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Model: All Buses

Approved:
Robert L. Birdwell, Executive Director
Quality Control & Field Service

Subject: Necessity of Maintaining Proper Ride Height

Because we often hear of ride complaints, noise and/or vibration issues, we ask you to read and follow the instructions in this bulletin.

By keeping the ride height properly maintained, you will suffer fewer component failures, better ride quality, and less noise & vibration on your GILLIG buses.

FIELD SERVICE BULLETIN

RLB:rlb

GILLIG, LLC
25800 Clawiter Road
Hayward, CA 94545
(800) 735-1500
(510) 785-1500
BB@gillig.com

RIDE HEIGHT ADJUSTMENT

Maintaining the proper suspension ride height plays an important role in maximizing bus component life as well as providing a comfortable ride. Out-of adjustment ride heights can cause the bus to lean, reduce suspension travel in one direction or cause improper driveline angle. A leaning bus will cause a change to the rear axle thrust angle and front axle setback which can cause front tire wear issues leading to short tire life. Reduced suspension travel can cause bottoming out reducing air spring and bump stop life, topping out reducing shock life, or bump steer. An improper driveline angle can cause a driveshaft vibration reducing the life of the transmission output bearing, rear axle pinion bearing, and driveshaft u-joint bearings and slip shaft wear.

The front suspension has a single curbside height control valve and the rear has two, one for curbside and one for streetside. The two rear suspension height control valves set the bus level to the road while the single front valve only maintains the proper air spring height at the front suspension.

To check and adjust the ride height:

1. The air system must have at least 80 psi in the accessory air tank. Before adjusting the air spring height, run the engine until the air gauge in the dash reads at least 110 psi or apply shop air until the gauge reads at least 100 psi.

WARNING

Never get underneath any part of the bus unless its weight is fully supported by jack stands or blocks on the frame. Never put yourself in a position where a change in air spring pressure could cause the bus to crush or pinch you. The Low Floor bus has very little ground clearance with the air springs exhausted!

2. Either work from a pit or install jacks or blocks under the frame at the front and rear of the bus. Refer to the “Jacking” section of the Service Manual for jacking points. Do not jack the bus up, just install the jacks or blocks up to the frame to prevent the bus from dropping and causing injury or damage when the height control valves are adjusted. If the air spring heights are too large before adjusting, the bus may lower down onto the jacks/blocks under the frame. If this happens, raise the bus and set the jacks/blocks lower so the bus frame will clear the jacks/blocks when the springs are set correctly.

3. Check the rear ride height.

The 35’ and 40’ lowfloors use a 4 air spring suspension with the axle attached to an H-frame. Measure the distance behind the rear axle between the bottom of the frame rail and top plate of the H-frame on both streetside and curbside (see **Figure 1**).

The 29’ lowfloors use a 2 air spring suspension. The height measurement is taken between the bottom of the frame rail and upper rear corner of the axle tube on both streetside and curbside (see **Figure 2**).

If incorrect, place a mark at the current position of the link on the slotted lower link bracket. Place a second mark offset from the first mark by the distance that the measurement is off. In the **Figure 3**

example, the suspension is high by ½", so the second marked is placed ½" below the current position. Loosen the lower link stud, move the stud to the second mark and retorque the nut to 13 ft-lbs (see **Figure 4**).

Pull the link off the lower stud and exhaust a couple seconds of air so the suspension drops below the required height. Reinstall the link to the lower stud and allow the suspension 1 to 2 minutes to refill before re-measuring. Repeat as necessary to get the measurement within ¼" of the height shown in **Table 1**. (Note: the streetside and curbside measurements should be within ¼" of each other to minimize rear axle thrust angle)

Figure 1
35' and 40' Lowfloor Measurement

Figure 2
29' Lowfloor Measurement

Figure 3
Marking Lower Link Bracket

Figure 4
Link Moved to New Position

Chassis Type	Rear Height
35'/40' Lowfloor, 8" straight rear frame rails, 5/8" thick spacer between H-frame and axle	**11 1/8"**
35/40' Lowfloor, 8" straight rear frame rails, 1 ¼" thick spacer between H-frame and axle, 71163 rear axle	**11 ¾"**
35'/40' Lowfloor, 8" straight rear frame rails, 1 ¼" thick spacer between H-frame and axle, 79163 rear axle	**12"**
35/40' Lowfloor, 10" arched rear frame rails	**7 5/8"**
29' Lowfloor with 2010 or newer engine	**6 ¼"**
29' Lowfloor with pre-2010 engine	**4 ¼"**

Table 1
Rear Suspension Height at Ride Height

4. Check front ride height

There are 2 different front suspensions. The drum brake front suspension uses dual air springs and ride height measurement is taken next to the bump stop mounted between the 2 springs (see **Figure 5**).

The disc brake front suspension uses a single air spring and ride height is measured forward of the air spring (see **Figure 6**).

Take the measurement between the upper and lower air spring mounting. The front ride height should be **9" ± 1/4"** with the dual air springs or **8 1/4" ± 1/4"** with the single air spring.

If incorrect, place a mark at the current position of the link on the slotted lower link bracket. Place a second mark offset from the first mark by the distance that the measurement is off. In the **Figure 3** example, the suspension is high by ½", so the second marked is placed ½" below the current position. Loosen the lower link stud, move the stud to the second mark and retorque the nut to 13 ft-lbs (see **Figure 4**).

Pull the link off the lower stud and exhaust a couple seconds of air so the suspension drops below the required height. Reinstall the link to the lower stud and allow the suspension 1 to 2 minutes to refill before re-measuring. Repeat as necessary to get the measurements within ¼" of the required height.

Figure 5
Drum Brake Front Suspension

Figure 6
Disc Brake Front Suspension