



B&W Trailer Hitches
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NOTE: We recommend reading instructions before beginning the installation.

WARNING: The tow vehicle's towing capacities should under NO circumstances be exceeded.

Turnoverball® Gooseneck Hitch Installation Instructions

Model 1316R

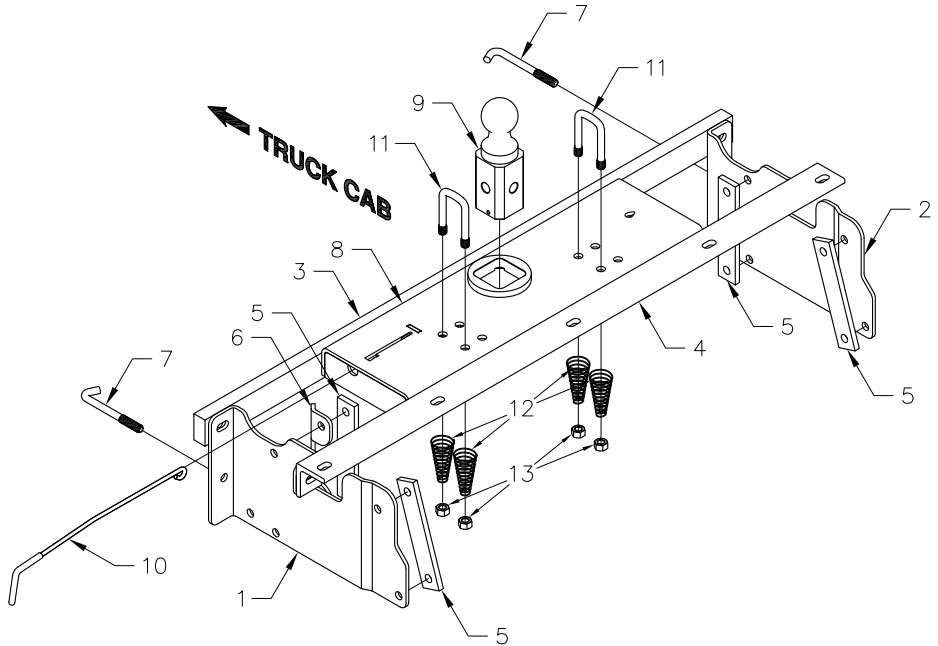
Dodge 2002-2008

**1/2 Ton, Long & Short Bed
(Except Mega-Cab)**

Call or Email us for Installation Support

hitches@turnoverball.com

www.turnoverball.com



Mounting Kit Box (GNRM1316)		
ITEM	DESCRIPTION	QTY
1	Driver Side Plate	1
2	Passenger Side plate	1
3	Front Crossmember	1
4	Rear Crossmember	1
5	Clamping Strap	4
6	Spacer	1

Mounting Kit Bolt Bag		
7	1/2" J-Bolt	2
	1/2" X 1-1/2" Cap Screw	11
	1/2" X 4-1/2" Cap Screw	8
	1/2" Flat Washer	13
	1/2" Lock Washer	21
	1/2" Finish Nut	15

NOTICE: This product was designed to fit vehicles in their original, "as manufactured" condition. Compatibility with vehicles having replacement parts, or other modifications is not guaranteed. Inspect vehicle for modifications before installation of this product.

Center Box (GNRC900)		
ITEM	DESCRIPTION	QTY
8	Center Section	1
9	2-5/16" Ball	1
10	Latch pin Handle	1

Safety Chain Kit Bolt Bag		
11	1/2" U-Bolt	2
12	Conical Springs	4
13	1/2" Lock Nut	4
	5/16" X 3/4" Carriage Bolt	1
	5/16" X 3/4" Cap Screw	1
	5/16" Lock Nut	1

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. We recommend removing the bed bolts on the driver's side and lifting the bed to give you more clearance during installation of the hitch parts under the bed floor.

WARNING

On Short bed trucks, BEFORE INSTALLING THIS HITCH, check for adequate turning clearance between 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.

GENERAL INFORMATION

The 2002-2006 Dodge 1500 long and short bed truck has a tubular frame, instead of the traditional "C" shaped channel frame. The Turnoverball™ gooseneck hitch for this truck clamps to the frame and installation is accomplished without any welding, drilling, or modification of the truck frame.

INSTALLATION INSTRUCTIONS

STEP 1A:

Using a tape measure hooked over the rear edge of the bed (at tailgate end), measure the location for the 4" hole. Next, locate the center of the bed by measuring the distance between the wheel wells and dividing by two. The center of the hole will be at the intersection of the center of the bed and the first distance measured.

4" HOLE LOCATION

8' LONG BED – 47 5/8"

SHORT BED (BED LES THAN 8' LONG) – 45 3/4"

STEP 1B:

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 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 saber saw equipped with a metal cutting blade.

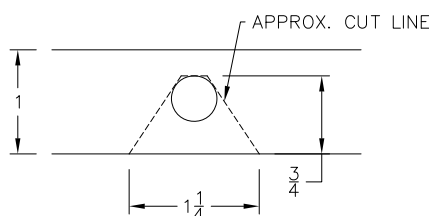
STEP 2

Install the two crossmembers. 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. A small notch needs to be made in this flange on the **Passenger** side of the truck. Locate the 7/16 hole in this flange above the axle and enlarge the hole by removing the metal below the hole so that a notch is created. This will allow the crossmembers to be installed. (see pictures below)

Install the angle iron first. On 2002 through 2005 model trucks the angle leg with the notches should face the rear of the truck when installing through the notch. On 2006 and newer model trucks the angle leg with the notches should face the front of the truck when installing through the notch. Hold the angle in an inverted "V" position, and push the angle across the frame using the notch for clearance at the apex of the angle. With the angle spanning the frame, move it rearward toward the bed crossmember. Repeat this procedure with the 1x2 bar with threaded holes. With the bar spanning the frame turn it so that it is in a vertical position and push the bar forward until it is against the front cross member.



1" BED FLOOR FLANGE IN PASSENGER SIDE WHEEL WELL



STEP 3

With the latch pin on the driver's side and the socket offset to the front of the truck, raise the center section over the differential and in between the cross members. Push the center section up to the floor while guiding the ring into the four inch hole in the truck bed. Thread four of the 1-1/2" bolts with a lock and flat washer into the front bar from inside the center section leaving them loose at this time. Next with the rear angle against the rear of the center section install three 1-1/2" bolts through the center section and angle securing with a lock and flat washer on each. **DO NOT** fully tighten at this time.



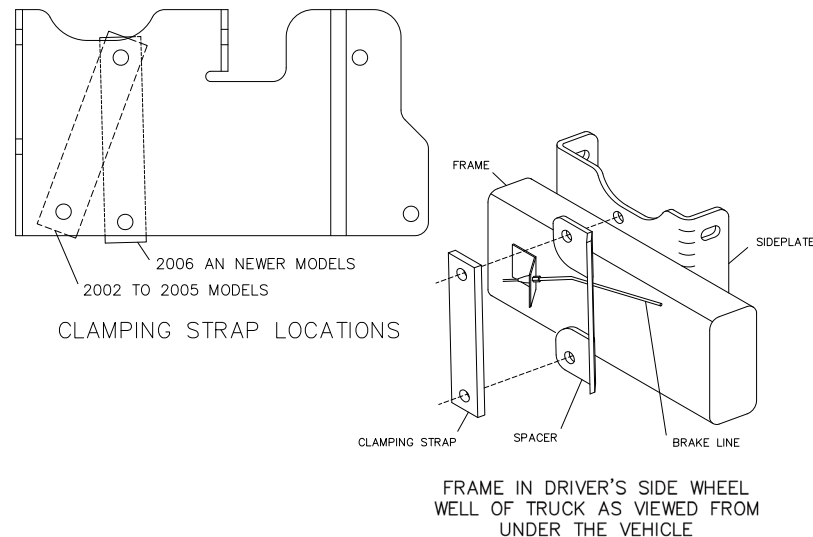
STEP 4

The sideplates will have to be installed with the center section bolts still loose, so that the sideplates can be positioned between the bar and angle. With the long flange to the front, place the side plate between the cross members and thread a 1-1/2" bolt with a flat and lock washer into the bar. Install the bolt with two flat washers and a lock washer and nut through the sideplate ear and angle. Repeat this procedure on the passenger side.



STEP 5

Attach the sideplates to the frame. On 2002 through 2005 model trucks the top front and lower front holes will be used. On 2006 model trucks the top front and middle lower holes will be used (see diagram). Install the 1/2" x 4-1/2" bolts through the holes in sideplates above and below the frame using the correct holes per year of truck as stated above. Install the clamping straps on the inside of the frame over the bolts. On 2006 model trucks a brake line spacer will need to be added on the drivers side front before the clamping strap is installed (see diagram). This will allow the needed clearance between the frame and clamping strap for the brake line. On the 2002 through 2005 model trucks the clamping strap will install between the brake line and frame. Secure the clamping straps with lock washers and nuts. Hand tighten until snug.



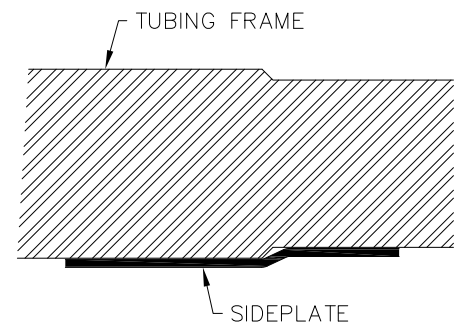
STEP 6

The sideplates have a double bend offset near the rear clamping bolts that will engage the offset in the truck frame, and create a wedging lock to prevent the hitch from sliding forward on the frame. **Before the final bolt tightening, position the sideplate so that the offset in the sideplate is mated against the offset in the frame, but not riding up on it so that there would be a gap between the clamping flange and the frame. Install the wedging "J" bolts in the frame hole in front of the sideplate and through the hole in the sideplate front flange, and install the lock washer and nut. At this time, tighten this nut only enough to achieve the correct contact between the frame and sideplate offsets. Loosely install all of the remaining hardware in the center section.**



← CAB

TOP VIEW OF FRAME ON DRIVER'S SIDE



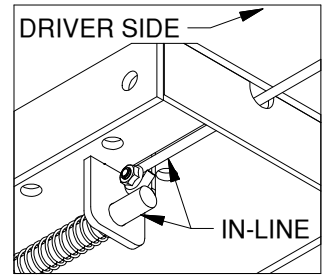
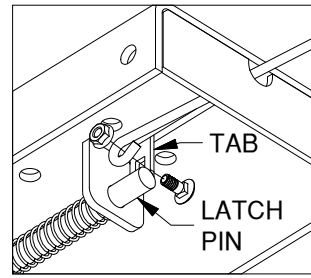
STEP 7

Tighten the hitch hardware in the following sequence. Tighten the rear sideplate clamping bolts and then the front sideplate clamping bolts to 60 ft.-lbs. of torque. Tighten them slowly, alternating from the top bolt to the bottom so that they tighten evenly. Also make certain that the bolts are perpendicular (90 degrees) to the truck frame so that the bolts will not loosen later. Center the front bar crossmember across the frame and tighten bolts to the sideplate. Tighten the center section bolts to the front bar to 110 ft.-lbs. of torque. Center the angle iron across the frame, and tighten the bolts to the sideplates and to the center section, also to 110 ft.- lbs. Tighten the "J" bolts to 40 ft. lbs. of torque.

STEP 8 – INSTALL LATCH PIN RELEASE HANDLE

WARNING: LATCH PIN WILL NOT FUNCTION PROPERLY IF HANDLE IS NOT INSTALLED CORRECTLY.

Install the latch pin release handle by inserting it through the slot in the end of the center section on the driver's side of the truck. Align the handle eyelet with the square hole in the latch pin so the handle is in line with the latch pin as shown. Secure the handle to the pin with the 5/16 X 3/4" carriage bolt and 5/16" locking flange nut as shown. Note: The included 5/16" cap screw can replace the carriage bolt if wrench access on the "cab side" of the handle is limited. Tighten the nut until it is secure. Do not over-tighten and deform the handle eyelet.



STEP 9

Install the safety chain U-bolts. The center section may have multiple safety chain holes. Only 4 holes (2 on each side of the ball) will need to be drilled. Each U-bolt will need to rest in the low part of a bed rib. To determine which holes will need to be drilled, carefully examine the safety chain holes in the center section to determine which holes are under a low rib, See figure 9.1. Use a 1/2" Drill bit and drill through the bed in the 4 low rib locations, See Figure 9.2. Drop a U-bolt through each pair of holes from the top side of the truck bed floor. Place a conical spring and lock nut on each of the four legs. Tighten the lock nuts until flush with the bottom of the U-Bolts, See Figure 9.3.

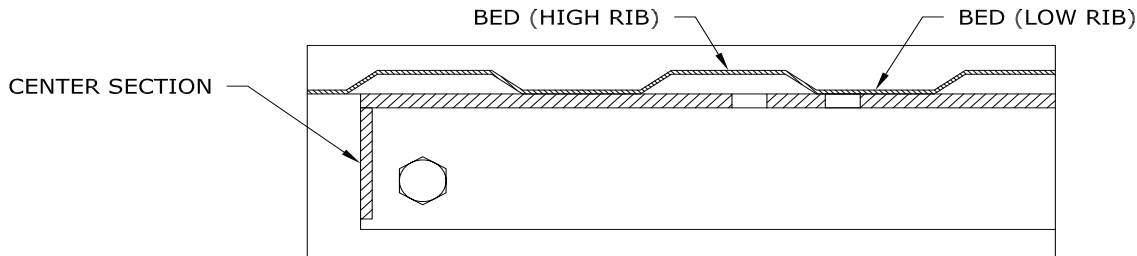


FIGURE 9.1: Cut away view of bed and center section.

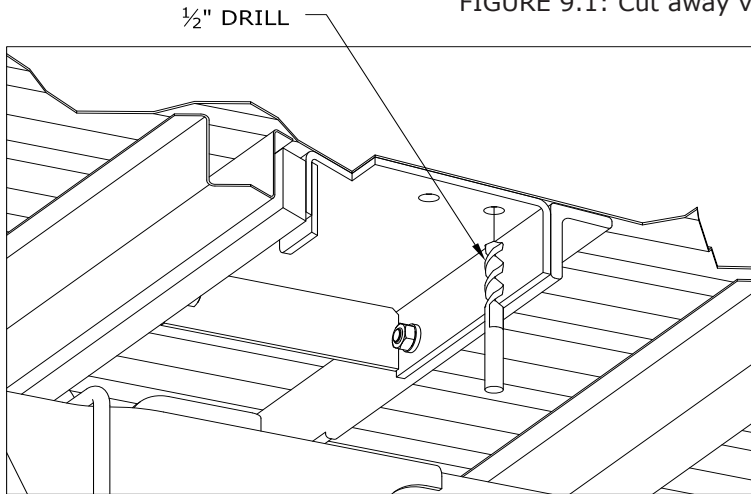


FIGURE 9.2: Cut away view from under the bed.

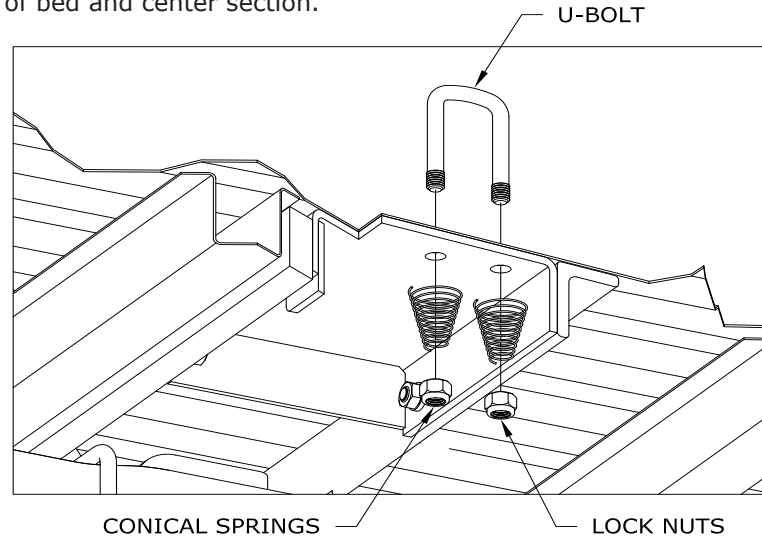


FIGURE 9.3: Cut away view from under the bed.

STEP 10

Retract the latch pin by pulling the handle out until it stops and then rotating it. Place the 2-5/16" ball in the hitch receiver. Engage the latch pin by rotating the handle. Be certain the latch pin passes through the holes in the Turnoverball™ and fully engages through the hitch receiver. Grease the square base of the Turnoverball™.



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