



Notes and Cautions

Two types of service notes help avoid personal injury/property damage:

“NOTE”-Provides work instructions/procedures to complete tasks and ensure components function properly.

CAUTION Indicates a hazardous situation/unsafe practice that could result in equipment damage and-or serious injury if not avoided.

Vehicle Preparation

Park the vehicle on a level surface. Chock wheels.

Raise vehicle to a height that removes the load from the suspension. Support with jack stands.

Disconnect linkage from the height control valve(s), if necessary, and exhaust all air from the air springs.

CAUTION Failure to properly chock the wheels, exhaust air system; and, raise and safely support the vehicle could allow suspension/vehicle movement that could result in serious injury.

Disassemble Suspension

Remove pivot nut. Remove anti-turn washer by grinding away welds.

RAR-240 Hanger Mount Suspension – Bushing Replacement Procedure

Locate indicator arrow on the eccentric bolt head. Turn the bolt-head until the arrow points straight up. Remove bolt.

Rotate beam out of hanger. inspect the pivot-bolt hole and frame hanger surfaces for excessive wear/damage. Repair/replace components as needed.

Bushing Removal and Installation

Remove the Huck® fasteners from the bushing clamp (Figure 1). Separate clamp and remove bushing assembly.

Insert bushing assembly into clamp. Install replacement bolt, washer; locknut.

Center bushing. Torque to 190 ft-lb.

Verify bushing clamp surfaces are closed “metal-to-metal”. Torque nuts to 280 ft-lb (380 N-m).

Reassemble Suspension

Rotate arm beam into hangers. Install one wear washer on the inboard side of beam.

CAUTION 25/30K Tanker Special Suspension requires one wear washer on both the inboard and outboard side of the beam.

Coat large shank of eccentric bolt with anti-seize compound. Locate arrow on bolt-head. Install eccentric bolt with the arrow pointing straight up.

Align axle if necessary (Page 3). Weld the anti-turn washers over eccentric-bolt head with 1/4” fillet welds at bolt-head top and bottom.

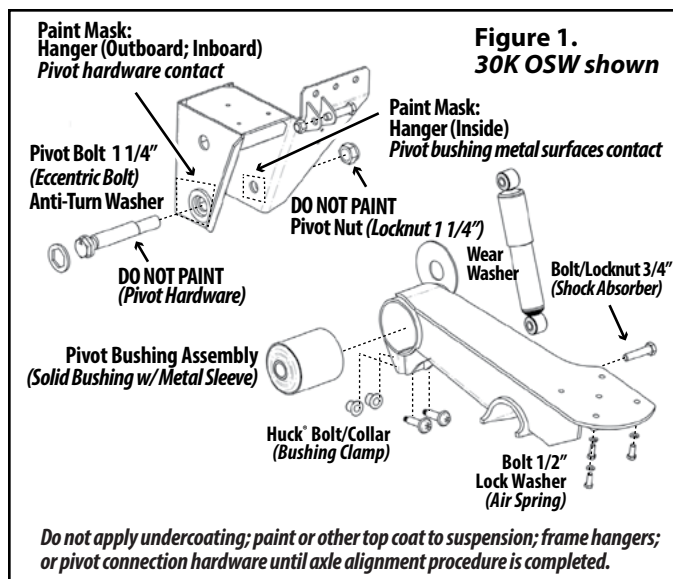
Verify suspension ride height. Torque pivot nut to 1,000 ft-lb (1,350 N-m).

Install shock absorbers. Install wheels and tires (if removed).

Raise vehicle and remove support stands. Lower the vehicle to the ground.

Connect height control valve linkage if necessary. Use HCK to adjust to the desired (installed) ride height.

CAUTION Failure to properly torque pivot hardware could result in suspension failure or void the warranty.



Part Number– Hanger-Mount Bushing Replacement Kit	Item Description	Size	Torque Values	
			foot-pound	Newton-meter
6040029 – 15K U/S (2400080); 25K U/S; O/S 6040028 – 30K U/S; O/S 6040071 – 25K O/S - Tanker Special 6040091 – 30K O/S - Tanker Special 6047680B060 – 25K/30K U/S; O/S Manufactured Pre-1995	Pivot Bolt (Eccentric Bolt/Locknut*) *Requires 1-7/8” socket	1 1/4”-7NC	1000 ft-lb	1350 N-m
Traditional Hardware (Bushing Clamp)	HHCS; Flat Washer; Locknut	3/4”-10NC	280 ft-lb	380 N-m
Fasteners	Bolt (Air Spring, Lower)	1/2”-13NC	25 ft-lb	35 N-m
	Nut (Air Spring, Upper)	3/4”-16NF	50 ft-lb	70 N-m
	Locknut (Shock Absorber)	3/4”-10NC	200 ft-lb	270 N-m

Torque values reflect a lubricated thread condition (Nuts are pre-lubed). Do not overtorque.

CAUTION Suspension ships with minimal torque applied to fasteners. All fasteners must be re-torqued after first 6,000 miles of operation. Failure to install and maintain fasteners at torque specifications could result in suspension failure and void the warranty.

RAR-240 Yoke-Mount Trailer Suspension – Bushing Replacement

Yoke-Mount Bushing Replacement Kit	Item Description	Size	Torque Values	
			foot-pound	Newton-meter
6040011 (Yoke Mount)	Pivot Hardware (Eccentric Bolt/Locknut*) <i>*Requires 1-7/8" socket</i>	1 1/4"-7NC	1000 ft-lb	1350 N-m
Fasteners	Bolt (Air Spring, Lower)	1/2"-13NC	25 ft-lb	35 N-m
	Locknut (Air Spring, Upper)	3/4"-16NF	50 ft-lb	70 N-m
	Bolt/Locknut (Shock Absorber)	3/4"-10NC	200 ft-lb	270 N-m

Torque values reflect a lubricated thread condition (Nuts are pre-lubed). Do not overtorque.

CAUTION Suspension ships with minimal torque applied to fasteners. All fasteners must be retorqued after first 6,000 miles of operation. Failure to install and maintain fasteners at torque specifications could result in suspension failure and void the warranty.

Vehicle Preparation

Park vehicle on a level surface. Chock wheels to keep vehicle from moving.

Raise vehicle to height that removes load from suspension and support with jack stands.

Disconnect linkage from height control valve(s), if necessary. Exhaust all air from the system.

Remove wheels and tires if necessary. Remove the shock absorbers.

CAUTION Failure to properly chock the wheels, exhaust air system and support the vehicle could allow vehicle movement that could result in serious injury.

Disassemble Suspension

Remove pivot nut. Remove the anti-turn washers from the eccentric bolt-head by grinding away the welds.

Locate the arrow on the eccentric bolt-head. Turn bolt-head until the arrow points straight up and remove bolt.

Rotate beams down from frame.

Inspect the pivot bolt-holes and wear washers for unusual wear/damage. Repair or replace components as needed.

Bushing Removal and Installation

1. Remove pivot bushing assembly from the outside bushing sleeve welded to the frame by grinding away the four (4) welds on each side of the sleeve.
2. Position (center) new bushing into the outer bushing sleeve (Figure 2).
3. Attach bushing assembly with four one-inch welds on each side.
4. Welds should be staggered, then allowed to cool between welds.

5. Weld the top of the outer bushing sleeve at the outboard side of frame, then the bottom of the sleeve at the inboard side of frame. Move the welds around the sleeve in 90° increments.

CAUTION

Excessive heat and distortion can damage the bond between the rubber bushing and the steel sleeve of the bushing assembly.

Reassemble suspension

1. Rotate arm beams onto the frame. Install new wear washer on inboard and outboard side of bushing.
2. Apply anti-seize lubricant either to the inside of the bushing's inner sleeve or to the large diameter, eccentric surface of the pivot bolt.
CAUTION Do not apply anti-seize lubricant to the eccentric bolt threads, the pivot nut threads or to any other suspension component.
3. Locate arrow on bolts. Install bolts with arrows pointing straight up.
4. Align the axle if necessary (Pg 3).
5. Weld the anti-turn washers over bolt-heads with 1/4" fillet welds at the top and bottom of the bolt-head.
6. With the suspension at ride height, torque pivot nut to 1,000 ft-lb (1,350 N-m).

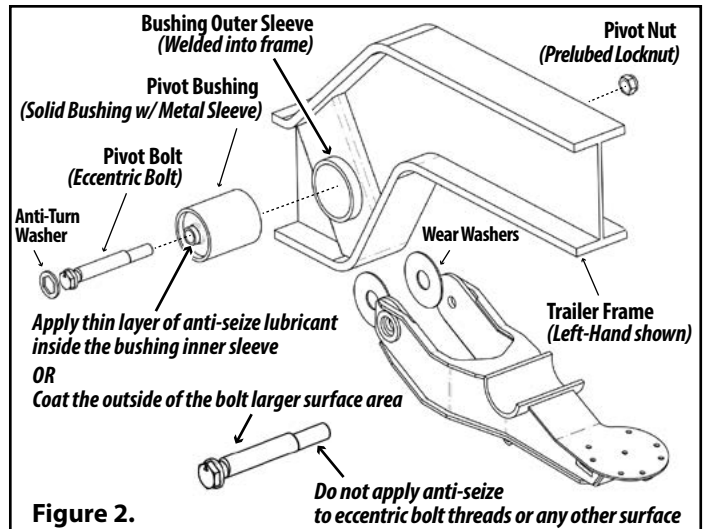


Figure 2.

7. Install the shock absorbers.
8. Install wheels and tires (if removed). Raise vehicle to remove the support stands. Lower vehicle to ground.
9. Connect height control valve linkage if necessary. Adjust ride height.

CAUTION

Failure to properly torque the pivot hardware could result in suspension failure/void the warranty.

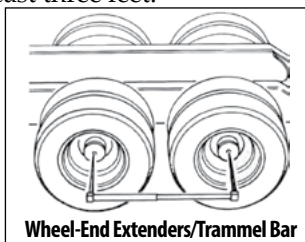
Axle Alignment

Refer to the engineering drawing for the designed ride heights of the suspension model. Align the suspension per TMC- or SAE- recommended standards.

On a multiple-axle vehicle, the forward (lead) axle is moved into proper alignment, then the following (rear) axles are positioned to be parallel to the lead axle (Figure 3).

Position trailer for alignment

- The suspension must be in a “relaxed” state without any preloading applied to the bushings.
- Disengage the trailer parking brakes. Pull the trailer forward in a straight line at least three feet.
- Adjust landing legs to place the trailer at the designed kingpin height. Place the kingpin adapter/kingpin extender onto the kingpin.
- Install wheel-end extender/trammel bar onto each end of the lead and rear axle.



CAUTION An axle alignment performed with a pre-loaded (compressed) bushing can provide incorrect measurements and may cause tracking problems/premature tire wear.

Recommended Equipment

- 50-ft 1/32"-ruled steel tape measure.
- 12-ft 1/32"-ruled tape measure.
- A device to keep tension on the tape measure(s).
- A kingpin adapter/kingpin extender (pogo stick).
- Wheel-end (spindle) extenders/Trammel bar.

Axle Alignment Measurements

Use extreme care; as measurement errors can take up most, if not all, of the alignment tolerances (Figure 3).

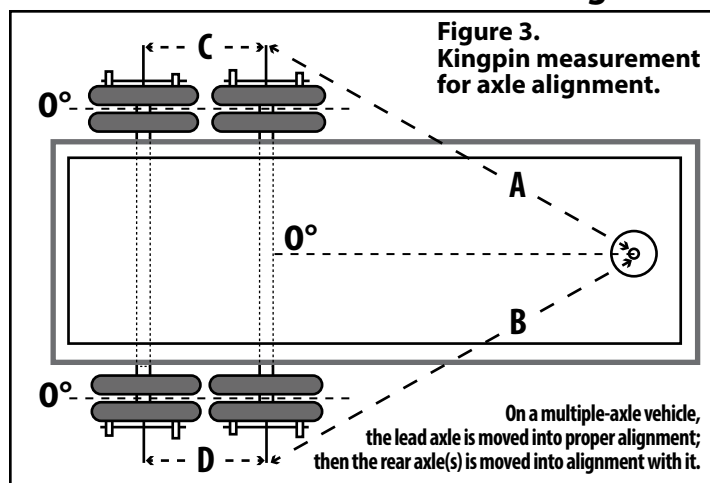
1. Attach the 50-ft tape measure to the kingpin. Measure Distance “A” and Distance “B” from the kingpin to the centers of the lead axle. The difference between the “A” and “B” measurements must not exceed 1/8-inch.
2. Measure Distance “C” and Distance “D” from the lead axle to the next axle with the 12-ft measuring tape or trammel bar. The difference between the “C” and “D” measurements must not exceed 1/16-inch.

Axle Alignment Procedure

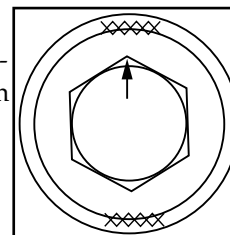
Select either the left-hand or right-hand beam of the leading axle to begin the alignment procedure.

1. Loosen the pivot nut enough for the beam to move.
NOTE: If anti-turn washer has been installed, grind away the welds and remove anti-turn washer before loosening the pivot bolt (Figure 4).
2. Turn bolt head until arrow on bolt-head points straight up (12 o'clock position).
3. Turn eccentric bolt to move beam forward or backward until axle reaches alignment location (Figure 3).

CAUTION Do not turn the arrowhead past the 9 o'clock or 3 o'clock position (past horizontal position).



4. Repeat the alignment measurements from the kingpin to both sides of axle to ensure alignment is within desired tolerance. Adjust each axle side as needed.



5. Weld anti-turn washer over bolt head with 1/4" fillet welds at top and bottom (Figure 4).
6. Torque pivot nut to 1,000 ft-lb (1,350 N-m).

Align the rear axle to the lead axle.

Check “C” and “D” axle alignment measurements to verify the difference does not exceed 1/16-inch tolerance (Figure 3).

Repeat Axle Alignment Procedure Steps 1-6, if necessary, to bring the rear axle into alignment with the lead axle.

CAUTION Failure to properly torque pivot hardware could result in suspension failure/void the warranty