

How I Installed a CatStrap on a 2019 Ford F-53 V10 Motorhome Chassis

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Summary

This document shows how I chose to install a CatStrap catalytic converter anti-theft device on a 2019 Ford F-53 V10 motorhome chassis with the 242" wheelbase (22,000 GVWR). <https://www.CatStrap.net/>

The CatStrap comes in two lengths, the regular 7' and the 12' length for diesel vehicles. I chose the 12' strap for my gas motorhome because my wheelbase of 242" means I have a really long exhaust system. I also wanted to be able to double the CatStrap back on itself so the strap would protect both the top of the catalytic converter as well as the bottom.

Normally only the bottom of a catalytic converter is protected but cutting can start at the top of a catalytic converter on a motorhome due to its chassis height, unlike a car. The CatStrap initially is a visual deterrent to a thief but when only the bottom is protected it does not prevent a thief from cutting all the way through your exhaust system as revenge for adding the CatStrap. If that happens, you'll have to deal with an exhaust system repair or replacement while the CatStrap is bonded to the severed exhaust piping.

While the 12' CatStrap is \$50 more than the 7' as of this writing, if you purchase their CatEye motion alarm at the same time the price difference between the 7' bundle and the 12' bundle is \$30. That's what I bought although the CatEye is not yet installed.

I watched the very few YouTube videos available for installing a CatStrap on a motorhome and one person had a good idea, I hope. ☺ They doubled the CatStrap back but so they could run the CatStrap through an opening in the motorhome frame. This might prevent someone from cutting ahead of and behind the CatStrap, bending the exhaust pipe and stealing the catalytic converter with the CatStrap attached.

Parts needed

You need to purchase four muffler exhaust clamps that fit your exhaust system. I wanted stainless steel to help reduce dissimilar metal corrosion from the added exhaust clamps but I could not find the 4" clamps in stainless. Because I chose to run the CatStrap on the top of as well as underneath the catalytic converter, the CatStrap keeps the non-stainless exhaust clamps from actually touching the exhaust system if positioned correctly.

We have 3" diameter exhaust piping but the ends of the catalytic converter are larger, which is the reason for the two 4" exhaust clamps. CatStrap recommends you go 1/2" larger than your exhaust pipe diameter so the two 3 1/2" exhaust clamps go on the ends.

- 2 ea. Walker 4" Exhaust Clamps for the ends of the catalytic converter:
https://www.amazon.com/dp/B0015KXPVU?psc=1&ref=ppx_yo2ov_dt_b_product_details

- 2 ea. RP Remarkable Power 3.5" Stainless Steel Exhaust Clamps for the ends of the CatStrap:
https://www.amazon.com/dp/B08N71HX2N?ref=ppx_yo2ov_dt_b_product_details&th=1
- 1 ea. tube of Red Loctite. "Red" Loctite needs to be heated to 550 degrees F to loosen the nuts and you don't want a thief just loosening the exhaust clamps. I added the Loctite to the threads on the exhaust clamps two days after the actual installation. I wanted to wait until I was certain everything was positioned correctly because I did not want to deal with having to move an exhaust clamp secured with hardened Red Loctite.

Interestingly, after two days I found that all of the exhaust clamp nuts easily tightened up multiple turns, probably due to the adhesive melting and bonding to the exhaust system.

Other people welded the exhaust clamp nuts in place. Loctite is available at any auto parts store as well as Amazon. https://www.amazon.com/dp/B000FP8EUS/ref=emc_b_5_t

Tools needed

- Tin snips to cut the ends off the long stainless steel bands that are supplied
- 9/16" socket and open end wrench
- 5/8" socket and open end wrench

These fit the nuts on the exhaust clamps. I needed to use an open end wrench to finish tightening the exhaust clamps after my sockets bottomed out.

Notes

- When positioning the 4" exhaust clamps on either side of the catalytic converter be certain to get the exhaust clamps as close as possible to the catalytic converter. If the exhaust clamps are not right up against the ends of the catalytic converter the CatStrap will be angled slightly away from the catalytic converter and will not bond. This would allow a thief to slip the saw blade between the CatStrap and the catalytic converter. If you only ran the CatStrap on one side and both ends were angled away the thief never has to cut the CatStrap.
- I was not able to slide the CatStrap between the heat shield on the bottom and the catalytic converter on ours. The opening was wide enough and it was tall enough but the heat shield has horizontal "ridges" for strength. Those ridges prevented the CatStrap from slipping between the heat shield and the catalytic converter.
- If you choose to run the CatStrap through a frame opening as I did, be aware that there was a wiring harness running through the same opening. I had to assure that any movement of the CatStrap could not damage that wiring harness. I used some of the supplied stainless steel straps to help secure the loop to reduce any movement.

- Be careful when positioning the CatStrap on the top of the catalytic converter to avoid damaging the oxygen sensor screwed into the top. I positioned the CatStrap to the side of the oxygen sensor slightly.
- To help keep a stainless steel band from loosening up, I pulled them as tight as I could and then bent the protruding end 180 degrees. That should keep the end from slipping under the part it goes through. Then I used the tin snips to cut off all but about 1".
- The instructions say that the CatStrap adhesive will bond with about two hours of driving but I was not going to be able to drive the motorhome for a while. I asked CatStrap if the adhesive would bond just by letting the motorhome idle in the driveway. They replied "Primarily designed to adhere to converter itself. Clamp one side, pull tight, clamp on other, will adhere by just running it. Let it get to operating temperature, will take care of itself."

I chose to let the motorhome just idle in the driveway for two hours, at almost 1 gallon per hour of fuel burn, and it did bond. I'm guessing that actually driving will cause hotter temperatures and perhaps help the bonding of any marginal areas.

Installation Pictures, Passenger Side, Front to Rear



Note on this next picture that I was able to slip the CatStrap underneath the welded mount on the top of the exhaust pipe but not on the bottom.



The oxygen sensor is visible at the top.



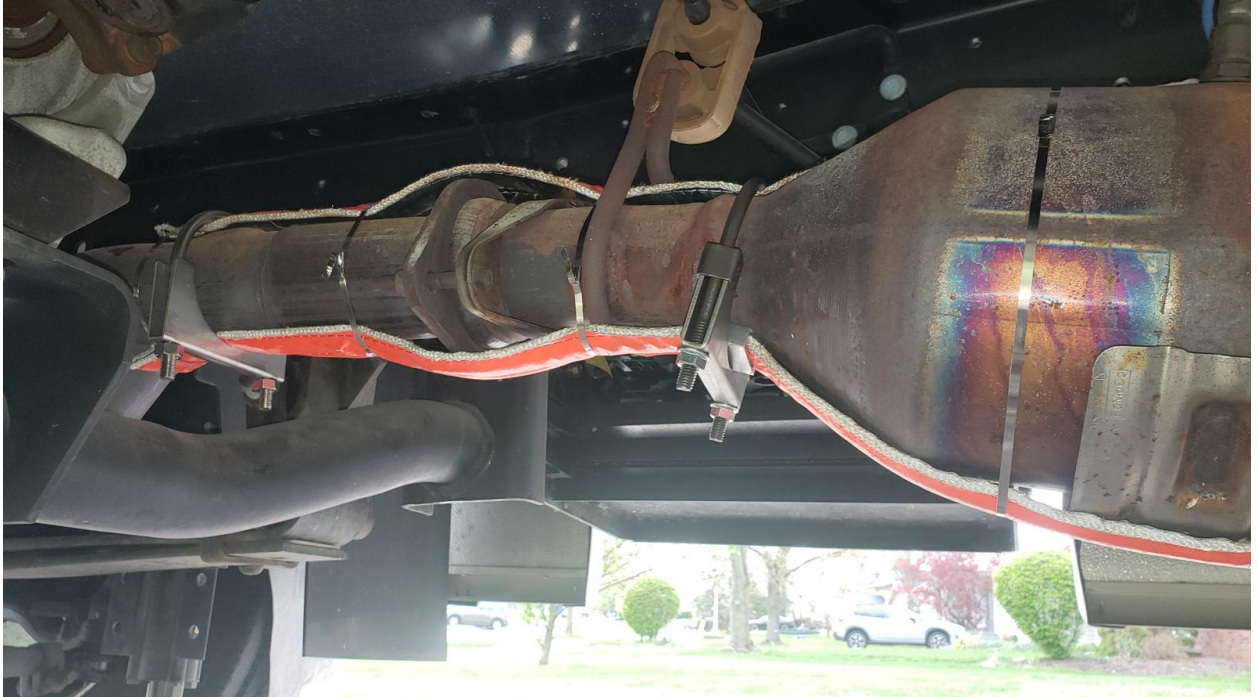
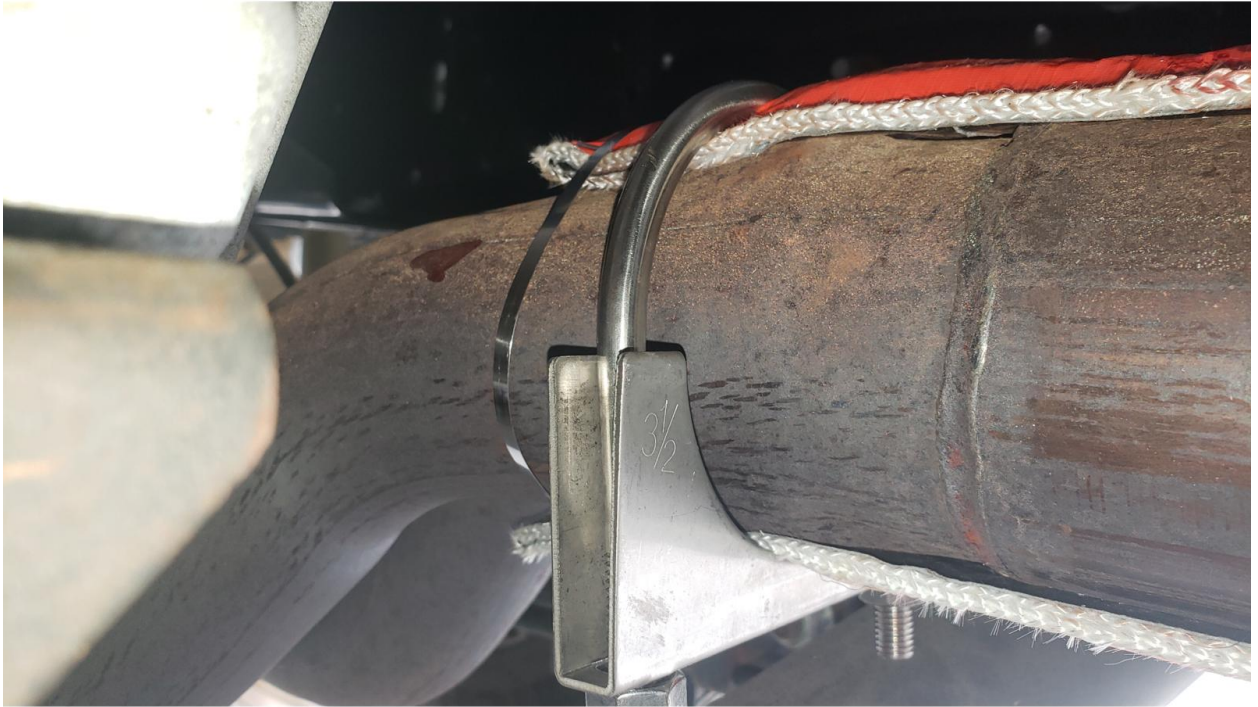
The rear clamps are on a bit of an angle because the CatStrap runs to one side to stay away from the oxygen sensor and also because the opening in the frame that the CatStrap loops through is not inline with the exhaust system.

When you position the 4" clamps, be certain that the U-shaped Clamp Collar supplied by CatStrap is centered on the bottom of each exhaust clamp and also that the bottom of the exhaust clamp is not pressing on just one side of the U-shaped Clamp Collar. Due to the offset CatStrap positioning, when my 4" exhaust clamps were vertical only one end of the Clamp Collar was in contact with the 4" exhaust clamp.

Note that I added two of the stainless steel bands where the CatStrap loop starts because of the stress. I did not want to chance that only one band could pull loose and possibly damage a tire...



Installation Pictures, Driver Side, Front to Rear



I had to use two of the supplied stainless steel bands to make one long band in order to go all the way around the catalytic converter.



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