		Tesla, Inc. Service Bulletin	Replace Front Aft Links And Rear Upper Links, China	
SB-20-31-007 September 18, 2021		R1		
Classification		Section/Group	Mobile Service	
Recall Bulletin		31 - Suspension	Cannot Perform	
Model Year	Model	Country/Region	Version	
2014 - 2017	Model S	China	All	
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.				

Recall Bulletin: Recall Bulletins are mandatory service procedures that must be carried out by Tesla-certified Service Centers. Recall work performed by uncertified technicians could lead to unsafe conditions or voided warranty provisions.

This Service Document supersedes SB-20-31-007, dated October 23, 2020. Each content change is marked by a vertical line in the left margin. Discard the previous version and replace it with this one.

Condition

Certain Model S vehicles in China have experienced front aft link and rear upper link failures at low speeds due to a unique driving environment that causes vehicles to negotiate a severe load or repeated severe loads (e.g., hard curb impact, deep pothole strike) with greater frequency.

Correction

To improve durability, inspect the part numbers on the LH and RH front aft links and LH and RH rear upper links to determine which components need replacement, replace the affected components with updated ones, and then perform a 4-wheel alignment, if necessary.

Correction Description	Correction	Time
SB-20-31-007 Not Applicable	S012031007	0.00
Inspect Front Aft Links And Rear Upper Links, Replacement Not Necessary	S022031007	0.05
Inspect Front Aft Links And Rear Upper Links, Replace Rear Upper Links And Perform 4 Wheel Alignment	S032031007	1.75
Inspect Front Aft Links And Rear Upper Links, Replace Front Aft Links And Perform 4 Wheel Alignment	S042031007	1.65
Inspect Front Aft Links And Rear Upper Links, Remove HV Battery, Replace Front Aft Links And Perform 4 Wheel Alignment	S052031007	2.70
Inspect Front Aft Links And Rear Upper Links, Replace Front Aft Links And Rear Upper Links, And Perform 4 Wheel Alignment	S062031007	2.15
Inspect Front Aft Links And Rear Upper Links, Remove HV Battery, Replace Front Aft Links And Rear Upper Links, And Perform 4 Wheel Alignment	S072031007	3.15

	Part Number	Description	Quantity
If Necessary	1027351-00-C	FR SUSP AFT LINK ASSY	2
	1004358-00-C	NUT HF M14x1.50 [10] ZnNi NL INSERT	2
	2007106	BOLT H CAM M14x2.00x114 [10.9]-G720	2
		Dual Motor vehicles	
	1027426-00-C	FORGED REAR UPPER LINK, X-AXIS	2
		Rear Wheel Drive vehicles	
	1027421-00-E	RR UPPER LINK ASSY	2
		If removing the HV Battery	
	1138547-00-A	BATTERY BOLTS, SERVICE REPAIR KIT, SX	1
	1037743-00-A	BOLT PF M6x40 PC109 ECOFIX	2
		If not removing the HV Battery	
	2007059-00-B	NUT HFPT M10x1.50 [10]-ZnNi	2

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	1090881-00-A	BRAKE PEDAL DEPRESSOR
	1038478-00-A	ASY,COVER,HV RAPID,HVBAT
	1028325-00-A	ASY,COVER,LV RAPID,HVBAT
	1020566-00-F	ASY, BATTERY TABLE, MANUAL LIFT
	1071271-00-A	CHASSIS HEIGHT MEASUREMENT TOOL (320MM)
	1090880-00-A	STEERING WHEEL HOLDER **STD. W/ HUNTER ALIGNMENT EQUIP.**
	1049463-00-A	STEERING WHEEL SETUP BALANCE, 270-350 MM
	1129405-00-A	VIDEO SCOPE, OTC 3880X OTC P/N 3880X

Shop Supplies Wheel chocks
Laptop with Garage and Toolbox access
Paint pen
IPA wipes
Multimeter

Procedure

1. Raise the vehicle (refer to Service Manual procedure 10000205).
2. Inspect the part number (PN) on the LH and RH front aft links (Figure 1):



Figure 1 – LH shown, RH similar

- If a front aft link PN matches one of the following PNs, do not replace that front aft link. Take note and then continue to step 3:
 - 1027351-00-C or later
 - 1048951-00-C or later

3. Inspect the PN on the LH and RH rear upper links (Figure 2):



 **NOTE:** The PN sticker might be on the upward-facing surface of the rear upper link. Use a video scope if the PN is not easily readable.



Figure 2 – LH shown, RH similar

- If a rear upper link PN is one of the following, do not replace that rear upper link. Take note and then continue to step 4:
 - 1027426-00-A or later
 - 1027421-00-C or later

 **NOTE:** End this procedure if all front aft links and rear upper links do not need replacement.

4. If replacing at least one front aft link, continue to step 5. If not replacing any front aft links, continue to step 12.

List of All Approved Suspension Part Numbers by Model, Variant, and Production Cut-In Date

Suspension Part	Part Number (equivalent or later)	Model	Variant	Clean Date
Front Fore Links	1041570-00-B (LH) 1041575-00-B (RH)	S / X	100 kWh	2/6/2017
		X	All Variants	2/6/2017
Front Aft Links	1027351-00-C OR 1048951-00-C	S	100 kWh	5/23/2017
			All Other Variants	8/16/2017
		X	All with M102	5/23/2017
		X	All Other Variants	8/16/2017
Rear Upper Control Arms	1027421-00-C/D/E OR 1027426-00-A	S	100 kWh	11/6/2016 (SOP)
		S	RWD	8/3/2017
		S	100 kWh	12/13/2017
		S	AWD	1/16/2018

5. Inspect the bolts that attach the LH and RH front aft links to the front subframe (Figure 3).

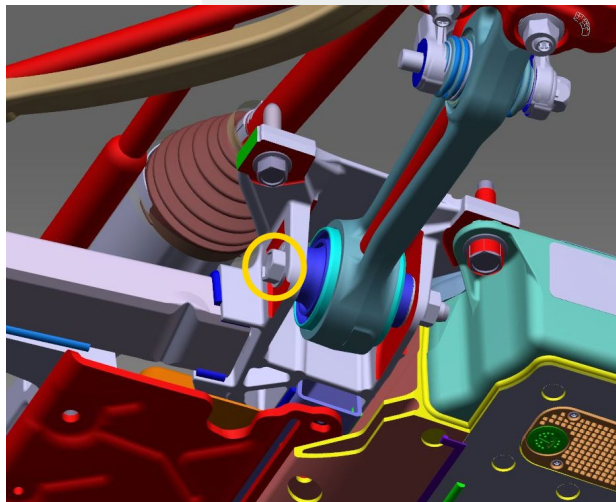





Figure 3 – Bolt head facing away from the HV battery (LH shown, RH similar)

- If **both** bolt heads are facing away from the HV battery (Figure 3), continue to step 12.
- If only one aft link needs replacement, and the bolt head attached to that aft link is facing away from the HV battery, continue to step 12.
- If a bolt head is facing toward the HV battery, and the front aft link attached to that bolt needs replacement, continue to step 6.

 **NOTE:** As an alternative to performing steps 6–11, the bolt can be cut off with an angle grinder. After all affected bolts have been cut and removed, continue to step 12.

 **WARNING:** When cutting the bolts, wear appropriate Personal Protective Equipment (PPE) that includes safety goggles, face shield, gloves, dust mask or respirator, and hearing protection.

6. Remove the rear underhood apron (refer to Service Manual procedure 12251102).
7. Remove the LH and RH underhood aprons (refer to Service Manual procedure 12251202).
8. Remove the HEPA filter inlet duct (refer to Service Manual procedure 18105002).
9. Remove the HEPA filter outlet duct (refer to Service Manual procedure 18105202).
10. Disconnect 12V power (refer to Service Manual procedure 17010100).
11. Remove the HV battery (refer to Service Manual procedure 16010101).
12. Remove the front and/or rear wheels, depending on the parts being replaced (refer to Service Manual procedure 34015001).
13. If replacing at least one rear upper link, continue to step 14; otherwise, continue to step 15.
14. Replace the LH and/or RH upper rear suspension links (refer to Service Manual procedure 31031402), but do not perform an alignment yet.
15. If replacing at least one front aft link, continue to step 16; otherwise, continue to step 26.
16. Remove the front aero shield (refer to Service Manual procedure 12030102).
17. Replace the LH and/or RH front aft links (refer to Service manual procedure 31013602).

 **NOTE:** Make sure the new front aft link to subframe bolt(s) are installed with the bolt head facing away from the HV battery.

18. If previously removed, install the HV battery (refer to Service Manual procedure 16010101).
19. If previously removed, install the front aero shield (refer to Service Manual procedure 12030102).
20. Install all wheels that were removed (refer to Service Manual procedure 34015001).
21. If previously disconnected, reconnect 12V power (refer to Service Manual procedure 17010100).
22. If previously removed, install the HEPA filter outlet duct (refer to Service Manual procedure 18105202).
23. If previously removed, install the HEPA filter inlet duct (refer to Service Manual procedure 18105002).
24. If previously removed, install the LH and RH underhood aprons (refer to Service Manual procedure 12251202).
25. If previously removed, install the rear underhood apron (refer to Service Manual procedure 12251102).
26. Drive the vehicle onto a 4 post lift.
27. Perform a 4-wheel alignment check to determine what adjustment is necessary (refer to Service Manual procedure 31000100 (coil suspension) or 31002500 (air suspension)).