Supplementary Owner's Handbook
Ford **Transit** 1-Way Tipper

March 2010 on

 Part No: VFS01-11-778 issue 2
March 2010

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Introduction

ABOUT THIS HANDBOOK

This supplementary Owners Handbook must be referred to in addition to the standard Transit Owner's Handbook. Read and understand both manuals and familiarise yourself with the vehicle before operating the vehicle on the road.

Note: This handbook only details the features on the Transit 1-Way Tipper that are not covered in the standard Transit Owners Handbook, therefore it is imperative that this supplementary handbook is kept with the standard Transit Owner's Handbook.

Note: Always use and operate your vehicle in line with all applicable laws and regulations.

Note: Pass on this handbook when selling your vehicle; it is an integral part of the vehicle.

SYMBOLS GLOSSARY

Symbols in this handbook

WARNING

You risk death or serious injury to yourself and others if you do not follow the instructions highlighted by the warning symbol.

When you see this symbol, read and follow the relevant instructions in this handbook.

CAUTION

You risk damaging your vehicle if you do not follow the instructions highlighted by the caution symbol.

Introduction

PARTS AND ACCESSORIES

Spare parts and Accessories are available from: VFS (Southampton) Ltd,
Unit 8, Barton Park Industrial Estate, Chickenhall Lane, Eastleigh SO50 6RR

Tel: 023 8065 1704 • Fax: 023 8062 0999 • Email: parts@vfs.co.uk

Detailed information can be found in the Spare Parts and Accessories catalogue. All maintenance and repairs should be logged in the section provided within the Spare Parts and Accessories catalogue.

SAFETY FIRST!

WARNING

Tipping is a potentially hazardous operation. It is essential that all operators fully understand the procedures detailed in this handbook and are aware of the Tipper controls on the vehicle. Health and Safety legislation must be strictly applied. UK Construction & Use Regulations must be observed when operating the vehicle on the public highway.

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.

Introduction

WARRANTY

Full warranty exists on all parts and workmanship associated with the Tipper body conversion for 3-years / 100,000 miles. Warranty is only valid if the Tipper is operated in accordance with the Supplementary Owner's Handbook and current Road Traffic Act Legislation.

Warranty claims for parts associated with the Tipper body conversion should be made direct to VFS (Southampton) Ltd.

VFS (Southampton) Ltd.
Unit 8
Barton Park Industrial Estate
Chickenhall lane
Eastleigh
Hants
SO50 6RR

Tel: 023 8065 1704
Fax: 023 8062 0999
Email: parts@vfs.co.uk

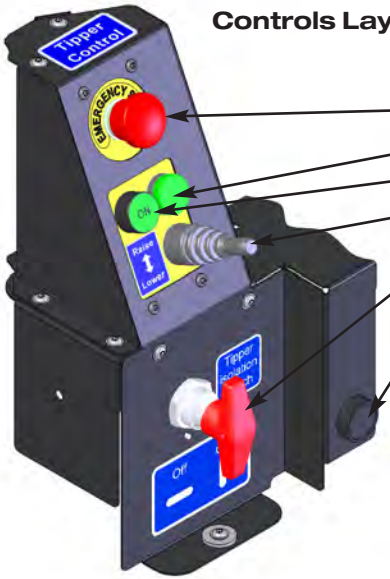
QUICK START

This quick start guide is intended to refresh operators of the control layout, operation and loading of the vehicle only after the entire handbook has been read and understood.

WARNING

Tipping is a potentially hazardous operation. Ensure full familiarisation of all Controls has been achieved in addition to reading and understanding this manual before attempting to operate this vehicle. If in any doubt do not attempt to operate the Tipper.

Controls Layout – In-Cab

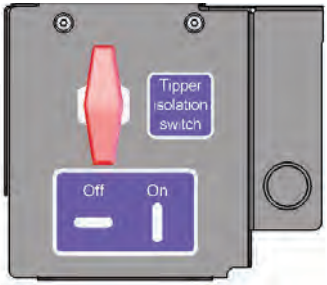


Tipper Control Module:

- Emergency stop button
- Power indicator lamp
- Power on switch
- Raise/lower joystick
- On/Off isolation Switch
- Audible warning buzzer

Isolation Switch

- On/Off

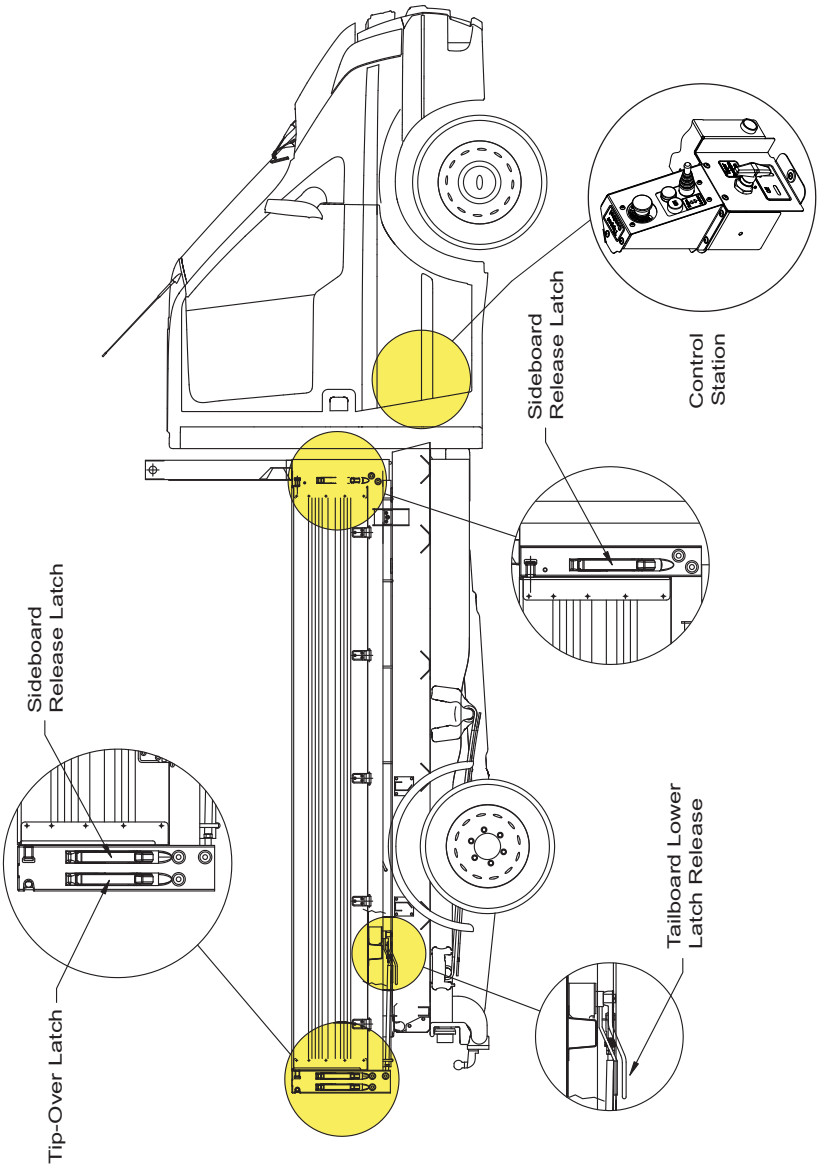


Wander lead Socket (optional)

- Used to connect remote pendant wander lead handset

QUICK START

Controls Layout - Body



QUICK START

Loading The Tipper

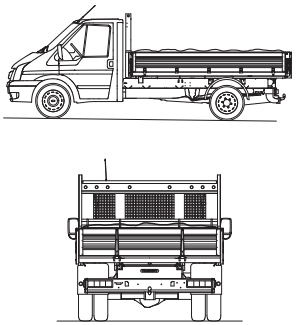
WARNING

Ensure the load is uniformly distributed across the Tipper bed.

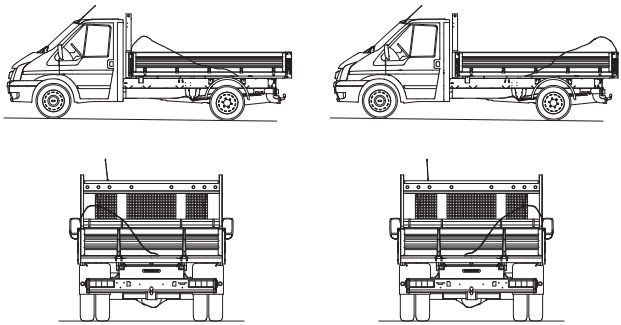
All loads must be secured and restrained before operating the vehicle on the public highway. Failure to adequately restrain the payload present a hazard to other road users and is in contravention of the UK Construction and Use Regulations.

Maximum gantry load – 250Kg

CORRECT LOAD DISTRIBUTION



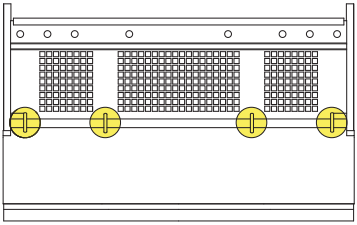
INCORRECT LOAD DISTRIBUTION

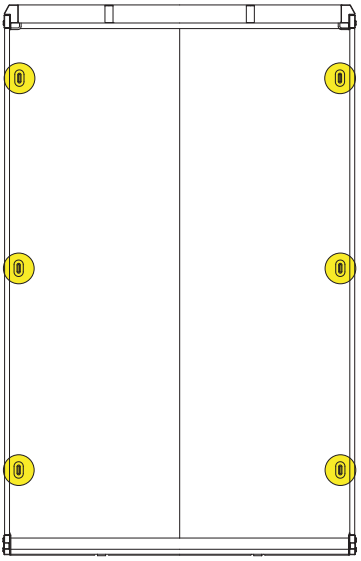


QUICK START

Load Retention – Load Anchorage Points

Used for non fluid loads. Always ensure that all items are secured before attempting to drive the vehicle. Do not tip with the items lashed down to the anchorage points.





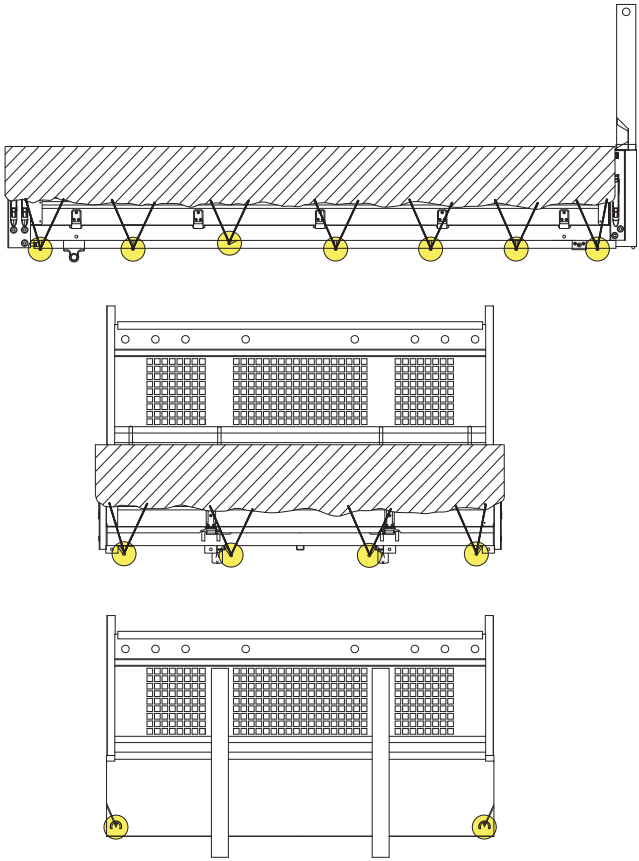
WARNING

400Kg maximum per load anchorage point. Do not exceed the maximum Gross Vehicle Mass (GVM) or individual front and rear axle capacities. Refer to the Vehicle identification section in the Ford Transit Owner's Handbook.

QUICK START

Load Sheeting – Sheeting Hooks

It is recommended that all 'Fluid' loads for example Sand, Gravel, Soil, Wood Chippings etc, are sheeted to prevent a hazard to other road users.



WARNING

Sheeting hooks and Gantry lashing eyes are rated at 25Kg maximum each. Do not use sheeting hooks to anchor loads.

QUICK START

Rear Tailboard configuration – establish correct mode before attempting to tip:-

Dependent upon the type of load being tipped the dual mode tailboard can be configured to open in one of two ways:-

1) Top Hinged (Tip-Thru) – best suited for 'Fluid' loads such as sand, gravel, crushed concrete, type 1 aggregate, soil, wood shavings etc.

2) Bottom Hinged (Tip-Over) – best suited for loads consisting of one or more large individual items for example logs, tree cuttings, white goods, furniture etc.

If in doubt, use the Bottom Hinged mode.

WARNING

Bottom Hinged mode - Always ensure sufficient clearance for the tailboard to hang without touching the ground, a minimum of 12" (300mm) is recommended with the tailboard in the lowered condition - body fully laden and in the lowered position.
If a tow bar has been fitted, ensure that the tailboard has been fitted with a protective guide (see Towing) to prevent it from jamming on the tow hitch. If a guide is not installed the tailboard may be damaged.

Bottom Hinged mode – Vehicle rear lights and hazard lights will be obscured, always deploy additional warnings to other road users and minimise the amount of time the board is lowered, return board to the shut position immediately after the tip is completed.

QUICK START

Tipping

Preparation:

- Apply handbrake and switch on hazard warning lights.
- Ensure the ground bearing the weight of the vehicle is level and is firm.
- 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 guidelines on verbal or visual 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.

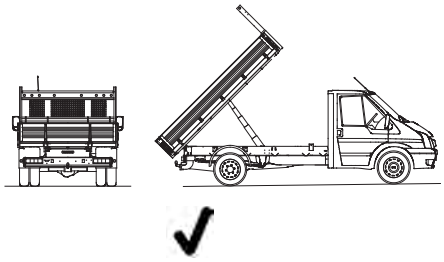
Operation:

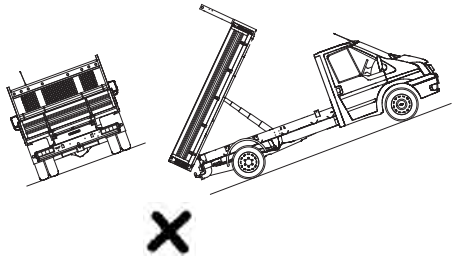
To raise:-

- Open the tailboard.
- Switch the Tipper Isolation Switch to the 'ON' position.
- Control the tip using the Tipper Control as described in the Tipper Controls section of this manual.
- Lift the joystick to raise the body to the required height to either tip part or the entire load. The body will automatically stop tipping when the ram is fully extended. The tipping can be stopped at any time by releasing the joy stick. A buzzer will sound when the joy stick is lifted.

To lower:-

- Press the joystick downwards to lower the body. Keep depressed until the warning sounder ceases.
- Close the tailboard ensuring that it is securely locked.
- Switch the Tipper Isolation Switch to the 'OFF' position.





Tipper Controls

Dual Mode Tailboard: Tip-thru/Tip-over

CAUTION

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

WARNINGS

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

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

- 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).

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.

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 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.
- To provide restraint for fluid loads only. All loose loads must be restrained using the load lashing rings provided. The tailboard is not designed to prevent un-restrained loads from penetrating or bursting the tailboard.

Tipper Controls

Top-Hinged or Tip-Thru:

Recommended for 'Fluid' loads:-

- Sand
- Gravel
- Crushed concrete
- Type 1 aggregate
- Dry topsoil
- Wood shavings

Bottom-Hinged or Tip-Over:

Recommended for loads consisting of one or more large individual items:-

- Logs
- Tree cuttings
- Clay
- White goods
- Furniture

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

WARNINGS

Top Hinged / 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 clear the obstruction. Do not continue to tip when a jam occurs.

Bottom Hinged / Tip-over mode:
Always ensure that there is sufficient clearance for the tailboard to hang without touching the ground, a minimum of 12" (300mm) is recommended with the Tailboard in the lowered condition – body fully laden and in the lowered position.
If a tow bar has been fitted, ensure that the tailboard has been fitted with a protective guide (see Towing) to prevent it from jamming on the tow hitch. If a guide is not installed the tailboard may be damaged.

Tipper Controls

Dual Mode Tailboard continued...

Use: Tip-Thru mode:

To open tailboard:

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

To close tailboard:

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

Tipper Controls

Use: Tip-over mode:

To open tailboard:

- Push against the top of the tailboard with one hand, with the other hand use an index finger 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 action for the other latch. Maintain pressure on the tailboard until it is safe to lower gently.

To close tailboard:

- Brush away debris from the tailboard, specifically the edges and two upper latch pins. Clear the vertical edges of the body corner 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 tailboard with the other. Maintaining pressure on the tailboard repeat for 2nd latch.
- Grasp tailboard by the top edge and pull to ensure it is secure.

Tipper Controls

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 rear corner pillars.

Location:

Near and offside of vehicle.

Purpose:

To provide restraint for fluid loads only. All loose loads should be restrained using the load lashing rings provided. The 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 / unloading of non-fluid material.

To open sideboard:

- Remove sheeting if the load is sheeted, remove or tie-off tarpaulin safely.
- Visually check that the load is not exerting a force on the sideboard.
- Push against the top of the sideboard with one hand, with the other hand use an index finger 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 action for the other latch. Maintain pressure on the sideboard until it is safe to lower gently.

Tipper Controls

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 – do not force it closed.
- 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.

Tipper Controls

Tipper Control Station

Description:

The station provides all the controls necessary to operate the tipper functions into one consolidated location. The following controls are located in this station.

- Power on button
- Power indicator lamp
- Raise/lower joystick control
- Emergency stop button
- Isolation switch

Location:

The Tipper Control Station is to the right of the drivers seat base. Adjacent to the cab offside rear corner pillar.

Purpose:

The Tipper Control Station enables the operator to control all functions of the Tipper from the drivers seat, Power up the system, Raise and lower, Emergency stop and Isolate.

Note: An optional remote hand held pendant control is available for operation outside the cab, either as original equipment or a retro fit kit.

Use: Operation procedure:-

To perform tipping operations follow the instructions below:

Energise System...

- Park the vehicle and apply handbrake.
- Turn isolation switch to 'ON' position.
- Switch on the Tipper Control system by pressing green 'ON' button. Green 'system energised' light adjacent to switch will illuminate.

Note: If you release the handbrake after pressing green 'ON' button a warning will sound and green 'system energised' light will extinguish and Tipping will no longer be possible. Re-apply handbrake and re-set 'ON' button

Tipper Controls

Isolation Switch

WARNING

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

Description:

The Tipper Isolation Switch isolates the tipping gear powerpack from the vehicle electrical supply, preventing the system from operating, also providing a safe condition for vehicle maintenance.

Location:

The switch is located on the right of the drivers seat base. Adjacent to the cab offside rear corner pillar.

Purpose:

To safely isolate the tipping gear electro hydraulic systems when the vehicle is being driven or for service, maintenance and repair operations.

Use:

- Only switch 'ON' immediately prior to the tipping operation.
- Do not drive the vehicle with the switch in the 'ON' position, stop immediately when safe to do so and turn switch to 'OFF' position.
- Under all circumstances, other than the tip operation itself, the isolation switch must always be set to the 'OFF' position.

Tipper Controls

To Raise Body...

- Release Tailboard. (Refer to pages 13-15)
- Lift Joystick to raise body. The external sounder will operate when body is raising, continue lifting Joystick until body is fully raised or load is deployed
- Release Joystick at any time whilst body is raising to stop tipping

To lower body...

- Press Joystick downwards to lower body. The external sounder will operate with a different tone when lowering. Continue pressing Joystick downwards until body if fully lowered.
- Release Joystick at any time whilst body lowering.

Note: External sounder will cease operating when body is fully down and locked.

Emergency Stop...

- At any time, pressing the Emergency Stop Button will cease all Tipper functions.
- Ensure it is safe to proceed before releasing emergency stop button. Twist it clockwise, then re-set power 'ON' switch.

Note: Subject to battery charge it may be necessary to run engine to operate Tipper.

Tipper Controls

Emergency Stop Switch

Description:

The Emergency Stop Button ceases all Tipper operations

Location:

The Emergency Stop Button is located on the upper front face of the Tipper Control Station.

Purpose:

To deactivate all tipper functions in an emergency.

To Activate:

Press with finger or palm of hand. The button will lock down with the four indicator lenses changing from green to red.

To Release:

Rotate clockwise and allow button to spring out, the indicator lenses will change to green after releasing.

Tipper Controls

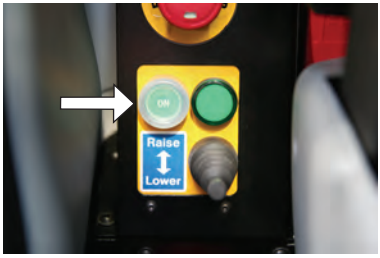
Power 'ON' / Reset Button

Description:

The power 'ON' Reset button switches the control system to an 'active' state.

Location:

The power 'ON' Reset button is located on the front face of the Tipper Control Station below the Emergency Stop Switch



Purpose:

To energise control system in readiness for tipping operations to begin or continue. In addition the button will reactivate the system after an emergency stop or if the hand brake is released during tipping.

To Activate:

Press in with finger.
NOTE: System will only be activated with Isolator switch on and Handbrake applied.

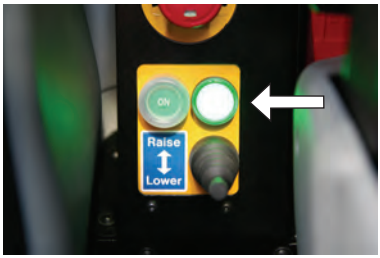
Green System Energised Lamp

Description:

The Green System Energised lamp indicates control system is in an 'active' state.

Location:

The Green System Energised lamp is located on the front face of the Tipper Control Station adjacent to the Set 'ON' Reset button



Purpose:

To indicate control system is ready for tipping operations to begin or continue.

Tipper Controls

Warning Buzzers

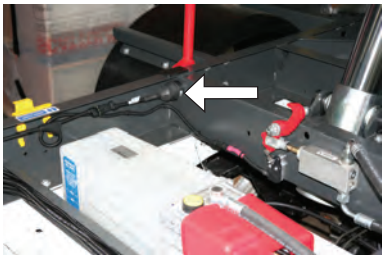
Description:

The Warning Buzzers provide an audible warning when the Tipper is being raised or lowered. The warning buzzers also warn of the following:

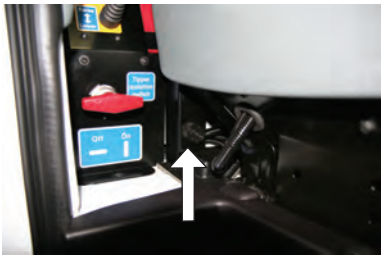
- The Handbrake has been released with the Isolator switched on.
- The Hydraulic Body Latch has not engaged correctly.
- The Auxiliary Battery voltage level is too low for Tipping.

Location:

The 'External Buzzer is located on the right hand side of the Tipper subframe



The 'Internal' Buzzer is located on the Control Station adjacent to the drivers seat



Purpose:

External Warning Buzzer: -

The External Warning Buzzer sounds continuously as the Tipper is raised and intermittently when lowered. It will continue until the Tipper is fully lowered and locked down.
If the External Warning Buzzer continues with an intermittent sound when the body is fully lowered, the hydraulic body latch will not have correctly 'latched' to the underside of the body.
Refer to the Maintenance section to check the correct operation of the Latch.

WARNING

Do not drive vehicle if warning buzzer fails to mute after body has lowered.

Tipper Controls

Internal Warning Buzzer: -

The Internal Cab Warning Buzzer sounds intermittently to advise the operator that the handbrake is not engaged or has been released during the tipping operation, or the vehicle is being driven with the isolation switch 'on'.

The internal Cab Warning Buzzer will also 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 the tipping operation will automatically charge the Tipper auxiliary battery.

If only short journeys are anticipated or driving with a high electrical loading (heater, headlamps, wipers etc.) it is advised to trickle charge the battery to return it to its fully charged state.

Use:

The warning sounders function automatically.

WARNING

If a warning sounder does not operate during normal tipping functions, stop immediately and refer to the fault diagnosis section.

Body Prop

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.

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 mechanically support the body in a raised position.

Use:

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

WARNING

Never Stand or Work underneath an un-propped body.

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.

Body Prop

How to deploy the Body Prop:

- Park the vehicle on a firm level surface and apply the handbrake.
- Raise the Tipper bed.

- 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 within the yellow prop location socket.
- Turn the Tipper Isolation Switch to the 'OFF' position.
- Remove the keys from the vehicle ignition.

Tipper Controls

Manual Lowering Valve

Description:
The Manual Lowering Valve provides a method of lowering the Tipper body in the event of an electrical or mechanical component failure.

Location:
The Valve is located on the underside of the hydraulic power pack.

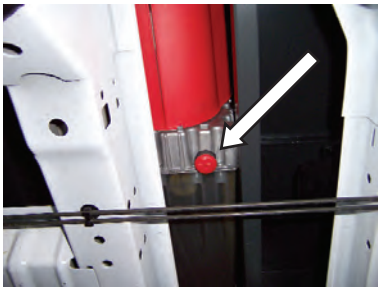
Purpose:
To provide a safe means to lower the Tipper body when stuck in a raised position.

Use:
The Lowering Valve should only be used when the Tipper body is stuck in the raised position and cannot be lowered using the Tipper Control Station.

WARNING

Ensure all personnel are clear of the vehicle before lowering the body. The Manual Lowering Valve must only be operated from underneath the vehicle.

Operating the manual lowering valve:



- Ensure the vehicle is on a firm level surface with the handbrake applied.
- Remove the keys from the vehicle ignition.
- Turn the Tipper isolation switch to the 'OFF' position.
- Working from underneath the vehicle only, identify the manual lowering valve, red button on the underside of the hydraulic power pack.
- Depressing the red button will lower the body; keep depressed to lower the body fully. Note warning buzzers will not sound when the body is lowering.
- Check the body is stowed, close the tailboard and ensure that is securely locked.

Load Carrying

General Information

WARNING

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.) – must only be placed on the load bed.
- Machinery
- White goods
- Furniture

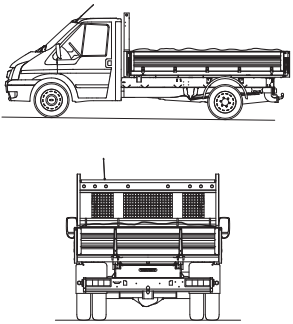
Loading

- Prior to loading ensure that the Tipper is fully lowered.
- Check 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.
- Ensure that the load is uniformly distributed across the Tipper bed.
- Do not overhang plank or sheet material forward of the headboard.

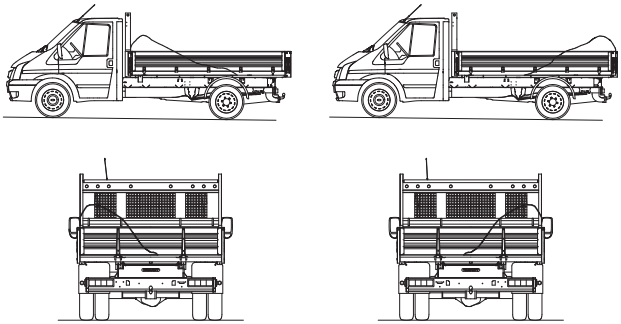
Load Carrying

Load Distribution

CORRECT LOAD DISTRIBUTION



INCORRECT LOAD DISTRIBUTION



Load Retention and Sheeting

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 the end of each body cross-bearer under the floor. 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 6mm Diameter) specifically designed for Commercial Vehicle use.

WARNING

Ensure the load is uniformly distributed across the Tipper bed.
Maximum gantry load – 250Kg

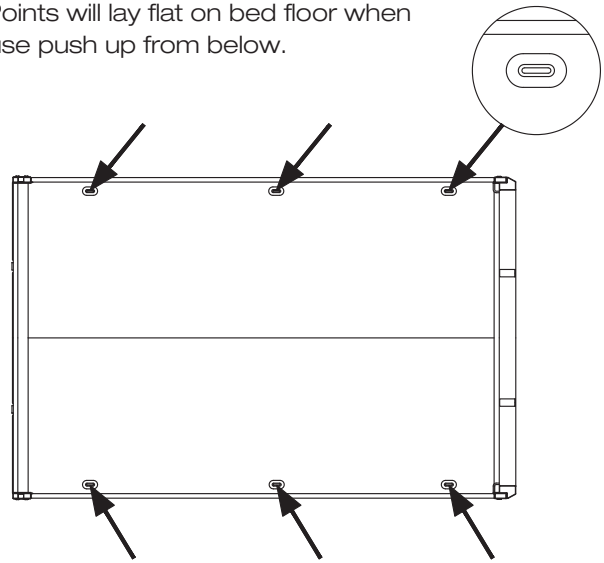
Load Retention and Sheeting

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.

Load Lashing Points will lay flat on bed floor when not in use. To use push up from below.



WARNING

Do not exceed the maximum front and rear axle loads for your vehicle. Refer to the Vehicle identification section in the Ford Transit Owner's Handbook.

Tipping

Tipping – General Practice

WARNING

Tipping is a potentially hazardous operation. It is essential that all operators fully understand the procedures detailed in this handbook and are aware of the Tipper controls on the vehicle. Health and Safety legislation must be strictly applied. UK Construction & Use Regulations must be observed when operating the vehicle on the public highway.

Common Procedures for Tipping:

The following procedures 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.
- 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.

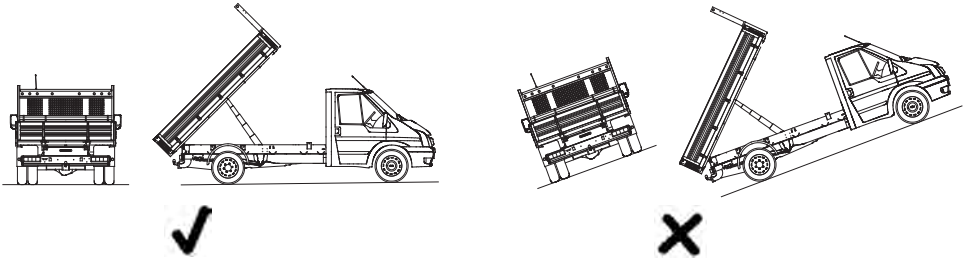
Tipping

During the Tipping operation: -

- Be vigilant and observe the operation closely.
- Never try to shake a stuck load free, lower body fully to manually remove all or part of the load. 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 tail-lights, license plate and lamps before joining the public highway. A potential traffic offence will be created it 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.



Tipping

Method:

- Reverse vehicle to the position where you want to tip the load.
- Establish which tailboard mode will 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: -

- Push against the top of the tailboard with one hand, with the other hand use an index finger 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 action for the other latch. Maintain pressure on the tailboard until it is safe to lower gently.

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.

At any time, pressing the EMERGENCY STOP BUTTON can cease all functions.

- Switch the Isolation Switch to the ‘ON’ position.
- Control the tip using the Tipper Controls 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 or the entire load. A buzzer will sound when the joy stick is lifted. The body will automatically stop tipping when the ram is fully extended. The tipping can be stopped at any time by releasing the joy stick.
- 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.

Before driving the vehicle, ensure: -

- The Isolation Switch is ‘OFF’.
- The body is fully lowered.
- The tailboard is securely latched.
- The rear wheels are clear of any tipped material.
- The rear cross-member, tail-lights, and registration plate are cleared of any tipped material.
- That all precautions detailed in 'Controls' are observed.

WARNING

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

Do not attempt to drive vehicle if any warning sounders are in operation

Maintenance

Driver Checks and Maintenance Items:

CAUTION

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

WARNING

Any maintenance carried out under the load bed must only be performed when the body is securely propped. Refer to the section Tipper Controls – Body Prop.

Only competent technical trained personnel should carry out maintenance involving adjustment or replacement of operating devices on this 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 Supplementary Tipper Handbook and carry out the essential Maintenance Checks in line with the maintenance procedure in this section.

Daily Driver Checks:

- Check the Instruction Manual is complete and located in a safe position within the cab.
- Check the 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 the security of all side and tailboard latches.
- Check the tailboard lower latch mechanism is free from debris and functions correctly.
- Check the rear lights and license plate to ensure any site debris or mud thrown up from the rear wheels has not obscured them.

Monthly Maintenance Checks:

- Check operation of warning buzzers and LED's.
- Check the hydraulic lines for signs of fluid leaks.
- Check all safety signs are present, and ensure they are legible and not damaged. (Refer to Spare Parts and Accessories catalogue for details)
- Inspect and grease tailboard & sideboard latches with general-purpose grease.
- Inspect tailboard lower latch mechanism and apply general-purpose grease to all mechanism linkage pivot points, including remote operating (yellow) handle bearing
- Ensure the tailboard can close securely without free-play.

Tailboard Lower Latch Mechanism grease points

Maintenance

Annual Maintenance Checks:

In addition to the Monthly Maintenance, the items detailed below should be checked and adjusted as necessary.

- Check the hydraulic reservoir oil level and top up if required with hydraulic oil ISO 32.
- Check the tailboard lower latch mechanism and adjust if necessary.
- Check all electrical cables and ensure that no chaffing has occurred.
- Check the Tipper subframe to chassis fixings.
- Check the rear corner pillar fixings.
- Check the headboard securing fixings.
- Check the fender mounting bracket fixings.
- Inspect the Tipper deck / subframe and associated components for damage. Replace or repair locally to maintain Tipper functionality and roadworthiness.

Specified Torque Figures

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

Checking the Hydraulic Oil Level

WARNING

Ensure body prop is correctly deployed before attempting to check the hydraulic reservoir oil level.

- Park the vehicle on a firm level surface and apply the handbrake.
- Raise the Tipper bed.
- 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 stops. Body Prop should be in location cup under bed floor.
- Turn the Tipper Isolation Switch to the 'OFF' position.
- Remove the keys from the vehicle ignition.
- Visually check the oil level against the Hydraulic Oil Level decal, or unscrew the oil filler cap and check the oil level on the integral dipstick. If required top up with hydraulic oil ISO 32.
- Replace the oil filler cap and lower the Tipper bed.

Oil level decal

Oil level dipstick

CAUTION

Do not top up further than the MAX mark.

An accurate reading can only be taken with body on prop.

Checking Hydraulic Body Latch operation:

WARNING

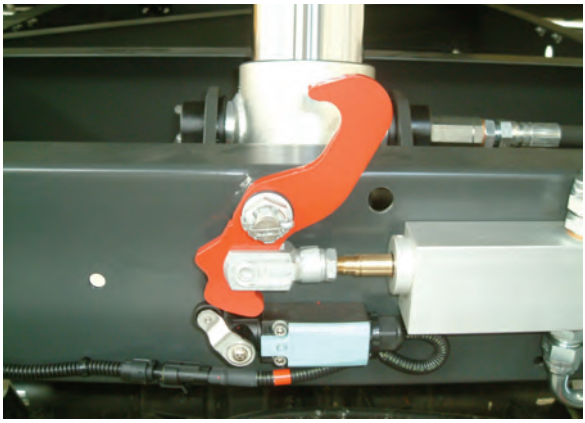
Do not enter area beneath bed whilst bed is raising or lowering. Observations should be made from outside area of bed.

The Hydraulic Body Latch is designed to prevent the load bed from being raised by any means other than correct operation of the Tipper control system. The Latch mounted on the Tipper subframe is hydraulically controlled to engage and disengage from its corresponding keeper on the underside of the bed.

Checking the Latch fully releases the load bed

- Park the vehicle on a firm level surface and apply the handbrake.
- Energise control system and operate joystick to lift the bed.

From outside the area of bed, observe that the actuating piston has extended from the latch operating cylinder and the latch finished in red has rotated approximately 45°, as shown in photo below.
The Limit Switch beneath the Latch will operate the external warning buzzer when the Latch releases the load bed.



Latch and external buzzer switch in the 'released' position

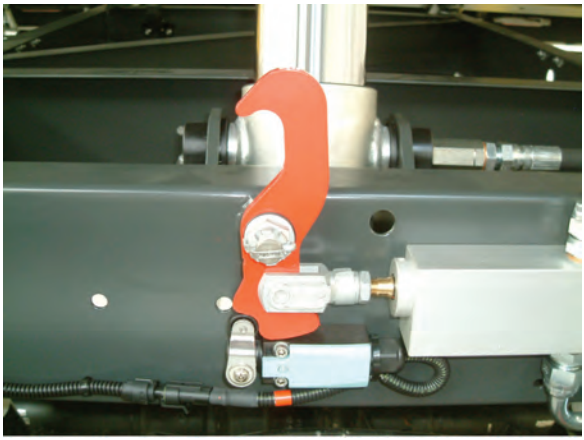
Checking the Latch fully returns after lowering bed.

- With body raised, deploy the body prop by pulling on the handle and rotate it until it stops.
- Lower the body until it stops. Body prop should be in location within cup on underside of bed floor.
- Remove keys from ignition.

With the load bed lowered onto the body prop, check that the actuating piston has retracted into the cylinder and that the Latch has returned to the vertical position shown in photo below.

The limit switch beneath the Latch should also have returned to the vertical, positioned within the detent on the cam at the base of the latch, see photo below.

The external warning buzzer should cease operating with the Latch in the 'Latched' position.



Latch and warning buzzer switch in the 'Latched' position

Checking the Latch has correctly engaged with the load bed from beneath vehicle.

Ensure the vehicle is parked and Handbrake applied with Ignition Key removed. From beneath the vehicle, check the latch has engaged with its Keeper on the underside of the bed.

The Latch must be in the vertical 'Latched' position with the Latch engaged over the Keeper, see photo below.

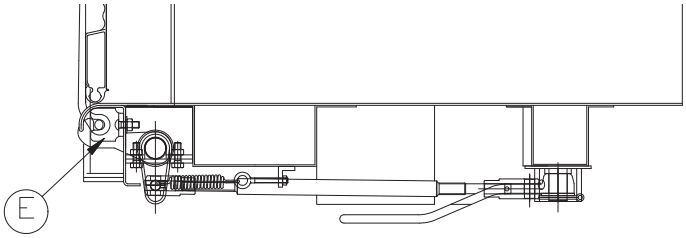
Latch correctly engaged over Keeper on underside of bed

Checking the Tailboard Lower Latch Mechanism

Adjustment of tailboard pivot brackets:

NOTE: A specialist tool is required to accurately check the opening torque of the tailboard mechanism. This is obtainable from VFS, tool part number VFS01-11-113A.

- Open the mechanism and ensure the tailboard-locking bar is in the open position.
- Position the tailboard pivot brackets so that the board can close, (E).
- Tighten all M8 set screws securing the tailboard pivot brackets to the bed.
- Cycle the release mechanism to ensure the tailboard releases freely from the profiles.



Adjustment of tailboard release levers and rod linkage assembly:

Note: The Tailboard must be mounted and shut.

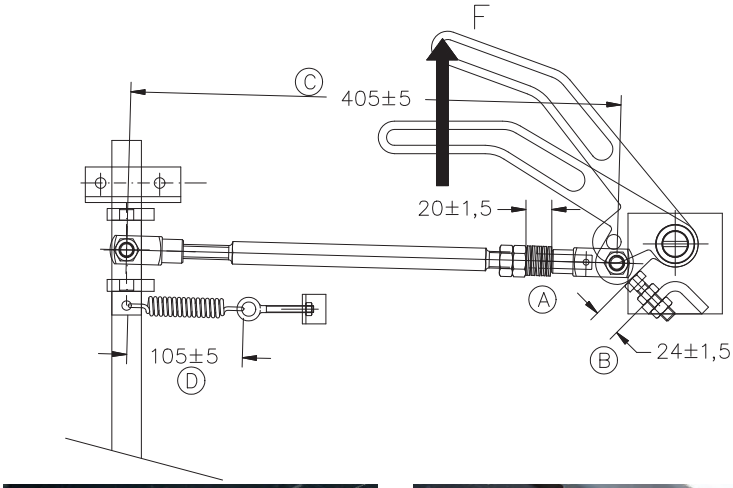
Using the specialist tool part number VFS01-11-113A Check opening torque for the tailboard release lever mechanism. Correct torque figure is between 17 and 25Nm.

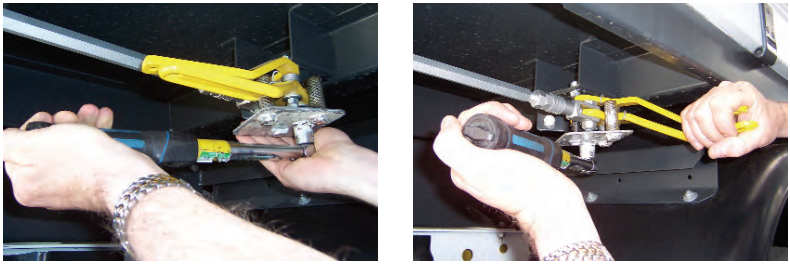
For the lower limit of 17Nm

- Adjust the torque wrench to 17Nm and locate on the tool bolt head (17mm socket).
- Position the three-legged tool on the manual latch handle so that the bolt head corresponds to the pivot point of the handle.
- Input torque on the wrench to move the handle to the open position.
- If the torque wrench ‘breaks’ the setting is correct.
- If the handle moves to the open position increase the compression on the ‘Belleville’ washers, one flat at a time on the adjusting nut, until the torque wrench ‘breaks’.

For the upper limit of 25Nm:

- Adjust torque wrench to 25Nm and locate onto tool bolt head (17mm socket).
- Locate the three-legged tool on the Manual Latch handle so that the bolt head corresponds to the pivot point of the handle.
- Input torque on the wrench to move the handle to the open position.
- If the handle moves to the open position without the torque wrench 'breaking' the setting is correct.
- If the torque wrench 'breaks' ease the compression on the 'Belleville' washers, one flat at a time on the adjusting nut, until the handle moves to the open position without the torque wrench 'breaking'.
- After final adjustment check / repeat procedure.





Checking opening torque with specialist tool VFS01-11-113A

Fuses and Fuse Locations

The Tipper electrical system is protected by 2 fuses.

Primary Fuse:

The Primary Fuse is located inside the driver's seat pedestal. This fuse is a 150A mega type and attached to the positive battery terminal.

Control Circuit Fuse:

The Control Circuit Fuse is located inside the drivers seat pedestal. The fuse is a 5A blade type and is located at the rear of the primary battery within the battery compartment.

Electrical

Fuse Replacement

WARNING

Do not modify the electrical system of your vehicle in any way. Have repairs to the electrical system and the replacement of fuses carried out by properly trained technicians.

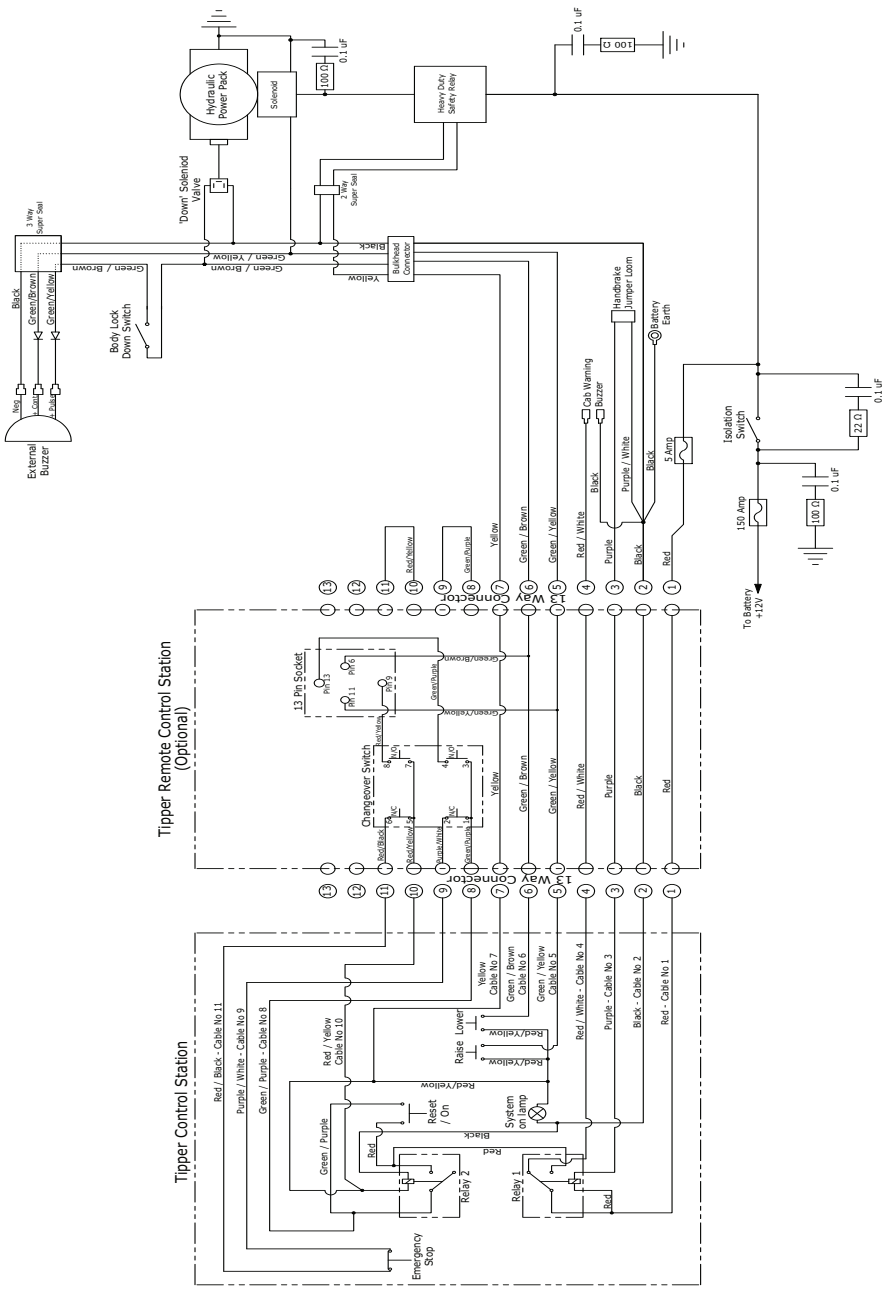
Switch the ignition and all electrical equipment off before attempting to change a fuse.

The Tipper Control System will not prevent the vehicle auxiliary battery from being drained. Ancillary or aftermarket electrical equipment such as beacons, work lamps etc could drain the battery. To ensure adequate battery levels are maintained do not repeat tip cycles without the engine running.

CAUTION

Only fit a replacement fuse with the same rating as the fuse removed.

Wiring Diagram



Cleaning the Exterior

Regular cleaning of the tipper will maintain the smooth surface essential in allowing the load to slip when tipping. Brush the tipper bed with a broom to clear the floor of debris and 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 the vehicle has been used on muddy/dirty sites, always wash down the wheels, rear tail-lights, license plate and lamps.

WARNING

If the Tipper has been used to transport corrosive material, e.g. road salt. The Tipper bed and vehicle should be washed as soon as possible, thereby preventing any potential corrosion.

CAUTION

The use of a high-pressure washer could cause damage to certain parts of your vehicle.

Repairing Minor Paint Damage

You should repair paintwork damage caused by stones from the road or minor scratches as soon as possible. A choice of products are available from your Ford Dealer. Read and follow the manufacturer's instructions.

CAUTION

Remove apparently harmless looking substances from the paintwork immediately (e.g. bird droppings, tree resins, insect remains, tar spots, road salt and industrial fall out).

WARNING

Do not exceed the maximum vehicle and trailer weight stated on the vehicle identification plate. Refer to the Vehicle identification section in the Ford Transit Owner's Handbook

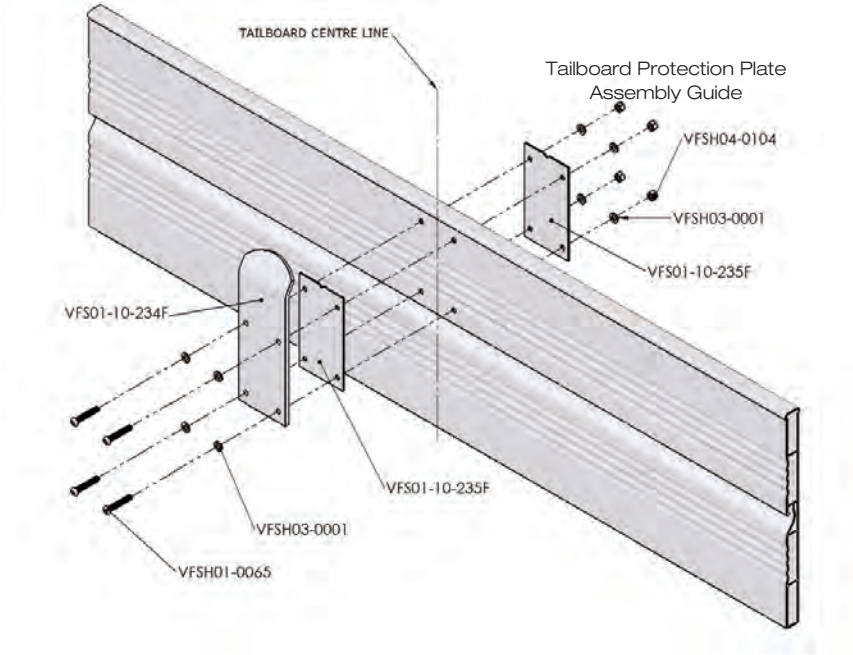
CAUTION

If a tow bar has been fitted ensure that the tailboard has been installed with a protective guide to prevent it from jamming on the tow bar/ball/clevis.

A suitable Tailboard Protection Plate is available from VFS (Southampton) Ltd. Refer to Parts Catalogue for details and assembly guide below for fitting to vehicle.

Identify centreline of tailboard and use backing plate as template for drilling fixing holes. Hold plate beneath top lip of board, (notch in plate uppermost) then mark fixing holes onto tailboard. Drill 4 off 8.5mm diameter holes through front and rear faces of tailboard and assemble using fixings as shown.

Note: Rearmost plate has a fold at the top; this must face forward when installed.



Fault Finding

	Problem	Possible Causes	Corrective Action
1.	The Tipper fails to operate.	a) Tipper isolation switch, switched OFF. b) No electrical power (1). c) No electrical power (2). d) No electrical power (3). e) Insufficient hydraulic oil in the reservoir. f) Electric drive motor defective.	a) Switch ON isolation switch. b) No charge in Auxiliary battery. c) Check both fuses (150amp and 5amp) under drivers seat. d) Check all electrical connections and cables. e) Fill the reservoir to the correct level. f) Replace the drive motor/pump unit.
2.	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.
3.	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.

	Problem	Possible Causes	Corrective Action
4.	External Buzzer fails to operate	a) Buzzer defective. b) No electrical power. c) Body fully lowered/latched down switch defective.	a) Replace buzzer. b) See items a - d in 1 above. c) Replace switch.
5.	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.
6.	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. e) Battery failure or low voltage.	a) Tip when the Tipper is on level ground. b) Redistribute the load. c) Fill reservoir to the correct level. d) Replace pressure relief valve. e) Charge or replace battery.
7.	Tipper fails to lower.	a) Lowering solenoid defective. b) Lowering solenoid hydraulic valve defective.	a) Replace solenoid. b) Replace hydraulic valve. (Refer to page 27 for emergency lowering of body)

	Problem	Possible Causes	Corrective Action
8.	External Buzzer fails to mute.	a) Body not fully lowered. b) Body hindered from lowering due to obstruction/debris on subframe. c) Defective body fully down switch. d) Body latch mechanism defective, latch not fully engaged with keeper.	a) Fully lower body. b) Clear obstruction and fully lower body. c) Change switch. d) Immediately return vehicle to workshop for corrective maintenance - Do not use vehicle until rectification has taken place.
9.	Internal intermitant buzzer operates at rapid rate after Isolation Switch turned on.	a) Auxiliary battery charge too low for tipping.	a) Start engine and idle for duration of Tipping operations.

Lighting

Changing a Bulb

End Outline Marker Lamp:

- End Outline Marker Lamp is LED type and non servicable. Replacement lamps can be obtained from VFS (Southampton) Ltd

Side Marker Lamp (Double Cab Only):

- Disconnect the electrical connector.
- Turn the bulb holder anti-clockwise and remove it.
- Remove the bulb.
- Replacement bulb type: W2.1 x 9.5d 12V 5W

WARNING

Before changing bulbs switch the lights and the ignition off.

CAUTION

Only fit bulbs of the correct specification.

Emergency Equipment

Reflective Warning Triangle

Your vehicle has been supplied with a Reflective Warning Triangle. You should be aware that in reduced daylight when the tailboard is lowered, your rear lights may be obscured. The Warning Triangle should be positioned to warn other road users of your presence.

When not in use it should be stored against the cab back panel in the yellow holder provided,and retained with the self locking strap.

Single Cab

Double Cab

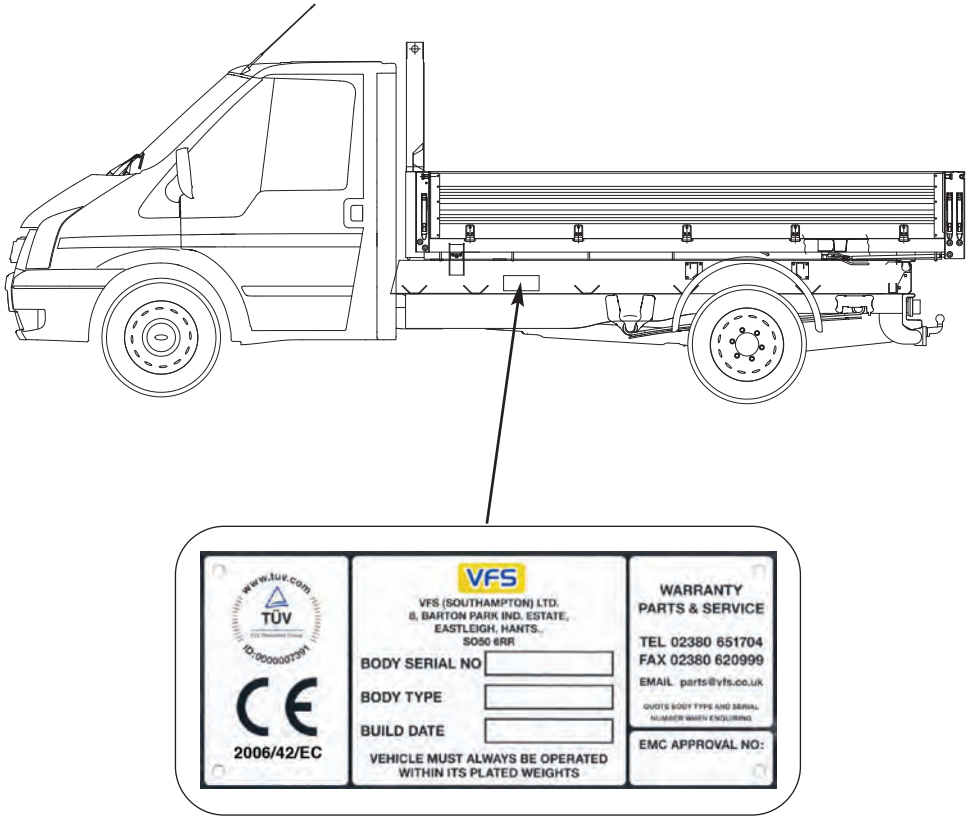
The Reflective Warning Triangle should be used in accordance with the directions in The Highway Code.

A replacement Triangle can be obtained from VFS, please see spare parts catalogue.

Vehicle Identification

Tipper Body Type and Serial Number:

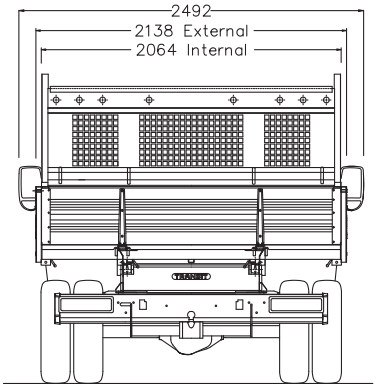
The Tipper Body Type and Serial Number information is stamped on the Tipper ID plate, this is riveted to the left hand side subframe member.

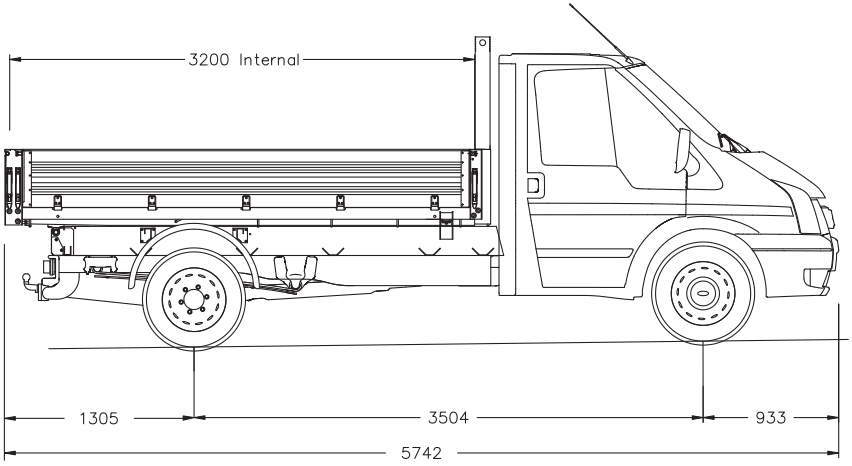


Technical Specifications

Vehicle Dimensions:

Medium Wheelbase Single Cab

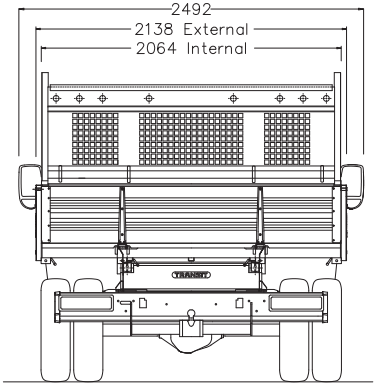


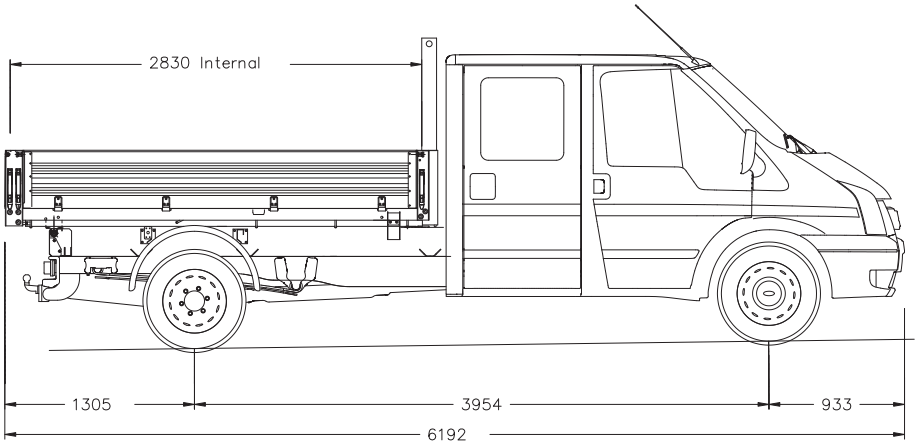


Technical Specifications

Vehicle Dimensions:

Long Wheelbase Double Cab





EC Declaration of Conformity

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: Unit 8, Barton Park Industrial Estate, Eastleigh, Hampshire, SO50 6RR Registered No: 3059947

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