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Q24 5TH WHEEL

INSTRUCTION MANUAL



Installer: read and understand this manual. Fully instruct and demonstrate the operation of this 5th wheel hitch to the end user. Include the importance of observing all warnings contained herein, including warning labels on 5th wheel hitch mid section. Provide this manual in its entirety to the end-user.

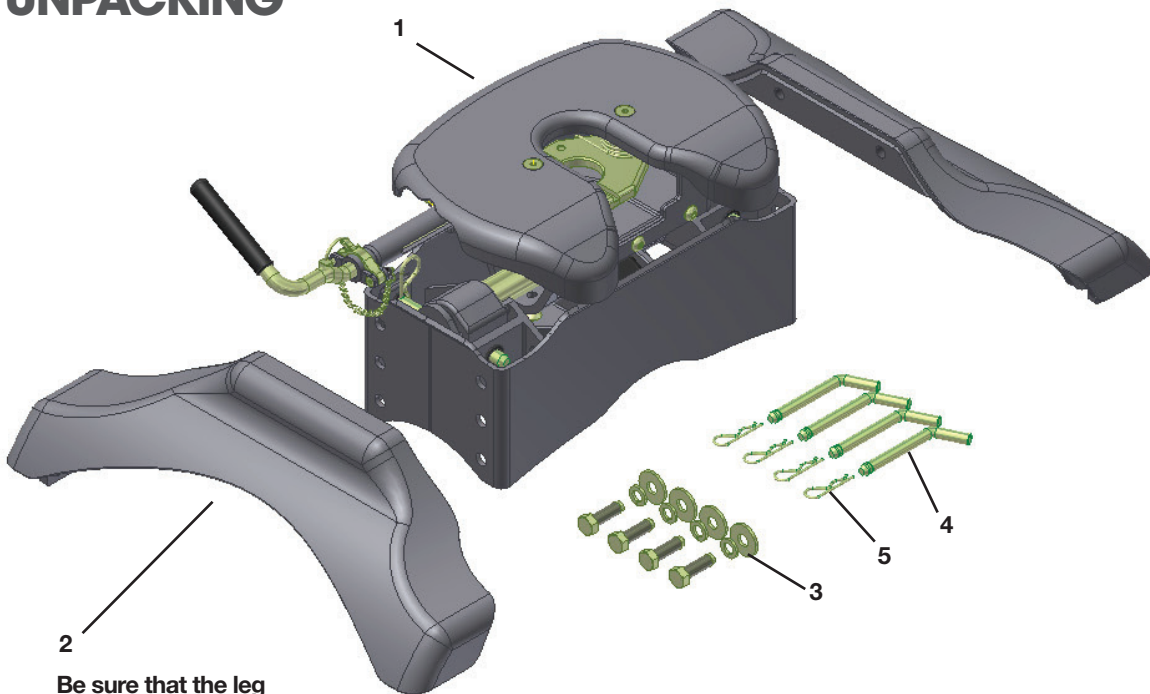
WARNING: to avoid serious injury, do not expose hands, body parts, or clothing between the truck and trailer or the truck's bed sides and trailer. Extreme care should be observed to avoid serious injury to self, property, and observers.

Never Position yourself or others under the trailer's kingpin area during coupling and uncoupling. Serious injury or death may result if the warning above is not observed.

ASSEMBLY AND INSTALLATION

Your Q24 5th Wheel has been partially assembled, inspected and tested for fit, function and completeness. The Q24 5th Wheel is an engineered unit that has been designed and tested at the rating of 24,000 lbs. (trailer GVW).

UNPACKING



Be sure that the leg with the Warning and Instruction labels is placed on the side of the unit with the activation bar.

The Q24 5th Wheel is packed in a reusable box. Contents will include:

1. (1) The Q24 5th Wheel Head assembled to the Mid-Section
2. (2) Legs (16245 only)
3. (4) M14, 2 x 45 mm Pilot Hex Bolts
4. (4) 14 mm Flat Washers
5. (4) 14 mm Lock Washers
6. (4) 1/2" diameter Base Rail Mounting Pins
7. (4) Base Rail Mounting Pin Hairpin Clips

CALCULATING THE ASSEMBLY HEIGHT

Assembly includes measuring the height requirement for the Q24 5th Wheel Head in relation to your trailer ride height at the kingpin box and skid plate. Ideally the trailer should ride as near to level as possible. The Q24 5th Wheel is adjustable from 13 to 17 inches from the pickup bed to the top of its Skid Plate. Adjustment is attained by adjusting the Mid-Section up or down in relation to the legs in 2 inch increments (typical clearance between the pickup bed rails and the trailer should be a minimum of 5-1/2 inches.)

- Step 1. With your trailer on a firm and level surface, set chock blocks in front of and behind the tires. (Do not substitute wood blocks, rocks, etc. for chock blocks.) Extend front trailer lifting jacks, adjust as required to set trailer at or near level.)
- Step 2. Measure from the ground to under the trailer's kingpin box skid plate (or Lube Plate if used). This will be the portion in contact with the Q24 5th Wheel's Skid Plate once coupled.
- Step 3. Measure from the ground to the surface of the pickup bed.
- Step 4. Subtract the measurement from Step 2 from Step 1. This value will be near the height requirement for the Q24 5th Wheel.

ASSEMBLY

Once you have determined the height adjustment required for your Q24 5th Wheel, assemble the legs to the Mid-Section using the appropriate holes. Occasionally, the trailer's kingpin "pin box" will require adjustment to facilitate correct ride height.

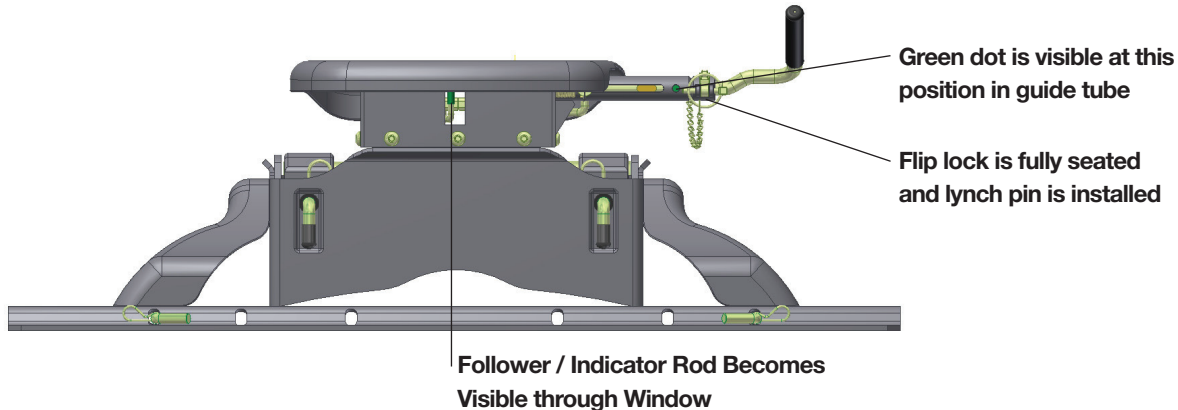
Very Important! Torque the four pilot bolts to 100 ft-lbs. Retorque after initial 500 miles and every 1,000 miles thereafter and prior to each individual use.

- Step 1. Depending on which holes are selected, attachment of the Legs to the Mid-Section may be easier with the Mid-Section upside-down sitting on its Skid Plate.
- Step 2. The Head Assembly can be removed from the Mid-Section to further aid in the installation of the pilot bolts.
- Step 3. If the Q24 5th Wheel is being mounted to existing Bed Mounting Rails, and alignment issues arise, it may be necessary to proceed as follows:
 - a. Loosely assemble the Legs to the Q24 5th Wheel Mid-Section. Place the unit on top of the existing Bed Mounting Rails aligning the Foot Tabs with the outermost rectangular slots of the Mounting Rails. When the 5th Wheel Foot Tabs drop into the 4 rectangular slots, pin the Foot Tabs using the (4) Pins and Clips provided. Continue assembly by tightening the Pilot Hex Bolts to 100 ft-lb.
 - b. If difficulty is still experienced fitting the Q24 5th Wheel to the existing Bed Mounting Rails, it may be necessary to loosen the Mounting Rail Bolts and realign the Mounting Rails as required to facilitate installation. It is recommended to replace old Lock Washers with new Lock Washers at this time. Torque Mounting Rail Bolts to (75 ft-lbs). Continue with the Q24 installation by tightening the Pilot Bolts to 100 ft-lb.
 - c. If using new Bed Mounting Rails follow the Mounting Rail's instructions for proper placement, alignment, and spacing.

COUPLING AND LOCKING

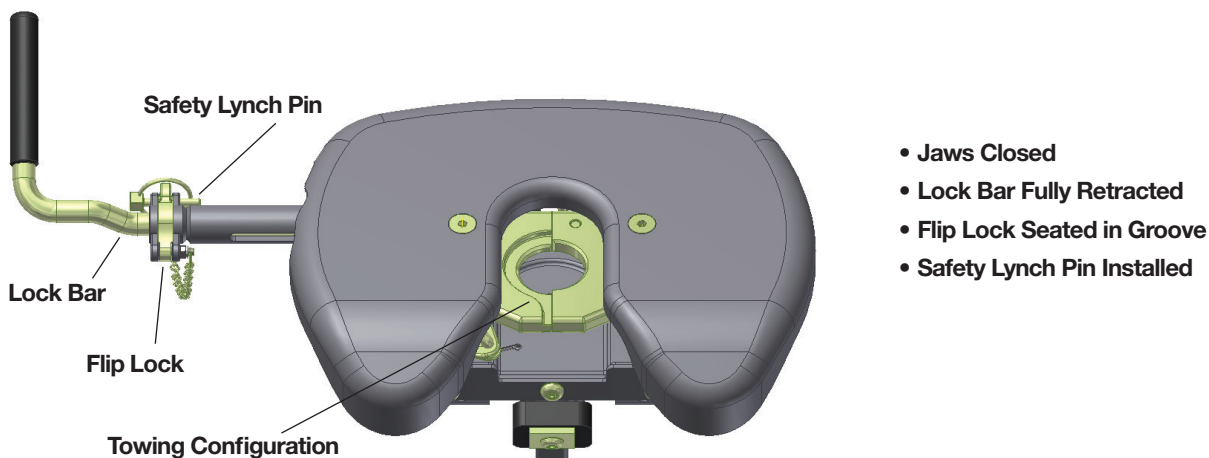
CAB VIEW

Indicator Positions Showing Coupled and Locked 5th Wheel



PREPARING VEHICLE/ TRAILER TO COUPLE

1. It is advised to perform trailer connections to the 5th Wheel on a firm and level surface.
2. Multiple wheel chocks should be used in front of and behind trailer tires. Do NOT substitute objects such as, but not limited to: stones, wood blocks, etc.
3. Lower or remove truck tailgate as required.
4. Position towing vehicle with 5th Wheel centered and inline with trailer or coach kingpin. Do NOT engage kingpin into 5th Wheel at this time.
5. Set automatic transmissions to park and activate emergency brake. Set manual transmissions to neutral and activate emergency brake.
6. Rear stabilizer jacks must be retracted. Adjust the front trailer lifting jacks so the trailer's kingpin skid plate is approximately 1/2 inch below the top surface of 5th Wheel Skid Plate. Hooking up in this manner helps ensure proper engagement of the trailer kingpin to most 5th Wheel systems. NEVER LOWER THE TRAILER'S KINGPIN INTO THE 5TH WHEEL HITCH HEAD.



PREPARING 5TH WHEEL TO COUPLE

Refer to "Cab View" on the top of page 5 and the coupling diagram on the bottom of page 5.

1. Note that Green Dot is visible (cab side) through Lock Bar Guide Tube and Indicator Rod is visible through window.
2. Flip Safety Lynch Pin Bail and remove Lynch Pin.
3. Lift Flip Lock, rotate clockwise and let hang.
4. Pull Lock Bar to full extension (approximately 3-1/2 inches) until Jaws activate and open, then release Lock Bar.
5. Visually check that Jaws are open and ready to receive trailer kingpin.
6. Note that Green Dot, and Indicator Rod have moved. This signifies that 5th Wheel Jaws are NOT in their closed and locked position. The Yellow Dot should now be visible. Yellow signifies the 5th Wheel is ready for coupling.
7. If the 5th Wheel is in any configuration other than that described in Step 1, follow the preparation troubleshooting guide below

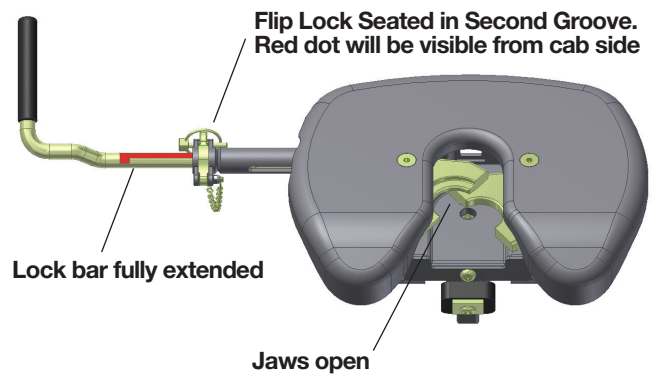
PREPARATION TROUBLESHOOTING

Red Dot

WARNING: DO NOT TOW IN THIS CONFIGURATION! JAWS WILL CLOSE BUT WILL NOT LOCK. FOLLOW STEPS BELOW TO PREPARE FOR COUPLING

Jaws Open but Lock Bar is at extended position and being held by Flip Lock / Red Dot is visible (cab side) through Lock Bar Guide Tube.

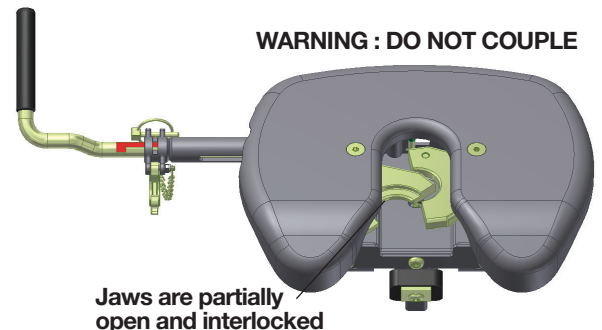
1. Red Dot signifies that Jaws are open and that Lock Bar is in its extended position. Jaws will close, but will **NOT** lock in this configuration.
2. Lightly pull Lock Bar and release Flip Lock from its groove.
3. Release Lock Bar. Lock Bar will retract partially inward.
4. Visually check that Jaws are open and ready to receive trailer kingpin. The Yellow Dot should be visible from cab.



Out of Sync Jaws

Jaws are semi-open and interlocked/interlaced with each other. Lock Bar is somewhere in between full retracted position and full extended position.

1. This configuration means that the Movable Jaw has become out of time with the second Fixed Jaw.
2. Inspect that Flip Lock is hanging free in its clockwise rotated position.
3. Pull Lock Bar to its full extended position and release.
4. Jaws will retime themselves.
5. Visually check that Jaws are open and ready to receive trailer kingpin (Yellow Dot).



COUPLING

If you are using a Lube Plate on the trailer kingpin, you are ready to couple the trailer to the 5th Wheel. (Up to (2) 3/16" thickness Lube Plates may be used). If you are not using a Lube Plate, apply a high pressure wheel bearing grease to the 5th Wheel Skid Plate.

Never position yourself or others under the trailer's kingpin area (DANGER ZONE) during coupling and uncoupling.

If for any reason, you must position any part of your body under the trailer or between the truck and trailer or between the trailer kingpin and 5th Wheel Hitch you **MUST FOLLOW THE STEPS IN THE "DANGER ZONE PRECAUTIONS" ON PAGE 2.**

Back towing vehicle while remaining centered and aligned to trailer kingpin. Trailer kingpin skid plate will compress the towing vehicle's suspension and "ramp" up onto 5th Wheel Skid Plate. Observe the following: See "cab view" on Page 5 for indicator location.

- a. Lock Bar will fully retract into 5th Wheel Head.
- b. Green Dot will become visible (viewing from cab).
- c. Green Indicator Rod is visible in window (viewing from cab).

Visually confirm that no space exists between trailer kingpin skid plate and 5th Wheel Skid Plate or between Lube Plate and 5th Wheel Skid Plate. If a gap is present then kingpin is NOT engaged into Jaws.

Step 1. Determine if kingpin is resting on top of Jaws and provide corrective action.

Step 2. Inspect for damage to 5th Wheel Unit. Under no circumstances should 5th Wheel Unit be used if damage exists due to improper coupling.

Step 3. If no damage exists, review coupling instructions and repeat procedure.

PULL TEST

After coupling and prior to removing trailer wheel blocks and or raising front trailer jacks **YOU MUST DO THE FOLLOWING:**

Set towing vehicle in a forward gear and lightly "tug" on the trailer to **ensure that a 100% coupling has taken place.** If resistance is felt, release forward pressure, set vehicle to Park if equipped with an automatic transmission and activate emergency brake. Place in Neutral if equipped with a standard transmission and activate emergency brake.

If resistance is not felt, trailer may not be coupled correctly. Do not continue applying forward pressure, **immediately stop,** and back towing vehicle into original position. Do not allow the truck and trailer to separate. Separation can cause damage to towing vehicle, 5th Wheel Hitch, and or trailer. **Serious injury or death may result if all warnings are not observed.**

Review coupling instructions, apply corrective action and repeat coupling steps.

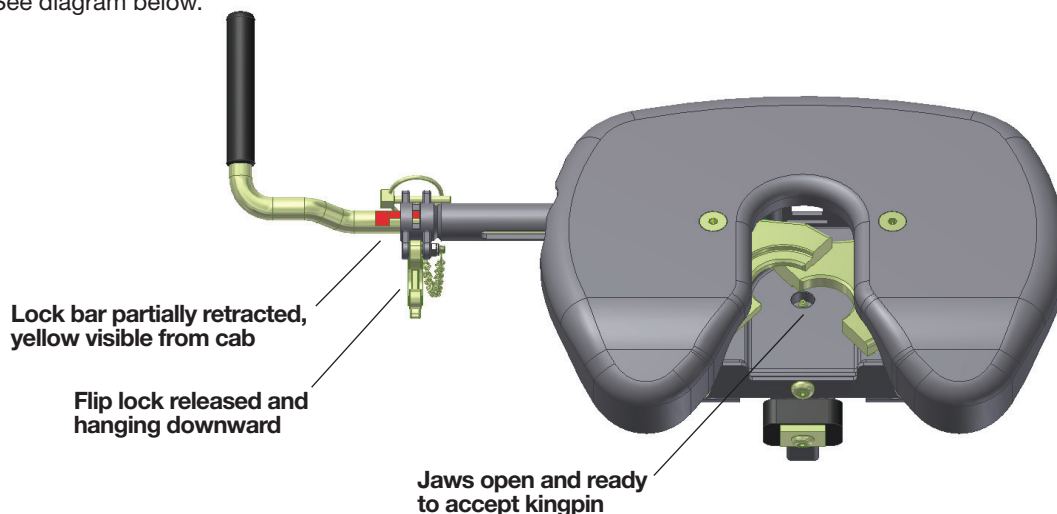
PREPARING TO TOW

1. Rotate Flip Lock counterclockwise and seat in groove.
2. Insert Safety Lynch Pin and flip bail to secure.
3. Attach electrical harnesses.
4. Attach lanyard and insert electric-brake-break-away plunger. If hydraulic surge brakes are present, attach lanyard from the surge brake assembly as required.
5. Fully retract front trailer lifting jacks.
6. Close truck tailgate or reinstall tailgate as required.
7. Remove tire chock blocks.
8. Check running lights, directional signals, and brake lights for proper operation.
9. Pull forward a few feet and apply brakes to check that trailer brakes are activating. Adjust the electric brake controller if necessary.

UNCOUPLING AND RESETTING

1. When parking it may be necessary to “unload” the forces on the kingpin by lightly backing “against” the kingpin. This maneuver helps put the kingpin and 5th Wheel in a “neutral” position. Once parked on a firm and level surface, set automatic transmission vehicles to Park and activate emergency brake, set standard transmission vehicles to Neutral and activate emergency brake.
2. Multiple wheel chocks should be used in front of and behind trailer tires. Do NOT substitute objects such as, but not limited to: stones, wood blocks, etc.
3. Disconnect as required, all harnesses, lanyards, safety devices, etc.
4. Do NOT extend rear trailer stabilizer jacks at this time.
5. Lower or remove truck tailgate as required.
6. Begin extending front trailer lifting jacks. Extend lifting jacks just enough to remove the weight of the trailer from the 5th Wheel Skid Plate. Creating a “gap” between the trailer skid plate and the 5th Wheel Skid Plate is NOT necessary and is NOT recommended. If a gap is present, it should be minimal and no more than 1/16 of an inch. Excessive gap while coupled can damage internal components of the 5th Wheel Hitch as well as components of your trailer.
7. Flip Safety Lynch Pin Bail and remove Lynch Pin.
8. Lift Flip Lock and pull Lock Bar outward approximately 1/2 inch. While holding Lock Bar in this position, drop Flip Lock back onto the lock bar. Pull Lock Bar to its full extension. Flip Lock will drop and engage second groove. Release Lock Bar. Lock Bar should remain in full extended position. Note that Red Dot is visible (cab side) through Lock Bar Guide Tube. This signifies that the jaws are NOT locked and are prepared to be uncoupled.
9. Reinsert Safety Lynch Pin and flip bail to secure.
10. Slowly pull vehicle out from underneath trailer skid plate. Observe that trailer is uncoupling. If resistance is encountered, determine corrective action and repeat uncoupling steps.
11. Once uncoupled from trailer, you may elect to reset 5th Wheel for future coupling at this time. To reset for future coupling, simply remove the Safety Lynch Pin and lift the Flip Lock from its groove. This will allow the Lock Bar to partially retract into its coupling position.

Important: Failure to reset Lock Bar in this manner prior to next coupling will NOT allow the jaws to lock around the trailer’s kingpin. See diagram below.

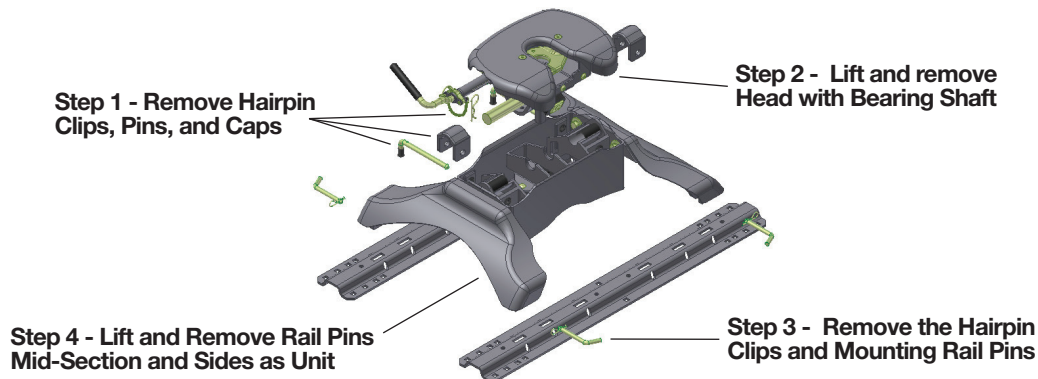


REMOVAL AND REINSTALLATION

For your convenience the Q24 5th Wheel Hitch may be disassembled to ease removal. This section will discuss the three different way the Q24 hitch can be removed.

OPTION 1

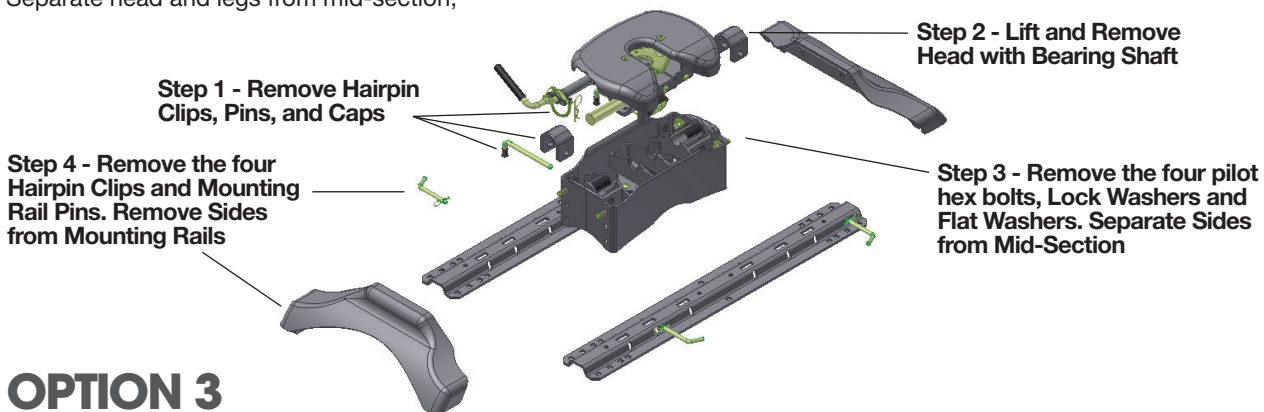
Recommended: Separate head from mid-section and remove mid-section and sides as one unit



Note: it is helpful to reinstall the caps pins and clips

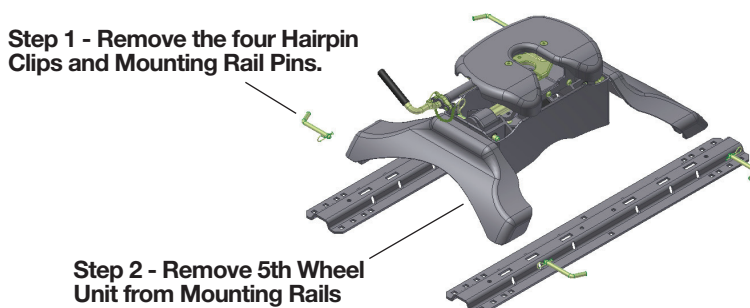
OPTION 2

Separate head and legs from mid-section,



OPTION 3

Not recommended: Separate entire 5th wheel hitch from base rails



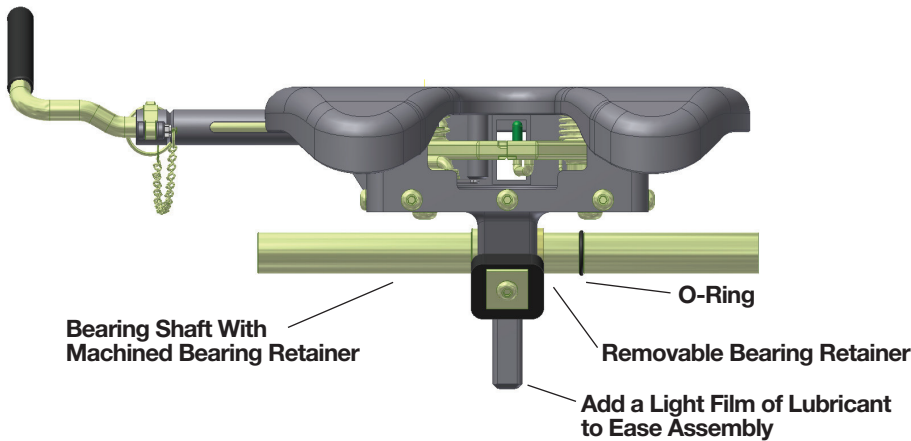
REINSTALLATION

Reinstall the Q24 5th Wheel in the reverse order it was removed. If removal method was per **option 1**, please follow the steps below:

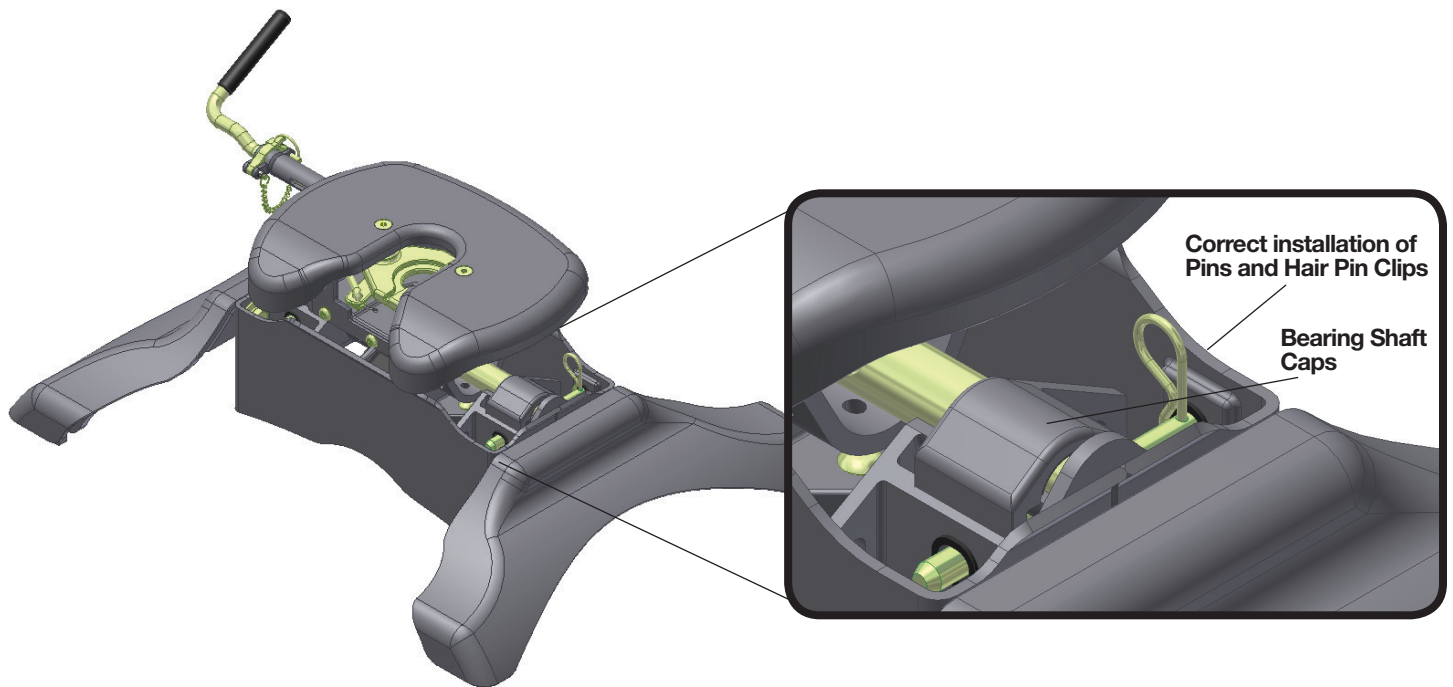
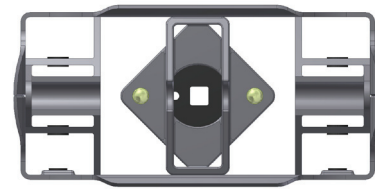
- a. Place the Mid-Section still securely bolted to the legs into the Mounting Rails
- b. Insert the (4) Mounting Rail Pins.
- c. Install the (4) Hairpin Clips.
- d. Retorque (4) Pilot Hex Bolts to 100 ft-lb.

IMPORTANT: When installing the 5th Wheel Head into the Mid-Section, the LONG END of the Bearing Shaft is inserted into the Lower Bearing Assembly. The Machined Bearing Retainer must be against the Lower Bearing Assembly. The Removable Bearing Retainer must be against the other side of the Lower Bearing Assembly. The O-Ring Retainer Stop is placed in its groove lastly.

Apply a light film of lubricant to the Lower Pilot. Guide Lower Pilot into Mid-Section while holding Bearing Shaft and its Retainers against Lower Bearing Assembly. Continue to guide Lower Pilot through the Lower Square Pad until the Bearing Shaft is fully seated in its Saddles. Place Shaft Caps over the Bearing Shaft. Install the two long Pins and insert two Hair Pin Clips. See diagrams below.



Ensure that the Machined Bearing Retainer and the Removable Bearing Retainer are against Lower Bearing Assembly. Both sit inboard of Mid-Section Bearing Shaft Cradles during assembly.



MAINTENANCE REQUIREMENTS

Years of troublefree service may be achieved by adhering to a few simple maintenance points.

JAW PIN GREASE FITTINGS

Each Jaw Pin is supplied with grease through a grease fitting located in each Jaw. These grease fittings are visible from each side of the Q24 5th Wheel.



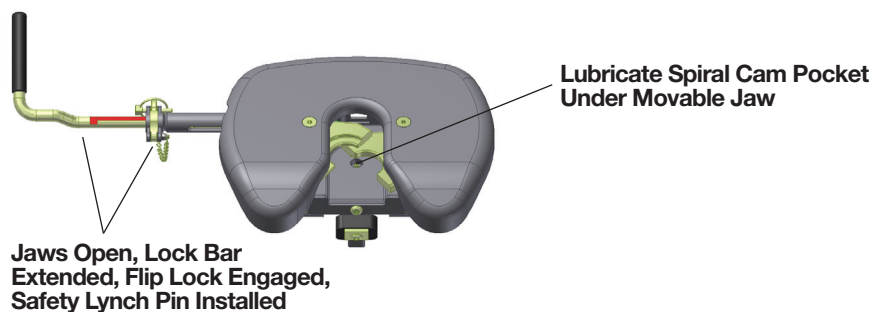
LOWER BEARING GREASE FITTING

The Lower Bearing Assembly is supplied with grease through the grease fitting centered in the Cast Base Plate. This grease fitting is visible while looking down through the Jaws in their LOCKED position.



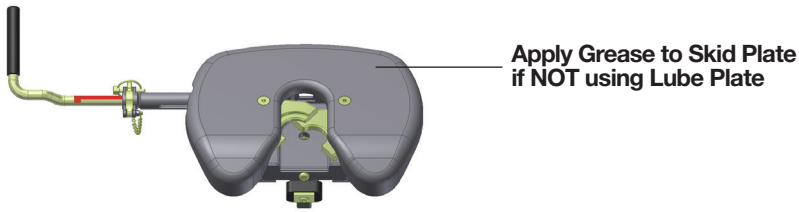
SPIRAL CAM GREASING

The Spiral Cam seated in the Cast Base Plate requires the application of grease into its pocket. To access, the Jaws must be open. Place the Lock Bar in its fully extended position and retain by seating the Flip Lock in its Uncoupling position. Insert the Safety Lynch Pin. Using a suitable probe, apply grease to the pocket under the Spiral Cam. When complete, remove the Safety Lynch Pin, rotate the Flip Lock from its seat and allow the Lock Bar to retract inward into the coupling position.



SKID PLATE GREASING

The last lubrication point is the Q24's Skid Plate. Liberally apply Grease to the Skid Plate surface if NOT using a Lube Plate. A high-pressure wheel bearing grease is preferred. Apply as required between coupling and uncoupling the trailer from the Q24 5th Wheel.



MAINTENANCE SCHEDULE

Lubricate before each individual use and every 1000 miles thereafter. Black Graphite Grease is recommended for the Jaw Pins and the Lower Bearing Assembly Jaw. High pressure wheel bearing grease is preferred for the Skid Plate.

NOTE: In severe cold temperatures a lighter grease (such as White Lithium) may be substituted for the Jaw Pins and the Lower Bearing Assembly Jaw. This will ensure that all mechanisms work as designed.

VERY IMPORTANT: Torque the four Pilot Bolts to 100 ft-lbs. Retorque after initial 500 miles and every 1000 miles thereafter and prior to each individual use.