

Part Number: PT949-08210 (Dashcam)
PT949-48210 (Y-Harness)

Dashcam Kit Contents

Item #	Quantity Req'd.	Description
1	1	Dashcam Main Unit
2	1	SD Card Holder
3	1	SD Card (16 GB)
4	1	Window Mounting Plate
5	1	Foam Tape
6	2	Cable Ties
7	1	Quick Start Guide

Y-Harness Kit Contents

Item #	Quantity Req'd.	Description
1	1	Mirror Patch Y-Harness
2	2	Foam Tape
3	4	Cable Ties

Additional Items Required For Installation

Item #	Quantity Req'd.	Description
1	1	PT949-08210 (Dashcam Unit)
2	1	PT949-48210 (Y-Harness)

Conflicts

N/A

Recommended Tools

Personal & Vehicle Protection	Notes
Seat Protection	
Dash Protection	
Special Tools	Notes
PT949-IAD0H Install Aid	For Port Installations Only
Installation Tools	Notes
Panel Tool	
Socket Wrench	With 10 mm Socket
Torque Wrench	With 10 mm Socket
Hooked Panel Tool	
Needle Nose Pliers	For Sun Visor Clip Removal
Special Chemicals	Notes
VDC Approved Cleaner	To Clean Windshield

General Applicability

With EC Mirror

Recommended Sequence of Application

Item #	Accessory
1	Y-Harness (PT949-48210)
2	Dashcam (PT949-08210)

*Mandatory

Vehicle Service Parts (may be required for reassembly)

Item #	Quantity Req'd.	Description
1	Up to 4 pcs	Roof Console Clips if damage occurs during removal. P/N: 90467-09240
2		
3		
4		

Kit Service Parts (may be required in future)

Item #	Part Number	Description
1	PT949-08210-AA	Camera Unit + SD
2	PT949-08210-AB	SD Card 16GB Industrial
3	PT949-08210-AC	Sd Card Holder Assembly
4	PT949-08210-AD	Window Plate with Tape

Legend

	STOP: Damage to the vehicle may occur. Do not proceed until process has been complied with.
	OPERATOR SAFETY: Use caution to avoid risk of injury.
	CAUTION: A process that must be carefully observed in order to reduce the risk of damage to the accessory/vehicle and to ensure a quality installation.
	TOOLS & EQUIPMENT: Used in Figures calls out the specific tools and equipment recommended for this process.
	REVISION MARK: This mark highlights a change in installation with respect to previous issue.
	SAFETY TORQUE: This mark indicates that torque is related to safety.
	REGULATORY MARK: This mark indicates the component is related to regulatory compliance

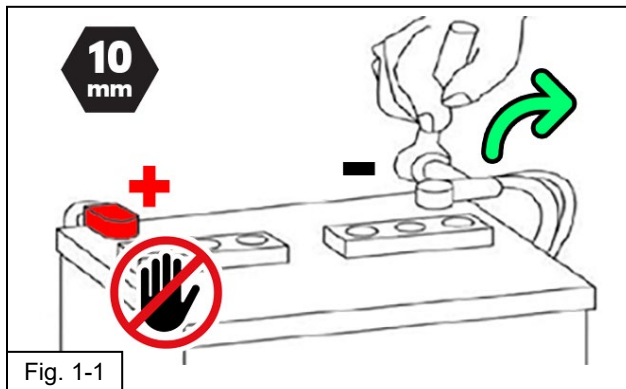
Care must be taken when installing this accessory to ensure damage does not occur to the vehicle. The installation of this accessory should follow approved guidelines to ensure a quality installation.

These guidelines can be found in the "Accessory Installation Practices" document.

This document covers such items as:-

- Vehicle Protection (use of covers and blankets, cleaning chemicals, etc.).
- Safety (eye protection, rechecking torque procedure, etc.).
- Vehicle Disassembly/Reassembly (panel removal, part storage, etc.).
- Electrical Component Disassembly/Reassembly (battery disconnection, connector removal, etc.).

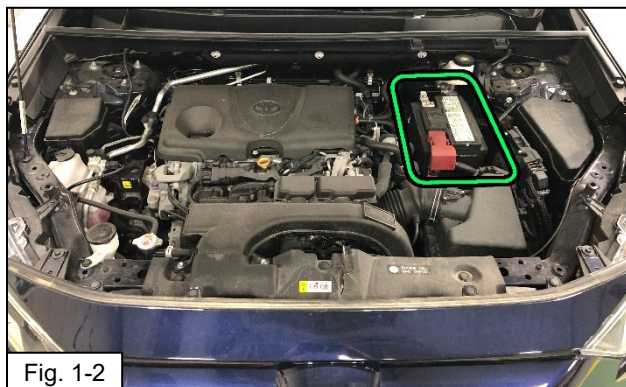
Please see your Toyota dealer for a copy of this document.



1. Disconnect Battery

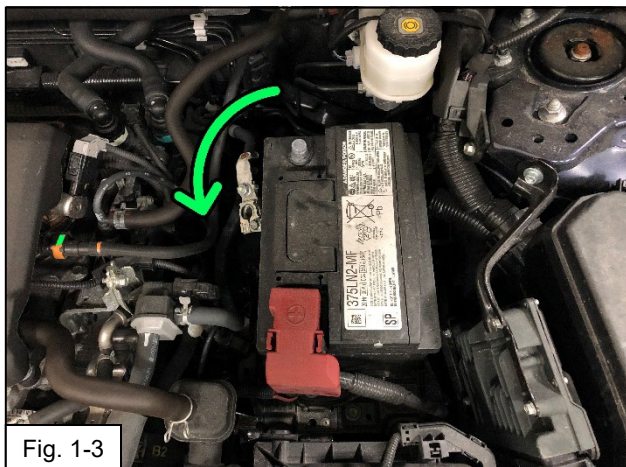
- (a) Protect the fender / bumper before starting.
- (b) The engine components and coolant may be hot.
- (c) Remove the vehicle's 12V battery negative terminal (Fig. 1-1).
- (d) Do NOT touch or disconnect high voltage systems on a Hybrid Vehicle.

CAUTION: Do not touch the positive terminal with any tool during battery disconnection.

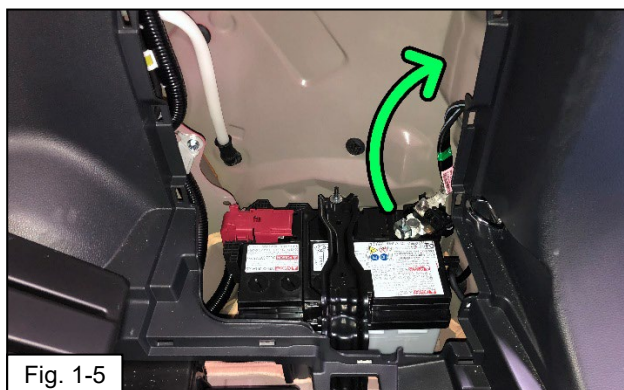
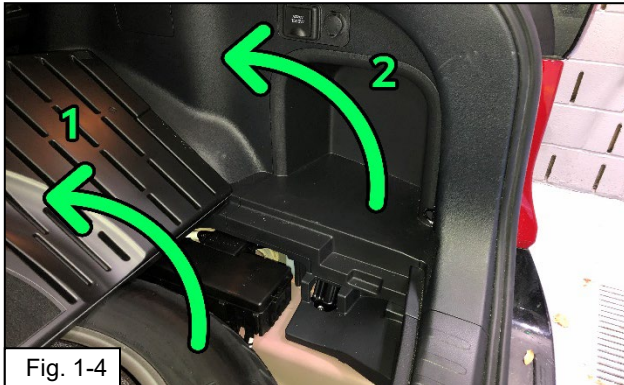


Gas Version Battery Disconnection:

- (e) On the **Gas version** of the RAV4, the 12V Battery is located in the engine compartment in front of the driver. (Fig. 1-2).
- (f) Protect the Fender / Bumper paintwork.
- (g) Disconnect the Negative Cable by loosening the 10 mm nut shown by the arrow. It is not necessary to fully remove this nut. (Fig. 1-3)
- (h) Keep the Negative Cable away from the battery terminal to avoid accidentally reconnecting the 12V power if the cable falls back to its natural shape.



For the Hybrid version of the RAV4, see detailed instructions on the following page.



Hybrid Version Battery Disconnection:

-  (i) Do NOT touch or disconnect high voltage systems on a Hybrid Vehicle. Only disconnect the 12V Battery.
- (j) The 12V Battery on the Hybrid vehicle is located in the rear cargo compartment on the right-hand side.
- (k) Protect the rear bumper paintwork.
- (l) First lift up the cargo floor (1) and then remove the access panel (2) as shown. (Fig. 1-4).
- (m) Disconnect the Negative Cable by loosening the 10 mm nut shown by the arrow (Fig. 1-5). It is not necessary to fully remove this nut.
- (n) Keep the Negative Cable away from the battery terminal to avoid accidentally reconnecting the 12V power if the cable falls back to its natural shape.

2. Kit Preparation

-  (a) Check the Dashcam Kits for missing contents or damage.
-  (b) Confirm Camera Angle Position – 2 visible recessed lines should be seen below the lens with the camera held in the as-installed orientation. (Fig. 2-1, Note: Camera is upside down in the image)
-  (c) If this is not correct, please see adjustment instructions at the end of this document (Step 17) **NOTE:** Do not try to force it as there is a hidden lock screw on each side.

3. Vehicle Protection

- (a) Apply Vehicle Protection to front seats, dashboard, and center console. (Fig. 3-1)



Fig. 4-1



Fig. 4-2

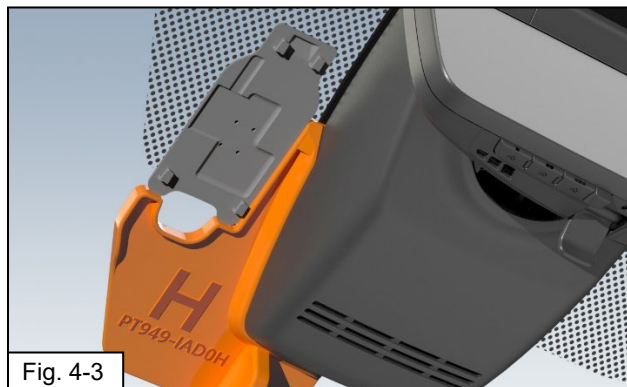


Fig. 4-3

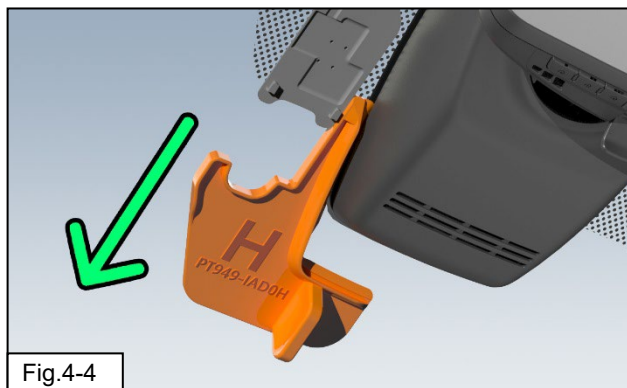


Fig. 4-4

4. Install Windshield Base Plate



STOP: The front windshield must be at least 50°F (10°C).

- (a) For PPO Installations, please use 3D hard template with the part number **"PT949-IAD0H"** (Fig. 4-1) and follow steps (c) through (f).
- (b) For Dealer Installations or in the case that the 3D hard template is unavailable, please follow steps (g) through (i).
- (c) On the driver's side of the vehicle, using window cleaner and a lint free cloth, clean the windshield area next to the TSS cover.
- (d) Insert the 3D Template (**PT949-IAD0H**) between the TSS cover and the windshield glass on the driver's side of the TSS cover, it should fit snugly against the TSS cover side walls, and the features of the template should allow it to stay in place hands free. If not, apply a small bit of tape for support to the lower edge. (Fig. 4-2)
- (e) Remove adhesive and stick mounting plate on windshield while aligning to the lower and right-side edges of the mounting plate. Press firmly to reduce visible air pockets. Note that the narrow end of the plate is towards the top of the windshield. (Fig. 4-3)
- (f) Remove the 3D hard template by gently pulling towards the base of the windshield (wiper cowl area) to slide it out from under the TSS cover. (Fig. 4-4)

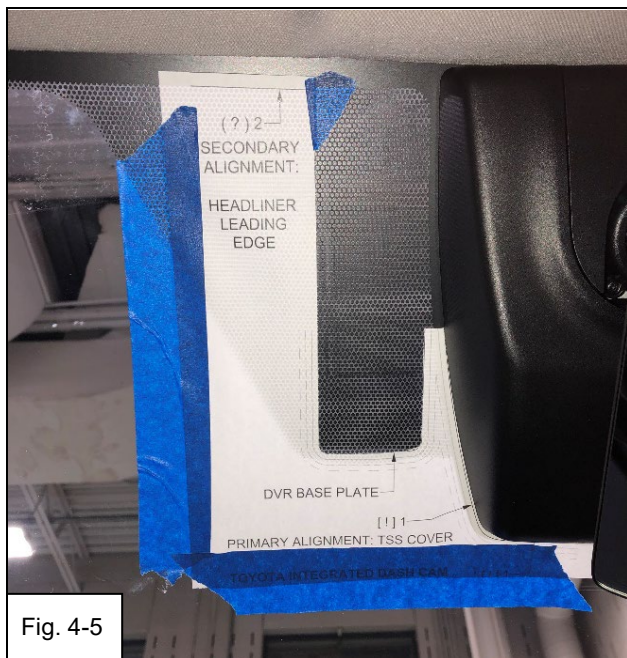


Fig. 4-5



Fig. 4-6

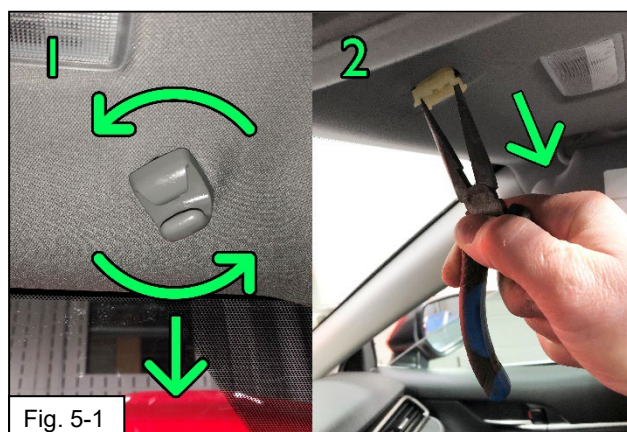


Fig. 5-1

For Dealer Installations / No 3D Hard Template Available:

- (g) Using scissors, cut the paper template as indicated. For PPO Installations, please use 3D hard template provided.
- (h) Referencing the TSS cover, align to the indicated line and affix the template to the windshield using tape. (Fig. 4-5)
- (i) Remove adhesive and stick mounting plate on windshield paying attention to the reference lines on template. Press firmly to reduce visible air pockets. Note that the narrow end of the plate is towards the top of the windshield. (Fig. 4-6)
- (j) Once the base plate is fitted, remove template in the direction towards the lower edge of the windshield and clean any tape residue from the glass.

All Installation types continue from here onwards.

5. Remove Visor Mount Clips and Base

- (a) Remove the Sun Visor Hooks on BOTH Driver and Passenger side of the Map Light Console, to allow for gentle pulling down of the headliner without damage.

⚠ Note: Both sides remove in the same direction, Passenger side is not mirrored.

- (1) Twist the Visor Hook Anti-Clockwise and pull down to release hook component. (Fig. 5-1)
- 🔧 (2) After removing the hook component, release the two tabs and pull out the base, needle nose pliers recommended.



6. Remove Roof Map Light Console

- (a) Remove the roof console by pulling down firmly on the rearward edge (towards the rear of the vehicle). Pull down firmly to release rear 2 clips first then again pull down to unhook the 2 clips at the front edge (Fig. 6-1)

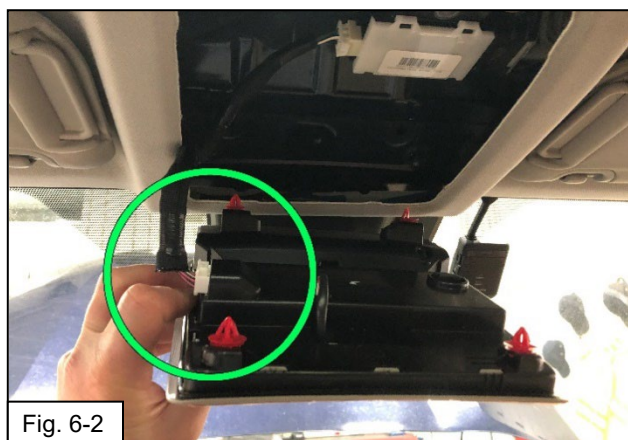


- (1) A plastic panel removal tool may be used to pull down on the console.



- (2) CAUTION: Do **not** pry against the headliner or it will leave visible damage.

- (3) Note clips appearance in the image to better understand the removal process. (Fig. 6-2)

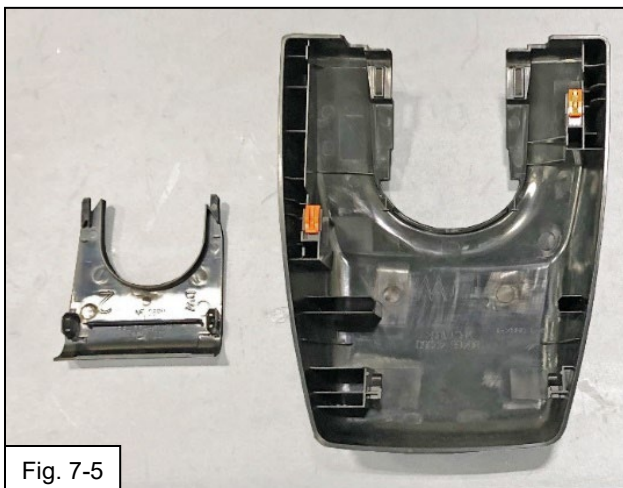
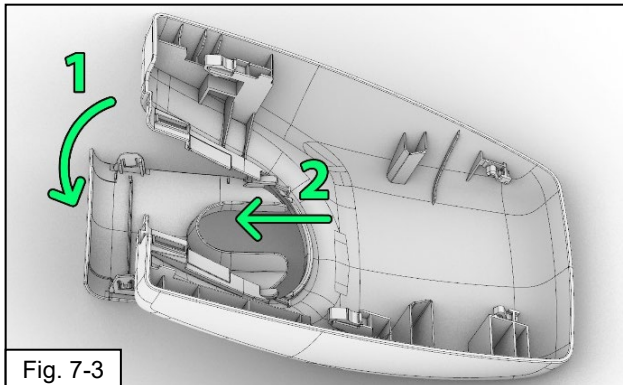
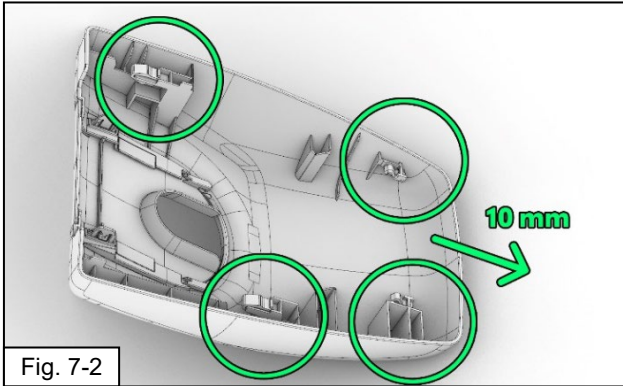


- (b) Once fully detached, disconnect the wire harness from the roof console and place the console in a safe place to avoid damage. (Fig. 6-2)
- (c) Inspect the console clips and replace if damaged (P/N: 90467-09240, 4 PCS)



7. Remove the TSS Cover

- (a) Start by rotating the mirror approximately 45 degrees to improve access to the sides of the TSS cover while retaining access directly above the mirror. (Fig. 7-1)



(b) Holding the TSS Cover firmly with both hands, move it downwards towards the windshield wiper cowl area by approximately 10 mm, without fully removing it. This is to get better access to remove the cover around the mirror (Fig. 7-2)

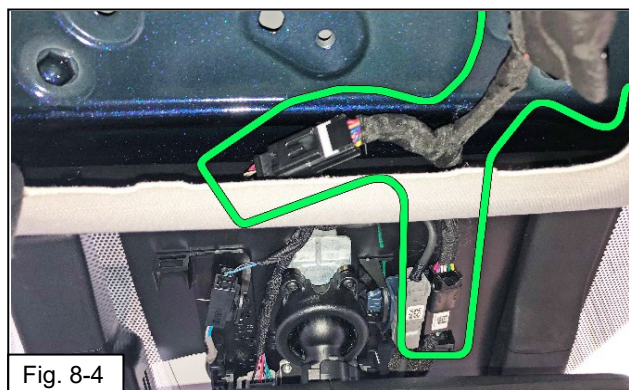
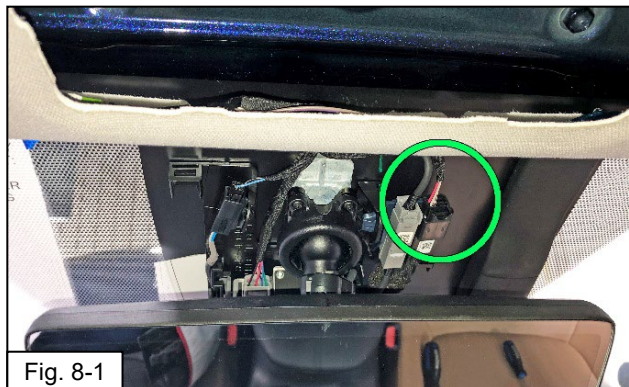
(c) While supporting the main cover, pull down on the smaller inset cover around the mirror mount, using either your hooked panel removal tool or your fingertips, to detach the smaller cover from the main TSS cover. Take care not to scratch the headliner in the process.

(1) Pull down on the upper rearward edge of the cover plate (closest to the headliner) to disengage the clips. (Fig. 7-3), (Fig. 7-4)

(2) Alternatively you can gently pull down on the headliner, reach through the Map Light Console opening and push down on the upper rearward edge of the cover plate

(3) Slide the smaller cover up and to the rear of the vehicle to disengage the lower hooks.

(d) Remove the TSS main cover by sliding the cover down (Fig. 7-5, shown from the back side for clarity) from the TSS cover base in the direction of the bottom of the windshield / towards the wiper cowl area. Both covers should now be fully removed. (Fig. 7-5)



8. Install the Y-Harness

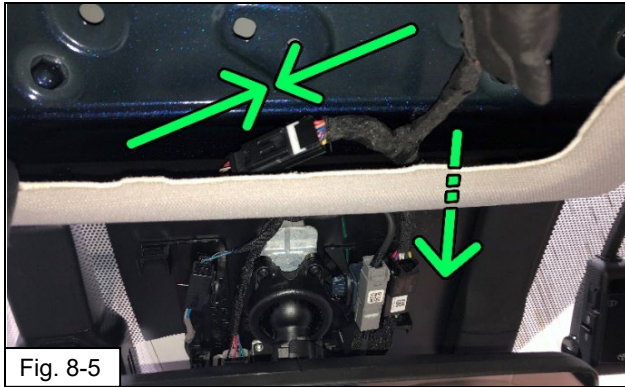
- (a) Disconnect the mirror power harness in on the release tab. The mirror harness is the 10-pin connector, outboard to the passenger side. (Fig. 8-1), (Fig. 8-2)

- (b) Install the Y-harness between the mirror and the vehicle mirror wire harness connector.

- (1) Gently pull the vehicle's Power Mirror connector back inside the Map Light Console Area (Fig. 8-3)
- (2) Insert the male mirror connector into the Y-Harness black female connector.

-  (3) Apply the supplied Foam Tape to insulate the connector from rattles.

Gently feed the black Y-Harness male connector back to the TSS area and insert into the female mirror connector affixed to the mirror base. (Fig. 8-4)



- (4) Pull the remaining slack harness back into the headliner / map light console area as per the image. (Fig. 8-5)

9. Route Dashcam Harness through the Headliner



- (a) From the driver's side of the windshield, locate the notch in the front edge of the headliner if available (Fig. 9-1)



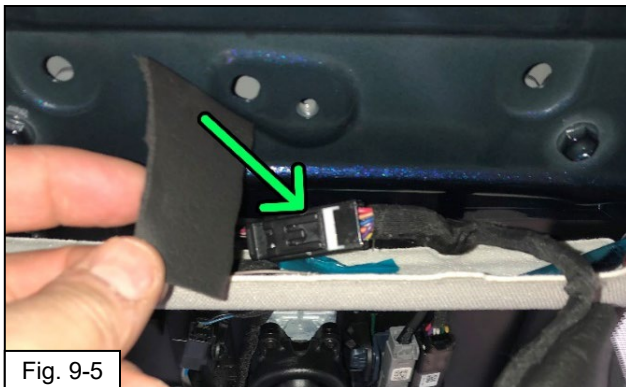
- (b) Route the Dash Cam pigtail through the notch or similar area, and into the headliner. Take care not to crease the headliner in the process. (Fig. 9-2)



- (c) Feed the Dashcam harness through to the open Map Light Console area. (Fig. 9-3)



(d) Connect the Dashcam pigtail harness to the newly fitted Y-harness that was fitted in step 7. (Fig. 9-4)



(e) Apply the supplied Foam Tape to insulate the connectors from rattles. (Fig. 9-5)



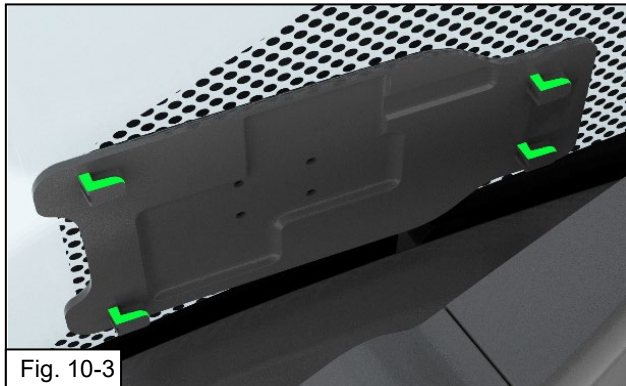
10. Fitting the Dashcam to Base Plate

NOTE: The Hang Tag that is attached to the Dashcam is **only to be removed by the end user**. As the camera turns on with ignition, the hang tag is intended to block recording while the vehicle is being processed through areas which may be confidential / contain unreleased vehicles.

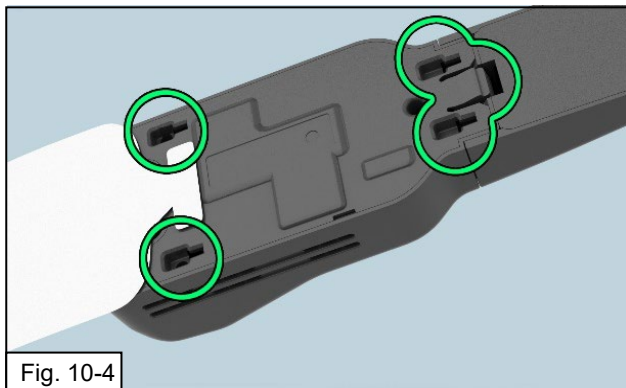
Do NOT remove the hang tag, please handle it with care to prevent accidental removal. (Fig. 10-1)



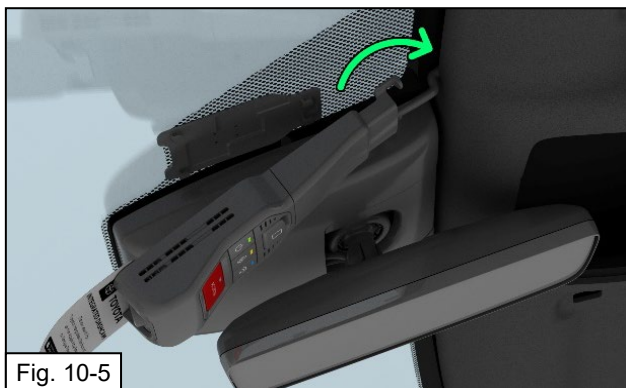
IMPORTANT: DO remove the Semi-Transparent Blue Film protective cover from the camera lens before fitting the camera to the vehicle. Handle the camera with care after removing. Ensure the film cover is not left behind in the vehicle and is properly discarded. (Fig. 10-2)



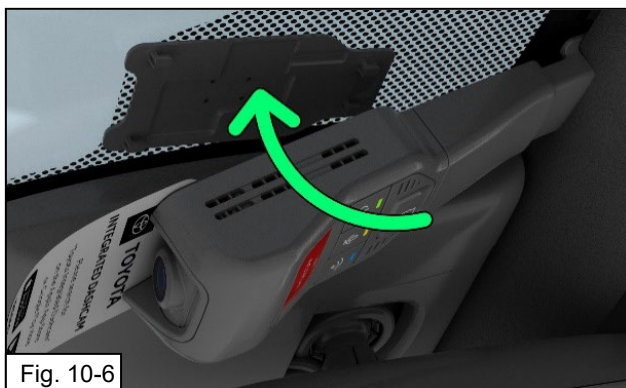
NOTE: Observe the shape of the T-hook features for the Dashcam to lock on to. The hooks face upwards towards the headliner. (Fig. 10-3)



(b) The Dashcam is affixed to the window by sliding on to these 4 T-hooks and allowing the clip to engage. (Fig. 10-4)



(c) Hook the Dashcam wire extension cover hooks into the leading edge of the headliner. (Fig. 10-5)



(d) Swing the Dashcam unit up towards the base plate. Check for alignment of the 4 T-hooks. (Fig. 10-6)



Fig. 10-7



Fig. 10-8

- (e) Push the dashcam unit in towards the windshield to ensure all 4 T-hooks are in the correct starting point. All sides should have a consistent gap to the glass. (Fig. 10-7)

- (f) ⚠ Slide the Dashcam down towards the T-hooks and engage the clip that secures it. Adjust the telescopic wire harness cover as required to sit correctly, and confirm the hooks are tucked inside the leading edge of the headliner. (Fig. 10-8)



Fig. 11-1

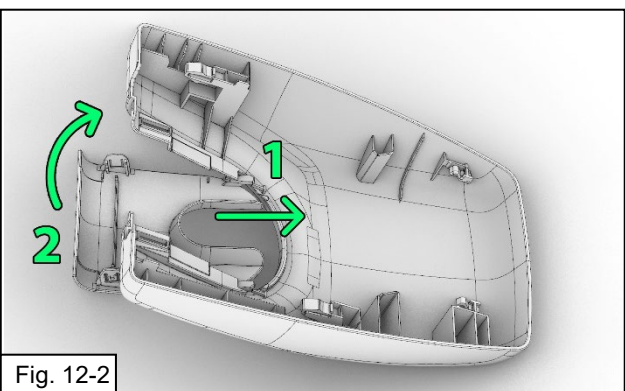
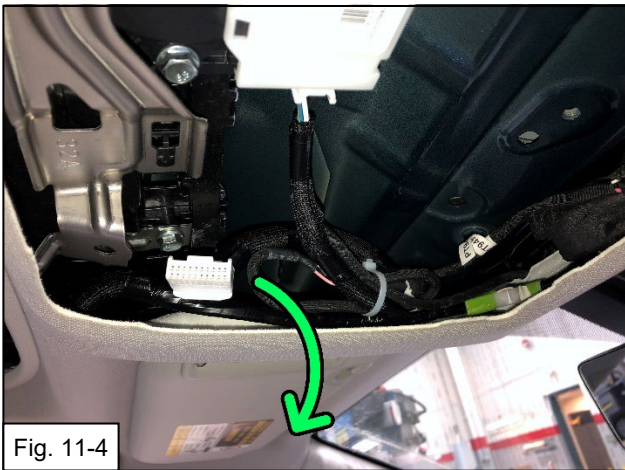
11.Route / Bundle Wire Harness

- (a) ⚠ Before proceeding with securing the harness, confirm that both connector pairs and fuse holders have been protected with the provided foam tape. Use the provided foam tape to minimize any potential rattle concerns. (Fig. 11-1)



Fig. 11-2

- (b) Secure the Y-harness and fuse holders against the existing harnesses at the front edge and right side of the map light / sunglasses pocket opening. (Fig. 11-2)



(c) Secure the Dashcam Pigtail harnesses against the existing harnesses on the driver's side of the map light / sunglasses pocket opening. Loop and bundle them as required. Arrange this in a way that does not obstruct the console being reinstalled. (Fig. 11-3)

(d) Ensure that the connection for the console is still free to be connected and that the bundled harnesses are not obstructing the console map light connector. (Fig. 11-4)

(e) **Note: Take care not to cause bulging in the headliner. Some adjustments to the bundle may be required to avoid bulging the headliner.**

(f) **Note: Do not block access to the clip holes in the body structure or the roof console may not fit properly.**

(g) **Note: After securing, be sure to snip off extra cable-tie length to prevent any rattles or squeaks from the loose end of the cable tie strap.**

12. Reinstall the TSS Cover

(a) Reinstall the TSS cover by pushing up on the cover along the windshield in the direction towards the headliner to engage the mounting clips into the cover base. (Fig. 12-1)

(b) Reinstall the mirror cover plate by hooking the front hooks into the edge of the TSS main cover opening and push up on the mirror cover to engage the clips to the main cover. (Fig. 12-2)

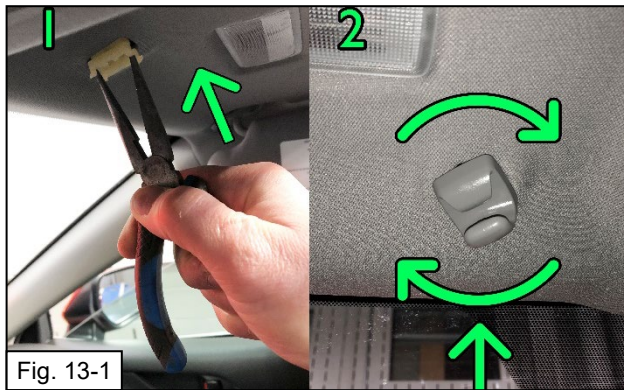


Fig. 13-1

13. Reinstall Sun Visor Clips

- Insert the clip bases on both sides of the map light console, they should snap securely into place. (Fig. 13-1)
- Insert the visor clips starting with the opening for the visor in the anti-clockwise position similar to how they were removed, then rotate clockwise to lock back into place. (Fig. 13-1)
- Note: The direction is the same for both sides. It is not mirrored.

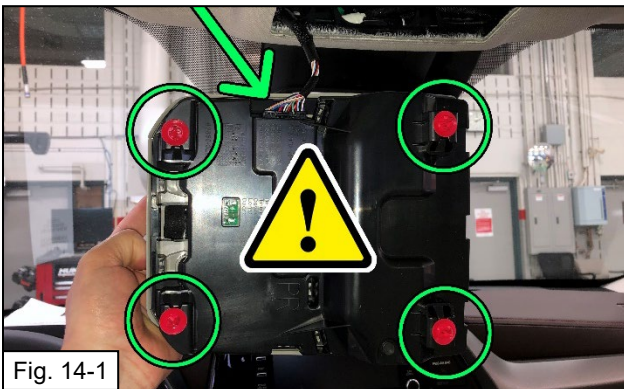


Fig. 14-1

14. Reinstall Overhead Console

- Re-connect harness for the overhead console, test map lights and sunroof control if equipped. (Fig. 14-1)
- Check all console clips are in good condition and are present on the console. If any are still installed in the roof of the vehicle and have separated from the console, a panel tool with a forked end can be used to pry them out, then reinstall in the console. (Fig. 14-1)
- Reinstall the console by carefully but firmly pushing upwards on all 4 corners. Observe marks in headliner for alignment references. Carefully push in to place to lock. Check all corners for gaps. If struggling, reposition wire harnesses and try again. (Fig. 14-2)



Fig. 14-2

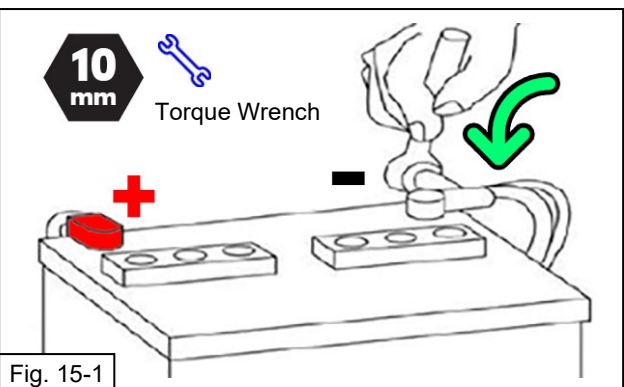


Fig. 15-1

- Note: Be careful aligning the clips to holes to avoid damage.

15. Reconnect Vehicle Battery

- Reconnect the Negative Battery Cable and replace cover trim if necessary.
- Torque to 5.4 N•m (48 in•lbf)
- CAUTION:** Do not touch the positive terminal with any tool.

16. Owner's Manual



Place the Owner's Manual ("Quick Start Guide") in the glove box with the other vehicle owner's manuals.



17. Camera Angle Adjustment IF REQUIRED

In case the camera angle adjustment does not match what is intended for this vehicle (2 visible recessed lines under the lens) then this angle can be adjusted as follows. (Fig. 17-1)

 **DO NOT** try to force the lens to move the camera – it is locked in place and damage may occur.



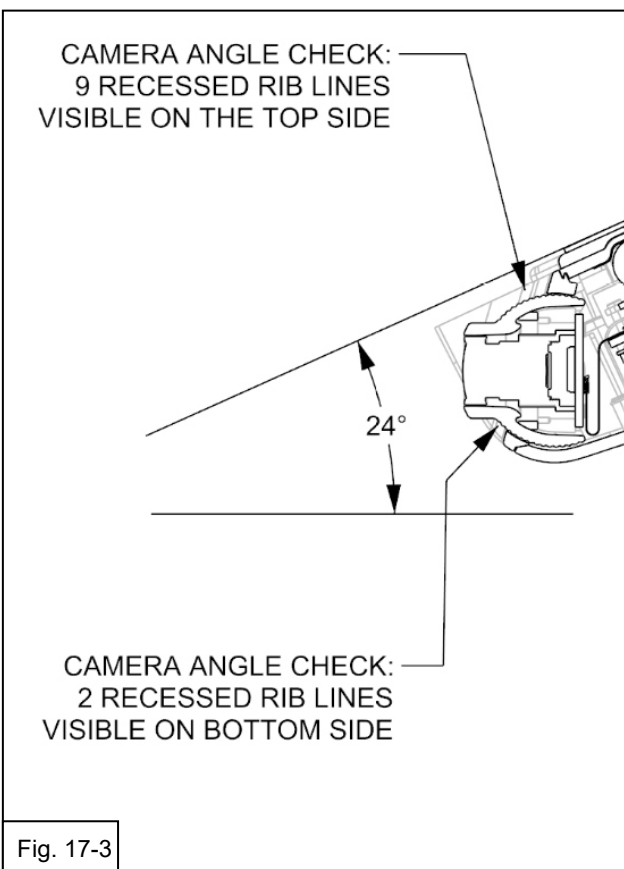
(a) Using a 1.5 mm size Allen Key tool,  insert the tool in the lowest and forward most holes on **both sides**, where you will see small lock screw heads. Turn the screws counterclockwise approximately 2-3 turns to release the pressure on the locks. **Do not fully remove these screws.** (Fig. 17-2)

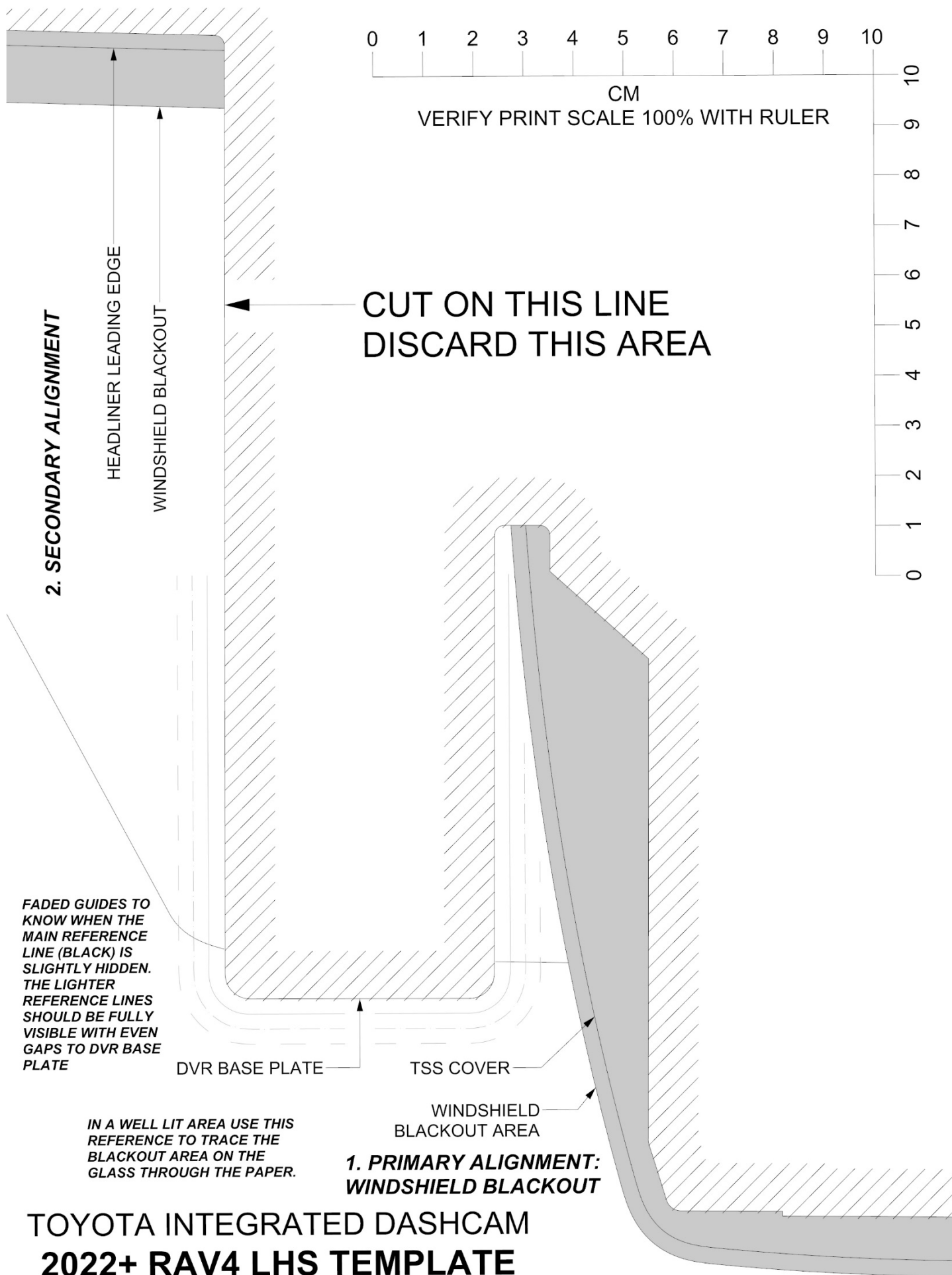
(b) With the locks on both sides now loose, you can raise or lower the camera view angle. For this vehicle we are looking to see two recessed rib lines below the camera lens to indicate the correct view angle. (Fig. 17-3)

 (c) Once the angle is corrected, retighten the locking screws on each side, then reconfirm the two recessed rib lines to ensure the camera has not moved while tightening the locks. (Fig. 17-3)

(d) **Optional:** Use the Live View feature of the Toyota Integrated Dashcam phone application to confirm the view angle if compensating for other accessories / obstructions.

 **Note:** When connecting for the first time as an installer, choose “**Remind Me Next Time**” when you are prompted to change the **WI-FI password**.





TOYOTA INTEGRATED DASHCAM 2022+ RAV4 LHS TEMPLATE

TOYOTA RAV4 2022 - DASHCAM (Digital Video Recorder)
 Checklist - these points **MUST** be checked to ensure a quality installation.

Check:	Look For:
<u>Accessory Function Checks</u> ☐ Verify parts ☐ Vehicle Startup ☐ Power LEDs light up ☐ <u>Remove Blue Film on Dashcam Lens</u>	Removed items have been discarded & replaced items are in place Confirm Dashcam does not emit a continuous beep on vehicle startup. If it does, confirm SD card is installed Blue Lens Protector Film should be removed and discarded.
<u>Vehicle Function Checks</u> Roof Console functions – map lights, ☐ sunroof / panoramic roof controls if equipped. ☐ EC Mirror – Confirm power and dimming. ☐ Mirror – View Angle ☐ TPMS Gauge Indicator	Confirm roof console functions work properly. Confirm EC Mirror power status LED visible, cover the transparent lens on the reverse side with your hand, the mirror glass should fade darker after a few seconds. Confirm mirror is adjusted correctly for visibility for the average driver. Prior to TPMS activation and PDS, the TPMS light may blink when IG is on. After activation and PDS, the TPMS light should turn off when IG is on.
<u>Vehicle Appearance Check</u> ☐ After accessory installation and removal of protective cover(s), perform a visual inspection. ☐ All Templates and Tools removed from the vehicle.	Ensure no damage (including scuffs and scratches) was caused during the installation process. (For PPO installations, refer to TMNA Accessory Quality Shipping Standard.) Confirm Windshield Template and all tools have been removed from the vehicle.