



Number: FS-2013-02

Date: June 26, 2013

Model: All Low Floor Buses

Approved:

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

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Subject: Front Air Bag Adjustment

***After an alignment, or anytime the front air bags require an adjustment, please follow the attached instructions to make the front air bags are as straight as possible, and to position them away from the center bump stop as far as possible.***

# FIELD SERVICE BULLETIN

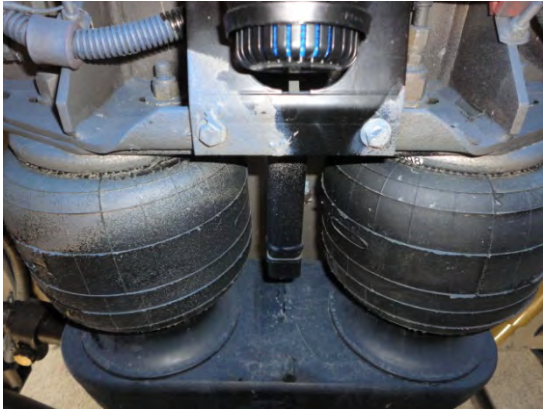
***RLB:rlb***

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## Subject: Centering Air Springs on Lowfloor 4-Bag Front Suspension

The lowfloor front suspension used with drum brakes uses an external bump stop located between the dual air springs. The bump stop needs to be centered so the air spring bellows does not rub on the bump stop during suspension articulation.



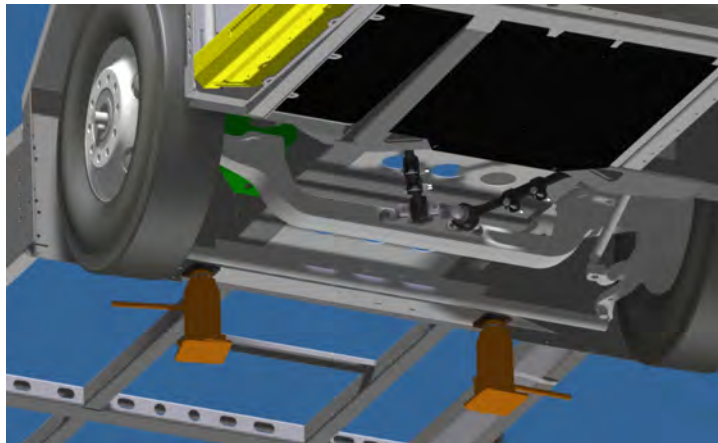
FRONT AIR SPRINGS FOR DIESEL/ALLISON HYBRID



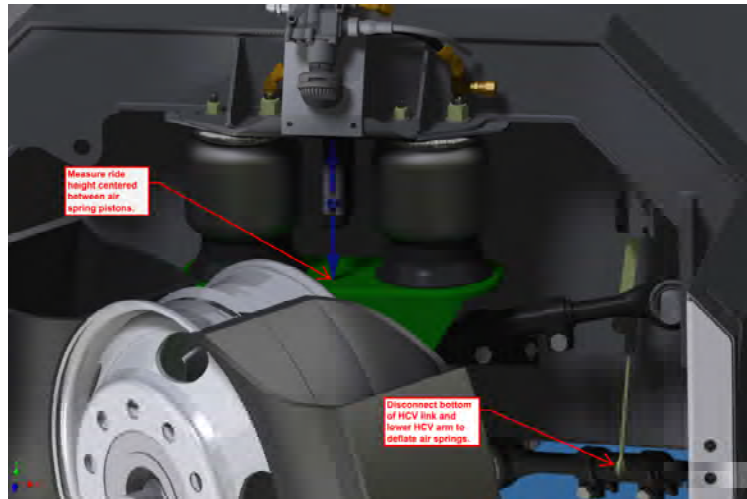
FRONT AIR SPRINGS FOR CNG/BAE HYBRID

To check or center the air springs/bump stop, follow these instructions.

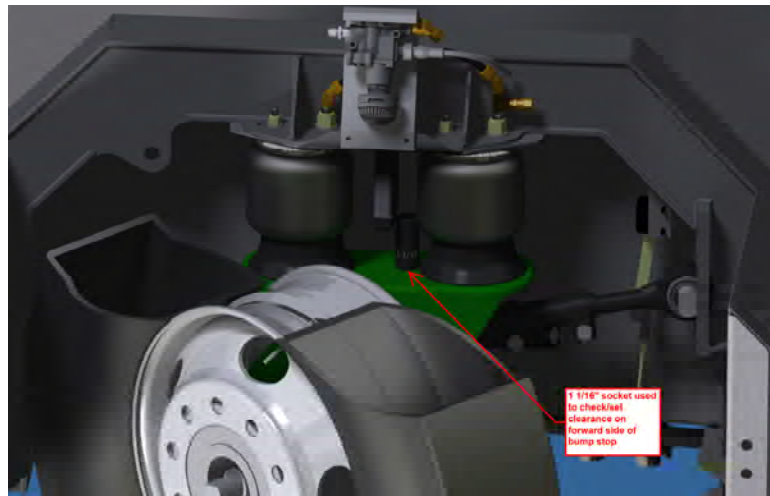
1. Place 2 floor or bottle jacks under the front chassis. (See your service manual for appropriate jacking points) The jacks should have at least a 5 ton capacity and 9" or less compressed height and at least 14" extended height.



2. Disconnect the height control valve link from the lower pin and lower the HCV arm to release the air from the front air springs. Adjust the jacks so the front ride height on both curbside and streetside measures 9" as shown.

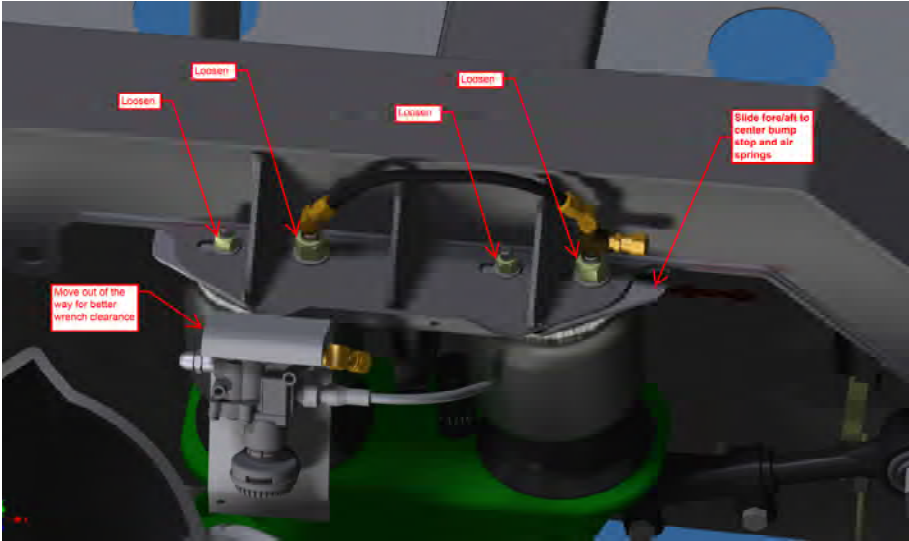


3. There should be a 1.5" gap between the forward air spring piston and the bump stop. A deep socket of the correct OD can be used as a gage. A 1 1/16" impact socket (1/2" drive) is about 1.53" OD, thin wall sockets are 1.40" OD, these can be used for upper and lower limits of clearance. Place the socket on top of the air spring casting and slide it between the air spring piston and bump stop. The socket should stay flat on the casting, touching the rim of the piston and side of the bump stop. If either socket will do this, the air springs are centered, no adjustment is needed. If there is more than a 1/8" gap or the socket needs to tilt off the casting to slide in between, the air springs/bump stop needs to be re-centered.



4. If re-centering is needed, you may need to remove the wheel to loosen the air spring nuts. If wheel is removed, the 9" ride height still needs to be maintained on curbside/streetside. (Refer to your service manual for proper jacking points.)
5. The ABS valve bracket can be unbolted from the chassis to get better wrench clearance to the inner mounting nuts. Use a 3/4" deep socket and 1 1/16" open ended wrench to loosen the 1/2" and 3/4" nuts securing the tops of the air springs and bump stop plate to the chassis. After

loosening, slide the bump stop plate fore/aft in the chassis slots to center the air springs. Torque  $\frac{1}{2}$ " nuts to 25-30 ft-lbs, torque  $\frac{3}{4}$ " nuts to 40-45 ft-lbs.



- 6. The CNG front suspension uses the same procedure except the air spring pistons sits on top of a spacer. There will be a gap between the side of the socket and spacer when the socket touches the rim of the air spring piston.

