Li’l Brute Fifth Wheel Hitch System

Installation Instructions
And
User Guide
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Introduction

- RBW Industries Inc takes great pride in our reputation as an innovative manufacturer of high quality products. We have designed the Li'l Brute Fifth Wheel Hitch System to provide a lifetime of dependable service. It's extremely important to fully read and understand all steps of assembly, installation, operation and maintenance of your new Li'l Brute Hitch System to assure safe, reliable operation.

- Safety is of paramount importance in both installation and use of the Li'l Brute Hitch System. Observe all cautions and notes found in this manual, as well as common sense precautions to ensure the safety of yourself and others.

- Caution: The Li'l Brute is recommended for use in regular size truck beds. For short bed applications, RBW Industries, Inc. Hitch Model UHS-88-15 or UHS-88-15-S (Side Swivel) should be used in conjunction with the UHS-4800 Bed Slide Extensions. This will help prevent damage to the rear of the truck cab due to insufficient clearance.

- For best results, RBW Industries recommends you have your Li'l Brute Hitch System professionally installed by a qualified technician.

- The RBW Industries Li'l Brute Fifth Wheel Hitch System is designed to tow 5th Wheel Trailers with a Gross Vehicle Weight Rating up to 12,000 lbs., and a vertical load rating up to 3,000 lbs. Exceeding the rated capacity could create an unsafe towing condition and is not recommended.

- For ease in attaching the frame brackets, remove one side of the rear tires and block the rear axle. This will allow easy access to the truck frame. Caution: make sure three wheels are firmly on the ground at all times and that the axle is firmly supported to prevent injury from a falling truck.

- Caution: Prior to drilling into the truck bed or frame for installation of the hitch mount, be sure to note the vicinity of brake, fuel or electrical lines. Temporarily relocate them if necessary to avoid possible damage.

- Note: Due to variations in chassis suspension component locations it may be necessary to swap frame bracket locations. Always check for proper fit prior to installation.

- Caution: On all installations there must be a minimum of 5-1/2" between the bottom of the trailer nose and the top of the truck sides. This is to prevent damage to the truck, trailer or hitch due to lack of clearance.
LB-15000
Li'l Brute 12K Fifth Wheel Hitching System

LB-450 ABOVE RAIL HARDWARE BAG
Unpacking and Assembly

**Unpacking:** The Li'l Brute Hitch Assembly ships in four boxes as indicated below. Inspect all parts for damage & verify that all items listed are present.

**Box A Contains:**
- LB-1501 LI'L BRUTE HITCH HEAD
- H-220/H-221 Hitch Handle w/Grip

**Box C Contains:**
- LB-1510 MOUNTING BRACKET ASSEMBLY
  - LB-501 Crossbar Assembly
  - LB-502 Main Body Sides (Qty 2)
  - LB-450 Above Rail Hardware Bag

**Installation Kit Contents (Sold Separately)**

**Box B Contains:**
- LB-500 Below Rail Hardware Bag
- H-240 Short Frame Brackets (Qty 2)
- H-241 Long Frame Brackets (Qty 2)

**Box D Contains:**
- LR-1020 Bed Rails
2. **Hitch Handle Assembly**
   a) Rotate the handle shaft so the bolthole is oriented at the top.
   b) Hold the handle with the grip pointed downward and slide the handle onto the handle shaft.
   c) Fasten the hitch handle using the supplied bolt and nylock nut.

3. **Hitch Assembly**
   a) Attach the hitch handle to the hitch head. (See hitch handle assembly)
   b) Place the bed rails in the bed of the truck approximately 22" from each other center to center.
   c) Place the main body side members into the bed rails with the flat sides facing out. Secure the main body support members to the bed rails using the ½ inch diameter clevis pins. Secure the clevis pins using the large hairclips in the hardware bag.
   d) With the label facing to the rear of the truck, slide the crossbar assembly downward between the two body sides. From the outside, insert two 9/16" diameter bolts into the upper holes of each bodyside and through the crossbar mounting holes. Place a lockwasher & nut on each bolt & finger tighten. Insert two 9/16" diameter bolts through each of the U-515 rectangular support washers. From the outside, insert each assembly into the lower boltholes of each bodyside. Place a lockwasher & nut on each bolt & finger tighten. Snug down the four nuts on each side using an “X” pattern. Torque the bolts to 65 ft lbs. Place the hitch head onto the adjustable yoke crossbar and secure with the supplied 3/8” clevis pins. Check for freedom of movement.
   e) The Li’l Brute Fifth Wheel Hitch System is now ready for installation.
Installation Procedures

General Installation Notes

- **Caution:** The center of the hitch must be at least 52” from the rear of the cab in order to prevent damage to the tow vehicle and/or coach due to insufficient clearance.

- **Note:** Always mount the frame attachment leg of the frame bracket on the outside of the frame.

- **Note:** Due to variations in chassis suspension component locations it may be necessary to swap frame bracket locations. Always check for proper fit prior to installation.

- **Note:** The ideal location of the center of the hitch is 2” ahead of the axle. Some applications do not allow this due to spring/shock mount location. In these instances the hitch location may be adjusted fore or aft, but no further aft than centered over the axle. **Caution:** Moving the hitch too far forward will limit the turning radius of the truck/coach combination.

- **Note:** If a plastic bed liner is installed, the bed liner must be cut out to accommodate the bed rails. This will allow the bed rails to be mounted flush against the bed, and allows installation of required spacers between the bed and bed rails.

- **Note:** Always use spacers H-247 & H-248 to eliminate the risk of crushing or damaging the truck bed. This is especially important with composite truck beds.

- **Note:** Torque all hardware to 65 ft. lbs.

If you have questions regarding the installation or use of our products, please call our Technical Assistance Department at 800-451-7821 between 8:00 am and 5:00 PM (PST).
Chevy/GMC Straight Frame/Outside Shock Absorbers/34” Frame
(Figure 1-2)

1. From underneath the truck, locate the bed support rail that is approximately 12” ahead of the axle. Using a center punch, punch a mark on the underside of the bed at the center of each end of the bed support rail. Working from the top of the truck bed, draw a line across the top of the truck bed connecting the two punch marks.

2. Center the assembled hitch between the fender wells. Position the center of the holes in row two over the line previously drawn in the truck bed. (Row one is closest to the cab)

3. Using a center punch, mark the location of the eight holes for the bed rail to bracket carriage bolts as follows: Row 1 - Holes “B”; Row 2 - Holes “A”; Row 3 - Holes “D”; Row 4 - Holes “A”. Check to see if the long brackets will fit at row 1. Adjust the hitch accordingly. Mark new bolt hole locations if needed.

4. Once the hitch location & fit have been determined, using the punch marks as a guide, drill eight holes through the bed. Holes for row 3 will be drilled through the bed and bed support rail.

5. Install the provided spacers above or below the bed to fill in the corrugations at the boltholes for row 1. Install the carriage bolts through the bed rails, spacers & bed. Install the long frame brackets loosely onto the carriage bolts. Snug the frame bracket against the frame & bed and clamp firmly in place. Selecting holes that give the greatest spread; mark the location of two boltholes for each bracket onto the frame. Drill holes through the frame.

6. Secure the front frame brackets to the frame using the supplied hardware.

7. At row 4, install the spacer with the ½” hole between the frame bracket and bed. Install the ½” flat washers, lock washers and nuts. Snug frame bracket against bed & frame & clamp into place. Selecting holes that give the greatest spread; mark the location of two boltholes for each bracket onto the frame. Drill holes through the frame.

8. Secure the rear frame brackets to the frame using the supplied hardware.

9. At the 4 remaining holes install the remaining carriage bolts, spacers, washers & nuts.
Chevy/GMC Straight Frame/Inside Shock Absorbers/34” Frame
(Figure 3-4)

1. From underneath the truck, locate the bed support rail that is approximately 12” ahead of the axle. Using a center punch, punch a mark on the underside of the bed at the center of each end of the bed support rail. Working from the top of the truck bed, draw a line across the top of the truck bed 1/8” forward of the two punch marks.

2. Center the assembled hitch between the fender wells. Position the center of the holes in row two over the line previously drawn in the truck bed. (Row one is closest to the cab)

3. Using a center punch, mark the location of the eight holes for the bed rail to bracket carriage bolts as follows: Row 1 - Holes “B”; Row 2 - Holes “A”; Row 3 - Holes “A”; Row 4 - Holes “B”. Check to see if the long brackets will fit at row 1 and the short brackets at row 4. Adjust the hitch accordingly. Mark new bolt hole locations if needed.
4. Once the hitch location & fit have been determined, using the punch marks as a guide, drill eight holes through the bed.

5. Install the provided spacers above or below the bed to fill in the corrugations at the bolt holes for row 1. Install the carriage bolts through the bed rails, spacers & bed. Install the long frame brackets loosely onto the carriage bolts. Snug the frame bracket against the frame & bed and clamp firmly in place. Selecting holes that give the greatest spread; mark the location of two bolt holes for each bracket onto the frame. Drill holes through the frame.

6. Secure the front frame brackets to the frame using the supplied hardware.

7. At row 4 install the ½” flat washers, lock washers and nuts. Snug the short frame brackets against bed & frame & clamp into place. Selecting holes that give the greatest spread; mark the location of two bolt holes for each bracket onto the frame. Drill holes through the frame.

8. Secure the rear frame brackets to the frame using the supplied hardware.

9. At the 4 remaining holes install the remaining carriage bolts, spacers, washers & nuts.
Chevy/GMC with Tapered Frame  
(Figure 5-6)

1. Locate the bed support rails under the truck by sighting across the top of the bed looking for spot welds that fasten the bed support rails to the bed. (These look like dimples and are about 3/8” in diameter and there are 2 rows of welds for each bed support rail.) The front bed support is approximately 15 inches ahead of the axle. Draw a line across the bed ½” forward of the center of the rear row of spot welds.

2. Center the assembled hitch between the fender wells. Locate the front edge of the front bed rail on the line drawn across the bed.

3. Using a center punch, mark the location of the eight bolt holes as follows: Row 1 - Holes “B”; Row 2 - Holes “B”; Row 3 - Holes “C”; Row 4 - Holes “C”. Check to see if the long frame brackets will fit at row 2 and the short frame brackets fit at row 4. Adjust the hitch accordingly. Mark new bolt hole locations if needed.

4. Once the hitch location & fit have been determined, using the punch marks as a guide, drill eight holes through the bed.
5. Install the provided spacers above or below the bed to fill in the corrugations at all bolt holes. Install the carriage bolts through the bed rails, spacers & bed.

6. Under the bed, place the long brackets, flange facing in, onto the carriage bolts in row 2 and short brackets, flange facing in, onto the carriage bolts in row 4. Snug the short frame brackets against bed & frame & clamp into place. Selecting holes that give the greatest spread; mark the location of two bolt holes for each bracket onto the frame. Drill holes through the frame. 

7. Secure the rear frame brackets to the frame using the supplied hardware.

8. At the 4 remaining holes install the remaining carriage bolts, spacers, washers & nuts.

Chevy/GMC With Box Tube Type Chassis 1999 – Present
(Figure 13-14)

1. **Note:** These instructions require the use of bracket kit # P-183.

2. Locate the hitch approximately 2” forward of the rear axle centerline. Center the assembled hitch between the fender wells.

3. Using a center punch, mark the location of the eight bolt holes as follows: Row 1 - Holes “A”; Row 2 Driver Side - Hole “A”; Row 2 Passenger Side - Hole “A”; Row 3 - Holes “A”; Row 4 - Holes “A”. Check to see if the frame brackets will fit at row 2 and row 4. Adjust the hitch accordingly. Mark new bolt hole locations if needed.

4. Once the hitch location & fit have been determined, using the punch marks as a guide, drill eight holes through the bed.

5. Install the provided spacers above or below the bed to fill in the corrugations at all bolt holes. Install the carriage bolts through the bed rails, spacers & bed.

6. Under the bed, place the long brackets, flange facing in, onto the carriage bolts in row 2 and short brackets, flange facing in, onto the carriage bolts in row 4. Snug the short frame brackets against bed & frame & clamp into place. Selecting holes that give the greatest spread; mark the location of two bolt holes for each bracket onto the frame. Drill holes through the frame. **Note:** It will be necessary to fish the bolts for the front bracket to chassis connections. This is due to box type construction of the chassis.

7. Secure the frame brackets to the frame using the supplied hardware.

8. At the 4 remaining holes install the remaining carriage bolts, spacers, washers & nuts.
Dodge Full Size – All Through 2002
(Figure 7-8)

1. Determine if there is a brake equalizer valve on the roadside chassis leading to the rear wheels. If so equipped, remove the nuts that hold the valve to the chassis. Move the valve away from the inside of the chassis. **Caution: Do not disconnect any wires or tubing. Do not kink any lines leading to or from the valve.**

2. Locate the front bed rail approximately 12" ahead of the rear axle. Lightly mark the bed of the truck bed at each end of the front edge of the bed rail. Draw a line across the truck bed 5/16" forward of the marks.

3. Center the assembled hitch between the fender wells and position the center of the holes in row 1 over the line drawn across the bed.

4. Using a center punch, mark the location of the eight bolt holes as follows: Row 1 - Holes “A”; Row 2 - Holes “A”; Row 3 - Holes “A”; Row 4 - Holes “A”. Check to see if the long frame brackets will fit at row 1 and the short frame brackets fit at row 4. Adjust the hitch accordingly. Mark new bolt hole locations...
if needed. **Note:** The long bracket for the curbside front will mount to the chassis underneath the shock absorber mount. It may be necessary to use longer bolts (SAE Grade 5).

5. Once the hitch location & fit have been determined, using the punch marks as a guide, drill eight holes through the bed.

6. Install the provided spacers above or below the bed to fill in the corrugations at all bolt holes. Install the carriage bolts through the bed rails, spacers & bed.

7. Install the long frame brackets loosely onto the carriage bolts using ½” flat washers, lock washers and nuts. Snug the frame bracket against the frame & bed and clamp firmly in place. Selecting holes that give the greatest spread; mark the location of two bolt holes for each bracket onto the frame. Drill holes through the frame.

8. Secure the front frame brackets to the frame using the supplied hardware.
9. At row 4 install the short frame brackets onto the carriage bolts using ½” flat washers, lock washers and nuts. Snug the short frame brackets against bed & frame & clamp into place. Selecting holes that give the greatest spread; mark the location of two boltholes for each bracket onto the frame. Drill holes through the frame.

10. Secure the rear frame brackets to the frame using the supplied hardware.

11. At the 4 remaining holes install the remaining carriage bolts, spacers, washers & nuts.

12. Reattach brake equalizer valve, if applicable.

**Dodge Full Size – 2003 - Present**
(Figure 15-16)

*Note: These instructions require the use of bracket kit # P-110. The chassis on these vehicles is a full-length box tube chassis. Based upon information received from the vehicle manufacturer, (Dodge Truck Engineering Bulletin No. 021), the following procedures meet Dodge requirements for installation. Be sure to observe the following:

1) **Holes are not to be drilled in the top or bottom of the frame rails.** Holes to mount brackets must be drilled in the web (vertical sides) of the frame rail with the following restrictions:
   a) Hole diameter should not exceed 20mm (0.75 in.).
   b) Material between edge of hole and top or bottom of frame rail must not be less than 40mm (1.60 in.).
   c) The minimum edge distance between any two (2) holes must be larger than twice the diameter of the larger hole.
   d) All holes should be drilled in the frame using appropriate drilling practice and safety precautions.
   e) Avoid drilling holes near the fuel tank, fuel and brake lines and other lines and wires to avoid damage to them.

2) **Prior to any welding, the following must be done:**
   a) Avoid welding near the fuel tank, fuel and brake lines or other components that may be damaged by the heat of welding. If it is necessary to weld near these areas, use wet cloths to cover these components. If it is necessary to remove the fuel tank, lines or other components, do it in accordance with applicable service manual procedure.
   b) Components near the welding area which could be damaged by excessive heat must be removed or adequately shielded.
   c) Disconnect the battery(ies).
   d) Precautionary measures should be used to prevent electrical system components or wiring damage.
   e) Frame e-coating must be removed from the welding and surrounding area.
   f) Use proper welding techniques to avoid stress risers that may adversely affect frame performance.

3) **After welding:**
a) Carefully inspect electrical components and wiring for shorts or other damage.
b) Apply protective coating to areas where coating was removed.

**Installation**

1. Locate the second row of spot welds in the truck bed to the **front** of the axle. Draw a line across the truck bed 5/8" to the **front** of the spot welds.

2. Center the assembled hitch between the fender wells and position the center of the holes in row 2 over the line drawn across the bed. _This should place the centerline of the hitch approximately 2 1/2" ahead of the axle centerline._

3. Using a center punch, mark the location of the eight bolt holes as follows: Row 1 - Holes "B"; Row 2 - Holes "B"; Row 3 - Holes "B"; Row 4 - Holes "B." Verify the rear bed rail straddles the rear bed support. Adjust as necessary for proper fit and re-mark bolt hole locations if needed.

4. Once the hitch location & fit have been determined, using the punch marks as a guide, drill eight holes through the bed.

5. Install the provided spacers above or below the bed to fill in the corrugations at all bolt holes. Install the carriage bolts through the bed rails, spacers & bed. Under the bed, place the brackets, flatbar pointing in, against the outside wall of the chassis at rows 2 and 3. Snug the brackets against the underside of the bed and the wall of the chassis and clamp into place.
6. Selecting holes in the leg of the bracket that give the greatest spread, mark the location of two bolt holes for each bracket onto the frame. Remove the bracket and drill the holes through the attachment wall only. **Do not drill completely through the chassis.** Fish the bolts through the chassis using the access holes at the top or bottom of the chassis and reattach the brackets to the chassis and bed using the supplied hardware.

7. At the 4 remaining holes in the bed, install the remaining carriage bolts, spacers, washers & nuts.

8. Torque all hardware to 65-ft. lbs.

**Ford (F-150 Through 1996) (F-250/350 Through 1998)**
(Figure 9-10)

1. From underneath the truck, locate the bed support rail approximately 14” ahead of the rear axle. Using a center punch, mark the underside of the truck bed at the forward end of the bed support rail. Draw a line across the truck bed 1 1/2” ahead of the marks in the bed. **Note:** This dimension is important to allow clearance between the frame mount bracket and the front edge of the bed support rail, and clearance behind the bed support rail for the carriage bolt.

2. Center the assembled hitch between the fender wells and position the center of the holes in row 1 over the line drawn across the bed.

3. Using a center punch, mark the location of the eight bolt holes as follows: Row 1 - Holes “A”; Row 2 - Holes “A”; Row 3 - Holes “A”; Row 4 - Holes “A”. Check to see if the long frame brackets will fit at row 1 and the short frame brackets fit at row 4. Adjust the hitch accordingly. Mark new bolt hole locations if needed. **Note:** On some applications it may be necessary to attach the short frame brackets to row 3 instead of row 4.

4. Once the hitch location & fit have been determined, using the punch marks as a guide, drill eight holes through the bed.

5. Install the provided spacers above or below the bed to fill in the corrugations at all bolt holes. Install the carriage bolts through the bed rails, spacers & bed.

6. Install the long frame brackets loosely onto the carriage bolts using ½” flat washers, lock washers and nuts. Snug the frame bracket against the frame & bed and clamp firmly in place. Selecting holes that give the greatest spread; mark the location of two bolt holes for each bracket onto the frame. Drill holes through the frame.

7. Secure the front frame brackets to the frame using the supplied hardware.

8. At row 4 install the short frame brackets onto the carriage bolts using ½” flat washers, lock washers and nuts. Snug the short frame brackets against bed & frame & clamp into place. Selecting holes that give the greatest spread; mark the location of two bolt holes for each bracket onto the frame. Drill holes through the frame. **Note:** On some applications it may be necessary to attach the short frame brackets to row 3 instead of row 4.
9. Secure the rear frame brackets to the frame using the supplied hardware.

10. At the 4 remaining holes install the remaining carriage bolts, spacers, washers & nuts.

Ford (F-150 1997 - Present) (F-250/350 1999 - Present)
(Figure 11-12)

1. From underneath the truck, locate the bed support rail approximately 16" ahead of the rear axle. Using a center punch, mark the underside of the truck bed at the forward end of the bed support rail. Draw a line across the truck bed 3/4" ahead of the marks in the bed.

2. Center the assembled hitch between the fender wells and position the center of the holes in row 1 over the line drawn across the bed.
3. Using a center punch, mark the location of the eight bolt holes as follows: Row 1 - Holes “A”; Row 2 - Holes “B”; Row 3 - Holes “A”; Row 4 - Holes “A”. Check to see if the short frame brackets will fit at row 2 and the long frame brackets fit at row 4. Adjust the hitch accordingly. Mark new bolt hole locations if needed.
4. Once the hitch location & fit have been determined, using the punch marks as a guide, drill eight holes through the bed.

5. Install the provided spacers above or below the bed to fill in the corrugations at all bolt holes. Install the carriage bolts through the bed rails, spacers & bed.

6. Install the short frame brackets loosely onto the carriage bolts using ½” flat washers, lock washers and nuts. Snug the frame bracket against the frame & bed and clamp firmly in place. Selecting holes that give the greatest spread; mark the location of two bolt holes for each bracket onto the frame. Drill holes through the frame.

7. Secure the front frame brackets to the frame using the supplied hardware.

8. At row 4 install the long frame brackets onto the carriage bolts using ½” flat washers, lock washers and nuts. Snug the short frame brackets against bed & frame & clamp into place. Selecting holes that give the greatest spread; mark the location of two bolt holes for each bracket onto the frame. Drill holes through the frame. **Note:** On some applications it may be necessary to attach the long frame brackets to row 3 instead of row 4.

9. Secure the rear frame brackets to the frame using the supplied hardware.

10. At the 4 remaining holes install the remaining carriage bolts, spacers, washers & nuts.
Li’l Brute Operation and Maintenance

RBW Industries Inc takes great pride in our reputation as an innovative manufacturer of high quality products. We have designed the Li’l Brute Fifth Wheel Hitch System to provide a lifetime of dependable service. Following the operating instructions and performing the easy maintenance steps listed below will help you get the most out of your investment.

About Your Li’l Brute

The RBW Industries Li’l Brute Fifth Wheel Hitch System is designed to tow 5th Wheel Trailers with a Gross Vehicle Weight Rating up to 12,000 lbs., and a vertical load rating up to 3,000 lbs. *Exceeding the rated capacity could create an unsafe towing condition and is not recommended.* It has a full time 4-way swivel head, is height adjustable from 14 to 17 inches in one-inch increments, and is removed from the bed of the truck by pulling 4 retaining pins.

Preparing For First Use

Your Li’l Brute is now installed and you’re anxious to be on your way down the road. You’re almost there, but take a few minutes to ensure your hitch is setup properly for your particular truck/coach combination by following the steps below.

1. Verify the crossbar is set at the proper height to provide a minimum of 5-1/2” clearance between the bottom of the trailer nose and the top of the truck bedsides, and allows for a level-towing attitude of the coach. If necessary, adjust the crossbar to the proper height, ensuring the fasteners are re-torqued to 65 ft. lbs.

2. Ensure the coach wheels are blocked front & rear & that the rear stabilizer jacks are fully retracted.

3. Level the coach so that the bottom plate of the kingpin box is level with the tabletop or “horseshoe” plate on the top of the hitch head.

4. Rotate the handle of the hitch counter-clockwise 90 degrees so that the handgrip is pointing at the tailgate of the truck & pull the slide bar until it’s held open by the silver trip mechanism.

5. Slowly back the truck so that the bottom plate of the kingpin box slides onto the tabletop & the kingpin slides fully into the throat of the hitch head. Set the parking brake of the truck & place the transmission into park.
6. Visually verify the slidebar has closed behind the kingpin and the kingpin box is resting on the tabletop. Positively lock the slidebar by rotating the handle clockwise so the handgrip is pointing straight down at the bed of the truck.

7. Attach the electrical & breakaway connectors to the proper receptacles in accordance with your coach owner’s manual, remove the blocks from the wheels of the coach and double check that the hitch is properly attached to your coach.

Once you arrive at your destination, follow these simple steps to properly uncouple your coach from your Li’l Brute.

1. Block your coach wheels front & rear.

2. If necessary, start your truck & back up against the kingpin to relieve pressure on the slidebar. Set the parking brake, put the transmission into park and then turn off your vehicle.

3. Extend the front landing gear of the coach until the weight of the coach is just off of the tabletop of the hitch. Do not exceed 1/16” gap between the bottom plate of the kingpin box and the tabletop of the hitch. **Caution: Raising the coach too high while still connected can damage the hitch head as well as components of your coach. Do not extend the rear stabilizers of the coach prior to or during uncoupling.**

4. Disconnect the electrical and breakaway connectors in accordance with your coach owner’s manual. Rotate the handle of the hitch counter-clockwise 90 degrees so that the handgrip is pointing at the tailgate of the truck & pull the slide bar all the way open. Lock the hitch handle in the open position by rotating it clockwise 90 degrees until the handgrip is pointing down at the bed of the truck.

5. You are now ready to pull your truck slowly away from the coach.

**Maintaining Your Li’l Brute**

1. After coupling, always visually check that the slide bar has closed completely across the rear of the kingpin.

2. After the first 100 miles, and at least once a year thereafter, inspect all bolts for proper tightness. Retighten bolts if needed.

3. Once or twice a week when traveling, apply a few drops of motor oil to the top of the pivot pin collar. The pivot pins hold the tabletop or “horseshoe” in place on the hitch head and can be found by locating the hex head bolts on the front and rear of the hitch head.

4. Once or twice a year, apply a light coating of wheel bearing grease to the surfaces of the slide bar that holds the kingpin in place. For best results, apply the grease with the slide bar in the closed position. **Caution: The slide bar can close with heavy force. Use extreme care to keep fingers, hands, extremities & clothing out of the path of the slide bar. Failure to do so could result in severe injury.**

5. At least once a year, thoroughly clean and degrease the hitch head assembly. After cleaning, lubricate as mentioned above.
6. Periodically inspect your Li'l Brute for wear or damage. If excessive wear or damage is found, contact RBW Industries Inc Technical Support Department for assistance at 800-451-7821.

Obtaining Warranty Service

Your warranty statement contains important information. Please take a few moments to turn to the rear cover of this guide and familiarize yourself with RBW Industries, Inc. warranty policy for your Li'l Brute.

For warranty assistance, contact Customer Support at 800-451-7821, Weekdays 8:00 AM to 5:00 PM (Pacific).

Hitch Head – Exploded View
## Troubleshooting

<table>
<thead>
<tr>
<th>Problem</th>
<th>What To Look For</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hitch is difficult to install and remove from the bed rails.</td>
<td>Hitch is not assembled correctly.</td>
<td>Refer to Hitch Assembly section for proper assembly instructions.</td>
</tr>
<tr>
<td></td>
<td>Bed Rails are not parallel with each other.</td>
<td>Use a spacer to hold both bed rails parallel while loosening &amp; retightening the carriage bolts.</td>
</tr>
<tr>
<td></td>
<td>Truck bed collapsing around carriage bolts in bed rails.</td>
<td>Install proper spacers between the bed rail and corrugations. Refer to installation instructions for specific directions.</td>
</tr>
<tr>
<td>Hitch will not hook up to trailer kingpin.</td>
<td>Incorrect kingpin height.</td>
<td>The kingpin plate should be at the same height as the top of the hitch, or at most 1/16” higher.</td>
</tr>
<tr>
<td></td>
<td>Excessive angle between hitch head and kingpin.</td>
<td>Level trailer or tow vehicle with blocks under the wheels. (If not a side-swivel head) Disengage side-swivel lockouts. (If applicable)</td>
</tr>
<tr>
<td></td>
<td>Lube disc is too thick.</td>
<td>Check thickness of lube disc. It should not exceed 3/16”.</td>
</tr>
<tr>
<td></td>
<td>Bent kingpin.</td>
<td>Contact your local dealer for replacement.</td>
</tr>
<tr>
<td>Hitch is difficult to unhook from trailer.</td>
<td>Kingpin is resting on the locking bar, preventing it from sliding open.</td>
<td>Remove pressure on the locking bar by blocking the trailer wheels in front and behind. With trailer wheels blocked &amp; truck running, place truck in reverse, set the parking brake and then put truck into park and turn off the engine. This should relieve the pressure on the locking bar.</td>
</tr>
<tr>
<td></td>
<td>Incorrect kingpin height.</td>
<td>The kingpin plate should be at the same height as the top of the hitch, or at most 1/16” higher.</td>
</tr>
<tr>
<td></td>
<td>Excessive angle between hitch head and kingpin.</td>
<td>Level trailer or tow vehicle with blocks under the wheels. Disengage side-swivel lockouts. (If applicable)</td>
</tr>
<tr>
<td></td>
<td>Lube disc is too thick.</td>
<td>Check thickness of lube disc. It should not exceed 3/16”.</td>
</tr>
<tr>
<td></td>
<td>Bent kingpin.</td>
<td>Contact your local dealer for replacement.</td>
</tr>
<tr>
<td>Troubleshooting Issue</td>
<td>Possible Solution</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Locking bar is difficult to close or open.</td>
<td>New hitch head.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Contact RBW Technical Support for assistance.</td>
<td></td>
</tr>
<tr>
<td>Locking bar is worn.</td>
<td>Inspect locking bar for wear or damage. Look for a ridge at the front edge of the locking bar. If found, file away the ridge and lubricate locking bar. Contact RBW Technical Support if locking bar is damaged rather than worn.</td>
<td></td>
</tr>
<tr>
<td>Lack of lubrication.</td>
<td>Lubricate locking bar and pull handle with a light coating of grease on all contact surfaces.</td>
<td></td>
</tr>
<tr>
<td>Locking bar does not lock into the open position.</td>
<td>Missing spring on trip mechanism.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Contact RBW Industries Technical Support for replacement spring.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Missing or damaged trip mechanism.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inspect trip mechanism. The trip mechanism should not be bent &amp; the spring should be attached &amp; have good tension.</td>
<td></td>
</tr>
<tr>
<td>Side swivel lockout cam handle does not stay locked in the keyway.</td>
<td>Handle retaining screw &amp; nut loose.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tighten screw &amp; nut as instructed in the maintenance section of the owner's manual.</td>
<td></td>
</tr>
<tr>
<td>Tabletop distorted/cracking at the pivot point.</td>
<td>Wear &amp; Tear</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Replace tabletop assembly and keep lubricated as instructed in the maintenance section of the owner's manual.</td>
<td></td>
</tr>
</tbody>
</table>
RBW Industries, Inc. warrants the Li'l Brute 12K Fifth Wheel Hitch System against defects in material and workmanship under normal use and service, ordinary wear and tear excepted, for five years from the first date of purchase at retail. Any part found to have a defect in material or workmanship, will be repaired or replaced at the option of RBW when returned to RBW with transportation charges prepaid. This warranty does not cover the condition, durability or appearance of the product finish.

If the hitch is damaged as a result of improper installation, alteration, vehicle accident, misuse or unreasonable use, including but not limited to, loading the product beyond the factory rated load capacity, RBW shall not be required to repair or replace such product. In every case, this warranty covers only the defective part and does not provide for reimbursement of the retail price of the part or labor charges.

RBW shall not be liable for any incidental or consequential damages for breach of any express or implied warranty on any RBW product.

There are no warranties that extend beyond the description of the face hereof. RBW is extending no other warranties, express or implied, nor any warranties of merchantability or fitness for a particular purpose. Any such warranties of merchantability or fitness for a particular purpose are expressly excluded.

This warranty is designed and intended to fully comply with the requirements of the Magnusson-Moss Warranty Act and all regulations issued by the Federal Trade Commission in connection therewith. It is not intended to violate any state law or regulation containing more stringent requirements, and such requirements automatically become part of this warranty insofar as required by that act.

The owner has available the legal remedies provided by the Magnusson-Moss Warranty Act, Public Law 93-637, 99 STAT.2183-2193: 15 U.S. Code, Secs 23021-2312, and any applicable state statutes.