

**" THIS ARTICLE IS INTENDED FOR YOUR REFERENCE ONLY.**

**ACTUAL PARTS, YEARS AND BODY STYLES CONTAINED**

**IN THIS ARTICLE MAY DIFFER SLIGHTLY FROM YOUR APPLICATION. "**

## SHEET METAL INSTALLATION, 1955-1957



In this article we will install the center transmission hump, toe boards, front floor boards and the front floor board braces. In the car we are working on, someone has cut a large hole in the transmission hump to install a floor shifter and the front floors have been repaired with some kind of galvanized sheet metal. To replace the sheet metal we will leave the body on the frame. The frame will act as a jig to keep every thing in place. If this were a convertible, we would build an X-frame in the door jam to support the body even though it's on the frame, but with a hardtop, sedan or wagon, it is usually not necessary.

We will start in the center of the car with the transmission hump and work our way out to the floor pans. Never start removing any of the sheet metal from the car until you have the new sheet metal in your hands. Most panels have extra material for fitting but you always want to have the panel there for a perfect fit.



## **Tools Needed:**

Hammer	Paint Gun
Dolly	Hand Held Cut
Mig Welder	Off Wheel
File	Gloves
Vise Grips	1 1/2" hole saw
Electric Drill	Sawzaw
5/32" Drill Bit	Spot Weld Drill Bit
Spot Weld Drill Bit	"BANDAIDS"
Caulking Gun	

## **Time Frame:**

10 Hours

## **Parts Needed:**

31-21	1955-1957 Transmission Hump
31-01	1955-1957 Left Front Floor Pan
31-02	1955-1957 Right Front Floor Pan
31-113	1955-1957 Left Toe Board
31-114	1955-1957 Right Toe Board
31-09	1955-1957 Left Front Floor Brace
31-10	1955-1957 Right Front Floor Brace
31-137	1955-1957 Left Cowl to Floor Brace
31-138	1955-1957 Right Cowl to Floor Brace
31-134	1955-1957 Kick Panel Retainer
49-37	Joint and Seam Sealer



▲ **Photo #1:** You can see on our hardtop the common rust in the front floors and that someone has cut a large hole in the transmission hump for a shifter and then repaired it with some sheet metal. Other than the front floors, the rest of the floor pan is in pretty good shape.





▲ **Photo #2a & #2b:** The first piece of the floor board we will replace will be the transmission hump, #31-21. By replacing the hump first, this will keep the floor sturdy and give us reference point for the new left and right floor boards. We will place the complete transmission hump onto the stock floor pan and using a magic marker trace the new panel.



▲ **Photo #3a & #3b:** Whenever installing any sheet metal it is always best to replace only what needs to be replaced. Always cut back into some good sheet metal, but leave as much of the stock floor as possible. We are going to shorten the tail end of our transmission hump by about 6". By shortening the replacement panel we will still be into some good original sheet metal, but will not be getting into the main center brace under the car. This will save us a lot of work.



▲ **Photo #4a & #4b:** Using a 1 1/2" hole saw, drill a hole in each corner of the panel. Than using a sawzaw or plasma cutter make a pulmonary cut and remove the panel.





**Photo #5:** With a large portion of the panel out of the way we will use a hand held cut off wheel to do the final cut on the floor. This will give us a nice clean cut.



▲ **Photo #6a & #6b:** At the front of the hump there is flanges that meets the firewall, we cut with in 1/4" of the flange. Then, from the bottom of the car, we used a wire brush and cleaned off the flange to find the factory spot welds.



▲ **Photo #7a & #7b:** Now using a spot weld drill bit we drilled out all the factory spot welds on the front of the transmission hump where it flanges up to the firewall.



**Photo #8:** Once the spot welds have been drilled out the remainder of the transmission hump can be removed from the floor pan. Using a pair of pliers or cutter, peel the flange from the firewall.





▲ **Photo #9:** Using a body hammer and dolly flatten out the flange on the fire wall. This will make installing the new transmission hump much easier.



▲ **Photo #10a & #10b:** When the transmission hump is stamped at the factory there is a lip that needs to be removed, a 90 degree grinder with a cut off wheel works great to cut this lip off.



▲ **Photo #11a & #11b:** When the lip is removed, lay the new panel in place and clamp the two flanges together and check the fit of the panel side to side and front to rear. We don't have too worry to much about the fit to the floor pans because we will be replacing them, but you want to make sure to get a good measurement of the remaining part of the floor where the hump will get welded into.



**Photo #12:** With the transmission hump in place we have marked the of the panel where it will mate up with the stock floor pan, now we will cut the excess from the new panel.





▲ **Photo #13a & #13b:** The flange on the front of the transmission hump and the flange on the fire wall were spot welded together from the factory. If you don't have a spot welder a very simple way to imitate a spot weld is to drill 1/8" holes in the panel and then with a mig welder, plug weld the two panels together. Now with a DA sander, sand the top of the plug welds lightly and they will look just like a spot weld.



▲ **Photo #14:** With the front in place, weld the rear section of the transmission hump to the stock floor pan. Whenever welding two panels together like floor pans or body panels you always want to butt weld them together. This means end to end and not laying one on top of the other. If you lay the panels on top of each other, moisture will build up between the two panels and cause it to start rusting.



▲ **Photo #15:** Our floor boards and toe boards have the common rust. The inner rockers are in good shape so all we will replace will be the left and right front floor boards and toe boards. We will also replace the front left and right floor brace. The cowl to floor braces need to be replaced also, this is the brace inside the car that welds to the top of the floor just above the floor brace and to the lower cowl.





▲ **Photo #16:** The right front floor board #31-02 goes from the inner rocker and will attach to the transmission hump. There is a lip on the front of the floor pan that will mate up to the toe board and the rear of the floor board will butt weld to under the seat panel. We have laid the floor board in place and have marked the stock floor where it needs to be cut.



▲ **Photo #17a, #17b & #17c:** Using the sawzaw we removed the floor board in a couple pieces. We cut right through the floor brace and left about 1/2" of the brace still welded to the inner rocker. It didn't take much to remove the cowl brace from the inner support.



▲ **Photo #18:** With most of the stock floor board out of the way we clamped the outer lip of the new front floor board to the inner rocker and also clamped the front lip of the new floor board to the lip on the toe board. Now we will make the final mark on the stock floor board and to the new transmission hump.





▲ **Photo #19a & #19b:** We trimmed the transmission hump back to match up with the new floor board. Once everything was fitted we butt welded the new floor into place.



▲ **Photo #20:** We drilled a 1/8" hole every 1" or so and plug welded the outer lip of the floor pan to the inner rocker in the door jam.



**Photo #21:** Our toe boards were rusted out in the corner under the cowl braces. The new toe board #31-114 goes from the front of the floor pan to the lower edge of the firewall, the sheet metal on the firewall and the upper half of the toe board is in great shape, so we will cut back about 1 1/2" from the lower edge of the firewall. This way the welding will be done down low where the edge of the firewall will not be disturbed.



▲ **Photo #22a, #22b & #22c:** Once we have the measurement we will cut the new toe board to length, and the inner edge at the hump can be trimmed also.





▲ **Photo #23a & #23b:** The outer edge of toe board where it fits up the kick panel area is at an angle so we have taken a piece of cardboard and cut a template and will transfer the measurements to the new toe board.



▲ **Photo #24a & #24b:** Place the new toe board over the stock toe board and mark the stock toe board where it will need to be cut.



▲ **Photo #25a & #25b:** When cutting out the stock toe board cut about 2" from the edge of the toe board where it meets the kick panel. The stock toe board was lap welded at the kick panel area. Using a spot weld drill, drill the spot welds where the stock toe board is welded to the lip at the edge of the kick panel area. This will leave you with a 3/4" lip along the kick panel area.



**Photo #26:** Drill 1/8" holes about every 1" in the edge of the toe board where it's going to mate up to the kick panel lip. Then drill a couple 1/8" holes into the lip. Now screw the toe board to the kick panel lip.





▲ **Photo #27a & #27b:** Now with the mig welder, weld through the holes and plug weld the toe board to the kick panel lip. Then remove the screws and plug weld the remainder of the holes, and finish welding in the toe board to the firewall and transmission hump.



**Photo #28:** Now move to the bottom of the car and drill about ten holes in the front lip of the floor board and the rear lip of the toe board and plug weld the two panels together,

which will simulate a good spot weld.



**Photo #29:** The front floor brace #31-10 is the brace under the front floor where the body mount mounts to the frame. This mount spot welds to the bottom of the floor board and to the inner rocker.



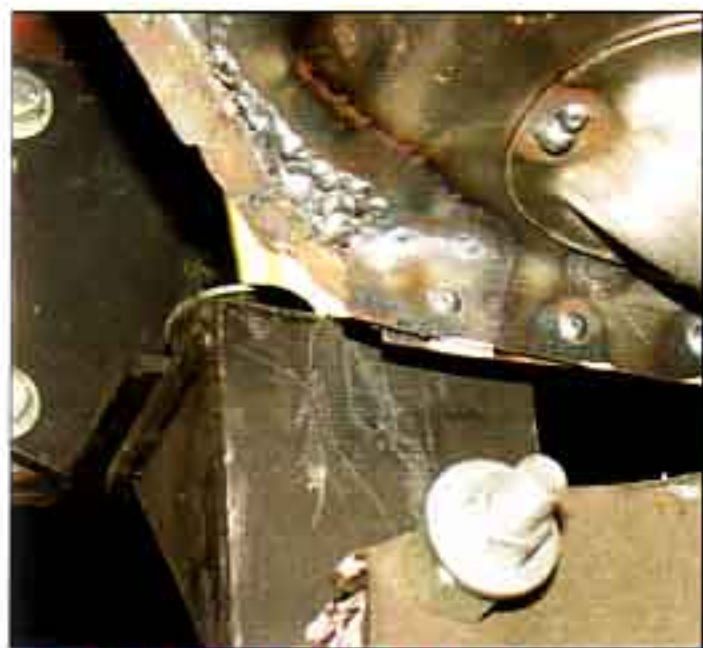
**Photo #30:** We have drilled about twelve 1/8" holes into the outer lip of the floor brace, which is where we will plug weld the brace to the floor and inner rocker.



**Photo #31:** Place the floor brace under the floor board and line up the hole for the body mount, and the hole in the rear tab of the brace with the holes in the floor board. Make sure the brace is also pushed tight against the inner

rocker. Then drill a couple holes in the floor pan and attach the brace to the floor board with a few sheet metal screws.





▲ **Photo #32a & #32b:** Now with the brace pulled tightly against the floor board, plug weld the floor brace to the bottom of the floor and the inner rocker.



**Photo #33:** The cowl brace #31-138 is the brace that welds to the top of the floor board right over the floor brace and to the inner lower cowl. We have drilled holes in the brace and plug welded it to the floor and cowl. We have also tack welded the top of the toe board to the floor pan, which will make the seam much stronger.



▲ **Photo #34a & #34b:** There is an angle bracket, #31-134, that is spot welded to the toe board that holds the front edge of the kick panel in place at the carpet line. Once again we have drilled 1/8" holes in the bracket and plug welded it to the toe board. The bracket measures 1 1/4" from the edge of the inner wall of the kick panel area to the outer edge of the bracket.



▲ **Photo #35:** With all the sheet metal welded into place, the body mount can be reinstalled, it most likely will need to be reshimmied. Refer to the body mount shimming tech article on page eight of this issue.





**Photo #36:** Now repeat the process on the driver's side. With everything welded in, you will want to put a good coat primer/sealer on the new sheet metal, top and bottom. On the inside of the car we first wiped all new sheet metal off with a metal prep and then using a DA sander,

we sanded the complete floor. We didn't do any grinding or body work to the welds on the inside of the car.



**Photo #37:** Then using a foam paint brush we put a couple of good coats of primer/sealer on the floor.



**Photo #38:** Next we caulked all the new seams, which will give the body a nice tight feel. Using a 3M joint and seam sealer, #49-37, we caulked the seams where the new transmission hump and firewall meet and also where

the new toe board meets the new floor pan and kick panel area.



▲ **Photo #39:** On the bottom of the car you can go as far as you want. If you're building a nice driver, you may just want to seam seal the new panels and under coat the bottom of the car. If you are doing a full frame-off, once you have the body off the frame, all the body work to the new floor boards and seams can be done. With all the sheet metal welded in place with the body on the frame you know it's all exactly where it should be.

Good Luck! >