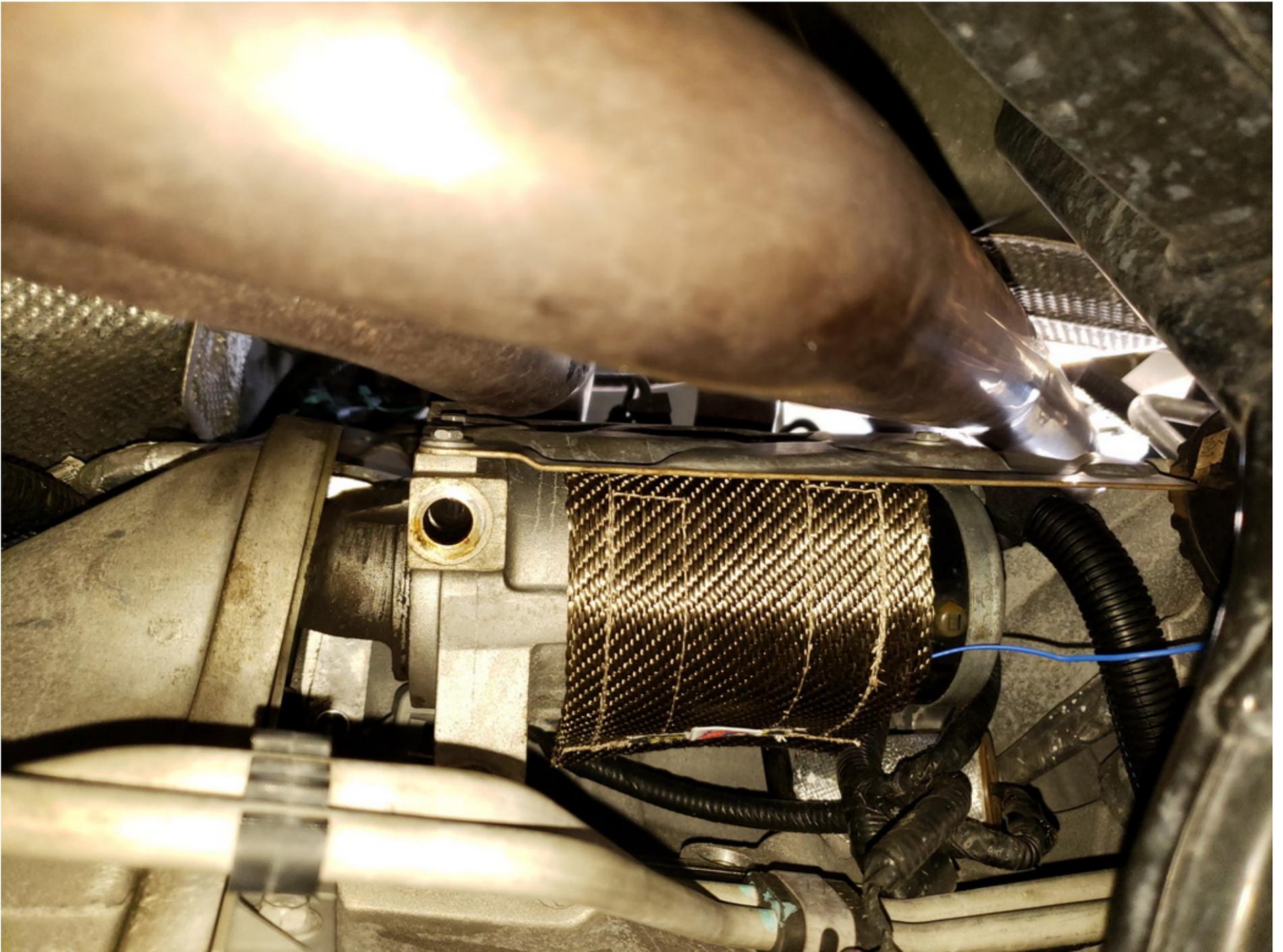


Posted: September 29, 2020 | **Categories:** tech | **Author:** Patrick Hill



Excessive heat will shorten an engine's starter lifespan significant, and can cause intermittent failures during heat soak. Recognizing this problem, Heatshield Products developed the Lava™ Starter Heat Shield to provide protection to from excessive heat.

Anyone with a big-block V8 and headers back in the day learned really quick to hate the sound of a heat cooked started just going click, leaving them stuck or crawling under the car with a hammer to hit the starter a few times. The shift toward gear-reduction starters helped reduce the frequency of heat-related starter failures, but it can still occur. Packed engine compartments that limit air flow, and header tubes pretty much surrounding the starter is a recipe for heat to damage the starter.

Lava Starter Heat Shield is an effective solution, as it:

- Shields the starter motor and solenoid from damaging heat exposure
- Prevents the starter from getting heat-soaked during shutdown and addresses those related restart problems, especially with high-compression engines
- Is quick and easy to install and remove as needed
- It's resistant to water, chemicals, oil and acid, making for a long life and durability

We borrowed a friend's 2013 Chevy Camaro SS to show how easy Lava Starter Heat Shield is to install, and also to demonstrate the difference it makes in protecting a starter from heat. This particular Camaro SS had modest modifications, including a set of long-tube headers.



ABOVE: The test subject was a 2013 Chevy Camaro SS. For baseline, we started with a cold car, then drove it until it reached normal operating temperature. We continued driving for 20 minutes before pulling it into the driveway onto Race Ramps for access to the starter.



ABOVE: The factory LS3 starter has a thin sheetmetal heat shield to deflect exhaust heat, but there's no shield between the starter and engine block.



ABOVE: We measured the starter's main body after the drive and found that it was 161.7 degrees F. We took this measurement with a contact probe within 3-4 minutes of shutting the engine off.



ABOVE: For reference, we used the laser thermometer to measure how hot the exhaust header pipe near the starter was reading, getting a temp of 221 degrees F. Keep in mind, that's with the engine off after a moderate drive.



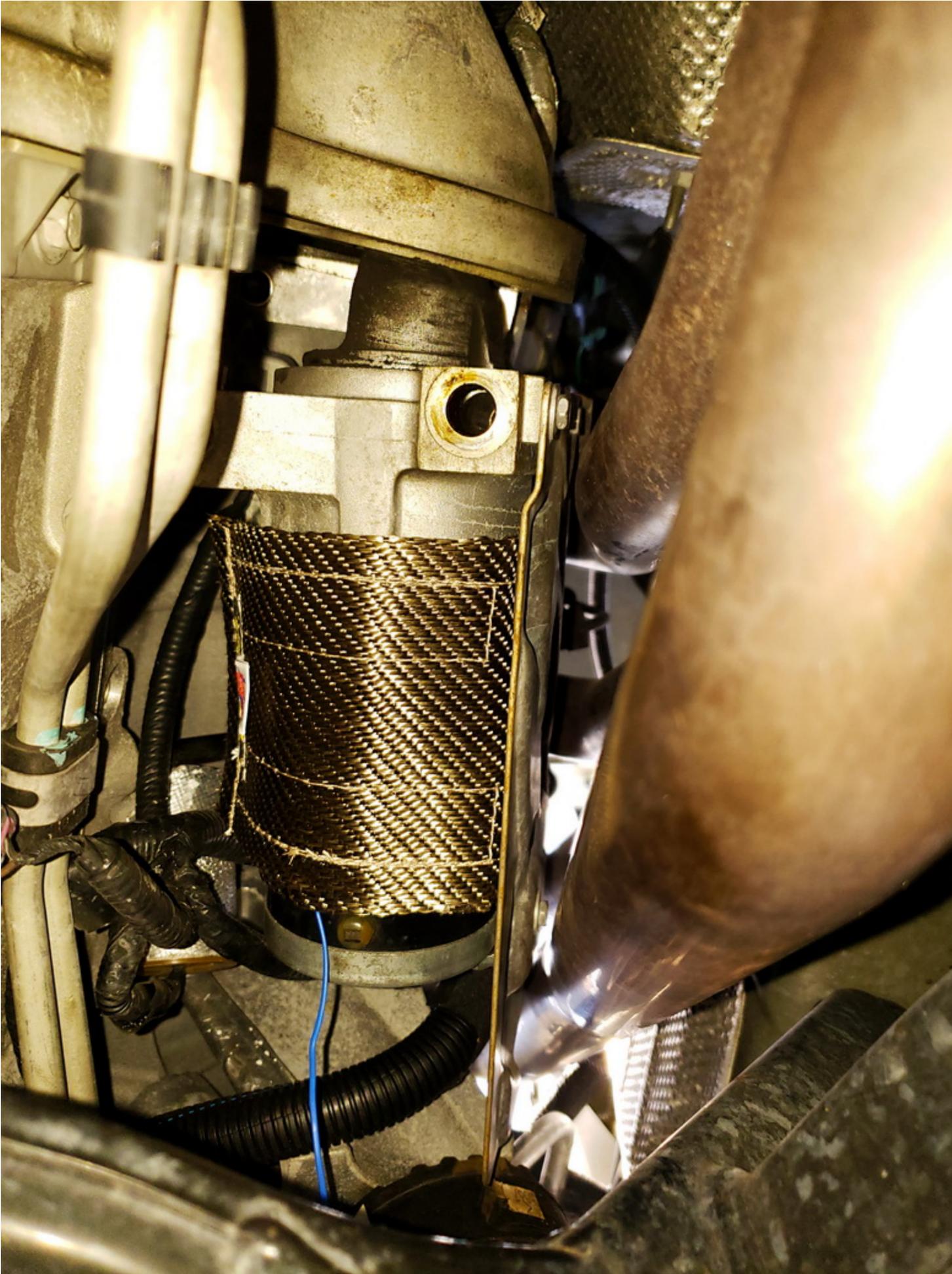
ABOVE: This modified Camaro's LS3 has a head/cam/intake package and long-tube headers. On the chassis dyno, the car puts out 492 horsepower at the wheels through the factory TREMEC 6-speed manual transmission.



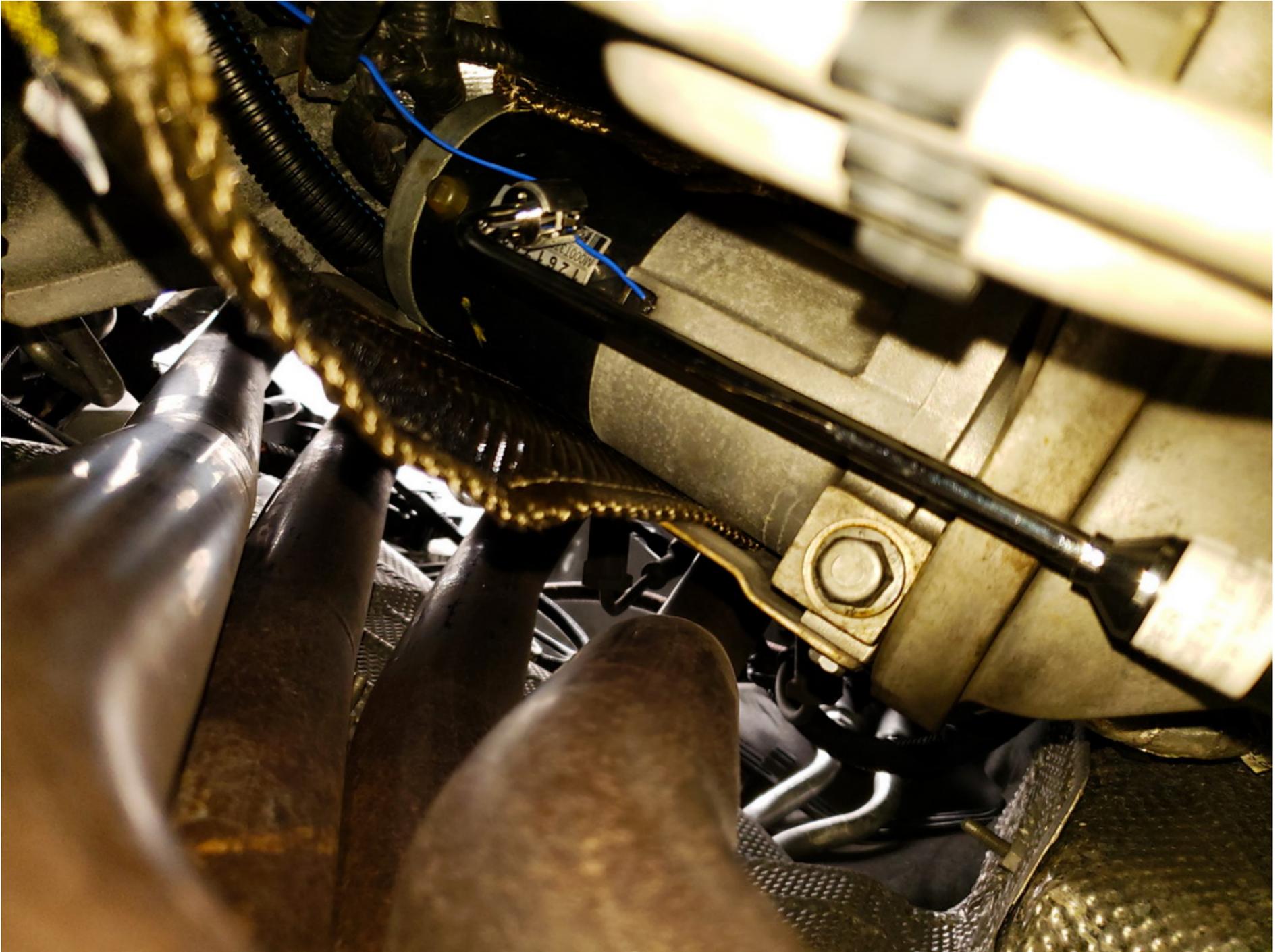
ABOVE: Lava™ Starter Heat Shield is made from Heatshield Products specially formulated, proprietary volcanic rock-based fibers to create one of the most effective thermal barriers. It's rated to handle continuous 1,200 degrees F and up to 2,000 degrees F of intermittent heat exposure. The built-in, high-temp, hook-and-loop fastening system makes installation and removal simple.



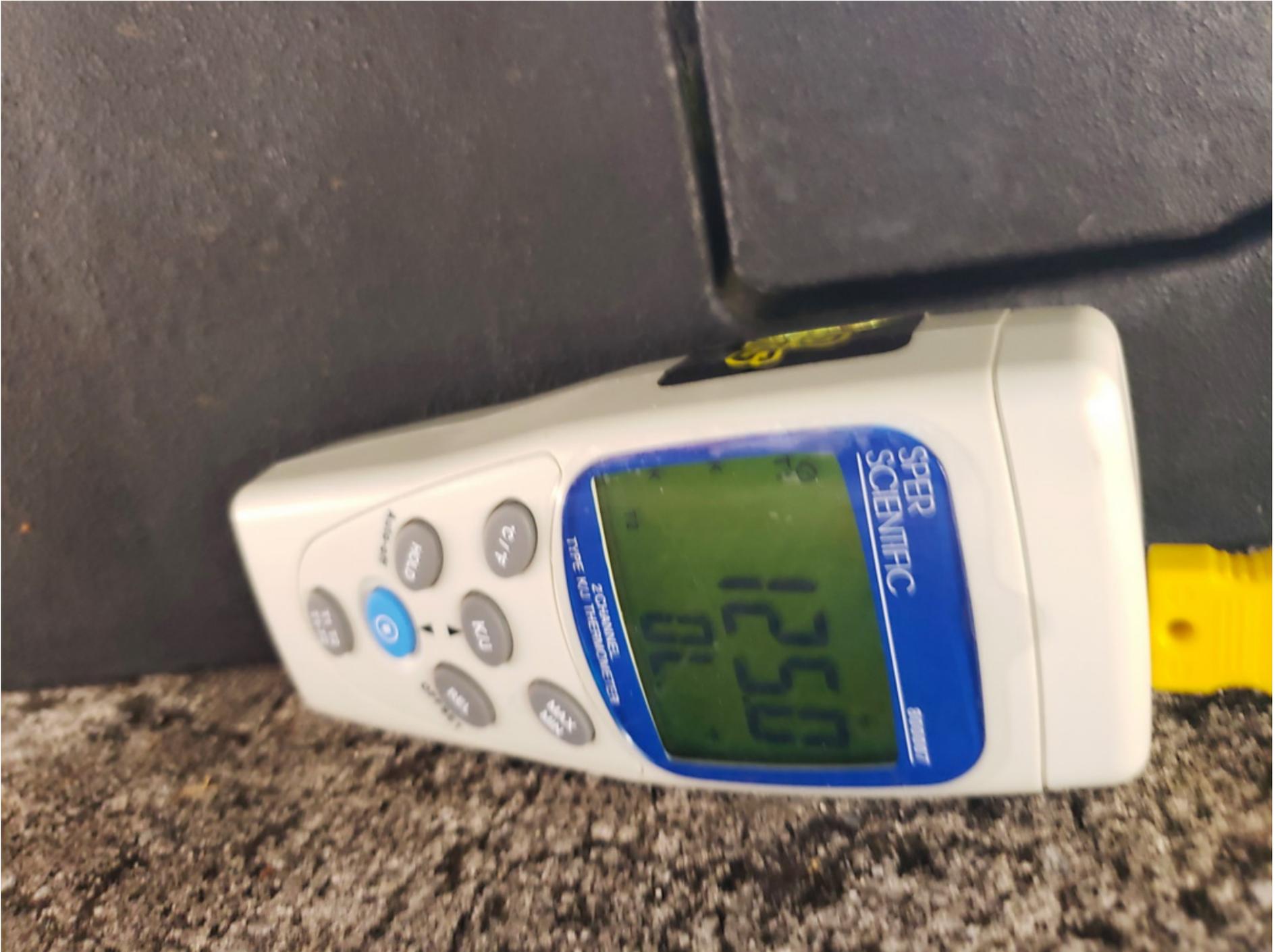
ABOVE: In many applications, the starter will not need to be removed to add the Lava Starter Heat Shield. On this LS3, we just didn't have the space to help curve the shield over the top of the starter. We used a 13mm socket, 3/8-drive ratchet and extension to unbolt the starter from the engine.



ABOVE: We didn't have to drop the starter all the way down nor disconnect the starter wires.



ABOVE: We took the Camaro back out for a drive, repeating what we did before taking our baseline temperature readings. We again used the contact probe on the starter body, after pulling open the Lava Starter Heat Shield.



ABOVE: The starter measured 125 degrees F right after turning off the engine, a 35-degree drop in temperature from baseline, thanks to Lava Starter Heat Shield. This will also prevent the starter from getting heat-soaked as the car sits.

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