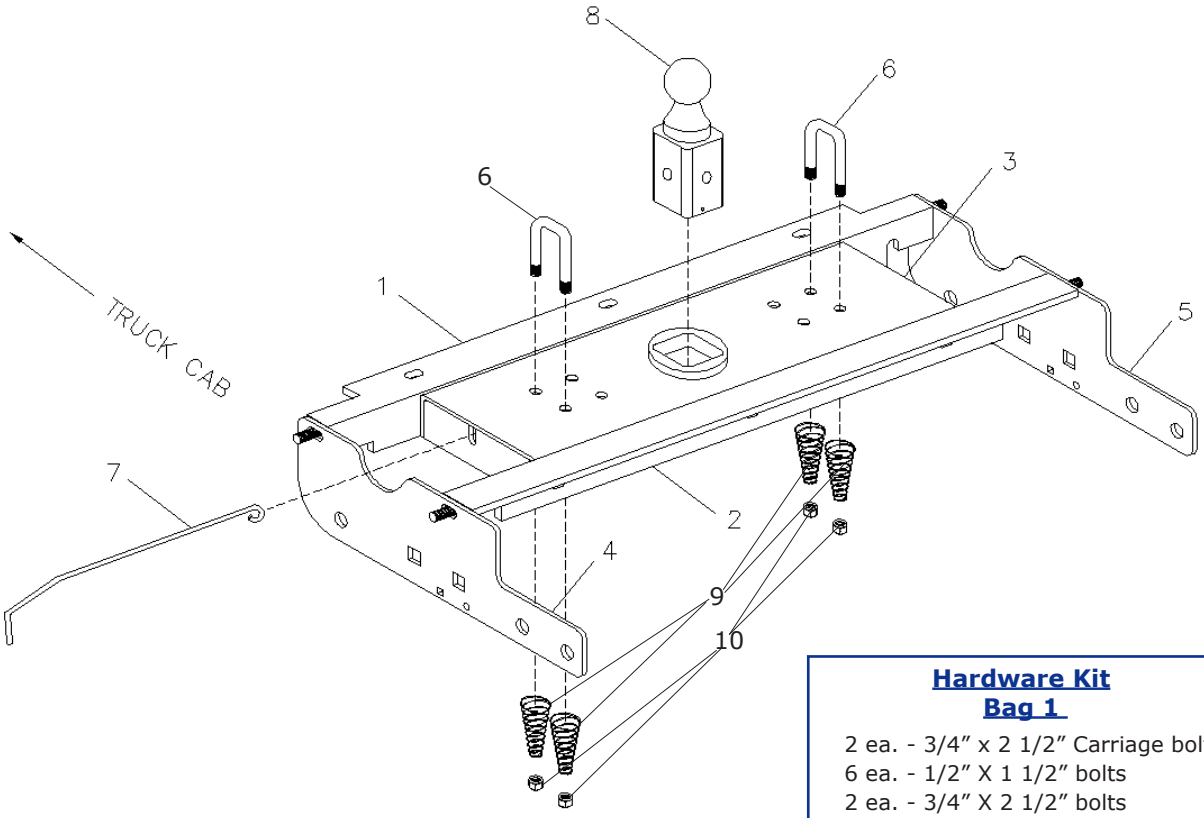
B&W Trailer Hitches
1216 HWY 224 / PO Box 186
Humboldt, KS 66748
P:620.473.3664
F:620.473.3766
hitches@turnoverball.com
www.turnoverball.com

Turnoverball™ Gooseneck Hitch Installation Instructions

Model 1105R

Call or Email us for Installation Support
800.248.6564

Ford Super Duty (1999 -2006)
3/4 & 1 Ton, Short & Long Bed
Will Accommodate Most After Market Air Bag Systems



Parts List

1 – Front Crossmember
2 – Rear Crossmember
3 – Center Section
4 – Driver's Side Sideplate
5 – Passenger's Side Sideplate
6 – Safety Chain U-Bolts
7 – Latch Pin Handle
8 – 2-5/16" Ball
9 - Springs
10 - 1/2" Lock nuts

Hardware Kit
Bag 1

2 ea. - 3/4" x 2 1/2" Carriage bolts
6 ea. - 1/2" X 1 1/2" bolts
2 ea. - 3/4" X 2 1/2" bolts
6 ea. - 1/2" flat washers
2 ea. - 3/4" flat washers
6 ea. - 1/2" lock washers
4 ea. - 3/4" lock washers
6 ea. - 1/2" nuts
4 ea. - 3/4" nuts

Bag 2

2 ea. - 3" x 5" spacers
4 ea. - 1/2" Flange nuts
2 ea. - pipe spacers
3 ea. - 5/16 x 1" Carriage bolts
3 ea. - 5/16 flange nuts
1 ea. - Fuel line bracket
1 ea. - Exhaust bracket extension

Safety Chain Kit

2 ea. - 1/2" U-bolts
4 ea. - 1/2" lock nuts
4 ea. - springs
1 ea. - 3/8"x3/4" Bolt
1 ea. - 3/8" Lock nut

BEFORE INSTALLING

OVERHEAD LIFTING DEVICE

An overhead-lifting device, such as chain falls, engine hoist, or cable come-a-long, can be used to lift the center section of the hitch in place. Lower a loop of rope or chain through the 4" hole in the truck bed floor and attach it to the latch pin in the round hitch receiver tube in the center section. Use the lifting device to raise the center section until the round hitch receiver tube that protrudes from the center section fits in the 4" hole in the truck bed floor. Maintaining upward pressure may facilitate fastening the crossmember to the center section, especially if the truck bed floor has been distorted downward from heavy use. If you use an overhead-lifting device, it should be disconnected before squaring the center section across the frame, installing the sideplates and torquing fasteners.

WARNING

Most trucks have FUEL LINES and/or BRAKE LINES and/or ELECTRICAL WIRES located along the frame rails where B&W Turnoverball™ hitches install. Carefully examine the location of fuel lines, brake lines and electrical wires BEFORE INSTALLATION. Be certain you will not damage fuel lines, brake lines or electrical wires when positioning hitch components, drilling holes, tightening fasteners, and lifting and lowering the truck bed. The fuel tank vent, located on top of the gas tank, can be easily damaged during the installation of the hitch components. Care must be taken when positioning the front crossmember and center section components.

WARNING

On Short bed trucks, BEFORE INSTALLING THIS HITCH, check for adequate turning clearance between the front of all of your trailers and the truck cab.

WARNING

DO NOT invert the ball in the socket when carrying heavy loads on 2 wheel drive trucks. The ball may hit the top of the differential. Remove the ball from the socket before loading. A plug for the socket is available from B & W.

INSTALLATION INSTRUCTIONS

BALL LOCATION:

The 1105R mounting kit allows the hitch to be installed in two different locations.
When selecting the ball location the following should be considered. For truck cab clearance reasons **Short bed** trucks are recommended to be drilled at **46"** from the back of bed. This will place the ball 3-1/2" in front of the rear axle.
Long bed trucks can be drilled at two different locations **49"** location will place the ball at 6-1/2" in front of the rear axle. The **46"** location (see above warning for 2WD trucks) will place the ball at
3-1/2" in front of the rear axle. Some truck / trailer combinations may not have adequate clearance between the cab and trailer. The trailer or trailers that will be pulled should be considered when making the decision for the ball location. See Step 1 for locating and drilling of the 4" hole.

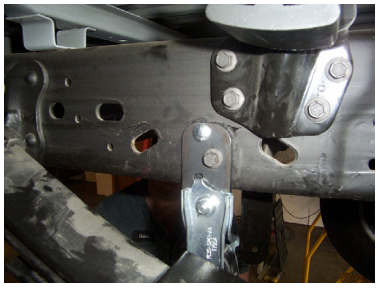
***See Operating Instructions for further explanation**

The front angle-iron crossmember is able to accommodate either installation location by turning the angle end-for-end. The notches are made at two different depths; the shallower notches would sit on the frame for the 49 inch location and the deeper notches are used against the frame for the 46 inch location. The rear angle-iron crossmember will work for both locations.

STEP 1

Begin by verifying and measuring the correct hole location in the truck bed floor. Measure from the back end (tailgate end) of the truck bed floor by hooking a tape measure over the end of the truck bed (not including the tailgate)and marking the floor at the correct measurement. Center the measurement between the fender wheel wells. This location is critical to the correct installation of this hitch, so measure, mark and saw carefully. If the truck has a plastic bed liner, you may drill through both, but it is more difficult to accurately locate the midpoint between the fender wheel wells, and to be sure that the bed liner does not move while sawing the hole. Make a 4-inch hole at this location using a four inch hole saw, or by marking a 4 inch circle and cutting it out with a sabersaw equipped with a metal cutting blade.

STEP 2

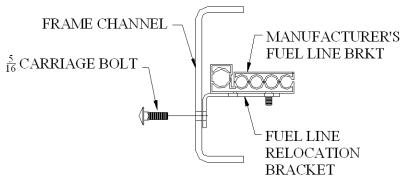


Remove the heat shield located above the rear axle under the truck bed. Some newer trucks have adhesive heat shields installed on the under side of the bed floor and may not need to be removed.

STEP 3

On **2004 and older** trucks the emergency brake cable located on the outside of the driver's side frame will have to be relocated. Knock the mounting stud out of the frame and discard. A relocating bolt is furnished in the kit and will be installed later.

On **2005 and newer** trucks equipped with a gasoline engine the fuel line and bracket will have to be relocated. This is located inside the frame on the driver's side. Remove the nut holding the fuel line retaining clip. Rotate the retaining clip 90 degrees with the stud facing down. Install the relocating bracket to the frame with one of the 5/16" x 1" carriage bolts with flange nut. The bracket should have the long leg with two hole's facing down and to the inside of the frame when installed correctly. Next fasten the retaining clip to the relocation bracket using the nut that was removed earlier.



END VIEW OF FRAME CHANNEL FROM DRIVER'S SIDE REAR

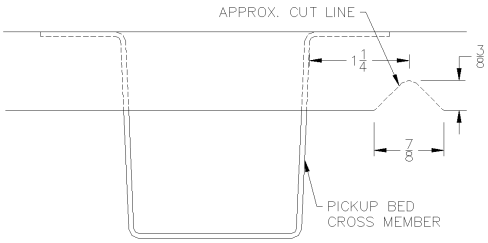
STEP 4

On 2005 and newer trucks equipped with a diesel engine the tail pipe will need to be lowered. First remove the tail pipe bracket just behind the rear tire on the passenger side. Next install the extension bracket that is supplied in the kit. Using the same bolt and hole in the frame that was holding the tail pipe bracket fasten the round hole in the extension bracket to the frame. The extension bracket should have two square holes below the round one with the center square hole toward the rear of the truck when installed correctly. Place a 5/16" carriage bolt in the top square hole and through the frame, then fasten with a flange nut. Next fasten the tail pipe bracket to the extension bracket using a carriage bolt placed though the bottom square hole of the extension bracket then into the tail pipe bracket. Secure with flange nut. If this does not give clearance after the hitch is installed it may be necessary to pry between the muffler and the hanger at the rear of the muffler.

STEP 5

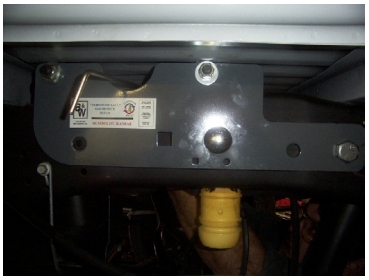
Install the two hitch cross members. They will be installed by sliding them from inside the wheel well, above the tire, through the gap between the bed and the truck's frame and across until they span the frame rails. The gap between the bed and frame is large enough to allow this, but the gap is partially obstructed by a sheet metal flange (about 1 inch in height) that is hanging down from the bottom of the truck bed floor. (see diagram). A small notch needs to be made in this flange on the **Driver's** side of the truck. Locate front truck bed cross member. Measure over 1 1/4" from the back of the cross member and make a mark. This will be the center point for the notch that is needed. Mark and cut a 7/8" wide by 3/8" tall notch.

BED FLOOR FLANGE IN DRIVER'S SIDE WHEEL WELL



STEP 6

Select the back crossmember (2) with only one set of notches. With the horizontal side up and the slotted side facing the **Front** of the truck, position it across the top of the frame rails, between the bed and frame, by pushing it through the opening from the wheel well on the driver's side. When the crossmember is across the frame rails, move it to the rear, up on the higher section of the frame rails. (The notches may not fit down over the frame at the forward location, but will fit properly once it is moved rearward to the top of the hump in the frame). Position it approximately 2 inches behind the hole in the truck bed floor, and use a crescent wrench or channel locks on the slotted side of the crossmember to rotate it down on its long axis, placing the side without slots flush against the truck bed floor. Select the front crossmember (1) with two sets of notches. (Determine which ball location is being installed. (Remember for the 49" location the shallow notches should be oriented down against the truck frame. The 46" location requires the deep notches to be against the truck frame). Position the angle so that the correct notch will set against the truck frame, hold the angle in an inverted "V" position, and push the angle across the frame using the notch in the bed floor flange for clearance at the apex of the angle. With the angle spanning the frame, it can be rolled over the top of the shock mount and moved rearward to approximately two inches in front of the hole in the truck bed floor. (When installing at the 49" location the front crossmember will set partially over the passenger side shock mount. The angle has been machined to accommodate this bracket.) The two crossmembers should be approximately parallel, about 9" apart, equally spaced in front of and behind the hole in the truck bed floor.



STEP 7

Raise the center section (3) into position between the crossmembers from beneath the truck, with the latch pin release handle on the driver's side. A lifting device, as described on Page 1 will help. The round hitch receiver that protrudes from the top of the center section must fit through the hole in the truck bed floor. Fasten the center section to the crossmembers using the six 1/2" x 1 1/2" bolts. Fit these bolts through the slots in the crossmembers using a flat washer against the bolt head and a lock washer under the nut on each. Do not fully tighten at this time.

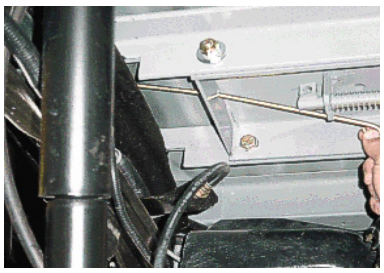
STEP 8

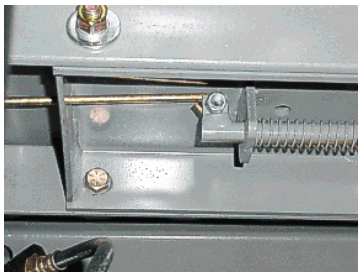
Square the assembled center section and crossmembers across the frame. Install the side plates on the outside of the frame rails by hanging the top two holes in the side plates over the studs extending from the ends of the crossmembers. Fasten the sideplates to the crossmembers using a 1/2" flange nut on each stud. On 2004 and older trucks place a 5/16" carriage bolt through the small lower square hole in the driver's side sideplate, for attaching the emergency brake cable bracket. Place a pipe spacer between the sideplate and frame and insert a 3/4" X 2 1/2" carriage bolt from outside of the frame rail in the front mounting hole. **Note: the use of carriage bolts will allow air bags to be installed on the outside of the frame if desired.** Insert a 3/4" X 2 1/2" bolt through the 3"X5" frame spacer plate, and install it from the outside of the truck frame rail through the rear sideplate hole and the frame. The spacer should stand vertically inside the frame and hold the bolt in the proper location even though the shape of the frame hole varies. The spacer will align the side bracket plate with the hole. Once both sideplates are installed, then tighten all four 3/4" bolts on the sideplates to 90-ft. lbs. torque. Tighten all 1/2" bolts on sideplates, angles and center section to 80-ft. lbs. torque. (Use caution not to damage the brake line or fuel line.).

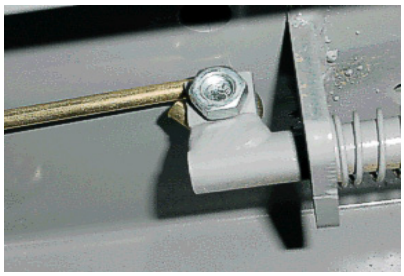
STEP 9

WHEN INSTALLING AFTERMARKET AIR RIDE SUSPENSION A LONGER HANDLE MAY BE NECESSARY. THEY ARE AVAILABLE FROM YOUR TURNOVERBALL™ DEALER OR FROM B&W. (PART NUMBER GNXA1800)

Install the latch pin release handle (7) by inserting the handgrip end of the handle rod from inside the center section through the hole in the endplate. Align the handle loop and the hole in the tab on the end of the latch pin assembly, putting the handle loop on the correct side of the tab and bolt together using the 3/8" x 3/4" bolt and lock nut. When properly attached, the center of the handle should be in line with the center of the pin assembly, and the bolt head should be on the loop side, and the nut on the tab side. Tighten the bolt.







STEP 10

To install the safety chain brackets (6) it is necessary to drill four 1/2" holes through the truck bed floor. Drill the holes from beneath the truck, through the four holes located farthest from the round receiver tube in the center section. This will locate the safety U-Bolts (6) in the lowest point of the floor corrugation. Drop a U-bolt through each pair of holes from the top side of the truck bed floor. Place a spring and lock nut on each of the four legs. Tighten the lock nuts until flush with the bottom of the U-bolts.

STEP 11

Retract the latch pin by pulling the handle all the way out until it stops and then rotate it clockwise. Place the 2-5/16" Ball (8) in the hitch receiver. Engage the latch pin by rotating the handle counterclockwise. Be certain the latch pin passes through the holes in the 2-5/16" Ball and fully engages through the hitch receiver. Remove and grease the square base of the 2-5/16" Ball.

GENERAL INFORMATION

If installing after-market air ride suspension components do so according to the manufacturers specifications by drilling the air-ride system bracket holes through the B&W sideplates. **Note: B&W sideplates will add a 1/4" thickness to the frame rail dimension, so make certain that the air-ride bracket bolts are the correct length.**