

Sculpting Taillights

1.

This unique, 1937 GMC COE has a completely hand-formed bed. Insulation foam is used here to mock up the position of the taillights in the rear panel.



Custom
Lights for a
1937 GMC
Cabover

Brian Limberg of Tin Man's Garage in Sycamore, Illinois, is no stranger to building top-level street rods. Of the many awards he has received, he is particularly proud of the Eric Black Design Award at The Gathering in Oklahoma last year for their team's latest 1936 Willys sedan, dubbed "Gangrene."

Limberg and his crew have been working on a 1937 GMC cabover truck; they completely hand built the bed. One of the finishing touches was mounting taillights to the bed; in this article we'll look at how they approached this intricate project.

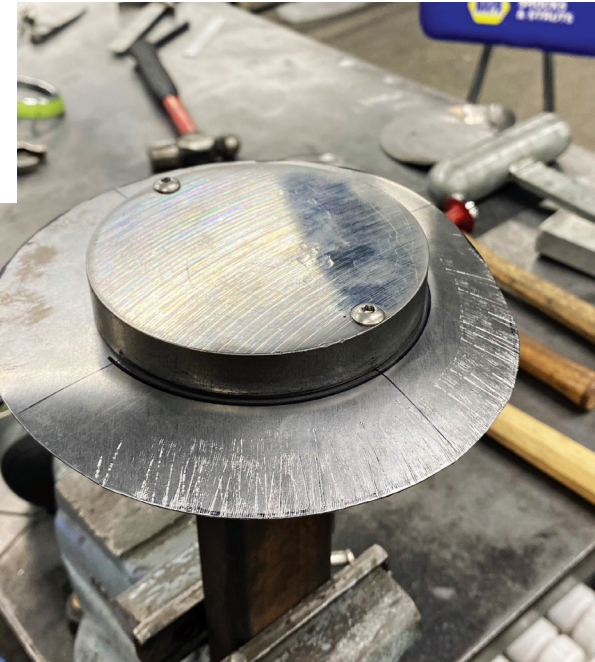
Metalwork is slow by nature, so it is often a good idea to use another material to quickly try out some different ideas before the cutting and welding begins. They glued together blocks of building insulation foam to simulate one corner of the bed and then tried different taillight positions. There are a lot of subtleties at this stage—how far the taillights will be recessed, how close they should be to the edge of the bed, how far down from the top of the bed, and the spacing between them. They were ready to start the work with metal once they had worked these proportions out with the foam mock-up.



2. Hammerforms were made from steel plate to help form the mounting surfaces for each taillight assembly. Note that these are different-sized discs.
3. Here a disc of sheetmetal is clamped to the hammerform, and a metal shrinking machine is used to start moving one flange down on the shallower side of the recess.

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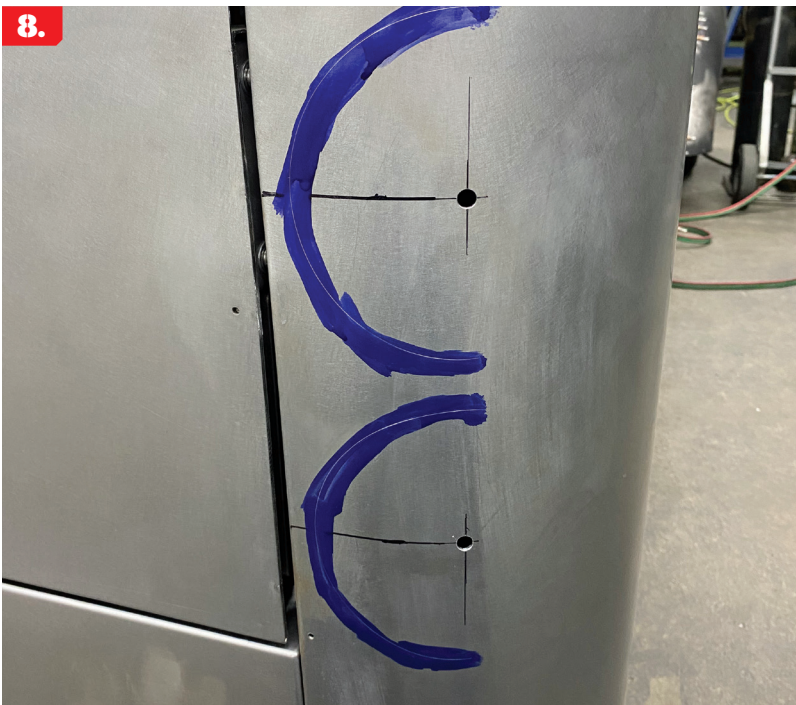


5. The metal is hammered down against the form while it's red hot.

6. Here are all four of the taillight mounting surfaces with the forming complete. These parts would have been exceedingly difficult to make without the hammerforms.

7. A sturdy fixture holds the hand-shaped mounting surfaces for each light and positions them accurately from the top and side of the bed.





8. A hole is made in the bed at the center of each light, and used to scribe an arc for the preliminary trimming of each opening.

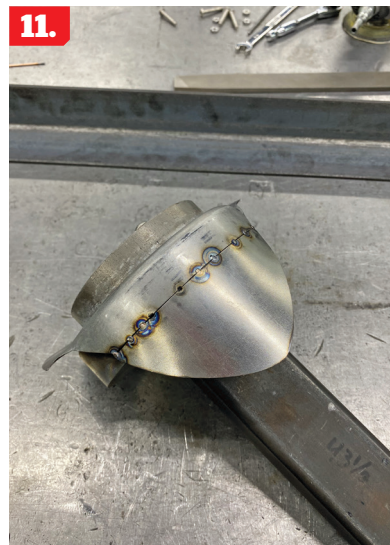


9. After the initial cut, the buckets and fixtures can be moved closer to their final position.

10. Small magnets hold a piece of chipboard in place, which will become the pattern for the metal filler piece.



10.



11.

11. Here, the filler piece is trimmed, fitted, and tack-welded into place. Note how tight the joint is, which facilitates making a nice, clean weld.



12.

12. Before the final trimming, magnets hold the light assembly into place to check the fit.



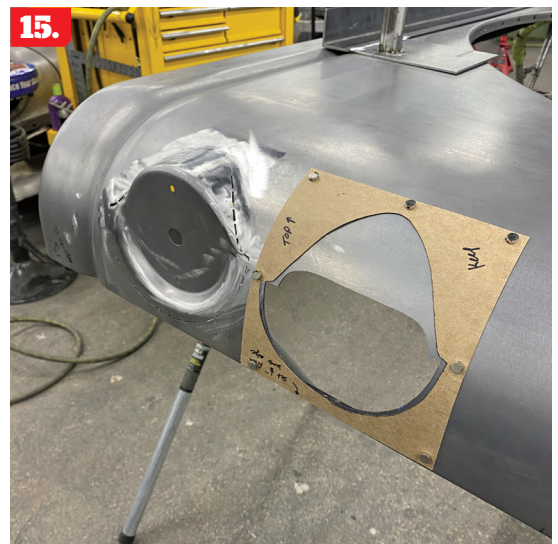
13.

13. After the opening is trimmed to size, a hammer and T-dolly flare out the metal to fit the mounting flanges.



14.

14. The plate is tack-welded into place here. Note how tight all the joints are, which will ease the finishing of the joints.



15.

15. A pattern is made from the first light and then used to lay out the cut line for the second.

The first step was making the mounting surfaces that the lights attach to. They chose clean, aftermarket, 1950 Pontiac-style taillights from Speedway Motors, and they require a flat surface for mounting. Since the lights are semi-recessed, the mounting surfaces need a complex shape on the edge—flared toward the rear on the inner portion and flared toward the front on the outer side. This required sturdy steel hammerforms, which made this tricky forming job much more controllable and repeatable.

The rearward-facing flange fits quite close to the taillight bezel, so one of the forms was made to match this diameter. A flat disc of 19-gauge steel was cut about 2 inches larger in diameter than the form. One side was worked in a mechanical metal shrinking machine to start moving it down, and then the flange was hammered to about a 45-degree angle.

This rough-shaped form was then inverted and placed on the larger hammerform, which has the shape required for the larger-diameter mounting surface. Since the flange gets folded down close to 90 degrees, a great deal of shrinking was required on this part and heat was required to make the metal shrink this much.

With rough-formed flanges, the inside flange was worked with a hammer and T-dolly to give the metal the required S-shaped curve. These parts were checked constantly while being formed to ensure they would precisely match the contours of the bed.

With all four mounting plates formed, it was time to position them on the bed accurately. A simple bracket was made that two of these parts were screwed to, and this assembly rested on the top flange of the bed. This held the parts in precise alignment while keeping the center distance constant as the right-to-left position was dialed in.



16. The fixture is brought back into play, which ensures precise positioning and alignment for both mounting plates.

17. From the inside, you can see how well the edges are aligned.

18. A straightedge is used to double-check the alignment of both mounting surfaces. The fixture was vital for ensuring the accurate positioning of all the components.

19. The parts are completely TIG welded, and you can see that cleaning up the tiny welds will not take much work.

20. After careful grinding and smoothing, the metalwork appears seamless, the sign of a first-class job.

21. Here, the taillights are mounted on the passenger side. They look like they were designed for this application.

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22.

22. The job is only half finished, and a laser is used to find the centerline of the lights on the passenger side.

23. The laser is used again to find the centerline for the lights on the driver side. This will ensure that both sides are perfectly symmetrical.

24. The fixture is modified slightly to be used on the other side of the bed.

25. Here's the finished installation. This is a masterful job for both the design and execution.



23.



24.



25.

Once the position was finalized, openings were made in the bedside to allow the light mounting surfaces to nestle down toward their final resting place. Finally, the bed could be trimmed so the plates would fit precisely.

There was a lot more fitting, adjusting, welding, and smoothing required to finish the job, and the photos show the most critical steps. Work like this doesn't happen overnight, but Limberg's team has the focus and dedication to do work at this level daily. We're sure you can learn many of the fine points of metalworking from following each step of their process, and the finished job speaks for itself. **MR**

► **SOURCE**

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