



RAM

INSTALLATION INSTRUCTIONS

WARNING: NEVER EXCEED YOUR VEHICLE MANUFACTURER'S RECOMMENDED TOWING CAPACITY

M20 5TH WHEEL LEGS



82214742

M25 5TH WHEEL LEGS



82214743

PARTS LIST

Item#	Qty	Description
1	1	Passenger side leg assembly
2	1	Driver side leg assembly
3	1	Cross support weldment
4	2	Hex head cap screw, M14 x 75, CL8.8
5	2	Washer, flat, M14
6	2	Washer, lock, M14
7	4	Nulock nut, M14 x 2, CL10.9

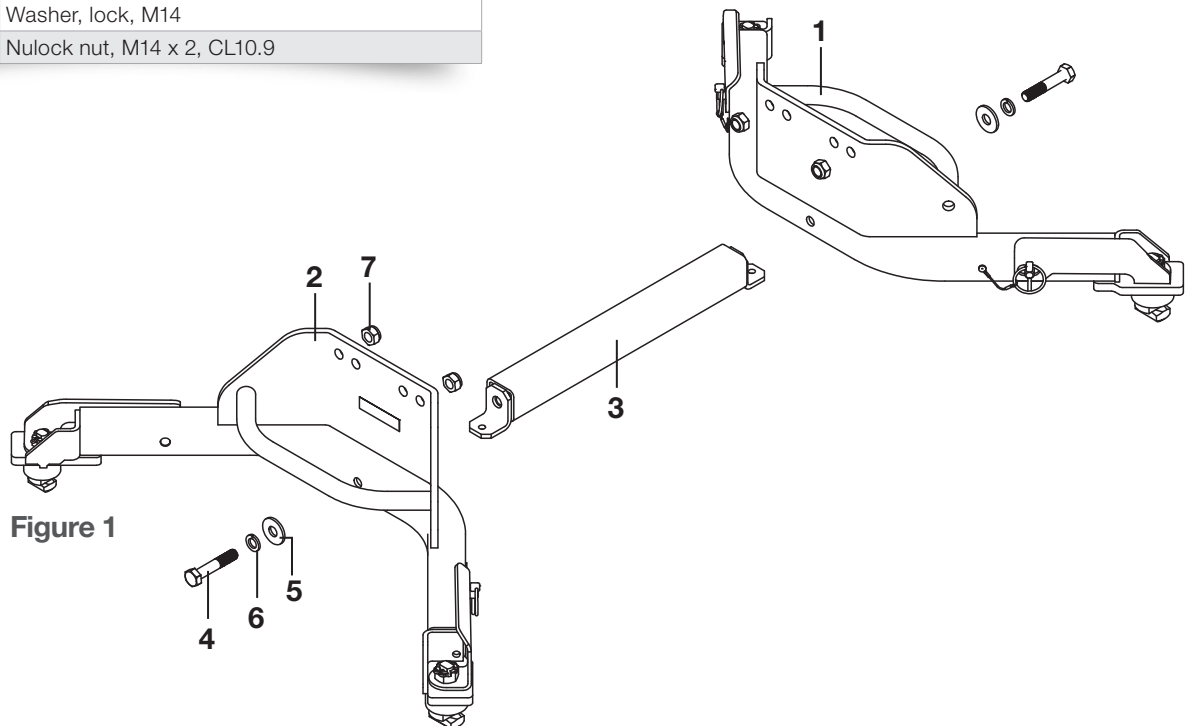


Figure 1

WARNINGS

Provide this manual, in its entirety, to the end-user. Read and understand instructions before using this product. Fully instruct and demonstrate the operation of this RAM 5th wheel hitch to the end user. Include the importance of observing all warnings contained herein, including warning labels on the RAM 5th wheel hitch mid section. Serious injury or death may result if the warnings below are not observed.

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 exceed the rated towing capacity of the tow vehicle. Trailer and contents combined must not exceed tow vehicle, hitch and / or trailer tow ratings. Exceeding rated capacity may result in separation and / or may result in damage to the RAM 5th wheel hitch, towing vehicle, trailer or cause death or serious injury.

Never position yourself or others under the trailer's kingpin area (danger zone) during coupling and uncoupling. Improperly coupled trailers can separate and drop without notice.

ASSEMBLY

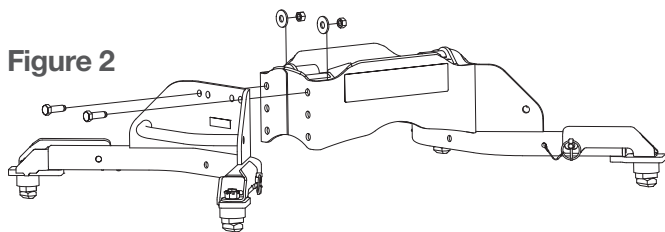
Step 1

Prepare the RAM 5th wheel head unit for installation by locating the hardware package containing four M14 hex bolts and flat washers. The RAM 5th wheel legs are compatible with the RAM M20 and M25 5th wheel heads.

Step 2

Select a set of mounting holes that will allow sufficient clearance between the RAM 5th wheel trailer and the sides of the tow vehicle. Begin assembling the legs to the RAM 5th wheel hitch head using the M14 bolts and M14 washers (provided with the RAM 5th wheel head unit) through the selected mounting holes and loosely secure them with the nylock nuts (#7) provided in the RAM leg hardware kit.

NOTE: Position the leg assembly with the operating instruction label on the driver side of the tow vehicle. The large locking feet on the RAM 5th wheel legs will match the large rear mounts in the truck bed.



Step 3

With the legs in position, locate the cross support weldment (#3). Loosely attach the cross support between the two leg assemblies (#1, #2) with the provided M14 x 75 hex bolts (#4), lock washers (#6) and flat washers (#5). See figure 3.

ASSEMBLY (CONT)

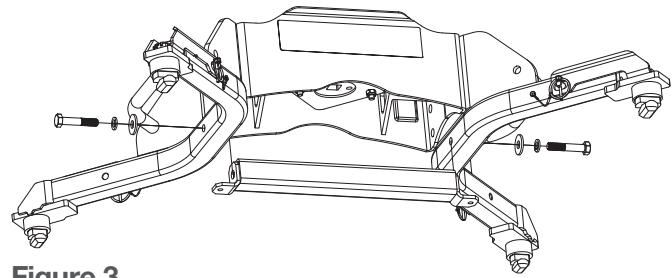


Figure 3

Step 4

Remove the four lynch pins securing the locking handles to the legs. Swing all four handles completely open and lower the legs into position in the bed of the truck. Ensure all four locking bolts and spacers drop into the mounting holes before attempting to close the handles. See figure 4.

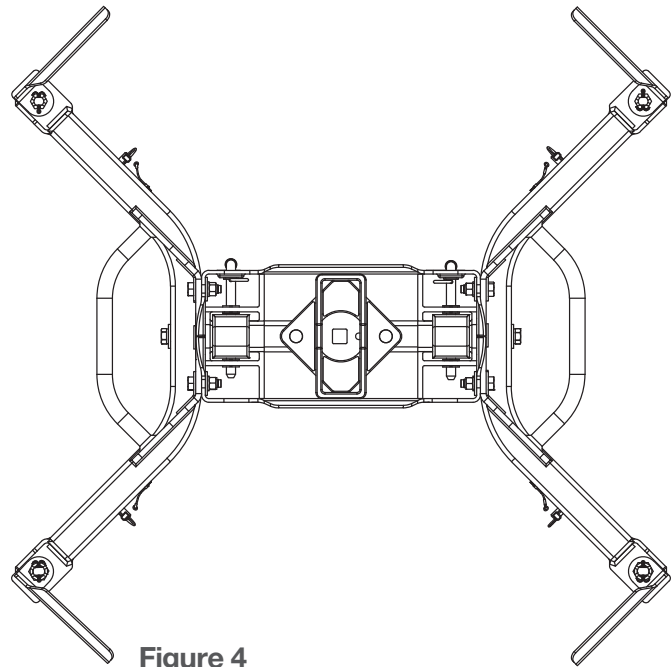


Figure 4

Step 5

With the RAM 5th wheel legs in position, torque all six M14 bolts to 100 ft-lbs. Re-install the RAM 5th wheel head if it was removed to ease installation.

Step 6

With the legs secured and positioned in truck bed mounts, rotate the handles back to the closed position. Secure the handles by re-inserting all four lynch pins. **NOTE:** Slight resistance should be felt as the handles are rotated closed. If the handle will not close with moderate pressure, adjustments must be made to the locking T-bolt; see 'T-bolt Adjustment'.

WARNING: Forcing the handle closed may damage the locking bolt and handle, possibly resulting in trailer detachment.

Step 7

Confirm all four locking bolts are engaged in the truck bed mounts and the castle nuts are secured with the cotter pins. Finally, double check to ensure all four handles are securely locked with the lynch pins. The RAM 5th wheel legs are now installed and ready for use.

T-BOLT ADJUSTMENT

Step 1

The locking T-bolts have been pre-installed to ease installation of the RAM 5th wheel legs. Due to possible variation in the trucks mounting locations, some adjustments may be required. If one or more of the locking handles will not close, begin adjustment by removing the cotter pin securing the castle nut above the handle. See figure 5.

Step 2

Loosen the castle nut a quarter-turn while pressing down on the T-bolt.

Step 3

Reattempt to close the locking handle. If the handle closes, resecure the castle nut with the removed cotter pin from step 1. If the handle does not close, repeat step 2.

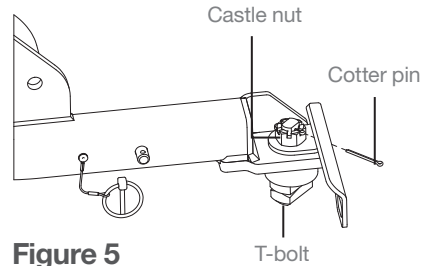


Figure 5

COUPLING & LOCKING

PREPARING THE VEHICLE AND TRAILER TO COUPLE

It is advised to perform trailer connections to the RAM 5th wheel on a firm and level surface.

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.

Lower or remove truck tailgate as required.

Position the towing vehicle with the RAM 5th wheel centered and in line with trailer or coach kingpin. Do not engage the kingpin into the RAM 5th wheel at this time.

Set automatic transmissions to park and activate the emergency brake. Set manual transmissions to neutral and activate the emergency brake.

The rear stabilizer jacks must be retracted. Adjust the front trailer lifting jacks so the trailer's kingpin skid plate is approximately 1/2" below the top surface of the RAM 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 RAM 5th wheel hitch head.

Cab view

Indicator positions are showing a coupled and locked 5th wheel

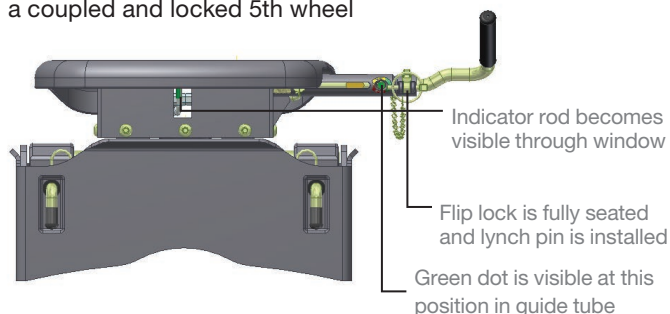


Figure 6

PREPARING THE RAM 5TH WHEEL TO COUPLE

Refer to figures 6 and 7 below for this step.

Note that green dot is visible (cab side) through lock bar guide tube and indicator rod is visible through window.

Flip safety lynch pin bail and remove lynch pin.

Lift flip lock, rotate clockwise and let hang.

Pull lock bar to full extension (approximately 3 1/2") until jaws activate and open, then release lock bar.

Visually check that jaws are open and ready to receive trailer kingpin.

Note that green dot and indicator rod have moved. This signifies that the RAM 5th wheel jaws are not in their closed and locked position. The yellow dot should now be visible. Yellow signifies the RAM 5th wheel is ready for coupling.

If the RAM 5th wheel is in any configuration other than that described in the first step, follow the preparation troubleshooting guide on the following page.

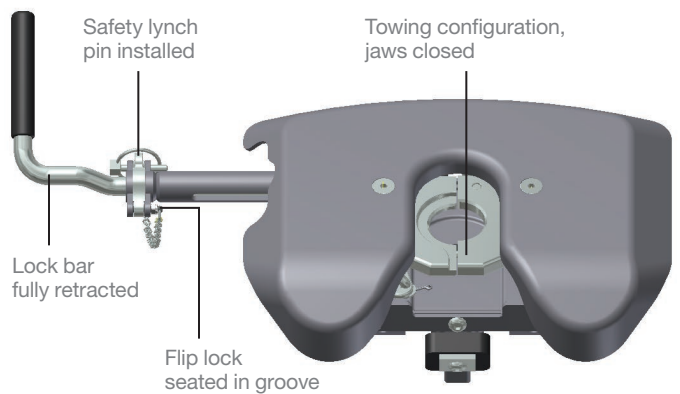


Figure 7

PREPARATION TROUBLESHOOTING

Red Dot - Do Not Tow

WARNING: Do not tow in this configuration. The jaws will close, but will not lock. Follow the steps below to prepare for coupling. Jaws are open, but the lock bar is at extended position and being held by flip lock. Red dot is visible (cab side) through lock bar guide tube.

The red dot signifies that the jaws are open and the lock bar is in its extended position. The jaws will close, but will not lock, in this configuration.

Lightly pull the lock bar and release the flip lock from its groove.

Release the lock bar. The lock bar will retract partially inward.

Visually check that the jaws are open and ready to receive the trailer's kingpin. The yellow dot should be visible from cab.

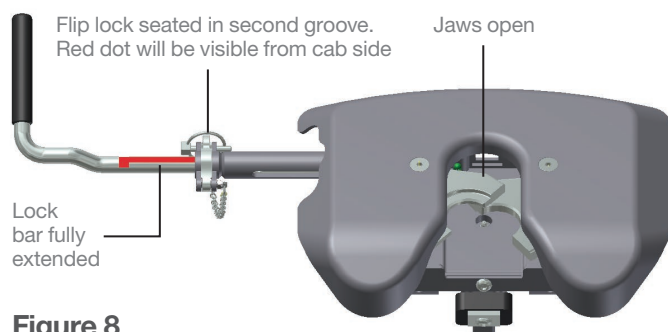


Figure 8

Out of Sync Jaws - Do Not Couple

WARNING: Do not couple. The jaws are semi-open and interlocked with each other. The lock bar is somewhere in between full, retracted position and full, extended position. This configuration means that the movable jaw has become out of time with the second fixed jaw.

Inspect that the flip lock is hanging free in its clockwise, rotated position.

Pull the lock bar to its full, extended position and release. The jaws will re-time themselves.

Visually check that jaws are open and ready to receive trailer's kingpin (yellow dot).

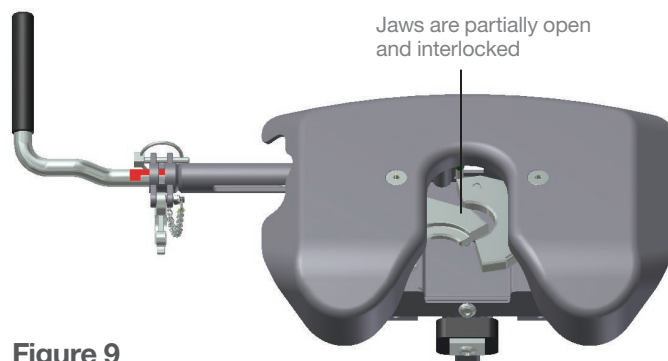


Figure 9

COUPLING

If you are using a lube plate on the trailer's kingpin, you are ready to couple the trailer to the RAM 5th wheel. Up to two 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 RAM 5th wheel skid plate.

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

Back-up the towing vehicle while remaining centered and aligned to trailer's kingpin. The trailer's kingpin skid plate will compress the towing vehicle's suspension and ramp up onto the RAM 5th wheel skid plate. Refer to 'Coupling & Locking' on page 3 for the indicator's location and to observe the following:

- Lock bar will fully retract into the RAM 5th wheel head
- Green dot will become visible (viewing from cab)
- Green indicator rod is visible in window (viewing from cab)

Visually confirm that no space exists between the trailer's kingpin skid plate and the RAM 5th wheel skid plate or between lube plate and the RAM 5th wheel skid plate. If a gap is present, then kingpin is not engaged into jaws.

Determine if kingpin is resting on top of jaws and provide corrective action.

Inspect for damage to the RAM 5th wheel unit. Under no circumstances should the RAM 5th wheel unit be used if damage exists due to improper coupling.

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 the 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 the towing vehicle, the RAM 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

Rotate flip lock counter-clockwise and seat in groove.

Insert safety lynch pin and flip bail to secure.

Attach electrical harnesses.

Attach lanyard and insert electric brake break-away plunger. If hydraulic surge brakes are present, attach lanyard from the surge brake assembly as required.

Fully retract front trailer lifting jacks.

Close truck tailgate or reinstall tailgate as required.

Remove tire chock blocks.

Check running lights, directional signals and brake lights for proper operation.

Pull forward a few feet and apply brakes to check that trailer brakes are activating. Adjust the electric brake controller if necessary.

UNCOUPLING & RESETTING

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 the RAM 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.

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.

Disconnect as required all harnesses, lanyards, safety devices, etc.

Do not extend rear trailer stabilizer jacks at this time.

Lower or remove truck tailgate as required.

Begin extending front trailer lifting jacks. Extend lifting jacks just enough to remove the weight of the trailer from the RAM 5th wheel skid plate. Creating a gap between the trailer skid plate and the RAM 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". Excessive gap while coupled can damage internal components of the RAM 5th wheel hitch as well as components of your trailer.

Flip safety lynch pin bail and remove lynch pin.

Lift flip lock and pull lock bar outward approximately 1/2". 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:** The 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.

Reinsert safety lynch pin and flip bail to secure.

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.

Once uncoupled from trailer, you may elect to reset the RAM 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 Figure 10 below.

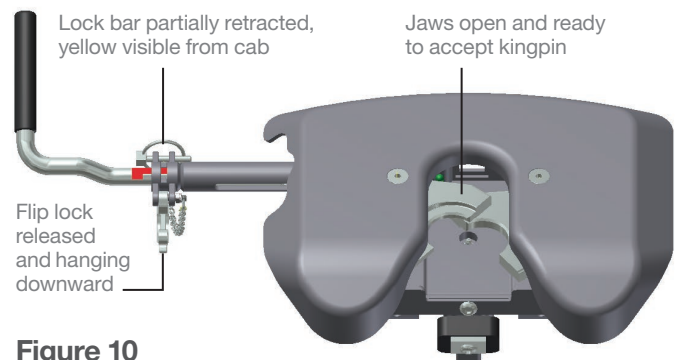


Figure 10

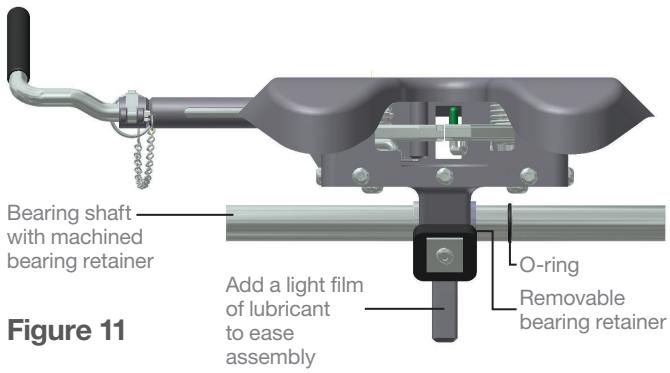


Figure 11

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.

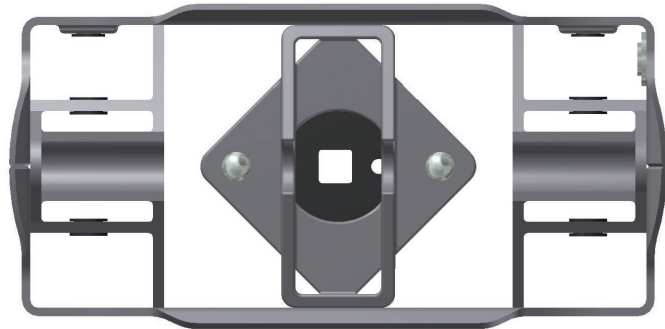


Figure 12

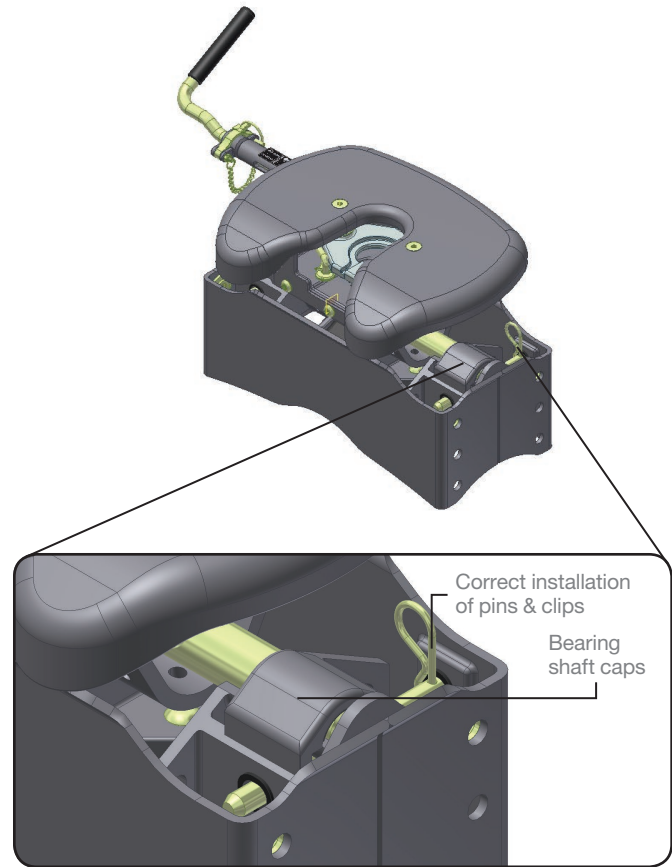


Figure 13

MAINTENANCE REQUIREMENTS

MAINTENANCE SCHEDULE

IMPORTANT: Torque the four pilot bolts to 100 foot lbs. Re-torque after initial 500 miles and every 1,000 miles thereafter and prior to each individual use.

Lubricate before each individual use and every 1,000 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.

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 M20 5th wheel.

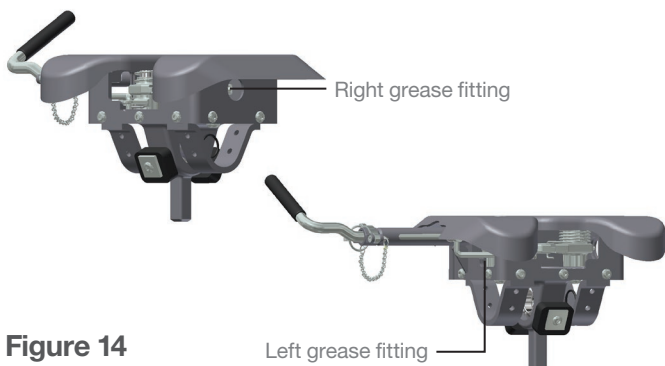


Figure 14

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.

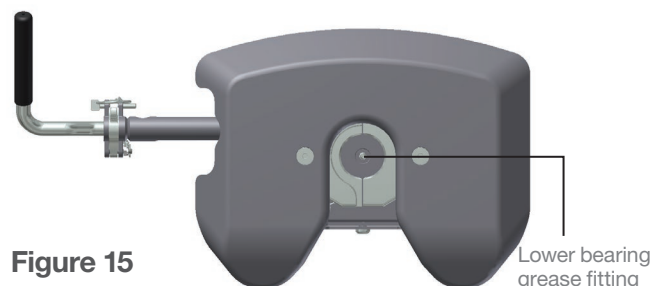
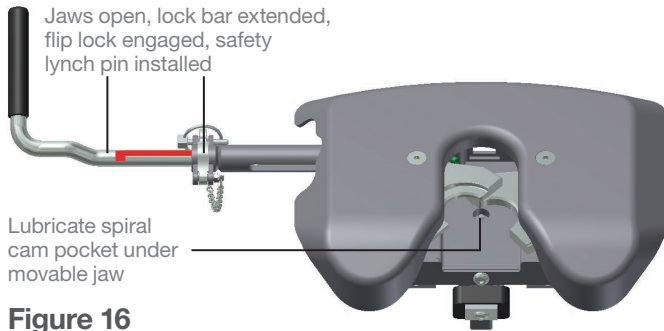


Figure 15

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 M20's skid plate. Liberally apply grease to the skid plate's 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 M20 5th wheel.

