

TrailerSaver TSLB Owners Manual

Version 5.9

Hensley Mfg., Inc.
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WARNING

EXCEEDING MAXIMUM CAPACITY

CREATES A SAFETY HAZARD

The TrailerSaver TSLB system attaches to a mounting surface that is connected directly to the tow vehicle chassis. The TSLB is rated for maximum pin weight of 5,000 pounds and gross trailer weight of 32,000 pounds (including the load). The towing vehicle is separately rated for maximum pin weight and the gross weight of the trailer (including the load). Refer to the manufacturer of the vehicle for gross weight of your towing vehicle. Do not exceed the maximum of the towing vehicle or the TrailerSaver hitch.

Table of Contents

1	Warranty Provisions	4
1.1	What Is Covered.....	4
1.2	What Is Not Covered.....	4
2	TrailerSaver Parts Identified	6
2.1	TrailerSaver Replacement Parts List.....	7
3	Accessories List.....	11
3.1	TSLB	11
3.2	Tools.....	12
4	INSTALLATION	13
4.1	TSLB Installation.....	13
4.1.1	Hole Pattern	15
4.2	3 rd Airbag Kit Installation.....	16
4.3	Gooseneck Adapter Installation	17
4.4	Proper Inflation/Deflation	17
4.5	Installation/Operation of Compressor with Dash Panel Controller	19
5	Standard Hooking and Unhooking Procedures.....	21
5.1	Hooking Up.....	22
5.2	Unhooking	23
5.3	Non Grease Lube Plates	24
6	Maintenance.....	25
7	TROUBLESHOOTING	27
7.1	TSLB General Troubleshooting.....	27
7.1.1	The pneumatic paddle indicates high air pressure without air in the bags.	27
7.1.2	I hear a squeak from the hitch.....	27
7.1.3	I cannot get the handle from the 10 o'clock position to the 9 o'clock position.....	27
7.1.4	I am getting a rough ride.	27
8	Accessories	28
9	Maintenance Log	29

Tables / Figures

Figure 2.1	TSLB	6
Figure 3.1	Handle(PN 45503)/Hook(PN 45506) Extension	11
Figure 3.2	Pneumatic paddle control valve and pressure gauge (PN 45045).....	11
Figure 3.3	Torque wrench with grease gun (PN N/A).....	12
Figure 4.1	Hitch Placement	13
Figure 4.2	TSLB Hole Pattern	15
Figure 4.3	TSLB 3 rd Airbag (PN 45550).....	16
Figure 4.4	Airbag placement (PN 45550).....	16
Figure 4.5	Line up Airbag.....	16

Figure 4.6 Airbag bolts	16
Figure 4.7 Gooseneck Installation (PN 45540).....	17
Figure 4.8 White hitch mark	18
Figure 4.9 Inflating to the white mark.....	18
Figure 4.10 Dash Panel (PN 45406)	19
Figure 4.11 Molded two-prong connector.....	19
Figure 4.12 Strip the outer jacket	19
Figure 4.13 Strip ¼” insulation	19
Figure 4.14 Insert into tee fitting (PN 49212)	20
Figure 4.15 Dash Panel (PN 45406)	20
Figure 5.1 Handle(PN 45503)/Hook(PN 45506) Extension	21
Figure 5.2 Eight o'clock Position.....	21
Figure 5.3 Nine o'clock Position.....	21
Figure 5.4 Ten o'clock Position.....	21
Figure 5.5 Before Hooking up (Nine o'clock).....	22
Figure 5.6 Retainer Pin view at Eight o'clock.....	22
Figure 5.7 Padlock into Eight o'clock position	22
Figure 5.8 Ten o'clock position (note red mark is exposed).....	23
Figure 5.9 Non Grease Lube Plates (PN 46242)	24
Figure 6.1 Grease every 4,000 miles	25
Figure 6.2 Check pivot bolt wear (PN 44031)	25
Figure 6.3 Fore/Aft Pivot Pins	25
Figure 6.4 Jaw Pivot pins location	25
Figure 6.5 Tilt spring location (PN 44009).....	26
Figure 6.6 Jaw mechanism	26
Figure 7.1 Lubricate fore and aft pivot pins.....	27
Figure 8.1 Vinyl Hitch Cover (PN 45570).....	28
Figure 8.2 Gooseneck adapter ball (PN 45540).....	28
Figure 8.3 Emergency Kit (PN 45600).....	28
Figure 8.4 Lube Plates (PN 46242).....	28
Figure 8.5 Ultimate Tire Chock (PN 40050).....	28

1 Warranty Provisions

The TrailerSaver hitch comes standard with a 3-year warranty on everything except the air springs and the optional 12 volt air compressor or related accessories, both which carry a 1-year warranty from their manufacturer.

NOTE:**IMPORTANT**

Hensley Mfg., Inc. is not responsible for and will not compensate for lost time, vacation, or wages if a hitch is inoperable or requires repair.

1.1 What Is Covered

The warranty period begins on the date of purchase.

The warranty is limited to the original purchaser of the TrailerSaver hitch and is non-transferable.

This warranty covers repair or replacement to any TrailerSaver part that is defective in materials or workmanship under normal use.

Warranty items must be returned to Hensley Mfg., Inc. for inspection.

Customer is responsible for all freight charges associated with warranty work.

1.2 What Is Not Covered

Items added, changed, or modified after the unit left the possession of Hensley Mfg., Inc.

Any use of the TrailerSaver for rental or other commercial purposes.

Normal wear and usage, such as fading or discoloration of painted parts.

Minor imperfections which do not affect the suitability of the TrailerSaver for its intended use.

Costs incurred as a result of the consumer's request to have repairs performed, or replacement of parts supplied by other than Hensley Mfg., Inc. without proper authorization or notification by Hensley Mfg., Inc.

This warranty does not apply to or cover any component which has its own warranty by its manufacturer.

**WARNING: IMPORTANT
EXCEEDING MAXIMUM CAPACITY CREATES A SAFETY HAZARD.**

TSLB: 32,000 lb. max – Gross Trailer Weight Rating and 5,000 lb max pin weight

If you have any warranty- related questions, please contact Hensley Mfg. at (800) 410-6580.

For Warranty Exchanges ship all parts with Return Authorization # to:

Hensley Mfg., Inc. RMA# _____
378 Industrial Park Lane
Hardinsburg, KY 40143

2 TrailerSaver Parts Identified

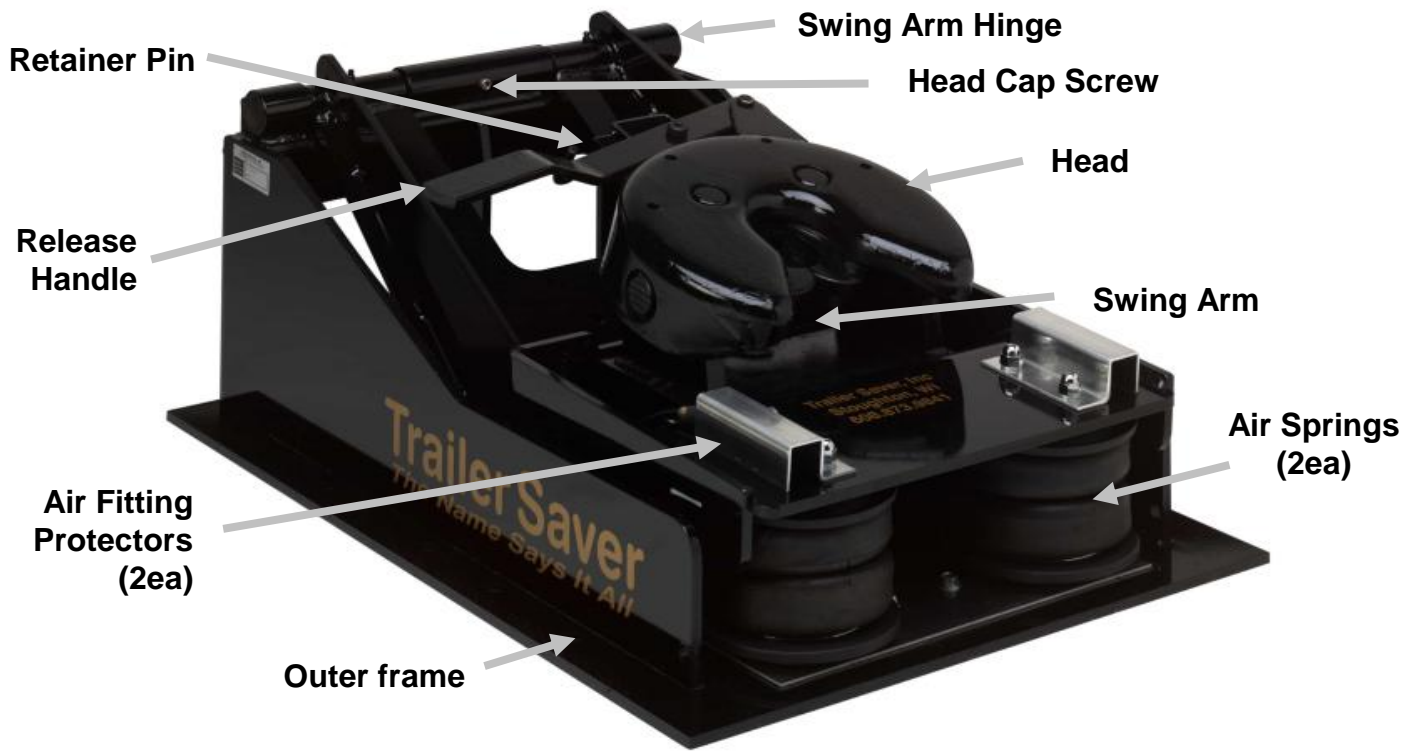


Figure 2.1 TSLB

2.1 TrailerSaver Replacement Parts List

	Chrome Nut Cover 9/16"	45033
	Grease Fitting	41024
	Tilt Spring	44009
	Centering Spring	44012
	Pivot (Axis) Bolt	44031
		
	Air Fitting Protector	45030
	Union Tee (air fitting)	49212
	Swivel Elbow (air fitting)	49209
	Swivel Elbow (3rd airbag only)	45554
	Air Tubing	45036
	Complete Head	44001
	Air Spring	45006

	Handle Extension (TSLB)	45503
	Hook Extension (TSLB)	45506
	Break Away Bracket	45010
	Air Spring Roll Plate	45009
	Jaw Opening Spring	43057
	Pneumatic Dash Control W/gauge (TSLB)	45045
	Compressor	45409
	7-Way Power Harness	41010

	Head Cap Screw	45012
	Electric Dash Control Gauge/Switch	45406
	Gooseneck adapter	45540
	Lube plate	46242
	TSLB vinyl cover	45570
	Emergency kit	45600

 A black electronic device with a circular gauge and several wires, next to two coiled black cables and a small black component.	Tire chocks	40050
 A black rectangular control panel with a circular gauge and several electrical terminals.	Compressor and dash panel control kit	45400
 A black cylindrical air compressor mounted on a metal base with a circular air outlet and a built-in switch.	Compressor kit with built in switch	45401
	3rd air bag kit	45550

3 Accessories List

The TrailerSaver hitch is delivered fully assembled but every hitch should come with a few standard accessories:

- 1 - Owners Manual and Warranty Card
- 1 - Handle/Hook Extension (for extra reach when hooking and unhooking)



Figure 3.1 Handle(PN 45503)/Hook(PN 45506) Extension

3.1 TSLB



- 1 - pneumatic paddle control valve and pressure gauge
- 15' - ¼ vinyl air tubing
- 1 - PTC union Tee

Figure 3.2 Pneumatic paddle control valve and pressure gauge (PN 45045)

3.2 Tools

NOTE: IMPORTANT

Tools required for installation are minimal however you are required to torque a few bolts.

Torque wrench and Grease Gun with $\frac{1}{2}$ " bolt and drill motor together must be provided by the installer.



Figure 3.3 Torque wrench with grease gun (PN N/A)

The following tools and accessories must be supplied by installer:

Torque wrench with $\frac{1}{2}$ " socket
Grease gun
 $\frac{1}{2}$ " bolts, nuts, and washers
Drill motor and bit

4 INSTALLATION

4.1 TSLB Installation

The TSLB is designed to be bolted on a class 5-8 tractor and is usually installed somewhat differently on every truck. These trucks often have different height and space requirements, making the hitch location different. This installation manual is just a guideline and actual installation may vary slightly.



Figure 4.1 Hitch Placement

It is recommended that the hitch be installed with the kingpin centered over or just ahead of the rear axle. If this is not possible the hitch can be installed further back, often without negative results. See the enclosed hole pattern diagram on page 15.

1. The hitch must be bolted to the trucks frame members and may be accomplished in many different ways:
2. One $\frac{1}{2}$ " thick plate steel covering the entire base of the hitch and extending to both frame members
3. 2 $\frac{3}{4}$ " x 6" steel plates which extend to both frame members
4. Combination of plate steel and angle iron
5. When installing the cross members, be sure to fasten them to the face of the frame with vertical members. Both cross members and vertical members must be bolted together.
6. After the installation base is secured, use the hitch as a guide and drill $\frac{1}{2}$ " holes through the steel plate and secure with grade 5 or grade 8 bolts. Use at least 4 holes on each side of the hitch, making sure the hitch is secured at both ends.
7. Consult with an experienced hitch installer for other methods of installing a hitch for this application.
8. See page 16 for pneumatic paddle control air kit, included with the hitch.
9. Fasten pneumatic paddle control gauge/switch in the cab, preferably where it can be accessed from inside or outside the truck.

10. Locate a charged air supply from the truck. Cut airline and insert $\frac{1}{4}$ " Tee between cut ends. Insert $\frac{1}{4}$ " tubing into open port of tee and route to the gauge/switch assembly in the cab. Plug in supply port of switch
11. With remaining air tube plug into delivery port of switch and route to the hitch and insert into open tee in the front of the TSLB.
12. Secure the air lines so they do not come in contact with anything that may rub a hole in it. Be sure to route tubing in a fashion where it cannot become pinched, bent, or cut.

4.1.1 Hole Pattern

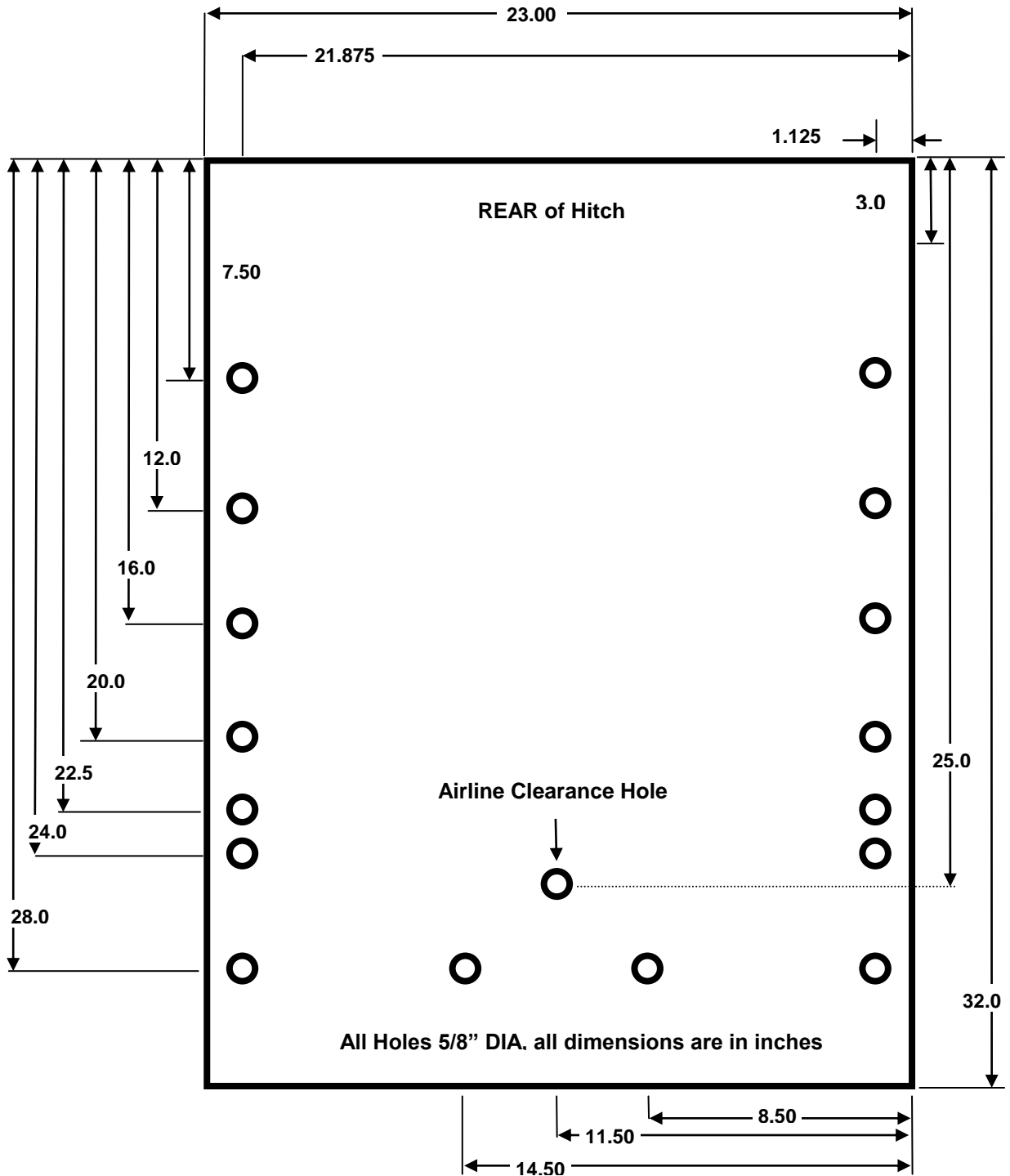


Figure 4.2 TSLB Hole Pattern

4.2 3rd Airbag Kit Installation



Figure 4.3 TSLB 3rd Airbag (PN 45550)



Figure 4.4 Airbag placement (PN 45550)

The TSLB can be ordered with or without a 3rd airbag to increase pin weight capacity to 7,500 lbs and can be retrofitted later. To retrofit a TSLB with a 3rd airbag follow these steps:

13. Inflate air springs to lift the hitch and place a block of wood under the swing arm to keep the hitch open.
14. Place 3rd airbag, bracket down, in cavity located directly under the swing arm.
15. Line up the two holes on the bracket with the two pre-drilled holes on base of the hitch and thread the two 5/16" bolts through the holes.



Figure 4.5 Line up Airbag



Figure 4.6 Airbag bolts

16. Thread the two 3/8" bolts through the swing arm and into the threads on the top of the 3rd airbag.
17. Cut the air tube any place between the two existing airbags and insert into both open ends of the tee already attached to the 3rd airbag.
18. Test for air leaks with soapy water.

4.3 Gooseneck Adapter Installation



Figure 4.7 Gooseneck Installation (PN 45540)

To install the gooseneck adaptor on either a TS3 or TSLB;

19. Unthread the nut from the pivot bolt,
20. Remove hitch head and replace with gooseneck adaptor.
21. Retighten the nut until the gooseneck adaptor is firm.

4.4 Proper Inflation/Deflation

The TSLB is equipped with a pneumatic paddle control kit and plumbing to tap into the onboard air system of a medium or heavy duty truck. For installations on a truck not equipped with onboard air the hitch can be fitted with a Schrader valve or a 12VDC compressor kit with a built in switch or with dash panel control.

The TSLB is not to be inflated to a specified air pressure but to a specific level. **Do not inflate to greater than 100 PSI!** Follow these steps for proper inflation:

WARNING:	IMPORTANT
Do not inflate to greater than 100 PSI!	

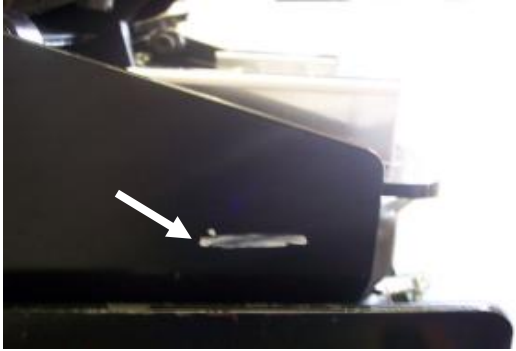


Figure 4.8 White hitch mark



Figure 4.9 Inflating to the white mark

22. Locate the white level mark on the side of the hitch. This line is located on the driver's side. If this mark happens to fade or rub off, a new line can be created at a reference point 1 1/2" up from the bottom of the swing arm.
23. Hook up to the trailer without inflating the hitch and lift trailer stabilizer jacks allowing 100% of the pin weight to rest on the hitch. *See page 22 for hook-up procedures.*
24. Begin inflating until the white mark just clears the outer frame of the hitch. This level is just a guide and the air pressure can be increased or decreased from this point to tailor the ride. As a general rule, avoid inflating to more than 1/2" above level indicator. If the TSLB is inflated to below the level indicator the hitch may bottom out.

To use the supplied pneumatic paddle control switch, simply press the toggle switch up to inflate the hitch and press down to deflate. As the hitch is inflated and deflated, the gauge will indicate changes in air pressure. After the correct air level is determined, the hitch can be inflated to the same air pressure every time.

For a Schrader valve application, use a standard air compressor or pump to inflate the hitch to the appropriate level.

See the next section for installation of electric air compressor with dash panel control.

4.5 Installation/Operation of Compressor with Dash Panel Controller

A TSLB purchased with the dash panel control option will already have the 12VDC compressor bolted into the appropriate location inside the hitch and will be fitted to the airbags. The portion of the compressor kit that will require installation involves the following steps:

NOTE: IMPORTANT

The molded connector that plugs into the compressor has different color wires than the supplied length of 16/2 wire it is connected to.

The molded connector has a red and brown wire. Red is 12VDC and brown is ground. The supplied wire has black and white. The black is 12VDC and white is ground.



Figure 4.10 Dash Panel (PN 45406)



Figure 4.11 Molded two-prong connector

25. Mount the electric gauge assembly in the cab where it can be easily accessed by the driver and preferably reached from outside the vehicle.



Figure 4.12 Strip the outer jacket



Figure 4.13 Strip 1/4" insulation

26. Plug in the molded two-prong connector into the compressor and locate a path to route the supplied wire to the cab controller switch. A common installation would involve routing the wire under the bed of the truck.
27. After the correct length of wire to the switch has been determined, strip the outer jacket of the unfinished end of the supplied cable. Now cut the black wire at the cab switch.

28. Strip ¼” of insulation from both ends of the black wire at the cut and crimp spade connectors on both.
29. Insert both spade connectors on either prong located on the back of the controller switch.
30. Route the remainder of the black wire from the back of the controller to a reliable 12v power source. This power source should be fused at 20 amps.
31. Connect the white wire to a reliable ground on the vehicle. Do not ground to a location that may corrode later. The best ground source is directly to the battery on the truck.



Figure 4.14 Insert into tee fitting (PN 49212)



Figure 4.15 Dash Panel (PN 45406)

32. Insert the ¼” air tube into the open tee fitting inside the hitch. If the compressor was ordered with the hitch, this will be the only open air fitting.
33. Route air tube to the controller trim excess and insert into the open air fitting on the back of the controller/gauge.
34. Test the controller by depressing the toggle switch to activate the compressor. The gauge should indicate an increase in pressure as the compressor inflates the air springs.
35. Follow procedures for standard inflation on page 17 and make note of the air pressure when the level mark is visible. If the hitch is loaded to a consistent pin weight, simply inflate the hitch to the noted air pressure. If hooked to a different trailer, be sure the hitch is inflated to the level indicator.
36. To let air out of the hitch, press the small round button located just beneath the toggle switch on the controller.
37. To remove the hitch, unplug the supplied wire from the molded connector at the hitch and disconnect the ¼ air tube from the tee.

5 Standard Hooking and Unhooking Procedures



Figure 5.1 Handle(PN 45503)/Hook(PN 45506) Extension

Locate the handle/hook extension shipped with the hitch. Use this handle and hook extension to reach the hitch handle and spring loaded retaining pin from outside the truck bed. The hitch handle has 3 positions referred to as 8 o'clock, 9 o'clock "auto-lock", and 10 o'clock as if the hitch head were the face of a clock.

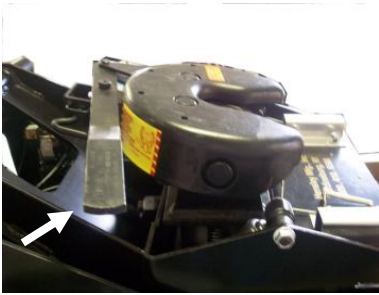


Figure 5.2 Eight o'clock Position

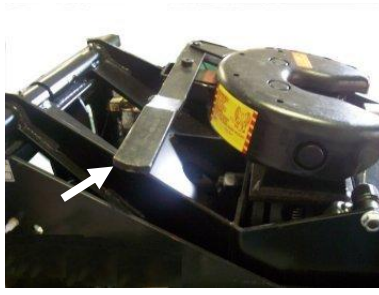


Figure 5.3 Nine o'clock Position

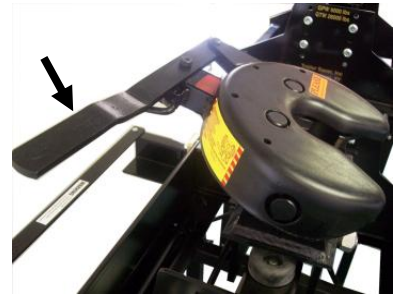


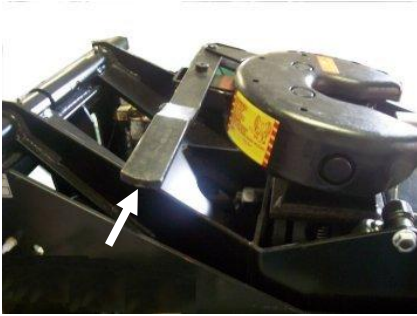
Figure 5.4 Ten o'clock Position

NOTICE:

IMPORTANT

The handle will be locked into the 8 o'clock position when the hitch is properly hooked up to a trailer and ready to tow. The hitch will be delivered in either the 10 or 9 o'clock positions.

5.1 Hooking Up



**Figure 5.5 Before Hooking up
(Nine o'clock)**



**Figure 5.6 Retainer Pin view at
Eight o'clock**



**Figure 5.7 Padlock into
Eight o'clock position**

NOTE: IMPORTANT

Read carefully before and after hooking up.

38. Before hooking up, make sure the handle is at a 90 degree angle (9 o'clock) from the centerline of the hitch or in the auto-lock position.
39. Back the truck to the trailer until the kingpin just enters the "V" opening of the hitch.
40. Lower the trailer until the kingpin plate just makes contact with the hitch head; adding a small amount of air (10 #) may be needed to ensure good contact.
41. Back into the kingpin. The handle will automatically move into the 8 o'clock position and the spring loaded retainer pin should be fully engaged behind the steel block.
42. Note: After every hook-up inspect the retaining pin to make sure it is engaged in the proper position, and push handle toward the cab to ensure it does not move out of the 8 o'clock position.

NOTICE: IMPORTANT

After every hook-up inspect the retaining pin to make sure it is engaged in the proper position, and push handle toward the cab to ensure it does not move out of the 8 o'clock position.

43. Raise trailer jacks and follow standard inflation procedures on page 17.
44. The hitch may be further secured in the 8 o'clock position with a padlock. This is inserted through an opening in the retainer pin housing that is only visible when the hitch is locked onto the kingpin.

WARNING: IMPORTANT

Always inspect for proper hook-up from a safe position that is not directly under the trailer!

NOTE: IMPORTANT

For hook-up troubleshooting, refer to page 27.

5.2 Unhooking

45. Securely chock trailer wheels and lower trailer jacks, applying enough downward pressure to move the trailer up slightly.
46. Using the handle/hook extension pull out on spring loaded retainer pin and push handle toward the cab until it locks in the 10 o'clock position. The jaws should open but if there is pressure against the jaws they will remain closed even though the hitch is unlocked. If this happens, once the vehicle is moved a fraction, the jaws will unbind and spring open.
47. Raise the trailer with the stabilizer jacks until all the weight is off the hitch.
48. Drive away from the trailer.

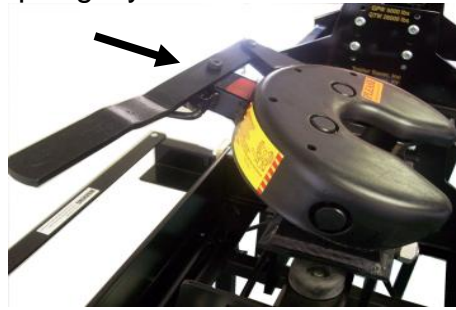


Figure 5.8 Ten o'clock position (note red mark is exposed)

NOTE: IMPORTANT

In the Ten o'clock position the red mark under the head is fully exposed.

5.3 Non Grease Lube Plates



Figure 5.9 Non Grease Lube Plates (PN 46242)

Many trailers are equipped with non-grease lube plates that are generally $\frac{1}{4}$ " thick. The TrailerSaver may not engage around the kingpin if one of these standard lube plates is installed on the trailer. If the TrailerSaver does not lock around the kingpin following standard hook-up procedures, remove the standard lube plate and use grease or purchase a $\frac{1}{8}$ " thick lube plate offered by Hensley Mfg.

6 Maintenance

49. Locate the two grease fittings located on top of the swing arm hinge on the front side of the hitch. Grease these fittings every 4,000 miles using high grade automotive grease.



Figure 6.1 Grease every 4,000 miles



Figure 6.2 Check pivot bolt wear (PN 44031)

50. Check pivot bolt, located directly under head to ensure the nut is tight and not worn. Inspect this bolt once a year for excessive wear. If the hitch has more than 1/8" vertical play the bolt should be replaced. Nut should be tightened just enough to put pressure on the head so that it will not freely move side to side.
51. Apply a spray lubricant to the following parts of the head:
52. Side pivot pins located on both sides of the jaw opening.



Figure 6.3 Fore/Aft Pivot Pins



Figure 6.4 Jaw Pivot pins location

NOTE: **IMPORTANT**
Jaw pivot pins are located on top of head.

53. Spray the tilt spring from front and back of hitch.

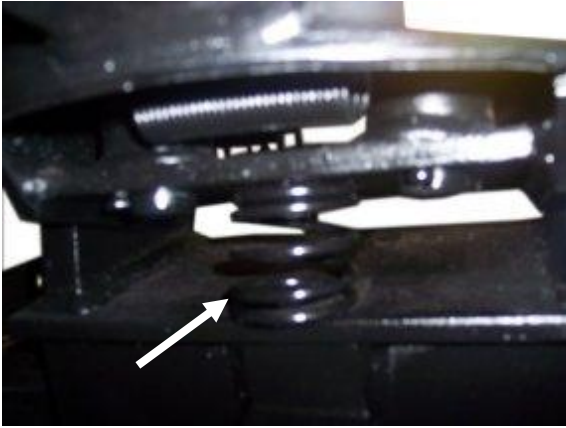


Figure 6.5 Tilt spring location (PN 44009)



Figure 6.6 Jaw mechanism

54. Lubricate jaw mechanism front hitch opening.
55. Protect the air springs from UV rays. Air springs may be treated with a rubber treatment to prolong life. A vinyl hitch cover is also available through Hensley Mfg.

7 TROUBLESHOOTING

7.1 TSLB General Troubleshooting

7.1.1 The pneumatic paddle indicates high air pressure without air in the bags.

56. Inspect the plumbing from the reserve air tank and make sure the air tubing is not pinched.
57. Make sure the air tubing is in the proper input and output ports of the controller

7.1.2 I hear a squeak from the hitch.

Spray a lithium-based lubricant into the two fore and aft pivot pins located on both sides of the hitch coupler.



Figure 7.1 Lubricate fore and aft pivot pins

7.1.3 I cannot get the handle from the 10 o'clock position to the 9 o'clock position.

Grab the hitch handle and push further toward the cab. The hitch should have some slack in the handle, by pushing toward the cab pressure will be relieved from the spring loaded safety pin and it will pull out with ease allowing the handle to move to the 9 o'clock position.

7.1.4 I am getting a rough ride.

58. Check the air pressure with the trailer attached. Hitch should be filled just until the white line is even or above the outer frame.
59. Make sure the trailer load is properly balanced. A trailer with too little pin weight or one that is back-heavy for the overall weight will cause erratic up and down movement at the hitch.
60. For very heavy trailers, make sure air pressure does not exceed 100 PSI in the air springs. If the pressure does exceed 100 PSI the tongue weight is too heavy for the hitch. For TSLB the 3rd airbag kit may be added to reduce air pressure and provide a smoother ride.

8 Accessories

Hensley Mfg. offers several accessories for your TrailerSaver hitch.

Vinyl Hitch Covers for TSLB



Figure 8.1 Vinyl Hitch Cover (PN 45570)

Gooseneck Adapter Ball - Simply unbolt head and replace with Gooseneck adaptor



Figure 8.2 Gooseneck adapter ball (PN 45540)

Emergency Kit - Spare parts kit in case of emergency



Figure 8.3 Emergency Kit (PN 45600)

Lube Plate - For use in place of standard 1/4" lube plate



Figure 8.4 Lube Plates (PN 46242)

Ultimate Tire Chock - A better solution for stabilizing trailer wheels



Figure 8.5 Ultimate Tire Chock (PN 40050)

9 Maintenance Log

Date	Maintenance Description

