



RAR-245 Truck and Trailer Suspension: Glue-In/Clamp Bushing Replacement Procedure

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Notes and Cautions

Two types of service notes provided help avoid personal injury/property damage: "NOTE"-Provides work instructions/work procedures to complete tasks and ensure components function properly.

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

Vehicle Preparation

Park vehicle on a level surface. Chock wheels to keep vehicle from moving. Raise vehicle to height that removes the suspension load. Support with jack stands. Disconnect the linkage from the height control valve(s), if equipped. Exhaust all air from the system. Disassemble suspension to reach pivot connection. **CAUTION** Failure to properly chock the wheels, exhaust the air system and safely support the vehicle could allow movement that could result in serious injury.

Bushing Replacement

1. Remove bushing from load beam. (Figure 1). **NOTE:** Apply heat to the outside of the beam eye with oxy-acetylene torch to destroy remaining bonding element.
2. Use a wire brush to remove bonding residue - rubber, dirt, rust, etc. - from the inside of the beam eye.
3. Thoroughly wash inner bore of the beam eye and the surface of the new bushing with paint thinner. **CAUTION** Epoxy adhesive/paint thinner are flammable materials. Read all label instructions before use.
4. Remove cap from Epoxy Adhesive tube. Squeeze out entire contents. Thoroughly mix the adhesive. **NOTE:** Mixed adhesive must be used in 20 minutes.
5. Spread mixed adhesive on the entire surface of bushing. Apply adhesive to the inside bore of the beam eye.
6. Press bushing into beam eye until bushing is centered. **NOTE:** Bushing tool #6100045 can be used in place of a press or rubber mallet.
7. Wipe the excess adhesive away from the installed bushing ends with paint thinner and rag. Adhesive can be handled after four hours and will totally cure after 24 hours. **CAUTION** Adhesive must be totally cured before vehicle can return to service.
8. Reassemble the suspension. Torque to specifications. (Chart/Engineering Drawing).

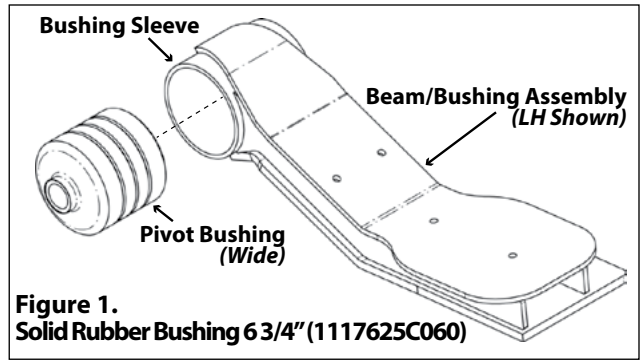


Figure 1. Solid Rubber Bushing 6 3/4" (1117625C060)

Suspension No.	Part Number	Item Description	Size	Torque (foot-pound Newton-mtr)	
2457615D000	6040192	Wide (6 3/4") Bushing Kit			
2457616D000	1135873B105	Hex Head Cap Screw (HHCS) 8.5" LG	1-1/2"-6NC	1000 ft-lb	1356 N-m
2457666D000	1151065B002	Nut	1-1/2"-6NC		
2457666D001	1160673B000	Lock Washer			
2457666D002	1987625B000	Epoxy Adhesive FUSOR-320 50ML			
2457666D101	1117625C060	Monopivot Bushing 70DURO			
2457666D011					
2450000-to-0021	6040193	Wide (6 3/4") Bushing Kit			
24510700	1137694B000	Eccentric Bolt - 9.5" LG	1 1/4" - 7 UNC-2A	1000 ft-lb	1356 N-m
2457666D003	1155648B108	Locknut	1 1/4" - 7 UNC-2B		
2457666D005	9003092B000	Anti-Turn Washer			
2457666D007	1987625B000	Epoxy Adhesive FUSOR-320 50ML			
2457666D008	1117625C060	Monopivot Bushing 70DURO			
2457572xxxx	2457661xxxx	2457718xxxx	Clamped Bushing (See ENG Drawing)		
Fasteners		Locknut (Air Spring, Upper)	3/4"-16NF	50 ft-lb	68 N-m
		1" HHCS; L' Washer (Air Spring, Lower)	3/8"-16NC	25 ft-lb	34 N-m
		5-3/4"HHCS (Air Spring, Lower)	3/8"-16NC	25 ft-lb	34 N-m
		Locknut (Lift Spring)	1/2"-13NC	25 ft-lb	34 N-m
		Locknut (Lift Spring)	3/8"-16NC	25 ft-lb	34 N-m
6100045		(OPT) Bushing Replacement Tool – 245 Wide Bushing (1117625C060)			

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/maintain fasteners at torque specifications could result in suspension failure and void the warranty.

Axle Alignment Procedure

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 2).

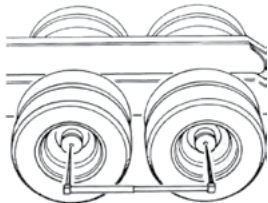
Position trailer for alignment

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 designed kingpin height. Place the kingpin adapter/kingpin extender onto the kingpin.

Install wheel-end extender or trammel bar onto each end of the lead and rear axle.



Wheel-End Extenders/Trammel Bar

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 measures.
- 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 2).

Attach 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 “A” and “B” measurements must not exceed 1/8-inch.

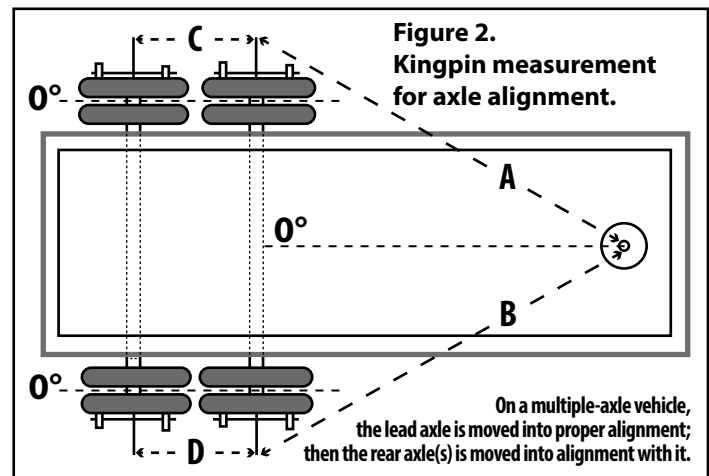
Measure Distance “C” and Distance “D” from the lead axle to the next axle with the 12-ft measuring tape or trammel bar. The difference between the “C” and “D” measurements must not exceed 1/16-inch.

Alignment Procedure

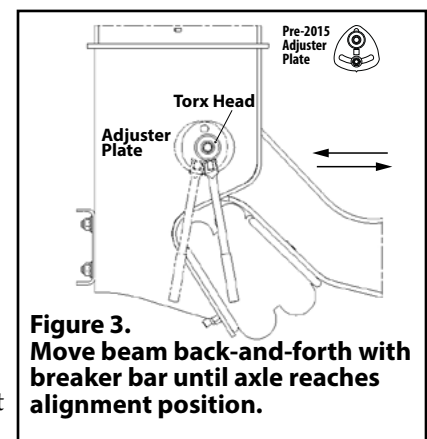
Select either the left-hand or right-hand beam of the lead axle to begin the alignment procedure.

1. Tighten the pivot nut on the selected side until snug.
2. Move to the opposite side of the selected beam. Tighten the pivot nut on this side until snug.

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



3. Return to starting location. Insert a 1/2”-shank breaker bar into the square hole of the adjuster plate at the pivot connection (Fig 3).



4. Push/pull on the breaker bar to adjust beam forward or backward into lead axle alignment (Figure 2).

NOTE: Verify pivot bushing is not wedged sideways during beam movement. Both the adjuster plate and alignment washer should rotate as the beam moves.

5. Move to the opposite beam. Re-check the alignment measurements. Use breaker bar procedure if necessary to move axle back into alignment location.
6. Re-check alignment measurements on both sides. Adjust if necessary, then tighten pivot nut on each side so that the axle can no longer move. NOTE: Confirm adjuster plate and alignment washer are flat against hanger before applying final torque.
7. Tighten pivot bolt on both sides with a 1”-drive impact wrench and E-20 Torx® socket (Ridewell tool #6100054) until the Torx head is sheared off.
8. Repeat measurements “A” and “B” to verify alignment is within tolerances. Redo alignment if necessary.

Align rear axle to the lead axle.

Check “C” and “D” axle alignment measurements to verify the difference does not exceed 1/16-inch tolerance (Fig 2).

Repeat Axle Alignment Procedure Steps 1-8, 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.