S550 Hood Louver

Installation Manual

Author: E. Hazen
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Approvals: P. Lucas

Document Revisions

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1.1. Overview: Detailed instructions on installing the hood louver kit for the S550 Mustang.

1.2. Difficulty: Moderate

1.3. Time Required: 3-4 hours

1.4. Tools Needed:

- Ratchet or electric powered ratchet
- 9/32 socket
- Scissors
- Hammer
- 1/16” drill bit (any small drill)
- 1/2” stepped drill
- Center punch (or unused tap with a sharp point)
- 11/64" drill bit
- Countersink
- 90-degree air grinder
- Abrasive roll-lock wheels
- Drill
- Painter’s tape
- Straight Air Grinder
- Cut-off Wheel
- Goggles or safety glasses
- Large piece of carpet
- Vacuum

1.5. Hood Louver Components

1.5.1. Left-hand louver
1.5.2. Right-hand louver
1.5.3. Left-hand wicker

1.5.4. Right-hand wicker
1.5.5. Left-hand cutout template
1.5.6. Right-hand cutout template
1.5.7. Hardware Bag
1.5.7.1. (32) 8-32 Serrated Stainless Nuts
1.5.7.2. (1) Warning for over torquing of nuts

2. Hood Louver Kit Install

2.1. Verus Engineering is not responsible for damage to you, your vehicle, or others by following this manual and/or installing Verus Engineering products.
2.2. Begin with disconnecting the battery, negative first, if this makes you feel more comfortable working on the car. It is always a good idea to disconnect the battery anytime when working on the vehicle. We were nowhere near the battery or electrical system so we left it connected for this install, but again, never a bad idea.
2.3. Open the hood to gain access to the hinge bolts holding the hood on.

2.4. We begin by removing the hood. A good idea is to accurately mark the bolt locations on the hood. Using a removable marker is wise as it is non-permanent. This allows you to re-install the hood in nearly the same location as previous during re-install.

2.5. Using the ratchet and appropriate sized socket, loosen and remove the (4) bolts from the hood latches and remove the hood from the car, below is a picture of the driver's side bolts. It is a good idea to have carpet or something soft to set the hood on.

2.6. Place the hood on a piece of cardboard or a large piece of carpet to prevent scratches from forming. We had good luck with this; however, if you feel safer doing another technique, by all means, protect the paint in whatever fashion you see best.

2.7. Grab the two vinyl templates and begin figuring out exactly where you'd like to install your louvers. We recommend keeping it approximately where we have it located (shown below) for performance and aesthetics.

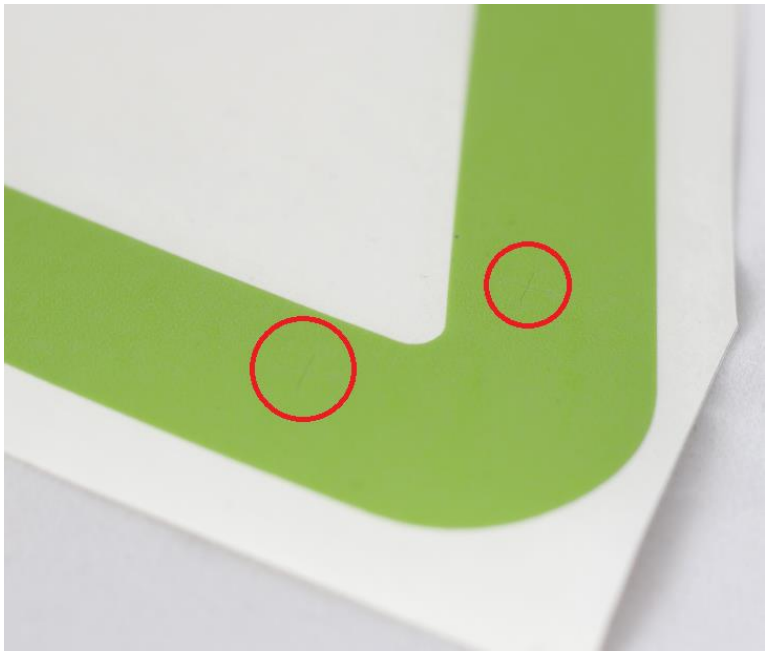
2.8. Below are recommendations for the location from our installs. From the front of the hood to the *inside corner of the template* is ~12 inches. From the side of the hood to that same inner corner, we recommend a measurement of 13.38". Use these numbers to get a good idea of where you'd like it to fit. This location ensures minimal cutting of the structural sheet metal on the bottom of the hood.

2.9. When you find the location you want to install the louvers at, apply the sticker onto the hood of the car. This is where the louver will sit so be sure to lay this exactly how you want the louver to be installed.

2.10. On the sticker, you will clearly see the area to cut out with a cut-off wheel (marked cut out). However, what is not significantly obvious at first are the cross hairs for drilling the holes

(see below). These are the center-points for the studs to stick through. We went this route as it allows the center punch to be precisely punched in the exact location necessary.

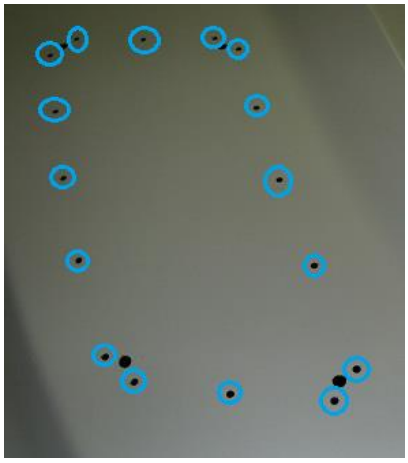
2.11. Using a center punch, ***GENTLY*** punch in the center of the two cross hairs 16 times per each sticker for the studs. It is also a good idea to center punch the corners of the louver cut out as start/stops for the cut-off wheel.



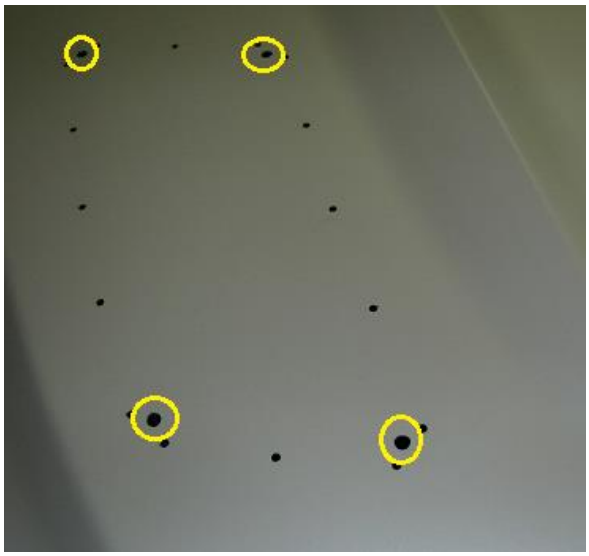
2.12. Using a small diameter drill bit, start a pilot hole for all of these holes in the hood.

2.13. Stepping up to the 11/64” hole, drill the (16) stud holes out using the vacuum to suck up the shavings. The 11/64" hole allows a bit of misalignment for install; however, you can start

smaller if you would like (stud Dia. is 0.164”). ***If you find issues when installing the louver, you can open these holes up further but it is always smarter to start small and work your way bigger.***

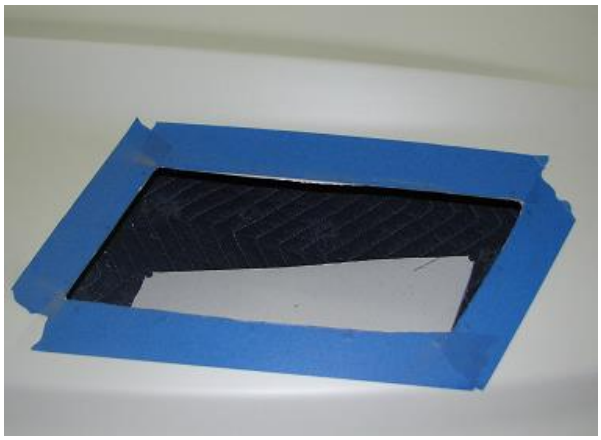


2.14. Use the stepped bit to enlarge the corners of the area you will be cutting out to ¼ inch or larger.

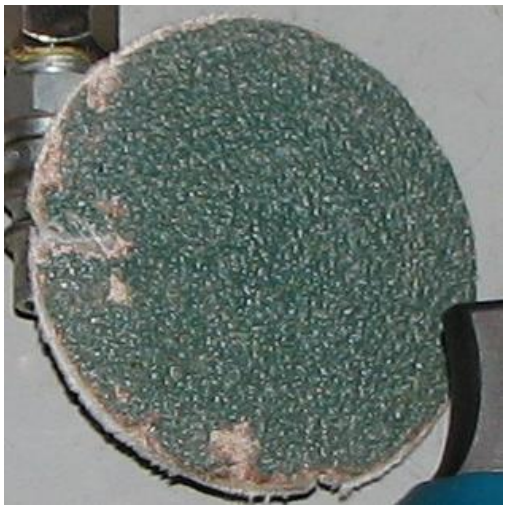


2.15. Clean each of these holes up from burrs with the countersink tool.

2.16. Using a cut-off wheel and a straight air grinder, remove the “cut-out” area on the hood louver template. Go slowly to ensure you do not hit the hood’s paint by accident. ***Use painters tape where necessary to ensure no scratches or damage happens to your hood***. **Note: The initial unit was done in a different order than outlined in this install manual, typically you will have another layer of sheet metal under this.**



2.17. Once you have the louver hole cut-out, you'll want to test fit the louvers and find out where you need to shave off more to ensure unobstructed. To shave off small amounts, we recommend using an abrasive wheel (shown below) on a 90-degree grinder.



2.18. When you are happy with fitment, we recommend finishing off the edges with a less abrasive wheel on the 90-degree angle grinder (shown below). This leaves the edges smooth and rounded, without burrs and lessens the chances of being cut.

2.19. We now need to flip the hood over to cut out the remaining sheet metal webbing on the bottom side. Before flipping the hood over, fully blow off and clean the hood of any aluminum metal shavings. Also, clean the carpeting.

2.20. You can typically tell where you need to cut this webbing. Use the punch and drill bit to make the corners and blue tape as guides (or sharpie marker), remove this back-side webbing while keeping as much as possible to retain the OEM hood's rigidity.

2.21. Remove this piece and finish the edges with the roll-lock wheel. Ensure you can reach all the stud holes. **Note: These pictures were taken of the first article, typically the hood skin would already be cut at this time.**

2.22. Flip the hood back over and place the louver into the holes/cutout. If any of the holes need to be enlarged, now is a good time to enlarge the holes necessary. ***Keep in mind to go slow, you cannot add material back in, but can easily remove small amounts at a time.***

2.23. Using the 8-32 flanged serrated nuts, install them on each of the studs. The studs are firmly pressed into the aluminum louver but do not be overly rough with them or the clinch stud could work loose. Depending on configuration ran, you can install the wickers at the same time. These units are installed on the bottom side.

2.24. ***The nuts only need to be snug, due to the serrated feature they should not back off***. Keep this in mind, as there is no need to be rough with them. We recommend finger tight + 1/8 turn.

2.25. Reinstall the hood with the OEM bolts.

2.26. Install the sticker on the louver as shown if you'd like.

2.27. Enjoy a cooler engine bay, a bump in front end downforce, and an aggressive new look. If you have any comments, concerns, or issues, please contact sales@verus-engineering.com.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