

## RAR 200 TRAILER SUSPENSION — BUSHING REPLACEMENT PROCEDURE (SOLID BUSHING WITH METAL SLEEVE)

Part Number	Item Description	Size	Torque Values	
			foot-pound	Newton-meter
6040039-Bushing Kit (25K Ridelite)	<b>Pivot Bolt/Nut-(Shear-Type Bolt/Locknut)</b> <i>Requires E-20 Torx® socket (RW #6100054)</i>	7/8"-9NC	<i>Do not lubricate bolt/nut threads. Use 1"-drive impact wrench to tighten until Torx® head shears off.</i>	
6040072-Bushing Kit (25K Tanker Special)				
6040056-Bushing Kit (30K Ridelite)				
<b>Fasteners</b>	Locknut - (Air Spring)	1/2"-13NC	45-50 ft-lb	61-68 N-m
	Nut - (Air Spring)	3/4"-16NF	45-50 ft-lb	61-68 N-m
	Bolt/ Locknut - (Adjustment Plate)	1/2"-13NC	55-60 ft-lb	75-81 N-m
	HHCS/Locknut - (Bushing Clamp)	3/4"-10NC	280 ft-lb	380 N-m
	Locknut - (Shock Absorber)	3/4"-10NC	200-230 ft-lb	271-312 N-m

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

**CAUTION** Suspension is shipped 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.

### Notes and Cautions

All work should be completed by a trained technician using proper/special tools and safe work procedures.

Read through the entire Installation and Service Manual (ISM) before performing any installation or maintenance procedures.

The ISM uses two types of service notes to provide important safety guidelines, prevent equipment damage and make sure that the suspension system operates correctly.

The service notes are defined as:

"NOTE": Provides additional instructions or procedures to complete tasks and make sure that the suspension functions properly.

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

### Disassemble the suspension

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

Take pivot connections apart. Remove and discard pivot bolt, flat washer and pivot nut. Inspect adjuster plates for wear/damage. Replace if necessary.

**CAUTION** Do not reuse pivot hardware.

Rotate beams down and out of hanger. Inspect pivot-bolt hole and hanger surfaces for wear or damage. Repair/replace components if needed.

### Bushing Removal

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

### Bushing Installation

Center replacement bushing on clamp. Install replacement bolts, washers and nuts. Torque clamp to 190 ft-lb. Make sure clamp surfaces are closed "metal-to-metal". Torque to 280 ft-lb (380 N-m).

### Reassemble Suspension

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

Install pivot hardware – shear-type pivot bolt, flat washer, adjuster plate, adjuster plate nut/bolt and flanged locknut.

NOTE: Do not lubricate pivot bolt/nut. Tighten locknut until pivot hardware is snug against hanger. Do not apply final torque until axle alignment is checked.

Connect height control valve linkage (if linkage has been disconnected). Inflate air springs. Install wheels and tires (if removed).

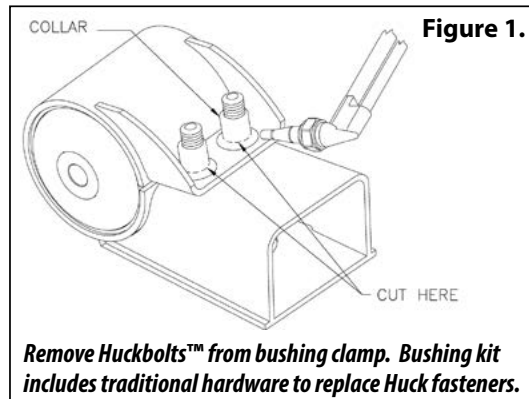
Raise vehicle and remove support stands. Lower vehicle to ground.

Verify suspension ride height. Check axle alignment. Realign if necessary (Pg 2).

Tighten pivot bolt with a 1" drive impact wrench and an E-20 Torx® socket (Ridewell tool #6100054) until the Torx® head is sheared off.

Install shock absorbers.

**CAUTION** Failure to torque hardware to specifications can result in suspension failure and void the warranty.



### Vehicle Preparation

Park the vehicle on a level surface. Chock wheels.

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

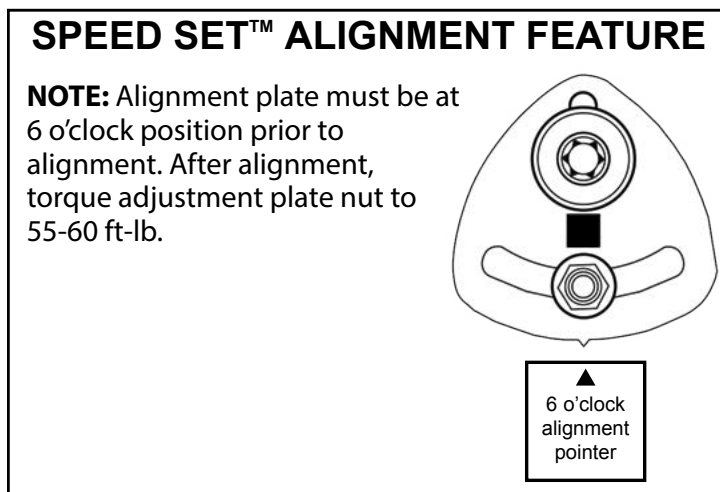
Disconnect the linkage from the height control valve(s), if equipped. Exhaust all air from the system.

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

Alignment should be performed on a level surface with the suspension at the desired ride height. Align the suspension per TMC- or SAE-recommended standards.

On a multiple-axle vehicle, the forward axle is moved into proper alignment, then the remaining axles are positioned so that they are parallel to the forward axle. A maximum tolerance of 1/8-inch difference from side-to-side of the forward axle and 1/16-inch difference from side-to-side for the aft axles is acceptable (Figure 3).

The RAR 200 suspension is equipped with the Ridewell Speed Set® alignment feature for manual alignment.



**Figure 2.**  
**Alignment pointers should be at the six o'clock position before attempting alignment.**  
**Move beam back-and-forth using adjuster plate until axle reaches desired position.**

### Axle alignment procedure

1. Locate adjuster plate at pivot connection. Loosen pivot and adjuster nuts enough for beam to move. Make sure that alignment pointer is at six o'clock position (Figure 2).

**CAUTION** Do not reuse pivot hardware if Torx® head is damaged or missing. A new shear-type pivot bolt, flat washer and locknut must be installed and the Torx head sheared off to complete the alignment.

2. Insert a 1/2"-shank breaker bar into the square hole of the adjuster plate. Push on breaker bar to move the beam forward or backward until the axle reaches alignment measurements (Figure 3).  
 NOTE: Verify that the pivot bushing is not wedged sideways during beam movement. The adjuster plate and alignment washer should move in unison with beam movement.
3. Tighten the pivot nut so that the beam can no longer move. Re-check alignment measurements and adjust if necessary.  
 NOTE: Verify both adjuster plates are flat against the hanger before final torque is applied.
4. Tighten pivot bolt with a 1"-drive impact wrench and E-20 Torx® socket (Ridewell tool #6100054) until the Torx® head is sheared off.

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

**Figure 3.**  
**Kingpin measurement for axle alignment.**

Check the forward axle alignment by measuring from the kingpin to both ends of the axle centers.

If the difference between the "A" measurement and the "B" measurement is greater than 1/8-inch, the forward axle needs to be aligned.

Adjust the aft axle if the difference between the "C" measurement and the "D" measurement is greater than 1/16-inch.

