



IsoFLEX™ PIN BOX
OEM INSTALLATION MANUAL

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Introduction

The 21K rubber-isolated IsoFlex™ Pin Box fits into the Rhino Pin Box bolt pattern. This pin box gives an improved ride performance but costs less than other upgraded Rhino Pin Box options. The IsoFlex Pin Box is specific to the Space Saver Upper Deck and will not fit other bolt hole patterns. This chassis design gives the 5th wheel additional floor space and minimizes the large step commonly seen in front of cabinetry or inside walk-in closets in modern 5th wheels.

For additional support on this product, please visit: <https://support.lci1.com/lippert-pin-boxes>

Note: Images used in this document are for reference only when assembling, installing and/or operating this product. Actual appearance of provided and/or purchased parts and assemblies may differ.

Safety

Read and understand all instructions before installing or operating this product. Adhere to all safety labels. This manual provides general instructions. Many variables can change the circumstances of the instructions, i.e., the degree of difficulty, operation and ability of the individual performing the instructions. This manual cannot begin to plot out instructions for every possibility, but provides the general instructions, as necessary, for effectively interfacing with the device, product or system. Failure to correctly follow the provided instructions may result in death, serious personal injury, severe product and/or property damage, including voiding of the LCI limited warranty.



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



Failure to follow instructions provided in this manual may result in death, serious personal injury and/or severe product and property damage, including voiding of the component warranty.

WARNING

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

WARNING

Due to the weight of the pin box, it is recommended that at least two people install this system.

CAUTION

The "CAUTION" symbol above is a sign that a safety risk is involved and may cause personal injury and/or product or property damage if not safely adhered to and within the parameters set forth in this manual.

CAUTION

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

CAUTION

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

CAUTION

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

Resources Required

- Two to three people, depending on task
- Cordless or electric drill or screw gun
- Appropriate drive bits
- Torque wrench
- Impact wrench or ratchet
- Open end wrenches
- Sockets
- Drift/centering pin
- Hammer (optional)
- Tape measure

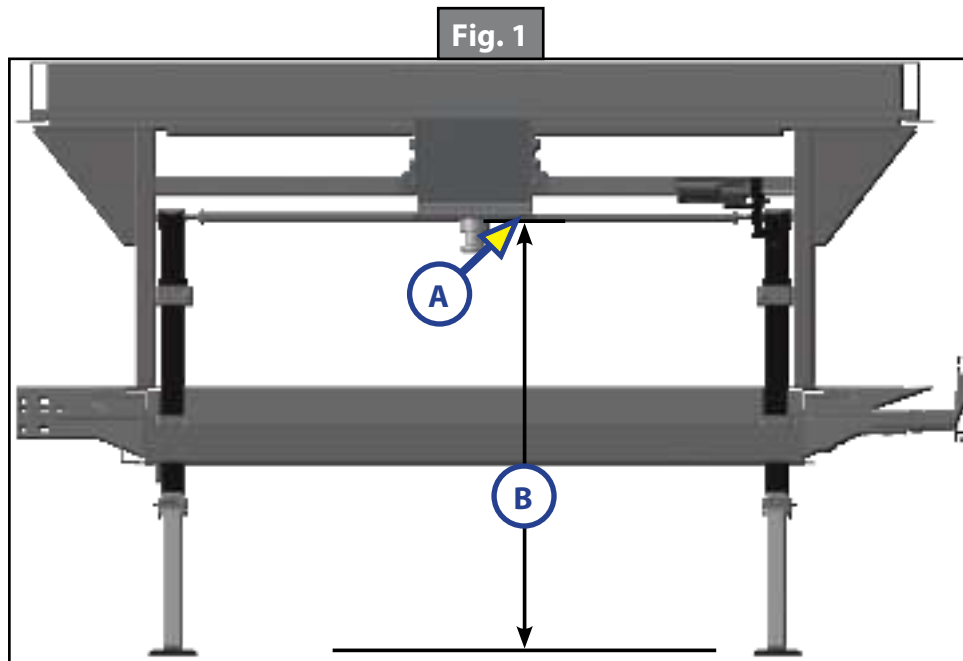
Factory Pin Box Removal

1. Level the 5th wheel front to back.
2. Measure the distance from the bottom of the factory-installed pin box's kingpin plate (Fig.1A) to a flat surface directly below (Fig.1B).
3. Make note of the bolt hole locations of the factory-installed pin box and the mounting frame. The new pin box system will be remounted in the same hole settings.
4. Properly support the pin box assembly.

Note: The pin box assembly weighs several hundred pounds and a minimum of two people are required to complete the removal and installation of the pin box. A forklift may be used to lift the pin box into position.

Note: Make sure pin box is sufficiently and properly supported before removing mounting hardware.

5. Remove fasteners that hold the original pin box in place.
6. Remove factory pin box from the mounting frame.



Installation

Install New Pin Box

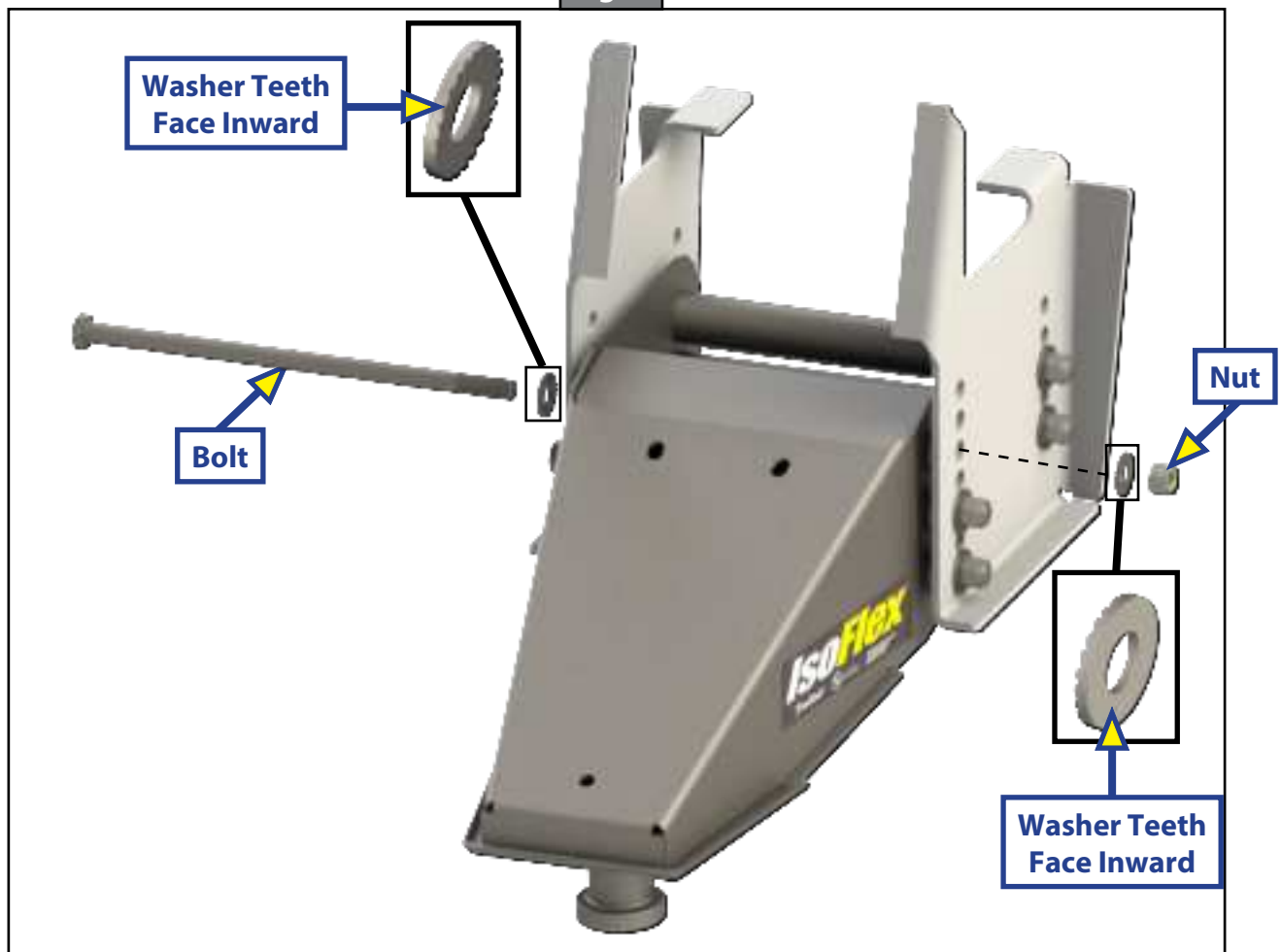
1. Hoist the new pin box into place.
2. Use a second person to line up the pin box to the bolt holes in the mounting plate.
3. Using a drift/centering pin (or screwdriver), center the holes and install a bolt in both top and bottom positions.

Note: The bolts may be inserted from either curbside or roadside. The attachment sequence is one washer on the bolt head side and one washer and nut on the threaded side of the bolt (Fig. 2). The teeth on the serrated washers will face in toward the pin box wings.

Note: Chassis/frame removed from image for clarity.

4. Verify the distance from the bottom of the kingpin plate to a flat surface is within $\pm 1/2$ " of the ground-to-plate measurement detailed in step 2 of Removal of Factory Pin Box section. If necessary, make height adjustments.
5. Utilizing the remaining hardware in the pin box kit, install bolts, washers and nuts in the remaining pin box holes.
6. With a torque wrench, torque all nuts to 120 ft-lbs.

Fig. 2



Operation

Hitching Procedure

Note: To assist with the hitching procedure, grease may be applied around the kingpin and on the skid plate surface. See recommended grease specifications.

Approved Sources - Bearing Grease	
Mobil Oil	Mobilgrease HP
Exxon/Standard	Ronex MP
Kendall Refining Co.	Kendall L-427
Ashland Oil Co.	Valvoline Val-plex EP Grease
Pennzoil Prod. Co.	Premium Wheel Bearing Grease 707L

WARNING

Do not mix lithium, calcium, sodium or barium complex greases. Mixing of these incompatible compounds can create a corrosive and/or toxic chemical with fumes that can result in a serious health risk if exposed to skin or lungs. When converting from one grease to another, make sure all old grease is removed completely prior to applying new grease.

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.

1. Place chocks firmly against the front and rear of each trailer wheel to prevent possible movement 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 tow vehicle and trailer have little or no clearance.

CAUTION

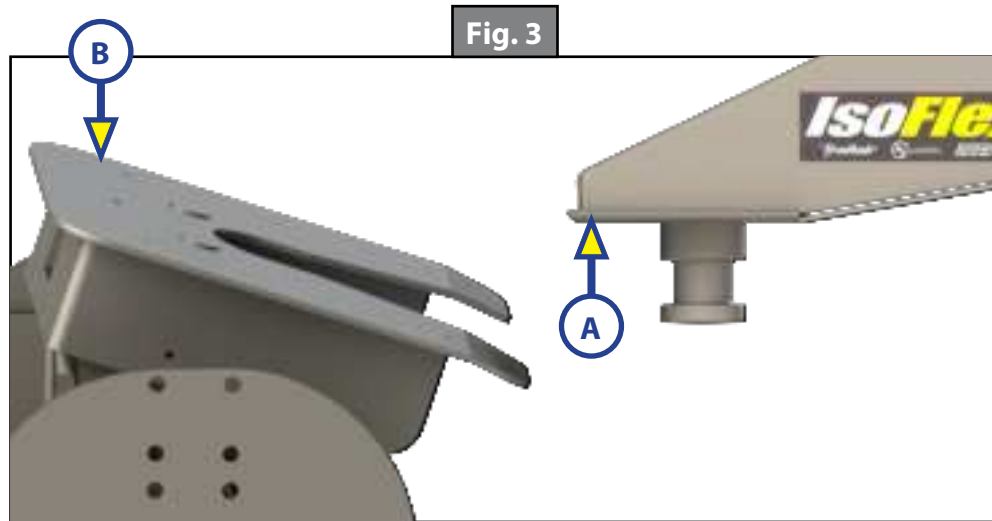
Do not attempt to hitch the trailer by using trailer jacks to lower the trailer and kingpin onto the hitch opening. This could result in the kingpin coming to rest on top of the skid plate instead of within the hitch opening. Attempting the hitching procedure while the kingpin is in this position may result in damage to the tow vehicle and/or the trailer.

3. Using the trailer landing gear, adjust trailer height per the manufacturer's recommendation so the bottom of the trailer's pin box (Fig. 3A) is 1/2" to 1" below the top portion hitch skid plate (Fig. 3B).

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 tow vehicle slowly toward the trailer until the tow vehicle's hitch contacts the bottom of the pin box and the kingpin slides into the receiver.
6. Latch 5th wheel hitch in closed position per the instructions of the 5th wheel hitch manufacturer.

7. With the trailer wheels still chocked, make sure:
 - A. The landing gear is resting on firm, level ground.
 - B. The landing gear fully supports the trailer's weight.
 - C. The tow vehicle is stationary and in park with the emergency brake on.
 - D. The bottom of the pin box is resting on top of the hitch.
 - E. There is no space between the mating surfaces.
8. 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.
9. Connect previously disconnected electrical cables between the tow vehicle and trailer.
10. Raise the tailgate of the truck.
11. Do not tow the trailer until a Pull Test has been conducted. Go to the Pull Test section in the manual.



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 chocked, 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.
4. If the tow vehicle is properly hitched, the wheel chocks and trailer brakes should keep the truck from moving forward.
5. 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.
6. After successfully performing the Pull Test, fully raise the landing gear per manufacturer's recommendations.
7. Check and inspect all electrical circuits for proper operation, including clearance lights, turn signals and stop lights.
8. Remove and store all trailer wheel chocks.



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