DriveCam Unit Installation Instructions

Installation of the DriveCam Unit is not complicated, though care must be taken to avoid specific problems. Some vehicles require additional consideration to determine the optimum position for your specific 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 test the installation of the DriveCam Unit. Refer to the HindSight 20/20 User’s Guide for information regarding software installation and use.

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

DriveCam Components (provided):

DriveCam Unit
Mounting Bracket
Torx Screws
Wire Splice Clips
Alcohol Wipe
Torx Wrench
Power Cord with inline fuse

Other items you may need:
1) Felt tip marker
2) Voltmeter
3) Pliers
4) Panel Removal Tool or Flat-Blade Screwdriver
5) Fuse Taps and Crimping Tool (optional)
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 DriveCam Unit and may save you the trouble of having to remove and remount the unit.

The DriveCam Unit 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 DriveCam Unit 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 DriveCam Unit 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. Installers tend to place these 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.

INSTALLATION PROCEDURES

We recommend that you carefully plan and test the installation before making final connections within the vehicle. Read through the following instructions carefully to ensure proper function of the DriveCam Unit.

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 above.

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

Step 6  Remove the DriveCam 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.

   ![Larger Disc Top edge only](image)

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 DriveCam Unit 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 DriveCam Unit 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.

If you are planning to install a DriveCam Illuminator (optional device) in your vehicle, you may want to route its wiring at this time as well.

Step 2 Connect the DriveCam power cord to a continuous 12-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.

NOTE: Use this option only if risk of tampering is low or you are willing to track warning events captured if power is disconnected and re-connected. Warning events are listed in HindSight 20/20 software. Refer to the User’s Guide for more information.

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 DRIVECAM UNIT

Step 1  Plug the power cable into the DriveCam Unit.

Step 2  Place the unit in the mounting bracket so that the lens openings are on the left and the unit 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 DriveCam Unit and review a test event before sending the vehicle out on the road. This requires access to a Docking Station Computer to download the event and a Client Workstation to review the event within HindSight software. Refer to the HindSight 20/20 User’s Guide for detailed information.

Step 1 Press the red button on the bottom of the DriveCam Unit to record a test event.

The upper status light on the DriveCam Unit 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 DriveCam Unit to a Docking Station – download will begin immediately.

The upper status light on the DriveCam Unit 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.

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

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

- Can you see from the outside shoulder of the driver to the outside shoulder of a person in the passenger’s seat?
- Can you see into the rear of the vehicle (if applicable)?
- 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 DRIVECAM UNIT

Use the following procedures to uninstall a DriveCam Unit from your vehicle. You’ll need the Torx wrench that was shipped with your first DriveCam Unit 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 DriveCam Unit:

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.
INSTALLING THE USB PIGTAIL ADAPTER (OPTIONAL)

The USB Pigtail Adapter is designed to protect the USB port on the side of the DriveCam Unit from damage caused by excessive or rough use. The adapter is fastened to the side of the unit’s mounting bracket and allows you to connect to the DriveCam Unit through the flexible adapter.

Step 1  Remove the ½” Torx screw from the right side of the DriveCam Unit.

Step 2  Install the cable clamp approximately two inches from the female end of the cable.

Step 3  Place one washer onto the ¾” Torx screw (provided with the adapter); insert the screw through the cable clamp; then place the second washer onto the screw.

Step 4  Insert the screw into the mounting bracket and tighten.

Step 5  Insert the Adapter’s USB plug into the DriveCam Unit.