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Model: 29', 35' & 40' Low Floor Buses

Approved: 

Model Years: 1997- 2016

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Subject: Proper Procedure For Adjusting Draglinks After Maintenance or Replacement

In order to achieve optimal life of the draglink on your GILLIG bus, GILLIG recommends to perform these inspections. This inspection will confirm the proper orientation of the draglink axle end socket and provide guidance on proper adjustment if the draglink is to be found with the incorrect orientation. It is important to note that, along with the proper orientation of the draglink axle end socket, the inspections and grease intervals provided in your GILLIG Service Manual must also be followed to ensure the service life of the draglink on your GILLIG buses.

Draglink Inspection Procedure:

1. ***With the engine off and wheels in a straight-ahead position, push and pull the draglink axle end assembly in and out by hand (using 50-100 lbs of pressure) in the direction of the ball stud. If no axial movement is detected, the draglink socket is operable. However, notable axial looseness (more than .060") requires replacement of steering components. Reference Figure 1 for a visual description of the axial direction in the socket assembly.***
 - a. ***Loose ball stud socket (on either end): requires replacement of the draglink.***
 - b. ***Loose draglink taper connection (at axle end): requires replacement of the draglink and front axle steer arm.***
 - c. ***Loose draglink taper connection (at pitman arm end): requires replacement of the draglink and pitman arm.***
2. ***With the engine running and load on the steer tires, turn the steering wheel one turn to the right, then lightly rock the steering wheel left to right while checking for axial movement of the axle end socket assembly. Again, if no axial movement is detected, the draglink socket is operable. Notable axial looseness (more than .060") requires replacement of the socket assembly.***
3. ***Confirm the draglink axle end socket is oriented correctly by checking the side-to-side angles of the ball stud. A digital protractor is the preferred tool for measuring these angles. The side-to-side angle should be $0^{\circ} \pm 2^{\circ}$. This angle is shown in Figure 2, and the digital protractor measurements are shown in Figure 3. Figure 2 and Figure 3 are shown with the 35'/40' draglink components, but the same principle applies to the 29' draglinks – a side to side angle greater than 2° requires adjustment of the draglink assembly.***

Side to Side Adjustment Procedure:

1. Loosen both front and rear clamps. Note: Draglinks on 29' buses with drum brakes only have one clamp to loosen (example part number: 05-67990-000).
2. The draglink intermediate bar should rotate by $\pm 10^\circ$ around the ball stud sockets. Grease both draglink socket assemblies if the draglink intermediate bar does not rotate or the joints feel "chalky."
3. Align the top surface of the socket assembly to the machined surface on the steer arm. Use a digital protractor to confirm that the angle between these two surfaces is less than 2 degrees in the left-right, or side to side plane.
4. If necessary, reorient the clamps so they are positioned on the bottom of the draglink intermediate bar.
5. Tighten the front and rear clamp nuts to 120 ft-lb.

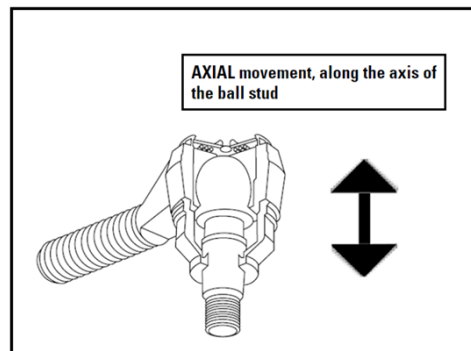


Figure 1 - Axial Movement Direction. The axial direction is shown above to be in the direction along the axis of the ball stud.

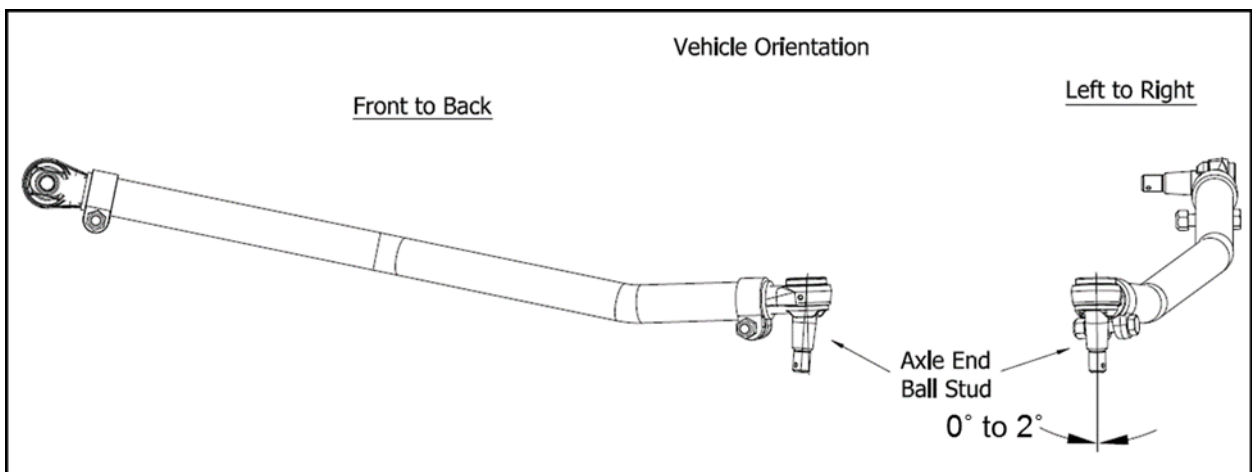


Figure 2 – Draglink Ball Stud Alignment at Steering Arm. The side to side angle should be less than 2 degrees. This angle is best observed from behind the steer axle looking toward the front of the bus. The 35'/40' draglink is shown above, but the same principle applies to the 29' draglink.



Figure 3 – Side to side Draglink Angle Measurement. Using a digital protractor, reference the top of the draglink by placing the protractor on top of the socket and zeroing it out; then place the protractor on the machined surface of the steer arm adjacent to the draglink. This angle should be less than 2 degrees. The pictures above are from a 35'/40' draglink, but the same principle applies to the 29' draglink.