

**360° Vision System for Aftermarket Radio/Display
(Kit # AVMS-3690)**

**DUE TO THE COMPLEXITY OF THIS KIT
PROFESSIONAL INSTALLATION IS REQUIRED**

CALIBRATION KIT IS REQUIRED FOR FINAL PROGRAMMING

Please read thoroughly before starting installation and check that kit contents are complete.

Items Included in the Kit:

360° camera module
Key box power/image buttons
Front camera w/grill mount and harness
2 side mount cameras w/pods and harnesses
2 video output RCA cables
Power/camera input harness
2 side camera templates
Mounting screws and gaskets
Rear license plate mounting bracket
These instructions

Tools & Supplies Needed:

Wire strippers
Wire cutters
Electrical tape
Zip ties
Plastic panel removal tools
Screwdriver
7 mm socket
Drill
Large Uni-bit/drill bits
Hole saws
T-15 Torx

Safety Precautions:

- Work in well ventilated area that is clear of obstructions.
- Secure vehicle with tire chucks in both front and rear of tires.
- Turn vehicle accessories OFF and ensure ignition key is in OFF position.
- Wear safety goggles and snug fitting clothes.
- Use tools only for their intended purpose and which are in good repair.
- Only perform this task if confidence, skill, and physical ability permit.

NOTE: We strive to provide accurate and up-to-date installation instructions. For the latest full color instructions, as well as an installation video, please visit www.brandmotion.com

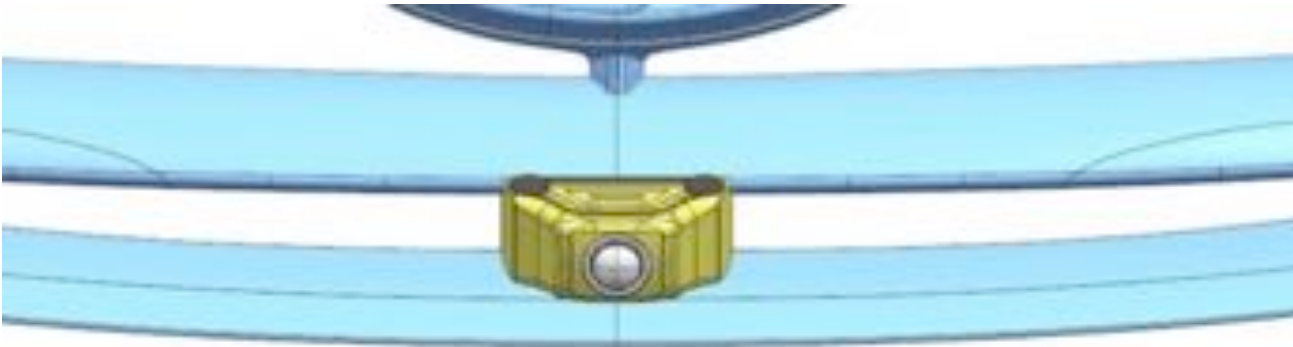
Section 1:

Front camera installation

1. Front camera is mounted in the grill aiming straight or at a 20° angle to the ground.
2. Mount camera in housing using the bracket and screws provided. (The white sticker is up on the camera.)



3. Mount the housing using the provided screws to the grill and putting the caps in the holes to close them.



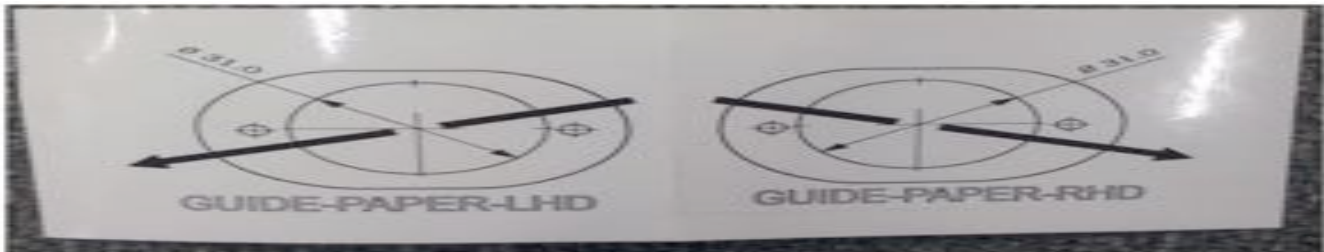
[Mounted Front Camera]

4. Run the camera harness along the under hood covering, down the drive side hinge. Zip tie the harness to the hinge so the harness will not kink or cut.
5. Run harness into the vehicle through the factory grommet in the drivers side firewall.
6. Route the camera harness to the location of the 360° module.

Section 2:

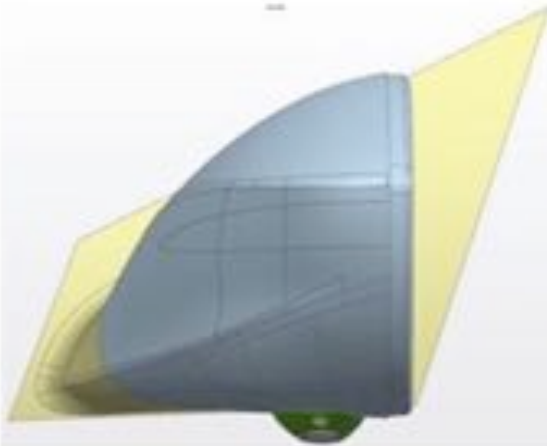
Side Mirror Camera installation

1. The inter door panel will have to be removed for installation of the side cameras.
2. Working on the driver side door. With the door closed, place the template sticker (*marked LHD*) on the bottom side of the mirror with arrow aiming away from the vehicle. Perpendicular to the side of the body. (*Do not go by mirror lines or angles.*)

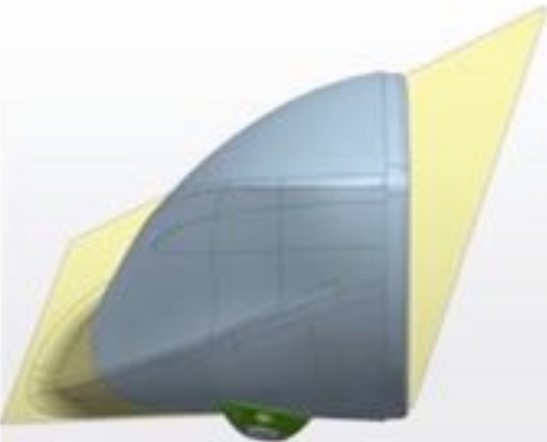




- **Right position & native image**
: Mount on the smooth bottom part of the side mirror



- **Wrong position & native image**
: Mount on the curved part of the side mirror → Image leaned to the front
(If this happens, it may be impossible to calibrate in calibration SW which given to installers, please contact to technical center)



Camera	Angle Range (Degrees)			Mounting Height inches
	Tilt	PAN	ROTATION	
Front Camera	25-35	-1-1	-1 ~ 1	26-118
Left Camera	30 ~ 35	-5-5	-1 ~ 1	26-118
Right Camera	30 ~ 35	-5-5	-1 ~ 1	26-118
Rear Camera	25 ~ 35	-1-1	-1 ~ 1	26-118

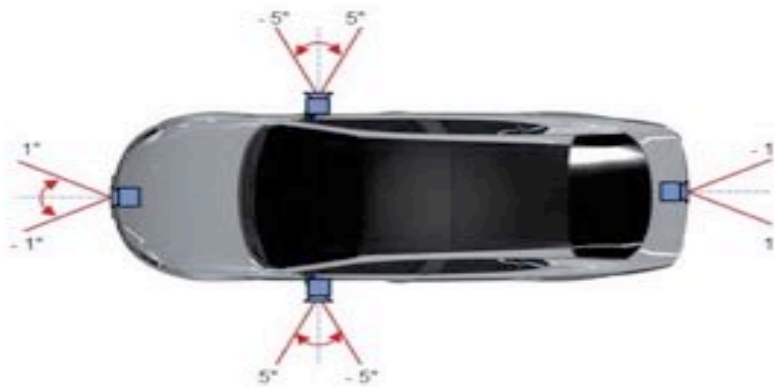
* Mounting height may vary depending on the vehicle model.



[Left/Right Tilt and Front/Rear Rotation Angle Range]



[Front/Rear Tilt and Left/Right Rotation Angle Range]



[Pan Angle Range per Camera]

3. Make sure the template is to at least the middle to outer edge of the mirror. (*The camera needs to see only 10% of the side of the vehicle and mainly the ground and objects next to the vehicle.*)
4. Remove the door panel and the nuts or screws that are holding the mirror to the vehicle.
5. Place the mirror on a soft or padded surface and remove the glass from the mirror. (*Each vehicle is different, but most are mounted by a center circle and will unclip from it.*)



6. After the glass is removed, check to see if where the templates are placed there is clearance for the camera and will not cut into anything in the mirror housing. (*If the template has to be moved make sure to keep the arrow aiming the same way.*)
7. Drill a hole in the bottom of the mirror using a hole saw or Uni-bit to the size on the template. Which is 1 1/8"



8. With the sticker still in place, drill the (2) mounting screw holes with a 1/16 drill bit. (*Do not go all the way though.*)
9. The side cameras, brackets and pods are labeled for right-RH and left-LH. Make sure to assemble them correctly. Use caution not to lose the tiny screws to mount the cameras to the brackets and the brackets to the pods.



LH – Driver's side camera

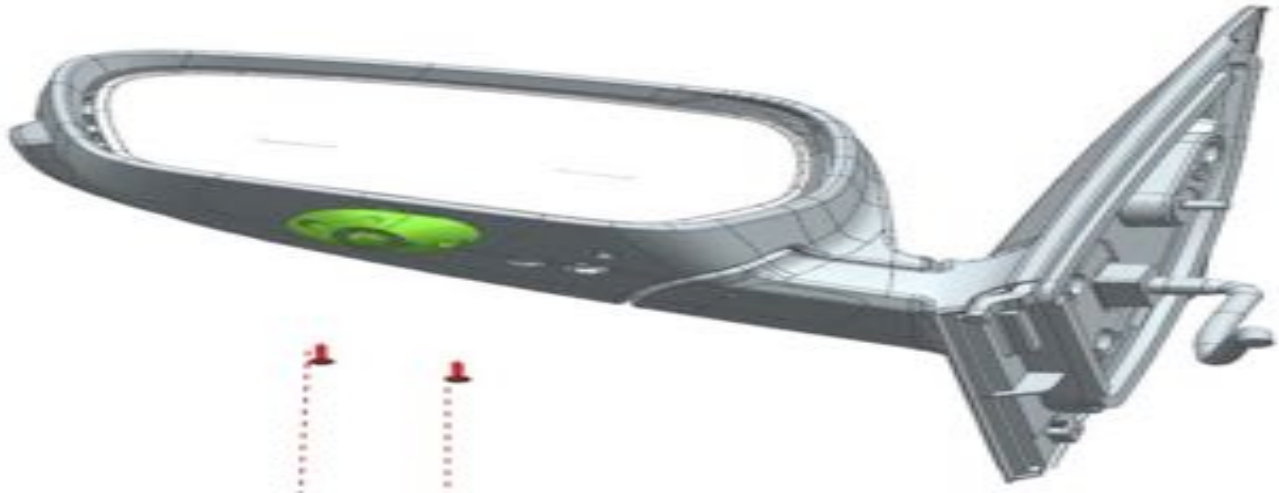


RH - Passenger side camera

10. Using the LH camera assembly, attach the foam gasket to the bottom side of the pod, lining up the notch in the foam with the bump on the pod.



11. Adjust the side cameras so that at least 3 feet beyond the front and rear bumper is shown in the image. Mount the 4 cameras in the acceptable range of positions, or the calibration of the images might not be possible.
12. The Camera images can be viewed on the monitor by connecting the ECU to the Calibration KIT.
13. The view mode can be changed in order of Front, Rear, Left and Right by pressing the view button on the Key box.
14. Remove the tape from the foam gasket and mount the camera pod to the mirror. Use the self-tapping screws provided to mount the pods to the underside of the mirror. (*Do not over tighten the screws; it may strip out the plastic.*)



15. Route the camera cable through the mirror housing and out of the back mounting side of the mirror. Make sure not to block any movement of the mirror glass or folding of the mirror.
16. Route the cable into the door and remount the mirror to the vehicle.
17. You will next pin the camera cable wires into the provided connector. Inset the pins into the connector until they make a "snap" sound. Use the left side camera harness to match up where the pin locations are. *(See Diagram chart 1a. at end of instructions for all camera pin connections.)*
18. Attach the camera cable to the harness and route through the door to the rubber boot. Secure the harness to the factory wire harness with zip ties.
19. Route the harness out through the rubber boot into the vehicle. *(The vehicle might have a Molex or plastic plug in the door of body, if so drill a hole in the plug if there is any room to, if not drill a hole lower in the door just under the rubber boot and the same if the plug is in the body. Grommet and seal any holes that might be drilled.)*
20. Route the harness to the 360° module.
21. Reinstall the mirror glass into the mirror and reinstall the door panel.
22. Repeat the process on the passenger side door and then continue to the next section.

Section 3:

Rear camera installation

1. Mount Rear camera in the rear of the vehicle, in door or license plate housing. (The white sticker on the camera is up.)
2. Mount camera to be able to see the ground and both outer edges of the vehicle.
3. Run harness to the front of the vehicle to where the 360° Main control module will be.
4. Zip tie the harness in place to make sure it does not rattle.

Section 4:

360° module installation

1. Connect the correct camera plugs to the 360° module. Front, rear, left side, right side, CVBS and CVBS RV.
2. The CVRS output is video output controlled by the power on/off button to the system. It is connected to the AUX video input on the aftermarket radio/display.
3. The CVRS RV output is video output when the accessory is powered on. It is connected to the back-up camera input on the aftermarket radio/display.
4. If not done so yet connect the power harness to the 360° module. Wire up the power connections, yellow is constant, red is accessory, black is ground, blue is reverse.
5. Do not mount the 360° module; you will need to get to it for calibration of the cameras.
6. Plug in the Key Box and mount to the right side of the steering column on the dash trim with the tape provided. (Or any place that is flat and within reach of the driver.)

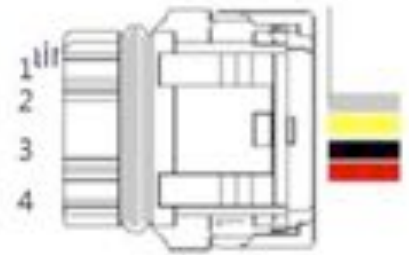


7. To turn on the system press the power button on the Key Box. To change camera views press the car image button. A long press will show a full front view another long press will show a full rear view.
8. Place the vehicle into reverse to see the rear camera image on the screen. Or turn on screen to see image. (Warning will be displayed on the screen until the unit is calibrated.)

Diagram 1a.

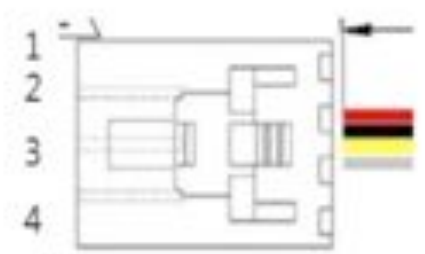
1.2.2 Front Camera Connector pin map

Pin No.	Description
1	V-GND(White & Drain)
2	Video(Yellow)
3	Power_GND(Black)
4	Power(Red)



1.2.3 Rear Camera Connector pin map

Pin No.	Description
1	Power(Red)
2	Power_GND(Black)
3	Video(Yellow)
4	V-GND(White & Drain)



1.2.4 Side Camera Connector

Pin No.	Description
1	Power(Red)
2	Power_GND(Black)
3	Video(Yellow)
4	V-GND(White & Drain)

