SS 1034042 - New Cascadia Airliner Suspension Dump Functionality and Troubleshooting

New Cascadia Airliner Suspension Dump Functionality and Troubleshooting

Applicable Vehicles:

This documentation applies to Freightliner, New Cascadia's, 2018 & 2019 Year Model vehicles equipped with a dash controlled suspension dump switch.

Airliner Suspension Dump Functionality Test:

Test Pre-conditions:

1. Park the vehicle, shut down the engine, set the parking brake and chock the rear tires.
2. Start and run the engine until the air tanks are filled to operating pressure. Shut down the engine.
3. Insure the Airliner rear Suspension is set to its normal ride height.

Reference the New Cascadia Workshop Manual section 32.01.110 "Ride height Adjustment".

Testing Procedure - Suspension Dump:

4. Turn the ignition on. Locate the Suspension Dump Switch Fig. 1
5. Press the suspension dump switch, the light will illuminate. Fig. 2.
6. Visually inspect the suspension to confirm that the air has exhausted from the air springs.
7. Press the suspension dump switch, the light will turn off.
8. Visually inspect the suspension to confirm it has returned to its normal ride height.
9. If all of these conditions are met the system is functioning correctly.
10. If the suspension is not reacting to the switch commands and/or the switch light is not illuminating review the troubleshooting information below.

If the suspension is in the lowered position (light on) and the truck is driven over 5MPH the suspension will return to its normal ride height and the light will turn off.

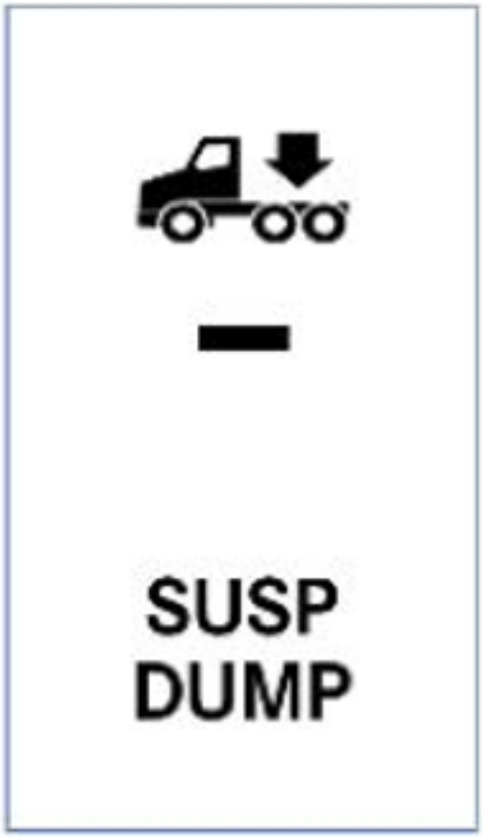

Fig. 1
Suspension at normal

Fig. 2
Suspension Dumped

Airliner Suspension Dump Troubleshooting:

Dash Switch, sSAM & Latching Solenoid Wiring:

Use PartsPro to determine the parameter setting called out in bill of material module 87D.
Using Diagnostic Link check the operation and parameters for the dump switch.
Check the wiring from the dump switch to the SSAM. Ref. schematic G06-92193.
Check the wiring pin connections from the SSAM to the latching solenoids. Ref. schematic G06-92193.
Wire 221A connects to the "Apply" side of the Latching solenoid. Ref. Fig. 4.
Wire 221CA connects to the "Release" side of the Latching solenoid. Ref. Fig. 4.

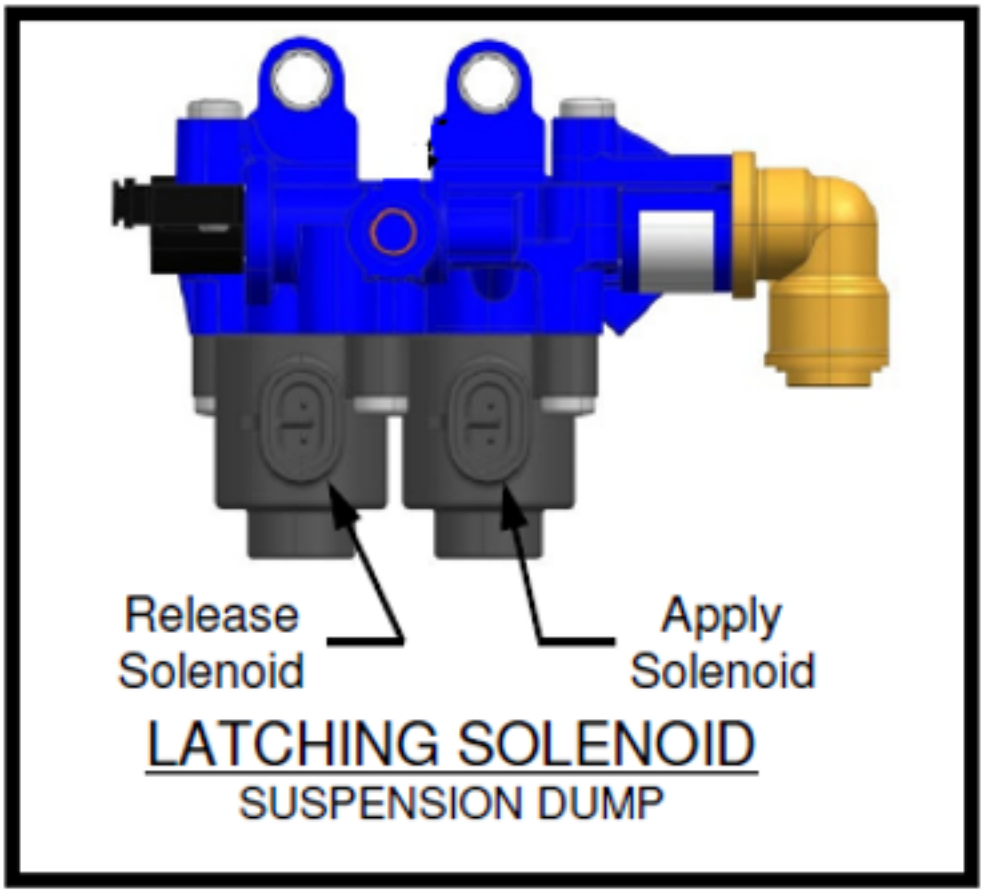

Fig. 4

Pressure switch wiring:

The location of the pressure switch (P/N 12-27919-000) is shown on installation drawing D12-27200-003 illustrated on page 5. Ref. Fig. 5.
Wiring to the pressure switch is shown on schematic G06-92193-001 on page 2.
Ref. wire code 221 that goes from the pressure switch to the SSAM.
Ref. wire code GND-C that goes from the pressure switch to ground.

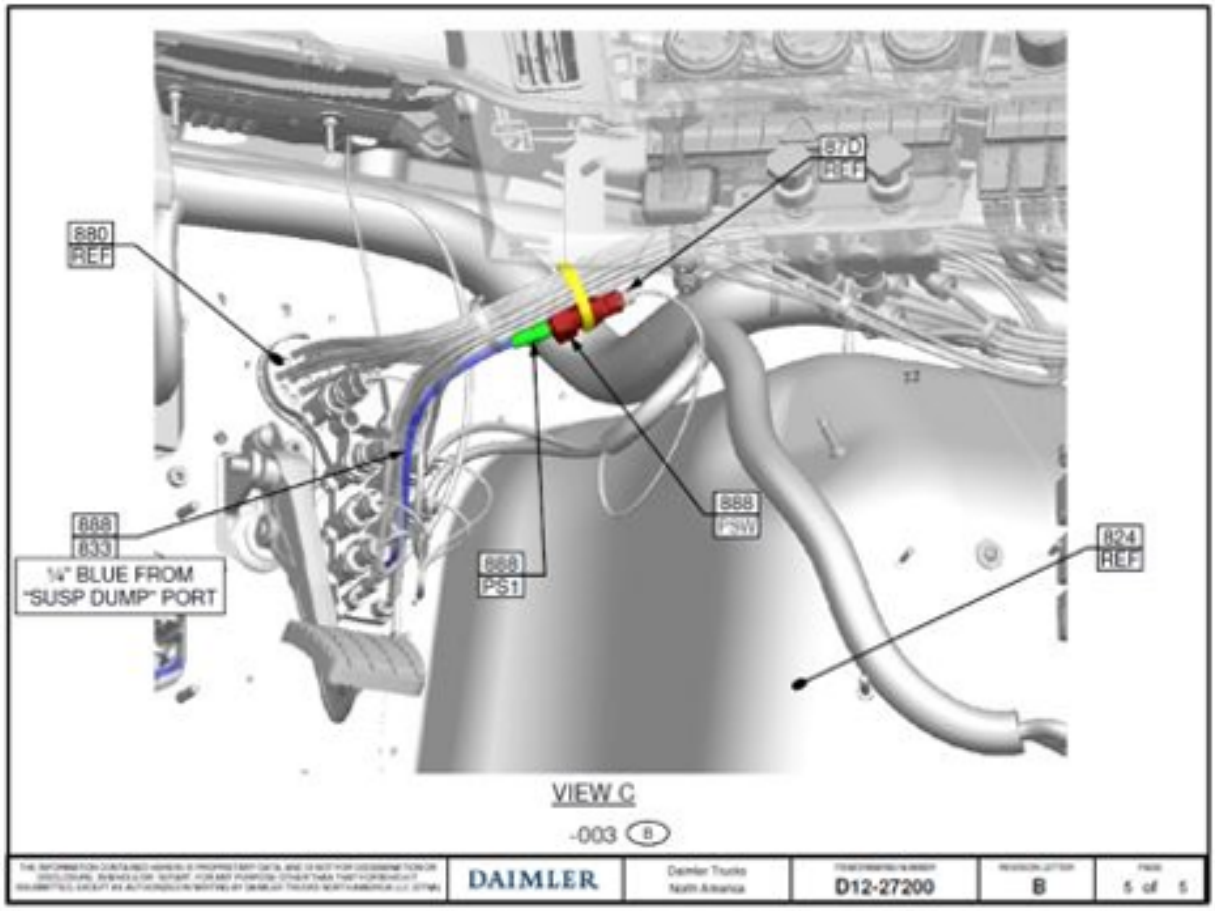

Fig. 5 Pressure Switch installation

Pressure switch air plumbing:

The airline from the pressure switch is identified as number 833 shown on installation drawing D12-27200-003 page 5.
Make sure airline 833 is plumbed to the same pass though port on the inside and outside of the pass through manifold.
Make sure airline 833 is plumbed to the tee as shown on installation drawing D16-20764-001 page 3. Ref. Fig 6.

Air Plumbing from the latching solenoid:

Check the air plumbing from the latching solenoids to the tee, level valve dump port and pressure switch. Ref. Plumbing diagram D16-20764 page 3. Ref. Fig 6.
Make sure airline 440 is plumbed from the latching solenoid to the tee as shown on installation drawing.

Make sure airline 440 is plumbed from the tee to the level valve dump port as shown on installation drawing D12-28521-002 page 3.

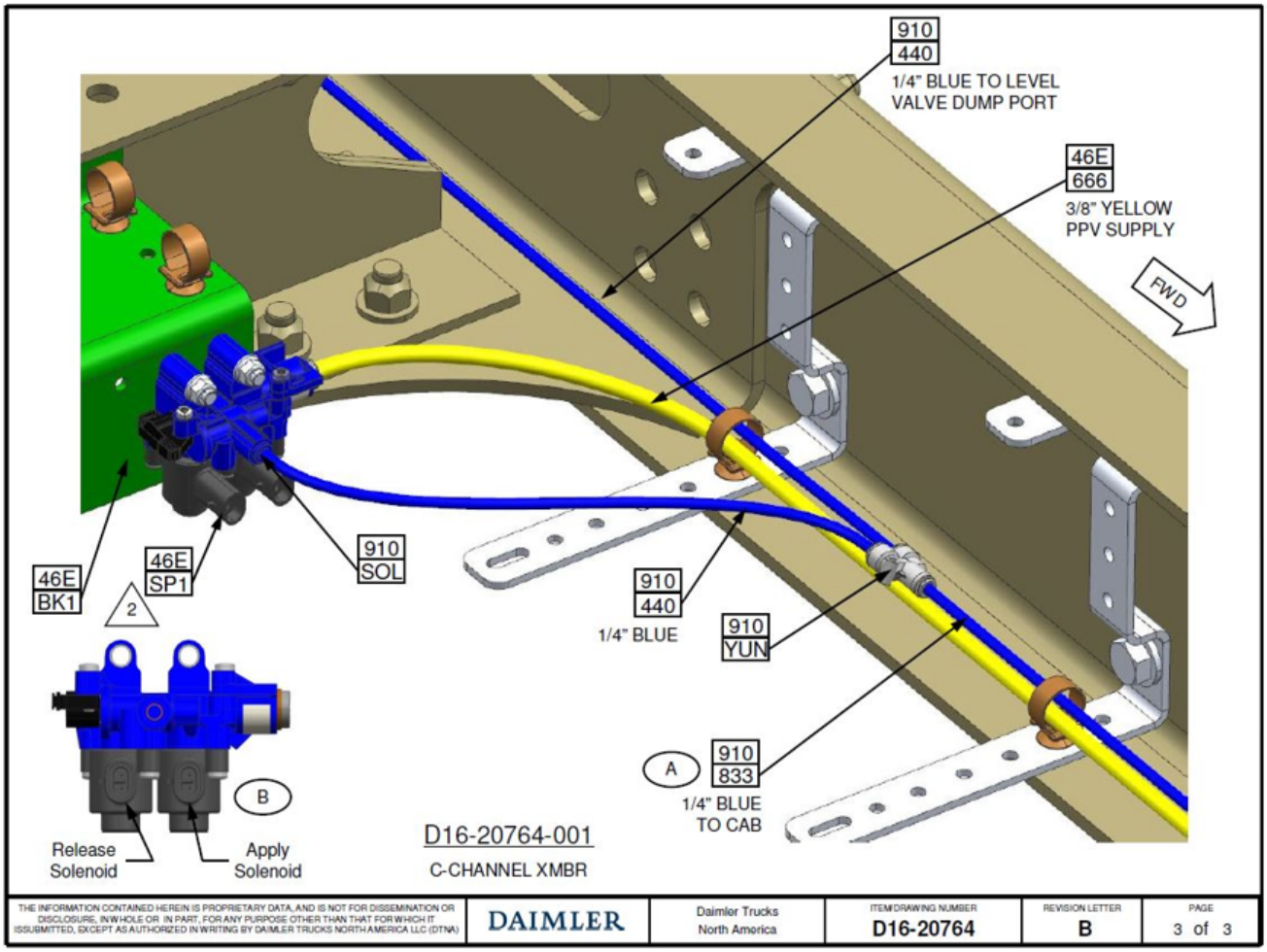

Fig. 6

Height control valve installation

Check the installation of the height control valve installed on the forward drive axle that controls the suspension dump feature.

Refer to the New Cascadia Workshop Manual section 32.01.120 Height Control Valve Checking.