



# 1-WAY TIPPER

## Instruction Manual

**Revision 3.0 March 2005**

Models Covered: Transit 350M & 350L Double Cab

Body Types: UK84RP010 & UK84RP009  
March 2005 - on



This manual to remain with  
the vehicle at all times.



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



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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 one year 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.



**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 90dB.

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.

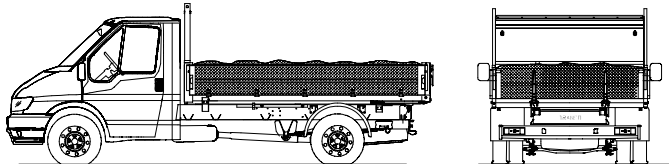
It is the responsibility of the Driver, Owner and/or Operator to establish what Health and Safety legislation applies when using this vehicle and that only persons trained and qualified in line with that legislation be allowed to use this machine.

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.

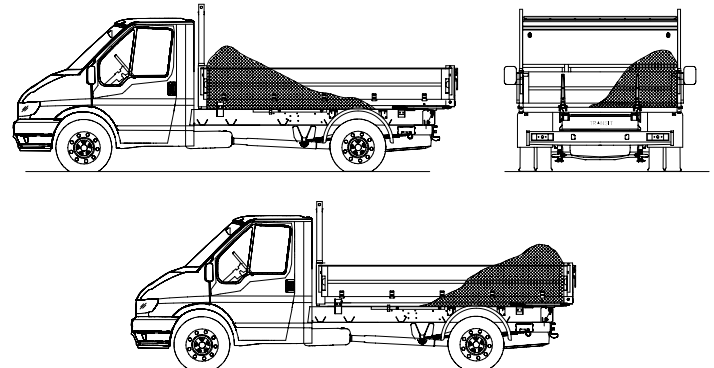
## Loading the Tipper

- 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.

### CORRECT LOAD DISTRIBUTION



### INCORRECT LOAD DISTRIBUTION





### **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
  - 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 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 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.

### 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, for maintenance purposes.

**Location:**

The switch is located on the offside subframe behind the cab.

**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 and activates an audible alarm. The Tipper Control Panel displays “Emergency Stop Activated”.

#### Location:

The Emergency Stop Switch is located directly below the vehicle light switch (see photo).

#### Purpose:

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

#### To Activate:

Press in with finger or palm of hand.

#### To Release:

Rotate clockwise and allow button to spring out.



### Tipper Control

#### Description:

A four button switch and display panel, which allows control of the raise/lower function of the body and will automatically mute the radio cassette/CD player when switched on.

#### Location:

The Tipper Control Panel is housed centrally on the dashboard above the radio cassette/CD player.

#### Purpose:

The Tipper Control Panel enables the operator to raise and lower the tipper bed in a controlled and instructed sequence.

#### Use:

The Tipper Control Panel can be operated/read from either the driver or passenger seat. To perform tipping operations follow the instructions below:

**1** *Action* Park vehicle and apply handbrake.

*Action* Check isolation switch is set to 'ON' position.

*Action* Proceed to 2.



*Tipper Control continued*

- 2** *Action* Switch on Tipper Control Unit, message will display...

HAVE YOU READ AND  
UNDERSTOOD THE  
INSTRUCTION MANUAL  
NO YES

*Action* If you have read and understood the manual, press YES and proceed to 4.

*Action* If you have not read and understood the manual, press NO.

---

- 3** *Action* If you pressed NO after question 2, message will display...

REFER TO MANUAL  
BEFORE PROCEEDING

*Result* After 10 seconds unit will turn off.



*Tipper Control continued*

- 4** *Action* If you answered YES to question 2 message will read...



RELEASE TAILBOARD  
BEFORE TIPPING

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- 5** *Action* If you release the handbrake after answering 'YES' to question 2 a warning will sound and message will read...



APPLY HANDBRAKE

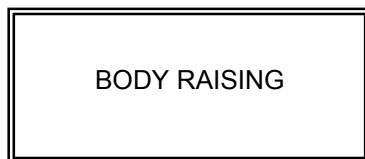
*Action* Re-apply handbrake.

*Tipper Control continued*

### **6 To Raise Body...**

*Action* Release tailboard.

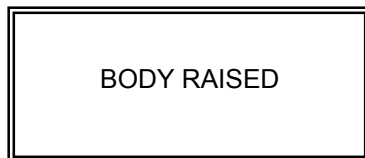
*Action* Press RAISE to raise body.



*Result* Body raises with both cab and external sounders operating and display will read as shown.

---

### **7 Action** Release RAISE button at any time whilst body raising, message will read...



*Result* Body will cease rising awaiting next instruction.

*Tipper Control continued*

**8** *Action* Continue pressing RAISE until body fully raised. Message will read...



BODY FULLY RAISED

*Action* Release RAISE button.

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**9** **To lower body...**

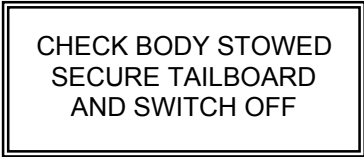
*Action* Press LOWER and keep button depressed until sounder ceases and flashing LED stops. Message will read...



BODY LOWERING

*Tipper Control continued*

**10** *Cont...* When body is completely lowered, message will read...



CHECK BODY STOWED  
SECURE TAILBOARD  
AND SWITCH OFF

Message displays for 60 seconds, auto shut down then takes place.

---

**11** **Emergency Stop...**

*Action* At any time, all functions can be ceased by pressing Emergency Stop Button. A warning will be sounded and display will read...



EMERGENCY STOP  
ACTIVATED

*Action* Ensure it is safe to proceed and release emergency stop button by twisting it clockwise.

### Warning LED and Buzzers

#### Description:

A warning LED indicates when raising or lowering body.

Warning buzzers indicate when handbrake is not applied, emergency stop switch is activated and when raising or lowering body.

#### Location:

Warning LED is located in Tipper Control Panel, left hand side.

Warning buzzers are located in Tipper Control Panel and on Tipper subframe.

#### Purpose:

To give warning that the tipping operation has commenced and the body is raising or lowering. In addition it indicates if the handbrake is not applied or the Emergency Stop is activated.

#### Use:

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



### Body Prop



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.

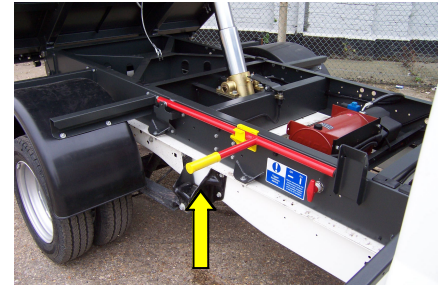
#### Purpose:

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.
- 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.
- Ensure the body prop locates in the socket.
- 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.



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

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 protective guides to prevent the tailboard from jamming on the tow bar/ball/clevis, if guides are 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:**

- Grab one handle with one hand and support your body by placing your other hand on top of the tailboard.
- Locate the trigger found under the handle with your index finger, and pull the trigger in.
- Pull up the handle by approximately 80 degrees.
- Repeat the exercise for the opposite side.
- 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 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 grabbing the handle with 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.
- Observe that the trigger has now returned to view.



### 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 down to approximately 20 degrees from the vertical, grab the entire handle with one hand and push down to the horizontal position. Repeat the action for the other latch. 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 lift and push the latch handle home. Repeat for other latch.



- Grasp sideboard by the top edge and pull to ensure the sideboard is secure.



**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 Tipping:**

The following procedures must be observed before, during and after the Tipping operation.

Before Tipping: -

- Apply handbrake.
- Wear protective gloves.
- 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.



*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.

**During the Tipping operation: -**

- Be vigilant and observe the operation closely.
- Never try and shake a stuck load free, lower body fully to manually remove all or part of load with a shovel, exercise extreme caution when climbing on and off the body and when manoeuvring over loads within the body. 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 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.

## Tipping

### Method:

- Reverse vehicle to the position where you want to tip the load.
- 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 by pulling the trigger located behind the handle with forefinger first and then pulling the handle upwards whilst maintaining pressure on the trigger. 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.

*Tipping continued*

**WARNING**

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

- Switch the Isolation Switch to the 'ON' position.
- Control the tip using the Tipper Control Panel as described in the controls section of this manual.
- Use the cab rear window and exterior mirrors for maximum vision. 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 all of the load. The body will automatically stop tipping when the ram is fully extended. The tipping can be stopped at any time by releasing the RAISE button. A buzzer will sound when the RAISE button is pressed.
- Lower the body until the warning sounder ceases and the Tipper Control Display reads, 'CHECK BODY STOWED SECURE TAILBOARD AND SWITCH OFF'
- 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.

*Tipping continued*

Before driving the vehicle, ensure: -

- Isolation Switch is 'OFF'.
- Body is fully lowered.
- Check Tailboard is securely latched.
- Ensure rear wheels are clear of any tipped material.
- Ensure rear cross-member, tail-lights, and registration plate are cleared of any tipped material.
- Ensure that all precautions detailed in 'Controls' are observed.

**LOW VOLTAGE WARNING**

If the vehicle battery voltage is below 11.5V for 60 seconds or 10V for 5 seconds when the Tipper Control unit is switched 'ON', an audible alarm will sound and the Tipper Control Display will read 'LOW VOLTAGE'. The Tipper will remain operational. The vehicle engine should be started to maintain battery charge throughout the tipping operation.

### 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 themselves 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 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 the tailboard remote handles (yellow) close securely without free-play.

### Monthly maintenance checks:

- Inspect and grease ram upper ball & socket bearing with general-purpose grease.
- Inspect and grease lower ram and gimble bearings with general-purpose grease.
- Inspect and grease tailboard upper latches with general-purpose grease.
- Inspect and grease rear body pivot bearings 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.



#### **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               |
| 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. | The Tipper fails to operate.                                | a) Chassis mounted isolation switch, switched OFF.<br>b) Emergency stop switch defective.<br>c) No electrical power (1).<br>d) No electrical power (2).<br>e) No electrical power (3).<br>f) Stroke end switch defective.<br>g) Insufficient hydraulic oil in the reservoir.<br>h) Electric drive motor defective. | Switch ON isolation switch.<br><br>Replace emergency stop switch.<br>Check fuse under driver's seat (150A).<br>Check the fuses inside the chassis mounted junction box 10.0A & 3.0A.<br>Check all electrical connections and cables.<br>Replace stroke end switch.<br>Fill the reservoir to the correct level.<br><br>Replace the drive motor/pump unit. |
| 2. | The electric drive motor runs but the Tipper fails to rise. | a) Tipper overloaded.<br>b) Hydraulic pump defective.  | Reduce load.<br>Replace the drive motor/pump unit.   |



|    |   |   |   |
|----|---|---|---|
| 3. | Hydraulic oil sprays from the reservoir when the Tipper is lowered. | a) Reservoir over filled.<br>b) Reservoir punctured.  | Fill reservoir to the correct level.<br>Replace reservoir.  |
| 4. | Chassis mounted buzzer fails to operate.                            | a) Buzzer defective.<br>b) No electrical power.   | Replace buzzer.<br>See items a - d in 1 above.  |
| 5. | The Tipper lowers when the hydraulic pump stops.                    | a) Defective non-return valve.<br>b) Defective pressure release valve.<br>c) Hydraulic oil leak.  | Replace non-return valve.<br>Replace pressure release valve.<br>Inspect hydraulic system, replace parts as required.                        |
| 6. | Tipper only rises partially.  | a) Vehicle not on level ground.<br>b) Tipper loaded unevenly.<br>c) Insufficient oil in the reservoir.<br>d) Pressure relief valve defective. | Tip when the Tipper is on level ground.<br>Redistribute the load.<br>Fill reservoir to the correct level.<br>Replace pressure relief valve. |
| 7. | Tipper fails to lower.  | a) Solenoid defective.<br>b) Solenoid valve defective.<br>c) Body fully lowered switch defective.   | Replace solenoid.<br>Replace solenoid valve.<br>Replace switch.   |

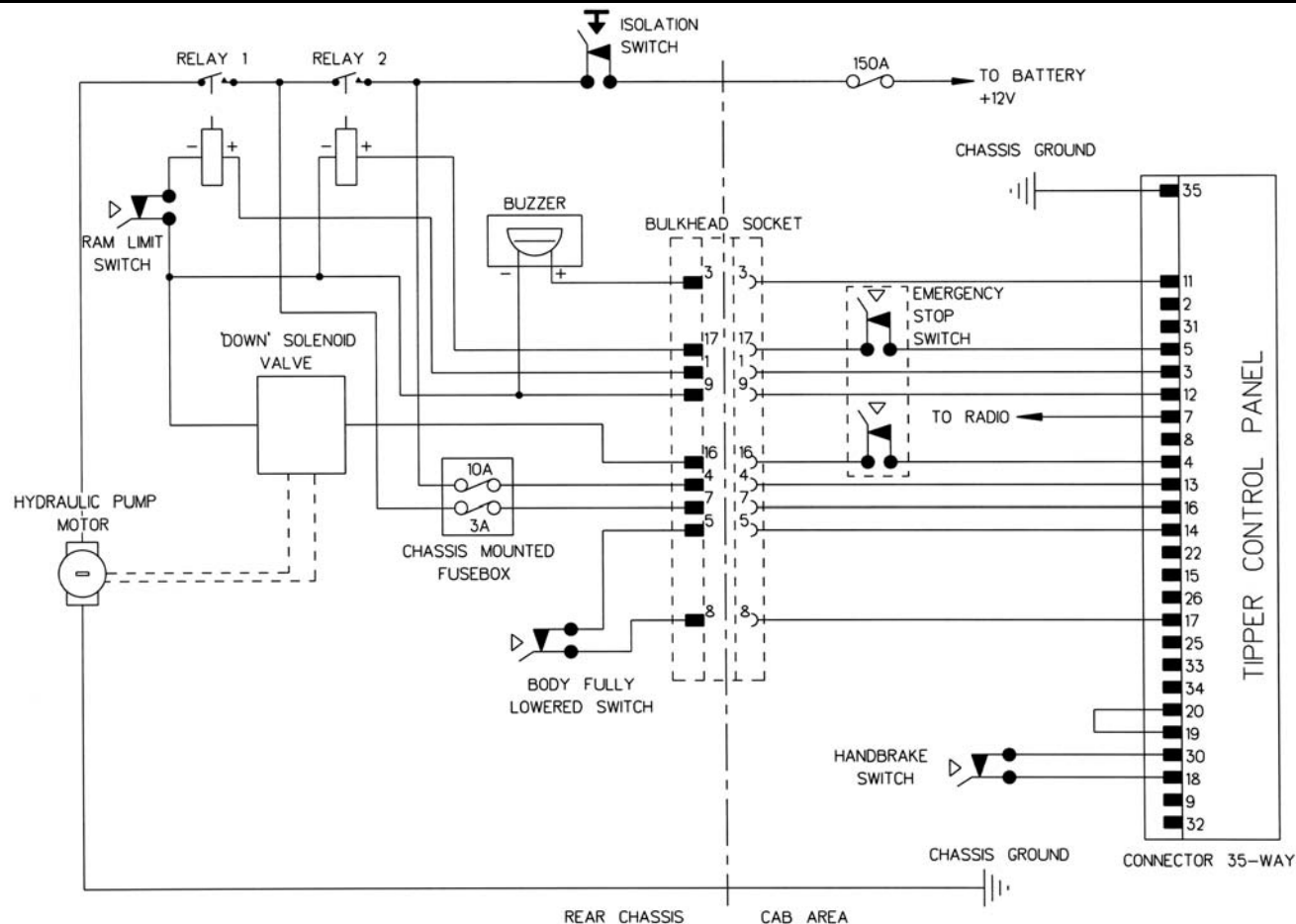
**Record of Repair and Servicing**

| Date | Nature of Repair | Carried Out By |
|------|------------------|----------------|
|      |                  |                |

**Record of Repair and Servicing**

| Date | Nature of Repair | Carried Out By |
|------|------------------|----------------|
|      |                  |                |

# WIRING DIAGRAM



## Spare Parts List

Tipper spare parts are available from:

VFS (Southampton) Ltd.

Unit 8

Barton Park Industrial Estate

Chickenhall Lane

Eastleigh

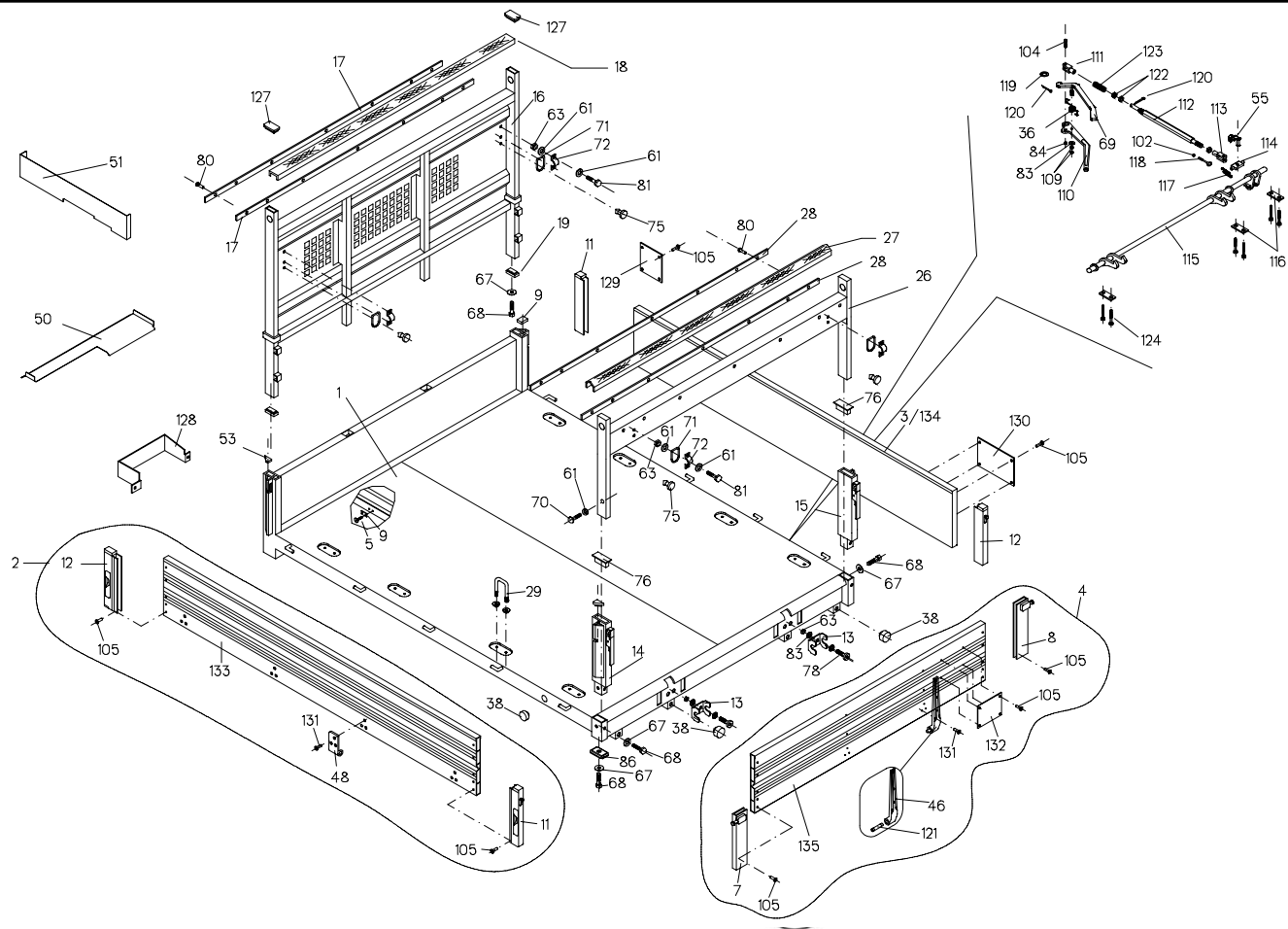
SO50 6RR

☎ Phone 023 8065 1704

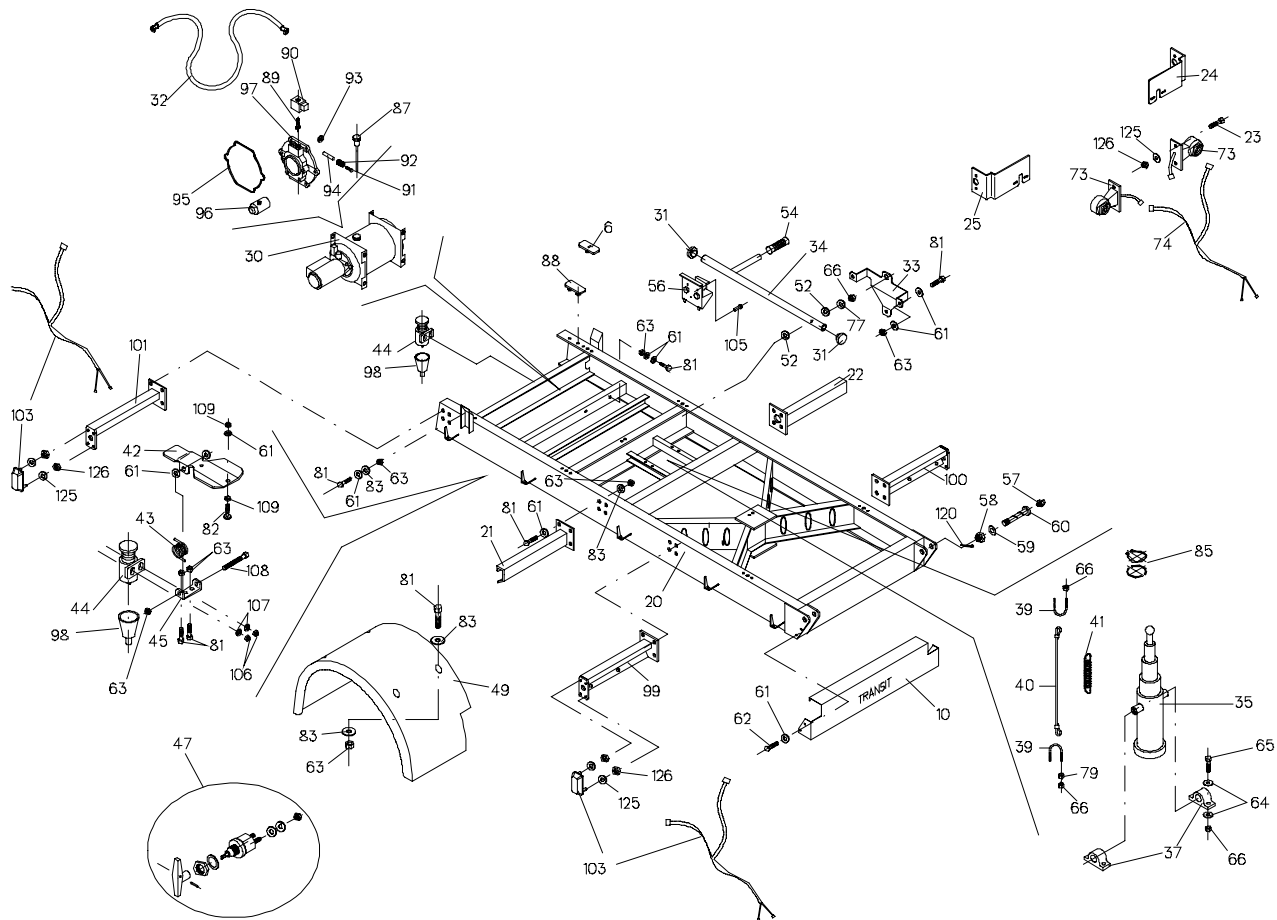
☎ Fax 023 8062 0999

Email: [parts@vfs.co.uk](mailto:parts@vfs.co.uk)

# GENERAL ARRANGEMENT DRAWING



# GENERAL ARRANGEMENT DRAWING continued



## SPARE PARTS LIST

| ITEM<br>NUMBER | DESCRIPTION                | PART NUMBER  |              |
|----------------|----------------------------|--------------|--------------|
|                |                            | SINGLE CAB   | DOUBLE CAB   |
| 1              | Frame Assy                 | UK84VR12L6   | UK84VR11L6   |
| 2              | Side Board LH inc Latches  | UK84SL023    | UK84SL024    |
| 3              | Side Board RH inc Latches  | UK84SL021    | UK84SL022    |
| 4              | Rear Board inc Latches     | UK84SP007    | UK84SP007    |
| 5              | Screw TSPEI M8 x 20        | 101668       | 101668       |
| 6              | Bumper Plate               | 151196       | 151196       |
| 7              | Rear Left Upright          | SCGESPTS03L6 | SCGESPTS03L6 |
| 8              | Rear Right Upright         | SCGESPTS04L6 | SCGESPTS04L6 |
| 9              | Teflon Bumper Plate        | 151160       | 151160       |
| 10             | Rear Protection Plate      | UK84CRPR01L6 | UK84CRPR01L6 |
| 11             | RH Pillar                  | 110100       | 110100       |
| 12             | LH Pillar                  | 110101       | 110101       |
| 13             | Tail Board Hook            | 701684       | 701684       |
| 14             | Rear Bolster LH Pillar     | 733035       | 733035       |
| 15             | Rear Bolster RH Pillar     | 733036       | 733036       |
| 16             | Headboard Cab Protection   | UK84PR001    | UK84PR001    |
| 17             | Rubber Fixing Plate        | UK84PRSU00L6 | UK84PRSU00L6 |
| 18             | Cab Protector Rubber       | FD84PAPR02L1 | FD84PAPR02L1 |
| 19             | Cab Protector Fixing Plate | UK84PRAT00L6 | UK84PRAT00L6 |
| 20             | Sub-frame                  | UK84CR12L6   | UK84CR11L6   |



|    |                              |              |              |
|----|------------------------------|--------------|--------------|
| 21 | Bracket Fender LH Front      | UK84PGSU01L6 | UK84PGSU01L6 |
| 22 | Bracket Fender RH Front      | UK84PGSU00L6 | UK84PGSU00L6 |
| 23 | Screw M5 x 20                | 102568       | 102568       |
| 24 | End Outline Light Bracket RH | UK84BPSU00L6 | UK84BPSU00L6 |
| 25 | End Outline Light Bracket LH | UK84BPSU01L6 | UK84BPSU01L6 |
| 26 | Rear Bolster                 | 732063       | 732063       |
| 27 | Rear Bolster Rubber          | 160601       | 160601       |
| 28 | Rubber Fixing Plate          | 700854       | 700854       |
| 29 | U Bolt with nuts             | 732020       | 732020       |
| 30 | 12V Power Pack               | 135833       | 135833       |
| 31 | Body Prop Rubber Bung        | 151117       | 151117       |
| 32 | Oil Pipe                     | 130496       | 130496       |
| 33 | Body Prop Safety Plate       | UK84CRAC00L6 | UK84CRAC00L6 |
| 34 | Body Prop                    | UK84CRPS01L6 | UK84CRPS01L6 |
| 35 | Hydraulic Ram                | 135940       | 135940       |
| 36 | Spring                       | 150719       | 150719       |
| 37 | Ram Support Bracket          | 110400       | 110400       |
| 38 | Rubber Bump Stop             | 150269       | 150269       |
| 39 | U Bolt                       | 201844       | 201844       |
| 40 | Safety Cable                 | 160716       | 160716       |
| 41 | Spring                       | 150783       | 150783       |
| 42 | Stroke End Lever             | UK84CRSU02L6 | UK84CRSU02L6 |
| 43 | Spring                       | 150782       | 150782       |
| 44 | Stroke End Switch            | 120754       | 120754       |

|    |                         |                     |                     |
|----|-------------------------|---------------------|---------------------|
| 45 | Stroke End Support      | UK84CRSU03L6        | UK84CRSU03L6        |
| 46 | Rear Board Hinge        | 110199              | 110199              |
| 47 | Isolation Switch        | 120755              | 120755              |
| 48 | Sideboard Hinge         | 110117              | 110117              |
| 49 | Fender                  | 111060              | 111060              |
| 50 | Cable Protection Plate  | -                   | UK84VAPR02L6        |
| 51 | Cable Protection Plate  | -                   | UK84VAPR03L6        |
| 52 | PVC Washer Ø15.2        | 103963              | 103963              |
| 53 | Rubber Plug             | 150223/LH 150223/RH | 150223/LH 150223/RH |
| 54 | PVC Handle              | 151190              | 151190              |
| 55 | Spring Clip Ø12         | 150053              | 150053              |
| 56 | Body Prop Bracket       | 151126              | 151126              |
| 57 | Grease Nipple M10       | 151302              | 151302              |
| 58 | Nut Self locking M24    | 103736              | 103736              |
| 59 | Washer M24              | 103797              | 103797              |
| 60 | Rear Pivot Hinge Pin    | 110195              | 110195              |
| 61 | Washer M8               | 103835              | 103835              |
| 62 | Screw TE M8x30          | 100729              | 100729              |
| 63 | Nut Self Locking M8     | 100973              | 100973              |
| 64 | Washer M10              | 103839              | 103839              |
| 65 | Screw TE M10x30         | 100730              | 100730              |
| 66 | Nut Self Locking M10    | 100992              | 100992              |
| 67 | Washer M14              | 103848              | 103848              |
| 68 | Screw TE M14x40         | 100749              | 100749              |
| 69 | Tailboard Release Lever | 701441              | 701441              |

|    |                                 |        |        |
|----|---------------------------------|--------|--------|
| 70 | Screw TCEI M8x30                | 101520 | 101520 |
| 71 | Tie Down Ring                   | 110936 | 110936 |
| 72 | Ring Fixing Point               | 700085 | 700085 |
| 73 | End Outline Marker Lamp         | 120434 | 120434 |
| 74 | End Outline Marker Light Loom   | 120433 | 120433 |
| 75 | Bump Stop – Tie Down Ring       | 150215 | 150215 |
| 76 | Rear Bolster Pillar Blank Plug  | 160643 | 160643 |
| 77 | Washer Ø10/30                   | 103841 | 103841 |
| 78 | Button Head Set Screw M8x20     | 101031 | 101031 |
| 79 | Nut Self Locking M10            | 103576 | 103576 |
| 80 | Aluminium Rivet 4.8x18          | 107942 | 107942 |
| 81 | Screw TE M8x20                  | 100714 | 100714 |
| 82 | Screw TT M8x35                  | 101022 | 101022 |
| 83 | Washer M8                       | 103837 | 103837 |
| 84 | Nut Self Locking M12            | 100993 | 100993 |
| 85 | Hydraulic Ram Collets & Circlip | 135923 | 135923 |
| 86 | Rear Pillar Fixing Plate        | 733088 | 733088 |
| 87 | 3/4 Breather Cap                | 135825 | 135825 |
| 88 | Rubber Pad                      | 160062 | 160662 |
| 89 | Solenoid Valve                  | 135728 | 135728 |
| 90 | Solenoid                        | 135729 | 135729 |
| 91 | Register Screw                  | 135730 | 135730 |
| 92 | Relief Valve Spring             | 135731 | 135731 |
| 93 | Aluminium Washer 17x23x1.5      | 135732 | 135732 |
| 94 | Spring Guide                    | 135733 | 135733 |

|     |                                    |              |              |
|-----|------------------------------------|--------------|--------------|
| 95  | OR 4487 Gasket                     | 135829       | 135829       |
| 96  | Solenoid                           | 135722       | 135722       |
| 97  | Hydraulic Valve Block              | 135828       | 135828       |
| 98  | Rubber Protection Boot             | 120756       | 120756       |
| 99  | Bracket Fender LH Rear             | UK84PGSU00L6 | UK84PGSU03L6 |
| 100 | Bracket Fender RH Rear             | UK84PGSU01L6 | UK84PGSU02L6 |
| 101 | FWD Side Marker Lamp Bracket       | -            | UK84CRSU11L6 |
| 102 | Nut M6                             | 103569       | 103569       |
| 103 | Side Marker Lamp Kit               | -            | 120449       |
| 104 | Screw TE M12x40                    | 100748       | 100748       |
| 105 | Stainless Steel Rivet Ø4.8 x 11.2  | 108027       | 108027       |
| 106 | Self-locking nut M4                | 103565       | 103565       |
| 107 | Washer M4                          | 104060       | 104060       |
| 108 | Screw TE M8x90                     | 100933       | 100933       |
| 109 | Nut M8                             | 103572       | 103572       |
| 110 | Tailboard Release Handle           | 110904       | 110904       |
| 111 | Coupling                           | 160711       | 160711       |
| 112 | Adjustable Linkage                 | 701321       | 701321       |
| 113 | Coupling                           | 150052       | 150052       |
| 114 | Linkage End Fitting                | 700949       | 700949       |
| 115 | Tailboard Locking Bar              | SCGEAS002    | SCGEAS002    |
| 116 | Tailboard Locking Bar Fixing Plate | SCGEVRSG01L6 | SCGEVRSG01L6 |
| 117 | Spring Ø3x16,5x64,5                | 150700       | 150700       |
| 118 | Screw M6                           | 151714       | 151714       |
| 119 | Washer Ø22/40                      | 103863       | 103863       |

|     |                                |               |               |
|-----|--------------------------------|---------------|---------------|
| 120 | Split Pin Ø4x50                | 109615        | 109615        |
| 121 | Tailboard Hinge Pin Ø12        | 700997        | 700997        |
| 122 | Nut M14                        | 103586        | 103586        |
| 123 | Spring Ø25xØ12,5x1,5           | 104451        | 104451        |
| 124 | Screw TCEI M8x25               | 100721        | 100721        |
| 125 | Spring Washer M5               | 104062        | 104062        |
| 126 | Nut M5                         | 103567        | 103567        |
| 127 | Headboard Plug                 | 151191        | 151191        |
| 128 | Cable Protection Plate         | UK84VAPRO1L6  | -             |
| 129 | Decal Mounting Plate (Switch)  | UK84SLACO3L6  | UK84SLACO3L6  |
| 130 | Decal Mounting Plate (Levers)  | UK84SLACO4L6  | UK84SLACO4L6  |
| 131 | Rivet Ø6,4x14,6                | 107988        | 107991        |
| 132 | Decal Mounting Plate Tailboard | UK84SPAC00L6  | UK84SPAC00L6  |
| 133 | Drilled LH Sideboard           | UK84SLBA23L1  | UK84SLBA24L1  |
| 134 | Drilled RH Sideboard           | UK84SLBA21L1  | UK84SLBA22L1  |
| 135 | Drilled Tailboard              | UK84SPBA07L1  | UK84SPBA07L1  |
| 136 | Cable Support Plate            | VFS01-11-023  | VFS01-11-023  |
| 137 | Fuse Holder                    | 0-376-85      | 0-376-85      |
| 138 | Main Fuse – 150 amp            | 0-376-15      | 0-376-15      |
| 139 | Power Cable - battery to fuse  | VFS01-11-031A | VFS01-11-032A |
| 140 | Power Cable - fuse to switch   | VFS01-11-059  | VFS01-11-061  |
| 141 | Power Cable - switch to relay  | VFS01-11-050A | VFS01-11-075A |
| 142 | Power Cable - relay to motor   | VFS01-11-050B | VFS01-11-050B |
| 143 | Earth Cable - motor to earth   | VFS01-11-060  | VFS01-11-062  |
| 144 | Control Loom Assy - front      | VFS01-11-044  | VFS01-11-045  |

|     |                                     |               |               |
|-----|-------------------------------------|---------------|---------------|
| 145 | Control Loom Assy - rear            | VFS01-11-127A | VFS01-11-128A |
| 146 | Rear Chassis Box - relay assy       | VFS01-11-050  | VFS01-11-075  |
| 147 | Rear Chassis Box - mounting bracket | VFS01-11-051  | VFS01-11-051  |
| 148 | Rear Chassis Box - alarm assy       | VFS01-11-052  | VFS01-11-052  |
| 149 | Emergency Stop Switch               | VFS01-11-053B | VFS01-11-053B |
| 150 | Down Solenoid Loom Assy             | VFS01-11-056  | VFS01-11-056  |
| 151 | Tipper Control Unit                 | VFS01-11-055F | VFS01-11-055F |
| 152 | Identification Plate                | VFS01-11-120A | VFS01-11-120A |
| 153 | Badge - "Tipper"                    | VFS01-11-013  | VFS01-11-013  |
| 154 | Decal Set                           | VFS01-11-133A | VFS01-11-133A |
| 155 | Handbrake Switch                    | VFS01-11-058  | VFS01-11-058  |
| 156 | Warning Triangle                    | 1221082       | 1221082       |
| 157 | 'P'-Clip 21mm (Hydraulic Hose)      | 298-8110      | 298-8110      |



**VEHICLE CERTIFICATION AGENCY  
THE UNITED KINGDOM VEHICLE APPROVAL AUTHORITY**

COMMUNICATION CONCERNING THE APPLICATION OF THE COUNCIL DIRECTIVE OF 20 JUNE 1972 ON THE APPROXIMATION OF THE LAWS OF THE MEMBER STATES RELATING TO A TYPE OF SEPARATE TECHNICAL UNIT WITH REGARD TO INTERFERENCE SUPPRESSION (72/245/EEC) AS LAST AMENDED BY 95/54/EC

Type Approval No: e11\*72/245\*95/54\*2417\*00

**SECTION I**

- 0.1 Make (trade name of manufacturer): Zeta Controls Limited
- 0.2 Type and general commercial description(s): ZCP04 Electronic Tipper controller for vehicles with tipper bodies. To be specifically installed on Ford Transit 2000 Chassis
- 0.3 Name and address of manufacturer: Zeta Controls Ltd, Telford Road, Bicester, Oxon, OX26 4LB, United Kingdom
- 0.4 In the case of components and separate technical units, location and method of affixing of the EEC type-approval mark: Indelible marking on surface of the component
- 0.5 Address(es) of assembly plant(s): Abingdon Electronics Ltd, Unit16, Fitzharris Industrial Est, Wootton Road, Abingdon, Oxfordshire, OX14 1LD, United Kingdom

**SECTION II**

1. Additional information (where applicable): See appendix
2. Technical service responsible for carrying out the tests: 3C Test Limited
3. Date of test report: 21 October 2003
4. Number of test report: 3C03/2411/1
5. Remarks (if any): See appendix
6. Place: BRISTOL
7. Date: 29 OCTOBER 2003
8. Signature: A.W. Stenning, Head of Product Certification

**APPENDIX**

To EEC Type Approval Certificate No: e11\*72/245\*95/54\*2417\*00 concerning the type approval of an electric/electronic sub-assembly with regard to Directive 72/245/EEC as last amended by Directive 95/54/EC

- 1.0 Electrical system rated voltage: 12V dc negative earth
- 2.0 This ESA can only be used on the following vehicle types: Ford Transit 2000
- 3.0 Installation conditions, if any: See manufacturer's documentation
- 4.0 The specific test method(s) used and the frequency ranges covered to determine immunity were: BCI from 20MHz-230MHz, Free Field Immunity 230MHz-1000MHz
- 5.0 Approved/recognised laboratory (for the purpose of this Directive) responsible for carrying out the test: 3C Test Limited
- 6.0 Remarks: None

## EC Declaration of Conformity

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

We  
of

VFS (Southampton) Ltd.  
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):*

98/37/EC

Machinery Directive

89/336/EEC

Electromagnetic Compatibility Directive and its amending directives

*and has been designed and manufactured to the following specifications:*

UNI 10692

Tipping equipment

UNI 10693

Tipping equipment

UNI 10694

Tipping equipment

UNI 10695

Tipping equipment

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:

Barry Whittaker

Position:

Quality Director

Installed at:

Eastleigh, Southampton

On:

07/03/2005

# C E05





# CERTIFICATE

**Certificate No.:**

CV 006/04

**Certificate holder:**

Scattolini S.p.A.  
Via Del Lavoro, 8  
I - 37067 – Valeggio sul Mincio (VR)

**Date of submission:**

16/03/2004

**Manufacturer:**

Scattolini S.p.a.  
Via Del Lavoro, 8  
I - 37067 – Valeggio sul Mincio (VR)

**Installer:**

VFS (Southampton) Ltd  
Unit 8, Barton Park Industrial Estate  
Chickenhall Lane, EASTLEIGH  
Hampshire, SO50 6RR - UK

**Product:**

Tipping bodies for trucks, models:  
- "1-way tipper" rear tipping body  
- "3-way tipper" three-way tipping body

**Date and number of Test Report:**

15/10/2004, RTE 001-Scattolini

**On the basis of the examinations and tests executed, we herewith certify that the product, for the respective scope of application stated on the annex to this certificate, meets the safety requirements of the machine directive 98/37/EC and it is in compliance with the following standards:**

- 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.
- 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.

Sesto San Giovanni, 29/10/2004

Further information are enclosed.  
Please see remarks on reverse.



TÜV Italia s.r.l.  
Via Carducci, 125  
20099 Sesto San Giovanni (MI)

Tel.: 02241301  
Fax: 0224130399  
E-Mail: [is@tuv.it](mailto:is@tuv.it)

Ing. Paolo Marcone  
Industry Service Manager

### ***Information regarding the TÜV Italia Certificate***

*This certificate is only valid for the referenced company and its facilities stated on the certificate. Only the Certification Body is allowed to transfer (assign) it to a third party.*

*The right to use the marking depicted on the certificate covers solely products, which match with the type approval and the specifications within the test report or within its complementary (additional) agreements.*

*Each product has to contain (be accompanied) the necessary operating and assembly instructions. Each product must bear the clearly visible identification of the manufacturer or importer as well as a type plate, in order to identify the compliance of the type approval with the product placed on the market.*

*The holder of the TÜV Italia certificate is obliged to continuously observe if the manufacture of the marked products complies with the test requirements; he is obliged to perform the control tests defined within the test requirements or by the Certification Body in an orderly manner.*

*Aside from the conditions referenced above, the conditions within the General Contract are effective for the TÜV Italia certificate. It is valid as long as the state of the art requirements on which the test (approval) was based, are effective, if it was not withdrawn prior on conditions within the General Contract.*

*It is valid as long as the state of the art requirements on which the test (approval) was based, are effective, if it was not withdrawn prior on conditions within the General Contract. If this certificate expires or is withdrawn it has to be returned to the Certification Body immediately.*



Powered by Expertise.

**Sede legale:**  
Via Giosuè Carducci, 125 edificio 23  
20099 Sesto San Giovanni (MI)