

Last modified: 16/11/2022 06:10:20

# Control Arm - Upper - Front - LH (Remove and Repla

Correction code 31014002

FRT 0.35

**NOTE:** Unless otherwise explicitly stated in the procedure, the above correction code and FRT reflect all of the work required to perform this procedure, including the linked procedures. **Do not stack correction codes unless explicitly told to do so.**

**NOTE:** See [Flat Rate Times](#) to learn more about FRTs and how they are created. To provide feedback on FRT values, email [LaborTimeFeedback@tesla.com](mailto:LaborTimeFeedback@tesla.com).

**NOTE:** See [Personal Protection](#) to make sure wearing proper PPE when performing the below procedure.

- 1450399-00-A Tool, FUCA Ride Height, Model 3

## Remove

1. Inspect the vehicle for abnormal tire wear that might indicate the need for a wheel alignment. Note any findings.
2. Loosen the LH front wheel lug nuts.



### CAUTION

Use a 6 point socket. Do not use a 12 point socket or a specialty socket.




3. Raise and support the vehicle. See [Raise Vehicle - 2 Post Lift](#)  .
4. Remove the rear underhood apron. See [Underhood Apron - Rear \(Remove and Replace\)](#)  .
5. Remove the windshield washer reservoir filler neck. See [Filler Neck - Reservoir - Windshield Washer \(Remove and Replace\)](#)  .
6. Release the rear clip that attaches the LH shock tower cover to the vehicle, and then swivel the shock tower cover aside.

Figure 1. Model 3 shown; Model Y similar



Figure 2. Model 3 shown; Model Y similar



Figure 3. Model 3 shown; Model Y similar

7. Remove the LH clip that attaches the cowl screen panel to the vehicle.



Figure 4. Model 3 shown; Model Y similar

8. Lift the cowl screen panel and mark the positions of the LH front upper control arm mount bolts (x4).

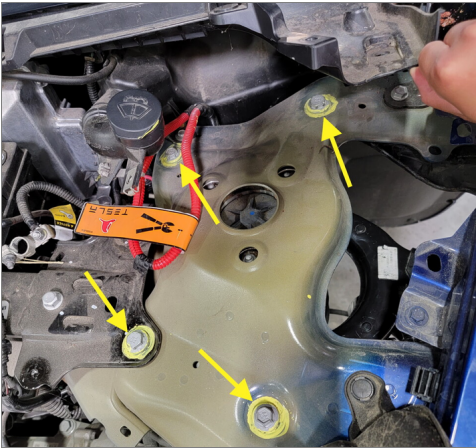


Figure 5. Model 3 shown; Model Y similar

9. Remove the smaller bolts that attach the spring and damper assembly to the shock tower.

Tip: Use of the following tool(s) is recommended:

- 13 mm socket
- Flex head ratchet/flex head torque wrench

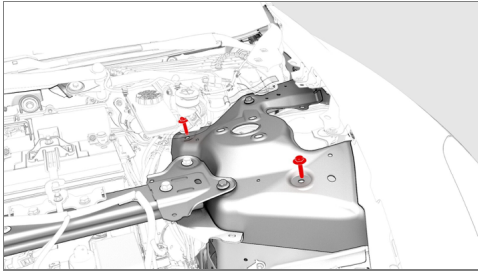
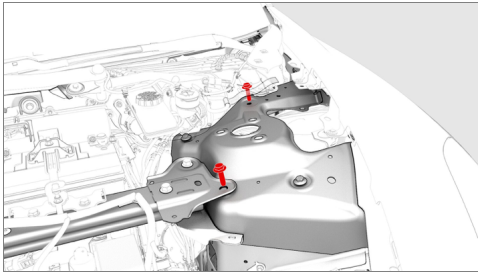


Figure 6. Model 3 shown; Model Y similar




10. Remove the larger bolts that attach the spring and damper assembly to the shock tower.

Tip: Use of the following tool(s) is recommended:

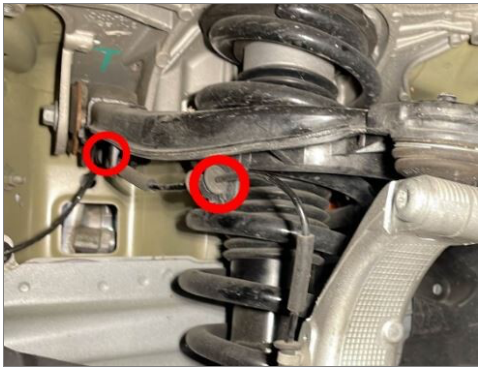
- 15 mm socket
- Flex head ratchet/flex head torque wrench

11. Raise the vehicle to a comfortable working height.

12. Remove the LH front wheel. See [Wheel \(Remove and Install\)](#) .

13. Release the clips (x2) that attach the wheel speed sensor harness to the LH front upper control arm, and then set the harness aside.

Figure 7. Model 3 shown; Model Y similar



14. If the vehicle is equipped with a ride height sensor:

- a. Disconnect the LH front ride height sensor connector.

Figure 8. Model 3 shown; Model Y similar



Figure 9. Model 3 shown; Model Y similar



Figure 10. Model 3 shown; Model Y similar

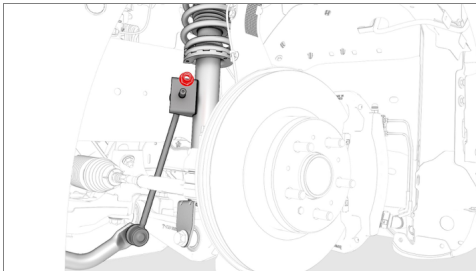


Figure 11. Model 3 shown; Model Y similar

- b. Remove the bolt that attaches the LH front ride height sensor arm to the upper control arm, and then remove the sensor arm from the upper control arm.

**Note**

To help with reinstallation, note the orientation of the sensor arm relative to the upper control arm.

Tip: Use of the following tool(s) is recommended:

- 12 mm combination wrench
- 10 mm socket

15. Remove and discard the nut that attaches the stabilizer bar link to the LH front spring and damper assembly, and then move the link aside.

**Note**

Counter-hold the ball joint while loosening the nut.

Tip: If needed, use a pry bar to release the end link.

Tip: Use of the following tool(s) is recommended:

- 18 mm combination wrench
- Torx T40 socket
- Cordless Ratchet/Impact Driver

16. Remove the bolt and nut that attach the upper control arm to the knuckle, and then discard the nut.

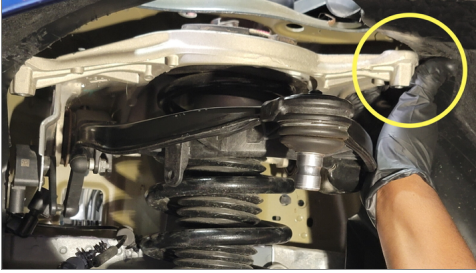
**Note**

Compress the upper control arm ball joint downwards to help release the bolt.

Tip: Use of the following tool(s) is recommended:

- 15 mm combination wrench
- Torx T50 socket
- Cordless Ratchet/Impact Driver

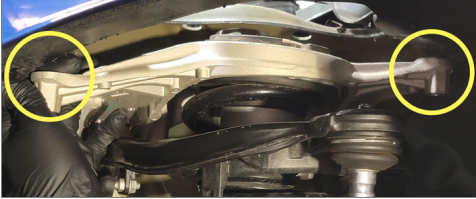
Figure 12. Model 3 shown; Model Y similar



17. Pull the LH front spring and damper assembly outboard so that the front upper control arm mount clears the wheel arch liner.

Tip: Hold the front upper control arm mount and use thumbs to push the wheel arch liner past the mount.

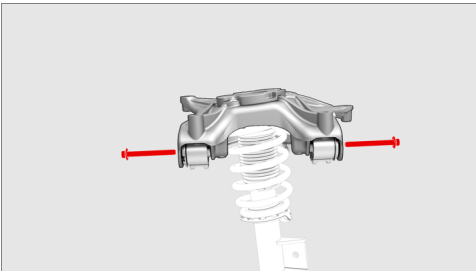
Figure 13. Model 3 shown; Model Y similar



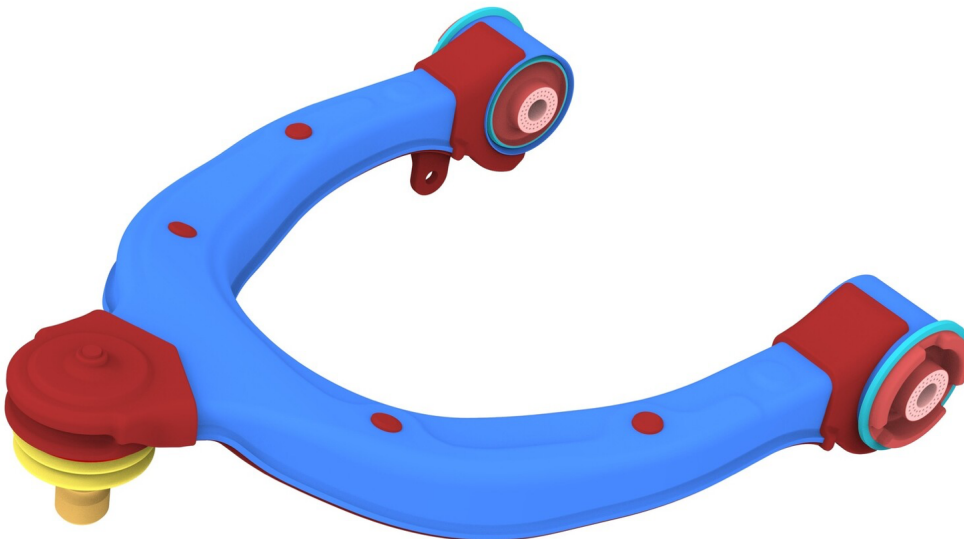
18. Remove the bolts that attach the LH front upper control arm to the front upper control arm mount.

Tip: Use of the following tool(s) is recommended:

- 13 mm deep socket
- Cordless Ratchet/Impact Driver

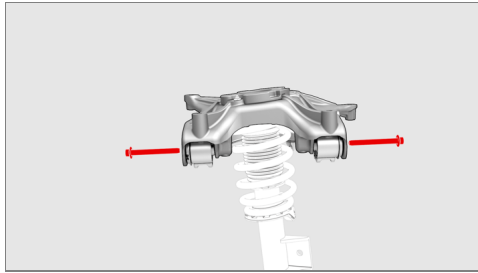


19. Remove the LH front upper control arm from the front upper control arm mount.

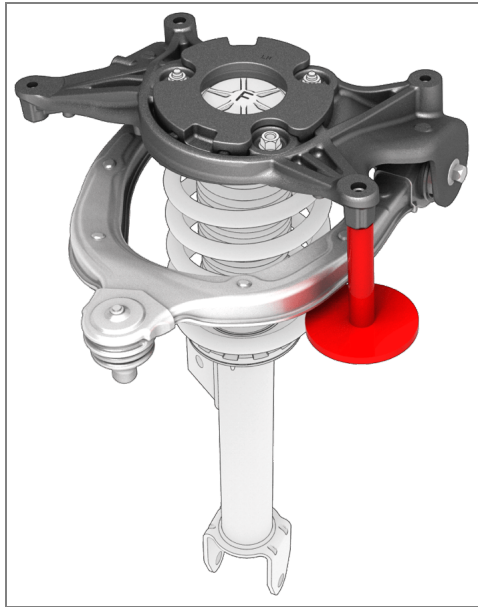




## Install



1. Position the LH front upper control arm into the front upper control arm mount, and then install and hand-tighten the bolts (x2) that attach the control arm to the mount.

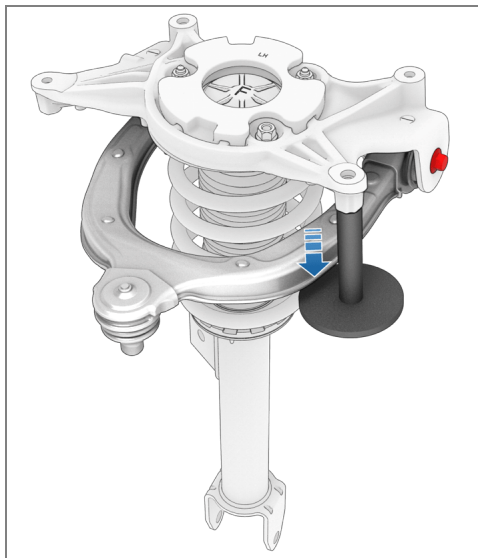
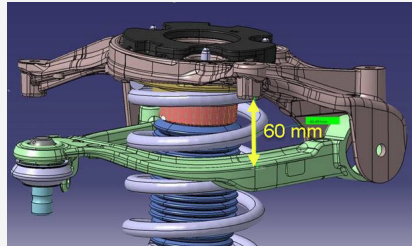


2. Install the FUCA ride height tool onto the front upper control arm mount at the rear outer mounting hole.

### Note

If an updated FUCA ride height tool for a newer FUCA is not available, use two pocket rulers to set the ride height:

1. Lay a pocket ruler across the upper flat surface of the front upper control arm.
2. Use a second pocket ruler to measure 60 mm between the front upper control arm mount threaded hole and the first pocket ruler.



3. Hold the front upper control arm against the plate of the FUCA ride height tool and tighten the bolts (x2) that attach the LH front upper control arm to the front upper control arm mount.

 **50 Nm (36.9 lbs-ft)**

### CAUTION

To prevent personal injury when torquing bolts and simultaneously holding components in position, pay extra attention to the angle and trajectory of the tool used.

### Note

After tightening, check the measurement again and adjust if necessary.

Tip: Use of the following tool(s) is recommended:

- 13 mm deep socket
- Cordless Ratchet/Impact Driver

4. Remove the FUCA ride height tool from the front upper control arm mount.
5. Move the LH coil spring module and front upper control arm mount assembly into position, making sure the control arm mount bolt holes are aligned with the bolt holes on the body.

Figure 14. Model 3 shown; Model Y similar. Wheel arch liner removed for clarity.



6. Lower the vehicle so that the shock tower is accessible.
7. Install the larger bolts that attach the spring and damper assembly to the shock tower.

 **62 Nm (45.7 lbs-ft)**


**Note**

Line up the bolts with the paint marks made during removal.

Tip: Use of the following tool(s) is recommended:

- 15 mm socket
- Flex head ratchet/flex head torque wrench
- Cordless Ratchet/Impact Driver
- Step stool

8. Install the smaller bolts that attach the spring and damper assembly to the shock tower.

 **35 Nm (25.8 lbs-ft)**

**Note**

Line up the bolts with the paint marks made during removal.

Tip: Use of the following tool(s) is recommended:

- 13 mm socket
- Flex head ratchet/flex head torque wrench
- Cordless Ratchet/Impact Driver
- Step stool

9. Install a new nut that attaches the stabilizer bar link

Figure 15. Model 3 shown; Model Y similar

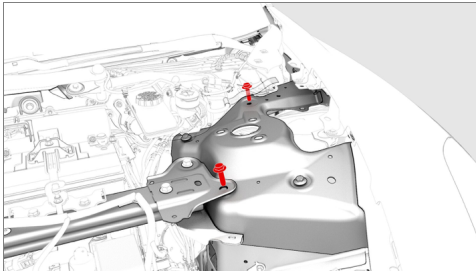


Figure 16. Model 3 shown; Model Y similar

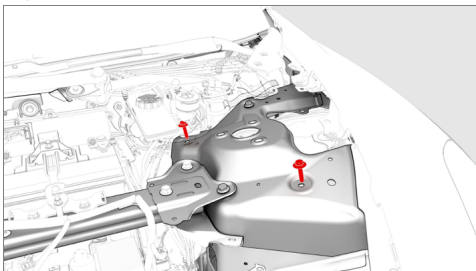
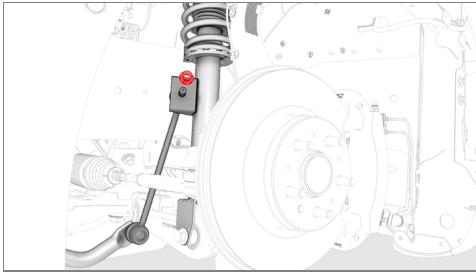


Figure 17. Model 3 shown; Model Y similar



to the LH front spring and damper assembly.

 **98 Nm (72.3 lbs-ft)**

**Note**

Counter-hold the ball joint while torquing the nut.

Tip: If needed, use a pry bar to help position the end link.

Tip: Use of the following tool(s) is recommended:

- Torx T40 socket
- 18 mm combination wrench
- 6 in extension
- Cordless Ratchet/Impact Driver

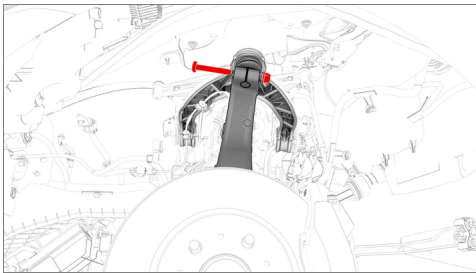
## 10. Install the bolt and new nut that attach the upper control arm to the knuckle.

 **56 Nm (41.3 lbs-ft)**

Tip: Use of the following tool(s) is recommended:

- 15 mm combination wrench
- Torx T50 socket
- Cordless Ratchet/Impact Driver

Figure 18. Model 3 shown; Model Y similar



## 11. If the vehicle is equipped with a ride height sensor:

- Install the ride height sensor arm onto the upper control arm, and then install the bolt that attaches the sensor arm to the upper control arm.

**Note**

Hold the ball stud in place with a wrench.

Tip: Use of the following tool(s) is recommended:

- 12 mm combination wrench
- 10 mm socket

Figure 19. Model 3 shown; Model Y similar



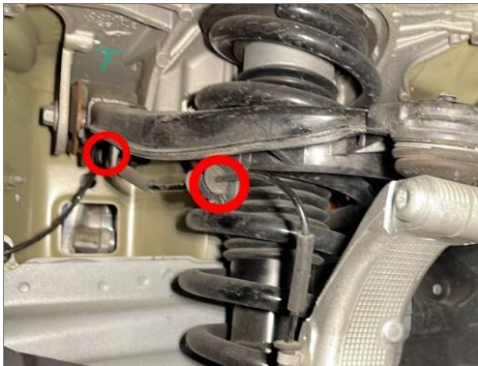
Figure 20. Model 3 shown; Model Y similar

- Connect the LH front ride height sensor connector.





Figure 21. Model 3 shown; Model Y similar



12. Install the clips (x2) that attach the wheel speed sensor harness to the LH front upper control arm.

13. Position the LH front wheel on the vehicle and hand-tighten the lug nuts (x5) that attach the wheel to the vehicle.
14. Lower the vehicle until the tires are touching the ground. See [Raise Vehicle - 2 Post Lift](#) ⓘ.
15. Torque the LH front wheel lug nuts. See [Wheel \(Remove and Install\)](#) ⓘ.
16. Install the wheel cap, if equipped. See [Cap - Wheel \(Remove and Replace\)](#) ⓘ.
17. Install the LH clip that attaches the cowl screen panel to the vehicle.



Figure 22. Model 3 shown; Model Y similar



Figure 23. Model 3 shown; Model Y similar

18. Move the LH shock tower cover back into position, and then install the rear clip that attaches the cover to the vehicle.



19. Install the rear underhood apron. See [Underhood Apron - Rear \(Remove and Replace\)](#)  .
20. Close the hood.
21. Refer to the Alignment Requirement tables to determine if an alignment check (AC) or full adjustment (FA) is necessary. See [Alignment Requirement - Suspension](#)  .