



# Adjust Camera Pitch, 2<sup>nd</sup> Generation Autopilot

**Classification** Campaign Bulletin **Section/Group** 17 - Electrical **Country/Region** All

**Year** 2016-2017 **Model** Model S,  
Model X **Version** 2nd Generation  
Autopilot

**Bulletin Classification:** *This campaign bulletin addresses a known non-safety-related condition and provides recommended technical diagnosis and repair procedures. Apply this procedure to all vehicles in the affected VIN range listed. These instructions assume knowledge of motor vehicle and high voltage electrical component repairs, and should only be executed by trained professionals. Tesla assumes no liability for injury or property damage due to a failure to properly follow these instructions or repairs attempted by unqualified individuals.*

*This Service Document supersedes SB-17-17-001 R1, dated 19-Apr-17. Each content change is marked by a vertical line in the left margin. Discard the previous version and replace it with this one.*

## Condition

On some Model S and Model X vehicles with 2<sup>nd</sup> generation Autopilot, the forward facing camera pitch (vertical angle) might not conform to internal specifications.

## Correction

Install a rear view mirror mount plate and pitch carrier to adjust the camera pitch.

Correction Description	Correction	Time
SB-17-17-002 Not Applicable	S011717002	0.00
Perform Front Camera Pre-Calibration; No Additional Work Required	S021717002	0.05
Install Mirror Mount Plate And Pitch Carrier To Adjust Front Camera Pitch	S031717002	0.25
Install Mirror Mount Plate And Pitch Carrier To Adjust Front Camera Pitch, Inspect Glare Shield	S041717002	0.40
Install Mirror Mount Plate And Pitch Carrier, Replace Front Camera To Adjust Camera Pitch, Inspect Glare Shield	S051717002	0.50

Required Part(s):	Part Number	Description	Quantity
<b>If required:</b>			
	1119836-00-B	MS/MX TRIPLE CAM PITCH CARRIER -00- WHITE	1-3
	1119836-01-B	MS/MX TRIPLE CAM PITCH CARRIER -01- RED	1-3
	1119836-02-B	MS/MX TRIPLE CAM PITCH CARRIER -02- GREEN	1-3
	1098491-99-C	TRIPLE CAM RR VIEW MIRROR MOUNT PLATE	1
	1005222-00-A	WASHER,FLAT,M3.2	2
	1089531-00-C	INLINE TRIPLE CAMERA	1

**If required, one of the following:**

<b>Model S:</b>			
	1092617-99-C	MS TRIPLE CAM GLARE SHIELD (Model S)	1
	1092617-00-D	MS TRIPLE CAM GLARE SHIELD (Model S)	1

<b>Model X:</b>			
	1095516-00-C	ASM, MX TRIPLE CAM GLARE SHIELD (Model X)	1

**Shop Supplies**

	1089991-00-A	TAPE, V710 FOAM (or equivalent)
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These part numbers were current at the time of publication. Use the revisions listed or later, unless otherwise specified in the Parts Manual.

<b>Special Tool(s):</b>	1080559-20-A	Adjustable Torque Vario Screwdriver (0.8 - 2.0 Nm)
	1071339-00-A	Adapter, Bit Holder, 1/4"

## Procedure

1. Create a Toolbox session.
2. Perform a forward facing camera pre-calibration (refer to Service Manual procedure 17230800):
  - If the camera passes pre-calibration, no additional work is needed. Discontinue this procedure.
  - If the camera fails pre-calibration, continue this procedure.
3. Retrofit a pitch carrier to adjust the forward camera's vertical pitch (refer to Service Manual procedure 17232006).
4. Perform a forward facing camera pre-calibration (refer to Service Manual procedure 17230800):
  - If the camera passes pre-calibration, no additional work is needed. Discontinue this procedure; reinstall the components removed for access.
  - If the camera fails pre-calibration, continue this procedure.
5. Remove the glare shield (refer to Service Manual procedure 15052502).

**NOTE:** Discard the pitch carrier installed in a previous step.

6. Inspect the part number of the glare shield:

- **Model S:** If the glare shield is revision 99-C or revision D or later, discard any washers and reinstall the glare shield (refer to Service Manual procedure 15052502). Otherwise, install a new glare shield.
- **Model X:** If the glare shield is revision -00-C and the fasteners contained washers, discard any washers and reinstall the glare shield (refer to Service Manual procedure 15052502). Otherwise, install a new glare shield.

**NOTE:** Install a new pitch carrier.

7. Perform a forward facing camera pre-calibration (refer to Service Manual procedure 17230800):

- If the camera passes pre-calibration, no additional work is needed. Reinstall the components that were removed for access and discontinue this procedure.
- If the camera fails pre-calibration, continue this procedure.

8. Replace the forward facing camera (refer to Service Manual procedure 17231002).

**NOTE:** Discard the pitch carrier installed in a previous step and install a new one.

9. Perform a forward facing camera pre-calibration (refer to Service Manual procedure 17230800):

- If the camera passes pre-calibration, no additional work is needed. Discontinue this procedure; reinstall the components that were removed for access.
- If the camera fails pre-calibration, escalate the Toolbox session.

10. Within the Toolbox session, upload the final image from the pre-calibration procedure showing that both the main and the narrow cameras are within specification, and that the pre-calibration procedure has completed successfully.

11. Use [Toolbox article 33106](#) to resolve the Toolbox session after uploading the final image.

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**Affected VIN(s)** Affected Model S and X vehicles built between approximately October 13, 2016 and March 31, 2017.

**NOTE:** This is a simplified summary 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.

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