



DriveCam Event Recorder Installation and Testing Instructions

Installation of the event recorder is not complicated, but care must be taken to avoid specific problems. Some vehicles require additional consideration to determine the optimum position for your particular needs. In all cases, selecting and testing the mounting location on a single installation is imperative to prevent replicating an error across 10's or 100's of vehicles. Follow the instructions carefully and review the test events to ensure proper orientation and operation of the components.

BEFORE YOU BEGIN

NOTE: *HindSight software must be installed before you can perform the test procedure.*

CAUTION: *Do not cut the DriveCam power cord. It has an inline fuse near the end.*

VEHICLE CONSIDERATIONS

Before you get started, consider the following points regarding your vehicle type. These will help you identify the best mounting location for the Event Recorder and may save you the trouble of having to remove and remount the unit.

The event recorder needs to be mounted in a location that provides an unobstructed view of the interior and exterior (front) of the vehicle. The rear-facing camera should capture an internal view from the outside shoulder of the driver to the outside shoulder of a front seat passenger. The forward-facing camera should capture a broad view of everything in front of the vehicle, beginning as close to the front of the vehicle without cutting off the horizon.

Sedans, Pickups, and Light-Duty Trucks

Smaller vehicles such as these typically have a traditional rear view mirror. The event recorder should be mounted so that it is visible just below the rear view mirror when the mirror is adjusted to its lowest position (see figure on the following page). Keep in mind that the mirror typically pivots on two points, one on the glass and one on the back of the mirror.



Buses and Large Trucks

Larger vehicles often have non-standard windshields and mirrors. In these cases, the event recorder is usually mounted as low on the windshield as possible but just above a horizontal line drawn from the top of the head of the tallest drivers when seated behind the wheel. A common mistake is to mount units too high on the windshield, which keeps the driver out of view, causes a loss of vision in the front of the vehicle, and pushes the DriveCam's accelerometers farther away from the vehicle's center of mass.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- Reorient or locate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

INSTALLATION PROCEDURES

We recommend that you carefully plan and test the installation before making final connections in the vehicle. Read the instructions carefully to ensure proper function of the event recorder.

NOTE: The following installation procedures apply directly to most sedans, pickups, and light-duty trucks. However, they are similar enough to be used for all vehicle installations. Be sure to follow the guidelines outlined on the previous page.



INSTALLING THE BRACKET

The air temperature must be greater than 50°F for the bracket adhesive to bond securely to the windshield. A large towel soaked with very warm water and placed on the exterior of the windshield over the mounting position can be used for cold weather installations. Using the vehicle's defroster can also be effective. Otherwise, perform the installation in a heated garage.

Step 1 Park the vehicle on a flat, level surface.

Step 2 Temporarily place the Event Recorder inside the mounting bracket.

Step 3 Using the alcohol wipe (provided), **THOROUGHLY CLEAN AND DRY** the area where you plan to mount the unit.

CAUTION: *This step is critical to prevent the unit from falling off at a later date.*

Step 4 Temporarily position the assembly (bracket and unit) behind the rearview mirror.

CAUTION: *Do not peel the backing from the adhesive strip until instructed to do so.*

Important Things to Consider

- Make sure the unit does not interfere with the driver's primary field of vision.
- Make sure the lens has a clear view of the interior and exterior of the vehicle. Be aware of potential obstructions such as windshield wipers, window tint, sun visors, circulation fans, and the rear-view mirror when it is adjusted to its lowest position.
- Make sure the driver has a clear view of the status lights on the unit.
- Position the unit so the lens is as close to the centerline of the vehicle while still leaving room (about 1¼ inch on the left side of the bracket) to insert the Torx wrench in the mounting screw around the rearview mirror mounting post (failure to do so will require removing the entire bracket in order to adjust or service the camera).
- If you are performing multiple installations, test the first one before installing the others. This involves triggering the unit to record an event and then reviewing the event in HindSight software. Look for potential obstructions to the forward and rear-facing cameras. Once you are certain that the correct mounting location has been selected, you can continue installing the remainder of your event recorders.



Step 5 Mark the position of the assembly on the glass with a felt-tip marker.

Step 6 Remove the unit from the mounting bracket.

Step 7 Make sure the guide marks on the glass are level before proceeding.

Step 8 Check the fit of the mounting bracket against the windshield.

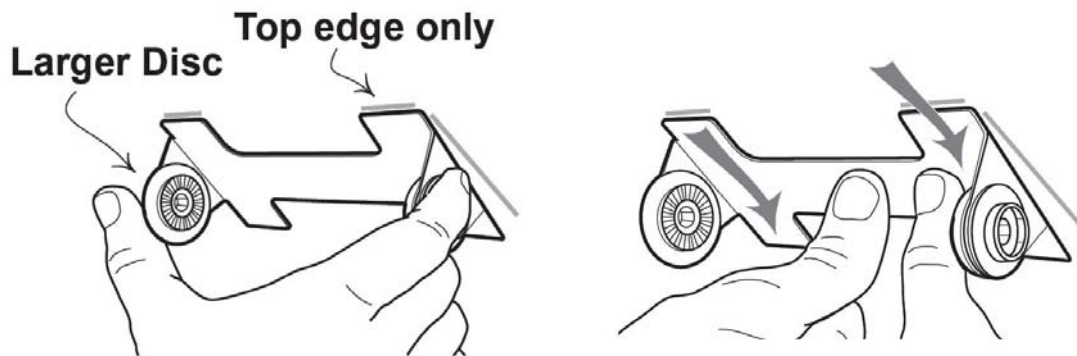
If the windshield is curved, you may have to gently shape (bend) the bracket so it will lie flush against the windshield.

CAUTION: *The adhesive is very sticky. Once it is on, it will not easily come off.*

Step 9 Remove the backing from the adhesive side of the mounting bracket.

CAUTION: *Verify the orientation of the mounting bracket. The bracket has a plastic disk on each side. The larger disk must be on the left as seen from inside the vehicle looking out.*

Step 10 Place only the top edge of the mounting bracket against the windshield and make sure it is level before proceeding.



Step 11 When you are sure that the mounting bracket is positioned correctly, press it firmly against the windshield starting at the top and pressing the sides downward.

CAUTION: *Do not apply excessive pressure as the windshield may break.*

Step 12 Check from outside the vehicle to make sure there are no large air bubbles under the mounting bracket.

If necessary, use a screwdriver handle to (carefully) apply additional pressure to the mounting bracket and remove any large air bubbles. Use a small pin to create an escape path for the air if the problem is persistent.



ELECTRICAL CONNECTIONS

The event recorder provides uninterrupted service when connected to a continuous 12-volt power source from the vehicle. This allows the unit to capture events when the vehicle is parked (hit and run accidents, vandalism, etc.) and when the vehicle loses ignition-switched power for any reason. You will need to determine the best power source for your installation. A few suggestions are listed below.

The event recorder MUST be connected to a power source that is ALWAYS on.

Do not cut the power cord. It has an inline fuse near the end.

Step 1 Leaving enough length to connect to the camera, route the DriveCam power cable across and down the window trim to a suitable location under the dashboard.

Step 2 Connect the DriveCam power cord to a continuous 12 volt or 24 volt power source.

Wire Splice Option

The wire splice clips (provided) allow you to easily tap into existing wiring. Use a voltmeter or wiring diagram to locate suitable power and ground wires. Route the wiring through the clips, press the metal connector into the wires, snap the clip closed, and wrap in electrical tape.

Fuse Tap Option

Connect the unit's red lead to the positive (continuous) power source and the black lead to negative (or to a clean ground) using the appropriate fuse taps (available at most auto parts stores). This option is similar to how after market accessories are powered in most vehicles but it does not provide evidence of tampering – a driver could disconnect and re-connect the DriveCam and then claim that the device was faulty.

Custom Wiring Options

Connect power and ground via methods that best fit your requirements. Customers occasionally solder connections, use crimp connectors, etc. Power connections in motor coaches are usually made using crimped ring terminals to the power posts in the vehicle's maintenance panel.

If your vehicle has interior lights near the rearview mirror or visors, you can connect to that power source as long as it is continuous (confirm that power is continuous with doors closed, key out of the ignition and after 5 minutes have elapsed).

Step 3 Coil any excess cord and secure it with plastic ties or tape in a safe location under the dashboard, headliner, maintenance panel, etc.

CONNECTING THE EVENT RECORDER

Step 1 Plug the power cable into the event recorder.

Step 2 Place the unit in the mounting bracket so that it hangs vertically.



Step 3 Fasten the unit using the two Torx screws and the Torx wrench (provided).

Step 4 Check that the unit has continuous power by making sure the top LED status light on the unit is lit (red or green) when the vehicle's engine is off, the key is removed from the ignition, and the vehicle's doors are closed (dome light is off).

If not, recheck the wiring connections, polarity, and fuses to make sure continuous power is being supplied to the unit.



RECORD AND REVIEW A TEST EVENT

We highly recommend that you download the newly installed event recorder and review a test event before sending the vehicle out on the road. This requires access to HindSight software. Refer to the HindSight 20/20 User's Guide for detailed information.

Step 1 Press one of the buttons on the bottom of the unit to record a test event.

The upper status light on the event recorder will begin to flash (green) slowly as the event is being recorded. The light will then alternate between green and red as the event is being stored to memory. When complete, the light will return to solid red.

Step 2 Connect the unit to a USB Download Station – download will begin immediately.

The status light on the event recorder will begin to flash (red) rapidly as the event is being downloaded to the database. When complete, the light will return to solid green.

Step 3 Review the test event in HindSight software, looking for the following:

Verify that the forward-facing camera captures an unobstructed view out the front windshield.

- o Can you see far into the distance (including enough height to see traffic signals)?*
- o Can you see the area immediately in front of the vehicle?*
- o Are the side views even?*

Verify that the rear-facing camera captures an unobstructed view of the interior of the vehicle.

- o Can you see from the outside shoulder of the driver to the outside shoulder of a person in the passenger's seat?*
- o Can you see into the rear of the vehicle (if applicable)?*
- o Are there any objects that might block the view of the camera (e.g. the rearview mirror when it is pulled to its lowest position, sun visors, fans, lights, etc.)?*

Verify that you can hear audio in the recording.

Installation and testing is complete for this vehicle. If you are performing multiple installations, we recommend that you test each installation using these steps before sending those vehicles out on the road.



REMOVING A EVENT RECORDER

Use the following procedures to uninstall an event recorder from your vehicle. You'll need the Torx wrench that was shipped with your first event recorder to remove the unit from the bracket and a 3M Tape Removal Tool (or a thin putty knife) to remove the bracket from the windshield. These items can be ordered directly through DriveCam.

CAUTION: Do not try to pull or pry the bracket off the windshield. It will destroy the bracket and may break the windshield.

To remove the event recorder:

Step 1 Remove the left Torx screw completely.

Step 2 Gently pull down on the left side of the unit (try not to trigger the unit) to access the power cable.

Step 3 Unplug the power cable only when a solid red or solid green light is showing (i.e. wait for the status lights to stop flashing before disconnecting the power cable).

NOTE: A warning file or log entry will be created when the unit is unplugged. This is a standard security feature.

Step 4 Remove the right Torx screw and the unit.

To remove the mounting bracket from the windshield:

Step 5 Use the 3M Tape Removal Tool or a broad, very thin putty knife.

Step 6 Apply a small amount of lubricant (e.g. WD-40) to both sides of the blade.

Step 7 Slide the blade between the bracket and the window and gently rock the blade back and forth while pushing forward until the bracket is completely removed.

FEDERAL COMMUNICATIONS COMMISSION (FCC) NOTICE (U.S. ONLY)

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- Reorient or relocate receiving antenna.
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This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received including interference that may cause undesired operation.

 **CAUTION:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The FCC with its action in ET Docket 96-8 has adopted a safety standard for human exposure to radio frequency (RF) electromagnetic energy emitted by FCC certified equipment. This device meets the Human Exposure limits found in OET Bulletin 65, 2001, and ANSI/IEEE C95.1, 1992. Proper operation of this radio according to the instructions found in this manual will result in exposure substantially below the FCC's recommended limits.



To comply with the FCC and ANSI C95.1 RF exposure limits, this device has been evaluated for compliance with FCC RF Exposure limits in the typical configuration. It is recommended that the antenna must not be co-located or operating in conjunction with any other antenna or radio transmitter. During operation, the transmitter shall be separated at least 20cm (8 inches) from any human contact.

NOTE - The radiated output power of this wireless device is far below the FCC radio frequency exposure limits. Nevertheless, this device should be used in such a manner that the potential for human contact during normal operation is minimized

Canada

This Class B digital apparatus complies with Canadian ICES-003

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada

CE:

Declaration of Conformity:

English	Hereby, <i>DriveCam, Inc.</i> , declares that this <i>DriveCamIII</i> is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Finnish	<i>DriveCam, Inc.</i> vakuuttaa täten että <i>DriveCamIII</i> tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Dutch	Hierbij verklaart <i>DriveCam, Inc.</i> dat het toestel <i>DriveCamIII</i> in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG
	Bij deze verklaart <i>DriveCam, Inc.</i> dat deze <i>DriveCamIII</i> voldoet aan de essentiële eisen en aan de overige relevante bepalingen van Richtlijn 1999/5/EC.
French	Par la présente <i>DriveCam, Inc.</i> déclare que l'appareil <i>DriveCamIII</i> est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE

	Par la présente, <i>DriveCam, Inc.</i> déclare que ce <i>DriveCamIII</i> est conforme aux exigences essentielles et aux autres dispositions de la directive 1999/5/CE qui lui sont applicables
Swedish	Härmed intygar <i>DriveCam, Inc.</i> att denna <i>DriveCamIII</i> står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.
Danish	Undertegnede <i>DriveCam, Inc.</i> erklærer herved, at følgende udstyr <i>DriveCamIII</i> overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF
German	Hiermit erkläre <i>DriveCam, Inc.</i> , dass sich <i>dieser/diese/dieses DriveCamIII</i> in Übereinstimmung mit den grundlegenden Anforderungen und den anderen relevanten Vorschriften der Richtlinie 1999/5/EG befindet". (BMW i)
	Hiermit erkläre <i>DriveCam, Inc.</i> die Übereinstimmung des Gerätes <i>DriveCamIII</i> mit den grundlegenden Anforderungen und den anderen relevanten Festlegungen der Richtlinie 1999/5/EG. (Wien)
Greek	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ <i>DriveCam, Inc.</i> ΔΗΛΩΝΕΙ ΟΤΙ <i>DriveCamIII</i> ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ
Italian	Con la presente <i>DriveCam, Inc.</i> dichiara che questo <i>DriveCamIII</i> è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Spanish	Por medio de la presente <i>DriveCam, Inc.</i> declara que el <i>DriveCamIII</i> cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE
Portuguese	<i>DriveCam, Inc.</i> declara que este <i>DriveCamIII</i> está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.