



**TURNING POINT™ PIN BOX**  
**by Trailair®**  
**OWNER'S MANUAL**

L I P P E R T  
C O M P O N E N T S®

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## Product and Safety Information

The Turning Point™ Pin Box is designated for 5th wheel application only. The Turning Point Pin Box can be used as a standard pin box for conventional transport or, with the pivot point relocated to the trailer, will provide up to a 90-degree turn and towing capability.

### **WARNING**

The “WARNING” symbol above is a sign that an installation procedure has a safety risk involved and may cause death or serious injury if not performed safely and within the parameters set forth in this manual.

Always wear eye protection when performing this installation procedure. Other safety equipment to consider would be hearing protection, gloves, and possibly a full face shield, depending on the nature of the installation procedure.

### **WARNING**

Failure to follow the instructions provided in this manual may result in death, serious injury, trailer damage or voiding of the component warranty.

### **WARNING**

The trailer **MUST** be supported per manufacturer's specifications before working underneath. Failure to do so may result in death or serious injury.

### **CAUTION**

Moving parts can pinch, crush or cut. Keep clear and use caution.

## Preparation



**Failure to check and follow tow ratings could result in tow vehicle damage or truck and trailer separation while towing. Trailer and its contents must not exceed truck, hitch and/or trailer tow ratings.**

### Tow Rating Weights Check

1. Do not exceed:
  - A. Vehicle tow rating
  - B. Turning Point Pin Box rating of 16,000 pounds
  - C. Gross trailer weight (trailer + full water tanks + cargo)
  - D. Pin weight of 3,200 lbs (20 percent maximum of step 1.C.)
2. Trailer weight should be lowest of the tow rating weights to ensure safe towing.

**NOTE:** The Turning Point Pin Box's pin weight is designed for a maximum load of 20 percent of the gross trailer weight or 3,200 pounds.

### Cab and Bed Clearance Check

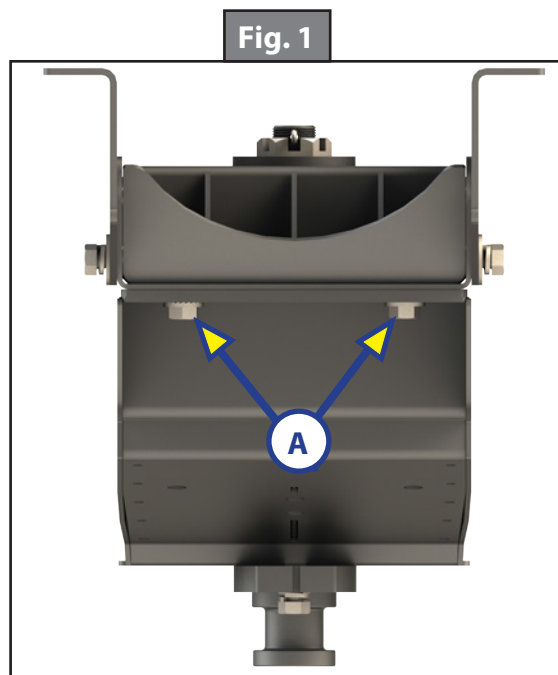
1. Measure the distance from the hitch jaws on the tow vehicle to the cab.
  - A. Record measurement and vehicle make/model here: \_\_\_\_\_
  - B. Add 22" (the length of the Turning Point Pin Box) to recorded measurement in step 1.A.
  - C. Record result here: \_\_\_\_\_
2. Measure the trailer width.
  - A. Record measurement here: \_\_\_\_\_
  - B. Divide measurement in step 2.A. by 2.
  - C. Record result here: \_\_\_\_\_
3. Determine towing configuration.
  - A. If the step 1.C. result is 4" greater than the step 2.C. result, then the Turning Point Pin Box can be used in both configurations.
  - B. If the step 1.C. result is less than 4" greater than the step 2.C. result, then the Turning Point Pin Box can only be used in the standard configuration for conventional towing. The 90-degree turn and tow capability will not be available.

## Operation

### Conventional Transport

The Turning Point Pin Box can be used as standard pin box. Two  $\frac{5}{8}$ " - 11 x 2" lockout bolts (Fig. 1A) installed on the back of the unit prevent rotation and permit use of the pin box without the wedge installed.

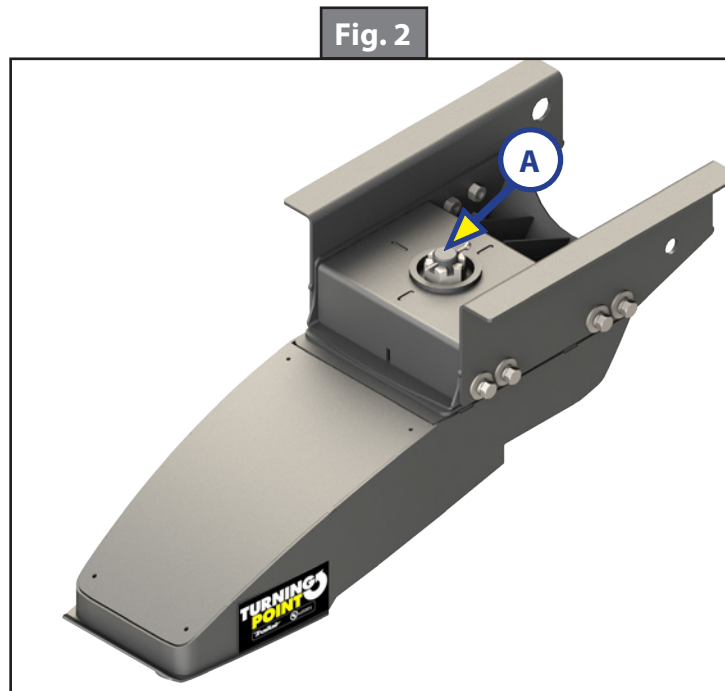
When using the unit as a standard pin box, the two  $\frac{5}{8}$ " lockout bolts shall be torqued to 200 ft-lbs.



## Moving Pivot Point

To provide towing with up to a 90-degree turn, the pivot point must be moved. Installation of a wedge will lock the pin box at the tow vehicle's hitch and move the pivot point from the vehicle's bed to the nose of the 5th wheel (Fig. 2A).

**NOTE:** Not all tow vehicle and trailer combinations will allow a 90-degree turn.



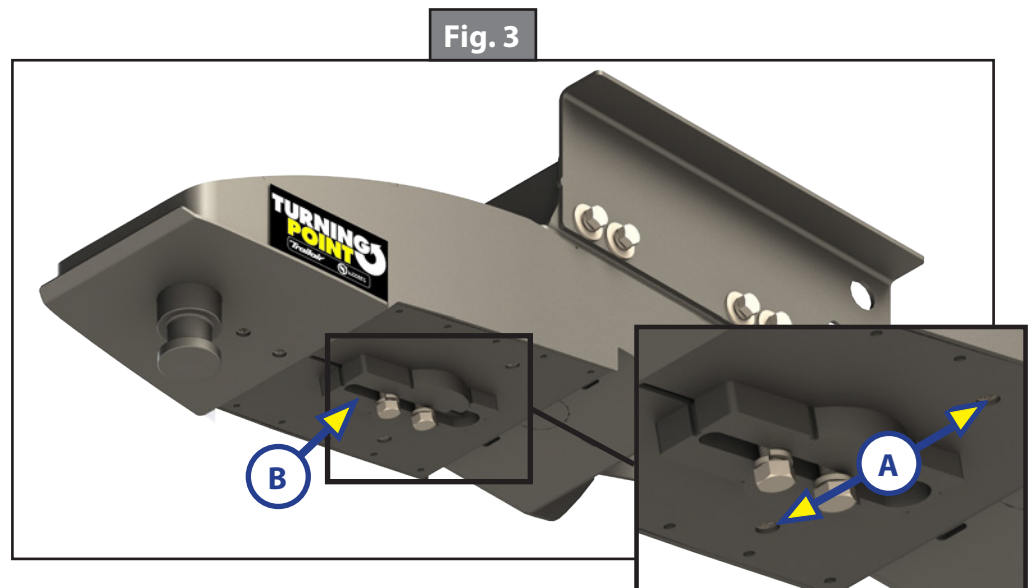
### ⚠ WARNING

**Remove rear lockout bolts when hitch wedge is to be installed. Use these same bolts to install hitch wedge. When removing hitch wedge, re-install rear lockout bolts to original location. Failure to install bolts correctly according to instructions can result in vehicle instability, vehicle damage, serious injury and death.**

1. Remove the two  $\frac{5}{8}$ " - 11 x 2" lockout bolts and mounting hardware from the rear of the pin box (Fig. 1A) and store in the two bolt holes on the underside of the pin box (Fig. 3A).

2. Remove the universal wedge from its storage location (Fig. 3B) by removing two bolts and lock washers.

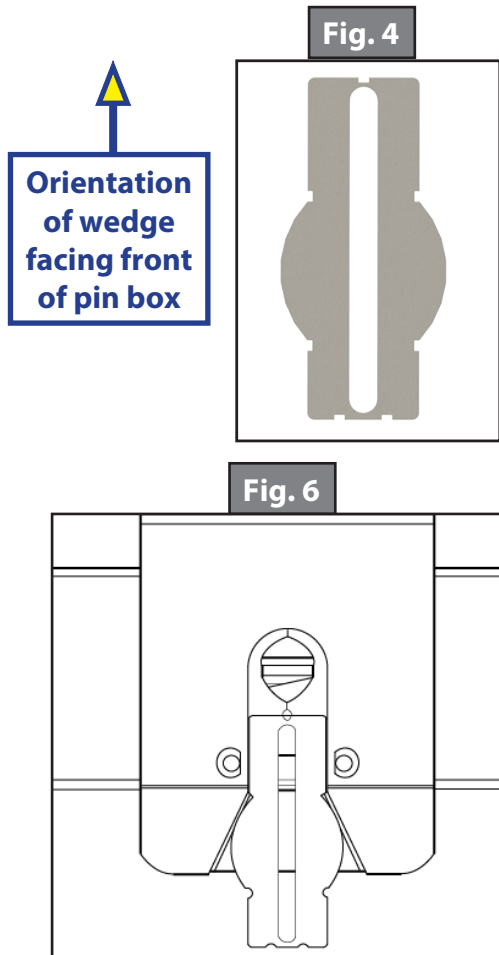
**NOTE:** The two bolts holding the wedge in place are identical to the  $\frac{5}{8}$ " - 11 x 2" lockout bolts and can be used interchangeably.



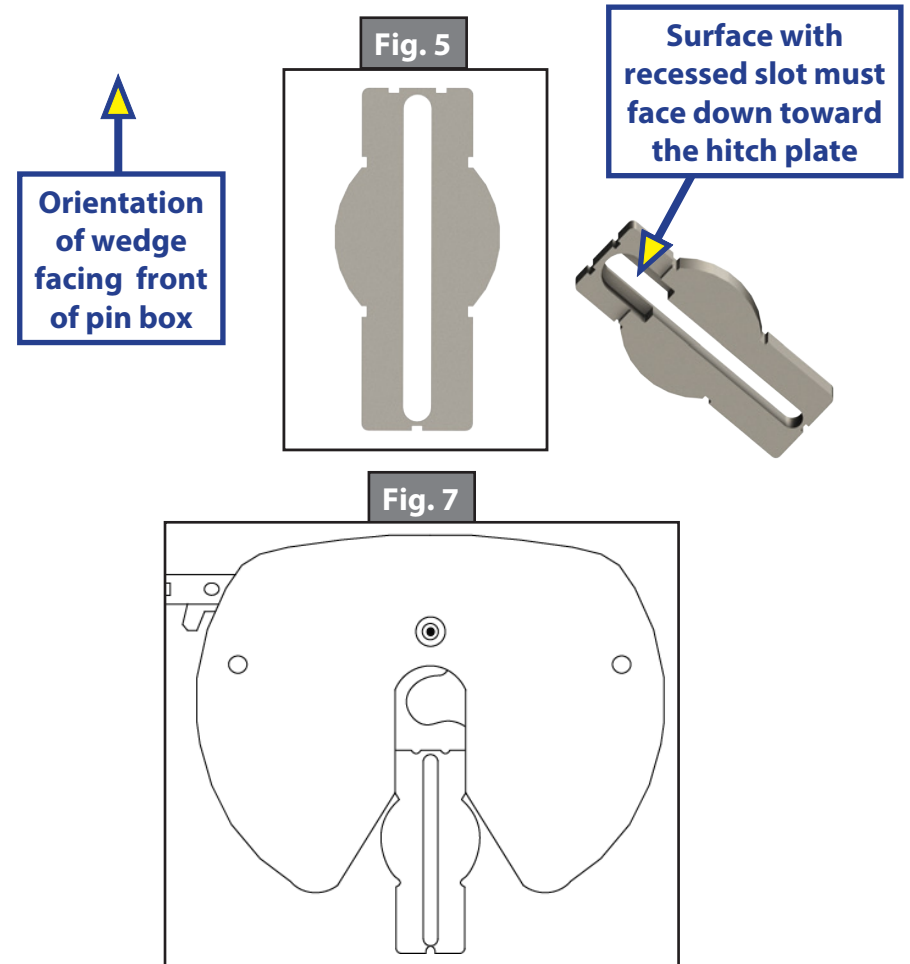
**NOTE:** The universal wedge is supplied with the pin box and is compatible with many different 5th wheel hitches.

3. Determine the best orientation for installation of the wedge (Fig. 4 and Fig. 5).
  - A. Dry fit the wedge into the hitch funnel (Fig. 6 and Fig. 7) to make sure of the proper orientation.
  - B. The wedge should have contact with all parts of the funnel while providing adequate space for the kingpin receiver.
  - C. Different hitch configurations may require a different orientation for the wedge.

Wedge orientation for Reese/Draw-Tite/Hidden Hitch Select Series, Pro Series, Husky and similar 5th wheel hitch styles.

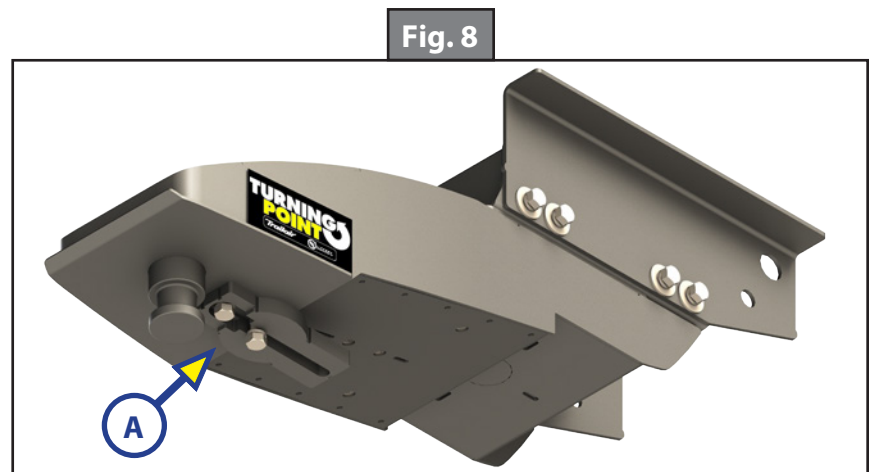


Wedge orientation for Reese/Draw-Tite/Hidden Hitch Signature Series, Elite Series and Select Plus, Reese Titan 16K and 20K, B&W and similar 5th wheel hitch styles.



4. After best wedge orientation has been determined, place the wedge into position on the pin box (Fig. 8A).
  - A. Install previously removed two  $\frac{5}{8}$ " - 11 x 2" bolts and lock washers.
  - B. Tighten the bolts until the lock washers begin to engage.
    - I. Do not fully tighten the bolts.
    - II. The wedge should be allowed to slide by tapping it with a hammer or mallet.
5. Go to the Hitching Procedure section and follow the instructions to connect the trailer's pin box to the tow vehicle's hitch.

**NOTE:** To assist with hitching, grease may be applied to the wedge, around the kingpin and on the skid plate surface.



**NOTE:** For proper latching of the 5th wheel hitch, refer to the hitch owner's manual.

6. Raise the trailer landing gear and drive the truck and trailer forward a few feet so the truck and trailer are in a straight line.
7. Put the vehicle in park and apply the emergency brake.
8. Block the trailer wheels and lower the trailer landing gear so the landing gear is resting firmly on the ground and supporting the trailer's weight.
9. Tap the wedge firmly forward until it will no longer move.
10. Tighten both wedge bolts.

**NOTE:** Both bolts may not be accessible while the unit is hitched. In this case, tighten the most accessible bolt (usually the rear bolt). The bolts will later be tightened to the proper torque value.

11. Unhitch the trailer from the tow vehicle following the manufacturer's instructions.
12. Torque the two  $\frac{5}{8}$ " - 11 x 2" wedge bolts to 200 ft-lbs.

**NOTE:** A thin-walled socket may be necessary to torque the bolts.

The wedge should be adjusted or checked for proper adjustment before each trip. If a different 5th wheel hitch is used after the adjustment, it is necessary to readjust the wedge for the new 5th wheel hitch.

## Hitching Procedure

### **⚠ WARNING**

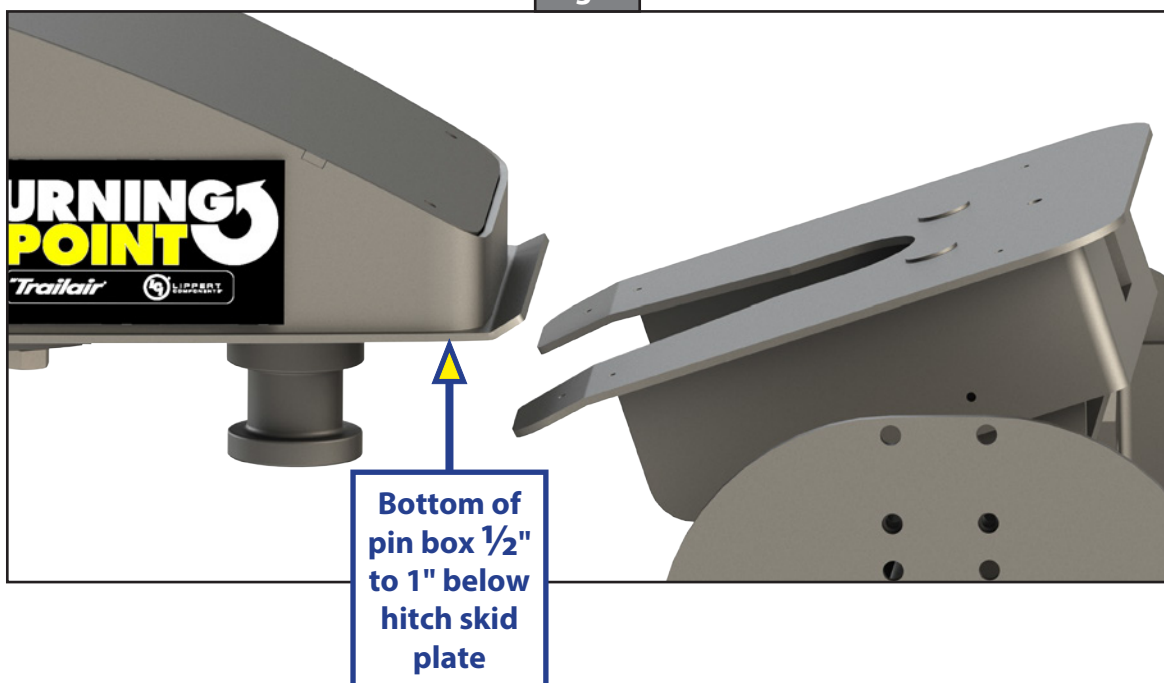
**Failure to follow these instructions may result in death or serious injury.**

1. Place blocks firmly against the front and rear of each trailer wheel to prevent possible movement either forward or backward.
2. If necessary, lower the tow vehicle's tailgate.

**NOTE:** Clearance of the lowered tailgate to the trailer needs to be monitored during hookups, since some combinations of truck and trailer have little or no clearance.

3. Using the trailer landing gear, adjust trailer height per the manufacturer's recommendation so the bottom of the trailer's pin box is  $\frac{1}{2}$ " to 1" below the hitch skid plate (Fig. 9).

Fig. 9



**⚠️ WARNING**

**Failure to follow these instructions may result in the kingpin being too high and coming to rest on top of closed jaws or not completely inside the jaw. This could result in the trailer separating from the hitch which may result in death or serious injury.**

**⚠️ WARNING**

**Do not attempt to hitch the trailer by using trailer jacks to lower the trailer and kingpin. This could result in the kingpin coming to rest on top of the skid plate instead of within the hitch opening, which may result in death or serious injury.**

**NOTE:** During the hitching maneuver, the bottom of the trailer's pin box should come into contact with the hitch skid plate ramp.

4. Open the jaw on the 5th wheel head. Refer to the manufacturer's instructions for proper 5th wheel hitch latch operation.
5. Back the truck slowly toward the trailer until the truck's hitch contacts the bottom of the pin box and the kingpin slides into the receiver.

**NOTE:** The truck and trailer must be straight and in line for the wedge to enter into the 5th wheel funnel.

6. Latch 5th wheel hitch in closed position per the instructions of the 5th wheel hitch manufacturer.
7. With the trailer wheels still blocked, make sure:
  - The landing gear is resting on firm, level ground.
  - The landing gear fully supports the trailer's weight.
  - The truck is stationary and in park with the emergency brake on.
  - The bottom of the pin box is resting on top of the hitch.
  - There is no space between the mating surfaces.

**NOTE:** If space exists between the pin box and hitch, the trailer has not been properly hitched. Do not tow the trailer. Instead, repeat the hitching steps 1-7 until the trailer is properly hitched.

**⚠️ WARNING**

**Working between the tow vehicle and trailer can be dangerous. Failure to properly secure the tow vehicle and trailer from movement can result in serious personal injury or death and serious product damage. Make sure tow vehicle and trailer are secured from movement. Make sure all safety precautions are followed to prevent personal injury or product damage.**

8. Connect the electrical cable between the truck and trailer.
9. Connect the breakaway switch cable from the pin box to a permanent part of the truck with slack to allow for rotation of pin box.
10. Raise the tailgate of the truck.
11. Do not tow the trailer until a Pull Test has been conducted.

## Pull Test

### **WARNING**

**Failure to perform a pull test may result in severe property damage, serious personal injury or death. Failure to secure tow vehicle and trailer from movement during procedure could result in severe property damage, serious personal injury or death. Make sure tow vehicle and trailer are properly secured against movement during the procedure.**

1. Make sure the trailer wheels are blocked, the trailer landing gear is resting on firm ground to support the trailer and the tow vehicle is in park with the emergency brake engaged.
2. Return to the cab of the tow vehicle, release the emergency brake and then apply the trailer brakes.
3. Slowly pull the trailer forward with the tow vehicle.
  - A. If the tow vehicle is properly hitched, the wheel blocks and trailer brakes should keep the truck from moving forward.
  - B. If the trailer is not properly hitched, the trailer will separate from the hitch and the truck will move forward while leaving the trailer behind. If this happens, repeat the Hitching Procedure.
4. After successfully performing the Pull Test, fully raise the landing gear per manufacturer's recommendations.
5. Check and inspect all electrical circuits for proper operation, including clearance lights, turn signals and stop lights.
6. Remove and store all trailer wheel blocks.

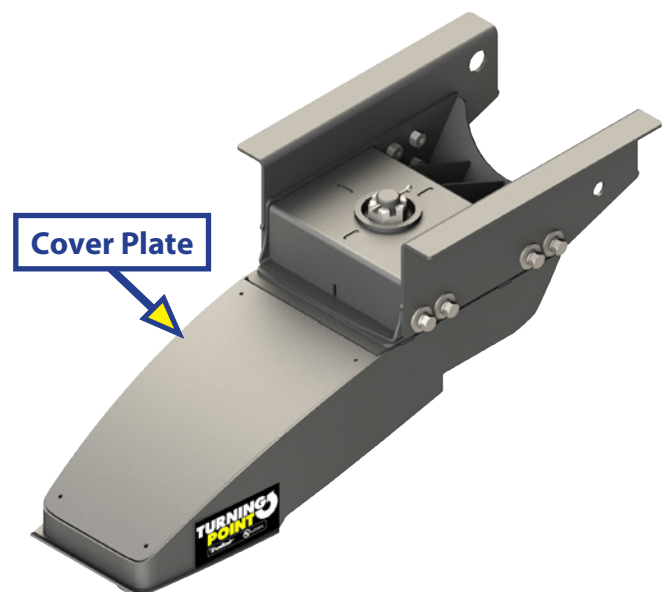
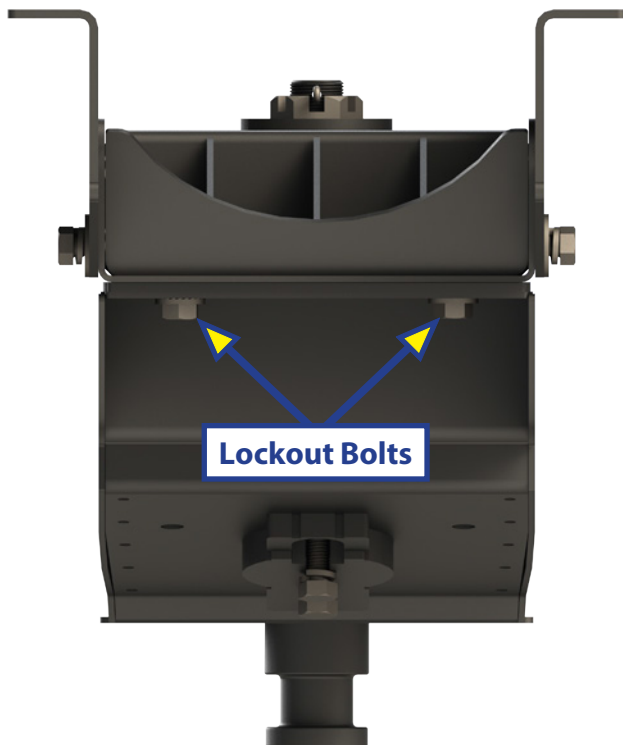
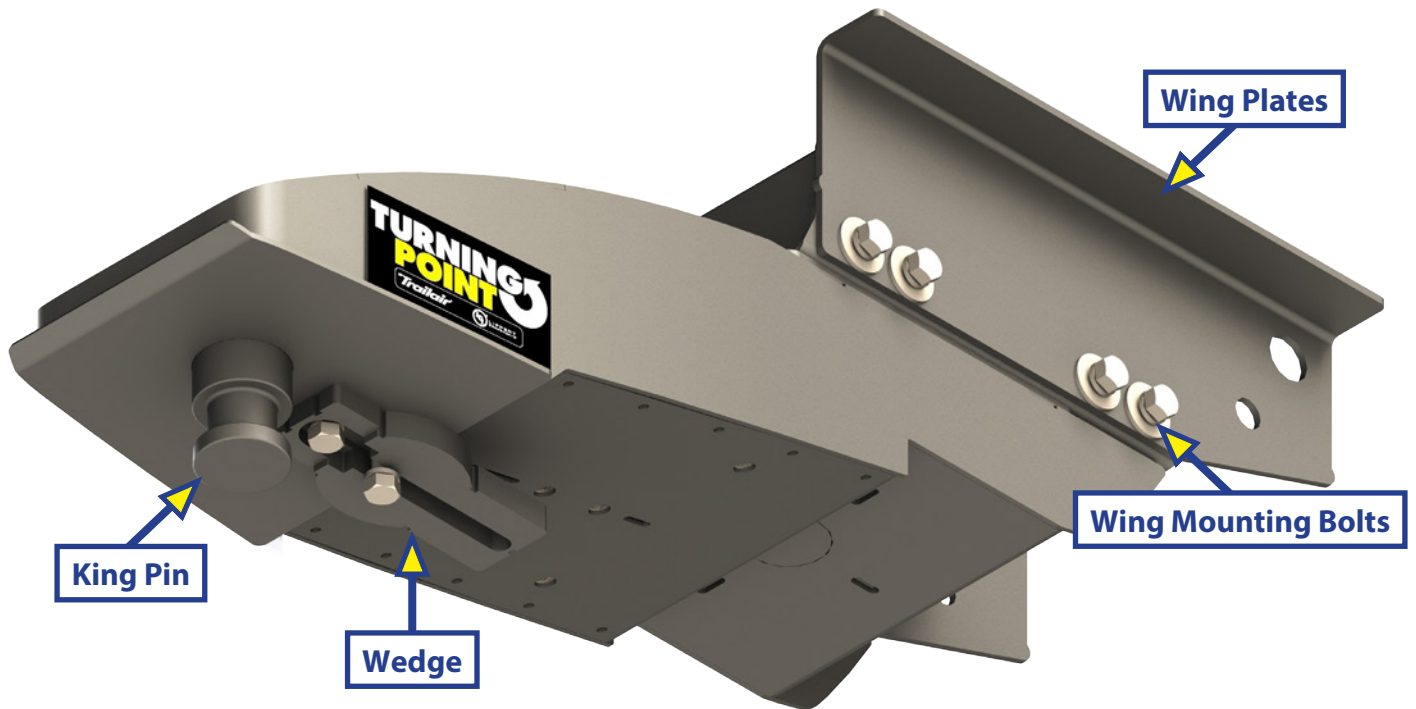
## **Maintenance**

1. Check all fasteners every 500 miles to ensure connections have not loosened.
2. Periodically check the torque values of all bolts, including 200 ft-lbs for wedge/pivot lock and 175 ft-lbs for mounting bolts located between the trailer wings and the pin box.
3. Tighten loose fasteners to previously stated torque requirements.



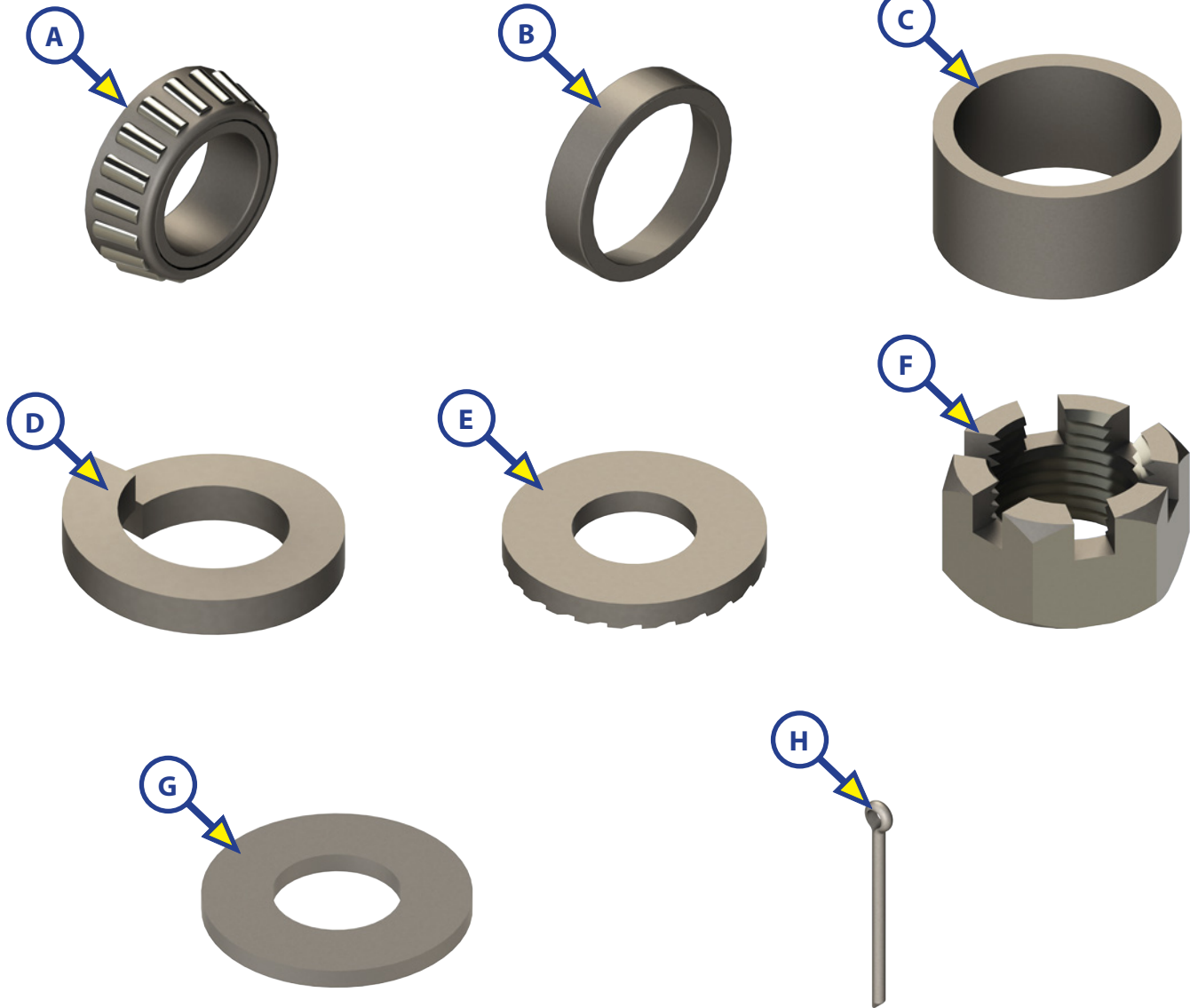
# TURNING POINT PIN BOX ASSEMBLY

## TOWING



# TURNING POINT PIN BOX COMPONENTS

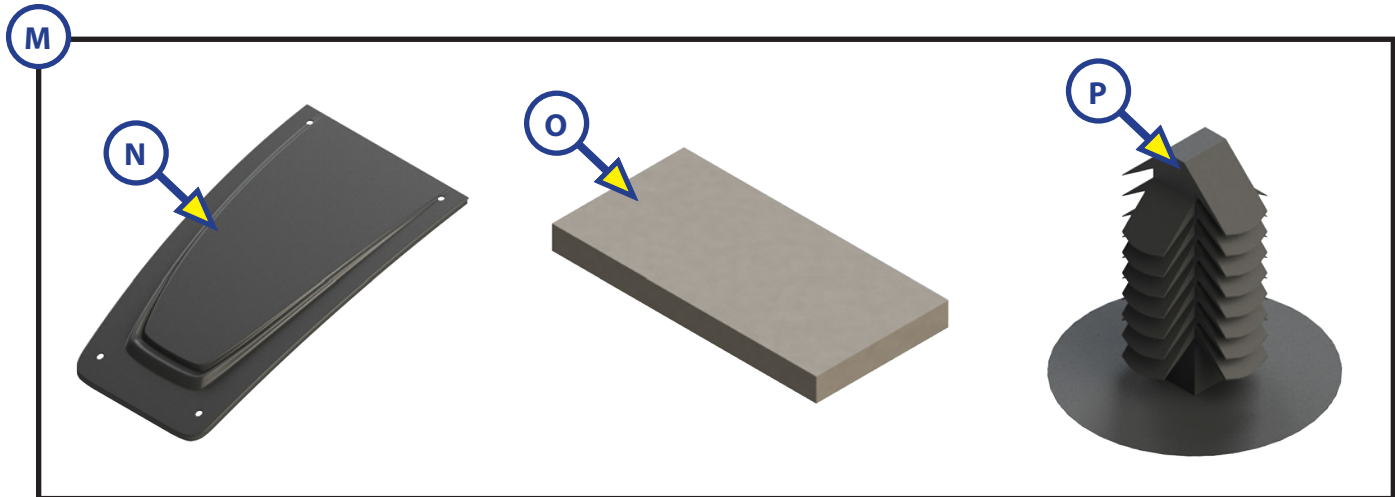
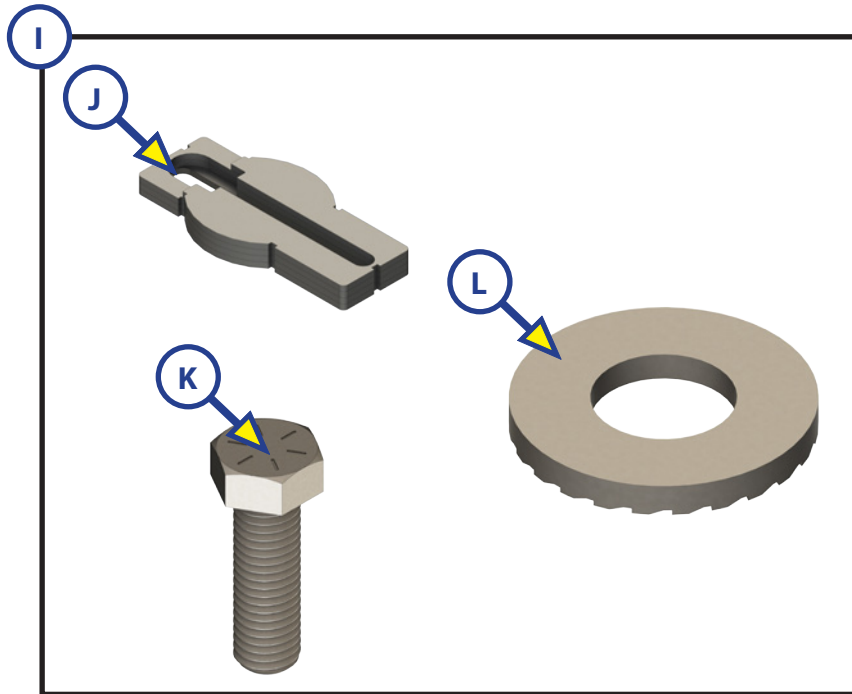
## TOWING



Callout	Part #	Description
A	<a href="#">122066</a>	Bearing Cone
B	<a href="#">124287</a>	Bearing Cup/Race
C	348753	Nylon Sleeve
D	<a href="#">118166</a>	Lock Washer - $\frac{5}{8}$ " x 1.034 x .156
E	132693	Serrated Washer - $\frac{5}{8}$ "
F	<a href="#">181894</a>	Castle Nut - 1 $\frac{1}{2}$ " - 12.6 Slot
G	348754	Washer - 1 $\frac{1}{2}$ " x 3 $\frac{1}{4}$ OD
H	348882	Cotter Pin - $\frac{1}{4}$ " x 3"

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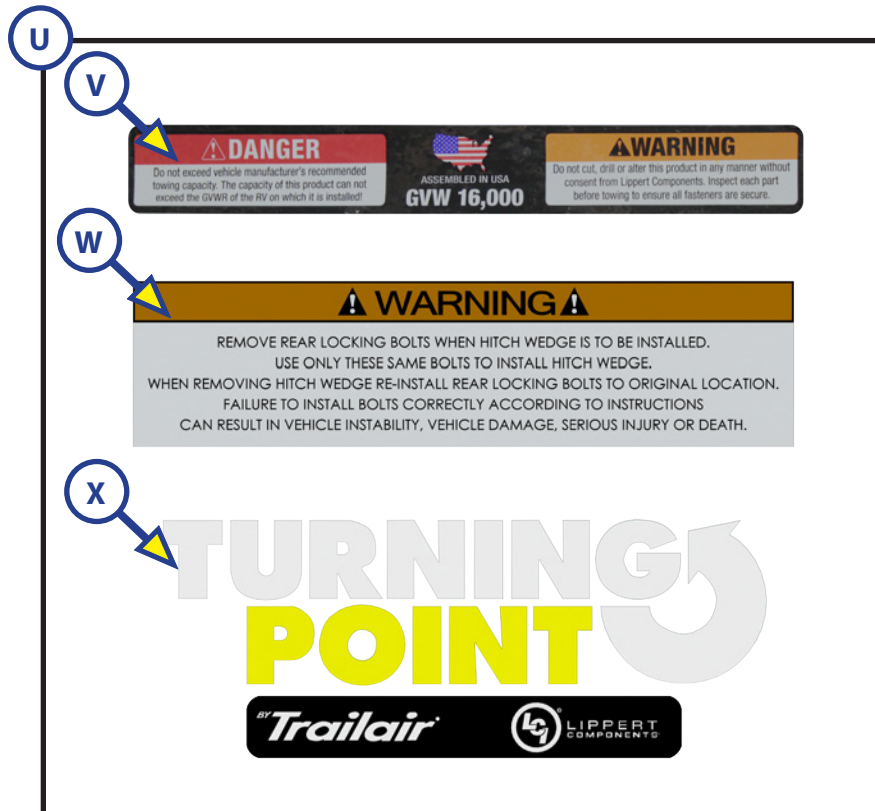
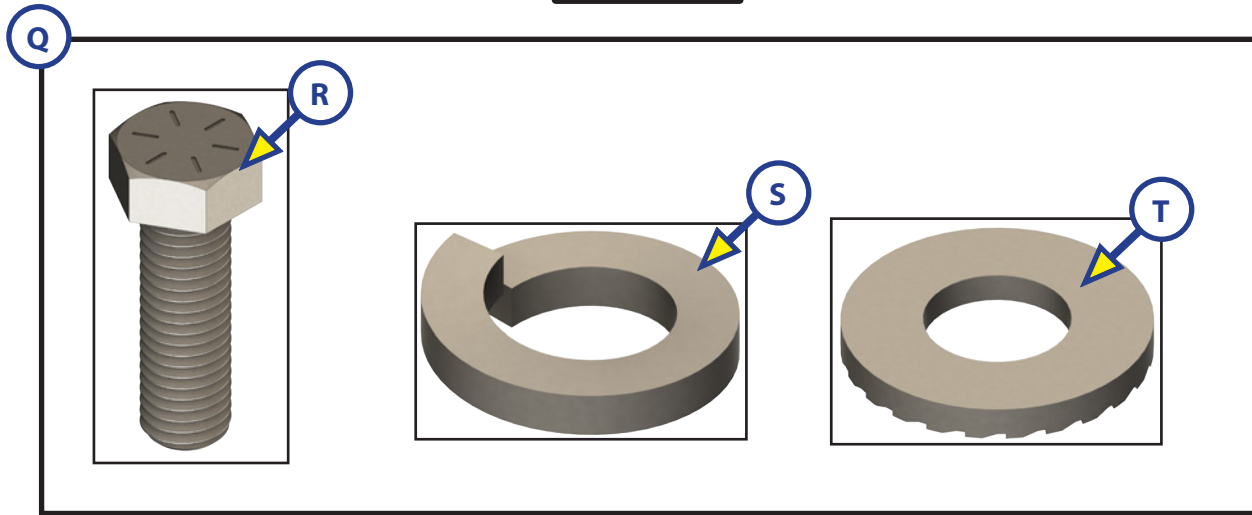
## TOWING



Callout	Part #	Description	Quantity
I	697147	Wedge Kit	
J	348715	Wedge	1
K	693209	Bolt	2
L	132693	Serrated Washer - 5/8"	2
M	697145	Cover Kit	
N	673590	Cover	1
O	693208	VHB Tape	36
P	693207	Rivet	4

# TURNING POINT PIN BOX COMPONENTS

## TOWING



Callout	Part #	Description	Qty.
Q	697148	Total Fastener Kit	1
R	693209	Bolt	4
S	118166	Lock Washer - 5/8" x 1.034 x .156	2
T	132693	Serrated Washer - 5/8"	2
U	697146	Sticker Kit	1
V	679036	Danger Sticker	1
W	693458	Warning Sticker	1
X	687739	TP Logo Sticker	2