C95030 Issue 4: January 2006

OPERATOR MANUAL

TIPPING TRAILERS

TT85G, TT85GE, TT105 & TT126

These instructions are provided to help you to get the best possible service from your trailer. To ensure that the trailer is used safely, we strongly recommend that the instructions are read by all users and all the recommendations followed. This also applies to the enclosed user's manual.

Misuse may invalidate warranty

Please enter the following information for your own records:

Trailer Model: _____

Serial Number: _____

Drawbar Security Number: _____

Coupling Security Key No.: _____

In addition to this booklet, the following items should be in the document bag:

1. One route card (with trailer serial number and specification)
2. One Guarantee Registration Card (unless the distributor completed the card for you)
3. One Ifor Williams Trailers sticker
4. One leaflet - battery details & warranty (Optional fitting)

Guarantee Registration Card

It is important that the Guarantee Registration Card supplied with the trailer is completed and returned without delay, not only to ensure that the guarantee is validated, but also to enable us to assist the police in returning your trailer to you should it be stolen. It also allows us to contact you in the event of a recall.

IMPORTANT

If you sell your trailer, please pass on this booklet and the main user's manual to the new owner

Ifor Williams Trailers®

BRITAIN'S LEADING TRAILER MANUFACTURER

BSI REGISTERED FIRM

FM13224

SPECIFICATIONS

	TT85G	TT85GE	TT105G	TT126G
Maximum Gross Weight (trailer and load)	2600 kg	2600 kg	3500 kg	3500 kg
Unladen Weight (trailer complete with standard equipment)	640 kg	680 kg	966 kg	1150 kg

TT126

LEGAL NOTICE

Whilst every care is taken to ensure that the information in this manual is correct, no liability can be accepted for any loss damage or injury caused by any errors in, or omissions from, the information given.

GALVANIZED FINISH

Galvanized coatings should not be considered as aesthetic or cosmetic finishes. They are present as barriers to prevent corrosion of steel components and also afford a great deal of sacrificial protection should small, localised surface damage occur.

The hot-dip galvanising process produces a coating which is bonded metallurgically to the steel: a unique feature in coating processes. It is the most widely used method of protection against corrosion and has the added benefit of giving excellent wear resistance.

During the initial months of exposure of a galvanized coating to the atmosphere, the outer surface weathers by reacting with oxygen, moisture and carbon dioxide in the atmosphere, converting the original shiny surface colour to a matt dull grey protective coating. During this period it is particularly important that any deposits of corrosive substances such as road salt, fertilizer and slurry are removed by immediate washing. This will allow the galvanized coating to dry out, encouraging the development and retention of the protective coating. Failure to do so will lead to discolouration and unsightly staining of the surfaces.

Once formed, the weathered galvanized coating should provide protection against corrosion throughout the trailers life.

WASHING

Regular washing with a solution of water and mild detergent such as car wash will help to prolong the surface finish of plated and painted components.

This is particularly important if the trailer is used on salt-treated roads, in coastal areas, is heavily soiled or is used to carry corrosive substances such as fertilizers. In these cases, the trailer should be thoroughly washed down after each use.

If using a pressure washer, care should be taken to avoid training the high pressure spray onto electrical components or decals for extended periods or at close range.

LOADING & UNLOADING

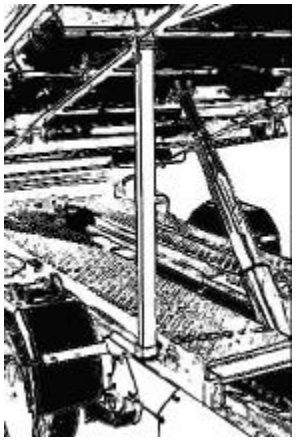
Fig.1

The trailer should be positioned on level ground.

Except in emergencies, loading and unloading should be carried out with the trailer attached to the towing vehicle. If for any reason you have to do so with the trailer detached, take great care to ensure that the jockey wheel is securely clamped and the handbrake is fully applied before proceeding.
If the trailer is fitted with propstands (optional) these should be lowered and securely clamped (see section on use of loading skids for details)
If the trailer is on soft ground it may be necessary to provide additional support under the jockey wheel to prevent it from sinking into the ground.

USE OF THE SAFETY PROP

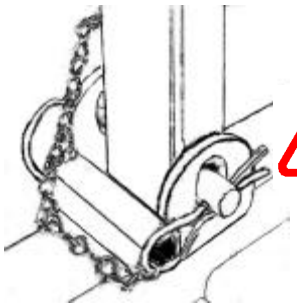
Fig.2

DO NOT ENTER, LEAN INTO OR REACH INTO THE AREA UNDER THE RAISED BODY UNLESS THE PROP IS LOCKED IN THE SAFETY POSITION AS SHOWN:-

Fig. 1 prop in safety position
Fig. 2 prop in safety position (chassis end)
Fig. 3 prop fixed under body in transport position

TIPPING THE TRAILER BODY

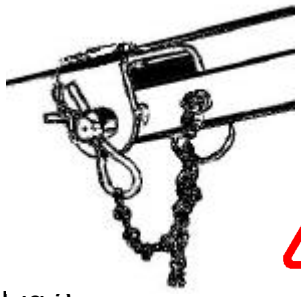
Fig.3

DO NOT LEAVE THE TRAILER UNATTENDED WITH THE BODY RAISED UNLESS THE SAFETY PROP IS IN PLACE.

It is recommended that new users practice operating the tipping mechanism with the trailer empty to ensure familiarity with the controls.

The trailer should be positioned on flat, level ground.

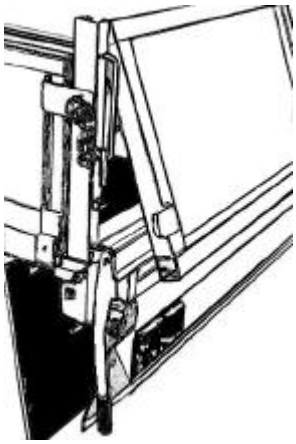
Fig.4

Keep the area around the trailer clear during the tipping operation either with the help of an assistant or using road cones.

Standing to one side of the rear of the trailer, slide the retaining ring upwards to release the lever and lower the lever. Repeat for the other side to release the tailboard. (Fig.4)

Operation of the electric pump system

The tipping system comprises an electro-hydraulic pump powered by an on-board heavy duty 12V battery to operate a lifting ram (fig 5) The pump is operated from a remote control switch pad on a detachable lead. (fig 7) An isolator switch with removable key is also provided.

Fig.5

Oil reservoir waterproof filler cap

Pump

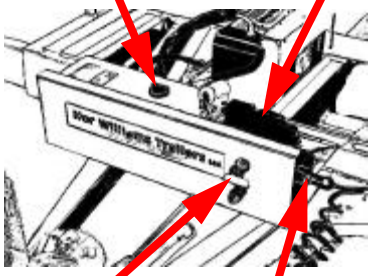

Fig.6

Isolator switch and key

Electrical remote control connector

Red & Green LED Lamps

Up

Down

Fig.7

Manual operating handle

Manual release valve

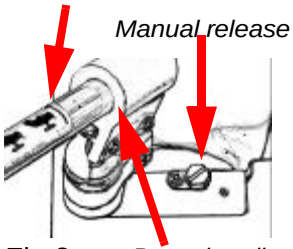

Fig.8

Pump handle socket

Slide pump handle into receiver Behind front pump plate

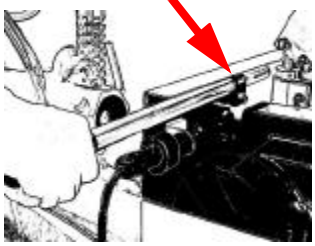

Fig.9

TILTING THE TRAILER BODY (continued)

Connect the remote control lead to the socket on the side of the pump. * (fig 6) Insert the key into the isolator switch and turn clockwise through 90 degrees to switch on.

After checking that the rear of the trailer is clear, operate the ‘up arrow’ button on the remote control to tip the trailer body.

As the load starts to move, release the button and operate again in short bursts to release the load slowly. It may be necessary to move the trailer forward before the full load has been released to avoid the load coming in contact with the rear of the trailer. Lower the body slightly to hold the load back before moving the trailer forward.

To lower the body, operate the ‘down arrow’ button until the body is in the required position. To return the trailer bed to the horizontal position, ensure that the area between the body and chassis is clear of obstructions and lower fully. To ensure that the body cannot be accidentally raised, disconnect the remote control lead plug from the socket (a straight pull).

During normal operation the ‘Green’ LED lamp on the remote control will be lit. If the ‘Red’ LED lamp lights it will indicate that the battery charge is low - i.e. below 9V. See also page 8 - battery indicators.

Turn the isolator key anti-clockwise through 90 degrees to switch off, and remove the key.

Manual Operation (back-up system to the electrical pump)

Operation

Check that the rear of the trailer is clear.

Check that the manual release valve is closed and insert the handle into the socket. After checking that the rear of the trailer is clear, operate the manual pump lever to tip the trailer body.

To lower the body, check that the area between the body and chassis is clear of obstructions and open the valve slowly. Control the rate of descent by opening and closing the valve as required.

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* Users should note that the remote control unit supplied is generally splash-proof, although it is not fully waterproof. It should never be submerged and should be removed from the trailer when not in use to avoid damage and possible erratic operation.
If a control unit has been accidentally submerged or is otherwise damaged it should be taken out of service until it can be fully checked or ideally replaced with a new unit.

TIPPING THE TRAILER BODY (continued)

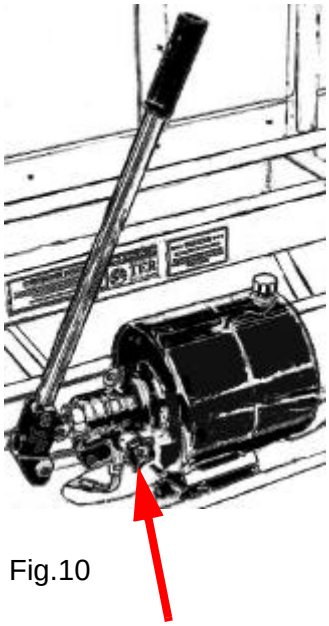


Fig.10

Release valve

TT85G (Manual Pump)

The tipping system comprises a manually operated hydraulic pump to operate the lifting ram (fig 10).

Operation

Check that the release valve is closed. After checking that the rear of the trailer is clear, operate the manual pump lever to tip the trailer body.

It may be necessary to move the trailer forward before the full load has been released to avoid the load coming in contact with the rear of the trailer. Lower the body slightly to hold the load back before moving the trailer forward.

To lower the body, check that the area between the body and chassis is clear of obstructions and open the release valve slowly. Control the rate of descent by opening and closing the valve as required.

LOADING SKIDS (TT105G and TT126G only)

Fig.11

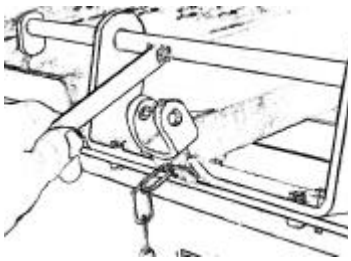


Fig.12

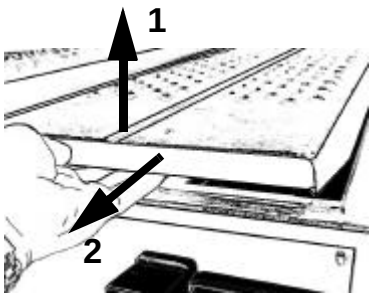


Fig.13

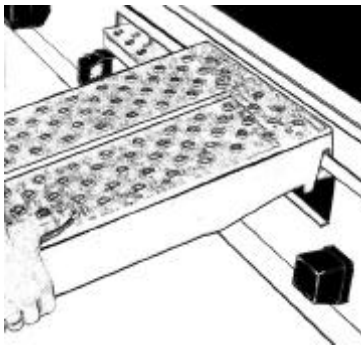


Fig.14

Removing skids

The skids are stowed under the trailer body and are removed from the rear of the trailer. It is strongly recommended that any lifting or positioning of the skids is carried out by two persons. (Each skid weighs approximately 40kg).

1. Lift the spring ring and withdraw the linch pin. Lift the handle to release the skid retainer clamp. (fig 11)
2. Move the handle to the left to remove the right skid or to the right to remove the left skid. (fig 12)
3. Lift the rear of the skid and slide out slightly. (fig 13)
4. Slide the skid out. It is prevented from sliding all the way out by a stop. Lift the front end of the skid clear of the stop and slide out slowly.
5. Hook the skid onto the rear channel in the required position (fig 14)

Replacing skids

1. Ensure that the skid retainer clamp handle is positioned on the opposite side to the skid you are replacing and slide the skid back into place. To prevent injury, keep fingers and hands clear of the underside of the skid before the skid reaches the stowage position.
2. When both skids are in place, slide the clamp handle to the central position, locate in the receiver bracket and replace the linch pin as shown in fig 11.

Use of loading skids

Extreme care should be exercised when using loading skids

- Carry out loading and unloading on level, firm ground.
- Always use the prop stands provided.
- Have an assistant on hand to guide you.
- Ensure that the skids are positioned correctly, with the lower ends on firm, level ground, parallel with the trailer and in line with the centre of the tyres of the vehicle to be loaded/unloaded and that the skid top angles are in contact with the trailer rear cross member over their full width.
- Your assistant should keep well clear during loading/unloading.
- Take your time and constantly check that the vehicle is correctly positioned.

BATTERY

TT126G, TT105G & TT85GE (electric pump)

The battery fitted is completely maintenance free (apart from charging)
When working on or near the battery, observe the following safety precautions:

EXPLOSIVE GAS

DO NOT SMOKE. AVOID CONTACT WITH SPARKS OR FLAMES

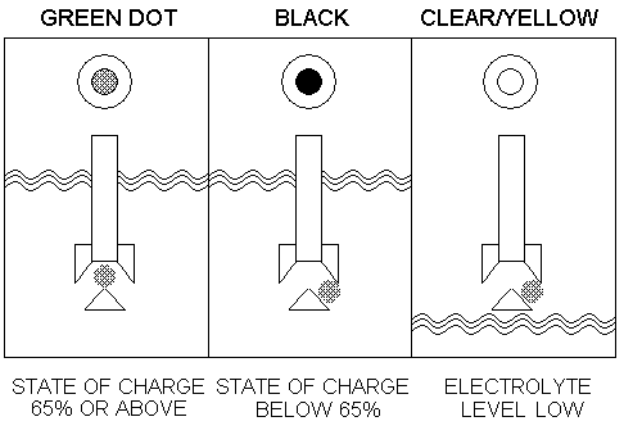
CONTAINS SULPHURIC ACID

AVOID SKIN & EYE CONTACT

"MAGIC EYE" 'State of battery' indicator

(automatic built in hydrometer)

Colour:	Green	Satisfactory state of charge > 65%
	Black	Battery requires charging < 65%
	Yellow / Clear	Electrolyte level low *

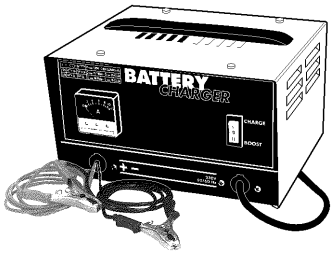


Built-in Hydrometer

* When the electrolyte level becomes low, do not use the battery and also check the electrical circuit of the system. The battery must be replaced via the manufacturer or their agent as shown on the enclosed manufacturer's leaflet.
The battery is warranted by the manufacturer against defects in materials or workmanship for one year - the full details of which are shown on the accompanying leaflet.

BATTERY (continued)

Battery Charging



Battery Charger Selection:

A nominal 12 volt charger rated as follows, is required to maintain the battery at optimum performance.

Battery capacity in Ampere hours	Charger size Rating in Amperes
102Ah(as fitted)	10 to15A or 20A

The selection of the correct charger rating for your battery size is important to reduce the risk of premature battery failure:

A charger which is under-sized will not fully recharge the battery. This will result in a steady reduction of the available battery capacity, the inability of the battery to complete a normal service cycle, and eventually irreversible damage leading to battery failure.

A charger that is over-sized can, under certain circumstances, lead to potential hazardous situations (a: formation of an explosive gaseous mixture and b: acid spillage - leading to unchargeable dry cells and exposed acidic fluids), and early battery failure.

Battery Health

Whilst batteries which are not fully charged may still give reasonable performance, the effect of never allowing the batteries to be completely recharged will be a gradual reduction in performance and reduced battery life.

HYDRAULIC SYSTEM MAINTENANCE

Main hydraulic pressure supply hose connector

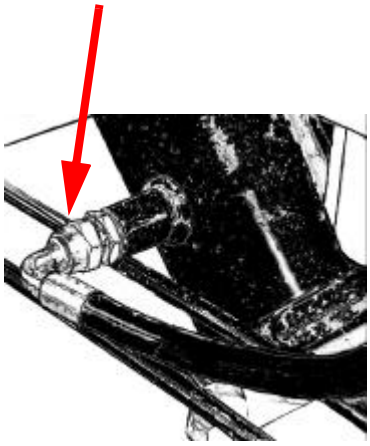


Fig.15

1. Wipe all external surfaces of the pump and reservoir tank to remove dirt, dust and oil residue.
2. Inspect unit for leaks and rectify as necessary.
3. Clean reservoir filler cap, remove and renew if cap and / or seal is damaged. Check oil level and replenish with clean hydraulic oil.* This should preferably be carried out with actuator (and thus the body ram) at minimum stroke, i.e. with the trailer body down. The oil should be approximately 25mm (1") from the top of the reservoir tank when full.
4. Fully replace the hydraulic oil at intervals depending upon the severity of the duty and environment conditions:
   Very dirty, dusty and damp: 6 months to 1 year.
   Otherwise, in more favourable conditions: Approx. 2 yearly.

Draining the Tank

With the body fully lowered, remove the main pressure supply hose from the ram (fig 15) and dip into a suitably sized and positioned container or oil drum. Switch on the electrical operating system (or operate the manual pump) to pump the oil into the container. Continue until the oil flow virtually ceases.

DO NOT RUN THE PUMP FOR LONGER THAN IS NECESSARY WHEN THE TANK IS APPROACHING EMPTY

*** Oil Specification for the Fenner / SPX Power Pack**

Fenner recommend SHELL TELLUS 37

or it's equivalent for temperatures between -18^{o}C and +70^{o}C. This should cover most normal applications.

See pages 11 & 12 for appropriate graphs

Filling the Tank

Use clean, filtered oil of the correct grade. Use a filter unit with a filtration level of 25 microns (25 µm) or better.
Use only clean jugs and funnels.

CONTAMINATION OF HYDRAULIC OIL ACCOUNTS FOR THE VAST MAJORITY OF HYDRAULIC SYSTEM FAILURES

Connect the hose to the ram but do not tighten.
Fill the tank to the level mark.
Bleed the system by operating the motor briefly (or operate the manual pump) whilst observing the release of air from the hose connection on the ram. As soon as there is no sign of air escaping, tighten the connector. Check the oil level and top up if necessary.

HYDRAULIC SYSTEM MAINTENANCE (Continued)

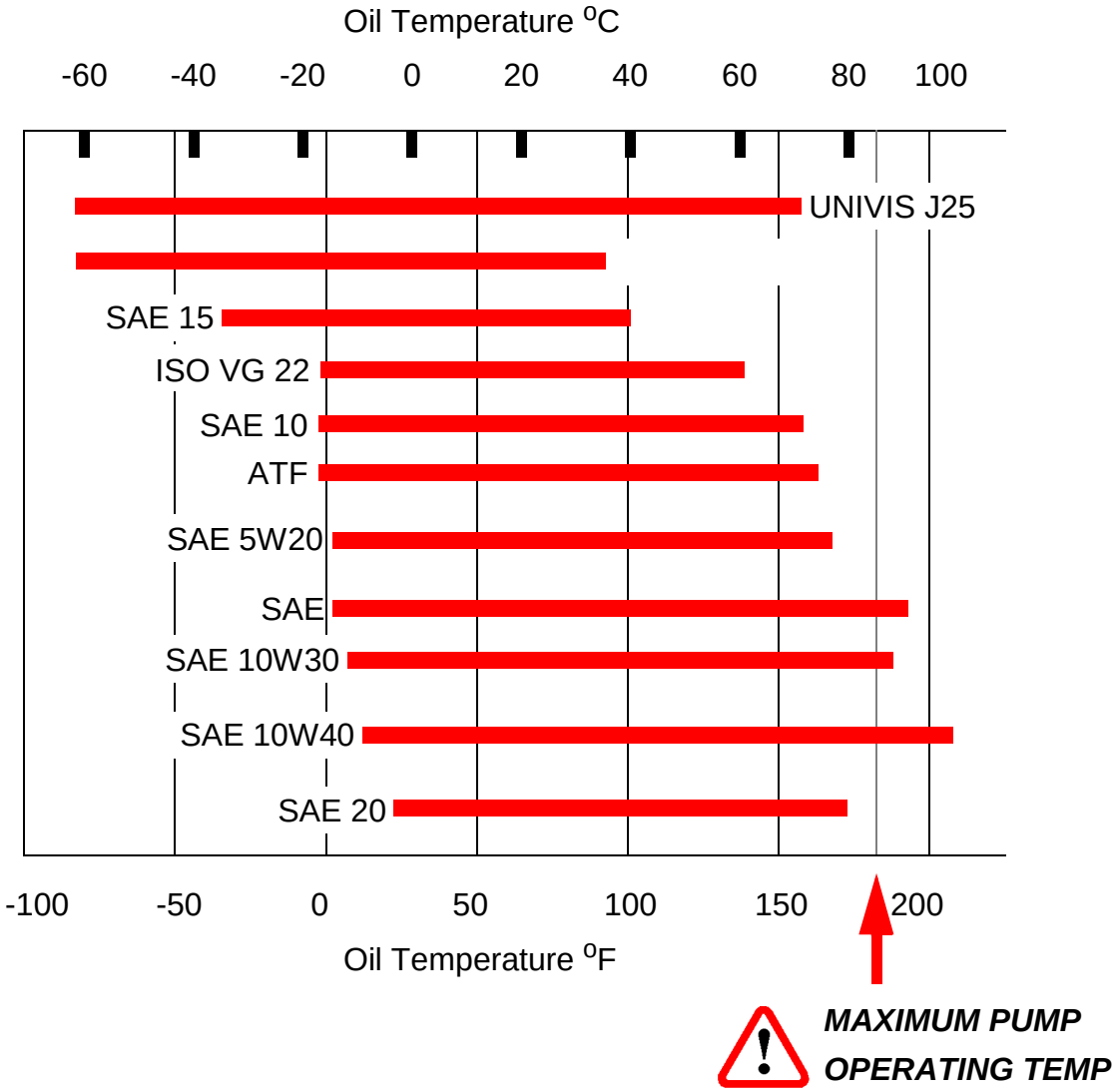
HYDRAULIC OIL RECOMMENDATIONS
Mineral oil with a viscosity range from 6 to 450 centistokes at normal working temperature.
The following oils are recommended for use at temperatures between -20ºC and +60ºC.

Supplier	Grade	Pour Point ºC	Viscosity in Centistokes @0ºC	@40ºC
B.P.Trading	HLP 32	-33	----	15
	HP 32	-54	----	15
Burmah Castrol	Hyspin VG 15	-39	117	15
	Hyspin AWS 15	-39	117	15
	Hyspin AWH 15	-51	82	15
Esso	Nuto H 15	-35	95	14
	Nuto HP 15	-35	95	14
	Univis J 13	-59	50	15
ELF Sternol	Albatross	-40	77	15
Gulf Oil	Harmony 15 AW	-30	93	14
Lorco	HT15	-40	90	14
	FVT 15	-40	85	14
Mobile Oil	11	-45	87	17
Shell UK Oil	Tellus T 15	-51	75	15
Total Oil GB	Azolla 15 N	-30	100	15
	Equivis VG15	-51	82	15

Where the temperature is constantly below -10ºC, please consult your oil consultant or supplier.

See page 12 for oil temperature graph.

HYDRAULIC SYSTEM MAINTENANCE (Continued)



Oil viscosity

Temperature limits are based on maximum viscosity of 1000 centistokes (5000 SSU) and Minimum viscosity of 15 centistokes (80 SSU)

TYRES

Tyres must be maintained at the pressures indicated below. Under-inflation will adversely affect handling and fuel consumption and will lead to premature wear. If seriously under-inflated, a tyre will overheat and fail very rapidly.

When renewing tyres, always ensure that you purchase a tyre of the same size and load/speed index rating. Different makes or models of tyres of the same size can have widely differing load/ speed index ratings and inflation pressures. Using tyres with a lower rating can be dangerous. If in doubt, ask a tyre distributor or our technical department.

Tyre Fitments

	Load /Speed Index - Pressure (Cold)
TT85G & TT85GE	
165R13C 8PR (tubeless)	94/92N 65psi / 4.5 bar
TT105G & TT126G	
185/60R12C (tubeless)	104/101N 95psi / 6.5 bar

The maximum gross weight figure given on the trailer plate is always equal to or less than the approved maximum load for the tyres at 60mph multiplied by the number of tyres on the trailer. Other maximum load figures are marked on some tyres. These do not apply to the UK or Europe and should be disregarded

Tyre Repairs

Punctures should be inspected and repaired by a specialist tyre distributor. Do not fit tubes to tubeless tyres as this can lead to a “blow out” in the event of a further puncture. If the tyre is too severely damaged for a repair to be carried out the tyre must be replaced.

NOTES

NOTES

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