles and subsequently every 3000 miles of use.

## 4.1 LUBRICATION

Periodically check that the draw shaft of the tow coupling is greased. If the rubber gaiter is split replace it using genuine parts.

Lightly grease the inside of the tow coupling where the coupling has contact with the ball hitch. This will help to prevent wear of both parts.

## 5 WHEELS / TYRES

### 5.1 FITTING WHEELS

When changing a wheel after a puncture or to replace worn or damaged tyres, always ensure that you tighten the wheel nuts and re-check tightness again after 100 miles.

Following standard practice, tighten every other wheel nut to get an even tightness, i.e. tighten wheel nuts in sequence 1, 3, 5 then 2 and 4.

Wheel nuts that are over tightened are as dangerous as when not tightened correctly.

Torque settings are as follows:

- 3/8 UNF wheel 61Nm
- M10 wheel bolts 49Nm
- M12 wheel bolts 88Nm
- M14 wheel bolts 135Nm
- M12 wheel nuts and studs 100Nm
- M16 wheel nuts and studs 140Nm

### 5.2 TYRES

Regularly inspect tyres for damage. Only replace tyres with the same or equivalent specification. Increases in size can affect safety and handling of loads, especially when cornering.

Always check inflation levels as this will dramatically affect trailer stability, fuel economy and life. Follow the inflation guide marked on the side of the tyre wall as this information varies from between brands.

## 6 GENERAL MAINTENANCE OF BRAKED TRAILERS

Periodically carry out the following maintenance checks -

- Brake cables for wear and tear
- Coupling device wear and condition
- Condition of light bulbs and lenses
- Condition of leads and hoses
- Mudguards and tyres
- Bearing and brake shoe wear and adjust if necessary
- Wheel alignment

### 6.1 GENERAL MAINTENANCE OF UNBRAKED TRAILERS

Periodically carry out the following maintenance checks -

- Coupling device wear and condition
- Condition of light bulbs and lenses
- Condition of secondary coupling cable/chain
- Mudguards and tyres
- Condition and adjustment(if applicable) of wheel bearings
- Wheel alignment

This User Handbook is not exhaustive in its maintenance guidelines.

**We recommend that you take your trailer for regular services at a National Trailer and Towing Association (NTTA) approved service and repair centre.**

## **6.2 WASHING AND MAINTENANCE OF GALVANISED AND ALUMINIUM SURFACES**

The new galvanised and aluminium surfaces on a trailer are very vulnerable to damage from road salt in the winter months.

The trailer should be washed within 24 hours of use for the first winter to prevent staining of the zinc galvanised surfaces by road salt.

Should the trailer become stained and will not wash clean it does not indicate that the galvanising has failed and it does not shorten the life of the trailer but it does spoil the appearance.

After the first few months of use the new surfaces will dull naturally and they are then more resilient against road salt and cleaning can be less frequent.

## **6.3 FLOOR MAINTENANCE**

Resin coated plywood trailer floors are long lasting with some basic maintenance. Should the trailer floor become scored or marked, paint the exposed plywood with an oil based black paint to extend the floor life. Always store a trailer outside with the trailer sloping backwards to prevent rainwater gathering in the front corners and saturating the floor for long periods. If the floor becomes loose, replace any fixing bolts that are broken or damaged. Replace any broken or damaged floor boards promptly as they can create dangerous loading and unloading situations.

You should take every precaution to immobilise your Motiv Trailer when left unattended. If the trailer is supplied with a key operated hitch lock this should always be used whether the trailer is attached to a vehicle or in a free standing location.

Thieves have been known to release the two securing bolts that fix the ball hitch to the vehicle. The trailer can then be taken away by means of another trailer or low loader. Fitting a good quality wheel clamp to your trailer can help prevent this.

Please contact Motiv Trailers for security advice and additional equipment such as “Datatag” kits and tracking devices.

## **8 TRAILER LIGHTS**

Most trailers built since 2012 now have 13 pin connector plugs fitted. If your vehicle has the original 7 pin connector a suitable adapter must be used to connect the trailer lights. Motiv Trailers can supply these from our parts department.

The main purpose of the 13 pin connector is to operate the trailer reversing lights. If you use an adapter from the older 7 pin version on the vehicle the reverse lights will not function.

### **LED Lights**

If your trailer is fitted with LED lights then there are no bulbs to replace and the lamp units are considerably more reliable in use however there are a couple of points to consider.

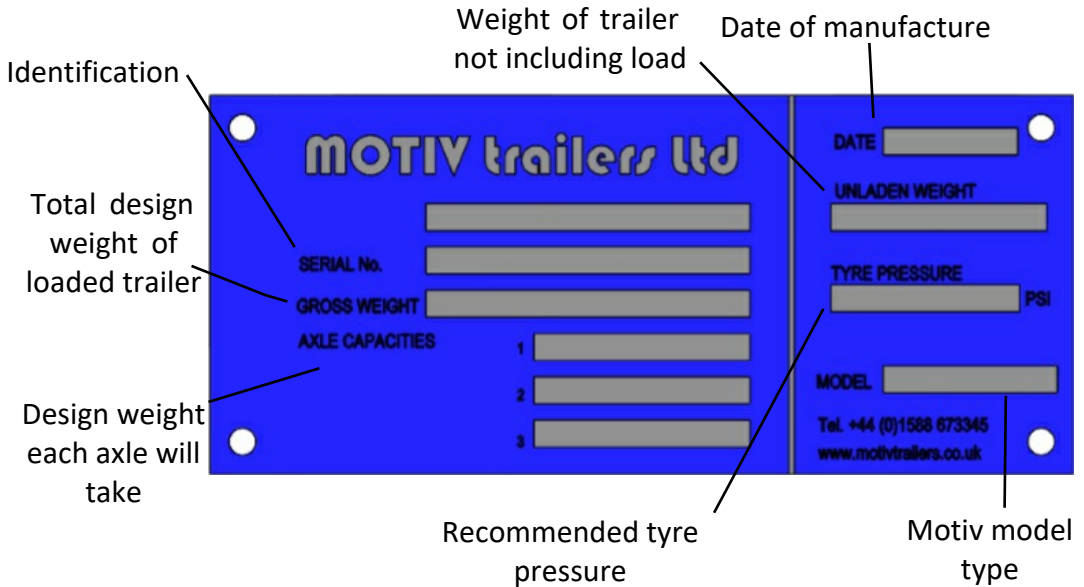
Should a particular lamp not function or the outer lens becomes damaged and broken . The replacement of the complete lamp will be required. No replacement lenses are available.

Some tow vehicles are not LED trailer light friendly and this will result in the trailer lights not functioning or “pulsing” for no reason (sometimes when the vehicle is not running). To cure this resistors or a “smart box” may need to be fitted to the trailer to make it compatible. Please contact Motiv Trailers for advice.

## 8.1 13 pin TRAILER ELECTRICAL WIRING KEY

Terminal	13 Pin socket	13 Core		7 Core Black		7 Core Grey	
		Colour	Spec	Colour	Spec	Colour	Spec
1	Left Hand Indicator	Yellow		Yellow	1mm <sup>2</sup> 14/0.3		
2	Fog Light(s)	Blue		Blue	1mm <sup>2</sup> 14/0.3		
3	Return (Earth) for Pins 1 to 8	White		White	2mm <sup>2</sup> 28/0.3		
4	Right Hand Indicator	Green		Green	1mm <sup>2</sup> 14/0.3		
5	Right Hand Tail Light	Brown		Brown	1mm <sup>2</sup> 14/0.3		
6	Stop Lights	Red		Red	1mm <sup>2</sup> 14/0.3		
7	Left Hand Tail Light and Number Plate	Black		Black	1mm <sup>2</sup> 14/0.3		
8	Reversing Light(s)	Pink	1.5mm <sup>2</sup> 21/0.3			Yellow	1.5mm <sup>2</sup> 21/0.3
9	Interior Lights etc or Caravan Battery Charging (Permanent Supply)	Orange	2.5mm <sup>2</sup> 36/0.3			Green	1.5mm <sup>2</sup> 21/0.3
10	Fridge (Ignition Controlled Supply)	Grey	2.5mm <sup>2</sup> 36/0.3			Red	1.5mm <sup>2</sup> 21/0.3
11	Return (Earth) for Pin 10	White/ Black	2.5mm <sup>2</sup> 36/0.3			White	2.5mm <sup>2</sup> 36/0.3
12	Sensing Device	White/ Black	1.5mm <sup>2</sup> 21/0.3				1.5mm <sup>2</sup> 21/0.3
13	Return (Earth) for Pin 9	White / Red	2.5mm <sup>2</sup> 36/0.3			White	2.5mm <sup>2</sup> 36/0.3

## 9 IDENTIFICATION / VIN Plate



## 10 SPARE PARTS

Motiv Trailers stock spare parts for all our trailers as well as other manufacturers components. We are happy to give advice and offer a next day delivery service. Please phone **01588 673345** and ask for the Stores.

## 11 SELLING YOUR MOTIV TRAILER

When selling your Motiv Trailer please complete the form on page 17 and return to

Motiv Trailers  
Stoneacre  
Shrewsbury Road  
Craven Arms  
Shropshire  
SY7 8BX

This will ensure that the new owner becomes the registered keeper of the trailer and helps them in the event of their trailer being stolen or should there be a product recall.

**PLEASE keep this handbook with the trailer and pass on to the new owner.**



**12 TRAILER REGISTRATION**

<b>MOTIV TRAILER OWNERSHIP TRANSFER DETAILS</b>			
Motiv Serial No.		Date of Purchase	
New Owner Name			
Address -			
Tel. No.			

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Motiv Serial No.		Date of Purchase	
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<b>MOTIV TRAILER OWNERSHIP TRANSFER DETAILS</b>			
Motiv Serial No.		Date of Purchase	
New Owner Name			
Address -			
Tel. No.			



## 13 TROUBLE SHOOTING

SYMPTOM	POSSIBLE CAUSE	ACTION
Brake judder	Rust patches on brake surface Bond failure between linings and shoe Brake linings contaminated with grease	Clean with abrasive paper Replacement of brake shoe Replacement of brake shoes
Trailer brakes snatch when braking	Over adjusted brakes Failed damper assembly Brake cable sticking Coupling drawtube sticking	Examine braking system Replace Free or replace Examine, lubricate
One sided braking	Seized brake cable Incorrect brake adjustment Contamination on brake linings	Free or replace cable Adjust as per instructions Replacement of brake shoes
Brake operates during mild deceleration	Failed damper assembly Over adjusted brakes	Replace Adjust as per instructions

## TROUBLE SHOOTING

SYMPTOM	POSSIBLE CAUSE	ACTION
Overheated brakes	Seized brake cable Over tightened hub bearing  Broken shoe, pull off spring Over adjusted brakes	Free or replace cable Re-adjust as per instructions Replace Re-adjust as per instructions
Inoperative brakes	Brake cable seized Worn out brake linings Contamination of brake linings Incorrect adjustment of brakes	Free or replace Replace Replace brake shoes  Re-adjust as per Instructions
Brakes lock when reversing	Incorrect adjustment of brakes Auto reverse device not Engaging	Re-adjust as per instructions  Reverse trailer further
Excessive handbrake travel	Incorrect adjustment of brakes Worn out brake linings Auto reverse device engaging	Adjust as per instructions  Replace brake shoes No action required
Premature damper failure	Incorrect brake adjustment  Bad driving technique	Replace damper, re-adjust as per instructions Replace damper, when towing avoid rapid deceleration - brake slowly

## TROUBLE SHOOTING

<b>SYMPTOM</b>	<b>POSSIBLE CAUSE</b>	<b>ACTION</b>
Excessive brake lining wear	Seized brake cable Scored brake drums Shoe pull-off spring broken	Free or replace Repair or replace Replace
Failure of wheel bearings	Lack of maintenance Incorrect adjustment  Corrosion due to salt water	Replace Replace, re-adjust as per instructions Replace
One or more lights not Functioning	Blown bulb 7 pin plug worn  Corrosion in bulb holder  Broken wire in system	Remove lens, replace bulb Use screwdriver to lightly prise pins apart on plug and socket Remove bulb and clean contacts in bulb holder, lubricate with WD40 Check plug and also socket on tow vehicle, look for damage to cable on trailer
Excessive tyre wear on one or more wheels	Bent suspension unit due to accident damage or Overloading	Examine wheel alignment, if faulty repair or replace
Wheels becoming undone while in use	Wheel nuts not tight	Examine wheel studs and wheel centre if damaged, replace

These instructions are provided to enable customers of Motiv Trailers Ltd to carry out the required service operation themselves. But no liability can be accepted for misinterpretation of these instructions by the user.



# Notes

