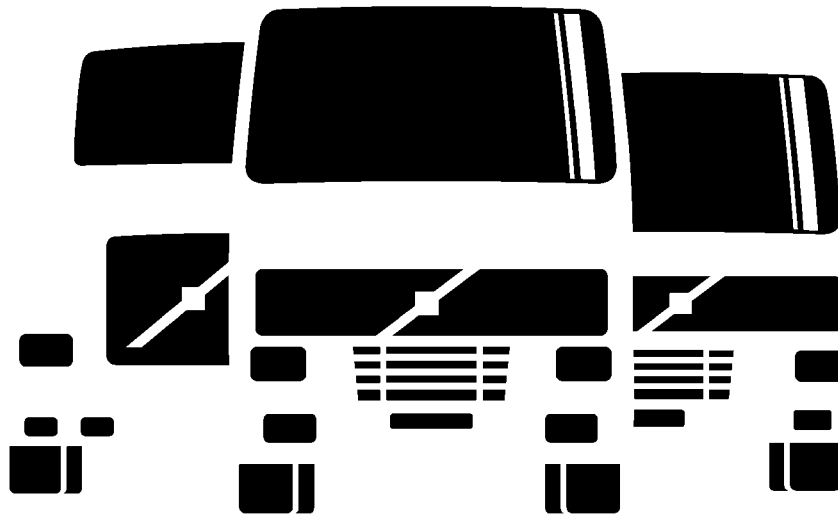


Service Manual Trucks

Group **922–502**
Fifth Wheel
VN, VHD



Foreword

The descriptions and service procedures contained in this manual are based on designs and methods studies carried out up to August 2003.

The products are under continuous development. Vehicles and components produced after the above date may therefore have different specifications and repair methods. When this is believed to have a significant bearing on this manual, supplementary service bulletins will be issued to cover the changes.

The new edition of this manual will update the changes.

In service procedures where the title incorporates an operation number, this is a reference to an V.S.T. (Volvo Standard Times).

Service procedures which do not include an operation number in the title are for general information and no reference is made to an V.S.T.

The following levels of observations, cautions and warnings are used in this Service Documentation:

Note: Indicates a situation, handling or circumstance which should be observed.

Caution: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or damage to property.

Warning: Indicates a potentially hazardous situation which, if not avoided, could result in death, serious injury or major damage to property.

Danger: Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

Volvo Trucks North America, Inc.
Greensboro, NC USA

Order number: PV776-TSP194811

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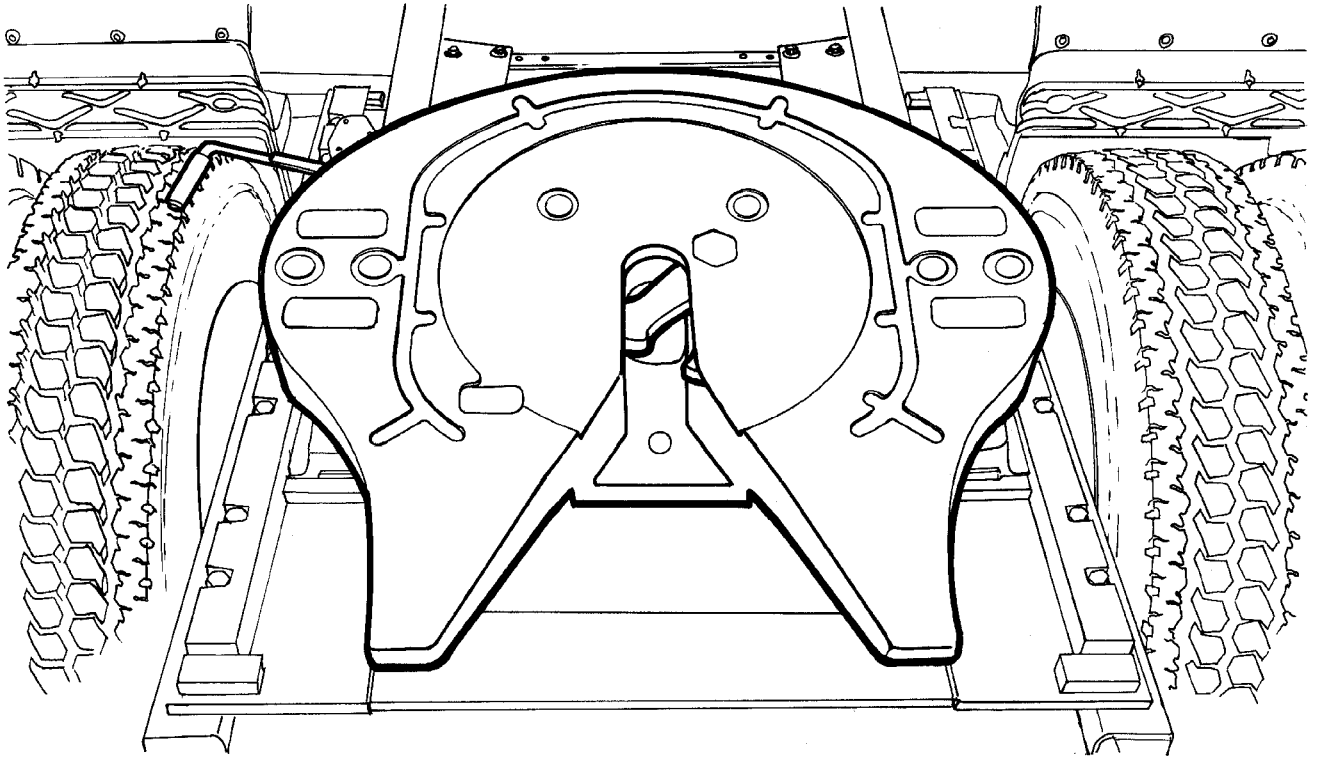
USA14052

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General

Fifth Wheel



W9000516

This information covers Volvo fifth wheel specifications, tools, design and function, troubleshooting, service procedures, and maintenance. Information pertaining to the fifth wheel slider service procedures and maintenance are also included.

Note: For further information on fifth wheels available on Volvo vehicles refer to the appropriate vendor literature.

Specifications

Fifth Wheel

See also "Fifth Wheel" page 3.

General

Specification	Minimum	Maximum
Fifth wheel static vertical load capacity	18,144 kg (40,000 lb)	31,751 kg (70,000 lb)
Trailing load capacity	68,039 kg (150,000 lb)	90,718 kg (200,000 lb)

Slider Specifications

Slider Widths Available	845 to 865 mm (33 1/4 to 34 in.)
Slider Travel Available	305 mm (12 in.) (Standard) 405 mm (16 in.) (Optional) 610 mm (24 in.) (Standard) 915 mm (36 in.) (Optional) 1220 mm (48 in.) (Optional)

Maximum Allowable Wear Tolerances

Component	Movement	Maximum
Plate casting	Vertical lift (upward lift)	7.9 mm (5/16 in.)
Fifth wheel jaw	Longitudinal (front to back)	3.2 mm (1/8 in.)
Slide plate	Lateral (side to side)	9.5 mm (3/8 in.)
Slide plate	Longitudinal (front to back)	9.5 mm (3/8 in.)
Slide plate	Vertical (upward)	6.4 mm (1/4 in.)
Slide plate	Combined vertical and lateral	9.5 to 6.4 mm (3/8 to 1/4 in.)

Torques

Mounting Bolts 5/8 in.	270 ± 27 Nm (200 ± 20 ft-lb)	Mounting Bolts M16	320 ± 50 Nm (236 ± 37 ft-lb)
Mounting Bolts M14	271 ± 41 Nm (200 ± 30 ft-lb)	Removable Front Stops	75 Nm (55 ft-lb)

Fifth Wheel Height

Fifth Wheel Height	195 mm (7.67 in.)
170 mm (6.69 in.)	220 mm (8.66 in.)
175 mm (6.88 in.)	

Tools

SAE Kingpin Gauge

The SAE kingpin gauge is recommended for work with the Volvo fifth wheel. The tool is available from Volvo through the ASF ship direct program number 095.

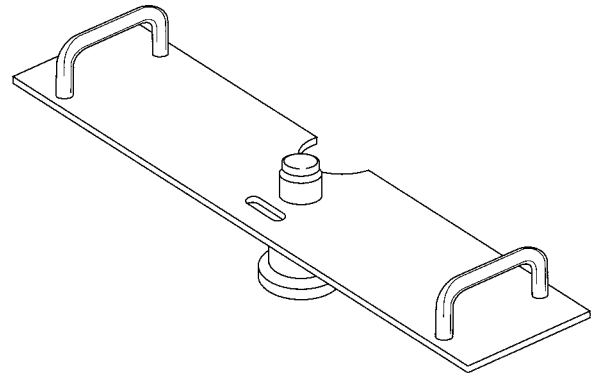


Fig. 1: ASF40-2-00171

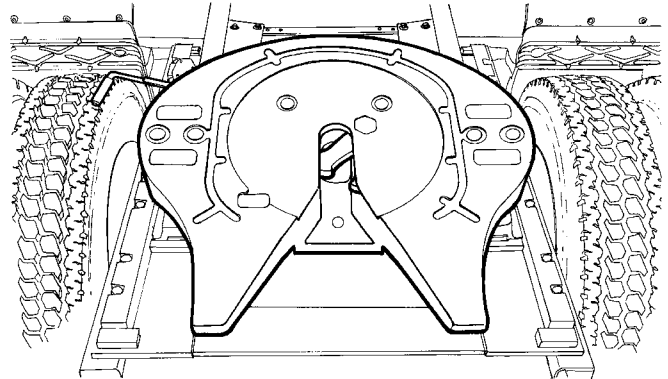
W9000230

Design and Function

Fifth Wheel

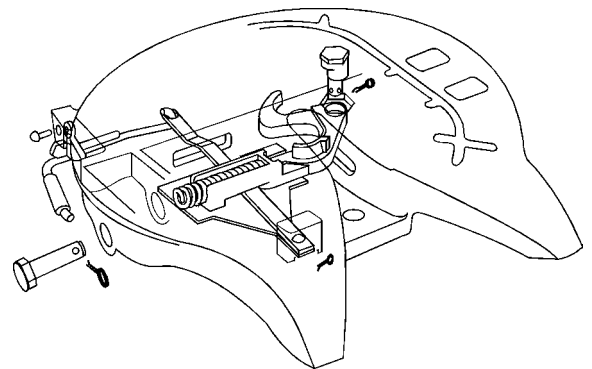
See also "Fifth Wheel" page 3.

The Volvo fifth wheel can be identified by the Volvo name which is cast into the top plate. The top plate has a large grease pattern reservoir and can be lubricated with the trailer hooked up.



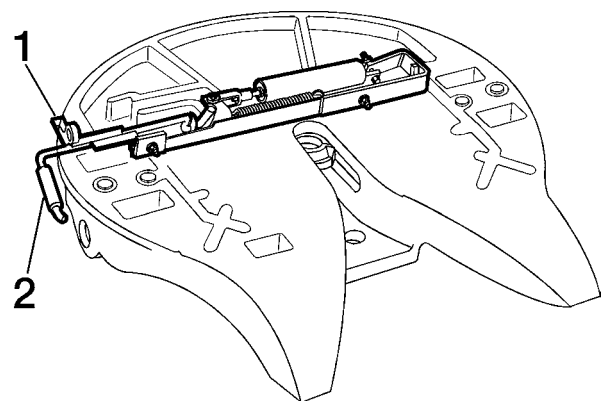
W9000516

The fifth wheel locking mechanism has only 12 parts, 5 of which are moving. The jaw can be adjusted in a few minutes using a pair of pliers. The jaw is mounted with an eccentric jaw pin and can be adjusted 3 times. This process can be accomplished by a 7-step process of lifting the jaw pin and rotating it to a new position to create a tighter fit.



W9000207

There are several operational features of the fifth wheel. It has a built in safety latch (1- Fig. 2: Volvo Fifth Wheel page 9) that must be rotated toward the rear of the fifth wheel before the operating rod (2- Fig. 2: Volvo Fifth Wheel page 9), used to unlock the fifth wheel, is pulled. This safety latch allows the driver to confirm that the fifth wheel is locked or unlocked. The operating rod used to unlock the fifth wheel is also designed to require less effort to pull.



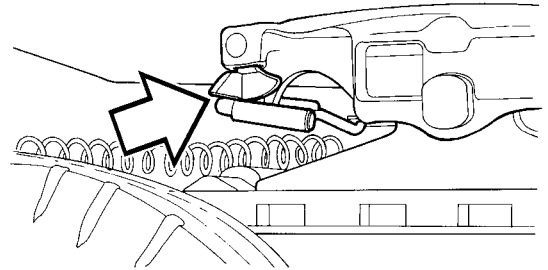
W9000243

Fig. 2: Volvo Fifth Wheel

- 1 Safety latch
- 2 Operating rod

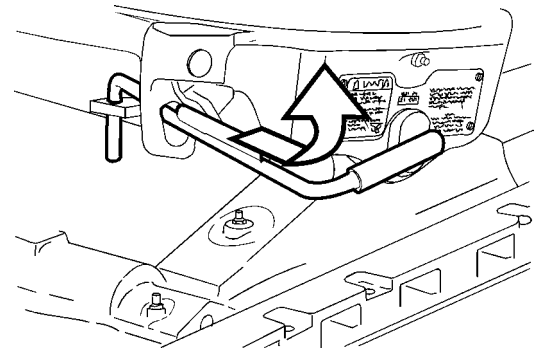
There are three operating positions for the fifth wheel locking mechanism:

Locked—This is the position that the fifth wheel is in with a trailer hooked up. In the locked position the operating rod is retracted and the safety latch will swing back and forth freely.



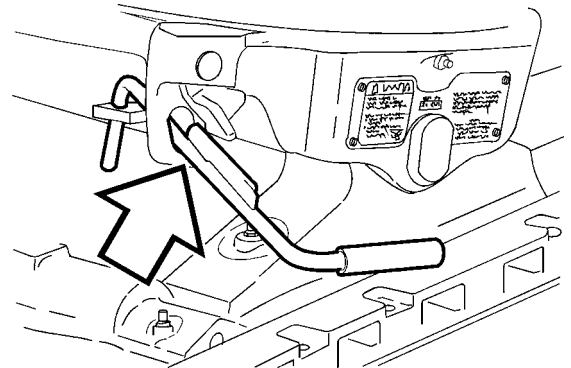
W9000180

Lockset—This is the position the fifth wheel is in when uncoupling the trailer. To achieve the lockset position, the operating rod is pulled out with a slight upward motion. The operating rod shoulder will catch on the plate casting. The safety latch is rotated toward the rear of the fifth wheel.



W9000242

Open—This is the position the fifth wheel is in after the trailer is uncoupled. The jaw is open and the operating rod is now dropped down and can be moved around freely. The safety latch is rotated toward the rear of the fifth wheel. This is the position the fifth wheel must be in when being coupled to a trailer.

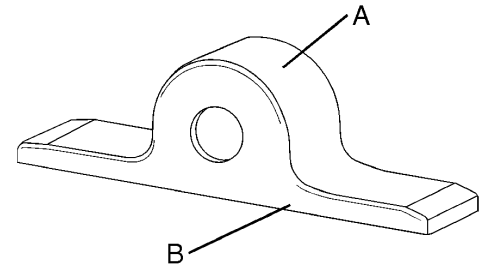


W9000203

Fifth Wheel Bracket Trunnion

The fifth wheel plate is attached to the slider or stationary mounting bracket by use of a trunnion arrangement.

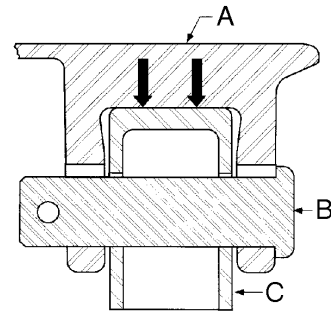
The fifth wheel plate sits directly on top of the fifth wheel bracket trunnions. By using this mounting arrangement, the bracket pins bear no vertical load from the trailer.



W9000567

- A Bracket trunnion
- B Bracket

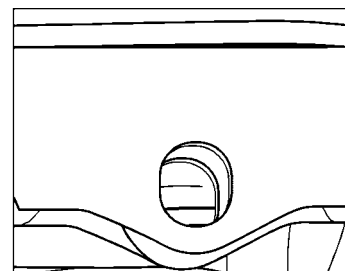
The fifth wheel plate to bracket connection is designed to minimize wear between the plate and the brackets. To ensure that excessive wear does not occur, the fifth wheel plate to bracket connection was designed so that the load applied to the fifth wheel is transferred to the bracket trunnions. The bracket trunnions provide the maximum bearing area which reduces wear between the fifth wheel plate and the bracket. It is secured to the bracket by a bracket pin on each side of the fifth wheel.



W9000568

- A Fifth wheel
- B Bracket pin
- C Bracket

To eliminate bracket pin loading, the fifth wheel plate bracket pin hole is oblong in shape. This clearance assures that the vertical load will be transferred to the bracket trunnions and not the bracket pins.



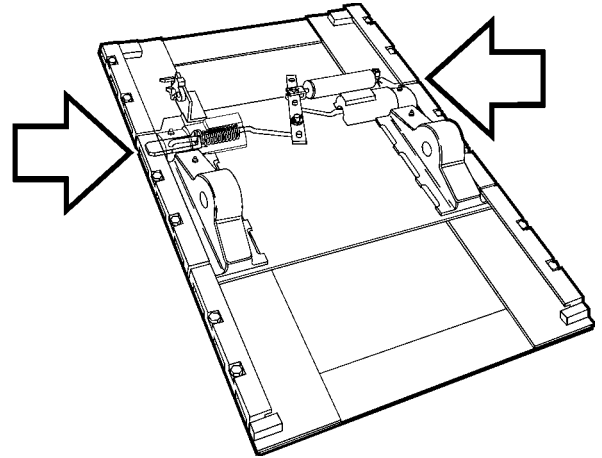
W9000227

Fifth Wheel Slider

The fifth wheel comes standard with an air operational slider. This feature allows the driver to distribute the load easily on the axles to remain within legal weight limits.

The air operated slider takes the work out of adjusting the tractor for various trailer loads. The fifth wheel portion is easily adjusted even with a fully loaded trailer connected.

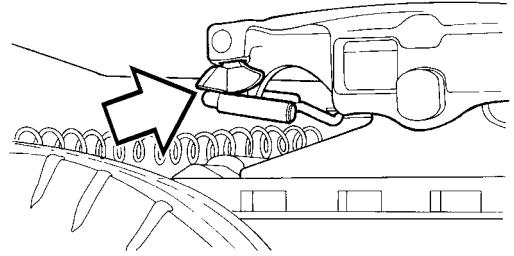
Movement between the adjustable saddle plate and the stationary base plate rail can result in wear, causing longitudinal, latitudinal and vertical slack. Field repairs can be made to reduce this slack for additional service life.



W9000205

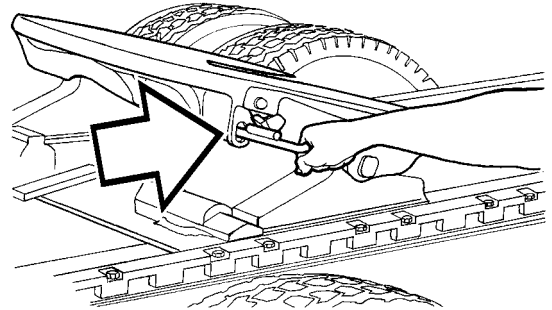
Unlocking the Fifth Wheel

Rotate the safety latch toward the rear of the fifth wheel.



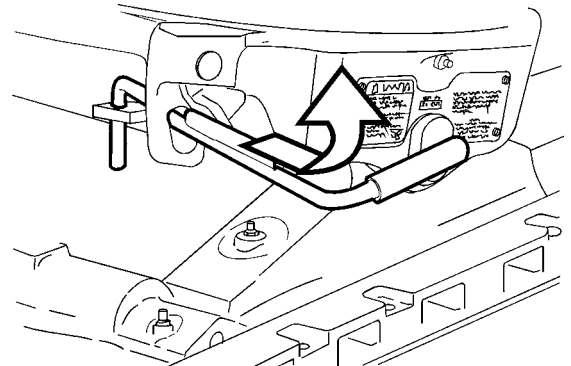
W9000180

Using a slight upward motion, pull the operating rod out until the operating rod shoulder is outside the fifth wheel operating slot.



W9000202

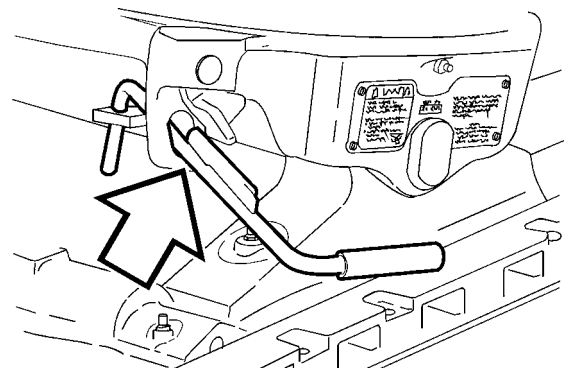
When the shoulder of the operating rod is outside of the operating slot, raise the operating rod handle to its maximum upward position.



W9000242

Release the operating rod. The upper shoulder of the operating rod should now be in contact with the plate casting above the operating slot. The fifth wheel is now in the lockset position.

The fifth wheel may now be uncoupled from the trailer. After the trailer is uncoupled, the fifth wheel will be in the open position. The operating rod will drop and can be moved around freely.



W9000203

Fifth Wheel Kingpin Air Release Switch, Operation

DANGER

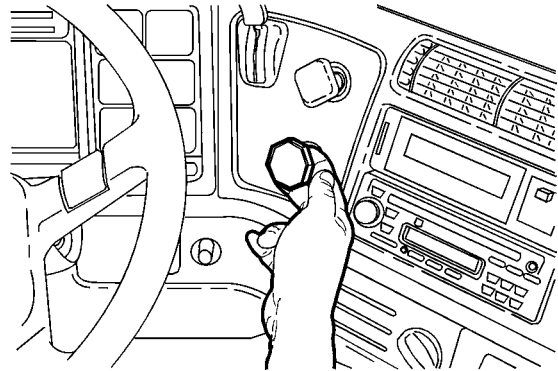
Check that the transmission is in neutral, the wheels to the trailer are chocked and that the parking brake is applied. Failure to do so can result in unintended trailer movement, serious injury or death.

DANGER

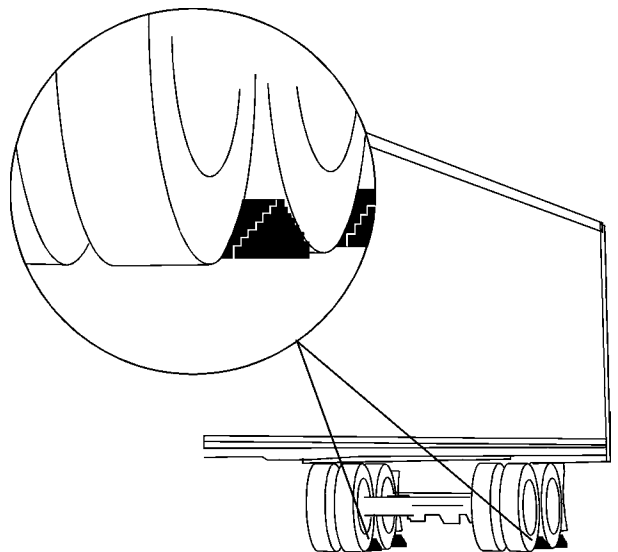
Stay clear when suspension air is released. Chassis may drop quickly and can cause serious injury or death to anyone under the vehicle.

Park the vehicle and apply the parking brake for both the tractor and trailer.

Place the transmission in neutral and chock the trailer wheels.



W5000921

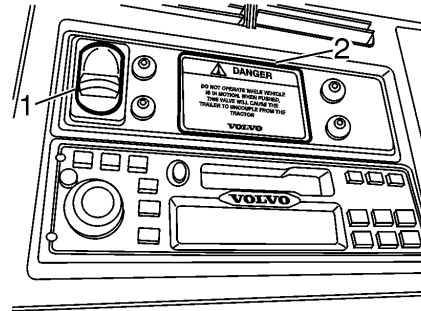


W9000263

Lower the trailer landing gear until it touches the ground and then lower it a few extra turns in low gear.


Disconnect the trailer electrical and air supply lines from the trailer.

To release the fifth wheel kingpin lock, engage the fifth wheel air release switch, by pushing upward to release the locking mechanism.



W9000494

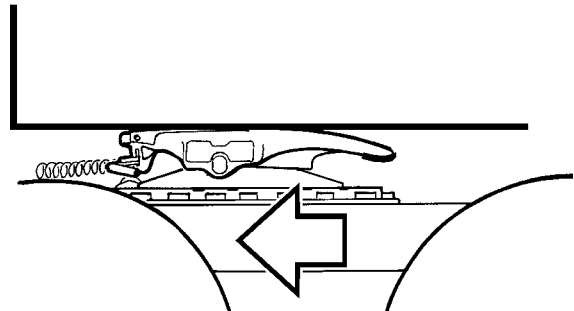
- 1 Fifth Wheel Air Release Switch
- 2 Fifth Wheel Air Release Danger Label


DANGER

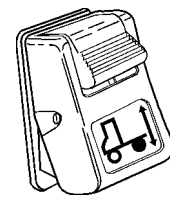
Activation of the kingpin lock release switch **only** unlocks the kingpin latch mechanism. To relock the latch mechanism, you **must** pull forward and then back up to reengage the kingpin lock mechanism. Failure to follow these instructions can result in separation of the trailer from the tractor causing personal injury or death.

Release the tractor parking brake and drive the tractor away from the kingpin approximately 300 mm (12 in.).

To deflate the air springs, press the suspension control switch, by pushing down the latch and pressing the bottom part of the switch.

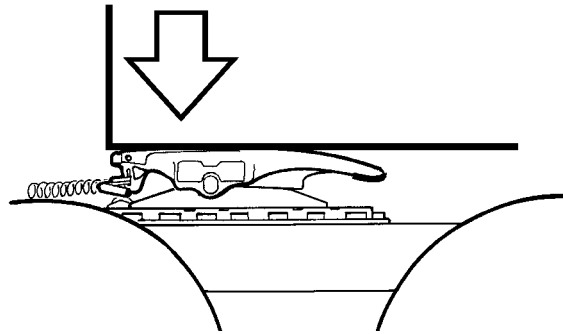


W9000239



W3001341

Wait 30 seconds for the air springs to deflate.



W9000238

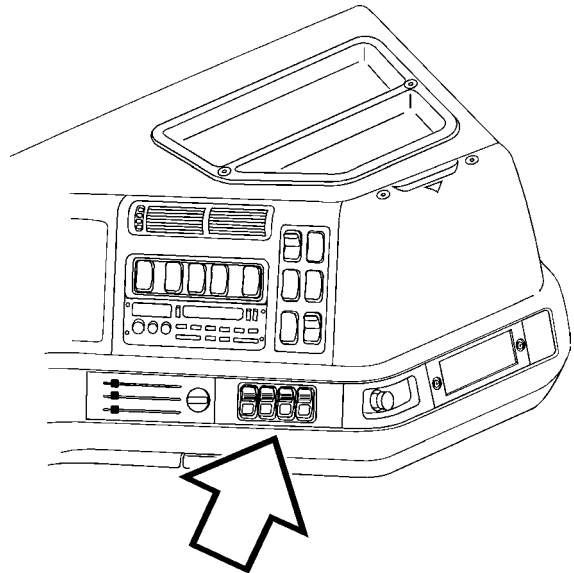
After the suspension lowers, pull clear of the trailer and immediately select the Ride switch to restore the vehicle to proper operating height.



CAUTION

The vehicle must never be driven with the air springs deflated. Damage to air suspension parts will occur if springs are not inflated properly.

Note: The fifth wheel kingpin lock will only relock by completing the recoupling procedure as described in the fifth wheel general information section of your operator's manual. For further information refer to "Fifth Wheel Coupling Procedures" page 17.



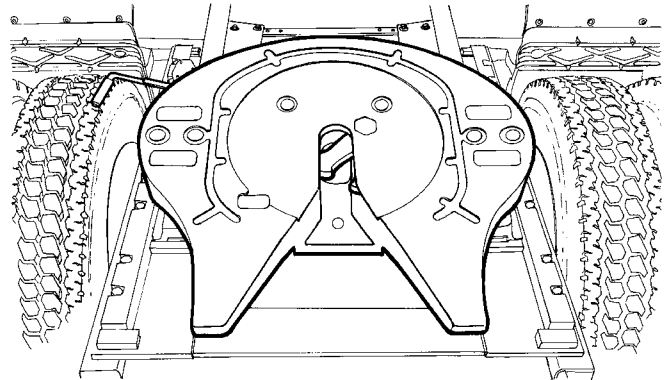
W8001459

Fifth Wheel Coupling Procedures

DANGER

Failure to properly couple the tractor and trailer can result in their separation, causing death and property damage. It is important that the operating and service procedures pertaining to fifth wheels be fully understood and closely followed.

Using the following procedures, inspect the equipment before coupling to a trailer:
Make sure the fifth wheel is properly lubricated and the jaw is in the open position.

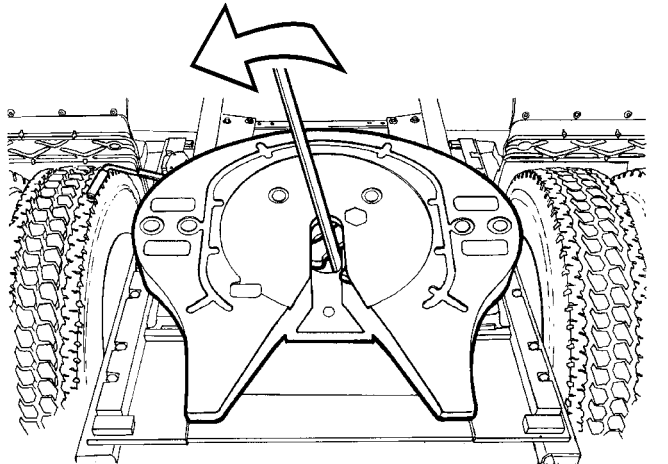


W9000516

WARNING

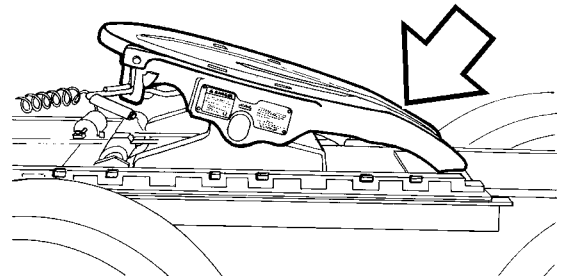
If the jaw is not in the open position use a pry bar to rotate the jaw to the open position. The lock is spring loaded. Keep hands away to avoid injury.

If necessary, use a pry bar to open the fifth wheel jaw.



W9000517

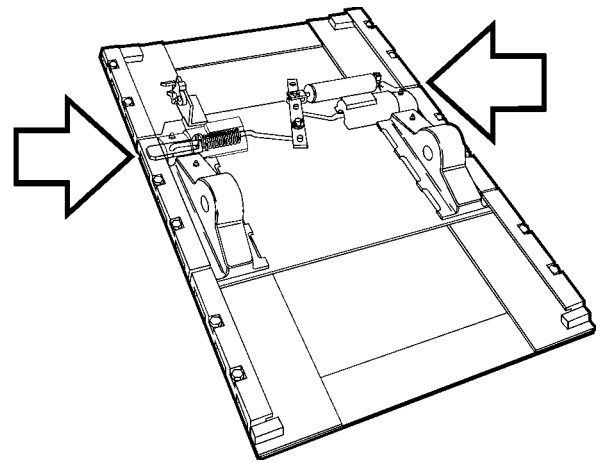
Make sure the plate is tilted downward at the rear in the proper position.



W9000236

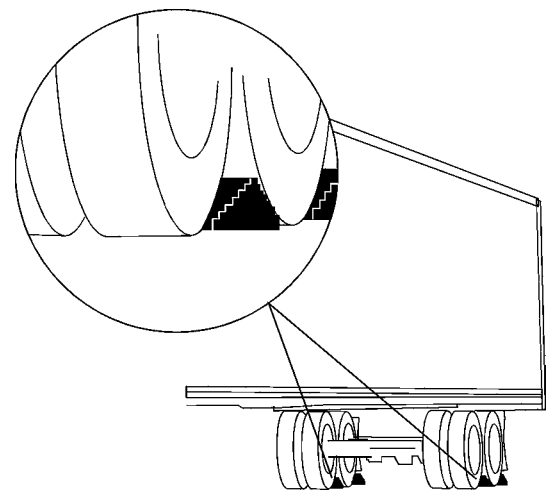
Make sure the mounting of the fifth wheel to the tractor frame is tight and in good condition. Ensure that the fifth wheel mounting angles are parallel to the top flange of the frame rails.

If using a sliding fifth wheel, make sure the slide locking plungers are fully engaged.



W9000205

Place the transmission in neutral and chock the trailer wheels.



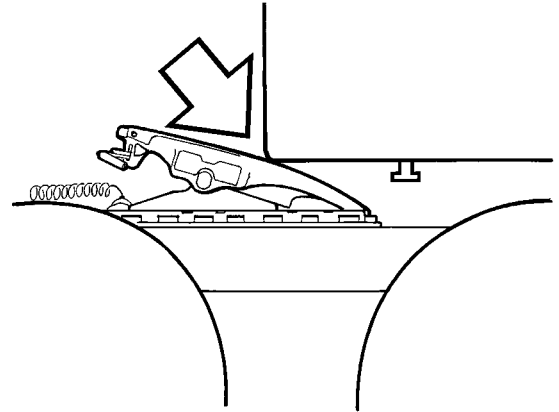
W9000263

Back up close to the trailer, centering the kingpin on the throat of the fifth wheel, and STOP.

Note: For tractors with air ride suspension, make sure the suspension control switch is in the "RIDE" position and the air springs are inflated.

Check to see that the trailer is at the proper height for coupling. The leading edge of the trailer plate should initially contact the fifth wheel top plate surface about 200 mm (8 in.) behind the pivot point as the tractor backs under the trailer. Raise or lower the trailer landing gear as required to obtain this position.

Keeping the trailer kingpin centered in the throat of the fifth wheel, back firmly into the kingpin. Then pull forward, slightly, to test the completeness of the coupling as an *initial* check.



W9000237

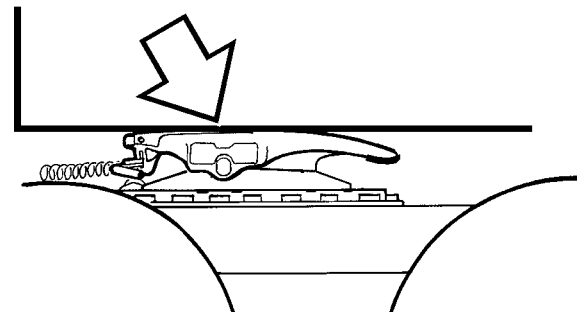


CAUTION

A direct visual check is required to assure proper coupling. Several types of improper coupling will pass the initial pull test. Sound is not reliable. Do not take for granted that you are properly coupled. Get out of the cab and look.

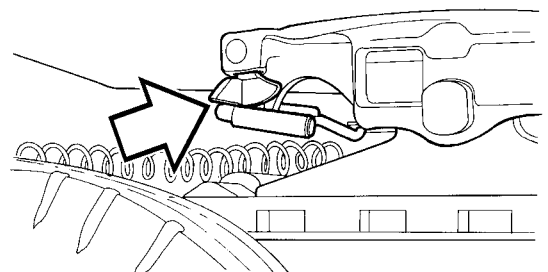
Connect the air brake lines and the electrical power cord.

Make sure the trailer bed is resting on the top surface of the fifth wheel plate and that there is no visible gap between the fifth wheel and the trailer bed plate.



W9000240

Make sure the operating rod is fully retracted, the safety latch is positioned above the handle and the latch swings freely.

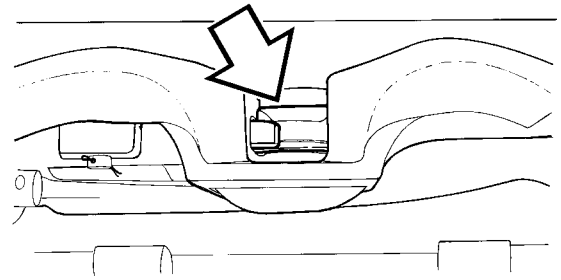


W9000180

Make sure the trailer kingpin is in the fifth wheel slot and the jaw is closed behind the pin.

Note: To verify that the kingpin is actually in the fifth wheel slot and the jaw is closed behind, the pin must be visually inspected from the rear. Use a flashlight if necessary.

Check the kingpin to fifth wheel clearance by moving the tractor backward and forward with the trailer brakes set. If the clearance is more than 3 mm (1/8 in.) or if the jaw does not lock, the fifth wheel should be inspected by a qualified technician before proceeding. See “Jaw to Kingpin Clearance, Checking” page 34. Wind up the trailer landing gear (trailer support) to its fully retracted position. Fold down or remove the crank handle and place it in the crank handle holder. Check the air brake lines and the trailer electrical connections. Remove the wheel chocks from the trailer wheels.



W9000181

Fifth Wheel Uncoupling Procedures

For tractors with air ride suspension:

DANGER

Check that the transmission is in neutral, the wheels to the trailer are chocked and that the parking brake is applied. Failure to do so can result in unintended trailer movement, serious injury or death.

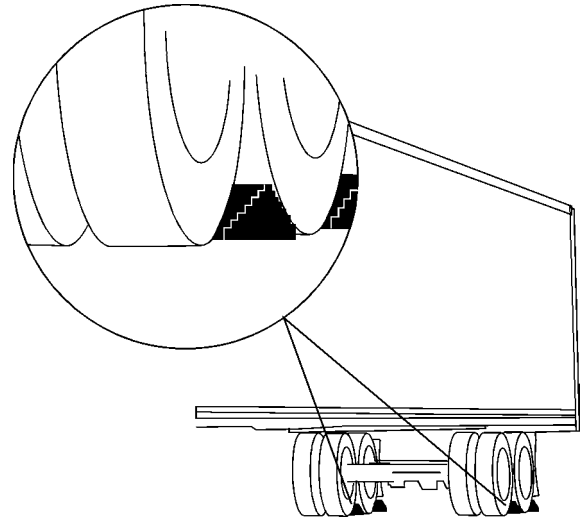
DANGER

Stay clear when suspension air is released. Chassis may drop quickly and can cause serious injury or death to anyone under the vehicle.

Set the system park brake on the tractor.

Set the trailer brakes by pulling out the trailer air supply knob.

Place the transmission in neutral and chock the trailer wheels.



W9000263

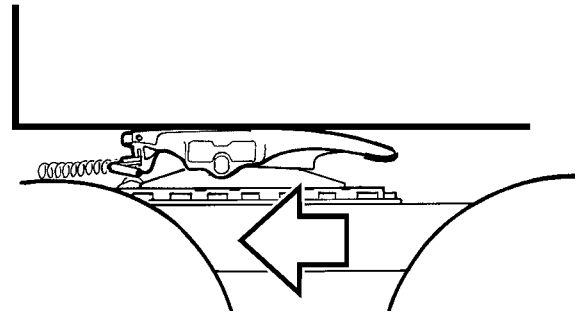
Wind down the landing gear until it touches the ground and then give it a few extra turns in low gear. Do not raise the trailer off the fifth wheel. It may be necessary to provide a base for the landing gear in poor ground conditions. Fold down or remove the crank handle and place it in the crank handle holder.

Disconnect the light cord and air brake lines. Use the dummy air couplings to keep foreign material from entering the brake lines.

Unlock the fifth wheel. For further information, refer to "Unlocking the Fifth Wheel" page 13.

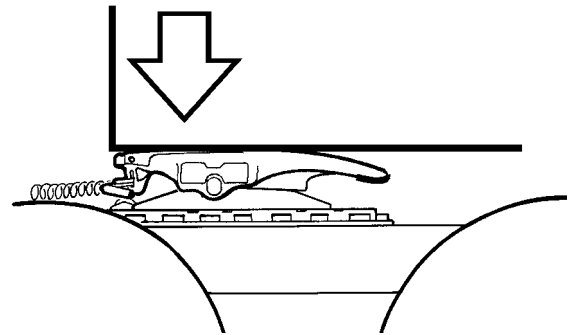
Note: If the operating rod is too difficult to pull, back the tractor up slightly to relieve any kingpin load against the fifth wheel jaw.

Release the tractor park brakes and pull the tractor away from the kingpin about 300 mm (12 in.) and STOP. Do not allow the fifth wheel to leave the underside of the trailer.



W9000239

Select the "UNCOUPLE" position on the suspension control switch to deflate the air bags. Wait about 30 seconds for the air springs to deflate.



W9000238

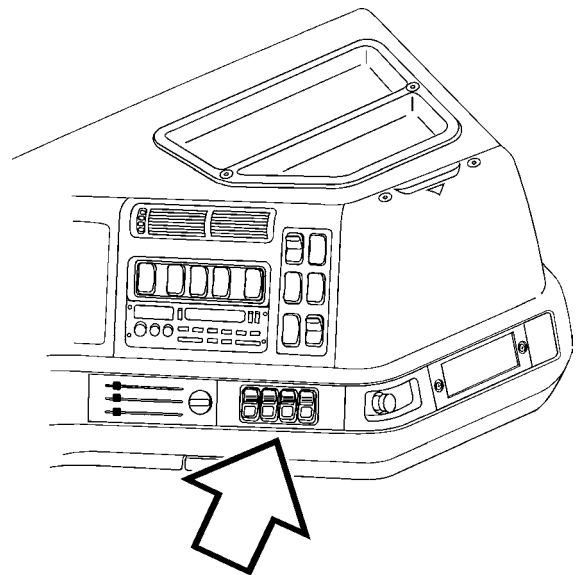


CAUTION

The vehicle must never be driven with the air springs deflated. Damage to air suspension parts will occur if springs are not inflated properly.

After the suspension lowers, pull clear of the trailer and immediately select the Ride switch to restore the vehicle to proper operating height.

Note: The fifth wheel kingpin lock will only relock by completing the recoupling procedure as described in the fifth wheel general information section of your operator's manual.



W8001459

For tractors without air ride suspension:

DANGER

Check that the transmission is in neutral, the wheels to the trailer are chocked and that the parking brake is applied. Failure to do so can result in unintended trailer movement, serious injury or death.

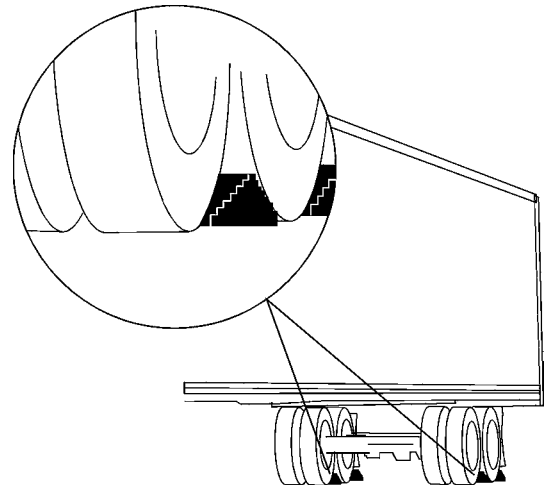
DANGER

Stay clear when suspension air is released. Chassis may drop quickly and can cause serious injury or death to anyone under the vehicle.

Set the system park brake on the tractor.
Set the trailer brakes by pulling out the trailer air supply knob.

Place the transmission in neutral and chock the trailer wheels.

Wind down the landing gear until it touches the ground and then give it a few extra turns in low gear. Do not raise the trailer off the fifth wheel. It may be necessary to provide a base for the landing gear on poor ground conditions. Fold down or remove the crank handle and place it in the crank handle holder.



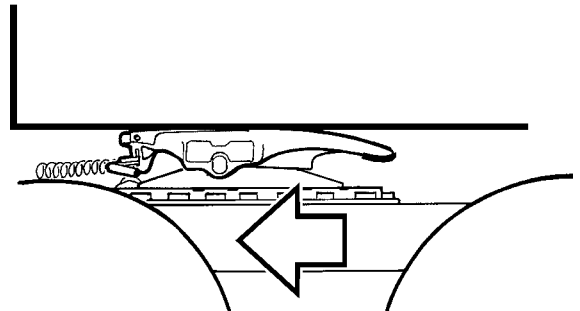
W9000263

Disconnect the electrical and air supply lines. Use the dummy air couplings to keep foreign material from entering the brake lines.

Unlock the fifth wheel.

Note: If the operating rod is too difficult to pull, back tractor slightly to relieve any kingpin load against the fifth wheel jaw.

Release the tractor park brakes and slowly drive the tractor out from under the trailer. Let the trailer slide down the fifth wheel and pickup ramps.



W9000239

Operating the Slider

Stop the tractor and trailer in a straight line on level ground.

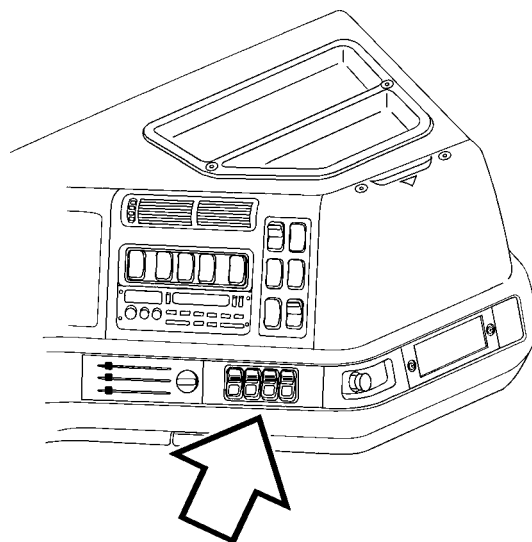
Lock the trailer brakes.



CAUTION

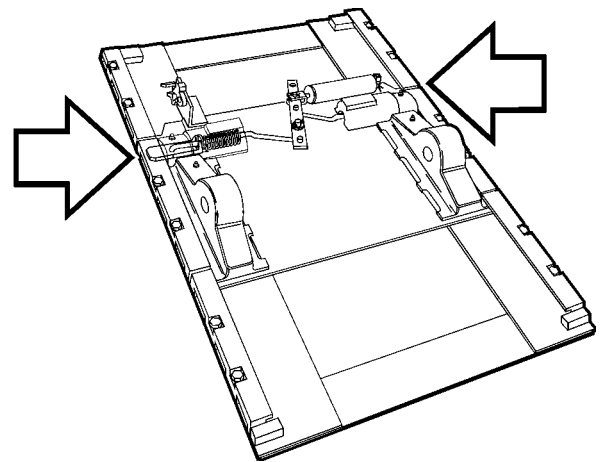
The trailer must be stopped and the trailer brakes locked or damage to the tractor and/or trailer may result from uncontrolled sliding of the fifth wheel.

Release the slide locking plungers by moving the switch to the "UNLOCK" position.



W8001459

Check to see that both of the slide plungers have released. If the plungers do not come out, lower the landing gear to relieve the pressure on the plungers. Lowering the landing gear will also allow the fifth wheel to slide easier.



W9000205

Slowly drive the tractor forward or backward to position the fifth wheel.

After sliding the fifth wheel to the desired position, engage the slide locking plungers by moving the cab switch to the "LOCK" position.

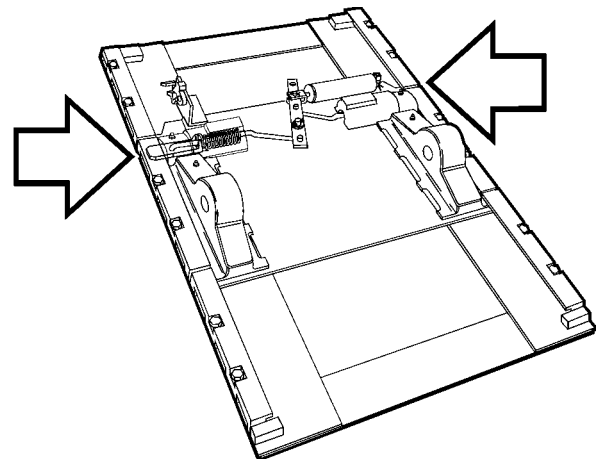


CAUTION

Do not operate the vehicle if the plungers are not fully engaged and the trailer landing gear is not fully retracted. Doing so may cause damage to the tractor, trailer, and landing gear.

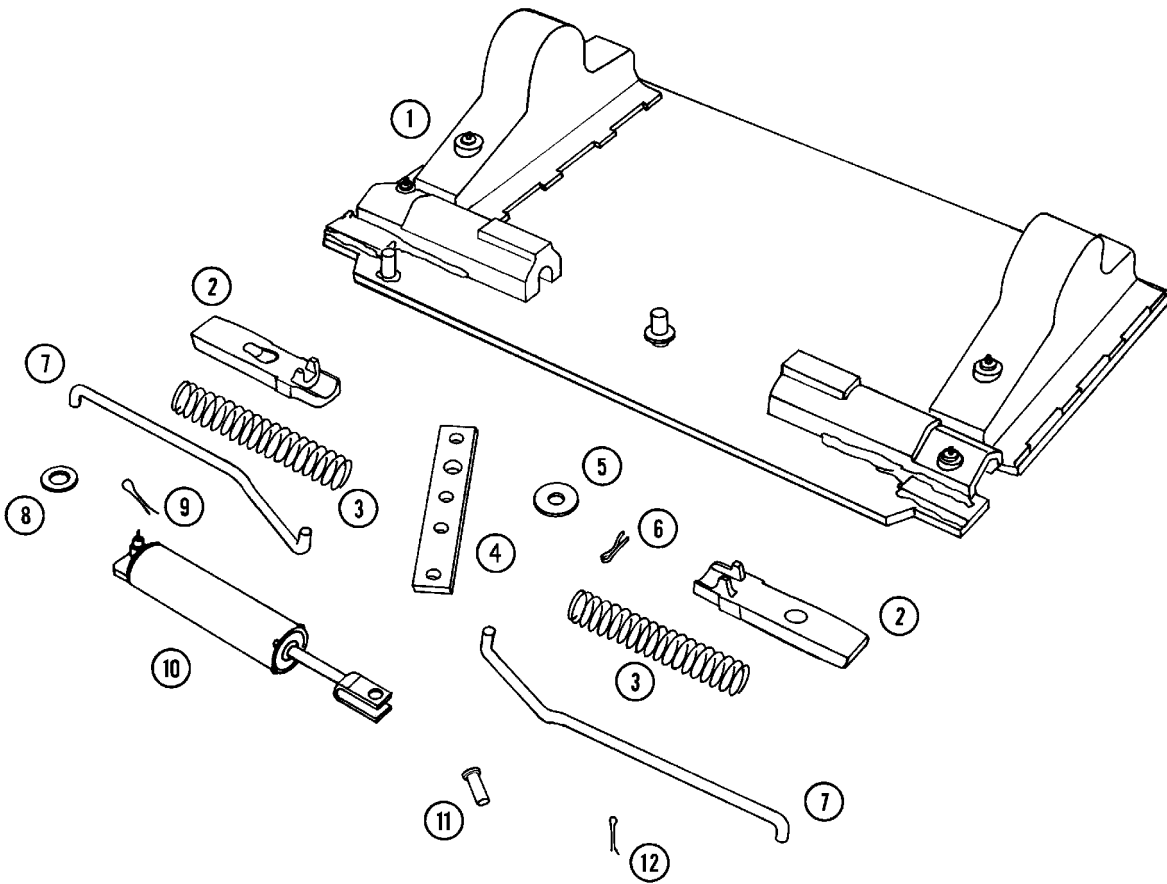
Visually check to see that the slide plungers are fully engaged. Leaving the trailer brakes locked and moving the tractor slightly may be necessary to engage the slide plungers into the rail.

Wind up the trailer landing gear to its fully retracted position.



W9000205

Saddle Plate Assembly



W9000254

- 1 Saddle plate
- 2 Lock pins (2)
- 3 Springs (2)
- 4 Linkage operating levers
- 5 Washer
- 6 Clinch pin
- 7 Linkage operating rods (2)
- 8 Washer (air cylinder)
- 9 Cotter pin (air cylinder)
- 10 Air cylinder
- 11 Pin
- 12 Cotter pin

Troubleshooting

Fifth Wheel Troubleshooting

Fifth wheel hard to couple to trailer

Possible cause	Repair Procedure
Jaw pin over-adjusted for kingpin slack	Check adjustment using a new kingpin or gauge. Readjust if necessary.
Jaw opening spread due to high couple attempt	Measure jaw opening. If greater than 60 mm (2 3/8 in.) replace jaw.
Bent lever bar	Check and replace if required.
Bent operating rod	Check and replace if required.
Jammed safety latch	If safety latch is bent, replace. Inspect operating rod.
Bent cover plate that is interfering with movement	Inspect; replace if bent.
Accumulated grime restricts lock operation	Check operation. Clean and add light lubrication to moving parts.

Fifth wheel hard to uncouple from trailer

Possible cause	Repair Procedure
Kingpin applying pressure to jaw	Back tractor into trailer to relieve pressure.
Jaw adjusted too tight	Back tractor into trailer to relieve pressure. Unlock fifth wheel. Readjust as necessary.
Bent lever bar and/or operating rod	Inspect and replace as required.
Bent cover plate interfering with lock movement	Inspect; replace if bent.
Kingpin applying upward force to jaw	Make sure tractor air springs are fully inflated.

Service Procedures

9222-06-03-01

Fifth Wheel, Checking

See also "Fifth Wheel" page 3.

General Inspection

Note: To achieve maximum life and safety, fifth wheels must be regularly inspected and properly serviced. Recommended service interval is every 3 months or 48,000 km (30,000 miles).

For safe and efficient operation, the following should be inspected:

1

Check for any cracked, broken or missing parts. Replace as necessary.

2

Ensure cotter pins are adequately spread for proper lock. Clinch pins and cotter pins should be installed with the short leg in the upward direction.

3

All mounting bolts should be torqued for 5/8 to 270 ± 25 Nm (200 ± 20 ft-lb) and M16 to 320 ± 50 Nm (236 ± 37 ft-lb).

270 ± 25 Nm
(200 ± 20 ft-lb)
, 320 ± 50 Nm
(236 ± 37 ft-lb)

4



WARNING

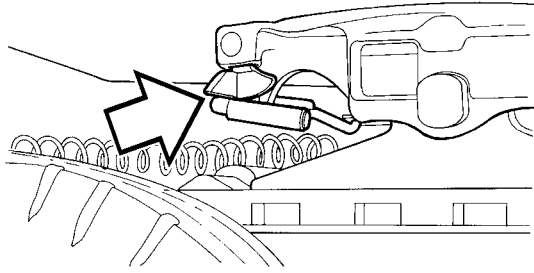
Eye injury hazard. Wear eye protection when welding or grinding any part of the truck, trailer, or fifth wheel. Failure to use eye protection could result in severe eye injury and blindness.



CAUTION

Only use a certified welder to weld any part of the fifth wheel.

Check for sharp edges on the top plate. Grind off any sharp edges to a 3 to 6 mm (1/8 to 1/4 in.) radius as required.



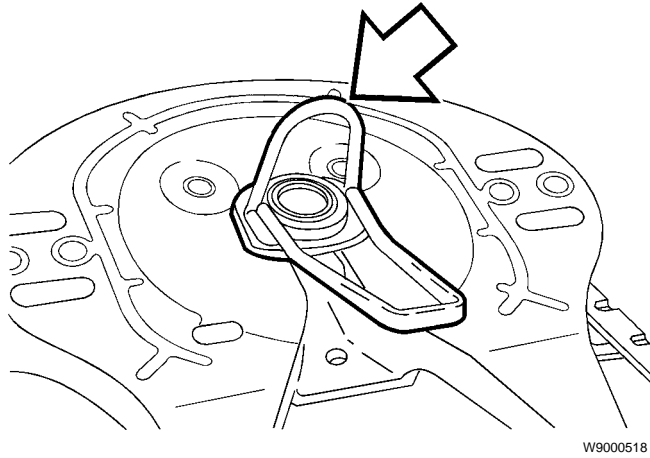
W9000180

5

Check to be sure the safety latch swings freely over the operating rod with the fifth wheel locked and the operating rod fully retracted.

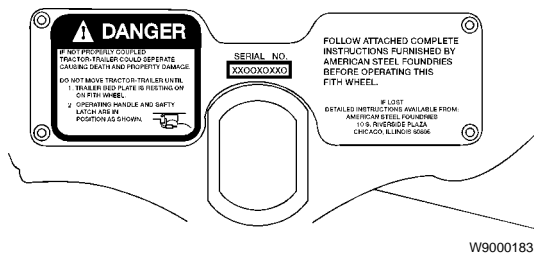
6

Check the lever bar and the operating rod for proper alignment. If the lever bar or operating rod is bent or out of alignment it must be replaced.



7
Using a gauge or new kingpin, check the clearance between the kingpin and jaw. If it exceeds 3 mm (1/8 in.), the jaw should be adjusted. Refer to “Jaw to Kingpin Clearance, Checking” page 34.

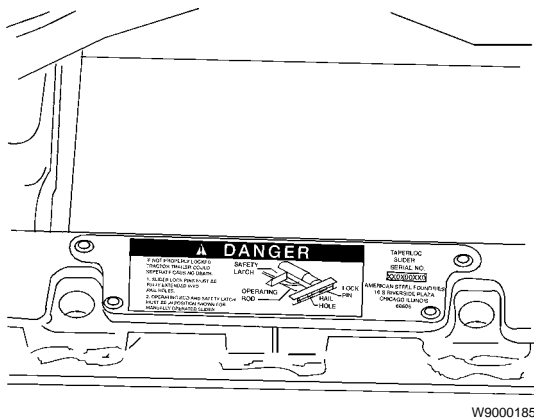
W9000518



8

Check to be sure the DANGER placards are in place and secure. One is located on the left side of the fifth wheel plate. The other is located on the left side of the slider plate.

W9000183



W9000185

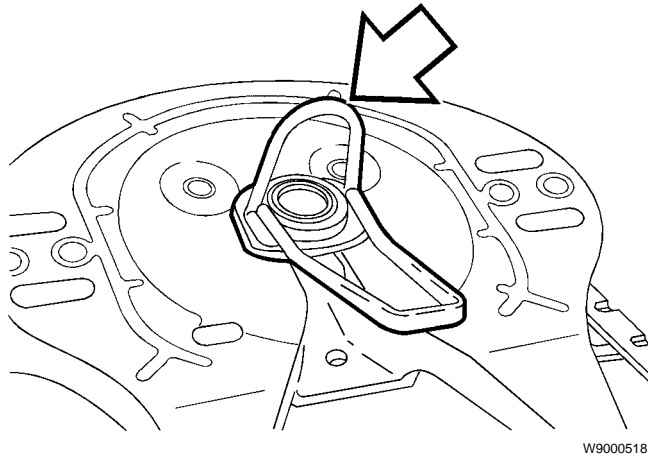
Jaw to Kingpin Clearance, Checking

Note: New fifth wheel units provide approximately 1.5 mm (1/16 in.) clearance between the jaw and the kingpin to permit proper locking and to accommodate SAE kingpin tolerances.



WARNING

The lock is spring loaded. To avoid injury use a pry bar to rotate the jaw when opening or closing the locking mechanism. Keep hands away to avoid injury.



1

Ram a gauge or a new kingpin into the open jaw to achieve a coupled and locked condition. The safety latch must swing freely over the operating rod and the operating rod must be fully retracted.

2

Measure maximum longitudinal movement between the jaw and kingpin. If using a gauge, the plate must be flat on the fifth wheel.

3

If the jaw to kingpin clearance exceeds 3 mm (1/8 in.), the clearance must be adjusted using the eccentric pin on which the jaw pivots. See "Fifth Wheel Jaw to Kingpin Clearance, Adjustment" page 42.

4

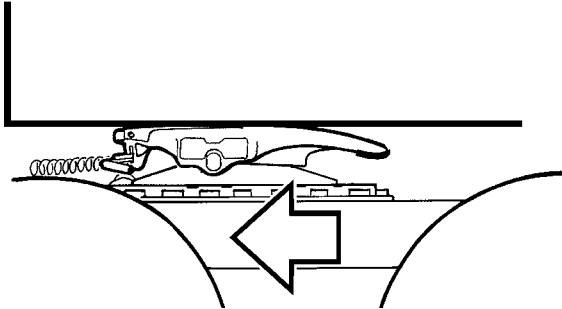
Remove the gauge or new kingpin. (It will require considerable force to remove this from the fifth wheel).

Horizontal Movement Between Upper and Lower Half, Checking

Note: In this procedure the upper half is the trailer connection (trailer, trailer bed plate and kingpin). The lower half is the fifth wheel (fifth wheel plate, mounting plate, etc.).

1

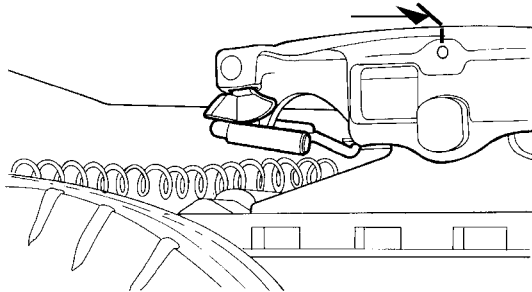
With a trailer properly hooked up to the tractor, apply the trailer brakes and move the tractor forward.



W9000239

2

Scribe a line on the fifth wheel plate above the pin hole.



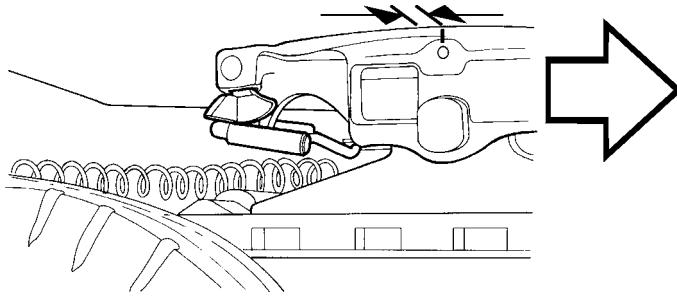
W8001458

3

Scribe another line on the underside of the trailer bed plate, even with the line on the fifth wheel.

4

With the trailer brake still applied, move the tractor rearward.



W9000250

5

Scribe another line even with the line on the fifth wheel on the underside of the trailer bed plate.

6

Measure the distance between the two scribed lines on the underside of the trailer bed plate.

7

The measurement between the two scribed lines is the horizontal movement between the upper half and the lower half (trailer and the fifth wheel). Horizontal movement must not exceed 12.7 mm (0.5 in.).

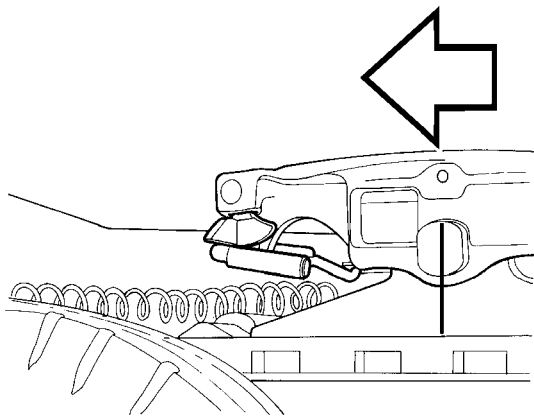
Horizontal Movement Between Pivot Bracket Pin and Bracket, Checking

1

With a trailer properly hooked up to the tractor, apply the trailer brakes and move the tractor forward.

2

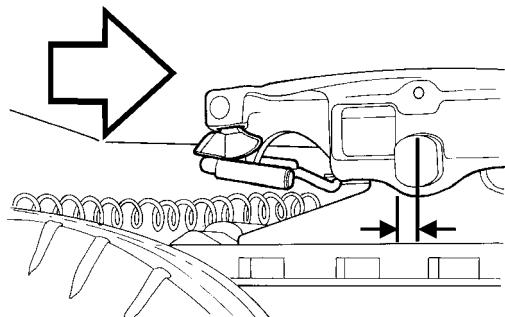
Scribe a line on the side of the saddle plate bracket below the pin hole.



W8001456

3

Scribe another line on the fifth wheel plate even with the line on the bracket.



W8001457

4

With the trailer brakes still applied, move the tractor rearward and scribe another line on the saddle plate bracket even with the line on the fifth wheel plate.

5

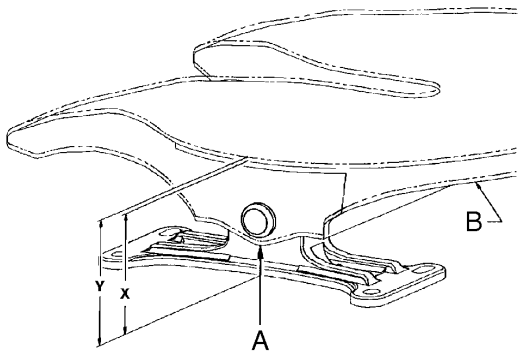
Measure the distance between the two scribed lines on the saddle plate bracket. The measurement between the two scribed lines is the movement between the pivot bracket pin and the bracket. Horizontal movement must not exceed 9.5 mm (0.375 in.). If the movement exceeds 9.5 mm (0.375 in.) replace the saddle plate.

Top Plate Vertical Movement, Checking

Note: If the tractor is equipped with a sliding fifth wheel mount, the vertical movement must be locked down with clamps to ensure measurement accuracy.

1

Level the fifth wheel top plate fore and aft.



A Pry here

B Top plate

2

Measure distance "X" from a point on the mounting plate to the top of the fifth wheel plate.

3

Pry top plate upward at center of bracket pin.

4

While fifth wheel top plate is in the raised position, measure distance "Y" similar to how distance "X" was measured.

5

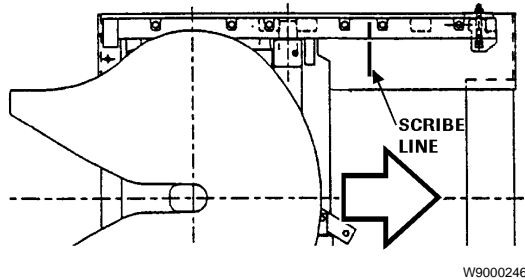
The difference between measurements "X" and "Y" is the vertical movement.

6

This measurement on a new fifth wheel is 1.5 mm (1/16 in.) nominal. Maximum allowable vertical movement is 8 mm (5/16 in.). If larger than 8 mm (5/16 in.).

Slider Longitudinal Slack, Checking

Note: Longitudinal movement of the saddle plate can result in wear to the saddle plate lock pocket openings and the lock pins. Most of this wear occurs in the lock pocket opening. This wear can be weld repaired for additional service without heat treatment. Weld repair of the lock pocket opening and the addition of a new lock pin will reduce the longitudinal slack to a like-new-condition.

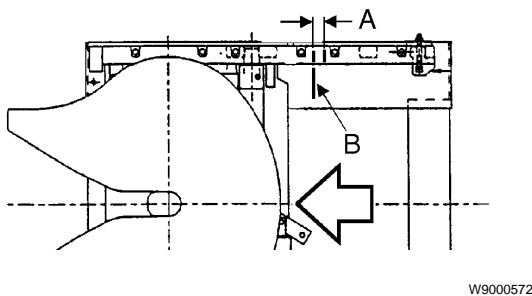


1
With the lock pins in the rail segments in a locked position, use a pry bar to move the saddle plate forward at both sides.

2
Scribe lines on the base plates adjacent to the saddle plate edges.

3
Then move the saddle plate rearward.

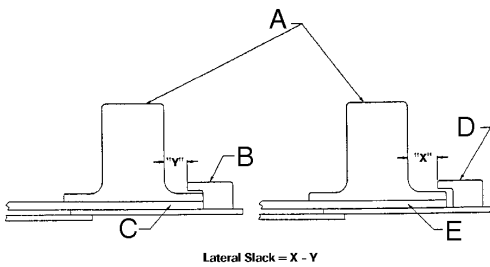
4
Measure the distance between the scribed lines and the edge of the saddle plate on both sides.



A Longitudinal Slack
B Scribe here

5
If this measurement is greater than 9.5 mm (3/8 in.) at either side.

Slider Lateral Slack, Checking



W9000569

- | | |
|---|----------------------|
| A | Saddle plate bracket |
| B | Baseplate rail |
| C | Saddle plate |
| D | Baseplate rail |
| E | Saddle plate |

1

With a pry bar, move the saddle plate to one side and measure the distance "X" between the top inside of the base plate rail and the side of the saddle plate bracket near the bracket center line.

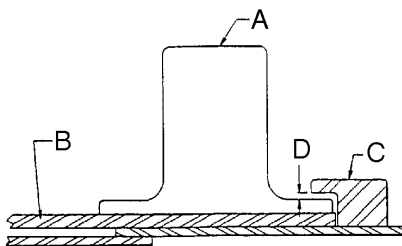
2

Then pry the saddle plate from the opposite side until the saddle plate contacts the inside of the rail and measures the distance "Y."

3

If the difference between these two measurements exceeds 9.5 mm (3/8 in.) repairs should be made.

Slider Vertical Slack, Checking



W9000570

- | | |
|---|-------------------------|
| A | Saddle plate bracket |
| B | Saddle plate |
| C | Base plate rail |
| D | 635 mm (25 in.) maximum |

1

Clean the area in between the saddle plate rail bracket and the base plate rail.

2

Measure the gap between the saddle plate bracket and the plate rail. If the gap exceeds 6 mm (0.25 in.), repairs need to be made.

Slider Lateral and Vertical Combined Slack, Checking

Lateral and vertical slack can exist at the same time. If this condition exists; 9.5 mm (0.38 in.) maximum lateral slack and 6.5 mm (0.25 in.) maximum vertical slack, repairs should be made.

To measure lateral and vertical slack, see the following procedure:

1

For lateral slack checking see "Slider Lateral Slack, Checking" page 40.

2

For vertical slack checking see "Slider Vertical Slack, Checking" page 40.

Fifth Wheel Jaw to Kingpin Clearance, Adjustment

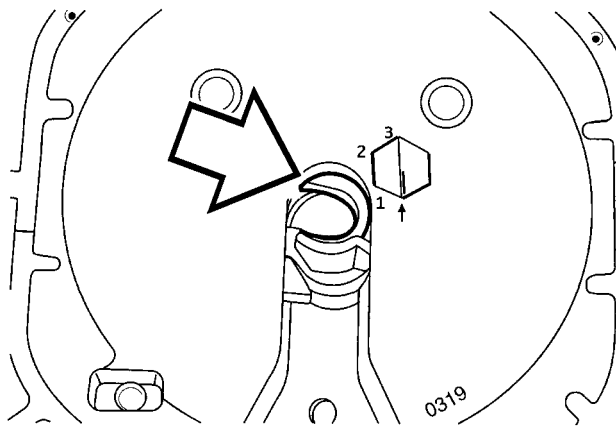
See also "Fifth Wheel" page 3.

1

WARNING

Keep hands away to avoid injury. The lock is spring loaded. Use a pry bar to close lock. Also, the operating rod retracts rapidly, so stand clear during lockup.

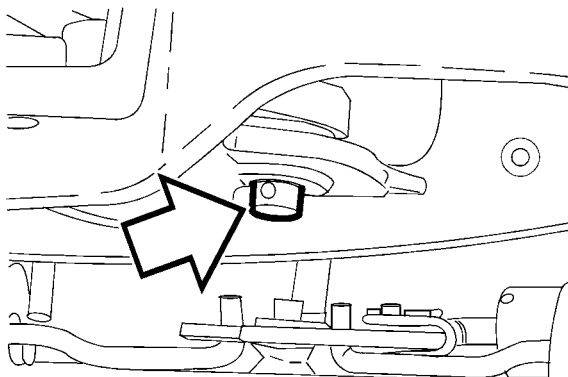
Use a pry bar and rotate the jaw to the locked position. This removes pressure on the jaw pin.



W9000519

2

Remove the jaw pin clinch pin or cotter pin from under the fifth wheel.

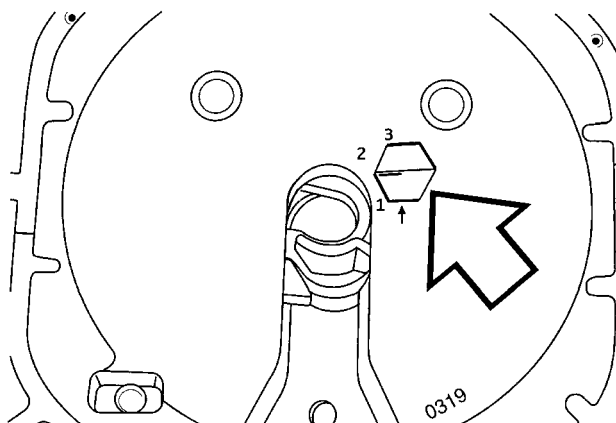


W9000189

3

Lift the jaw pin sufficiently to clear the indexing head, and rotate the pin to the next higher number position or refer to table below to determine how many positions to rotate the jaw pin.

Position	Cumulative	Incremental
1	1.5 mm (1/16 in.)	1.5mm (1/16 in.)
2	4.0 mm (5/32 in.)	2.3 mm (3/32 in.)
3	5.5 mm (7/32 in.)	1.5 mm (1/16 in.)



W9000520

4

Reinstall the jaw pin.

5

Pull the operating rod to the lockset position and use a pry bar to open the jaw.

6

Ram the gauge or new kingpin into the open jaw to achieve a coupled and locked condition and measure clearance. If the clearance remains excessive, repeat steps 1 through 5 until the clearance allows approximately 1.5 mm (1/16 in.) of kingpin movement.

**WARNING**

Do not over-adjust or the fifth wheel will not lock to a new king pin. Failure to follow these instructions can result in separation of the trailer from the tractor causing personal injury or death.

7

After final adjustment, insert and spread a new cotter pin or reinstall the clinch pin.

Note: Do not rotate the jaw pin beyond position 3. If more than 1/8 in. clearance remains at position 3, replace the jaw and the jaw pin.

System check

Fifth Wheel, Cleaning

See also "Fifth Wheel" page 3.

To optimize the fifth wheel performance and service life, steam clean the entire fifth wheel on a periodic basis to remove grease contaminated with dirt.

After steam cleaning, always relubricate the fifth wheel, being sure to follow the instructions in "Fifth Wheel, Lubrication" page 45.

Fifth Wheel, Lubrication

See also "Fifth Wheel" page 3.

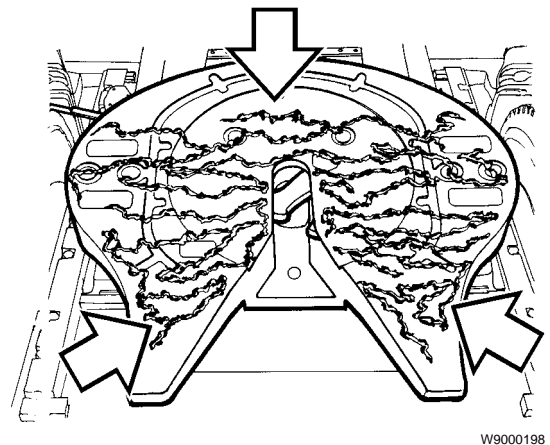
The fifth wheels and sliders have grease fittings at several locations.

The fifth wheel and slider assemblies should always be relubricated after steam cleaning. Otherwise lubricate, at least every 24,000 km (15,000 miles).

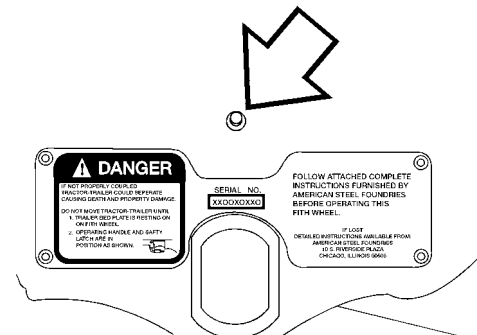
Chassis or multipurpose grease is recommended on the fifth wheel and slider assemblies.

A heavy coating of grease should be maintained on the fifth wheel plate by using the grease fittings on the underside of the fifth wheel top plate or by direct application to the top of the plate. The Volvo fifth wheel can be greased with the trailer connected by using the grease fittings at the underside of the top plate.

Grease the support bracket trunnions through the fittings over the bracket pins.

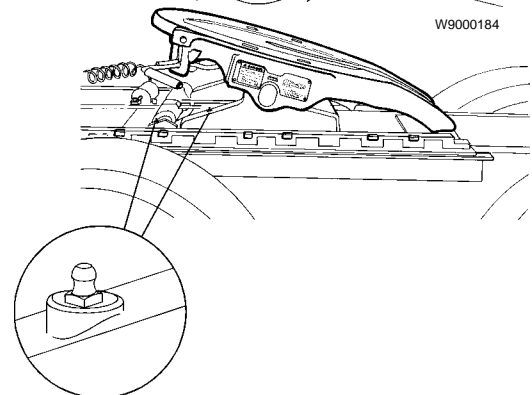


W9000198



W9000184

Grease the fittings at the saddle plate (1 each side) and the saddle plate lock pockets (1 each side).



W9000261

VOLVO

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