

# ***X-16***

# Fifth Wheel Hitch System

*Installation Instructions  
And  
User Guide*

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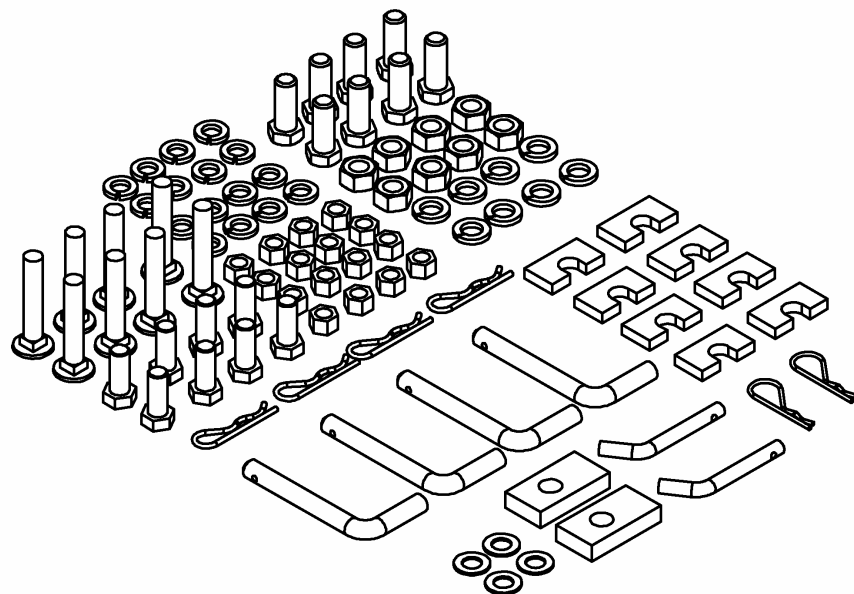
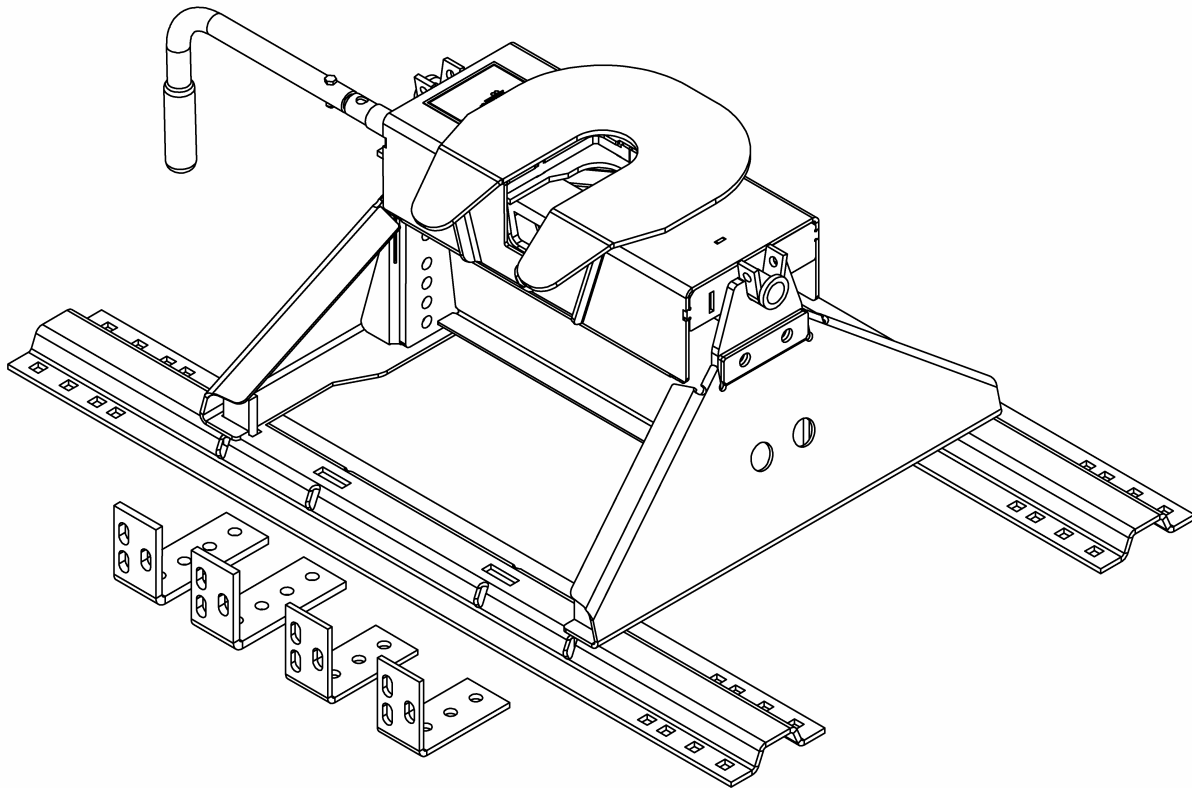
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## Introduction

- RBW Industries<sup>inc</sup> takes great pride in our reputation as an innovative manufacturer of high quality products. We have designed the X-16 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 X-16 Hitch System to assure safe, reliable operation.
- **Safety is of paramount importance in both installation and use of the X-16 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 X-16 is recommended for use only in regular size truckbeds. 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, Inc. recommends you have your X-16 professionally installed by a qualified technician.
- The RBW Industries, Inc. X-16 Fifth Wheel Hitch System is designed to tow 5<sup>th</sup> Wheel Trailers with a Gross Vehicle Weight Rating up to 16,000 lbs. Exceeding the rated capacity 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 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 change long & short bracket locations. Always check for proper fit prior to installation.***
- ***Caution: On all installations there must be a minimum of 5-1/2" clearance between the bottom of the trailer nose and the top of the truck bedsides. This is to prevent damage to the truck, trailer or hitch due to lack of clearance.***

# X-16

## X-16 16K Fifth Wheel Hitching System



# Chapter 1

## Unpacking and Assembly

*Unpacking:* The X-16 Hitch Assembly ships in three boxes as indicated below. Inspect all parts for damage & verify that all items listed are present.

### Box 1 Contains:

X-1001 X-16 HITCH HEAD (Qty 1)

H-220/H-221 Hitch Handle w/Grip (Qty 1)

### Box 2 Contains:

X-502 Side Body (Qty 2)

X-501 Crossbar (Qty 1)

X-400 Hardware Bag (includes all hardware) (Qty 1)

H-240 Short Frame Brackets (Qty 2)

H-241 Long Frame Brackets (Qty 2)

### Box 3 Contains:

LR-1020 Bed Rails (Qty 2)

## 2. *Hitch Handle Assembly*

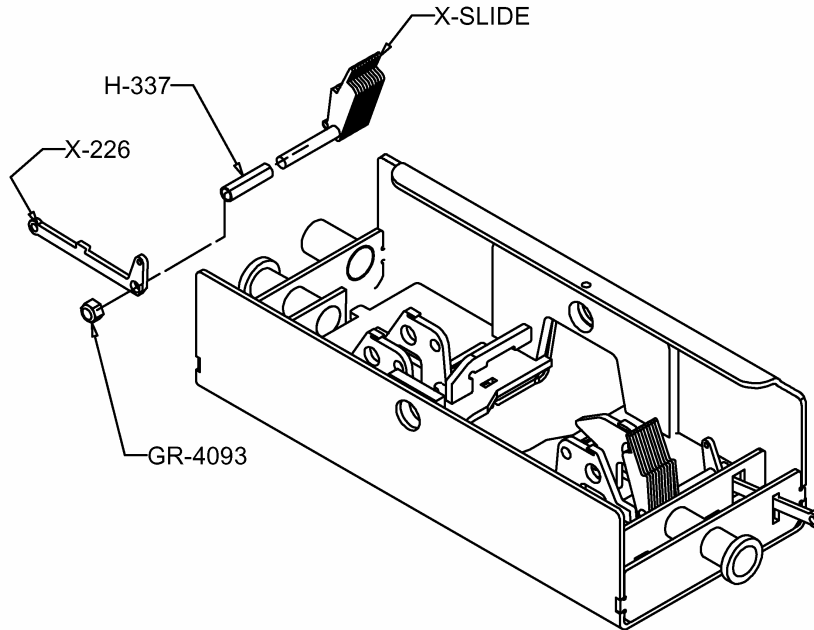
- a) Rotate the handle shaft so the bolthole is oriented at the top.
- b) Hold the handle with the grip pointed downward and slide the handle onto the handle shaft.
- c) Fasten the hitch handle using the supplied bolt and nylock nut.

### **3. Hitch Assembly**

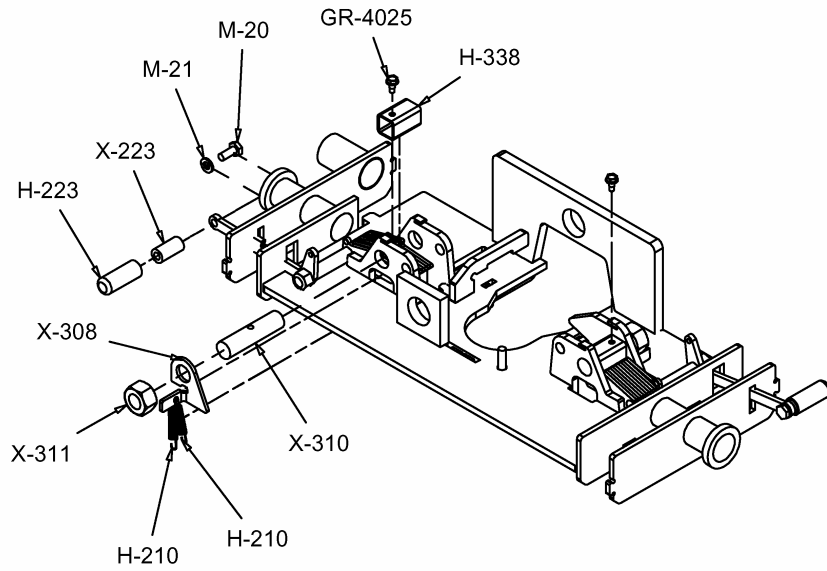
- a) Attach the hitch handle to the hitch head. (See hitch handle assembly)
- b) Place the bed rails (LR-1020) in the bed of the truck approximately 22" from each other.
- c) Place the main body side members into the bed rails with the flat sides facing out. Secure the main body support members to the 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 four 9/16" diameter bolts into the four holes of each bodyside and through the appropriate crossbar mounting holes. 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) Place the hitch head onto the adjustable yoke crossbar and secure with the supplied 3/8" clevis pins (KP-CP) and hairclips (KP-HP). Check for freedom of movement.
- f) The X-16 Fifth Wheel Hitch System is now ready for installation.

### **4. X-16 Optional Side Swivel Lockout Kit Installation**

- a) Turn the hitch head upside down.
- b) Insert the lockout handle (Part # X-226) through the slot in the side of the hitch head as shown.
- c) Place the round sleeve (Part # H-337) over the threaded shaft of the lockout cam (Part # X-SLIDE). Orient the lockout cam on end with the long flat side facing the center of the hitch head, pointed end up and place the lockout cam to the outside of the cam plates. Slide the end of the threaded shaft of the lockout cam into the hole in the end of the lockout handle (Part # X-226). Attach the 3/8" locknut (Part # GR-4093) to the end of the threaded shaft and tighten enough to hold the handle straight, yet still allow the handle to move freely up and down.
- d) Rotate the lockout cam down between the two cam plates and slide to the full inward position.



- e) Place the square tubing (Part # H-338) on top of the lockout cam with the drilled hole on top and oriented as shown. Insert the 5/8" threaded stud (Part # X-310) into the hole of the cam plate and push through the square tubing into the hole in the opposite cam plate.
- f) Using a small hammer, strike the top of the square tube (Part # H-338) to flatten it slightly. Line up the drilled hole in the square tube with the drilled hole in the threaded stud (Part # X-310) and secure with the self tapping screw (Part # GR-4025).
- g) Attach one end of two springs (Part # H-210) to the small hole in the spring retainer (Part # X-308). Attach the opposite end of one of the springs to the small hole in the end of the lockout handle (Part # X-226). Attach the end of the second spring to the hole in the top of the lockout cam (Part # X-SLIDE). Pull the spring in towards the cam plate and attach to the protruding end of the 5/8" threaded stud (Part # X-310). Secure the spring retainer with the 5/8" nut (Part # X-311), tightening securely.
- h) Using the 1/4" screw (Part # M-20) and lock washer (Part # M-21), attach the handle pull (Part # X-223) to the outer end of the lockout handle. Cover the handle pull with the yellow boot (Part # H-223).
- i) Repeat steps "b" through "h" for the opposite side.



PART SIZE		
PART NUMBER	DESCRIPTION	QTY
X-SLIDE	11GA WELDED CAM	2
X-308	11GA SPRING RETAINER	2
X-310	5/8"-11 STUD X 2 1/2	2
H-338	3/4" SQ TUBE X 1 1/4	2
X-226	11GA CAM LOCKOUT	2
H-210	EXTENS. SPRING-SMALL FOR TRIP	4
H-337	1/2" RND TUBE X 1.25"	2
X-223	1/2" OD STANDOFF X 1""-3" I.D.	2
M-20	1/4" X 5/8" HEXCAP SCRW, 10FTLBS	2
M-21	1/4" SPLIT LOCKWASHER ZINC	2
H-223	GRIP-1/2" I.D. YELLOW	2
GR-4025	SELF TAP SCREW	2
GR-4093	3/8"-24 NYLOCK NUT-PLATED	2
X-311	5/8" -11 JAM NUT PLATED	2

# Chapter 2

## Installation Procedures

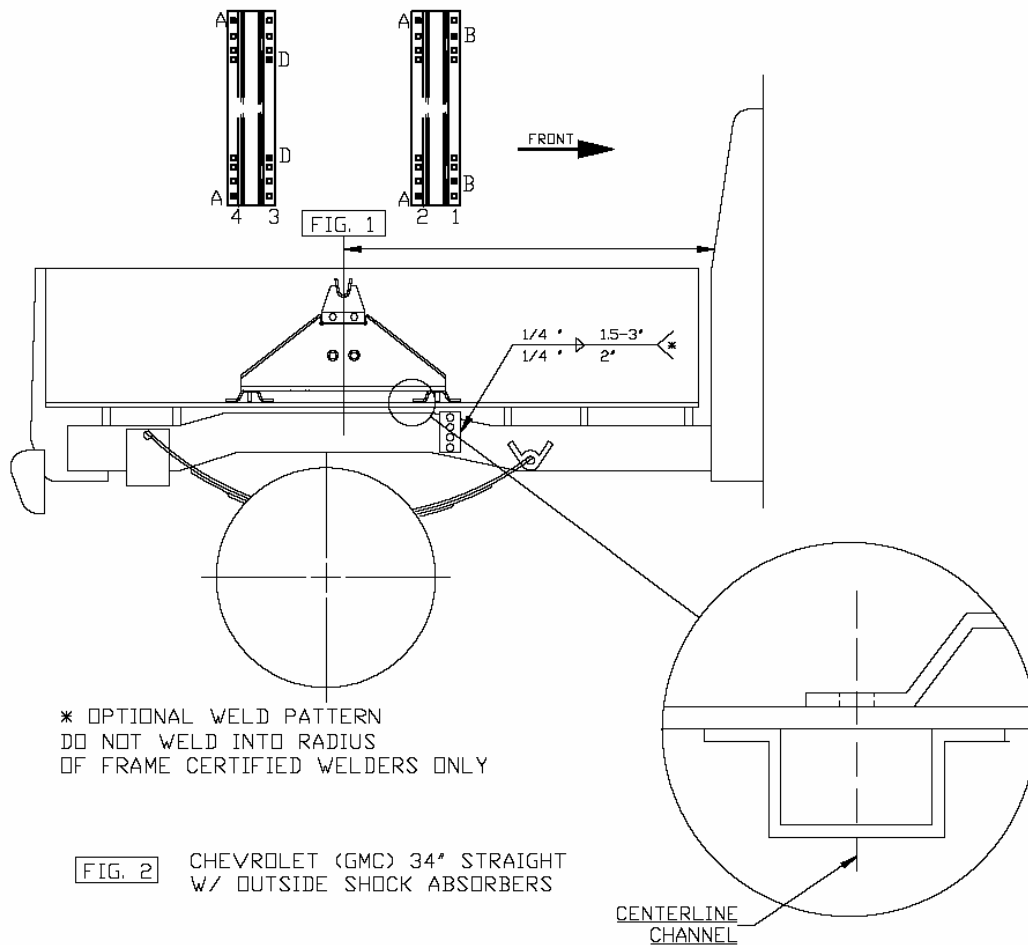
### General Installation Notes

- **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 long & short 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 should be no further aft than centered over the axle. **Note:** Certain 2003 Dodge Trucks may require hitch placement behind the axle. In that event, placement can be up to two inches behind 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, Weekdays between 8:00 AM and 5:00 PM (Pacific).

## Chevrolet/GMC Straight Frame/Outside Shock Absorbers/34" Frame (Figure 1-2)

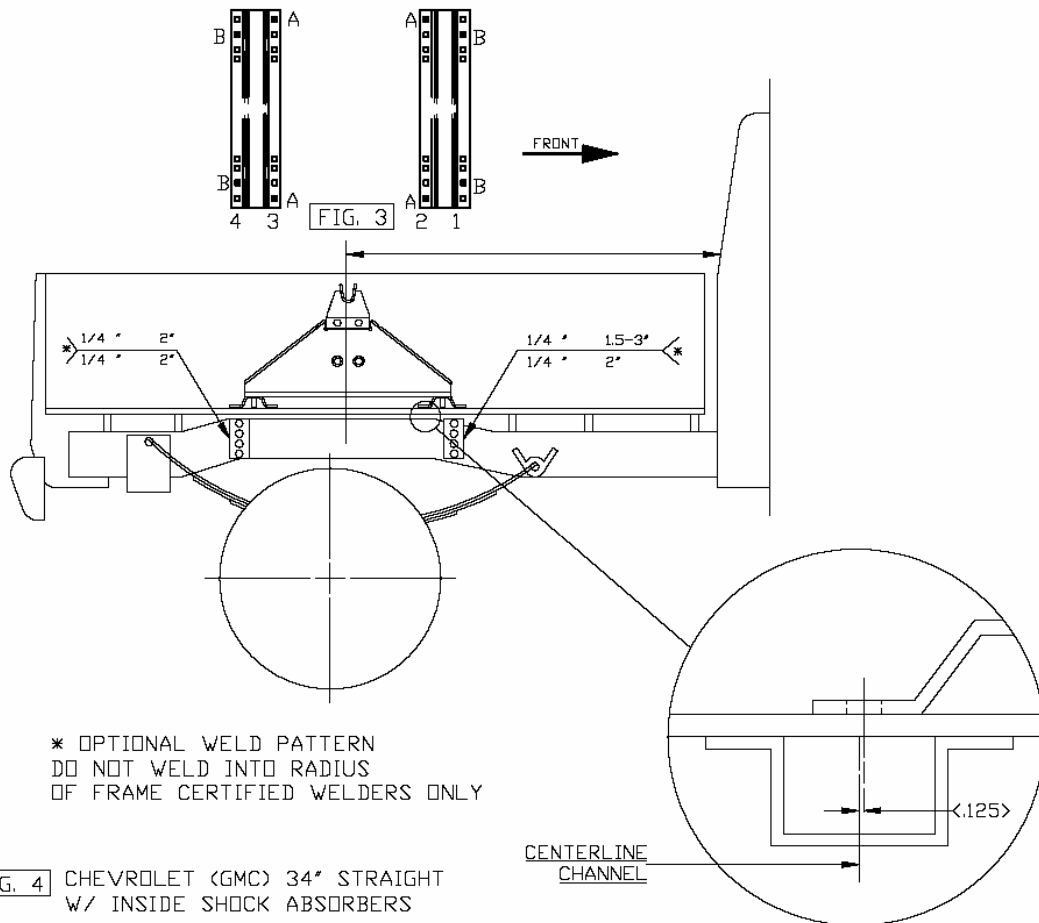
1. From underneath the truck, locate the bed support rail that is approximately 12" ahead of the axle. Using a center punch, punch a mark on the underside of the bed at the center of each end of the bed support rail. Working from the top of the truck bed, draw a line across the top of the truck bed connecting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



### Chevrolet/GMC Straight Frame/Inside Shock Absorbers/34" Frame (Figure 3-4)

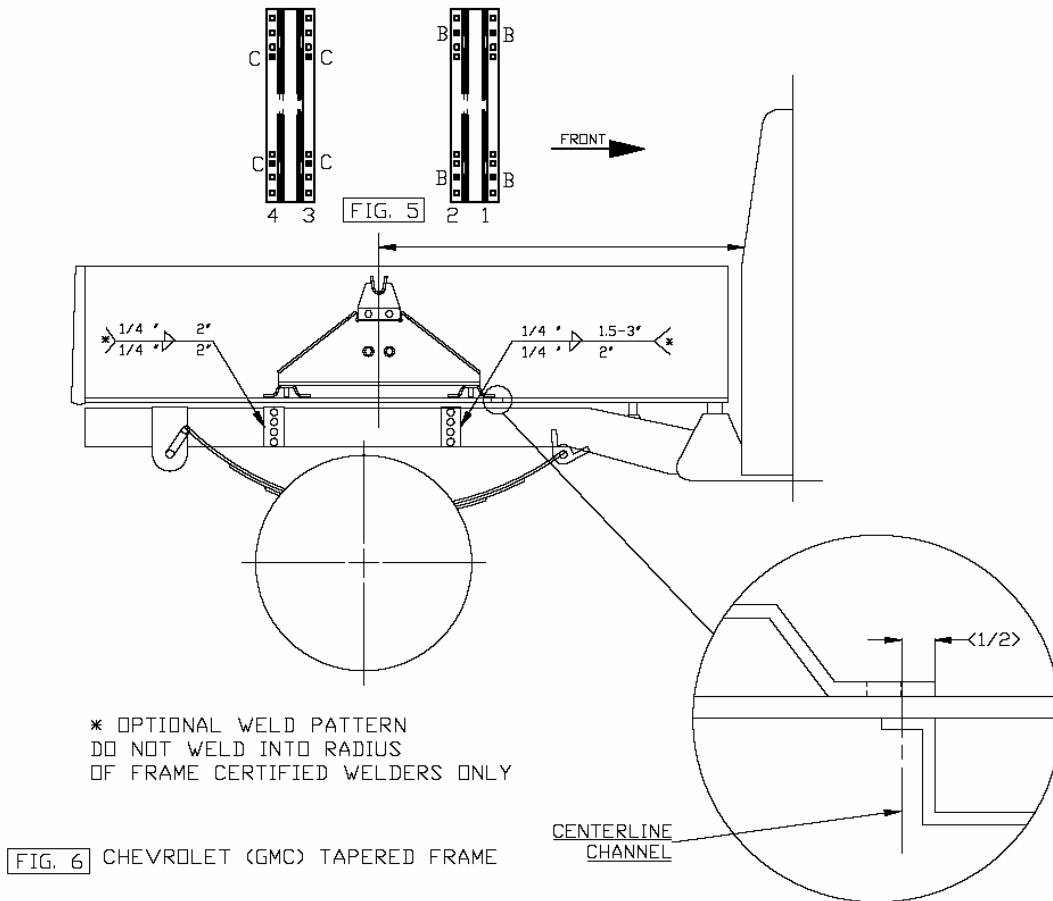
1. From underneath the truck, locate the bed support rail that is approximately 12" ahead of the axle. Using a center punch, punch a mark on the underside of the bed at the center of each end of the bed support rail. Working from the top of the truck bed, draw a line across the top of the truck bed 1/8" 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 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 1/2" 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.
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.



### Chevrolet/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 1/2" 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 boltholes 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.

### **Chevrolet/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 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 brackets, flange facing in, onto the carriage bolts in row 2 and row 4. Snug the 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. **Note: It will be necessary to fish the bolts through the chassis 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.

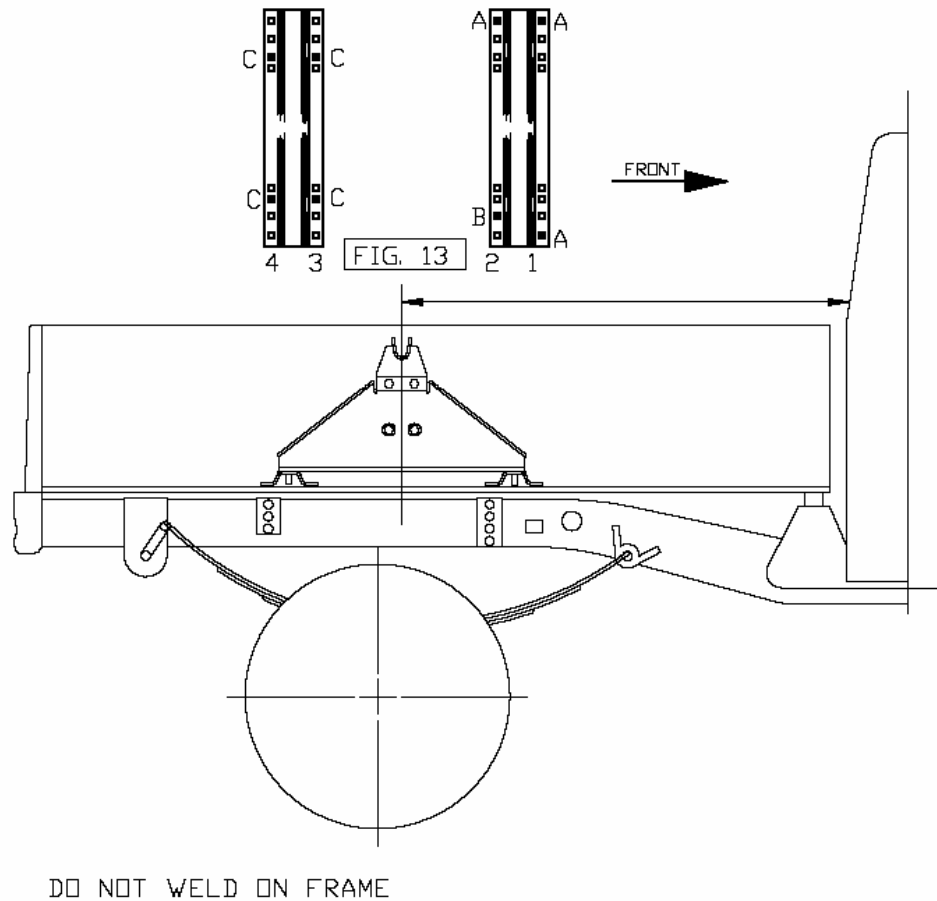
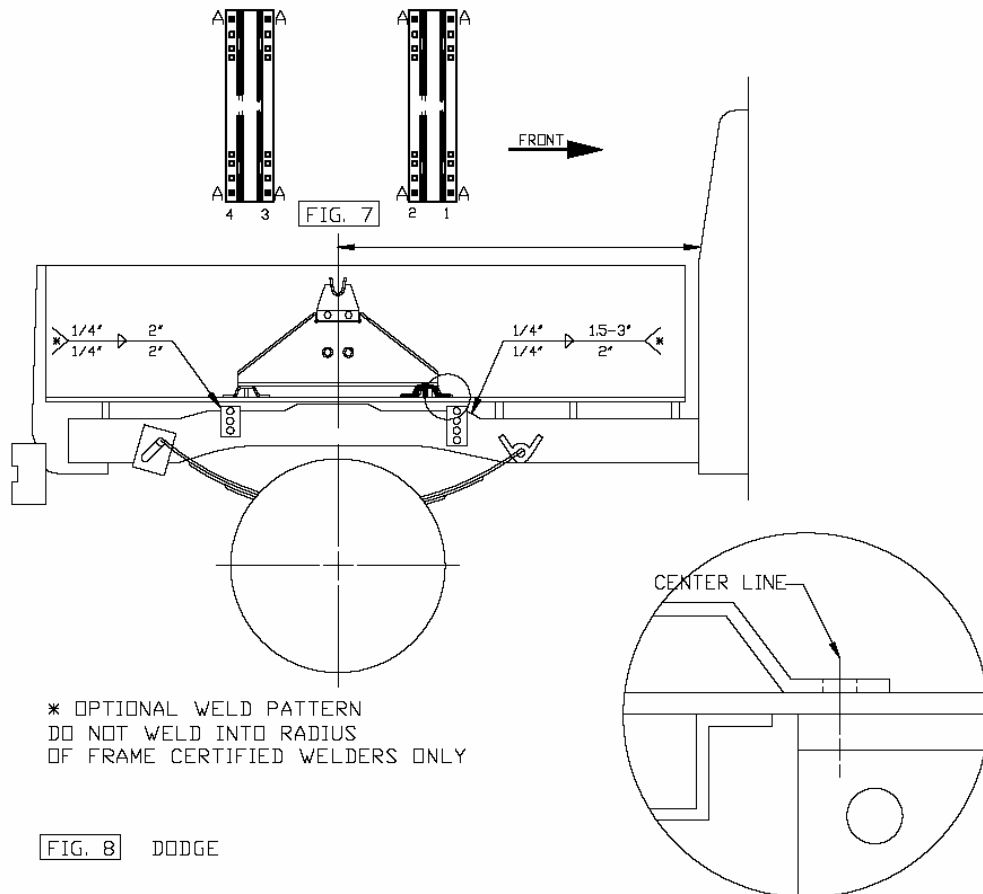


FIG. 14 CHEVROLET (GMC) SILVERADO (1999 - PRESENT)

## 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 1/2" 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 boltholes 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 Thru 2004 (Figure 15-16)

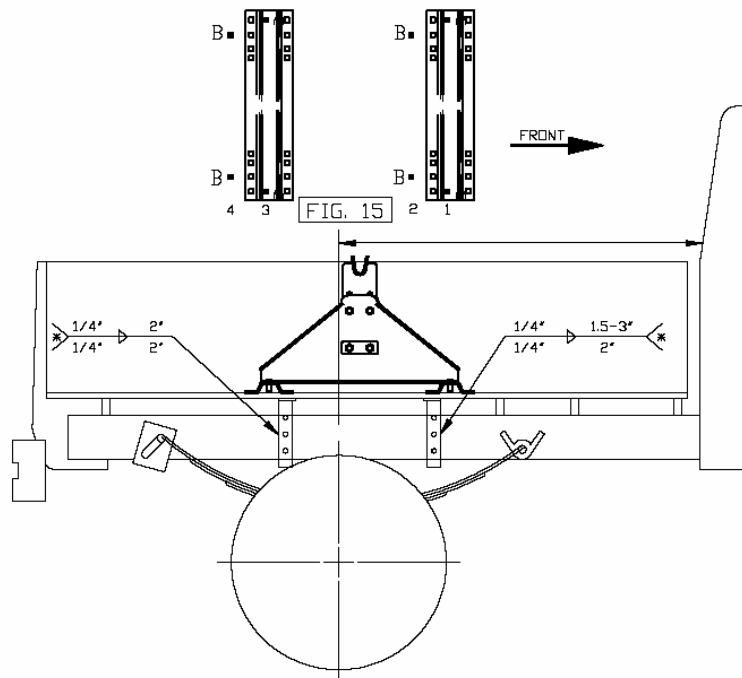
**Note:** *These instructions require the use of bracket kit # P-110. The chassis on these vehicles is a full-length box tube chassis. Based upon information received from the vehicle manufacturer, (Dodge Truck Engineering Bulletin No. 021), the following procedures meet Dodge requirements for installation.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



\* OPTIONAL WELD PATTERN  
 DO NOT WELD INTO RADIUS  
 OF FRAME CERTIFIED WELDERS ONLY

FIG. 16 DODGE 03

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.

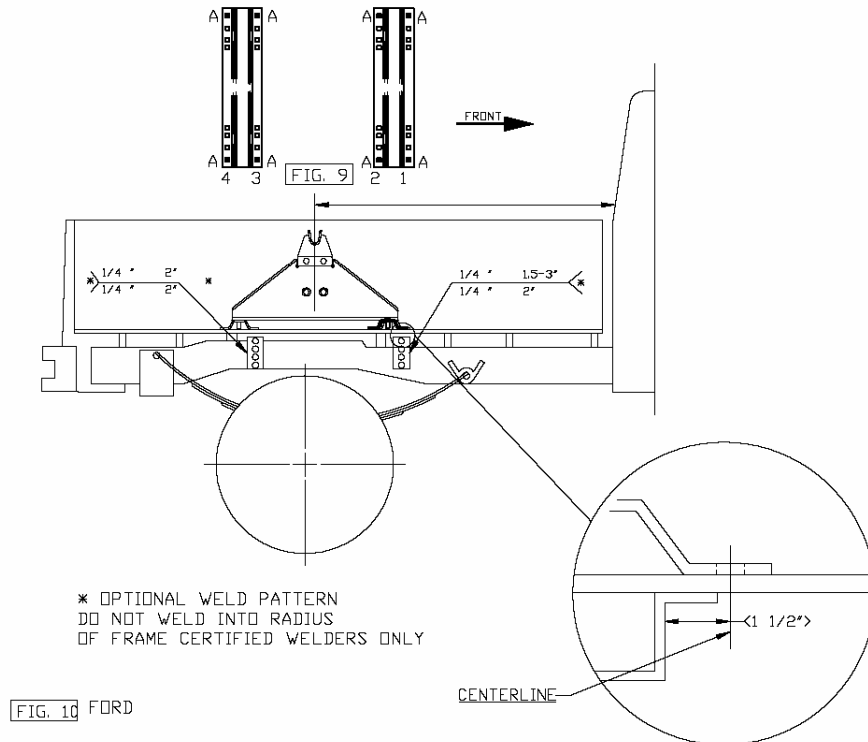
6. At the 4 remaining holes in the bed, install the remaining carriage bolts, spacers, washers & nuts.
7. Torque all hardware to 65-ft. lbs.

### **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 1/2" 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 boltholes 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 1/2" flat washers, lock washers and nuts. Snug the short frame brackets against bed & frame & clamp into place. Selecting holes, which give the greatest spread; mark the location of two boltholes 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 1/2" 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 boltholes 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 1/2" 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. **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. At the 4 remaining holes install the remaining carriage bolts, spacers, washers & nuts.

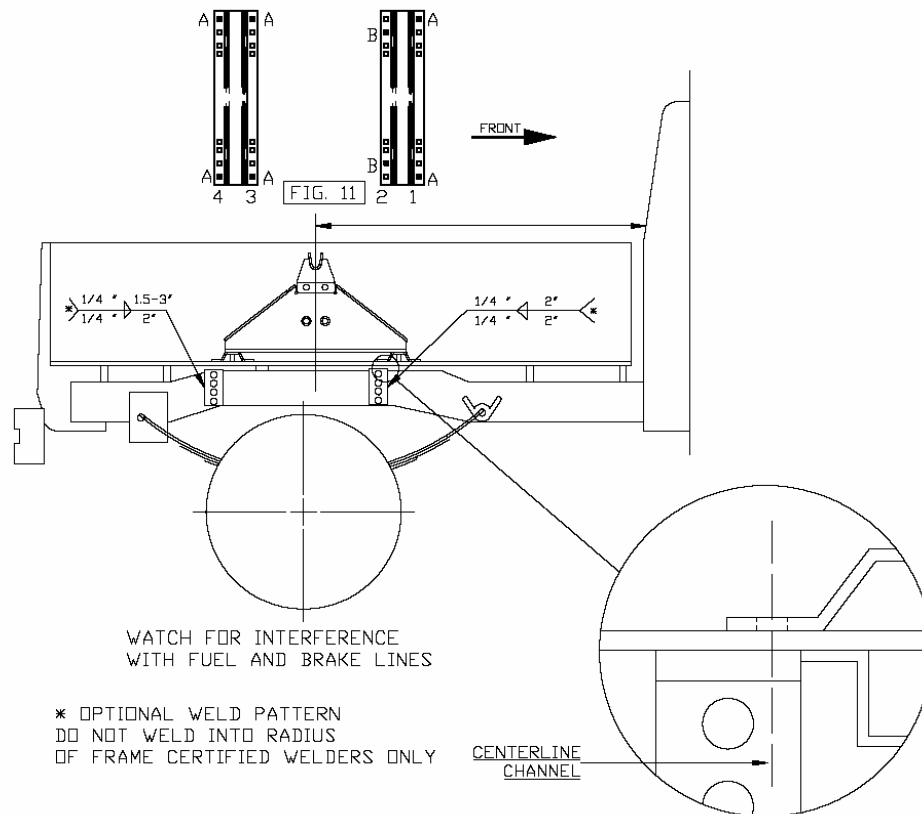


FIG. 12 FORD (F-150 1997 - PRESENT)  
 FORD (F-250/350 1999 - PRESENT)

# Chapter 3

## X-16 Operation and Maintenance

RBW Industries<sup>inc</sup> takes great pride in our reputation as an innovative manufacturer of high quality products. We have designed the X-16 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 X-16

The RBW Industries X-16 Fifth Wheel Hitch System is designed to tow 5<sup>th</sup> Wheel Trailers with a Gross Vehicle Weight Rating up to 16,000 lbs. ***Exceeding the rated capacity could create an unsafe towing condition and is not recommended.*** It has a 4-way swivel head with optional side swivel lockout, 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 X-16 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 90 degrees so that the handgrip is pointing straight back & pull the handle out until the slide bar is 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 sidebar has closed behind the kingpin and the kingpin box is resting on the tabletop. Positively lock the sidebar 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 owners 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 X-16.**

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 90 degrees so that the handgrip is pointing straight back, then 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.

## Optional Side Swivel Lock-Out Operation

Your X-16 Hitch System can be equipped with a side swivel lock out feature. The side swivel is designed to help prevent difficulty uncoupling when the coach and truck are not level with each other side to side, which will cause the kingpin to bind if the side swivel were locked out. While driving the side swivel can be engaged or locked out, as preferred by the operator. If the side swivel is locked out, be sure to engage it before pulling into a campsite that may be uneven. Also, be sure to observe the following:

1. To allow the hitch head to swivel, lift the yellow handle on each side of the hitch head and pull the lever outward. When the lever is all the way out, push down to lock into place.
2. To lock out the side swivel, simply lift the yellow handle up and push the lever inward. When the lever is all the way in, push down to lock into place.
3. In some cases if the trailer is coupled you may not be able to operate the lock-out levers if pressure is on one of the lock-out cams. Remove pressure to operate the lock-out levers.
4. To prevent damage to the hitch, ensure both side swivel levers are in the **same** position.
5. If the yellow handle feels too loose, tighten the attachment screw.

## Maintaining Your X-16

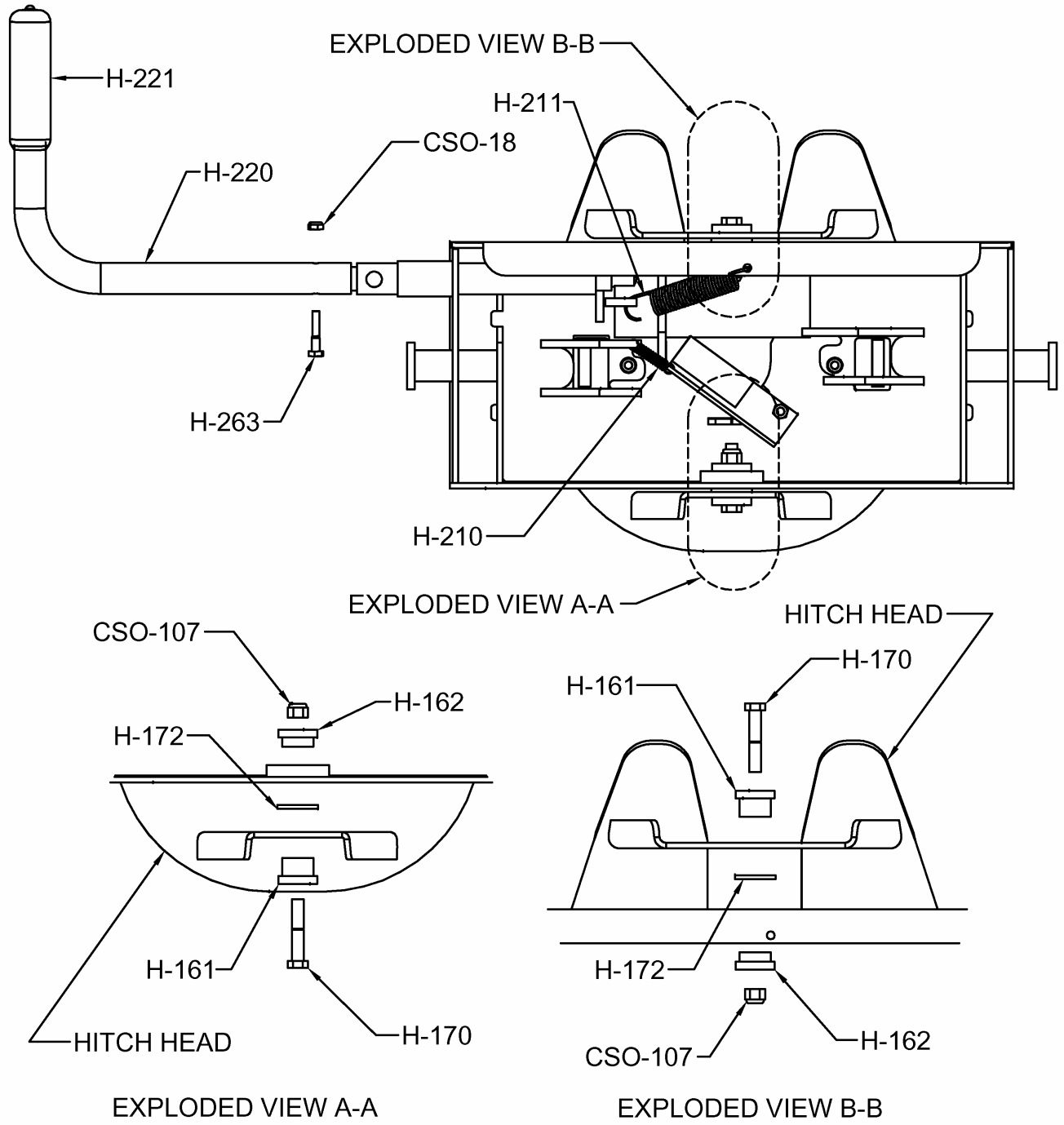
1. After coupling, always visually check that the slide bar has closed completely across the rear of the kingpin.
2. After the first 100 miles, and at least once a year thereafter, inspect all bolts for proper tightness. Re-tighten bolts if needed. All fasteners should be torqued to 65 ft lbs.
3. Once or twice a week when traveling, apply a few drops of motor oil to the top of the pivot pin collar (H-161). 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. Then pull the slide bar open and apply a light coating of grease to the slide bar shaft that the handle is attached to. **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 X-16 for wear or damage. If excessive wear or damage is found, contact RBW Industries<sup>inc</sup> 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 you with RBW Industries, Inc. warranty policy for your X-16.

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

### X-1001 Hitch Head Exploded View



## Troubleshooting

Problem	What To Look For	Solution
Hitch is difficult to install and remove from the bed rails.	Hitch is not assembled correctly.	Refer to Hitch Assembly section for proper assembly instructions.
	Bed Rails are not parallel with each other.	Use a spacer to hold both bed rails parallel while loosening & retightening the carriage bolts.
	Truck bed collapsing around carriage bolts in bed rails.	Install proper spacers between the bed rail and corrugations. Refer to installation instructions for specific directions.
Hitch will not hook up to trailer kingpin.	Incorrect kingpin height.	The kingpin plate should be at the same height as the top of the hitch, or at most 1/16" higher.
	Excessive angle between hitch head and kingpin.	Level trailer or tow vehicle with blocks under the wheels. (If not a side-swivel head)  Disengage side-swivel lockouts. (If applicable)
	Lube disc is too thick.	Check thickness of lube disc. It should not exceed 3/16".
	Bent kingpin.	Contact your local dealer for replacement.
Hitch is difficult to unhook from trailer.	Kingpin is resting on the locking bar, preventing it from sliding open.	Remove pressure on the locking bar by blocking the trailer wheels in front and behind. With trailer wheels blocked & 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.
	Incorrect kingpin height.	The kingpin plate should be at the same height as the top of the hitch, or at most 1/16" higher.
	Excessive angle between hitch head and kingpin.	Level trailer or tow vehicle with blocks under the wheels.  Disengage side-swivel lockouts. (If applicable)
	Lube disc is too thick.	Check thickness of lube disc. It should not exceed 3/16".
	Bent kingpin.	Contact your local dealer for replacement.

Locking bar is difficult to close or open.	New hitch head.	Contact RBW Technical Support for assistance.
	Locking bar is worn.	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.
	Lack of lubrication.	Lubricate locking bar and pull handle with a light coating of grease on all contact surfaces.
Locking bar does not lock into the open position.	Missing spring on trip mechanism.	Contact RBW Industries Technical Support for replacement spring.
	Missing or damaged trip mechanism.	Inspect trip mechanism. The trip mechanism should not be bent & the spring should be attached & have good tension.
Side swivel lockout cam handle does not stay locked in the keyway.	Handle retaining screw & nut loose.	Tighten screw & nut as instructed in the maintenance section of the owner's manual.
Tabletop distorted/cracking at the pivot point.	Wear & Tear	Replace tabletop assembly and keep lubricated as instructed in the maintenance section of the owner's manual.

***RBW INDUSTRIES, INC.***  
***X-16 16K FIFTH WHEEL HITCH SYSTEM***  
***LIMITED FIVE YEAR WARRANTY***

RBW Industries, Inc. warrants the X-16 15K 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.

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