Tesla, Inc. Service Bulletin		*Retrofit Air Suspension Fill Valve*	
SB-21-31-002 June 24, 2021			
Classification		**Section/Group**	**Mobile Service**
Repair Bulletin		31 - Suspension	Cannot Perform
Model Year	**Model**	**Country/Region**	**Version**
2021	Model S	United States	Palladium

The model(s) and model year(s) listed are a general approximation of the affected VIN list. Refer to the VIN/Bulletin Tracker or Customer/Vehicle profile to determine applicability of this bulletin for a particular vehicle.

Repair Bulletin: This repair bulletin provides instructions on addressing a noted condition or possible customer concern regarding the operation of Tesla vehicles. These instructions should only be performed by trained professionals.

Condition

Certain Model S Palladium vehicles have an incorrect air suspension fill valve installed, resulting in the inability to fill the air suspension reservoir.

Correction

If the air suspension is being serviced and the reservoir requires filling, retrofit the air suspension with the correct fill valve.

Correction Description	Correction	Time
SB-21-31-002 Not Applicable	S012131002	0.00
Retrofit Air Suspension Fill Valve	S022131002	0.20

	Part Number	Description	Quantity
Parts Required	1010404-00-A	AIR SUSP FILL VALVE	1
	These part numbers were current at the time of publication. Use the revisions listed or later, unless otherwise specified in the Parts Catalog.		
Special Tools	1083876-00-A	AIR SUSPENSION NITROGEN FILLING KIT	
	1526244-00-A	PLASTIC TUBE CUTTER	

Procedure

1. Connect a laptop running Toolbox 3.0 to the vehicle.
2. In Toolbox, click the **Actions** tab, and then search for "TAS service mode".
3. Click **PROC_TAS_X_ENTER-SERVICE-MODE**, click **Run**, and allow the routine to complete.
4. Click the **Actions** tab, and then search for "Deflate".
5. Click **PROC_TAS_X_DEFLATE-RESERVOIR**, click **Run**, and allow the routine to complete.
6. Disconnect the laptop from the vehicle.

   NOTE: Do not close Toolbox at this time as it will be used again in the procedure.
7. Remove the rear underhood apron (refer to Service Manual procedure 12251102).
8. Remove the RH underhood apron (refer to Service Manual procedure 12251202).
9. Remove the Schrader valve cap from the air reservoir, use a pocket screwdriver to press down on the valve to deflate the reservoir completely (Figure 1), and then install the Schrader valve cap.

   WARNING: Failing to deflate the system completely could lead to personal injury. To reduce the risk of personal injury, use appropriate eye protection while performing this step.

Figure 1

10. On the RH side of the air reservoir, locate the black air line, and then use a paint pen to mark a location on the black air line that is centered with the RH face of the air reservoir (Figure 2).

NOTE: The mark is approximately 40mm from the back edge of the air reservoir.

Figure 2

11. Hold the center of the new fill valve to the mark on the black air line, and verify that the fill valve is centered to the RH face of the air reservoir (Figure 3).

NOTE: If the mark is not centered, wipe the air line clean and mark the correct location.

Figure 3

12. Use a plastic tube cutter to cut the air line on the mark (Figure 4).

WARNING: To reduce the risk of personal injury, use cut resistant gloves and appropriate eye protection while performing this step.

Figure 4

13. Fully insert both ends of the air line into the fill valve (Figures 5 and 6), and then perform a Push-Pull-Push test on both connections to verify that they are fully engaged.

Figure 5

Figure 6

14. Remove the fill valve cap from the fill valve, and then set the main supply valve, pressure regulator valve and air line valve on the nitrogen tank to the closed position (Figures 7, 8 and 9).

Figure 7 – Main Supply Valve

Figure 8 – Pressure Regulator Valve

Figure 9 – Air Line Valve

15. Install the nitrogen kit air line onto the fill valve (Figure 10).

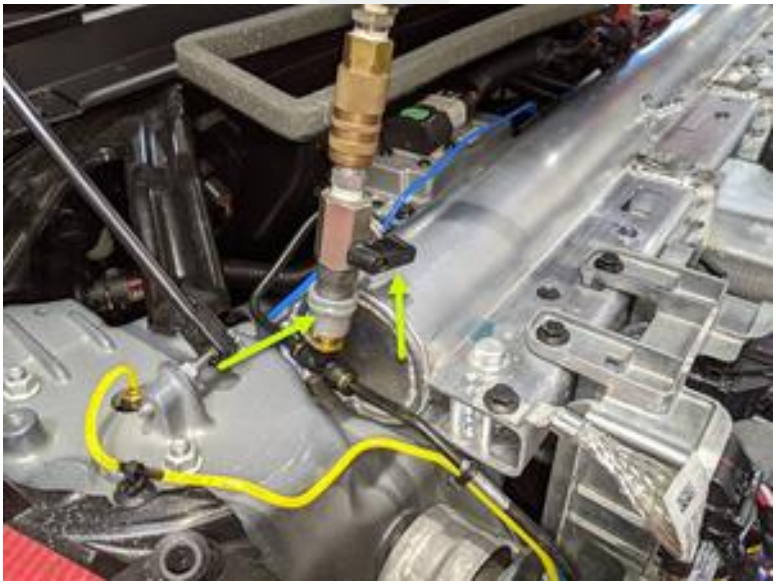

Figure 10

16. Open the nitrogen tank main supply valve (Figure 11).

Figure 11

17. Slowly open the pressure regulator valve (Figure 12) and set the pressure to 18 Bar (Figure 13).

Figure 12

Figure 13

18. Gradually open the valve on the nitrogen fill hose (Figure 14) and allow time for the pressure to stabilize equally between the nitrogen set pressure and the vehicle reservoir.

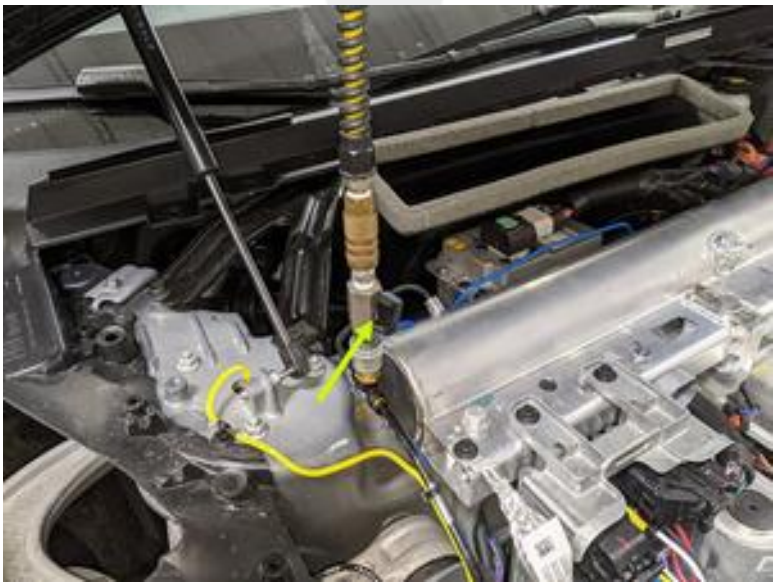

Figure 14

19. Close the nitrogen tank main supply valve (Figure 15).

Figure 15

20. Verify the pressure is stable at 18 Bar (Figure 16).

NOTE: If the pressure does not hold, check the fittings for leaks and rectify as necessary.

Figure 16

21. Close the valve on the nitrogen kit fill hose (Figure 17).

Figure 17

22. Close the pressure regulator valve (Figure 18).

NOTE: Verify the gauge reads zero.

Figure 18

23. Lift up on the lock and release the nitrogen kit fill hose from the fill valve (Figure 19), and then install the fill valve cap.

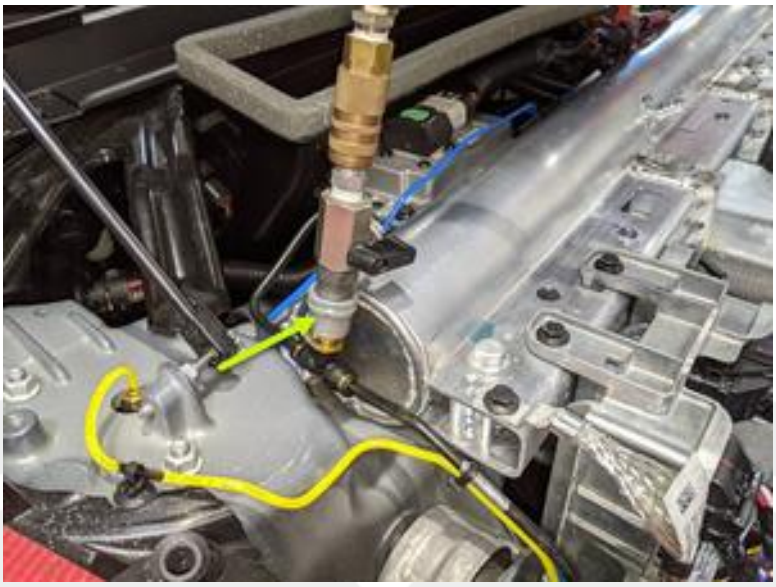

Figure 19

24. Reconnect the laptop with Toolbox 3.0 to the vehicle.
25. In Toolbox, click the **Actions** tab, and then search for "TAS normal mode".
26. Click **PROC_TAS_X_ENTER-NORMAL-MODE**, click **Run**, and allow the routine to complete.
27. Disconnect the laptop from the vehicle.
28. Install the RH underhood apron (refer to Service Manual procedure 12251202).
29. Install the rear underhood apron (refer to Service Manual procedure 12251102).