

How I Installed a CatEye Catalytic Converter Anti-Theft Motion Alarm on a 2019 Ford F-53 V10 Motorhome

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Summary

The CatEye motion alarm from CatStrap detects motion in the vicinity of your catalytic converter and after a short delay will generate a piercingly loud screeching sound *for the duration of the movement*. Per the manual, the startup delay can be set between 5 and 20 seconds. Once the motion ceases so does the alarm. That means there is no risk of the alarm sounding for three minutes at 2 AM because a cat walked under the motorhome. Heck, it might even scare off squirrels or raccoons trying to climb up inside your engine compartment. ☺ <https://www.catstrap.net/product-page/cateye-electronic-alarm>

Manual CatEye Alarm or Automatic CatEye Alarm?

I bought the Manual alarm and I also bought an extra fob for \$16 as well. One is kept in the motorhome and one is kept on my key ring.

If you go with the Automatic version, the alarm “arms” as soon as the ignition key is turned off. You need to install a switch somewhere to turn the alarm off for working underneath or while driving. I did not feel like running wiring up into the cockpit, through the firewall, and then mounting a switch somewhere.

The fob method is OK and the alarm will “chirp” when armed. But it's silent when you disarm the warning system. (If you are next to the place where the alarm box is installed you may hear a “click” from its relay when you disarm.)

If you're not sure whether the alarm is armed just press the "A" or "ON" button. The alarm will **not** chirp if it's already armed **OR** if the arming process didn't work because you didn't hold the button long enough; it's silent in either case. So press the button a few times.

This is where the Automatic alarm with a switch that you install may be preferable. As soon as you flip the switch to ON you'll hear the “chirp”.

I wrote "A" or "ON" because one of my fobs has the "A" and "B" buttons as described in the CatEye docs and on their web site but the other fob actually has "ON" and "OFF" instead. Perhaps my order was during a transition period to the new button labeling or something.

Yes, I definitely have pressed the “A” (or “ON”) button while the keys are in my pocket. No doubt I have also accidentally pressed the “B” (or “OFF”) button and inadvertently disabled the motion alarm. If I've had the keys in my pocket I'll always press “A” (or “ON”) a few times before hanging the keys up on the hook. This is another case where the Automatic alarm may be better. No fob in the pocket to accidentally press.

If I'm unsure whether the alarm is armed I'll disarm and then arm in order to annoy the neighbors. ☺

Changing the alarm duration

The instructions show how to change the startup delay if you want to but do not show how to prolong the alarm duration. I would prefer a minimum duration of five to fifteen seconds myself. During testing I found I could “freeze”, stop the alarm, look for the alarm, and probably cut its wires with a reciprocating saw before the alarm went off a second time.

I queried the CatStrap people and they confirmed that yes, if the *motion sensor* is disconnected then the alarm **will** sound continuously. But obviously not if the alarm box wires are the ones cut.

While a knowledgeable thief also could slap a sticker over the motion sensor, the alarm would still have sounded at least briefly. That’s why it’s better to have the motion sensor out of reach, if possible.

The CatEye people also said yes, I could extend the duration of the alarm. They said to try changing the orange dial about 1 millimeter at a time:

Adjust Time Duration of Siren (amount of time it keep going after motion stops)

The Cateye is shipped with an adjustment to terminate power to the siren as soon as it stops detecting movement – as soon as the thief leaves the area, the siren stops.

In some cases, it is desirable that the siren keeps going for an extended period of time after it stops sensing movement. It can be adjusted to keep going as much as an hour by turning the ORANGE DIAL on the sensor board.

Clockwise – Reduce time to a minimum of zero seconds

Counter Clockwise – Increase time to maximum of one hour

Reality is that this adjustment can be variable from board to board. – turning it just a very small amount sometimes results in significant time increase – turning it halfway does not always mean 30 minutes, etc.



Tools and parts needed

Unlike the four exhaust clamps needed for the CatStrap, the CatEye motion alarm needs no extra parts or special tools to install. Tie wraps, a drill and bits, mounting screws, and basic electrical expertise are all that are needed.

Installation Notes

- There really is no good place to install the motion sensor on the V10 F-53, at least on mine with the 6-speed transmission. I ended up just using high-strength tie wraps and securing it to the tubular crossmember. It's survived a few trips so far. 😊

I am able to walk slowly all around the motorhome right next to it without setting the alarm off. But it does go off when I slip underneath from either side.

- The alarm box itself is not weather-proof. The two wiring harnesses, one for power and one for the motion sensor, come out the "bottom" but are not waterproofed in any way. If someone installs the alarm box in any position other than vertical they will need to address that problem so water does not follow the wiring into the box, perhaps by using a "drip loop" and silicone in the box wiring openings and around the wires themselves.
- The alarm sounder also is not sealed in any way. The box cover just fits over it. Consider running a small amount of silicone around the sounder if water may be a problem for your installation location. While that will make it more difficult to remove the box cover, the silicone should keep water from running past the edge of the sounder and on to the electronics inside.
- If you do **not** mount the alarm box vertically (so the wiring is at the bottom) a small drain hole or two in the bottom of the box might be a good idea. Open the box before drilling any holes.
- If you **do** mount the box vertically as I did, do **not** seal the wiring harness openings. Those should act as drain holes if any water does get inside.
- I mounted the alarm box to the inside of the entry step frame. That way it's shielded somewhat from direct water spray and road debris. That area was surprisingly clean after three years so I think it will work out.
- That white plastic on the alarm box sounder really sticks out so I applied some black paint to make it less obvious. I don't want a thief easily finding the alarm box and just cutting its wires with their reciprocating saw.
- Since my house batteries are located next to the entry steps the power wiring was easy. I just followed the electric step wiring into the house battery compartment.

- If your motorhome is **not** plugged in all the time the added parasitic current drain from the motion alarm might be a problem unless you have solar or another method to keep the house batteries charged.
 - With the system dis-armed the current drain is minimal, about 5 milliamps.
 - With the system armed the current drain is about 50 milliamps, or 1/20th of an amp. That may or may not be insignificant, depending on your actual battery setup, battery condition, and other parasitic drains such as a propane leak detector.
 - With the alarm sounding the current drain is just under 700 milliamps but (hopefully) that's not a common event. 😊

A motion alarm, in order to be of value, either needs to scare a thief off or be heard by someone. But if the alarm's current draw kills the house batteries it kind of doesn't matter.

Picture of the motion sensor installation on the tubular crossmember



Picture of the alarm box on the rear inside of the entry step frame. Notice how the white really sticks out.

Hopefully painting the white part black will make it a bit less obvious at night. I also added spiral wrap to the wiring to help reduce any chafing.

