

69 Dearborn Unibody (Undercarriage) Restoration Guide

This is an ongoing project of mine and just one section of a much larger project. It is a work in progress so it will hopefully be continually updated as we discover additional or new information and it is researched and accepted.

As always, if available, your car's individual original details should be documented and reproduced during its restoration. If your car lacks these details due to damage, repair, reconstruction or some other situation what follows is what is typically found on cars built at Dearborn during the 1969 production run.

By 1969 production, the Dearborn assembly plant, had been using what is being referred to as batch paint/primer to coat the undercarriage for many years on Mustang and Cougars. As we understand this was a mix of epoxy primer sealer and left over exterior paint. This mixture improved the sealing qualities of the product and saved dollars for the company. During 1969 production batch paint varied as would be expected with different amounts of this or that color, but normally it fell into a range of grays with green or blue tendencies. While batch colored undercarriages have been found to be the norm during 1969 Mustang production there are identifiable periods of time where they used a red oxide epoxy primer sealer in place of the batch color for some unknown reason.

Basic steps for a 1969 Dearborn built car are as follows.

- 1- The car was prepped with the doors and trunk lid. Just prior to exterior paint application the rear valance was hung in place and end caps were loosely (spaced rearward) installed so that they were painted with the rest of the body.
- 2- Batch paint was applied to the panels visible from directly under the unibody from the firewall rearward then red oxide epoxy sealer applied from (approximately) forward. From the firewall rearward (the undercarriage area) the paint was applied by jets mounted below the moving body while the bottom surfaces from the firewall forward were sprayed by hand by a worker standing below the body.

- 3- Some seams and the seat belt anchors were chalked after painting while other areas were done before. Some were applied out of a chalking gun and left as applied, while areas such as quarter or floor drops and the seat belt points were applied out of a gun then smeared with a brush or thinner dipped rag. Sound deadener in the rear wheel wells and surrounding frame and floor was also applied.
- 4- Interior color is applied next to the A pillars and the interior of the doors depending on interior code.
- 5- Exterior color was then applied with some overspray flowing onto the undercarriage. The high volume, high pressure spray guns of the period produced allot of overspray and direct application onto the floor panels and features that hung down from the floor and faced the outside surfaces of the body. In the rear wheel wells the surfaces received a nice coat of paint in most cases and a fair amount often found its way onto the exposed rear frame rail that is visible from the wheel well and lighter amounts onto panels and brackets inward.
- 6- Next the engine compartment paint is applied. As the drawings and pictures show, on the wheel side, the black would often fade around the front edge of the spring pocket but it varied while body color was typically visible at or behind the shock tower pocket.. The area of coverage of the body color and black vary but typically falls into a range.
- 7- Next the pinch weld was blacked out. The soft (unmasked) outer edge, along the bottom of the rocker and quarter panel extended outward approximately two to two and one half inches. The overspray from this application would again cover some of the undercarriage as the majority of the spray pattern would flow paint onto those closer panels and surfaces while overspray continued inward with a lighter indirect misting. The more a section of the pan hung down, the more paint/black out it received. The amount of overspray generally would be less the distance inward towards the center of the body than the body color traveled as it was applied with less pressure and tighter pattern.

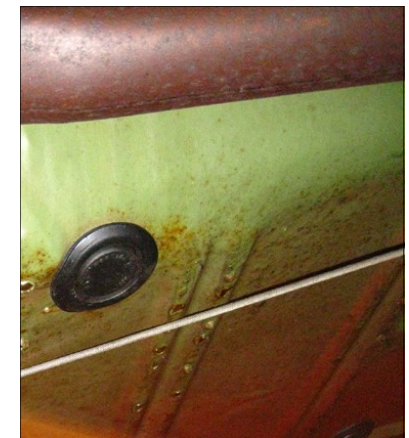
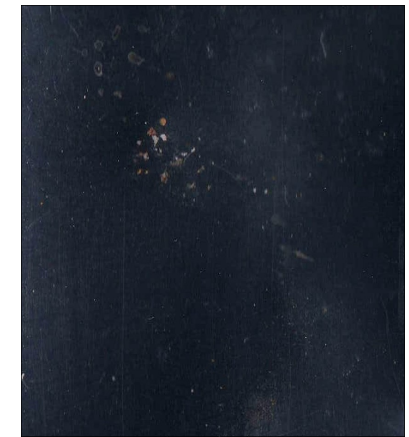
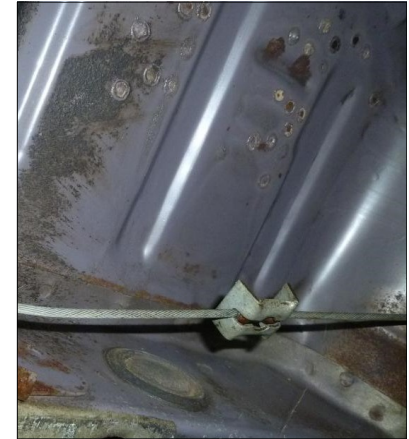
8— After the front fenders (car assembly basically finished) were installed the front wheel well area was sprayed with sound deadener. Suspension and such already installed. This was typically applied over the inner fender panel, along the area of the fenders that meet the splash shields and up over the top of the fender. The top surface of the fender was not always completely coated. Pattern and coverage varied from car to car.

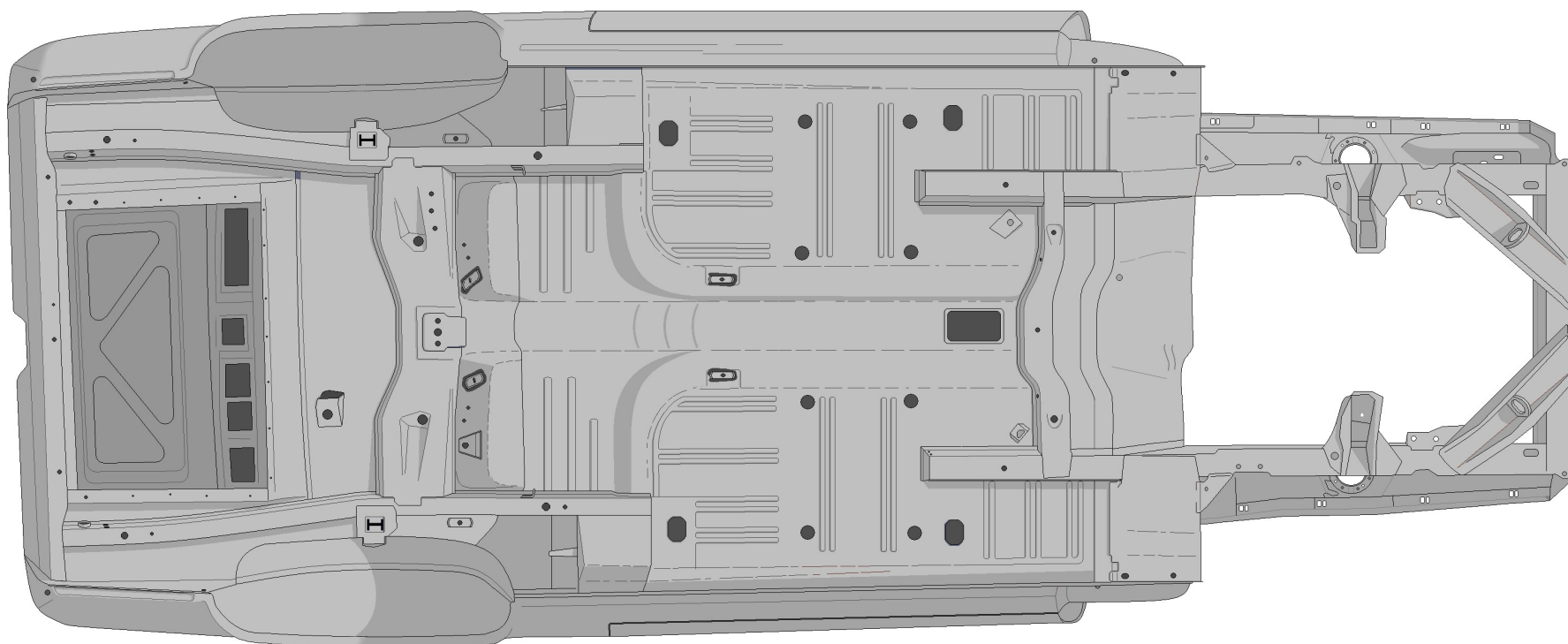
9— On certain car models once many of the parts were installed on the under sides of the vehicle, sound deadener was applied to the floor pans and over parts attached in the area sprayed. The parts attached at this time are best described as the car (under the car) was completely assembled except for the driveline and exhaust so shadows were produced by the front frame rails, emergency brake cables, fuel and brake lines on the floor pans in the areas where sound deadener was applied. This application may have taken place with additional parts not being installed but for descriptive purposes I've chosen to describe it this way. The exact timing of this application may have been just prior to the body drop station in the assembly line.

Note: There are other identified sub patterns that have been identified during the production year related to floor colors, front wheel well finishes and others. Since they do not fall into the typical or normal category they are not included in this article since they might tempt some owners into creating cars that would stand out from others without historical documentation.

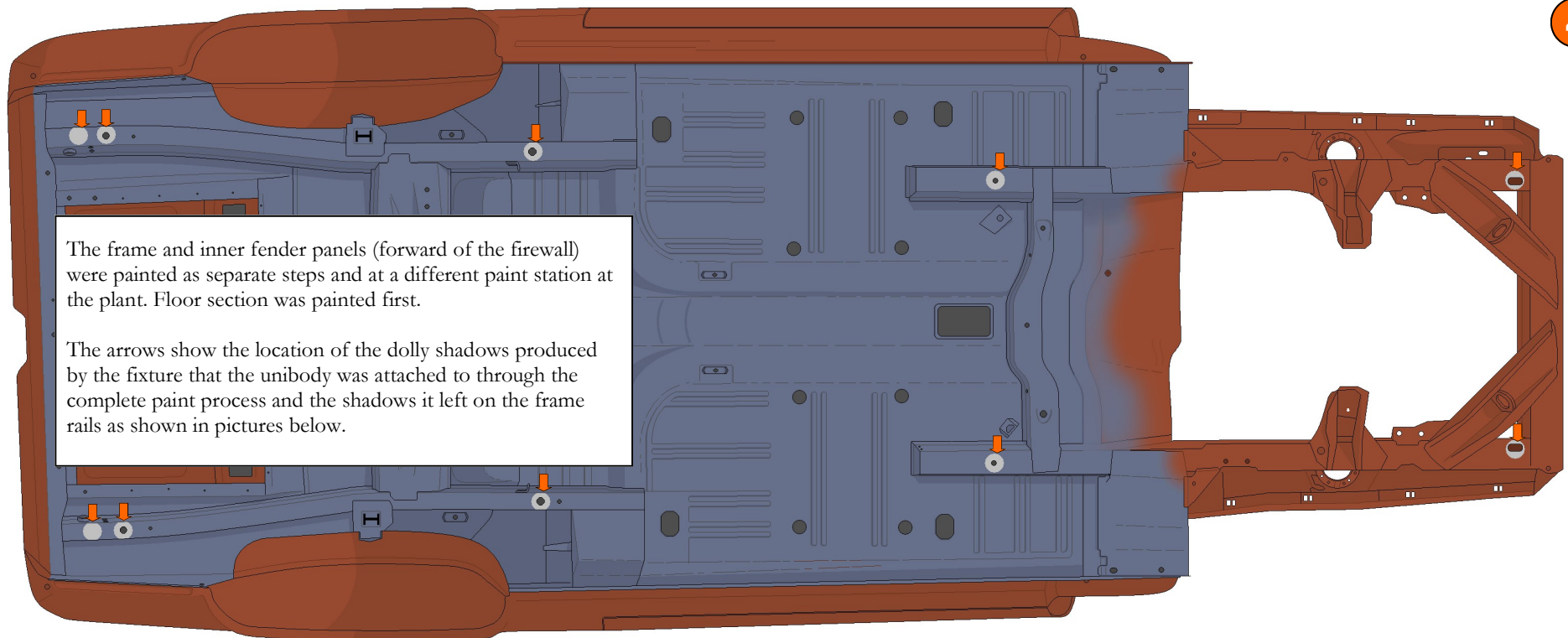
To the right are just a few examples to illustrate the wide variety of colors found of batch paint from 1969 Dearborn built Mustangs & Cougars.

In the later months of production the color of the batch paint applied to the floor panes (firewall rearward) varied greater than in earlier production. The bottom two examples reflect the ongoing change that continued into 1970 production.

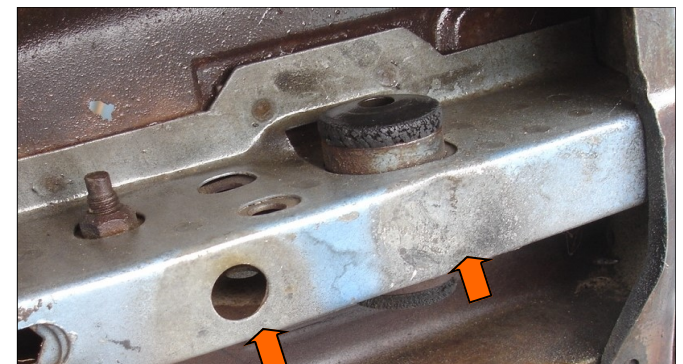
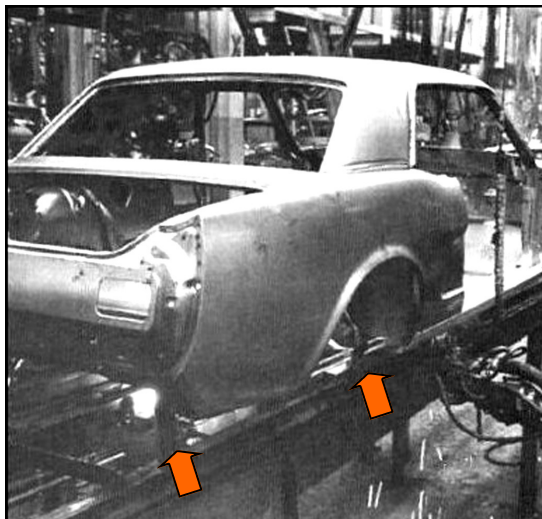




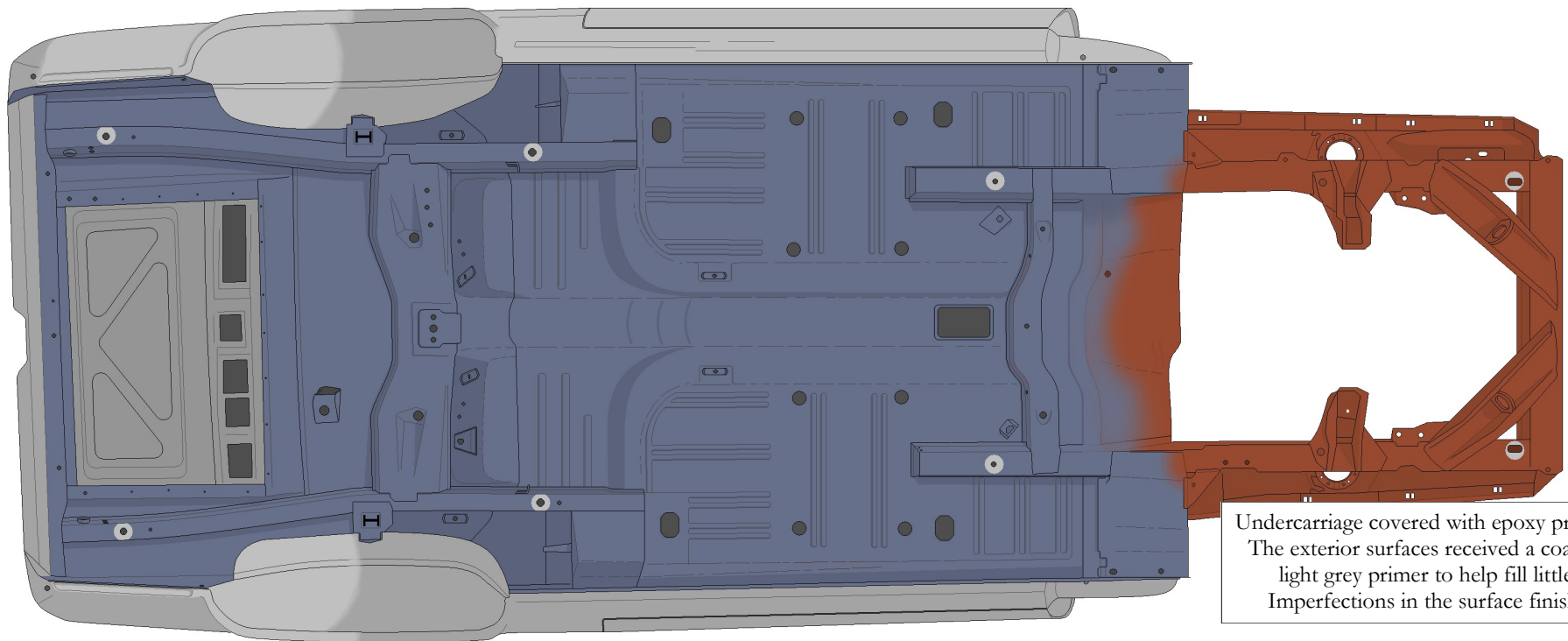
Panels and subassemblies were assembled together to make up the unibody. The unibody was installed on a dolly that would carry it through the rest of the assembly process. To the unibody the trunk lid, doors were installed. Many but not all exterior and seam sealers in other locations were applied next. Following that step exterior and interior were painted with a coat of red oxide primer sealer.



On this restored example it shows the round dolly make with soft edges and the much fainter design left from the pinch weld black out that produces more of a U shaped pattern since it was only applied from one direction.



The rear most dolly stand had two attachment points to accommodate both Mustang and Cougar bodies. This left an additional shadow on both models. Above a Mustang



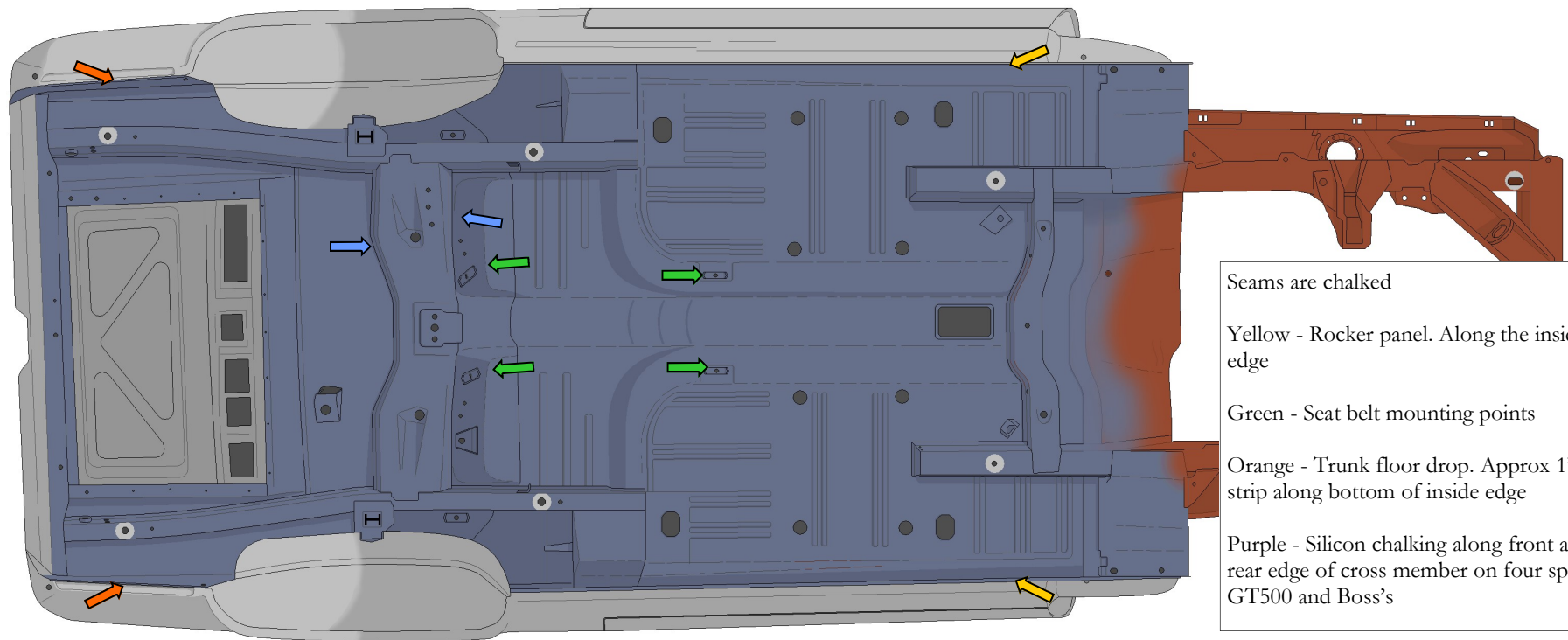
Undercarriage covered with epoxy primer.
The exterior surfaces received a coat of
light grey primer to help fill little
Imperfections in the surface finish.



Blackish/Purple-blue found on 9F188388



Blackish from another 69 Dearborn car in the 180000's



Seams are chalked

Yellow - Rocker panel. Along the inside edge

Green - Seat belt mounting points

Orange - Trunk floor drop. Approx 1" strip along bottom of inside edge

Purple - Silicon chalking along front and rear edge of cross member on four speed GT500 and Boss's



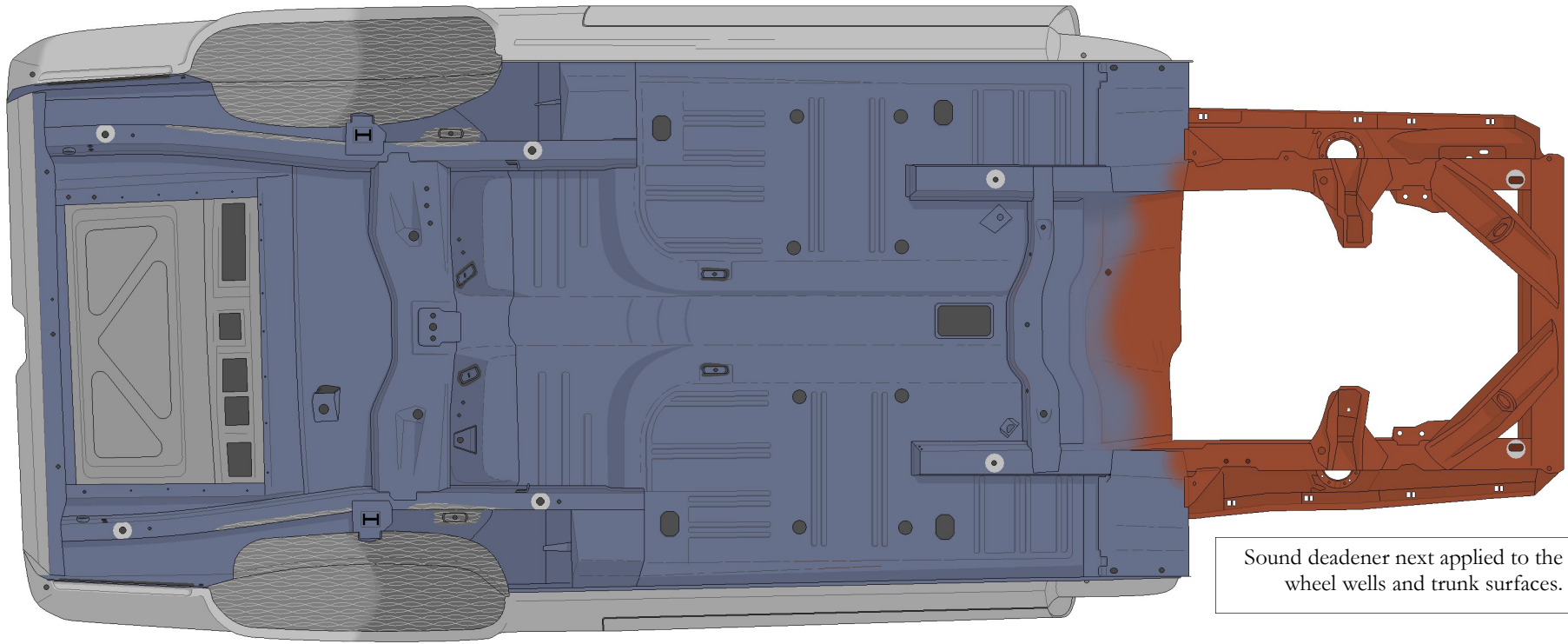
Silicon looking chalking (different product than the others on this page) from a Boss 302 so not for non- Boss cars.



Trunk drop sealant. Goop above the arrow is some wild over spray from the sound deader overspray

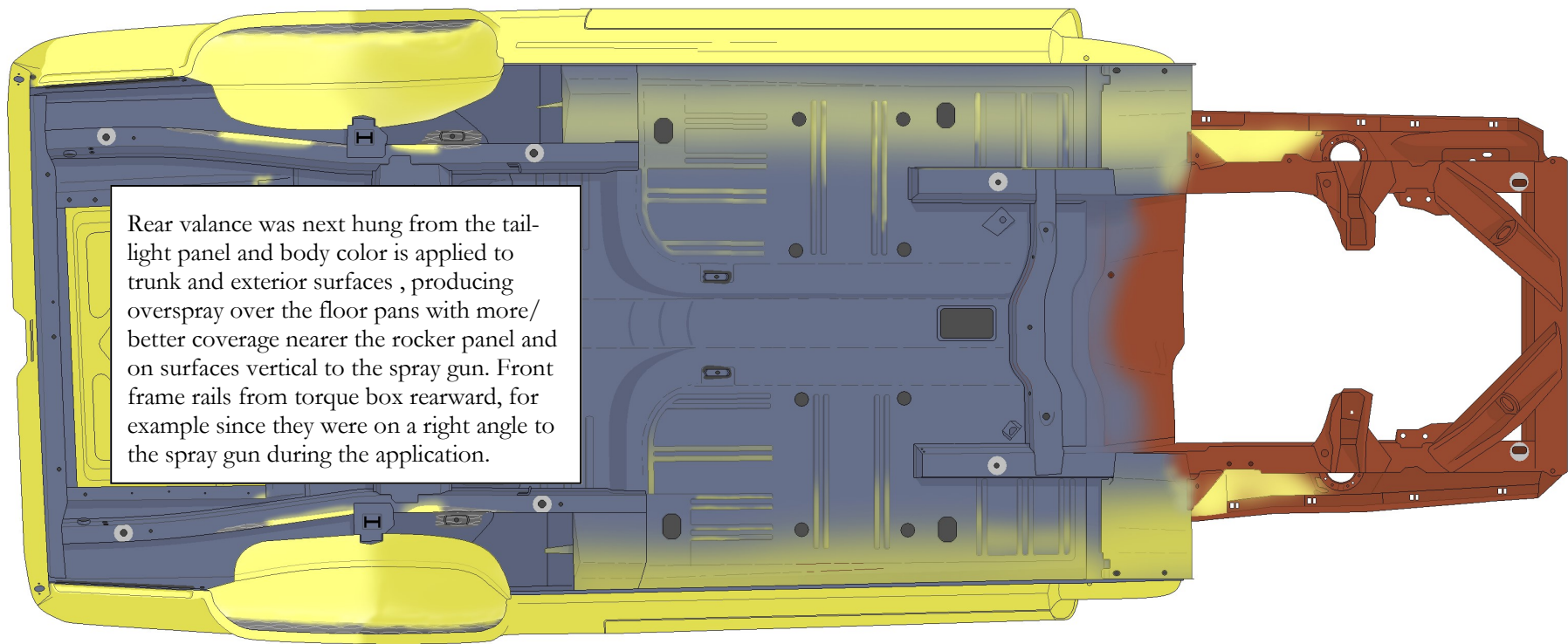


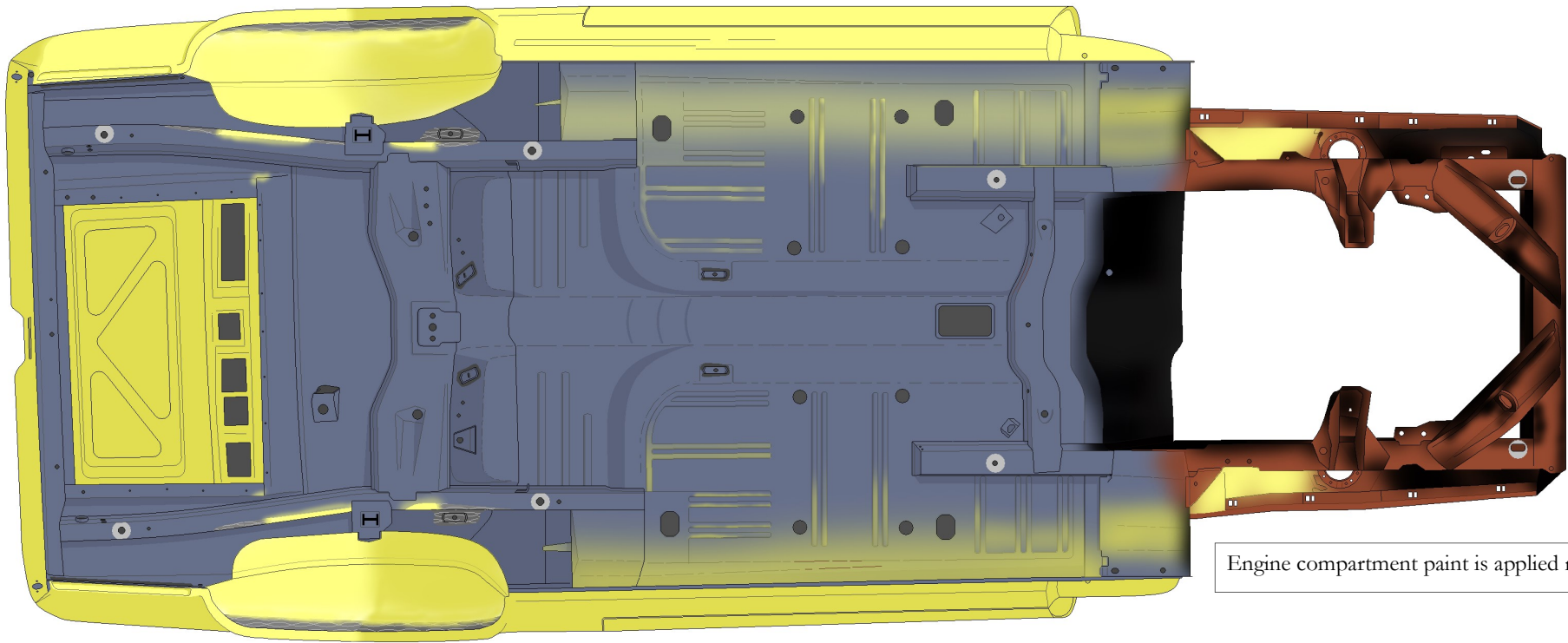
Not from this year but a good example of the seat belt sealant



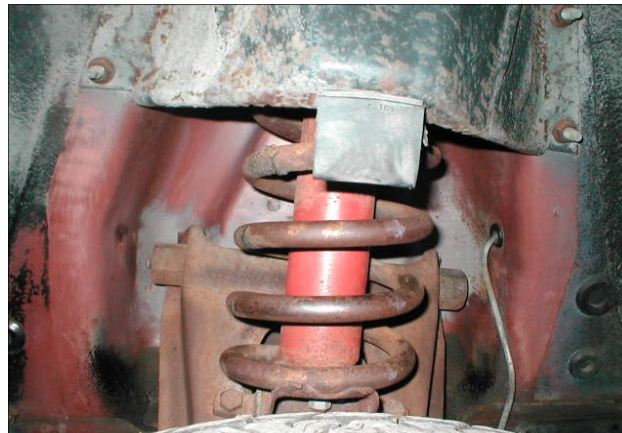
Sound deadener next applied to the rear wheel wells and trunk surfaces.







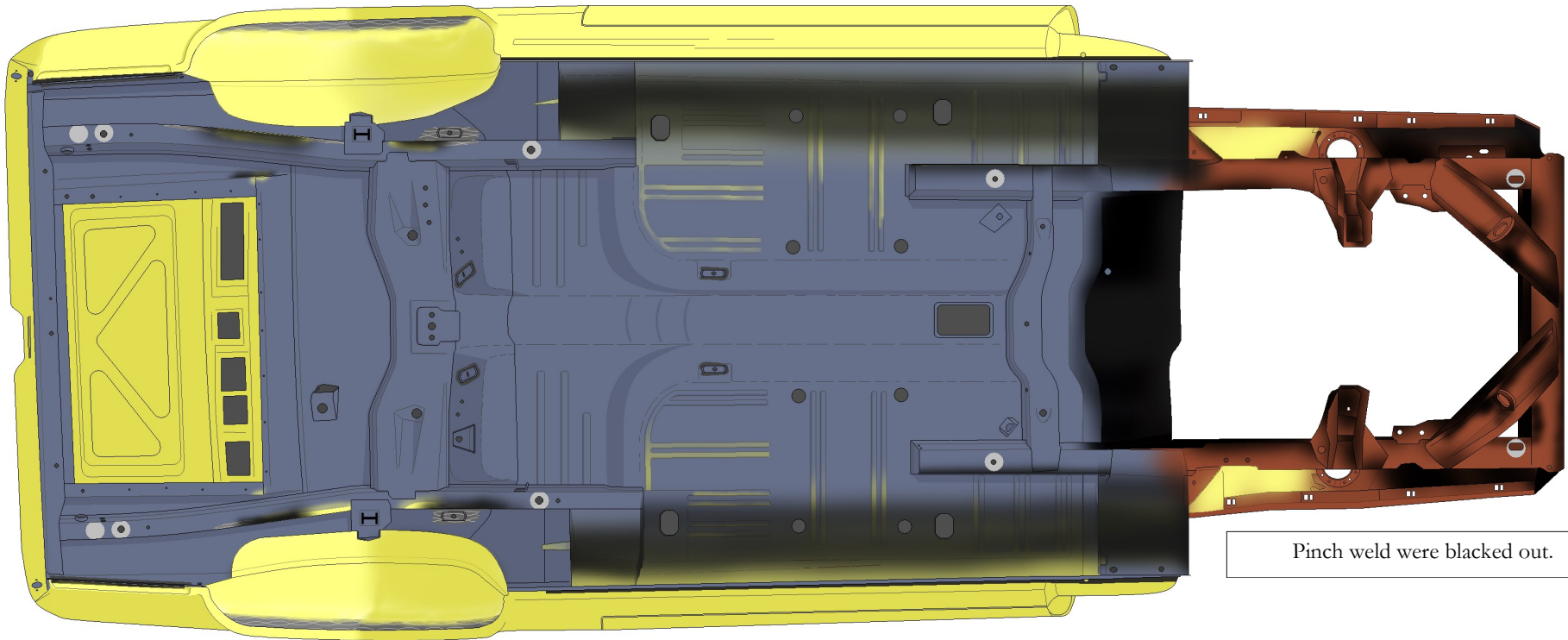
Cowl under cowl cover was body color or blacked out with engine compartment black depending on the car's build date. Black paint is worn on example



Front wheel well finish (before sound deadener was applied) is a combination of base color (in this example red oxide) body color at the rear and black towards the front .



Transition from batch color of the floor/undercarriage to red oxide/firewall to engine compartment black over both.



Pinch weld were blacked out.



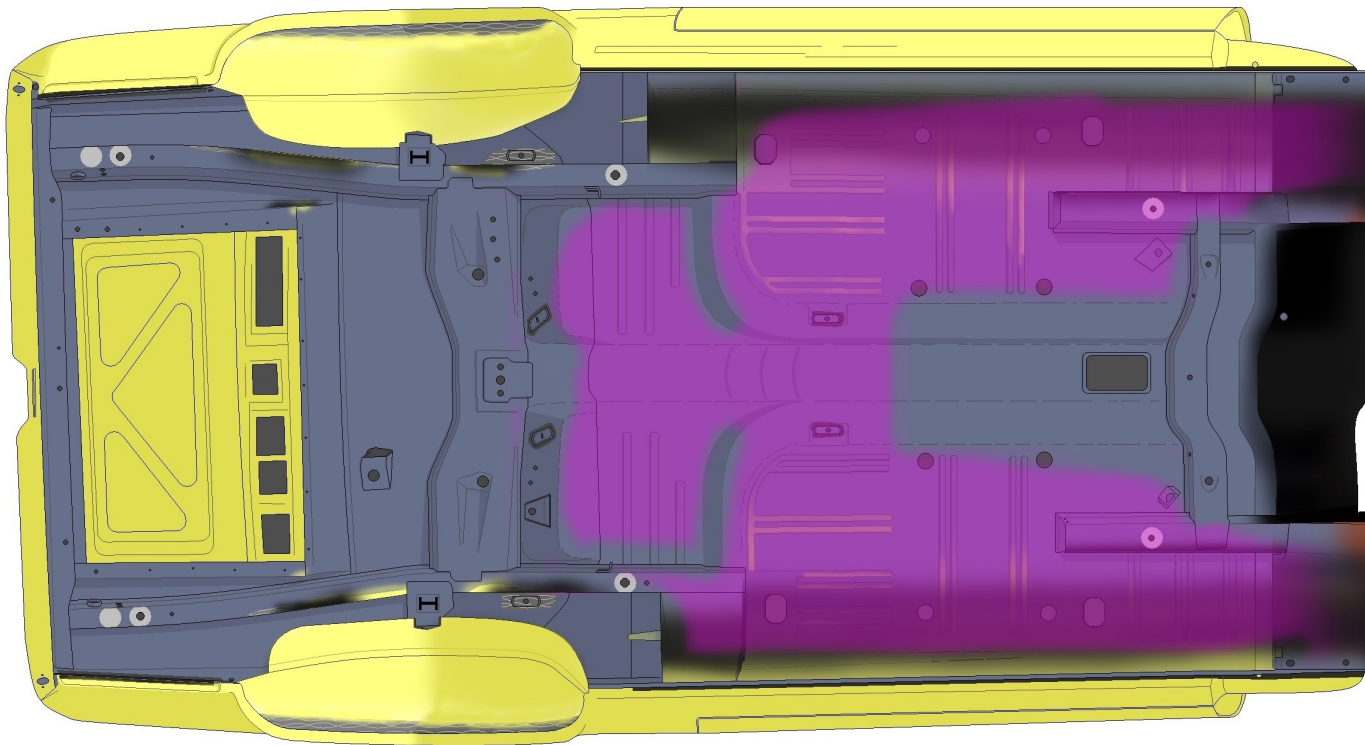
Rear quarter panel pinch weld black out applied after rear valance was pulled into the body at the bottom edge.



Closely applied example of pinch weld blackout on this example produced runs of black paint on floor near gun and less overspray inward on the floor



In this example paint was applied at a slightly different angle and distance which produced a wider black paint application and less runs on the floor pan close by.



Grande, Mach I , Shelby and some others Note:

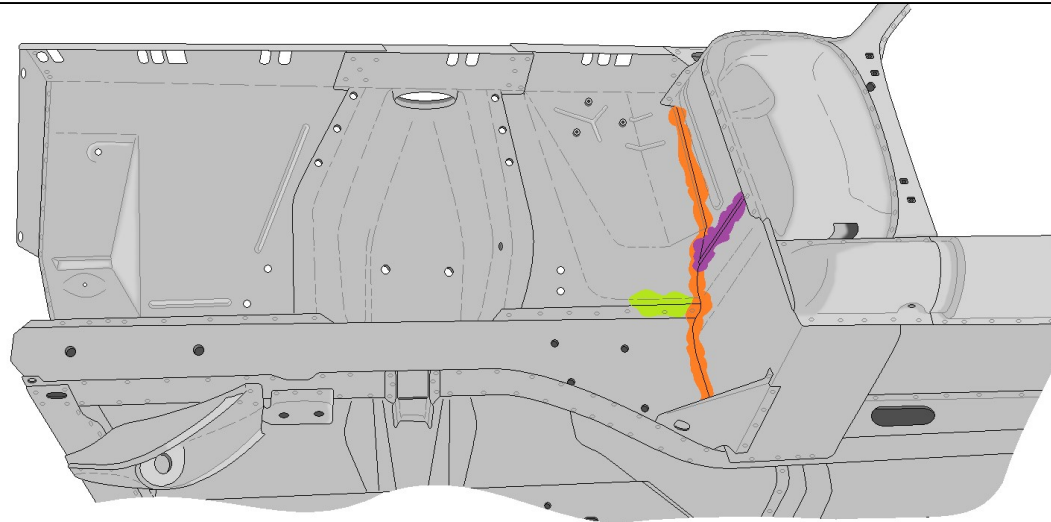
Once fuel line brake lines, rear suspension, engine and trans (basically everything under the car except the exhaust and driveline) the floor sound deadener was applied. (shown in Purple)

Since these items were installed shadows were created as sound deadener was applied over some (example would be brake & fuel lines and emergency brake cables).

Typically this was applied in three passes with the wand, front to back or back to front. Like many applications the area of coverage varies and amount could be a little or allot depending on the worker.



Front Wheel Well: Though not really part of the undercarriage thought I should include some front wheel well details since it's somewhat related and often prepped and painted at the same time. Over the bare steel an area of the front wheel well seams were typically sealed where the firewall panel is attached to the front torque box surface and the junction between those two panels and the rear inner fender panel and the frame rail joints. This was typically a heavy spray application of sealer similar to what we often find around the rear bumper support brackets attached to the trunk floors and taillight panel. Sealant could often be as thick as a half inch in the deepest cross section. Location shown in the illustration below and in the pictures of original examples at the bottom of this page. Take notice that applications could be a little (minimal vertical at torque box) or allot (along all of the shown seams).



BOSS 429 NOTE: The front wheel well details differ in some ways on Boss 429's so owners/restorers of those cars should seek out those details for their restorations.



In the picture above the area covered with the spray on sealant is highlighted.

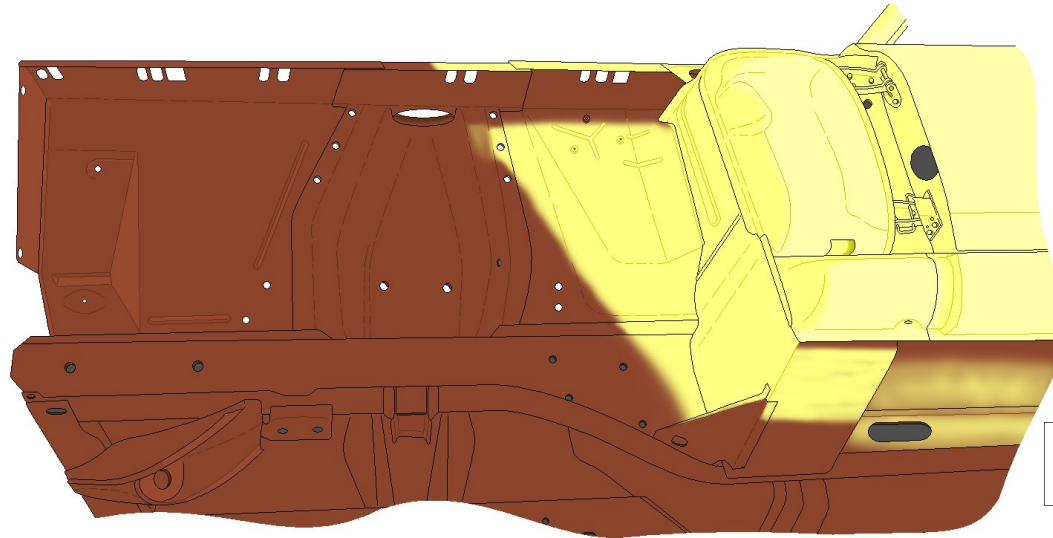


In the example above the worker applied the sealer to a larger area and number of seams in the area.



This examples show the seam sealer under the exterior paint coat on both vertical and horizontal seams.

Front Wheel Well Painting: The paint/primer that was used on the bottom of the frame rails, firewall forward, is typically found applied on the wheel side of the inner fender panels as well as the firewall section visible in the front wheel well. During the body color application it was normal that the painter applied body color to at least the rear edge of the shock tower area, angling down and rearward with his passes with the spray gun. In many cases the paint was applied further forward into the shock tower area or even further forward. The amount of coverage and where each stopped and started depended on what the painter wanted to do that moment it appears. Patterns appear to be unrelated so far to body type or month of production.



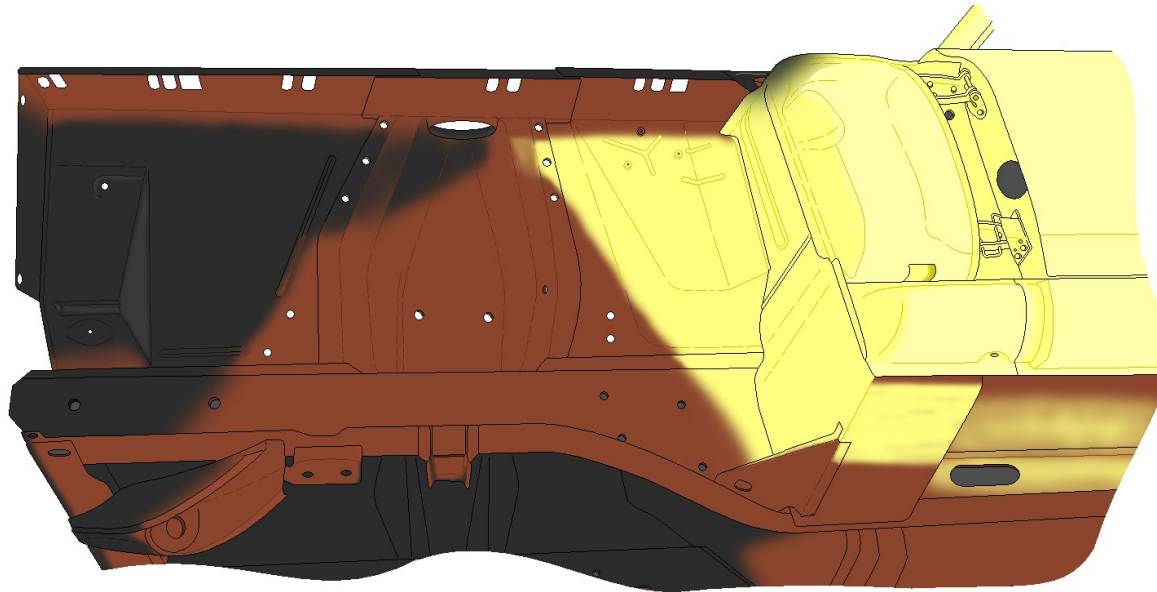
Example of the typical body color forward application.



An example showing the amount of white body color over the base red oxide to a lesser amount.



This picture shows the extent of body color forward in this drivers side front wheel well.



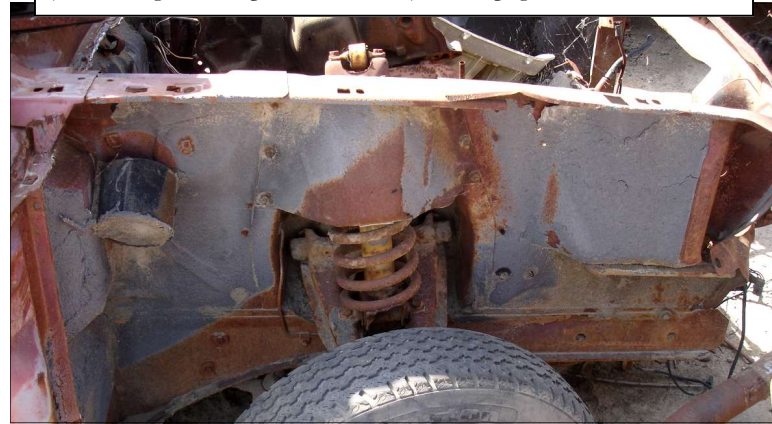
Wide range of how much engine compartment black wrapped around from painting the face of the radiator support has been found on original unrestored cars during this study. To the right (passenger side inner fender in front of the shock tower pocket) and a minimal amount applied (to the right) to the drivers side inner fender panel while, in this example, more black paint lower on the panel and frame rail.



Front Wheel Well: When the engine compartment black was applied to the inner fender panels (engine side and upper lip), firewall (extending up over the cowl to the windshield opening and the radiator support (front and rear surface) it was normal that the black paint, either from a heavy overspray or direct application, would get applied to the wheel side surface of the inner fender panels in front of the shock tower or either side as well as a dusting below the fender lip of the inner fender panel. This fine overspray is often washed/scrubbed away during cleaning of the original surfaces. The extent and how far reward the black extended varied allot as did the exterior paint application forward in this area of the body.



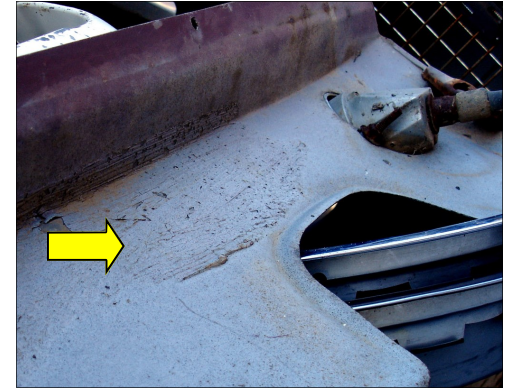
NOTE: Since 1969-70 Shelby's did not have their front fenders installed at Dearborn assemble plant this step was not done on those cars and should lack any top coat sound deadener in the final restoration. Examples of these cars can be found in the examples (bottom right most picture on both) of the page 12 & 13



Front Wheel Well Sound Deadener: Once the car was assembled, but prior to the installation of the front wheels and tires sound deadener was applied, from below the vehicle, on the inner fender panels (in front and behind the shock towers), the firewall section in the wheel well, over the front and rear splash panels/shields as well as the bottom surface of the front fenders. Typically the amount of area covered could be anywhere between a little/minimal (left set of pictures) or allot (right hand set of pictures). Sound deadener was applied by a worker in a pit below the body as it passed over head. The spray pattern will reflect this location and angles it produced. Shape edges in the pictures above in most cases reflect the shadows produced by the fender splash shields that would have been attached at the time of sound deadener application, but removed for these pictures.

Additional Details and Comments

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Backside of Rear Valance: In an attempt to soften the drone or hum that can sometimes be produced by sheet metal vibrating, a small amount of sealer was applied by spray onto the forward surface (facing the rear cross member) of the rear valance approximately over each location where the exhaust pipes would exit below on a dual exhaust car. The location was approximately center between the lower edge and the upper mounting lip and applied prior to being installed on the vehicle. Diameter of the product was approximately four to six inches as illustrated in the picture to the right. Passenger side shown in picture.