

03/06/2020
CAL FTL 32-003

**Subject: Airliner 21K Lightweight Extra Duty
Rear Suspension Height Control Valve Installation**

Models Affected: Fifteen Freightliner M2 vehicles (Model Year 2021) equipped with a single rear suspension leveling valve manufactured in Santiago between January 22, 2020 and February 13, 2020

Our records indicate you are the owner of 15 specific vehicles; therefore DTNA is sharing the following documentation with you.

The rear suspension height control valve and linkage installation on these 15 vehicles will need to be corrected using the following work instructions.

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Work Instructions

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Models Affected: Fifteen Freightliner M2 vehicles (Model Year 2021) equipped with a single rear suspension leveling valve manufactured in Santiago between January 22, 2020 and February 13, 2020

Parts

Parts Required		
Part Number	Part Description	Quantity
16-14494-002	LINK KIT,5/16,345H	1

Table 1, Parts Required

Work Instructions

1. Park the vehicle on a level surface using a light application of the brakes, shut down the engine, set the parking brake and chock the rear tires.
2. Release the parking brake.
3. Drain all the air from the air tanks.
4. Locate the Airliner rear suspension height-control valve located on the inside of the left-hand frame rail just rear of the drive axle.
5. Remove any zip ties from the air lines or the valve that may restrict removal of the height-control valve from the valve mounting bracket.
6. Remove the nut and washer that attaches the existing height-control valve lever arm linkage to the lower clip on the axle housing. See [Fig. 1](#).

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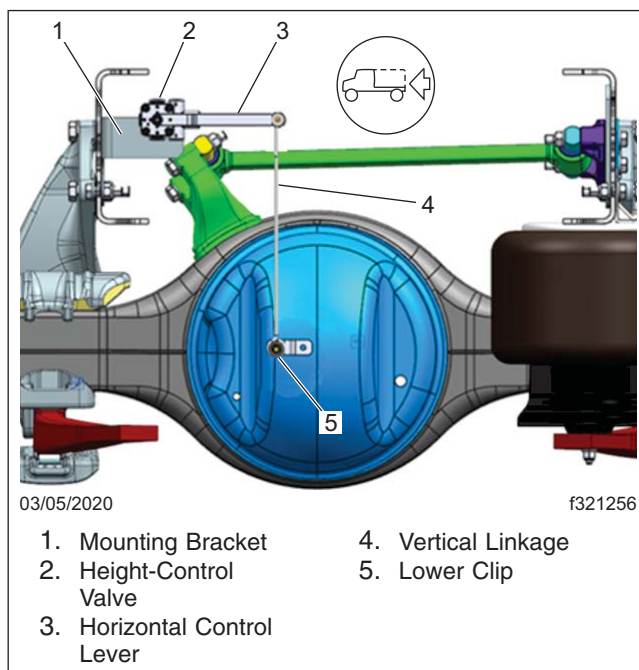


Fig. 1, Height Control Valve Mounted on Rear of Mounting Bracket

NOTICE

When removing or loosening a Barksdale height control valve from a mounting bracket, always hold the valve-side mounting studs in place with an Allen wrench while loosening (or tightening) the nuts that attach the valve to the bracket. Because the mounting studs are threaded into the valve body, loosening the nuts without holding the studs can tighten the studs, which can crush the valve body and damage the valve.

Conversely, tightening the nuts without holding the studs can back the studs out, causing a separation of the two halves of the valve body, and possibly a leak.

7. Remove the height control valve from the rear side of the mounting bracket:

- 7.1 While holding the height control valve mounting studs in place with an Allen wrench, remove the nuts and washers that attach the valve to the mounting bracket. See [Fig. 2](#).

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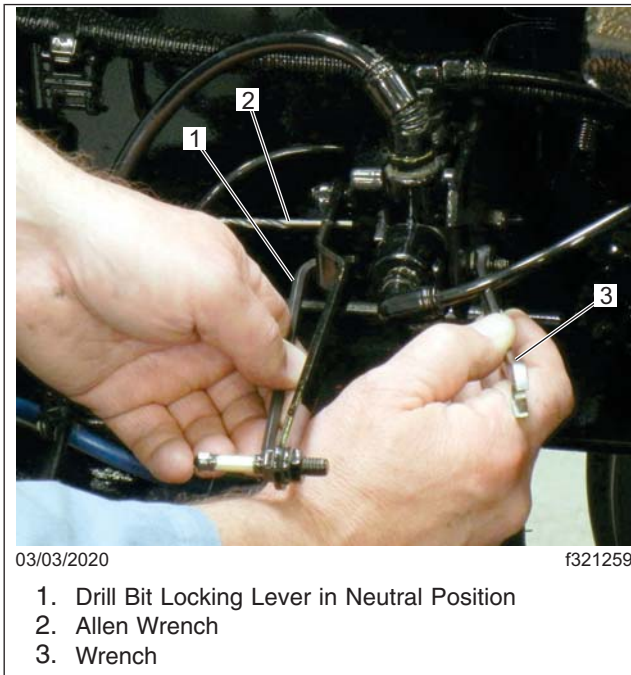


Fig. 2, Holding the Mounting Studs in Place With an Allen Wrench

- 7.2 Remove the height control valve from the bracket and discard the linkage.
8. Relocate the height control valve to the forward side of the mounting bracket (see [Fig. 3](#)) :

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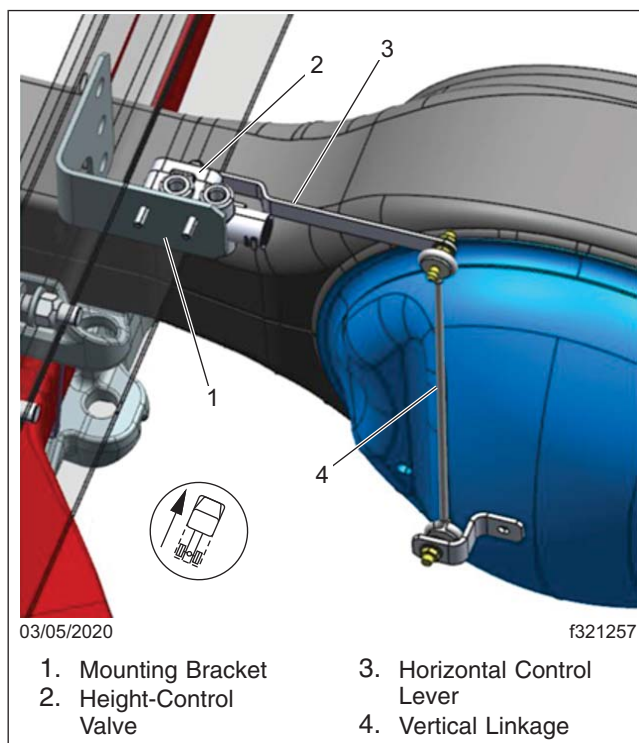


Fig. 3, Height Control Valve on the Forward Side of the Mounting Bracket

- 8.1 While holding the height control valve mounting studs in place with an Allen wrench, install the nuts and washers. Tighten the nuts 95 lbf-in (1100 N-cm). Do not over-tighten.
9. Install the new linkage (part number 16-14494-002). See [Fig. 3](#).
10. Connect the linkage to the valve lever and lower clip on the axle housing. See [Fig. 1](#) and [Fig. 3](#).
11. Start the engine and build the system air pressure to at least 100 Psi (690 kpa). Shut down the engine.
12. Measure the suspension ride height at the left-hand side clamp group. See [Fig. 4](#).
 - 12.1 If the suspension ride height measures 111mm +/- 6mm (4.37" +/- 0.25"), the suspension ride height is within the specification.
 - 12.2 If the suspension ride height is not within this range, follow the Ride Height Adjustment procedure.

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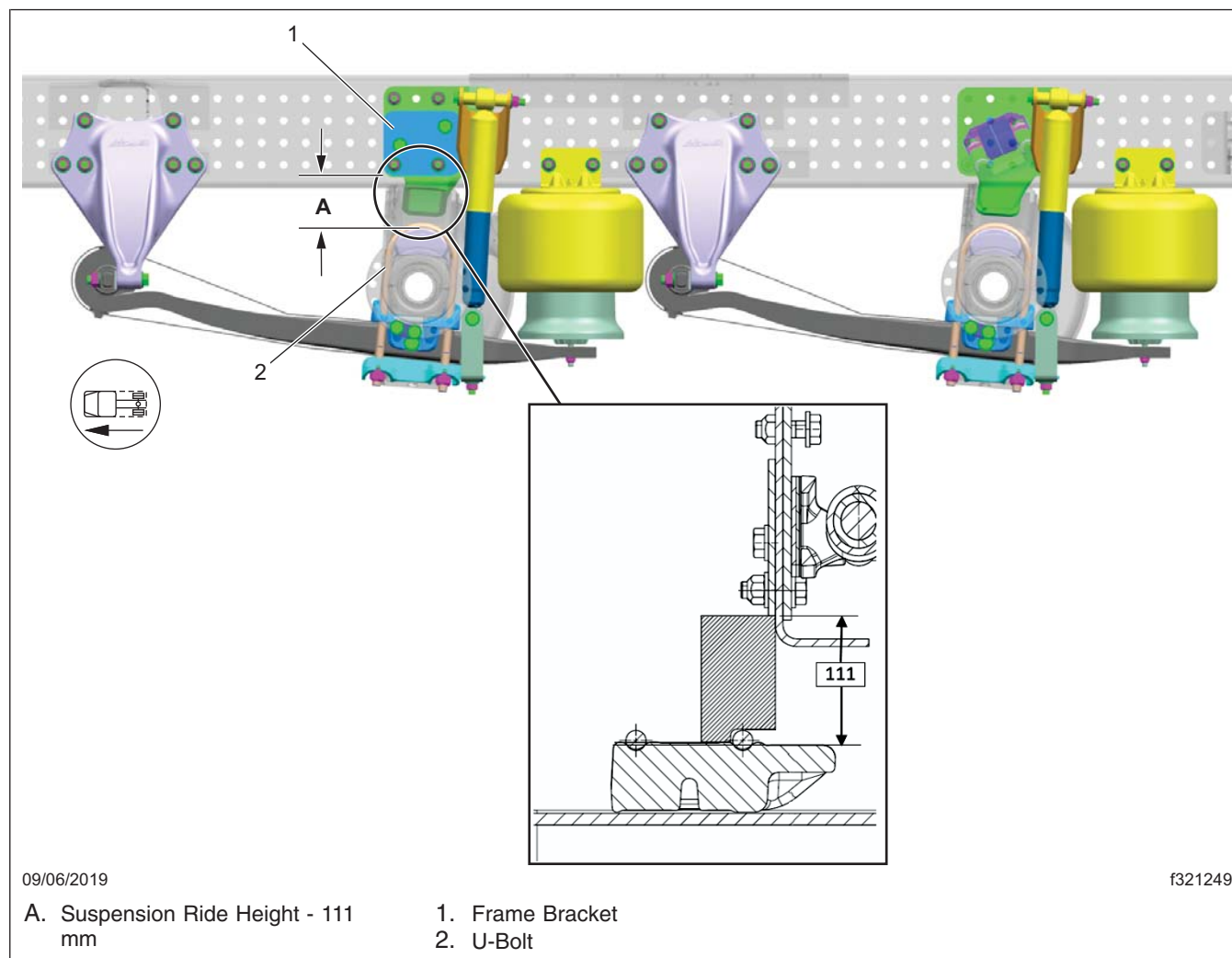


Fig. 4, Measuring the Suspension Ride Height

Ride Height Adjustment Procedure

1. Disconnect the height control valve linkage at the lever stud.
2. If the ride height is not correct, lift or lower the valve lever to adjust the height until it is at the proper ride height.
3. Lock the lever in neutral position with a 5/32-inch drill bit or nylon rod. See [Fig. 5](#).

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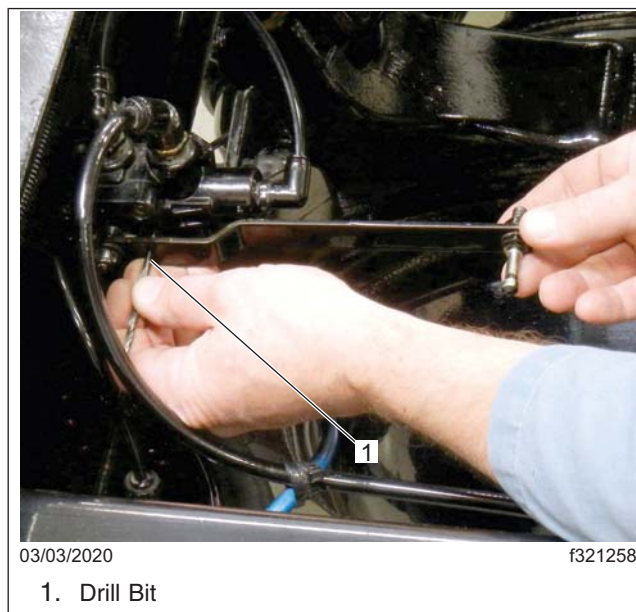


Fig. 5, Locking the Lever in a Neutral Position

NOTICE

When removing or loosening a Barksdale height control valve from a mounting bracket, always hold the valve-side mounting studs in place with an Allen wrench while loosening (or tightening) the nuts that attach the valve to the bracket. Because the mounting studs are threaded into the valve body, loosening the nuts without holding the studs can tighten the studs, which can crush the valve body and damage the valve.

Conversely, tightening the nuts without holding the studs can back the studs out, causing a separation of the two halves of the valve body, and possibly a leak.

4. While holding the height control valve mounting studs in place with an Allen wrench, loosen the nuts that attach the valve to the mounting bracket. See [Fig. 2](#).
5. Adjust the position of the valve body until the lever still pinned in neutral position can connect to the linkage. Attach the linkage. The linkage rod should be vertical, and the valve body should now be in the correct position for the vehicle's ride height.
6. While holding the height control valve mounting studs in place with an Allen wrench, tighten the nuts 95 lbf-in (1100 N-cm). Do not overtighten, as that could damage the valve.
7. Remove the pin or drill bit holding the height control lever in neutral position.
8. Drive the vehicle unloaded for about 1/4 mile (1/2 km), then park the vehicle on a level surface using a light brake application. Set the parking brake and chock the tires.
9. Release the parking brake.
10. Check the ride height of the vehicle again, measuring where indicated in figure.
11. If the distance is within the acceptable range, the ride height is correctly set.

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12. If the distance is not within the acceptable range, repeat the adjustment procedure.

Warranty

This procedure is warrantable only if the described condition exists and the repair is performed within the applicable base or extended coverage warranty period. If a failure is not found, this procedure is considered preventive and warranty does not apply.

Normal warranty applies. See [Table 2](#) for OWL VMRS codes and labor allowance information. Enter this CAL bulletin number in the claim story as you would do for a Service Bulletin warranty claim.

OWL VMRS Codes and Labor Allowance					
Primary Failed Part	Component Code	Cause Code	Correction Code	Description	Time: Hours
16-14318-000	016-009-027	28	996-F204A	Leveling valve R/R	0.6 HRS

Table 2, OWL VMRS Codes and Labor Allowance