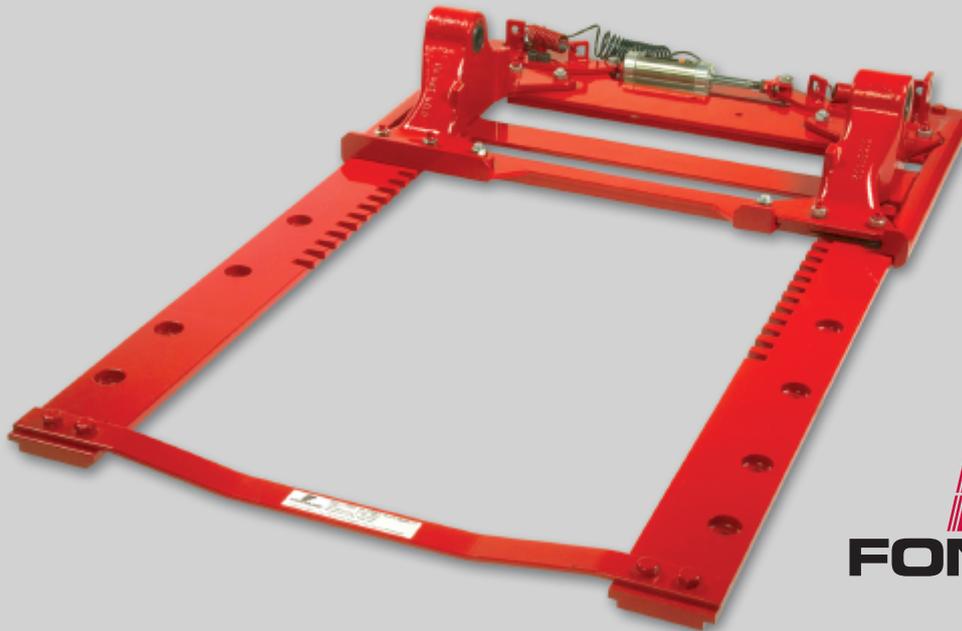


Instruction Manual

150SF

lightweight modular slider



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S A F E T Y I N F O R M A T I O N

Please observe the relevant safety regulations that apply for working with sliders, fifthwheel couplings, tractor units and semi-trailers. These regulations will vary in different countries.

Appropriate safety information in the owner's handbook for the tractor unit and semi-trailer is valid and must be followed.

The following safety advice must also be observed.

1.1 Operation

- Only authorised users are permitted to use the slider.
- Do not use the slider if it shows any sign of technical problems.
- Only use the slider if the danger area is clear and all health and safety regulations are complied to.

1.2 Installation

- Installation work must only be completed by authorised specialists.
- Follow all mounting instructions laid out in this manual and the mounting regulations of the vehicle manufacturer.
- If the slider is not properly installed all warranty claims against the manufacturer and the supplier of the slider will be rendered void.

1.3 Servicing

- Only use specified lubricants for the servicing work
- The servicing, cleaning and maintenance work should only be completed by trained personnel.

C O R R E C T U S A G E

2.1 Application & Design

The slider is designed to traverse the mounted fifthwheel coupling along the tractor chassis and allows the position of the fifthwheel to be adjusted. It is also used as connecting element between the vehicle chassis and the fifthwheel coupling.

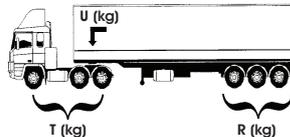
Any kind of modification to the slider will void the warranty and design approval.

Fontaine sliders are designed to comply with directive 94/20/EC Class J and are to be used with king pins of Class H50.

They are applicable for proper usage meeting the requirements of EC Directive 94/20/EC. This standard rates fifth wheel coupling equipment based on the Maximum Imposed (vertical) load and the Drawbar value, more commonly known as the 'D' value. If any doubts exist as to which is the correct fifth wheel equipment to use then the correct rating can be checked by calculation using the formula in Figure 1.

$$D = 9,81 \times \frac{0,6 \times T \times R}{T + R - U}$$

Figure 1



Calculating D value where:-

- g = 9.81 m/s²
- R = Maximum gross weight of the semi-trailer [kg]
- T = Maximum gross weight [kg]
- U = Maximum imposed load [kg]

The maximum load data can be found on the slider type label (see figure 2) and on the Fontaine technical documents. Also the Fontaine website has a D-value calculator under the "selecting the right product" section.

The Fifth wheel Coupling chosen should be rated with loads equal to or higher than the calculated values. Under no circumstances should a coupling be fitted where the calculated rating is higher than the values indicated on the equipment type plate.

Allowances to the D-value and Maximum imposed load should be made if the coupling is subject to additional dynamic forces, for example if they are used on uneven road surfaces or on construction sites such as quarry or forestry work. For this type of application a higher rated fifth wheel may be required. If in any doubt contact Fontaine technical department.

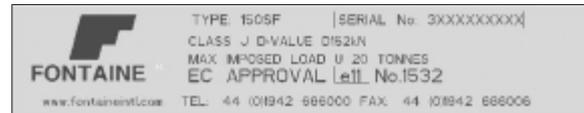


Figure 2 - 150SF Slider Type Label



C O R R E C T U S A G E

2.2 Warranty

Fontaine International Europe Ltd warrants that all components produced by the company to be free from defects in material and workmanship - excluding mounting components not supplied as an original part of the fifth wheel assembly.

The Warranty Period for Fontaine Products is:-

- 2 Years Parts and Labour

All Installations must be carried out to within the company's Fifth wheel Mounting Instructions.

These Warranty Terms cover failures in material and workmanship but does not cover failures due to the following:-

- a. Vehicles which are not used on normal Highway conditions
- b. Accident
- c. Improper Installation (refer to Fontaine official mounting instructions)
- d. General wear and tear
- e. Misuse alteration or neglect
- f. Failure to properly maintain (refer to Fontaine Official maintenance instructions) using company's genuine parts.

The company must be notified prior to the commencement of any repair. Failure to do this will cause automatic rejection of the claim.

OPERATION

All Fontaine sliders are designed, tested and approved for use with Fontaine Fifthwheel Couplings only. The following instructions should be used in conjunction with the Fontaine Fifthwheel Operating Instructions. It is important to remember that a fifthwheel and auxiliary equipment is a safety critical item and should be treated as such.

Proper preventative maintenance, inspection and lubrication are essential for a long, safe and trouble-free service life.

3.1 Manual adjustment of the fifth wheel

1. Remove slider handle safety clip.
2. Push handle towards the front of the vehicle until it contacts the other side of the handle slot.
3. Pull the handle out (away from the vehicle) until the second notch can be latched on the front of the bracket slot.
4. Drive the vehicle forwards or rearwards until the fifth wheel is in the required position. To determine the correct operating position contact either your truck or trailer supplier.
5. Stop the vehicle and apply the handbrake.
6. Release the handle (by pushing the handle towards the rear of the truck) and ensure that the outer handle notch returns to the locked position (see Figure 3)
7. Refit Safety Clip. If the clip cannot be fitted Items 2 to 5 above MUST be repeated until it is possible to fit the clip.

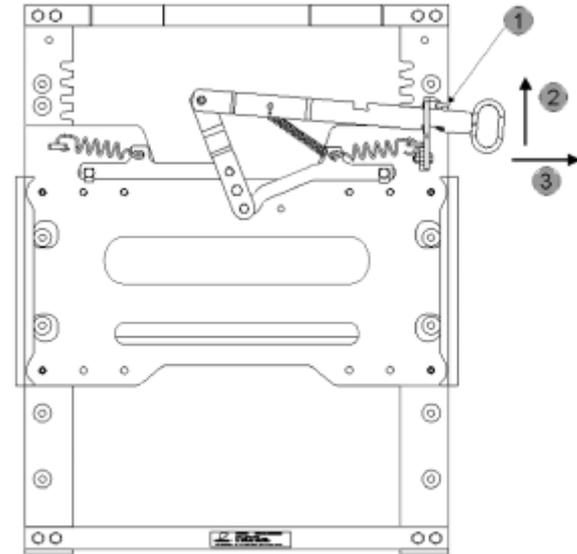


Figure 3 - Slider in locked/closed position ready for operation

OPERATION

3.2 Air Operated adjustment of the fifthwheel

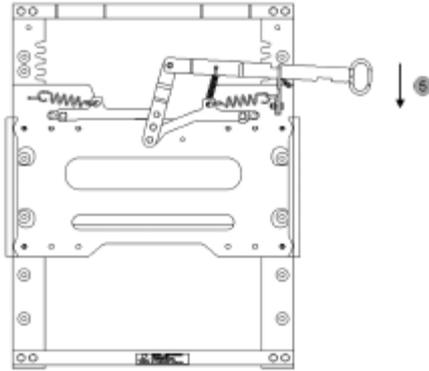


Figure 4 - Slider in open position ready for adjustment

The control valve is normally fitted in the vehicle cab and should be fitted with a locking or warning device to ensure that the switch is not operated accidentally.

1. Push down the operating switch hold it down this moves the plunger to the open position (the slider plungers should be unlocked and ready to slide)
2. Drive the vehicle forwards or rearwards until the fifthwheel is in the required position. To determine the correct operating position contact either your truck or trailer supplier.
3. Release the slider operating switch to close the slider and lock it closed.

4. Go to the slider and ensure that the locking plungers are fully locked. If there is any doubt Items 1 to 4 MUST be repeated until you are sure that the slider is properly secured.

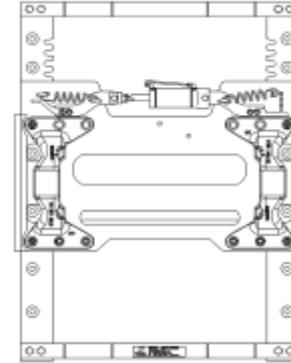


Figure 5 - Air Operated Slider in locked/closed position ready for operation



Figure 6 – Operating switch for an air operated slider. Push down to open the slider and release to return the slider to a closed position

IMPORTANT

If you have any doubts about the security of the slider or it will not lock contact your nearest workshop immediately. DO NOT attempt to move the vehicle with a trailer attached.

S E R V I C I N G

It is important to remember that a sliding fifthwheel is a safety critical item and should be treated as such. Proper preventative maintenance, inspection and lubrication are essential for a long, safe and trouble-free service life.

4.1 Initial Lubrication

Prior to going into operation:-

- The slider rails (A), locking plungers (B) and release mechanism (C to H) should be well lubricated using a thin ISO22 Inhibitor oil. DO NOT USE GREASE because of its tendency to clog with road dirt. (See Figure 7 for lubrication points).

4.2 Initial Checks

Prior to going into operation:-

- Check the torque on the fifthwheel mounting bolts, plunger housing bolts (if applicable) and slider rail to chassis bolts. The torque should be $280\text{Nm} \pm 30\text{Nm}$.
- Open and close the slider locking mechanism to ensure the mechanism and safety chain are operational (refer to slider operating instructions if necessary).

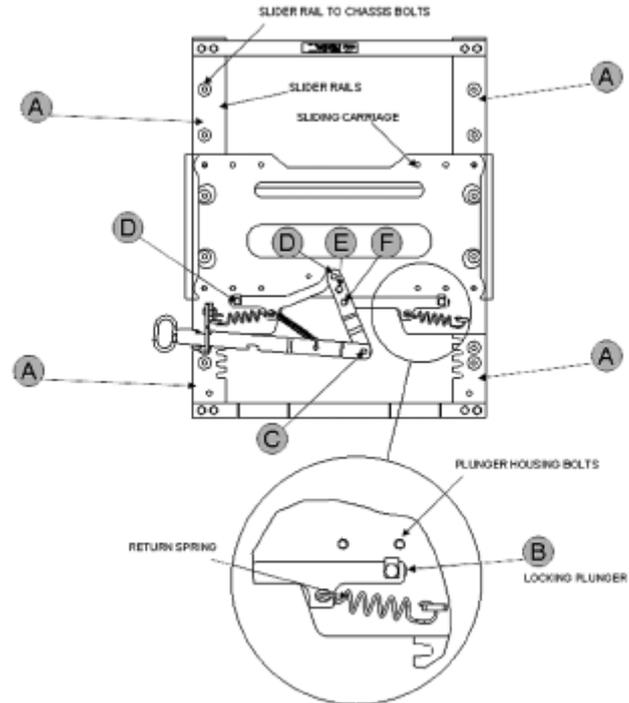


Figure 7 - Labelled slider carriage

S E R V I C I N G

4.3 Routine Fifthwheel Maintenance

Routine Fifth Wheel Maintenance

Every 10,000km (or 1 month)

1. Uncouple tractor, clean the sliding fifthwheel carriage, rails and mechanism. Inspect the slider for damage and defects.
2. Lubricate with clean oil, points A to H as shown in Figure 7.

Every 25,000km (or 6 months)

1. Inspect the slider operation for function.
2. Ensure mechanism plungers and mating notches are clean and damage free.

Every 50,000km (or 6 months)

1. Degrease the sliding fifthwheel carriage, rails and mechanism.
2. Check the torque on the fifthwheel mounting bolts, plunger housing bolts (if applicable) and slider rail to chassis bolts is $280\text{Nm} \pm 30\text{Nm}$.
3. Open and close the locking mechanism to ensure that it is operational (refer to operating instructions if necessary).
4. Check that the mechanism return springs are correctly hooked.
5. Check that the safety chain is operational and replace if damaged.
6. Check the carriage welds for signs of cracks.

7. Check that the outer guides are within the carriage wear limits (shown in Figure 8).
8. Check the slider for wear. There should be a maximum of 5mm total horizontal movement between the carriage and the rails (see Figure 9).

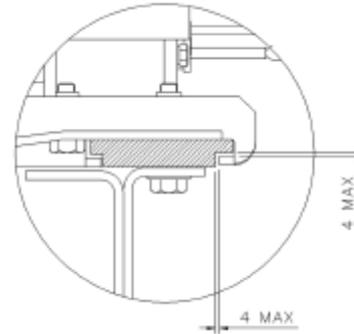


Figure 8 - Wear limits for outer guides

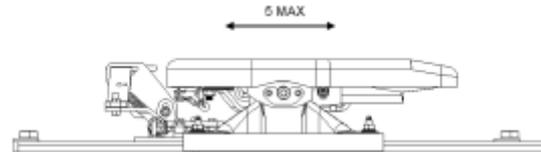


Figure 9 - Limits of movement between carriage and rails

S E R V I C I N G

If the movement is less than 5mm, carry out 10,000km maintenance procedure. If the movement is 5mm or more check the plunger, plunger housing and slider rail dimensions shown in Figure 10, Figure 11 and Figure 12 and replace any components outside the allowable wear limits. The plunger will require removing from the carriage to check the plunger housing dimension.



Figure 10 - Plunger dimension limits

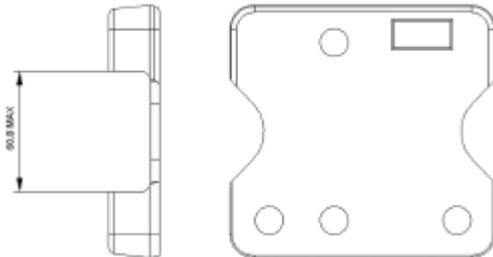


Figure 11 - Plunger housing dimension limits

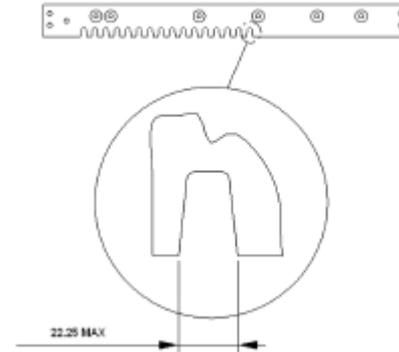


Figure 12 - Slider rail dimension limits

4.4 Replacement of worn parts

Please consult Fontaine International for relevant spare parts

Replacing the Locking Plungers

The plungers can be replaced (one at a time) with the slider still mounted to the chassis and without removing the mechanism return springs. To remove the plunger, bend back the locking tab, remove the mechanism bolt and slide the plunger towards the center of the vehicle. Replacement is the reverse procedure.

Replacing the Plunger Housing (if applicable) and Slider Rails

To replace the slider rails and plunger housings the slider assembly should be removed from the chassis.

4.5 Spare Parts

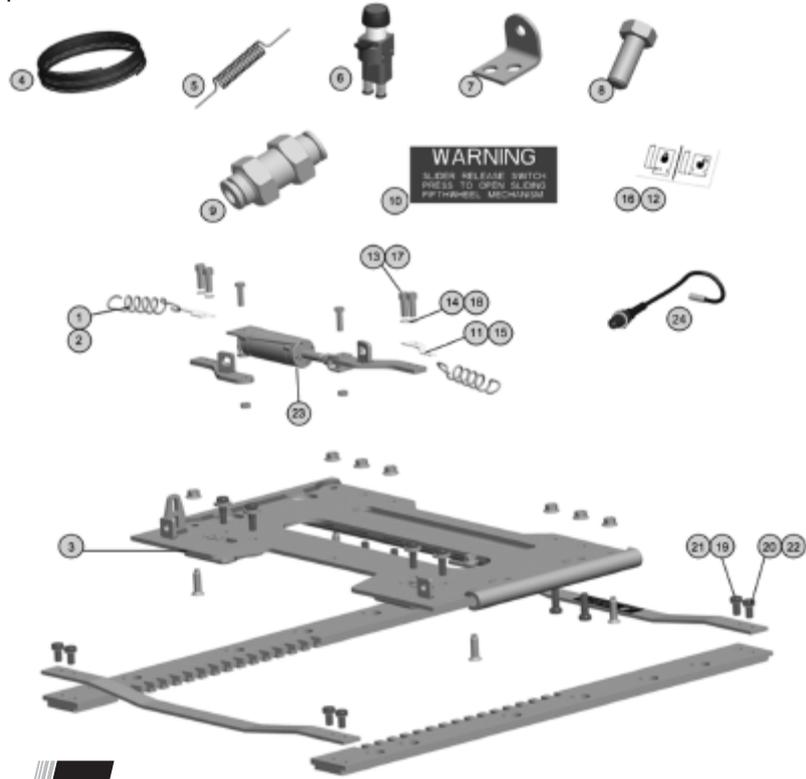


Figure 13 - Kits available for an Air Operated Slider



Spare Part Kits:-

Slider Repair Kit		59013686
Item	Description	Qty.
1	Slider Spring	2
2	Handle Spring	1
3	Plunger	2

Switch Kit		59014349
Item	Description	Qty.
4	Tubing	9.5m
5	Air Coil	1
6	Air Op Slider Switch	1
7	Air Op Bracket	1
8	M16x40 Bolt	1
9	Air Fitting Bulkhead	1
10	Air Switch Warning Label	1

Kit Slider Indicator-Wide		59014969
Item	Description	Qty.
11	Wide Position Indicator	2
12	Slider Label Indicator	2
13	M14x40 Socket Cap Bolt	2
14	M14 Safety Washer	2

Kit Slider Indicator-Narrow		59014970
Item	Description	Qty.
15	Narrow Position Indicator	2
16	Slider Label Indicator	2
17	M14x40 Socket Cap Bolt	2
18	M14 Safety Washer	2

Slider Spacer Bar Bolt Kit-Wide		60015049
Item	Description	Qty.
19	M16x30 Cap Head	4
20	M16 Safety Washer	4

Slider Spacer Bar Bolt Kit-Narrow		60015050
Item	Description	Qty.
21	M16x30 Hex Head	4
22	M16 Safety Washer	4

23	Air Cylinder Assy	59007459
24	Two Position Slider Sensor	59014856

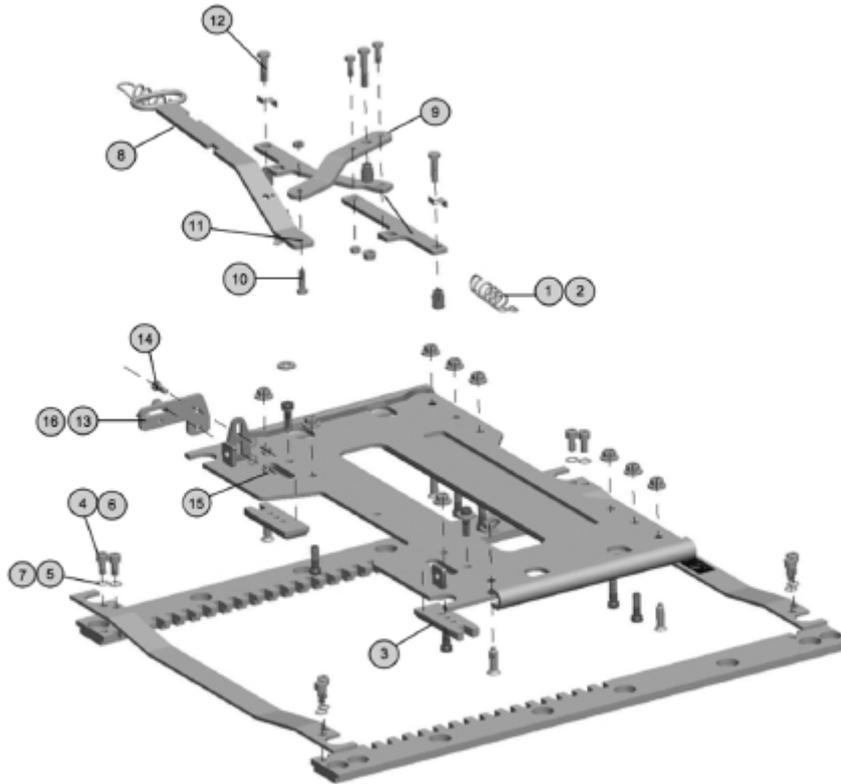


Figure 14 - Kits available for a Manually Operated Slider

Spare Part Kits:-

Slider Repair Kit 59013686

Item	Description	Qty.
1	Slider Spring	2
2	Handle Spring	1
3	Plunger	2

Slider Spacer Bar Bolt Kit-Wide 60015049

Item	Description	Qty.
4	M16x30 Cap Head	4
5	M16 Safety Washer	4

Slider Spacer Bar Bolt Kit-Narrow 60015050

Item	Description	Qty.
6	M16x30 Hex Head	4
7	M16 Safety Washer	4

Handle Kit 59015052

Item	Description	Qty.
8	Release Handle Weld Assy	1
9	Lever Sliding Carriage	1
10	M12x45 Hex Bolt	2
11	M12 Plain Washer	2
12	M12 Binx Nut	2

Handle Bracket Kit-Med. & Low 59015055

Item	Description	Qty.
13	Handle Bracket Weld Assy	1
14	M12x45 Hex Bolt	2
15	M12 Binx Nut	2

Handle Bracket Kit-High 59015056

Item	Description	Qty.
16	Handle Bracket Weld Assy	1
14	M12x45 Hex Bolt	2
15	M12 Binx Nut	2

INSTALLATION

Prior to installing a slider on a vehicle the following should be considered:-

- Current Legislation
- OEM Vehicle Installation Instructions
- Fontaine Vehicle Specific Mounting Instructions
- This document

5.1 Choice of slider

Standard Sliders (as defined in 94/20/EC) have a rating of 20 Tonnes Imposed Load and a 'D' value of 150 kN. These ratings can be found on the "Type label" of the Fifthwheel Equipment. Whilst the Imposed Load is easy to determine (the vertical load at the kingpin) the 'D' value is more complicated and is determined using the information in Figure 15.



Figure 15 - Calculating the D value

The Fifthwheel Coupling chosen should be rated with loads equal to or higher than the calculated values, and under NO CIRCUMSTANCES should a coupling be fitted where the calculated rating is higher than the values indicated on the equipment.

5.2 Mounting bolts

Coupling Equipment is normally supplied with the correct mounting bolts for installation purposes (unless specifically requested otherwise).

The bolts supplied will be rated at the correct grade for the installation. However a good general guide for normal use is to use 12 bolts size M16 grade 10.9.

These bolts should be tightened to the torque values displayed in Table 1.

Metric Bolts	Bolt Grade	
	8.8	10.9
14mm	/	227
16mm	252	280
18mm	347	
20mm	367	/

Table 1 - Most common Bolt sizes and grades as supplied with Fontaine Fifthwheel Equipment and their relevant Torque values which should be used for tightening these bolts

All of the torque values shown are in Nm. To convert these values to lbs ft divide the figure shown by 1.356.

INSTALLATION

5.3 Mounting of fifth wheel coupling to slider

A Standard Fifthwheel Coupling should be mounted using 12 bolts size M16 and grade 10.9 unless it is a special application where 8 bolts may be used.

Sliding Fifthwheels should always be fitted using the correct fixing arrangement to suit the Plated Weight of the Vehicle (UK Only). For this reason it is recommended that this equipment always be fitted using Fontaine Bolt Kits.

These kits will always be supplied with bolts which match the correct rating of the equipment and the relevant fitting instructions.

5.4 Bolt positions

In all cases the Fifthwheel equipment should be mounted using the mounting holes positioned as supplied. Where Pre-Drilled holes are supplied in the vehicle chassis or fifthwheel equipment these should always be used. If equipment appears to require further modification then the Fontaine Technical Department should be consulted prior to any alteration of the equipment.

5.5 Positioning of equipment on vehicle

Fifthwheel Equipment should always be fitted to the vehicle using the vehicle manufacturer's fifthwheel position as this determines the correct axle loading and compliance with national legislation.

In the case of sliding fifthwheels, when a ramp is supplied, the slider should be positioned so that in its rearmost position it is clear of the ramp.

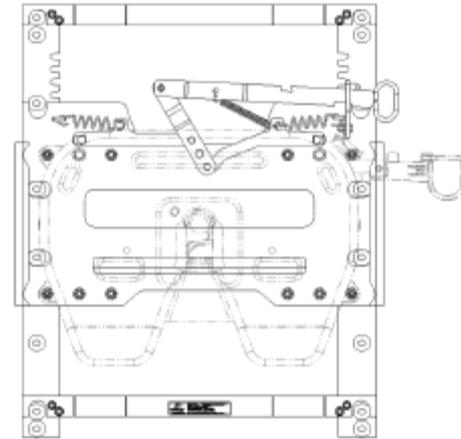


Figure 17 - Sliding Fifth wheel

If any doubt exists relating to the correct position of the equipment on the vehicle then the Fontaine Technical Department should be consulted.

IMPORTANT

Fontaine cannot accept responsibility for any loss or damage caused by equipment which has been modified or that has not been fitted in an authorised manner.



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