2006/42/EC

3-WAY TIPPER

Supplementary Owners Manual

Models Covered: Transit 3.5t & 4.6t Single & Double Cab

Body Types: UK84RT010A, UK84RT011A, UK84RT014A & UK84RT015A

Revision 5.0 - Oct 2010-on

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Preface

This Tipper Instruction Manual will familiarise you with the handling of the vehicle and provide details on safe every day operating procedures, advice and general care.

Regular inspection and servicing of the Tipper is mandatory to ensure its roadworthiness, safety and resale value. This manual is essential daily reference material and should be kept safe and with the vehicle at all times.

Warranty:
Full warranty for parts and workmanship for three years from date of vehicle registration, on all parts associated with the Tipper body conversion. Warranty is only valid if the Tipper is operated in accordance with the Instruction Manual and current Road Traffic Act Legislation.

Pass on this instruction manual when you resell the vehicle. It is an integral part of the vehicle.

Read and understand this manual before attempting to operating the Tipper.

Safety First!

WARNING

Tipping is a potentially hazardous operation. It is essential that all Operators fully understand this Manual and the Controls found on the vehicle before attempting to use this vehicle. All Health and Safety legislation must be strictly applied. UK Construction & Use Regulations must be observed when operating the vehicle on the public highway.
The unladen dB level when operating the tipper is 98dB.

The basis for Health and Safety law in the UK is the Health and Safety at Work Act 1974 and its amendments. However certain EU Law is now applicable, all of which must be complied with before, during and after the use of this vehicle and the Tipper bodywork supplied with it. The Tipper bodywork supplied with this vehicle is recognised as a machine, therefore Health and Safety legislation applicable to machinery must be recognised in addition to general Health and Safety law.

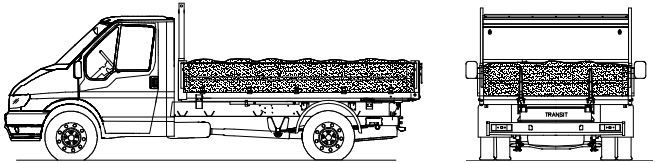
It is the responsibility of the Driver, Owner and/or Operator to establish what Health and Safety legislation applies when using this vehicle and that only persons trained and qualified in line with that legislation be allowed to use this machine.

Depending on the circumstances and the territory that the vehicle is being used, other legislation may apply. Always check that existing legislation has not been updated or superseded, and whether new legislation has been introduced.

Loading the Tipper

- Prior to loading ensure that the Tipper is fully lowered.
- Ensure that the sideboards and tailboard are closed and securely latched.
- To prevent unnecessary damage always load bulk materials e.g. sand ballast etc. from the lowest practical height.
- Avoid dropping large items such as rocks, demolition debris etc. onto the Tipper bed.
- Ensure that the load is uniformly distributed across the Tipper bed.
- Do not overhang plank or sheet material forward of the headboard.

CORRECT LOAD DISTRIBUTION



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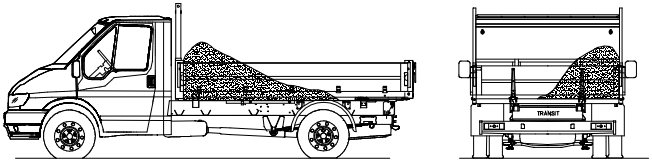
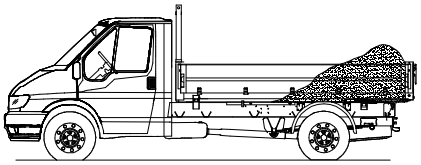
INCORRECT LOAD DISTRIBUTION





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ROAD SAFETY

All loads must be secured and restrained before operation on the public highway. Failure to adequately restrain the payload will present a hazard to other road users and is in contravention of the UK Construction and Use Regulations.

The Tipper is designed to carry bulk loads of which there are two distinct types:

- 'Fluid' Bulk loads are loads that act similar to a fluid once in motion, for example:

    - Sand
    - Gravel
    - Type 1 Aggregate
    - Hardcore
    - Topsoil
    - Wood chippings

- Non-Fluid Bulk loads, for example:

    - Palletised or wrapped building materials (bricks, tiles, thermal blocks)
    - Timber
    - Sheet material (plywood, plasterboard, roofing sheets etc.)
    - Machinery
    - White goods
    - Furniture

Load retention and sheeting continued

The method of load retention will depend on the type of load being carried: -

Fluid loads:

Sheeting the load with a high strength waterproof Tarpaulin is the best form of retention especially for a dry powdery load. This will prevent the load being blown from the vehicle and prevent the load becoming waterlogged and thereby potentially overloading the vehicle.

The body is supplied with roping points at both sides at the rear of the body. These should be used to tie off any Tarpaulins that envelope the body sides. Once fitted, the Tarpaulin should be restrained by high quality nylon rope, (minimum 12mm Diameter) specifically designed for Commercial Vehicle use.

Non-fluid loads:

All non-fluid loads must be suitably restrained using the load lashing points provided on the tipper floor. Loose loads must not be allowed to shift or roll around in the rear of the vehicle, presenting in some instances, extreme impact forces to the bodysides, tailboard and headboard, generated by cornering, braking and acceleration forces. If the load is to be tipped rather than removed mechanically or manually, the lashing must be removed immediately prior to the tipping operation.

Good quality ratchet straps or approved nylon rope should be used. For cylindrical loads or awkward shaped loads, it is imperative to chock the load with timber to enable the straps or rope to work effectively.

Control Station

Description:
The Control Station houses the Isolation Switch, Pendant Wanderlead Socket, System ‘ON’ Energising button and warning LED.

Location:
The Control Station is located on the right hand side of the Drivers seat adjacent to the ‘B’ pillar.

Purpose:
To allow isolation switching of Tipper control circuits, connection of the Pendant Wanderlead and Energising of the control system for tipping.

Use:
The control station gives central access to Isolation switch and system ‘ON’ buttons as well as Pendant Wanderlead connection point.

Tipper Isolation Switch

WARNING: Do not drive the vehicle with the Tipper Isolation Switch in the 'ON' position

Description:
The Tipper Isolation Switch provides electrical isolation to both the electric and hydraulic systems found on the tipper.

Location:
The switch is located on the right hand side of the Drivers Seat adjacent to the ‘B’ pillar.

Purpose:
To safely isolate the tipper electric and hydraulic systems from the vehicle when the tipper is not in use.

Use:

- The isolation switch must be set to ‘OFF’ when performing any maintenance tasks with the bed raised and propped.
- Only switch ‘ON’ immediately prior to tipping.
- Do not drive the vehicle with the switch in the ‘ON’ position.

Emergency Stop Switch

Description:
The Emergency Stop Switch ceases all Tipper operations.

Location:
The Emergency Stop Switch is located on the Pendant Wanderlead Controller. (See photo).

Purpose:
In emergency situations when the switch is activated all Tipper functions cease, until the switch is released.

Use:

- **To Activate-**
  Press in with finger, thumb, or palm of the hand.

- **To Release-**
  Rotate clockwise and allow button to spring out.

Pendant Control Wanderlead

Description:
A Pendant Control Wanderlead plugged into the Control Station, which allows control of the raise/lower function of the body.

Location:
The Pendant Control Wanderlead can be stowed in the drivers' Storage Compartment on top of the Instrument panel binnacle, or in the drivers door pocket when not in use.

Purpose:
The Pendant Control Wanderlead enables the operator to raise and lower the tipper bed, it also incorporates an Emergency Stop Switch.

Use:
The plug on the Pendant Control Wanderlead must first be plugged in to the socket located on the Control Station next to the drivers seat. The controller can be used whilst seated in the cab or alternatively by standing outside of the vehicle by extending the retractable cable. If used outside of the vehicle, stand clear throughout the tipping operation.

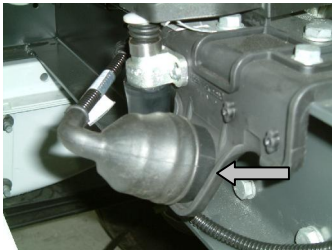
- Depressing the 'RAISE' button on the pendant controller will raise the tipper bed. Releasing the button will immediately stop the bed from raising.
- Depressing the 'LOWER' button on the pendant controller will lower the tipper bed. Releasing the button will immediately stop the bed from lowering.
- Depressing the 'RED' Emergency Stop Switch button, will immediately cease all tipper functions. Turning switch button clockwise will reset it.

Warning LED and Buzzers

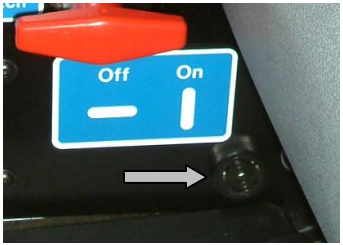
Description:
A Green warning LED indicates when the Control system is energised.

Warning buzzers indicate when the handbrake is not applied and when raising or lowering the body.

Location:
The Green Warning LED is located in Tipper Control Station.
The External Warning Buzzer is located on the Tipper subframe.
The internal Warning Buzzer is located on the Tipper Control Station.



Purpose:
To give warning that the tipping operation has commenced and the body is raising or lowering.
In addition the internal warning buzzer indicates if the Handbrake is not applied or the Auxiliary Battery voltage is too low.



Use:
The warning devices function automatically. If a warning device fails to operate, stop immediately and refer to fault diagnosis section.

Tipper Control Operation

- Park the vehicle and apply the handbrake.
- *Note:* Ensure the correct pivot pins are located to allow deployment of the load to either side or rear as desired, then release and lower side or tailboard to allow the load to be tipped. (See pages 18-22 for correct pin configuration before tipping)
- Remove Pendant Controller Wanderlead from storage and plug into the socket on the Control Station next to the drivers seat.
  Note: The controller can be used whilst seated in the cab or alternatively by standing outside of the vehicle by extending the retractable cable. If used outside of the vehicle, stand clear throughout the tipping operation.
- Turn Isolation Switch to 'ON' position.
- Press the Green 'ON' button above the Wanderlead Socket to energise the system. The Green warning LED adjacent to the 'ON' button will illuminate to show system is energised.
- To Raise the bed, depress the 'RAISE' button on the pendant controller. Releasing the button will immediately stop the bed from raising.
- To Lower the bed, depress the 'LOWER' button on the pendant controller. Releasing the button will immediately stop the bed from lowering. Fully lower body until warning sounder ceases.
- Depressing the 'RED' button, Emergency Stop Switch, will immediately cease all tipper functions. Turning clockwise will reset the switch and pressing the green 'ON' button will re-energise the system.

Tipper Control Operation Continued

- *Note:* If you release the handbrake at any time after pressing the ‘ON’ button a warning will sound and the green System energised LED will extinguish and tipping will no longer be possible. Re-apply the handbrake and re-set the ‘ON’ button.
- Unplug and stow Pendant Wanderlead after use.
- Turn off Isolation switch after tipping.
- *Note:* The internal Cab Warning Buzzer will sound at a rapid intermittent rate after switching the system ‘ON’ if the Auxiliary battery voltage is too low for tipping to commence. If this occurs, ensure handbrake has been engaged then start the engine. Continue to idle the engine for the duration of tipping operations.
  Normal driving of the vehicle after tipping operation will automatically charge the auxiliary battery.

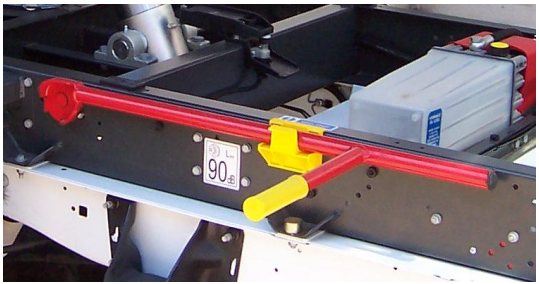
WARNING: Do not drive vehicle with the Tipper Isolation Switch in the ‘ON’ position

Body Prop

WARNING: Never Stand or Work underneath an un-propped body.

Description:
A body prop is a safety device that is provided to ensure the safety of personnel carrying out routine checks and maintenance of components and structures underneath the body. The weight of the body is held mechanically rather than relying on the hydraulic system.

Location:
The body prop is an integral part of the subframe and is stowed on the outside of the offside subframe.



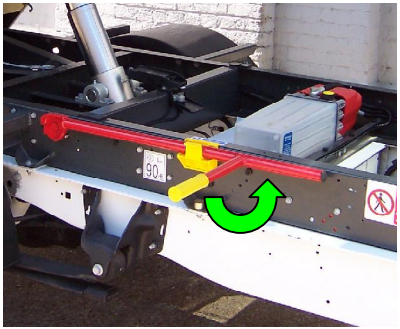
Purpose:
To provide a safe means to maintain the body in a raised position.

Use:
When to deploy the body prop:

Whenever there is a requirement to work or stand underneath the body.

Body prop continued

How to deploy the Body Prop:



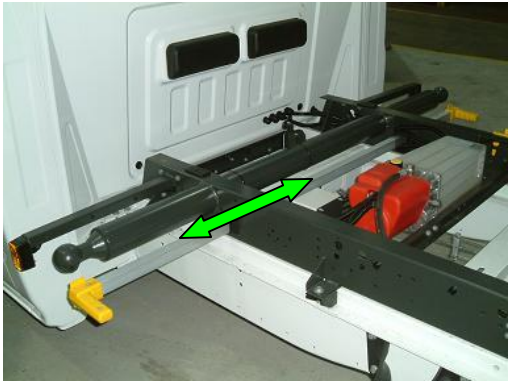
- Park the vehicle on a firm level surface and apply the handbrake.
- Raise the Tipper bed fully.
- Raise the body prop by pulling up on the handle.
- Rotate the body prop past the vertical until it stops.
- Lower the body until it rests on the prop and stops.
- Ensure the body prop is located in the yellow socket beneath the bed.
- Turn the tipper isolation switch to the 'OFF' position.
- Remove the keys from the vehicle ignition.

Do not leave the vehicle with the body raised and propped for any length of time. The protective oil film on the ram will evaporate, drain away or be washed away. Corrosive elements may erode the highly finished surface of the ram, which in turn could lead to damage of the ram seals, resulting in potential oil leaks.

Configuration Bar

Description:
The configuration bar is a mechanism that prevents pivot pins from being placed into the forward pair of corner sockets at the same time.

Location:
The configuration bar is located transversely on the subframe behind the cab.



Purpose:
The configuration bar prevents an operator from inserting pivot pins into both of the front corner sockets simultaneously.

Use:
The configuration bar is only used when side tipping, it has no effect when rear tipping. Use the handles placed at either end of the configuration bar to operate.

Side tip to the - Nearside

Push or pull the configuration bar to the offside of the vehicle, locate two pivot pins in the nearside corner sockets facilitating a nearside tip.

Side tip to the - Offside

Push or pull the configuration bar to the nearside of the vehicle, locate two pivot pins in the offside corner sockets facilitating an offside tip.

For rear tipping the configuration bar can be left in any position.

Pivot Pins and Corner Sockets

CAUTION:

Check before attempting to raise the body that there are no less or more than two pivot pins fitted, ensure they are located correctly in the appropriate sockets for the intended direction of tip.

This vehicle is fitted with pivot pins in the rear corner sockets ex-works, it is therefore restricted to a rear tip configuration only until the pivot pins are repositioned. If the side tip function is not required, do not remove the pivot pins from the rear corner sockets.

Only two pivot pins can be positioned in the sockets at any one time, and can only be used as a matching pair, do not mix pivot pins.

Only remove and refit pivot pins with the body in the fully lowered position.

Always re-fit the pivot pins to the rear corner sockets after a side tip has been completed.

If any pivot pin or retaining pin sustains any damage, excessive wear or corrosion, replace the part with a VFS OEM component before use.

Do not operate the vehicle without two pivot pins correctly located.

Pivot Pins and Corner Sockets continued

Description:
The Tipper Bed or load floor is mounted to the subframe via four bearings. Each bearing consists of a ball mounted on the end of a tube, two tubes are placed transversely across the subframe at either end, with a socket mounted on the underside of the Bed. To 'activate' the bearing a Pivot Pin is located in the socket trapping the ball within the socket, only two bearings can be 'active' at any point in time. When the body is in the lowered position all four bearings locate the body, however when the body is raised, regardless of direction, only two bearings can act as pivots.

Location:
The Corner Sockets are located on the underside of the Tipper Bed on each corner.

Purpose:
Corner Sockets: -

To locate the body in its lowered position and to enable the tipper bed to raise and lower in three planes by activating the Socket into a bearing by fitting a Pivot Pin.

Pivot Pins: -

Fitted ex-factory in rear sockets, restricts the body to rear tip mode only, should be left in place if 3-way function is *not* required.

To 'activate' a corner socket into a bearing – essential if the 3-way tip function *is* required. Two pins of different diameters are used: -

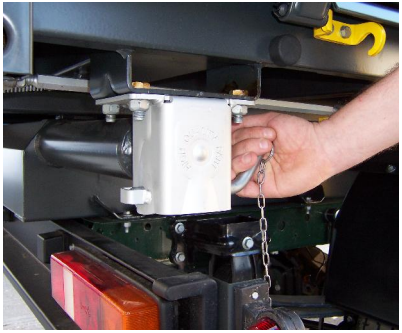
1. – 18mm with a 14mm stepped end for use in the nearside rear and offside front Sockets.
2. – 16mm constant diameter for use in the offside rear and nearside front Sockets.

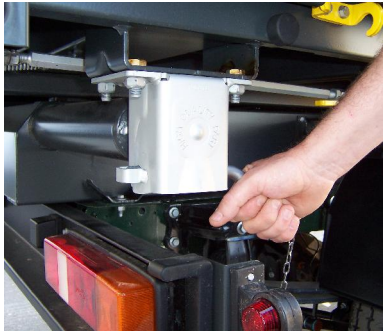
Pivot Pins and Corner Sockets continued

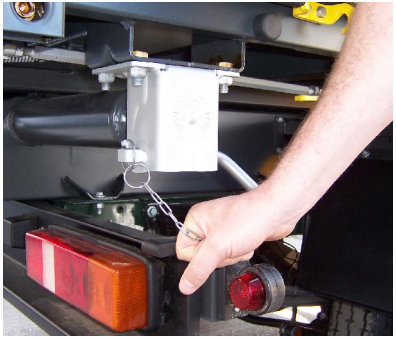
Use - Rear tipping:

- **Pivot Pins**
  If the vehicle is intended to rear tip only, the pivot pins should be left located in the two rear corner sockets – ex-factory condition.

  If the Pivot Pins have previously been located for side tip they should be relocated in the rear corner sockets only. The retaining clips must be fitted to ensure the Pivot Pins do not become dislodged.







Side Tipping:

WARNING: Only relocate the Pivot Pins into their Sockets with the body in the fully lowered position and the Isolation Switch turned off.

If the vehicle is to be used for a combination of rear and side tip operations it is imperative to understand Pivot Pin use.

The two Pivot Pins used for both side and rear tipping, whilst functionally similar, are of different diameters thus ensuring they can only be used in the correct socket.
The Pivot Pins have two different diameters – 18mm & 16mm, the larger 18mm pin can be recognised by a reduced 14mm length toward the end of the pin.
Both pins have a dowel pin inserted adjacent to the handle. Close inspection of the four corner sockets will reveal that the registers for the pins are of correspondingly different diameters. This in combination with the Configuration Bar prevents the wrong installation of pins.

With the body in a fully lowered position locate the stepped 18mm Pivot Pin in the rear offside socket by inserting into the socket from the forward facing edge of the socket, with the handle in an upwards orientation. Once fully home, rotate the handle through 180 degrees, insert the security pin and rotate the ring to ensure the security pin remains in position. Repeat the procedure for the nearside socket using the smaller 16mm Pivot Pin.

Pivot Pins and Corner Sockets continued

Tip to Nearside:

- Push the configuration bar to the offside until it stops.
- Locate the constant diameter 16mm pivot pin in the nearside forward socket by placing the handle in a vertical position thus allowing the roll pin to pass through the register. Rotate through 180 degrees so the handle is now facing down.
- Locate the security pin and clip into place, ensure the ring is rotated back to the pin, preventing the pin from disengaging.
- Repeat procedure for the nearside rear corner socket using the 18mm pivot pin with the 14mm stepped small diameter register.

Tip to Offside:

- Push the configuration bar to the nearside until it stops.
- Locate the 18mm pivot pin with the 14mm stepped register into the offside front corner socket by placing the handle in a vertical position thus allowing the roll pin to pass through the register. Rotate the handle through 180 degrees so that the handle is now facing down.
- Locate the security pin and clip into place, ensure the ring is rotated back to the pin, preventing the pin from disengaging.
  Repeat the procedure for the offside rear corner socket using the 16mm pivot pin.

Dual mode Tailboard: Tip-thru/Tip-over (Top and Bottom Hinged)

HAZARD
Tailboard in lowered position obscures vehicle rear lights.
Avoid lowering the tailboard when stationary on the Public Highway.
Temporary obscuration during loading/unloading is acceptable providing other road users are warned of an obstruction in the road.

A warning triangle or similar devices are permitted to be placed in the road to warn of a temporary obstruction.

SHUT TAILBOARD
Ensure Tailboard is closed and locked before driving the vehicle.
Never drive the vehicle with the Tailboard in the lowered position.
Vehicle side lights must remain on during loading/unloading through the hours of darkness or poor visibility.

It is acceptable to obscure the rear lights temporarily with the vehicle parked, during loading/unloading. However, you must take steps to warn other road users of the vehicle obstruction by using at least one of the following: -

- Warning Triangle - supplied with vehicle.
- Minimum four cones or pyramids.
- Minimum four flat traffic delineators.
- Road vehicle sign (large yellow sheet with a red triangle).

Dual mode Tailboard continued

Description:

The tailboard is designed to operate in two different configurations dependant upon the type of load, the configuration is determined by the operator prior to tipping. The following guidelines are to enable the operator to identify and apply the correct configuration before tipping.

Tip-Thru:
Typical loads that can be used with this configuration more efficiently

- Dry sand.
- Gravel up to 20mm grade.
- Dry topsoil.

Tip-Over:
Typical loads that must be used with this configuration

- Damp or wet sand and topsoil.
- Clay.
- Type 1 aggregate.
- Wood chippings and Logs.
- Large bulk items such as domestic goods when used for house clearance work.

If in doubt, always use the tip-over mode.

Dual mode Tailboard continued

CAUTION:

Tip thru mode:

- If the load begins to jam or choke in the rear aperture created by the tailboard hinging from the top, lower the body fully and manually clear the jam using a shovel or fork and recommence the tipping operation. Do not continue to tip when a jam occurs, the vehicle may become unstable and present a danger to the operator and other personnel.

Tip over mode:

- Always ensure that there is sufficient clearance for the tailboard to hang without touching the ground and that there is a minimum of 8" (200mm) spare, this will allow for suspension compression as the load moves rearwards.
- If a tow bar has been fitted ensure that it had been installed with a Tailboard Protector to prevent the tailboard from jamming on the tow bar/ball/clevis, if Tailboard Protector is not installed the tailboard may be crushed, possibly causing significant damage to the body.

Location:
The tailboard is mounted at the rear of the body, located by four latches/pivots. Two positioned on the upper edge of the board, and two located on the lower edge. The control handles for the upper latches are integral with the latch. The lower latch is remotely operated by a yellow handle mounted below the tipper bed to the offside rear, behind the rear wheel fender.

Purpose:

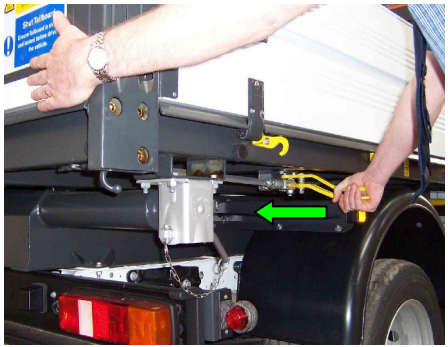
- To safely discharge the payload from the rear aperture of the body, created by unlatching either the top or bottom latches. To provide primary restraint for fluid loads only. All loose loads should be restrained using the load lashing rings provided on the tipper bed. The tailboard is not designed to prevent un-restrained loose loads from penetrating or bursting the tailboard.

Dual mode Tailboard continued

Use – Tip-Thru mode: -

To open:

- Locate the yellow remote operating handles, squeeze together and pull outwards and forwards in an arc until they stop.



To close:

- Brush down the lower edge and outer vertical edges of the body to ensure the tailboard can close without jamming.
- Push the tailboard closed by placing the palm of your hand to the centre of the board.
  Holding the tailboard closed with one hand, return the remote release levers to their shut position.
- Check lower remote release handle is locked.

Dual mode Tailboard continued

Use - Tip-over mode:

To open:

- Hold the top of the tailboard with one hand, with the other hand use an index or forefinger to release the latch, by first pulling up to approximately 90 degrees from the vertical.
- Using the palm of your hand push up on the handle until it is almost vertical and the latch is released.
- Repeat this action for the other latch. Maintain pressure on the tailboard with both hands until it is safe to lower the tailboard gently.

To close:

- Brush away debris from the tailboard, specifically the edges and two upper latch pins. Clear the vertical edges of the body corners and horizontal rear edge of the tipper bed.
- Grab the lower edge of the tailboard with both hands and rotate upwards to its closed position.
- Return the latches to their closed position by pushing down on the handle with the palm of one hand and supporting the weight of your body with the other against the tailboard, rotate the handle until it is parallel with the vertical face of the rear corner pillar.

Sideboards

Description:
The sideboards are made from tough lightweight extruded aluminium held in place by two latches per side, locking the sideboard to the headboard and the rear corner pillars.

Location:
Near and offside of vehicle.

Purpose:
To provide primary restraint for fluid loads, secondary restraint for loose loads. All loose loads should be restrained using the load lashing rings provided in the floor. Sideboards are not designed to prevent un-restrained loose loads from penetrating or bursting the sideboards.

Use:
Sideboards can be lowered to aid the manual or mechanical loading of non-fluid material.

To release sideboard:

1. Remove sheeting if the load is sheeted, remove or tie-off tarpaulin safely.

2. Visually check that the load is not exerting a force on the sideboard.

Sideboards continued

3. Hold the top of the sideboard with one hand, with the other hand use an index or forefinger to release the latch, by first pulling up to approximately 90 degrees from the vertical, using the palm of your hand push up on the handle until it is almost vertical and the latch is released. Repeat the procedure for the latch located at the opposite end of the sideboard. Maintain pressure on the sideboard with both hands until it is safe to lower the sideboard gently.

To close sideboard:

- Brush away all debris between the sideboard and the edge of the tipper bed, including the vertical faces at the headboard and rear corner pillar. If any resistance to closing the board is felt, lower the board and remove the debris that is jamming the board – do not force it closed.

Sideboards continued

- Lift the sideboard and rotate it until shut.
- Holding the top of the board with one hand, grasp one latch in the palm of the hand and push the latch handle home. Repeat for other latch.

- Grasp sideboard by the top edge and pull to ensure the sideboard is secure.
- Ensure both latch handles are fully home and flush with corner posts.

Tipping - General

WARNING
Tipping is a potentially hazardous operation. Ensure all other sections of this manual are fully understood and full familiarisation of the Controls have been achieved before attempting to tip a load.

Common Procedures for Rear and Side Tipping:

The following procedures are common to both methods of operation that must be observed before, during and after the Tipping operation.

Before Tipping: -

- Apply handbrake.
- Switch on hazard warning lights.
- Establish that the ground bearing the weight of the vehicle is level and is firm enough to support the weight of the vehicle. (Maximum gradient 5%). Avoid wet or waterlogged clay, soil or sandy terrains. If available, have someone direct you to the required position taking the precautions identified above.
- Check that the area surrounding the vehicle is free from personnel, equipment and livestock, except for an assistant specifically tasked to guide you to the area where the load is to be tipped. Health and Safety (Safety Signs & Signals Regulations 1996) guidelines on verbal or hand communication must be observed.
- Ensure the area surrounding the vehicle is suitably illuminated. (Night operation)
- Check overhead clearance for overhead cables and power lines, abort tip or reposition vehicle if there are any overhead cables within the vicinity.
- Check that the pivot pins are fitted and correctly configured.

Before Tipping continued

- If the load is sheeted, loosen the sheeting; roll back to the headboard and tie-off.
- Remove load restraints if fitted.
- Now continue with the tipping operation, rear or side, as described in the following sections:
    - Rear Tipping
    - Side Tipping

During the Tipping operation: -

- Be vigilant and observe the operation closely.
- Never try and shake a stuck load free, lower the body fully to manually remove all or part of load with a shovel.
- Do not restart tipping until all personnel are clear from the vehicle.

After the load has been Tipped: -

- Clean the tipper bed with a broom to clear the floor of debris maintaining the smooth surface, essential in allowing the load to slip when tipping.
- Brush off the body edges and generally clean around the bodyside and / or tailboard apertures to ensure the side and tailboard can be closed without jamming.
- If used on muddy/dirty sites, always wash down wheels, rear taillights, license plate and lamps before joining the public highway. A potential traffic offence will be created if the vehicle is driven with obscured lights or license plate.
- Perform a visual check for damage.
- Re-apply sheeting (if fitted) or fold, roll and store until required.
- Switch off hazard warning lights.
- Turn the Isolation Switch OFF.

Rear Tipping:

This is the most common method of tipping the payload. It benefits from being fast and convenient taking full advantage of the dual mode tip-thru/tip-over tailboard.

Method:

- Reverse vehicle to the position where you want to tip the load.
- Ensure the Pivot Pins are located in the two rear sockets. If the Pivot Pins are missing **do not** attempt any tipping operations. Replacement pins can be obtained from VFS (Southampton) Ltd.
- Establish which tailboard mode to be used, refer to the Controls section of this handbook, ensure there is no load pressing against the tailboard.

Tip-Over or Bottom Hinged mode: -
Hold the tailboard firmly with one hand and release the upper tailboard latches.
Lower the tailboard gently to the hung position.

Tip-Thru or Top Hinged mode: -
Release the lower latch lever, remotely positioned to the offside rear of the body.

WARNING
Do not open the lower tailboard latch and the upper tailboard latches at the same time. The tailboard will fall away from the rear of the vehicle causing possible injury. Use only the appropriate latch for the tailboard mode required, refer to the 'Controls' section of this handbook for further information.

Rear Tipping continued

WARNING: At any time, all functions can be ceased by pressing the EMERGENCY STOP BUTTON.

- Turn the Isolation Switch to the ‘ON’ position.
- Energise the system by pressing the ‘ON’ button.
- Control the tip using the Pendant Wanderlead as described in the controls section of this manual.
- Ideally a visible assistant should be made available to indicate progress of the load being tipped.
- Raise the body to the required height to either tip part of, or the entire load. The body will automatically stop tipping when the ram is fully extended.
- Lower the body until the warning sounder ceases.
- If the tip-thru function has been used it is essential that the lower latch jaws are brushed clean to ensure that the latch doesn't become jammed open by debris.
- Close the tailboard observing the precautions outlined in the 'Controls' section, ensuring that it is securely locked. Use a combination of a visual check around the lower latch jaws if the tip-thru mode has been used, and a physical tug on the tailboard to check that they are fully home and locked. Ensure the tailboard release handles are in the locked position.

Rear Tipping continued

Before driving the vehicle, ensure: -

- Body is fully lowered.
- Isolation Switch is turned OFF.
- Tailboard is securely latched.
- Rear wheels are clear of any tipped material.
- Pendant Wanderlead is un-plugged and stowed.
- Rear cross-member, tail-lights, and registration plate are cleared of any tipped material.
- All precautions detailed in 'Controls' are observed.

LOW VOLTAGE WARNING

The internal Cab Warning Buzzer will sound at a rapid intermittent rate after switching the system ‘ON’ if the Auxiliary battery voltage is too low for tipping to commence. If this occurs, ensure handbrake has been engaged then start the engine. Continue to idle the engine for the duration of tipping operations. Normal driving of the vehicle after tipping operation will automatically charge the auxiliary battery.

Side Tipping:

The load can be tipped to either the nearside or offside using similar principles used for rear tipping, however there are a number of important points that must be observed before attempting to side tip.

Method:

- If the Pivot Pins are missing **do not** attempt any tipping operations. Replacement pins can be obtained from VFS (Southampton) Ltd.
- Position the configuration bar to reflect the direction in which you wish to tip, pull or push the bar to the offside for a nearside tip, to the nearside for an offside tip. Refer to the 'Controls' section for more detail.
- Re-fit the pivot pins so that both pins are located on the side of the vehicle that you wish to tip the load i.e. Tip to the nearside – both pins in the nearside sockets. Tip to the offside – both pins are located in the offside sockets. Refer to the 'Controls' section for more detail.
- Lower the sideboard on the side in which direction you wish to tip. Ensure there is no pressure on the sideboard from the payload before attempting to open, open one latch at a time maintaining one hand firmly on the sideboard whilst unlocking the latches.
- Lower the sideboard gently ensuring that there is sufficient clearance between it and the ground.
- Specific length Sideboard Retaining Chains, supplied with the vehicle, can be employed to retain sideboards in the’ 90 degree open’ position. There use will ensure load to be tipped clear of vehicle wheels, thus ensuring a clear path for drive-away after tipping.

Side Tipping continued

- If Sideboard Retaining Chains are to be used, ensure they are securely clipped in place on sideboard eyelets and into retaining bracket eyelets on corresponding corner posts at both ends of board. **Do not** attempt to use only one chain for this operation.

- Proceed to tip using the Pendant Wanderlead in the same manner as described for rear tipping.
- Once the operation is complete, good practice dictates that the Pivot Pins are returned to the rearmost corner sockets. Sideboard Retaining Chains can be unclipped and stored in the glove box if required.

Before driving the vehicle, ensure:

- Body is fully lowered and Isolation Switch is turned OFF.
- Pivot Pins are returned to the rear corner sockets.
- Sideboard is securely latched.
- Rear wheels are clear of any tipped material.
- Pendant Wanderlead is un-plugged and stowed.
- All precautions detailed in 'Controls' are observed.

Driver Checks and Maintenance Items:

It is imperative that the recommended Driver Checks and Maintenance be carried out to ensure the safe and efficient operation of the Tipper.

The driver, regardless of ownership of the vehicle must perform the following checks and vehicle maintenance.
If the driver does not own the vehicle, the owner of the vehicle must satisfy himself or herself that the driver to whom the vehicle has been allocated will carry out these essential checks.
The driver must be made aware of their responsibilities to read and understand the INSTRUCTION MANUAL including the Daily, Weekly and Monthly Maintenance.

Daily checks - before use:

- Check Instruction Manual is complete and located in a safe position within the cab.
- Check that Pivot Pins are securely located in the rear corner sockets. Ensure that they are properly located with the handle facing down and the security pin fastened. If any are damaged or missing, do not use until replacement parts have been fitted.
- Check tipper load deck for damage, clean and remove any material that has stuck to it, ensure the surface is smooth and free from debris that may snag loads.
- Check hydraulic lines for signs of fluid leaks.
- Check security of all side and tailboard latches.
- Check tailboard lower latch mechanism is free from debris and functions correctly.
- Check all safety signs are present, and ensure they are legible and not damaged.
- Check rear lights and license plate to ensure any site debris or mud thrown up from the rear wheels has not obscured them.
- Check tailboard is shut and that remote handles are in their locked position.

Weekly checks:

- Check hydraulic reservoir oil level and top up if required with hydraulic oil ISO 32.
- Check electrical cable fixings and ensure that no chaffing has occurred.
- Check operation of warning buzzers and LED.
- Check condition of Pivot Pins and security chain and clip – replace if worn or damaged.
- Check the tailboard remote handles (yellow) close securely without free-play.

Monthly maintenance checks:

- Inspect and grease tailboard upper latches with general-purpose grease.
- Inspect and grease sideboard latches with general-purpose grease.
- Inspect and grease tailboard lower latch mechanism including remote operating (yellow) handle bearing with general-purpose grease.
- Check the black semi-circular nylon bearing is present in the base of each corner socket. This bearing is self-lubricating and does not require any grease. Keep the bearing and corresponding ball clean and free from grit or debris.

WARNING

Any maintenance carried out on the electric/hydraulic systems, must only be performed when the body is propped and the Isolation Switch set to OFF. The body will lower without warning in an uncontrolled manner, if hydraulic pressure is lost i.e. the hydraulic hose splits or a union is loosened.

Specified torque figures

Description	Torque Value (Nm)
Tipper sub-frame to vehicle chassis fixings.	45
Rear corner pillar mounting fixings.	125
Headboard securing fixings.	125
Ball housing fixings.	45
Rear bolster fixings (optional part)	25
Fender mounting bracket fixings	25
Side marker lamp mounting bracket fixings (double cab only)	25

Fault Finding

	Problem	Possible Causes	Corrective Action
1.	Rapid Beeping from internal warning buzzer when switching system on.	a) Auxiliary Battery voltage low.	a) Switch on and run engine or charge Auxiliary Battery
2.	The Tipper fails to operate.	a) Chassis mounted isolation switch, switched OFF. b) No electrical power (1). c) No electrical power (2). d) No electrical power (3). e) Stroke end switch defective. f) Insufficient hydraulic oil in the reservoir. g) Electric drive motor defective.	a) Switch ON isolation switch. b) Check fuse under driver's seat (150A). c) Check the Control Circuit fuse 5.0A within battery compartment. d) Check all electrical connections and cables. e) Replace stroke end switch. f) Fill the reservoir to the correct level. g) Replace the drive motor/pump unit.
3.	The electric drive motor runs but the Tipper fails to rise.	a) Tipper overloaded. b) Hydraulic pump defective.	a) Reduce load. b) Replace the drive motor/pump unit.

Fault finding continued

	Problem	Possible Causes	Corrective Action
4.	Hydraulic oil sprays from the reservoir when the Tipper is lowered.	a) Reservoir over filled. b) Reservoir punctured.	a) Fill reservoir to the correct level. b) Replace reservoir.
5.	Chassis mounted buzzer fails to operate.	a) Buzzer defective. b) No electrical power.	a) Replace buzzer. b) See items a - d in 2 above.
6.	The Tipper lowers when the hydraulic pump stops.	a) Defective non-return valve. b) Defective pressure release valve. c) Hydraulic oil leak.	a) Replace non-return valve. b) Replace pressure release valve. c) Inspect hydraulic system, replace parts as required.
7.	Tipper only rises partially.	a) Vehicle not on level ground. b) Tipper loaded unevenly. c) Insufficient oil in the reservoir. d) Pressure relief valve defective.	a) Move Tipper to level ground. b) Redistribute the load. c) Fill reservoir to the correct level. d) Replace pressure relief valve.
8.	Tipper fails to lower.	a) Lowering Solenoid defective. b) Lowering Solenoid hydraulic valve defective. c) Body fully lowered switch defective.	a) Replace solenoid. b) Replace solenoid valve. c) Replace switch.

Record of Repair and Servicing

Date	Nature of Repair	Carried Out By

Record of Repair and Servicing

Date	Nature of Repair	Carried Out By

Spare Parts Contact Details

Tipper spare parts are available from:

VFS (Southampton) Ltd.
Unit 8
Barton Park Industrial Estate
Chickenhall Lane
Eastleigh
SO50 6RR
☎Phone 023 8065 1704
☎Fax 023 8062 0999
Email: parts@vfs.co.uk

Your Total 'One Stop' Solution Provider For Vehicle Conversions

EC Declaration of Conformity

In accordance with BS EN ISO 17050-1:2004.

We	VFS (Southampton) Ltd.
of	Unit 8 Barton Park Industrial Estate, Chickenhall Lane, Eastleigh, Hampshire, SO50 6RR, UK

declare that:

Equipment	Ford Transit Chassis Cab installed with a Tipping Body
Serial Number	
Model Number	
Chassis Number	

is in accordance with the following Directive(s):

2006/42/EC	Machinery Directive
2009/19/EC	Electromagnetic Compatibility Directive and its amending directives

and has been designed and manufactured to the following specifications:

UNI 10692 (May 1998): Road Vehicles. Tipping equipment. Design criteria for safety prop, maintenance operations.

UNI 10693 (May 1998): Road Vehicles. Tipping equipment. Design criteria for manufacture and design of tipping equipment. (Annex TUV CV006/04 applies)

UNI 10694 (May 1998): Road Vehicles. Tipping equipment. Design criteria for multi-stage cylinder limit stop.

UNI 10695 (May 1998): Road Vehicles. Tipping equipment. Design criteria for the correct and safe operation of a multi-functional tipping body. (Annex TUV CV006/04 applies)

I hereby declare that the equipment named above has been designed to comply with the relevant sections of the above referenced specifications. The equipment complies with all applicable essential requirements of the Directives.

Signed by: ……..……..

Name:

Position:

CE10

Installed at: Eastleigh, Southampton

On:

VFS (Southampton) Limited Unit 8, Barton Park Industrial Estate, Chickenhall Lane, Eastleigh, Hants. SO50 6RR
T 023 8061 3612 F 023 8062 0999 E sales@vfs.co.uk W www.vfs.co.uk
Registered Office: Dukes Court, 32 Duke Street, St. James, London, SW1Y 6DF Registered No: 3059947