

# <THESE INSTRUCTIONS MUST BE GIVEN TO THE END USER>



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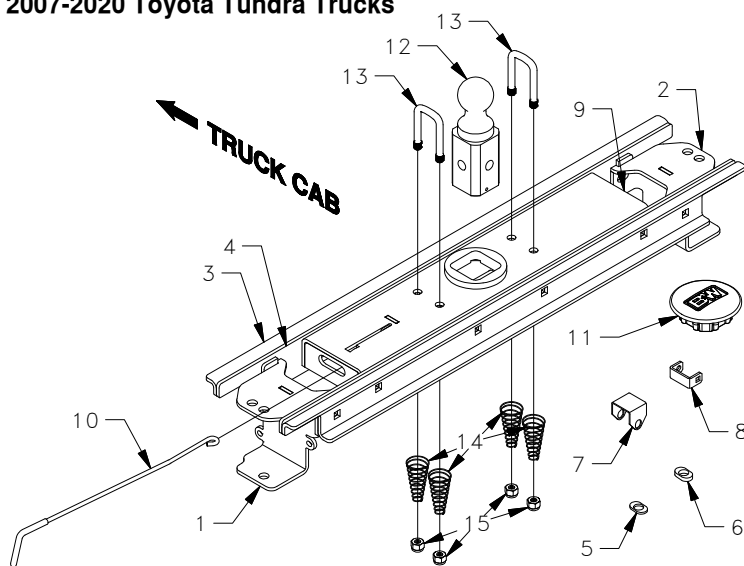
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## Turnoverball® Gooseneck Hitch Installation Instructions

# MODEL 1257R

2007-2020 Toyota Tundra Trucks



**NOTICE:** The 2-5/16 Ball cannot be turned over and stored in the socket of this hitch.

Mounting Kit Box (GNRM1257)		
ITEM	DESCRIPTION	QTY
1	Driver Side Plate	1
2	Passenger Side plate	1
3	Cross Members	2
4	Cross Member Brace	2

Center Box (GNRC1256)		
ITEM	DESCRIPTION	QTY
9	Center Section	1
10	Latch Pin Handle	1
11	Ball Socket Plug	1
12	2-5/16" Ball	1

Mounting Kit Bolt Bag		
ITEM	DESCRIPTION	QTY
5	1/8" Frame Spacer	2
6	1/4" Frame Spacer	2
7	Exhaust Relocation Bracket	1
8	Wire Relocation Bracket	1
	5/16" Carriage Bolts	1
	5/16" Flange Nut	1
	1/2" X 2" Carriage Bolt	12
	1/2" Finish Nut	12
	1/2" Lock washer	12
	1/2" Flat Washer	12
	5/8" X 1-1/2" Cap Screw	4
	5/8" Finish Nut	4
	5/8" Lock Washer	4
	5/8" Flat Washer	4

Safety Chain Kit Bolt Bag		
ITEM	DESCRIPTION	QTY
13	1/2" U-Bolt	2
14	Conical Springs	4
15	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

**NOTICE:** At this time no accessories, including the model RVK3000 RV Companion 5th wheel hitch, the RVK3400 slider, and the RVK3405 slider, will work with this model of Turnoverball **except:** 4" Toyota Hitch Extender (part# GNXA4585) & RV Companion 5th wheel hitch (model RVK3500), with special socket post.

## ⚠ 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.
- ⚠ Adding components such as a Turnoverball hitch to the chassis of any vehicle can be hazardous. There is potential for unexpected combustion of fuel, electric shock, burns, shifting or falling of unstable vehicle, 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 modification of this nature, and for usage of the equipment required to perform the installation.
- ⚠ 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](http://www.NATM.com) and your trailer manufacturer's owner's manual.
- ⚠ 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.
- ⚠ 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.
- ⚠ Additional caution must be used when towing a wedge car trailer. Towing stability greatly depends on keeping the center of gravity as low as possible. Load heavy cars over the axles. Never tow with a single car on the front of the trailer. When towing a wedge car trailer, never exceed speeds that are reasonable for the roadway conditions (e.g. turns, going around a curve, etc.). Failure to account for proper trailer center of gravity and speeds that are reasonable for the roadway conditions may cause damage to the truck, trailer, towing components, and loss of attachment between the truck and trailer.
- ⚠ 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.
- ⚠ The Turnoverball hitch comes equipped with a 2-5/16" ball. Trailers towed with the ball provided must have a 2-5/16" coupler. Towing with a larger coupler could cause loss of attachment between the trailer and the tow vehicle.
- ⚠ A visual inspection of the hitch should be performed before each time you tow. Regularly check that all pinned connections are secure, and that all bolted connections are at the correct torque specification. Check for cracks or damage to the hitch. Do not tow with the hitch if cracks or damage outside of normal wear is found. Towing with a hitch that has cracks or damage could result in damage to the tow vehicle, trailer, towing components or loss of attachment between the tow vehicle and trailer.

# PREPARE TO INSTALL

**NOTICE:** Because of space restraints, This Toyota Tundra mounting kit contains components that have not been seen in any previous Turnoverball kits. For this reason it will not be possible to store the ball in the inverted position. It also makes the 4" hole location very critical. It is important to read the complete instruction sheet before beginning the installation.

**NOTE:** Remove all parts from the packaging and familiarize yourself with all the parts and tools required. Use the parts list on the front page to verify that all parts and hardware are present.

Installation of the Turnoverball hitch requires several common tools and a few specialized tools. Below is a listing of equipment used during a typical installation.

## TOOLS REQUIRED

- Impact wrench or ratchet with 3/4" & 15/16" socket.
- 1/2", 3/4", 15/16", 10mm & 12mm Box end wrench
- Marking tool ( pencil or permanent marker)
- 4" hole saw
- Drill with 1/2" bit
- Ear protection
- Pry Bar
- Lifting Device
- Flashlight
- Eye protection
- Torque wrench
- Tape measure
- Pilot hole Bit

1. **Determine cab clearance.** Measure the trailers to be towed with this hitch to be sure that the location of the 2-5/16" ball listed in step 6 will provide ample turning clearance between the nose of the trailers and the cab of the truck.

**⚠ WARNING:** Cab clearance on short bed trucks is very limited when towing certain trailers. Failure to ensure that there will be adequate clearance, may result in significant property damage, or serious injury.

2. **Remove the spare tire and heat shield:** Following the vehicle manufacturer's instructions, remove the spare tire. Remove the two bolts holding the exhaust heat shield using a 10 mm wrench and discard.

3. **Lower the exhaust:** Locate the tail pipe hanger toward the back of the tail pipe and slide the rubber hanger off of the tubing that is welded to the pipe, see Figure A1.

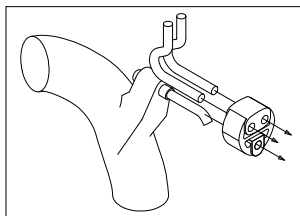


Figure A1

4. **Position the vehicle.** Installation of the hitch requires the installer to be under the truck bed in the area of the rear axle. Lifting the vehicle makes this area more accessible to the installer, and improves the installation process.

**⚠ WARNING:** Lift vehicle using only equipment designed for lifting and positioning vehicles for service. Failure to do so may result in property damage, serious injury, or death.

5. **Prepare a lifting device (optional).** The purpose of the device is to safely hold the hitch in position during part of the installation. See Figure A2 for an example. A simple mechanical lifting device is available for purchase from B&W.

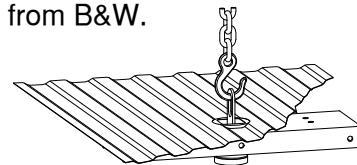


Figure A2

6. **Mark the 4" hole location.** Using a tape measure hooked over the rear edge of the bed (at tailgate end), measure the location for the hole as shown in Figure A3. 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.

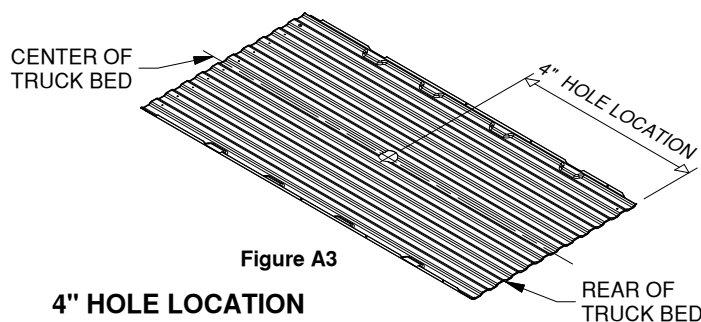


Figure A3

## 4" HOLE LOCATION

### 8' LONG BED and SHORT BED (BED LESS THAN 8' LONG) - 42-3/8"

**IMPORTANT:** The hitch is designed to install only at the described location. Failure to place the 4" hole precisely may result in added difficulty during installation or property damage.

**IMPORTANT:** If the bed is equipped with a plastic bed liner, the hole may be cut through both the liner and the bed. However, the center of truck bed may be more difficult to locate, and the mark may be harder to hit if the liner slides or moves. Failure to cut the hole in the correct location may adversely affect the install and may result in property damage.

**IMPORTANT:** If your truck has a spray-in bed liner you will need to take this into account when you are measuring, and add the thickness of the applied liner that has been sprayed over the end of the bed.

7. **Cut the 4" diameter hole.** Cut the hole in the marked location using a 4" hole saw or by marking out the 4" hole and using a saber saw equipped with a metal cutting blade. Remove any burrs created while cutting hole.

8. **Un-attach the fuel pump control:**

Locate the fuel pump control on the inside of the driver side frame. Using a 12 mm wrench remove the two nuts on the outside of the frame that are holding it in place see Figure A4. Retain the nuts to be replaced later.

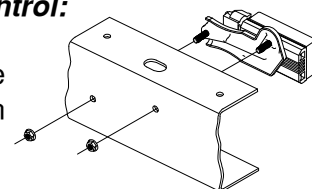


Figure A4

- Un-attach wiring bracket.** Locate the fuel vapor canister box mounted just under the front bed cross member on the driver's side of the truck. Remove the nut holding the wiring bracket to the back of the box. This will be relocated later, see figure A5.

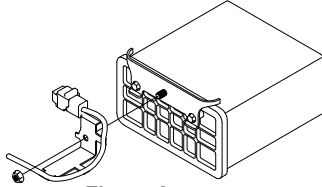


Figure A5

- Un-attach wiring:** On the top of the passenger side frame rail, locate the plastic wiring bracket and remove from top of frame. Place the wiring harness inside the frame rail. It will be held in place with the side plate.

**WARNING:** Turnoverball hitch components are heavy and may be cumbersome to handle. Failure to use proper lifting techniques and caution when handling these items could result in serious injury.

**WARNING:** Most trucks have fuel lines, brake lines, electrical wires or other vehicle systems located along the frame rails or in the general area where B&W Turnoverball hitches install. Carefully examine the locations of these systems before installation. Make certain that these are not damaged during positioning hitch components, drilling holes, or tightening fasteners. Damage to these systems may result in property damage, serious injury, or death.

## INSTALL CROSS MEMBERS

- Install cross members.** There are four cross member parts included in the kit. Two channel type and two flat type. Place one of the channel cross members between the top of the frame and the underside of the bed. Make sure that both flanges of the channel are facing down and the notches at each end are toward the front of the truck. Once the cross member is across both frame rails rotate it down and slide forward. Next, install a flat cross member in the same manner and slide it forward. Install the other two in the same manner except with the notches facing the rear of the truck. Slide them toward the rear as far as possible.

## INSTALL CENTER SECTION

- Attach the front cross member.** Install 1/2" x 2" carriage bolts through the center four holes of the front cross members. The threaded part of the bolts should face toward the rear of the truck with the square part of the bolts fitting into the square holes in the cross members. With the latch pin on the driver side, lift the center section up on to the bolts and hand tighten with flat washers, lock washers, and nuts.

- Attach the rear cross member.** With the front cross member attached, the center section and the front cross member can slide forward. This will allow the 4" round top of the center to be placed into the hole in the truck bed. A lifting device as described previously will help if available. With the top of the center section placed through the hole in the bed, slide the rear cross members against the rear of the center and install carriage bolts in the same manner as before. All bolts must be left loose at this point for side plate installation.

## INSTALL SIDE PLATES

- Install side plates.** Using Figure C1, determine the driver and passenger side plates. Place the appropriate side plate on the inside of the frame with the small flanges fitting between the cross members. The top long flange will sit on the upper leg of the frame with the bottom long flange sitting on the top of lower leg of the frame. With each side plate in place insert carriage bolts through the square holes in the cross members and through the small flanges on the side plates. Place a flat washer, lock washer and nut on the bolts and leave loose at this time. Next, place a 5/8" x 1-1/2" bolt with a flat washer and frame spacer, as shown in Figure C2 & C3, through the oval holes in the frame. Two will go through the bottom frame leg using a 1/4" frame spacer and two in the top frame leg using a 1/8" frame spacer. After passing through the frame and side plate install a lock washer and nut.

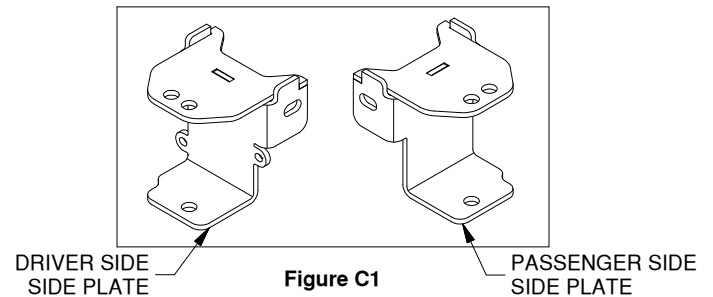


Figure C1

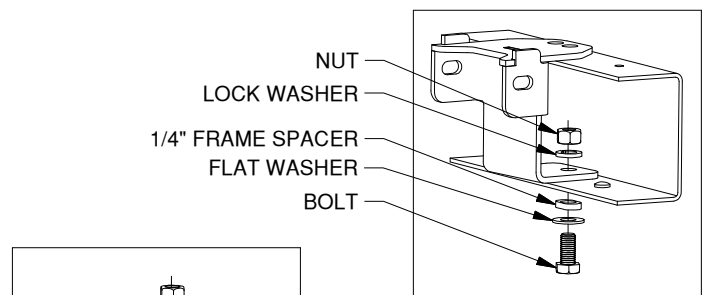


Figure C2

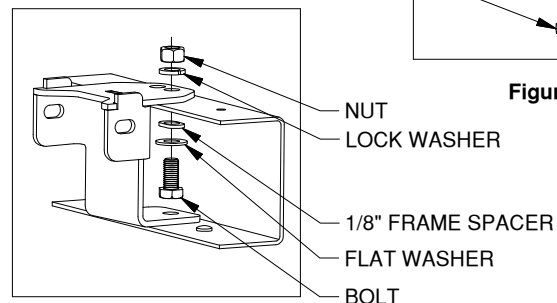


Figure C3

# TIGHTEN HARDWARE

1. **Before tightening.** Make sure that the hitch cross members are spaced equally from side-to-side and front to rear. Make sure the center section is tight against the underside of the truck bed.
2. **Tightening sequence.** Tighten the eight 1/2" carriage bolts holding the center section to the cross members to 110 ft. lbs. Next, tighten the four 1/2" carriage bolts holding the cross members to the side plates to 110 ft. lbs. Make sure that the frame spacers are completely into the oval holes in the frame and tighten the four 5/8" bolts holding the side plates to the frame, torque to 150 ft. lbs.

# INSTALL LATCH PIN RELEASE HANDLE

**IMPORTANT:** The latch pin will not function properly if handle is not installed correctly.

1. **Install handle.** Pull and turn the latch pin mechanism so that it catches in the pulled out position and the square tab at the end of the pin is slightly tilted toward the ground. Insert the latch pin release handle through the slot in the end of the center section on the driver side of the truck. Align the handle eyelet with the hole in the latch pin so the handle is on top of the tab on the latch pin as shown. Make sure the vinyl handgrip is pointing downward.
2. **Secure handle.** Secure the handle to the pin with the 5/16" X 3/4" carriage bolt and 5/16" locking flange nut as shown in Figures D1 & D2. Tighten the nut until it is secure. Do not over-tighten and deform the handle eyelet.

**⚠ WARNING:** Latch pin will forcefully retract if it becomes unlatched which may cause injury. Use caution when working under the center with the latch pin pulled out.

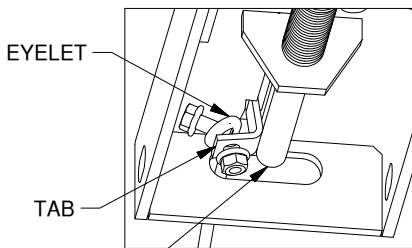


Figure D1

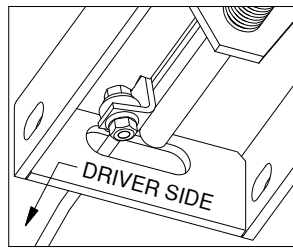


Figure D2

# INSTALL SAFETY CHAIN U-BOLTS

1. **Drill holes.** From under the bed use a drill and a 1/2" drill bit to drill through the bed using the four holes as a guide. Remove any burrs created during the drilling process.
2. **Install U-bolts.** From the top side of the truck bed, drop a U-bolt in each set of holes.
3. **Add springs.** Place a conical spring over each leg of the U-bolts and secure with a 1/2" lock nut, see front page diagram. Tighten the lock nut until the nut is flush with the end of the U-bolt.

# RE-INSTALL COMPONENTS

1. **Fuel pump control.** Re-attach the fuel pump control to the driver side frame that was removed earlier. (If air springs are being used move the relay to the inside of the side plate and mount in the holes supplied). Using the relocation bracket, 5/16" carriage bolt and 5/16" flange nut supplied, reattach the wiring bracket to the fuel canister, see Figure E1.

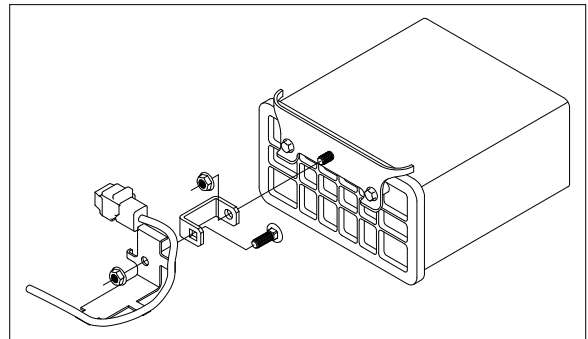


Figure E1

2. **Lower the exhaust.** Some trucks may need the exhaust pipe lowered slightly. If the tail pipe has less than 1/4" clearance between it and the hitch use the lowering bracket that is supplied in the kit. Slide it through the lower slot in the rubber hanger and turn downward. This will allow the tube on the tailpipe to slide through the bracket and lower the pipe slightly to give clearance for the hitch, see Figure E2.

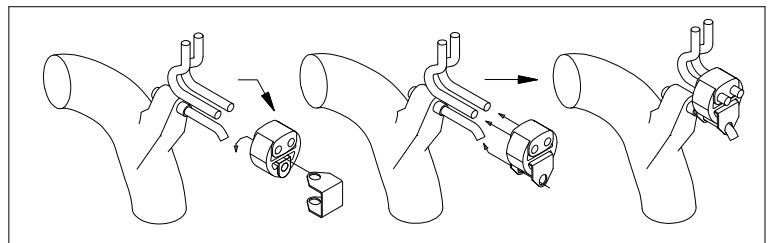




Figure E2


# PREPARE FOR TOWING

1. **Replace spare tire** If the spare tire was removed prior to installing the hitch, replace it at this time.
2. **Modify fender liner.** If a fender liner is present that restricts the movement of the handle, it is recommended that it be modified by cutting a relief slot or hole to allow the handle to move freely. If the liner was removed for installation, reinstall at this time.
3. **Retract the pin.** Pull the handle out all the way until it stops then slide it toward the cab. The handle should stay in this position. The latch should only be put in this open position when inverting the 2-5/16" ball or installing a B&W towing accessory.

 **WARNING:** The handle operates in a very tight space within the wheel well of the truck. Use caution when operating the handle so that your hands and fingers do not get injured on the sharp edges of the truck, or by getting pinched against the frame due to the force of the spring loaded latch pin.

 **WARNING:** Operating the tow vehicle while the latch is in the open position may allow the handle to come into contact with the rear tire. This may damage the tire or the handle and could lead to serious injury or death.

4. **Lubricate 2-5/16" ball.** Apply a light coating of grease to the corners on the square shank of the 2-5/16" ball.
5. **Engage pin.** Move handle toward rear of truck until the handle retracts and engages the 2-5/16" ball.

 **WARNING:** When installed properly the latch pin will pass through the 2-5/16" ball and fully engage through both walls of the hitch receiver. Failure of the pin to engage the ball and hitch properly could result in a loss of attachment between the trailer and the tow vehicle.