



Technical Bulletin

Upper Control Arm Bushing Removal and Installation Procedure

All RideStar™ RHP Series Sliding Tandem Trailer Air Suspension Systems

How to Obtain Additional Maintenance and Service Information

Refer to Maintenance Manual 14S, RideStar™ RHP Series Sliding Tandem Trailer Air Suspension System. To obtain this publication, call ArvinMeritor's Customer Service Center at 800-535-5560, or visit the Tech Library on our website at arvinmeritor.com.

Removal and Installation

Upper Control Arm Bushing

WARNING

To prevent serious eye injury, always wear safe eye protection when you perform vehicle maintenance or service.

Park the vehicle on a level surface. Block the wheels to prevent the vehicle from moving. Support the vehicle with safety stands. Do not work under a vehicle supported only by jacks. Jacks can slip and fall over. Serious personal injury and damage to components can result.

CAUTION

Use a two-foot (61 cm) pry bar to check the pivot bushings for looseness and wear. If bushing free play exceeds 0.062-inch (1.575 mm), contact the ArvinMeritor Customer Service Center at 800-535-5560. Worn bushings can loosen and cause the trailer to “wander” during operation. Damage to components can result.

1. To prevent serious eye injury, always wear safe eye protection when you perform vehicle maintenance or service.
2. Park the vehicle on a level surface. Block the wheels to prevent the vehicle from moving.
3. Lower the landing gear. Use an appropriate lifting device to raise the trailer frame so that the tires are off the ground. Support the trailer with safety stands. Set the parking brake.

4. Exhaust the air pressure from the suspension air springs. Remove the wheels from the axle where you are removing the bushings to access the pivot bolts.
 - **If there is corrosion between the pivot bolts and the inner sleeves:** Use an impact wrench to spin the pivot bolt heads at all four connections to disengage the bolts from the corrosion to the inner sleeves.
5. Remove only the lock nut at the frame bracket on the roadside and curbside at the upper pivot connections.
 - **If the nut is tamper-proof:** Remove the nut by grinding off the tack weld between the nut and the bolt thread. Use a pipe wrench to grip the nut while using an impact wrench on the bolt head.
6. Record the pivot bolt orientation. Remove the pivot bolts from the frame brackets. Slide the upper control arm out of the frame brackets to provide access to the bushings and inner sleeves.
7. Remove the bushings and inner sleeves. Remove any burrs and clean the inside diameter of the upper control arm ends. Figure 1 and Figure 2.

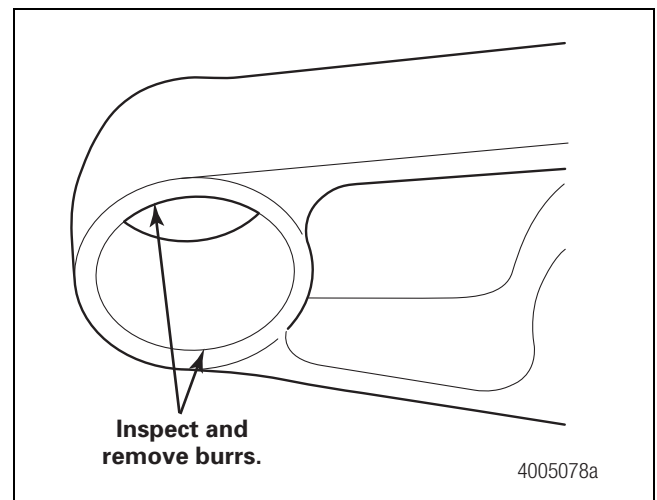


Figure 1

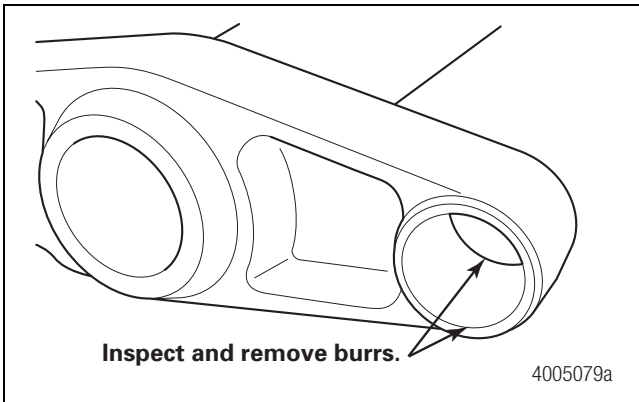


Figure 2

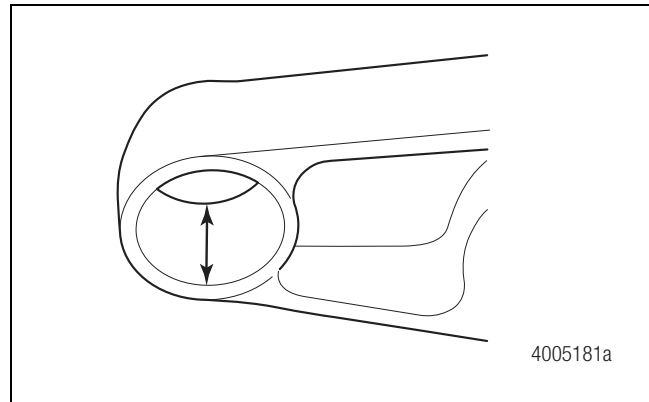


Figure 4

8. Visually inspect the upper control arm bushing tubes, frame brackets and axle seats.
 - A. You must measure the bore diameter and bushing tube length of all four upper control arm bushing tubes before you install the new bushings. The bore diameter must be 2.240-2.250-inches (56.896-57.150 mm). Figure 3. The bushing tube length must be 2.590-inches (65.786 mm) or greater. Figure 4.
 - **If any of the four upper control arm bushing tubes are not within the specifications:** Replace the upper control arm.
 - B. Inspect the frame brackets and axle seats for wear from contact with the upper control arm bushing tubes. Wear that is less than 25 percent of the material thickness is acceptable.
 - **If the wear is more than 25 percent of the material thickness:** Contact the ArvinMeritor Customer Service Center at 800-535-5560.

9. Using the Meritor lubricant supplied with the bushing kit, lightly lubricate the inside diameter of the upper control arm bushing tubes. Figure 5.

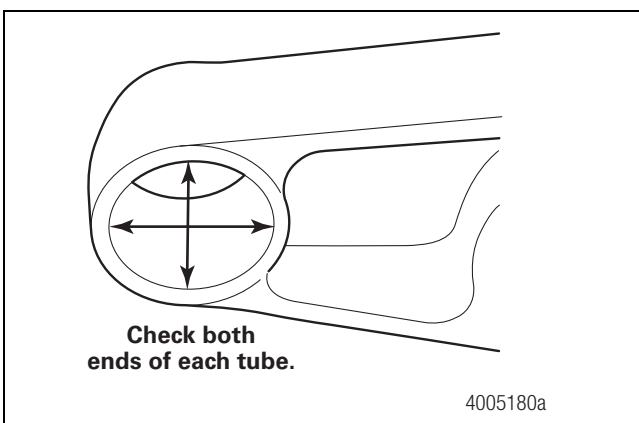


Figure 3

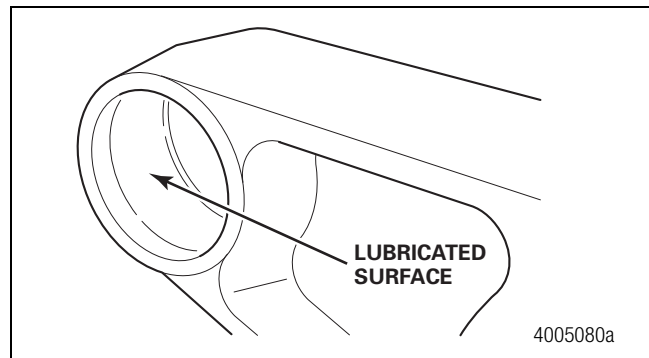


Figure 5

10. The bushing tool part number A-3256-H-1152 consists of the following components: Figure 6.
 - Draw plate
 - Draw bolt
 - Two flat washers
 - Draw nut

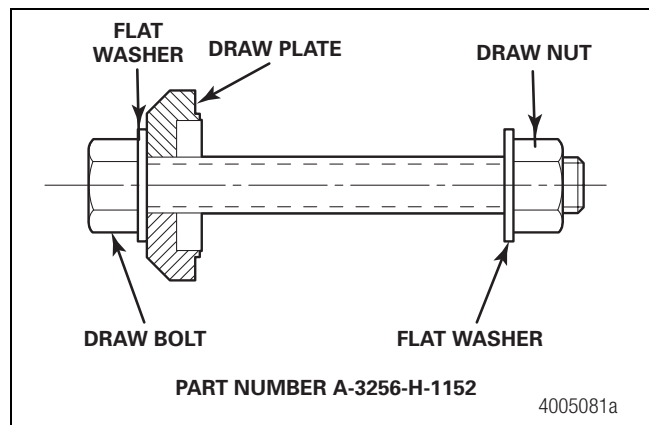


Figure 6

11. Using the Meritor lubricant supplied with the bushing kit, lightly lubricate the outside diameter of the bonded bushing.
12. Place the draw plate onto the inside surface of the upper control arm bushing tube. Figure 7.
 - A. Insert the draw bolt with a flat washer, through the draw plate and bushing tube.
 - B. Place the bushing over the draw bolt and into the upper control arm bushing tube.
 - C. Thread the draw nut and flat washer onto the draw bolt until it sets against the bushing.

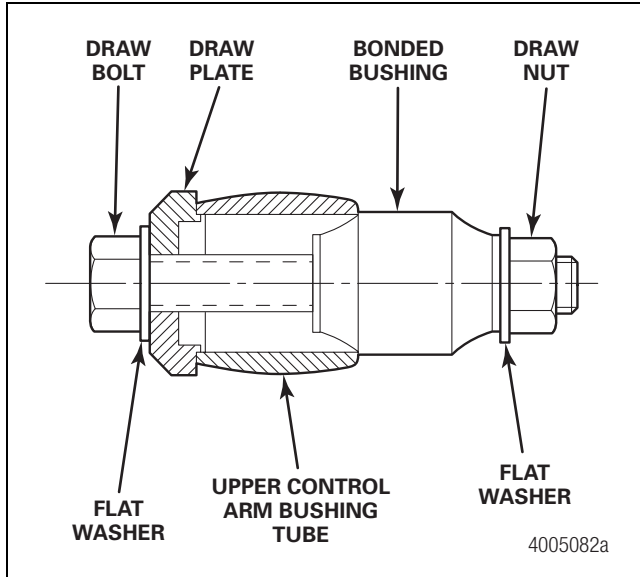


Figure 7

13. Snug the draw bolt while ensuring that the bonded bushing and draw plate rest securely on the upper control arm bushing tube.
14. While holding the draw nut with a wrench, turn the draw bolt **CLOCKWISE** using a maximum one-half-inch impact at a reduced and steady speed. Draw the bonded bushing into the upper control arm bushing tube.
 - **If the bolt stops turning or extreme resistance is present:** Reverse the impact and loosen the tool assembly. Inspect all components of the tool for damage. Reset the draw plate ensuring that the bonded bushing is correctly seated against the upper control arm bushing tube. Verify lubrication on the bushing and control arm tube and repeat the above procedure.
15. Continue rotating the draw bolt until the bolt stops turning and the bushing is fully inserted. Thread damage to the draw bolt or draw nut can occur if over tightened.

16. Ensure that the bonded bushing is centered in the upper control arm bushing tube from side-to-side. Install the thrust washers onto the bonded bushings. Figure 8.

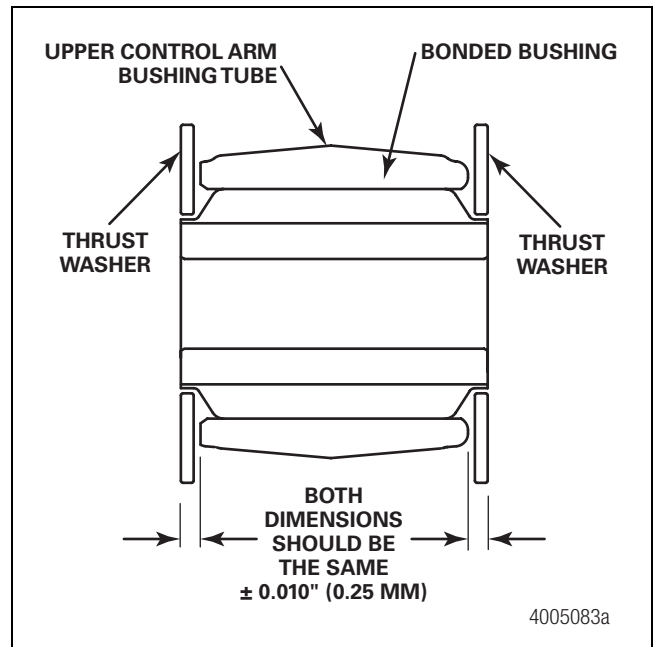


Figure 8

17. Position the upper control arm into the frame brackets. Ensure that the thrust washers attached to the bonded bushing remain in position. Using the recorded pivot bolt orientation, insert a new pivot bolt, flat washers, alignment washers and nut on the roadside. Insert a new pivot bolt, flat washers and nut on the curbside. Figure 9.

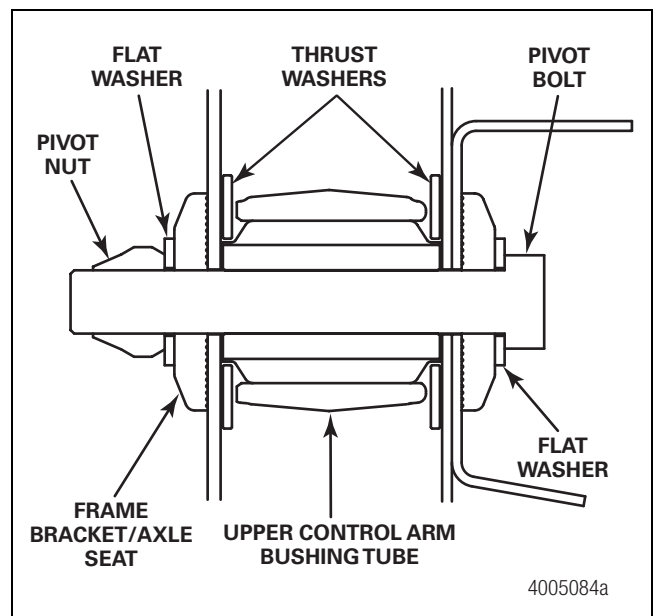


Figure 9

18. Loosely install the roadside and curbside nuts. Do not completely tighten at this time.
19. Remove only the lock nuts at the upper axle seat on the roadside and curbside upper pivot connections.
 - **If the nut is tamper-proof:** Remove the nut by grinding off the tack weld between the nut and the bolt thread. Use a pipe wrench to grip the nut while using an impact wrench on the bolt head.
20. Remove the pivot bolts from the upper axle seats. Record the pivot bolt orientation. Slide the upper control arm out of the upper axle seats to provide access to the bushings and inner sleeves.
21. Remove the bushings and inner sleeves. Remove any burrs and clean the inside diameter of the upper control arm ends. Figure 1 and Figure 2.
22. Repeat Steps 7-15 to install the bonded bushing.
23. Position the upper control arm into the upper axle seats. Ensure that the thrust washers attached to the bonded bushing remain in position. Using the recorded pivot bolt orientation, insert a new pivot bolt, flat washers and nut on the roadside and curbside.
24. Loosely install the axle seat nuts. Do not completely tighten at this time.
25. Determine the correct suspension ride height. Refer to the trailer manufacturer's specifications. The upper control arm must be at the correct ride height before applying the required torque to all upper pivot bolts. Figure 10.

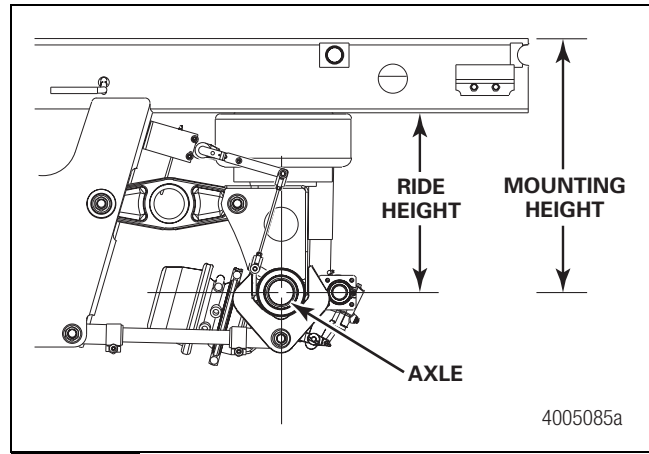


Figure 10

26. Reinstall the wheels and tires. Remove the safety stands at the rear of the trailer. Slowly lower the trailer back down onto the suspension.
27. Check the suspension ride height to verify it is correct. If adjustment is necessary, refer to Maintenance Manual 14S, RideStar™ RHP Series Sliding Tandem Trailer Air Suspension System, for the ride height adjustment procedures.
28. Realign the axle. Refer to Maintenance Manual 14S, RideStar™ RHP Series Sliding Tandem Trailer Air Suspension System, for the axle alignment procedures.
29. Tighten the bolts to the following specifications.

Description	lb-ft	N·m
Upper Control Arm, Axle End	540-560	730-760
Upper Control Arm, Frame Bracket End — Roadside	590-610	800-830
Upper Control Arm, Frame Bracket End — Curbside	540-560	730-760

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