

<THESE INSTRUCTIONS MUST BE GIVEN TO THE END USER>



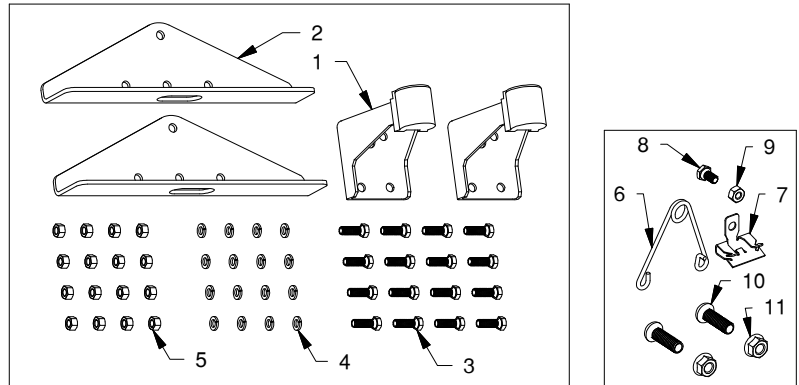
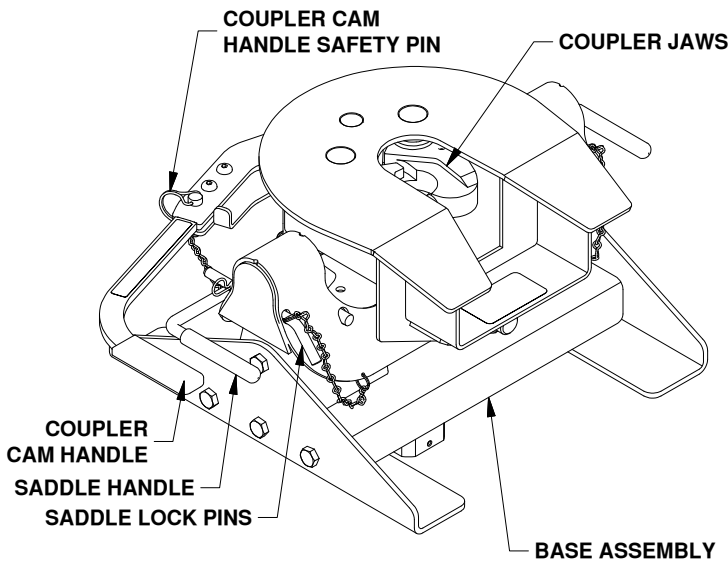
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Companion™ Hitch Installation Instructions

22,000 LBS. TRAILER WEIGHT
5,500 LBS. TRAILER TONGUE WEIGHT

Call or Email us for Installation Support
 hitches@turnoverball.com www.turnoverball.com

Model 3050



BASE BOLT BAG (RVB3050)		
ITEM	DESCRIPTION	QTY
1	Pivot Arms	2
2	Base Legs	2
3	1/2" X 1-1/2" Cap Screws	16
4	1/2" Lock Washer	16
5	1/2" Finish Nut	16

COUPLER BOLT BAG (RVC3006)		
ITEM	DESCRIPTION	QTY
6	Wire Torsion Spring	1
7	Mounting Clip	1
8	1/4" X 1/2" Cap Screw	1
9	1/4" Finish Nut	1
10	3/8" Button Head Cap Screw	2
11	3/8" Lock Nut	2

REQUIRED TOOLS

Installation of the Companion hitch requires a large torque wrench capable of measuring 80 ft-lbs, a 3/4" socket, a 7/16", and 9/16" socket or wrench, a 7/32" allen wrench.

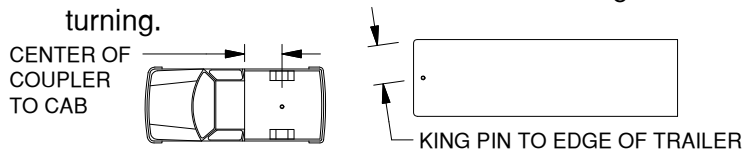
⚠ WARNING Failure to comply with the safety information in these instructions could result in serious injury or death.

- ⚠ Read all installation and operating instructions along with all labels before using this product.
- ⚠ Do not exceed tow or tongue rating of coupler, tow or tongue rating of hitch, or tow or weight ratings of truck or trailer. See vehicle and trailer manufacturer information for ratings. Exceeding these ratings may cause damage to towing components or loss of attachment between the trailer and truck.
- ⚠ Without proper knowledge, towing can be a dangerous activity. Understand all the risks involved with towing before proceeding. For information on towing safety, see **"The Trailer Handbook: A guide to Understanding Trailer and Towing Safety"** from the *National Association of Trailer Manufacturers*, www.NATM.com.
- ⚠ Adding components to the chassis of any vehicle can be hazardous. There is potential for damage to vehicle, injury from tool usage and many other hazards. This installation must be completed by someone who is aware of the hazards involved. This person must be knowledgeable of proper safety procedures for a vehicle installation of this nature, and for usage of the equipment required to perform the installation.
- ⚠ Do not modify this product in any manner. Doing so could alter its integrity and lead to a loss of attachment between the trailer and the tow vehicle.
- ⚠ Regularly check that all bolted connections are at the correct torque specification. A visual inspection should be performed before each time you tow.

PREPARING TO INSTALL

⚠ WARNING: Components of the Companion hitch are heavy and cumbersome to handle. Failure to use proper lifting techniques when moving and handling these parts could result in property damage or serious injury.

⚠ WARNING: B&W recommends that you check the clearance between the truck cab and the trailer. Compare the measurement taken from the center of the Coupler to the cab, to the measurement taken from the center of the king pin to the farthest forward corner point of the trailer. These measurements will allow you to see how much clearance you will have between the cab and the trailer while towing and turning.



⚠ WARNING: B&W also recommends that you check the clearance between the bed side and the underside of the front of the trailer and to allow adequate clearance for the pitch and roll of the trailer while towing.

ASSEMBLE BASE

1. Locate six 1/2" cap screws, 1/2" split lock washers and, 1/2" nuts. Pass three cap screws through the outside of each base leg and hand tighten each cap screw with a split lock washer and nut as shown in figure A1. While securely holding each leg against the bottom of the center section, torque each bolt to 80 ft-lbs, see figure A2.

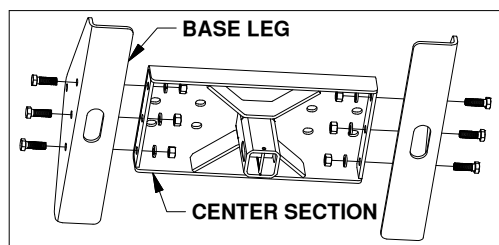


FIGURE A1: Underside view of center section and legs.

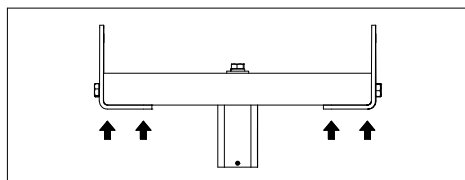


FIGURE A2: Front view of center section and legs.

2. With the remaining ten 1/2" cap screws, 1/2" split lock washers and, 1/2" nuts, attach the pivot arms to the base. Start by passing four cap screws through the top of a pivot arm down through the base and hand tighten with split lock washers and nuts as shown in figure A3. Next, pass a single 1/2" cap screw through the side of the pivot arm and hand tighten with a split lock washer and nut as shown in figure A4. Repeat these steps for the pivot arm on the other side of the center section. Torque each bolt to 80 ft-lbs.

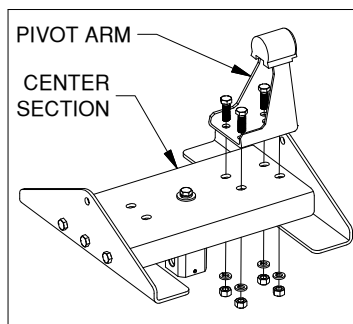


FIGURE A3: View of center section and pivot arm.

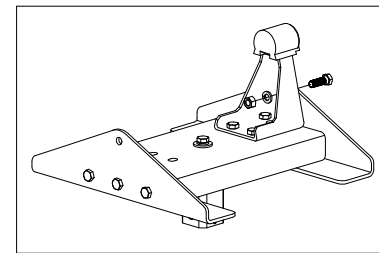


FIGURE A4: View of center section and pivot arm.

INSTALL LEVELING KIT

1. Locate the 1/4" cap screw and nut, along with the wire tension spring and mounting clip. Pass the 1/4" cap screw through the mounting clip and the wire spring as shown in figure B1. Thread the 1/4" lock nut onto the 1/4" cap screw. Tighten the lock nut just enough that the spring will stay in place but will still be able to rotate around the bolt if needed, see figure B2.

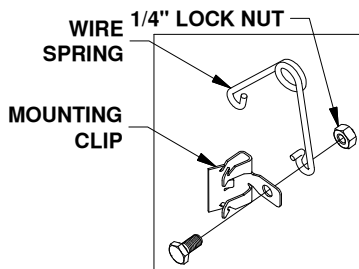


FIGURE B1: Leveling kit parts.

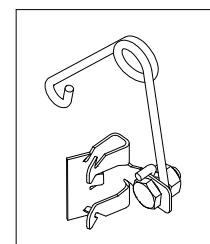


FIGURE B2: Assembled leveling kit.

2. Locate the flange which will be closest to the truck cab on the driver side pivot arm, see figure B3. The clip should be placed so that when the springs coil is in the line with the edge of the arm there will be 1/2" of clearance between the bottom of the rubber bumper and the top of the spring, see figure B4. Drive the clip securely onto the flange with a hammer.

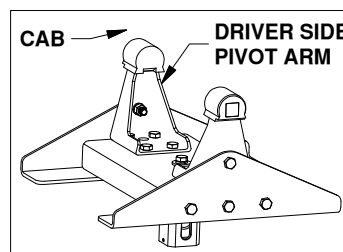


FIGURE B3: Base View.

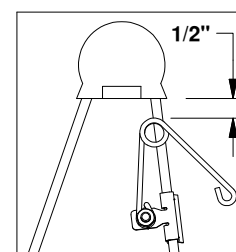


FIGURE B4: Driver side pivot arm.

INSTALL COMPANION BASE

1. Check that the bed of the truck is clean, and that all debris is removed before beginning installation.

2. Locate the latch pin handle of the gooseneck hitch located under the truck bed. Retract the latch pin handle all the way to disengage the pin from the ball, see figure C1. Remove the 2-5/16" ball from the hitch receiver socket.

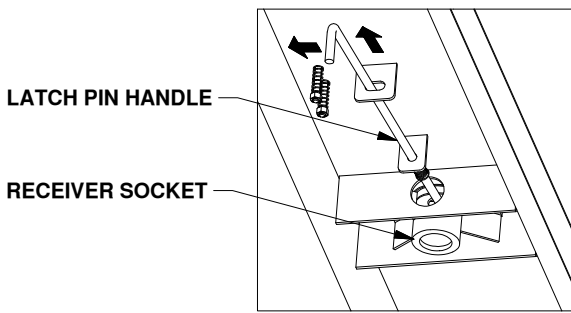


FIGURE C1: View under truck bed.

- Carefully lift and position the Companion base into the receiver hitch socket in the back of the truck bed as shown in figure C2.

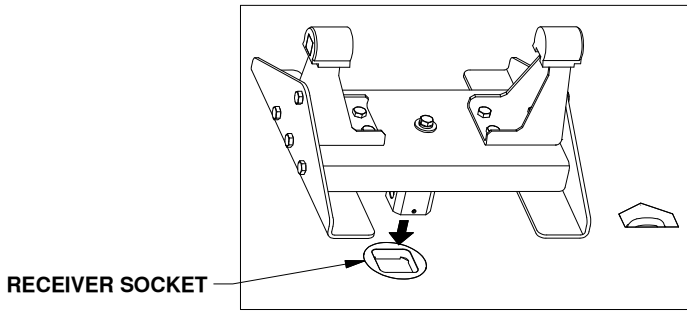


FIGURE C2: View over truck bed.

- Using a tape measure, square the Companion base with the sides or cab of the truck.
- Re-engage the latch pin handle under the truck bed.

⚠ WARNING: Check the latch pin under the truck. Make sure that the latch pin has passed through both sides of the socket and that the pin is covered up inside the socket by the socket adjuster, see figure C3.

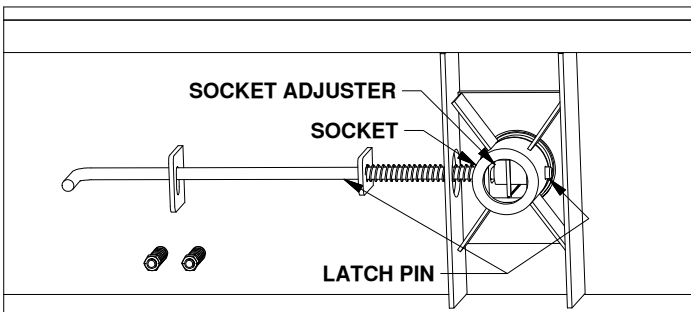


FIGURE C3: View under truck bed.

- Tighten the 1/2" x 3-1/2" draw-down bolt to 40 ft-lbs, see figure C4.

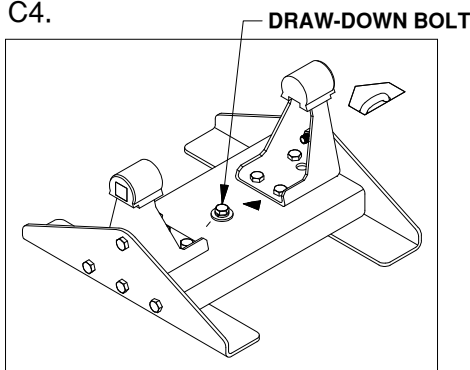


FIGURE C4. View of Companion base.

NOTICE: DO NOT lubricate the draw down bolt, the torque value is for dry threads only.

INSTALL COUPLER HANDLE

- Locate the two 3/8" x 1-1/4" button head cap screws and the two 3/8" flanged lock nuts provided in a bolt bag. Pull out the coupler arm and pin it with the safety locking pin near the base of the arm as shown in figure D1.
- CAUTION:** Pulling the arm out away from the coupler creates a pinch point. Use caution when installing the handle to avoid injury.
- Using the button cap screws and the lock nuts attach the coupler handle to the arm and tighten, see figure D1. Pull out the coupler cam handle safety pin.

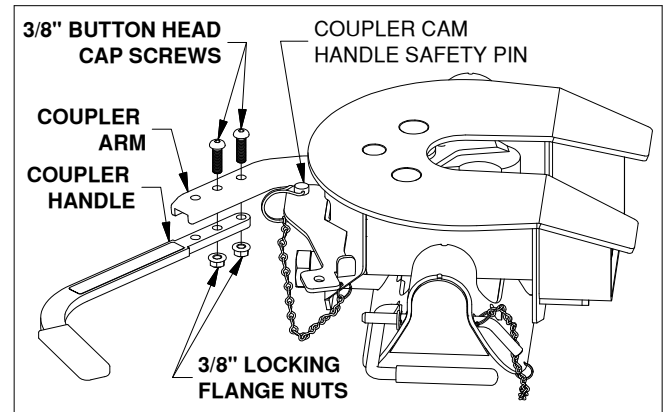


FIGURE D1: View looking down at side of coupler head.

INSTALL COUPLER

- Lubricate the polyurethane bushings on top of the pivot arms with high grade lithium grease (available at your local hardware/automotive store). Place the coupler over the pivot arms. (The saddle handles should be parallel with the base in the latched position.) Place the saddle lock pins through the saddle, then insert the hairpins through the holes in the end of the saddle lock pins to secure the coupler to the pivot arms, see figure E1.

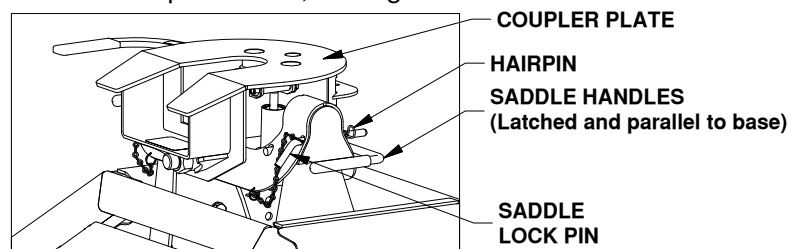


FIGURE E1: Coupler installed on base.

- Adjust the resting angle of your coupler plate by rotating the spring on the driver side pivot arm. Pulling the top of the spring away from the cab will increase the angle of the coupler plate. Set the angle of the coupler so that head will tilt away from the cab when coupling, see figure E2. Tighten the 1/4" nut once the springs orientation is set.

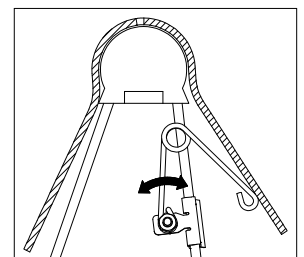


FIGURE E2: Cutaway view of driver side pivot arm and saddle.

ATTACHING TRAILER

Remove the coupler cam handle safety pin and use the cam handle to open the coupler jaws. Adjust the height of the 5th wheel trailer so that the king pin plate is slightly lower than the top of the coupler. Back the truck towards the trailer, centering the trailer's king pin in the coupler, until the king pin has engaged the jaws. Ensure that the coupler cam handle has completely closed before inserting the cam handle safety pin through the cam handle and the coupler. Hook up brake and lighting connections before towing.

⚠ WARNING: Do not use the Companion 5th wheel hitch with any device that changes the location of the king pin pivot point. The king pin on your trailer must rotate in the jaws of the Companion Coupler, see figure F1. Preventing the king pin from rotating within the jaws of the Companion Coupler with a wedge, see figure F2, or any other device, such as a Reese Sidewinder® or Reese Revolution®, could result in property damage, serious injury or death.

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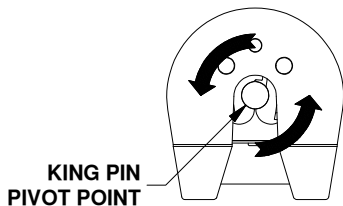


FIGURE F1:
Top view of coupler head.

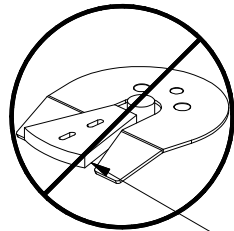


FIGURE F2:
Coupler Head with locking wedge.

HELPFUL TIPS:

- Approximately 15%-25% of the trailer weight should be on the hitch.
- The height of the king pin box and pivot arms should be adjusted so that the trailer is approximately level for towing.
- Allow adequate clearance between the bed side and the underside of the front of the trailer for pitch and roll of the trailer.
- Lubricate top surface of coupler with automotive type chassis grease or use a nylon lube plate to provide a lubricated surface.

PULL TEST

Have the truck stationary with the emergency brake on, the trailer wheels blocked and landing gear still resting firm on the ground supporting the weight of the trailer. Make sure no one is between the truck and trailer, return to the cab of the truck. Release the emergency brake and apply the trailer brakes. Try to pull the trailer forward with the truck. If the trailer is properly hooked up, the wheel blocks and trailer brakes should not allow the truck to move forward. If trailer is not hitched correctly, the trailer will separate from the truck. However, with the landing gear resting firmly on the ground, it will support the trailer and not allow it to drop or fall on the truck sides.

UNATTACHING TRAILER

Lower landing gear and block the trailer wheels. Raise the trailer until the tongue weight is removed from the truck. Then, unpin the Coupler handle and rotate to the open position to unlatch the jaws. If the jaws do not open, readjusting the landing gear may relieve pressure and allow them to open. Use the safety pin to lock the handle in the open position and when you are sure that the landing gear will support the trailer, move the truck forward to release the jaws from the kingpin. The jaws will always open when the pressure of the trailer is taken off the Coupler as the truck pulls away.

UNINSTALL HITCH

To uninstall the Companion hitch, remove the Saddle lock pins, grab the saddle handles and lift to remove the Coupler from the pivot arms. To remove the Companion base, loosen the draw down bolt and retract the Turnoverball gooseneck latch pin handle all the way out. Carefully lift and position the Companion base out of the Gooseneck hitch socket.

NOTICE: All bolted connections should be checked for the correct torque specification regularly. A visual inspection should be performed before each time you tow.

- The Companion was designed to be used with the Turnoverball™ mounting system. Other uses will void the warranty and are expressly prohibited by B&W Trailer Hitches.
- Grease jaws with automotive type chassis grease.
- Grease the saddle through the grease zerk approximately every six months with multi-purpose grease. This allows the coupler to pivot freely, see figure F1.

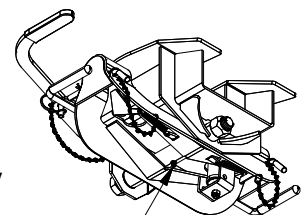


FIGURE F1: Underside view of Coupler Head