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Four Wheel Alignment Check and Adjust (Air Suspension)

Correction Code 31002300

Note

This procedure is not specific to a particular alignment machine. Follow the alignment equipment manufacturer's instructions for additional information and safety instructions.

Special tool(s) recommended for this procedure:

Supplier	Part Number	Description
Tesla	1054170-00-A	Alignment Torque Tools Kit
Tesla	1079459-00-A	22 mm Crow Foot Wrench

1. Perform a four wheel alignment check. See [Four Wheel Alignment Check \(Air Suspension\)](#) .

CAUTION

Do not bump or pull on the vehicle for the remainder of this procedure; this could bring the ride height values out of specification.

Note

Follow the alignment equipment manufacturer's instructions when performing the following 4 steps.

CAUTION

Only fully tighten suspension nuts and bolts when the vehicle is on a 4-post lift and the suspension is in the ride height position.

Note

If available, use the Alignment Torque Tools Kit when performing the following 4 steps.

Note

Refer to the Wheel Alignment section of this manual for the latest alignment specifications.

CAUTION

The following 4 steps must be completed in the order shown.

2. Adjust the rear toe as required:

1. Remove the mid aero shield. See Panel - Aero Shield - Mid (Remove and Replace) ○ .
2. Attach a 19 mm, 1/2 in. drive socket and Tohnichi ratchet head to the Tohnichi torque wrench handle.

**CAUTION**

If a socket wrench with an extension is used to adjust rear toe, the extension might contact the suspension height sensor bracket, causing the bracket to bend. A bent bracket causes incorrect vehicle ride height at the affected corner.

3. Set the torque wrench to 80 Nm.
4. Adjust the rear toe as necessary.





5. In Toolbox, select **Cycle Heights High --> Normal**. Make sure that the toe is still within specification.
 6. In Toolbox, refer to the **Ride Height** panel. If any value is more than +4 or less than -4, select **Cycle Heights High --> Normal** again.
 7. Reinstall the mid aero shield.
- 3. Adjust the front camber as required:**
1. Attach the 22 mm custom ratcheting wrench to the Tohnichi torque wrench handle.



2. Set the Tohnichi torque wrench to 140 Nm.

**CAUTION**

If the alignment torque tools are not available, set a standard torque wrench to 130 Nm.

3. Adjust the front camber as necessary.

**Note**

It is not necessary to remove the front aero shield if the alignment torque tools are used to perform this step.



4. Adjust the front caster as required:

1. Attach the 22 mm custom ratcheting wrench to the Tohnichi torque wrench handle.



2. Set the Tohnichi torque wrench to 101 Nm.

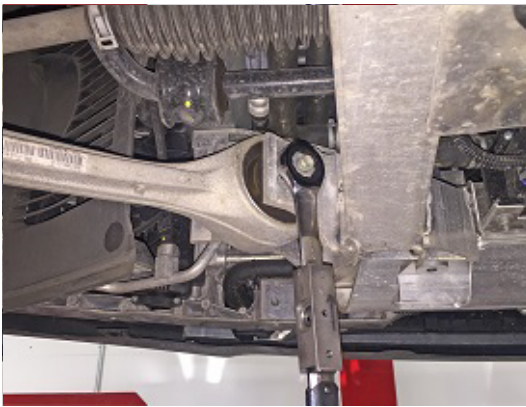
**CAUTION**

If the alignment torque tools are not available, set a standard torque wrench to 130 Nm.

3. Perform a caster sweep.
4. Adjust the front caster as necessary.

**Note**

It is not necessary to remove the front aero shield if the alignment torque tools are used to perform this step.



5. Adjust the front toe as required:

1. Attach the crow foot wrench to a torque wrench, inline with the wrench handle.



2. Set the torque wrench to 62 Nm.
3. Adjust the front toe as necessary.

Note

It is not necessary to remove the front aero shield if the alignment torque tools are used to perform this step.

**6. Check the steering wheel angle:**

- Service Center: The steering wheel angle displays on the touchscreen. If it is not 0.0 degrees, turn the steering wheel so that the steering wheel angle is 0.0 degrees.
- Tesla Approved Body Shop: Perform a visual inspection of the steering wheel to make sure that it is straight. If it is not straight, turn the steering wheel so that it is aligned.

7. Readjust front toe if turning the steering wheel caused it to be out of specification.**8. In Toolbox, select **Cycle Heights High --> Normal**. Make sure that the toe is still within specification.****9. In Toolbox, refer to the **Ride Height** panel. If any value is more than +4 or less than -4, select **Cycle Heights High --> Normal** again.****10. Check the alignment machine to make sure that all alignment parameters are still within specification.****11. Transfer the PDF of the alignment results from the alignment machine and attach it to the repair order.**

12. Remove the brake pedal depressor.
13. Reinstall all slip plate pins and turn plate pins.

Note

Install the forward slip plate pins before installing the rearward slip plate pins.

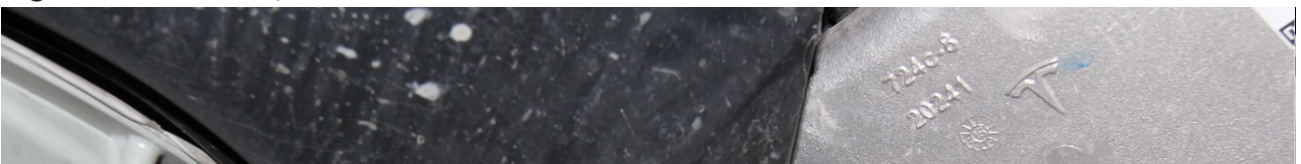
14. Remove all 4 alignment optical targets.
15. In Toolbox, run the **ESP Steering Angle Sensor Calibration** operation.
16. Disconnect the laptop from the vehicle.
17. Install the mid aero shield panel. See [Panel - Aero Shield - Mid \(Remove and Replace\)](#)
18. Position the RH shear plate on the vehicle, and then install the clips that attach the shear plate to the vehicle.

Figure 1. RH shown, LH similar



19. Install the new nut that attaches the RH shear plate to the vehicle (torque 35 Nm).

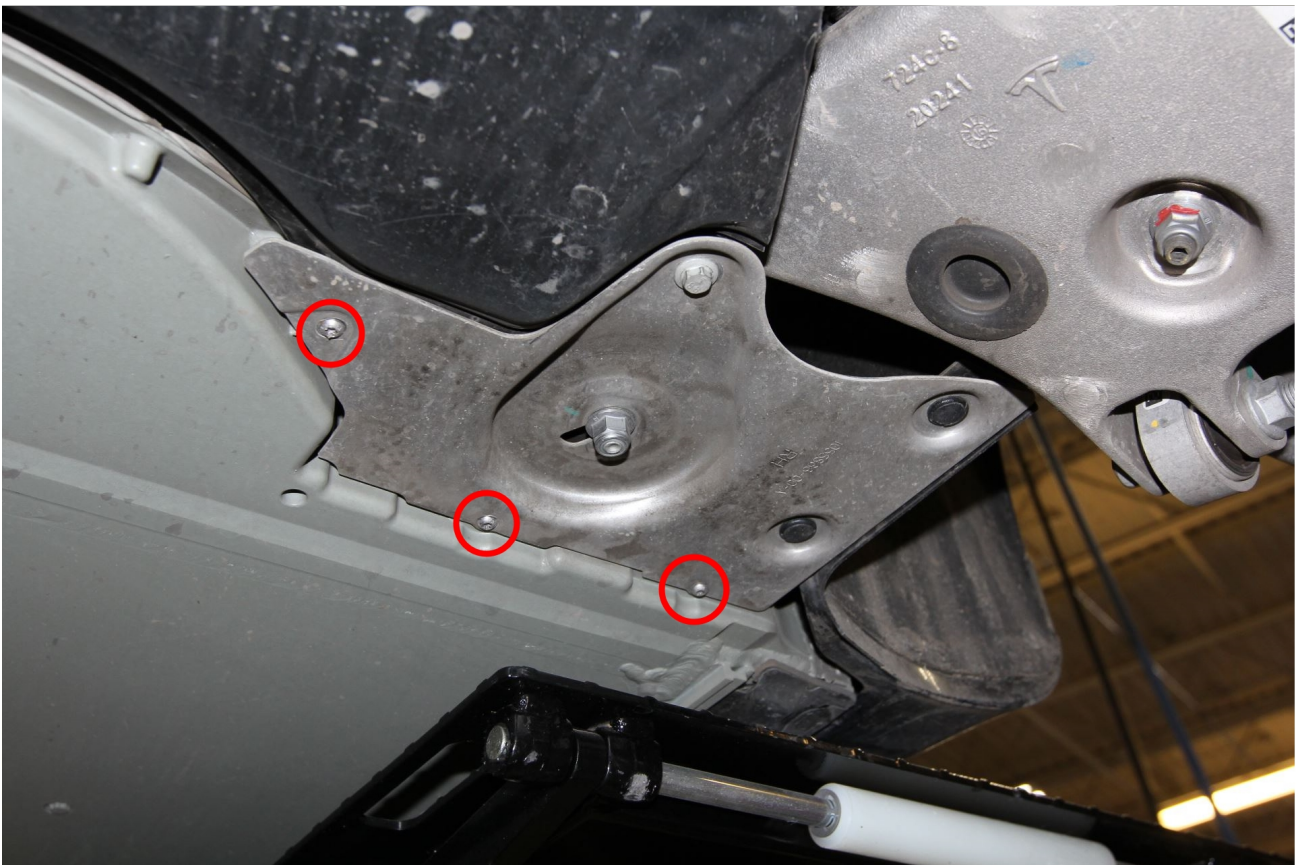
Figure 2. RH shown, LH similar





- 20.** Install the screws that attach the RH shear plate to the vehicle (torque 6 Nm).

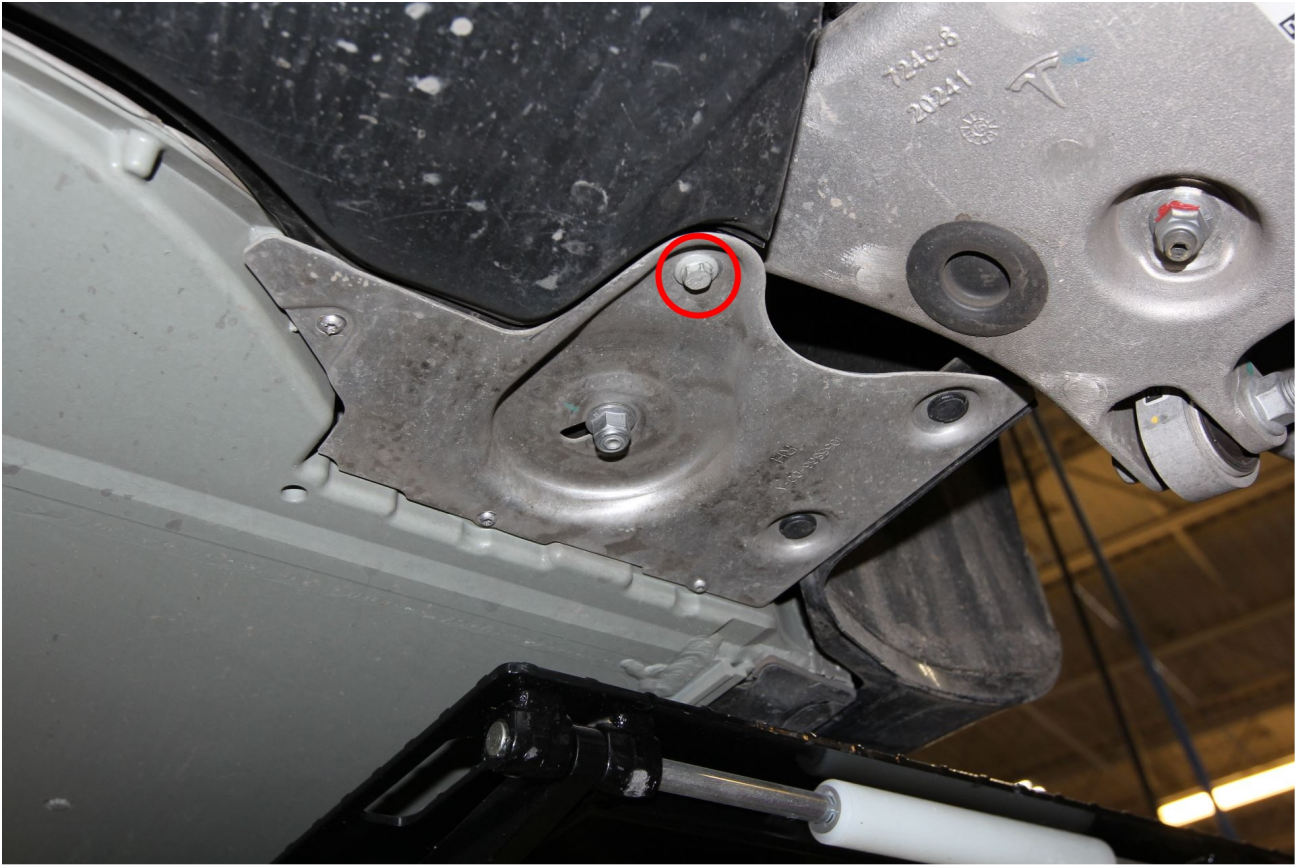
Figure 3. RH shown, LH similar



- 21.** Install the bolt that attaches the RH shear plate to the vehicle (torque 4 Nm).

Figure 4. RH shown, LH similar

Figure 4. RH shown, LH similar



22. Repeat steps 18 ○ through 21 ○ on the LH shear plate.
23. Enter the vehicle.
24. Press the brake pedal and shift into Park.
25. Remove the wheel chocks.
26. Remove the vehicle from the alignment rack.
27. Test drive the vehicle.