

REAR WHEEL WELL

We will either find a way—or make one.

Hannibal



Notice that the driver's head is actually behind the leading edge of the rear wheel.

The most efficient way to carry suspension loads forward from the rear suspension is with a straight rear bulkhead that completely spans the width of the vehicle. In fact, most race cars are designed this way. On the original Cobra, however, the wheel base (the distance from the center of the front wheel to the center of the rear wheel) is only 90 inches. The distance is so short,

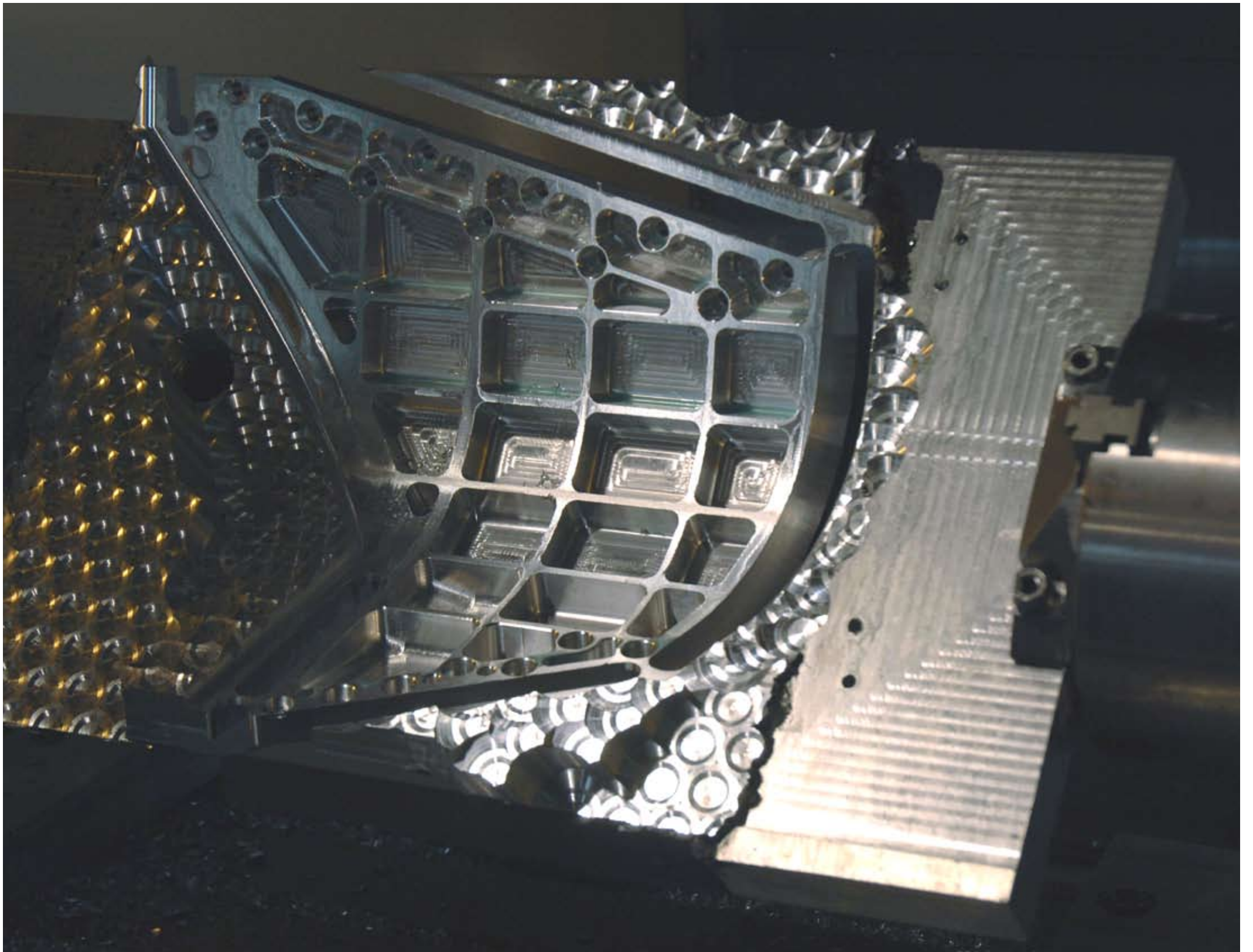
in fact, the leading edge of the rear tire is forward of the driver's head. We had to feed the loads from the rear suspension around the rear wheels and then behind the seats before we could then feed them forward to the front suspension. This presented some extreme challenges to our design team. We had to come up with something clean, compact, stiff, and light.



We began by cutting in half a 147-pound cylindrical billet of aluminum, 12 inches in diameter and 13 inches long.

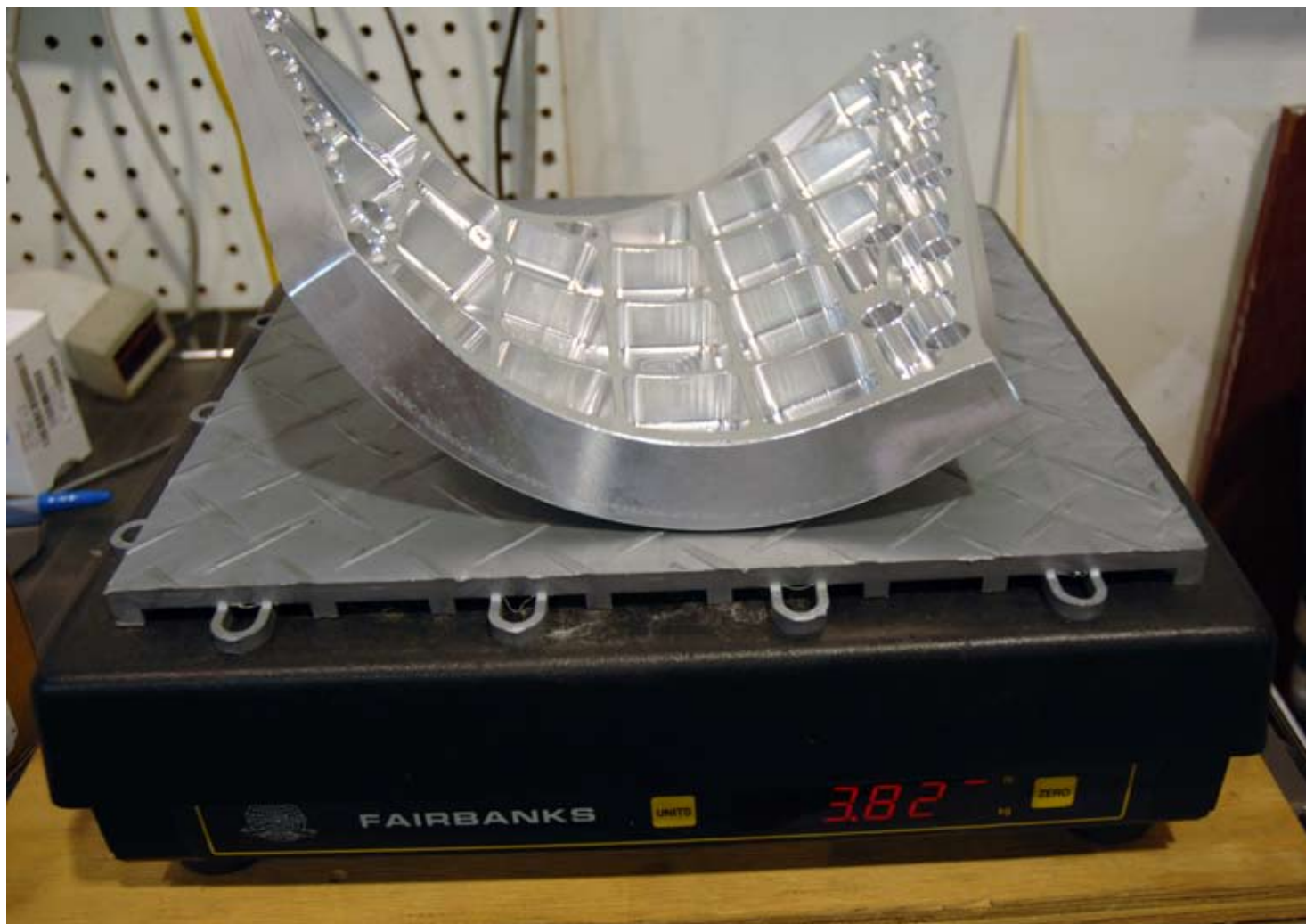


We welded some “wings” on the ends so we could hold onto the billet—they were cut off in the milling process.

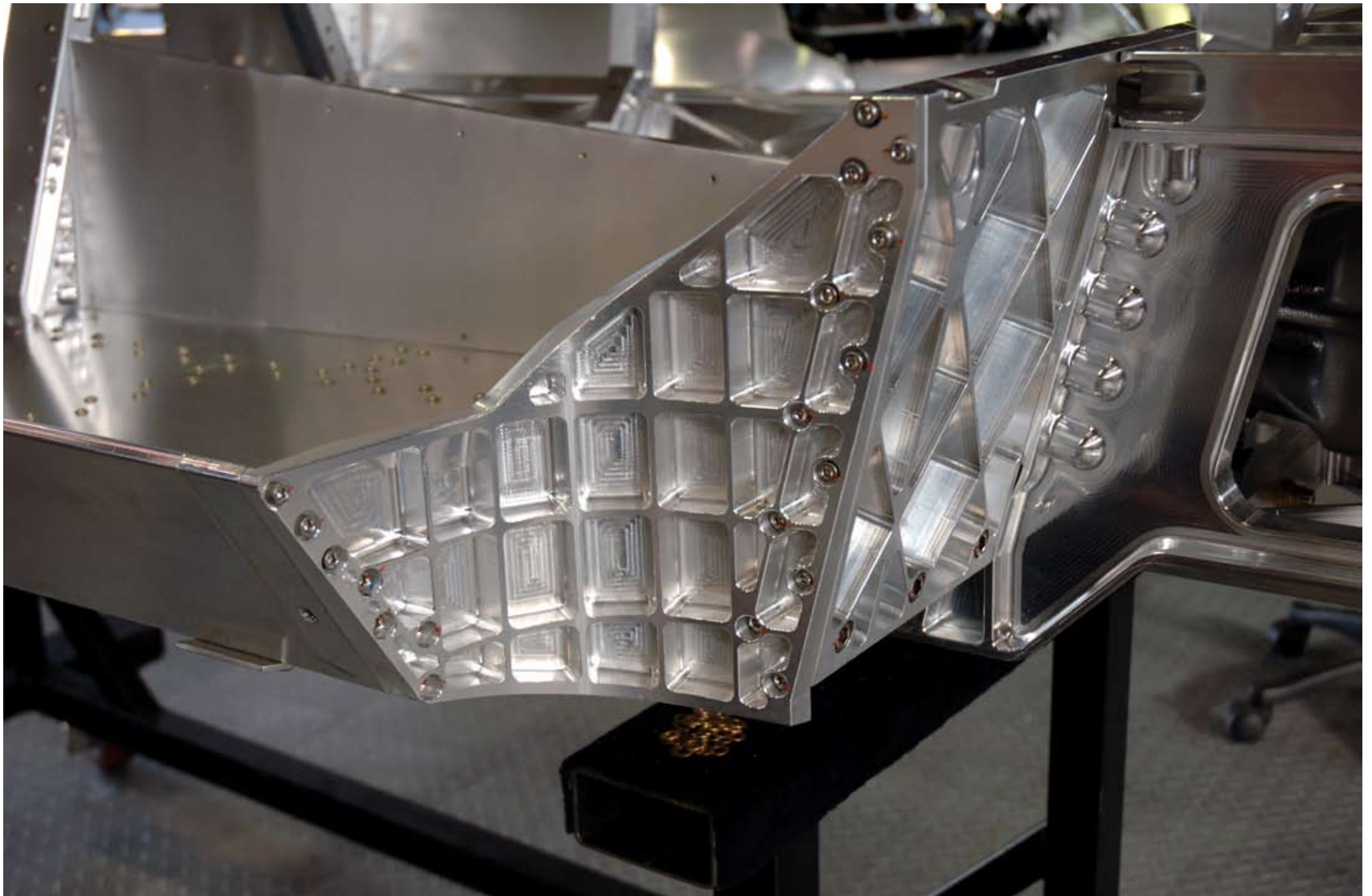


We then milled out the entire outside of the wheel well. The part rotates as it is being machined. This is the tire side.

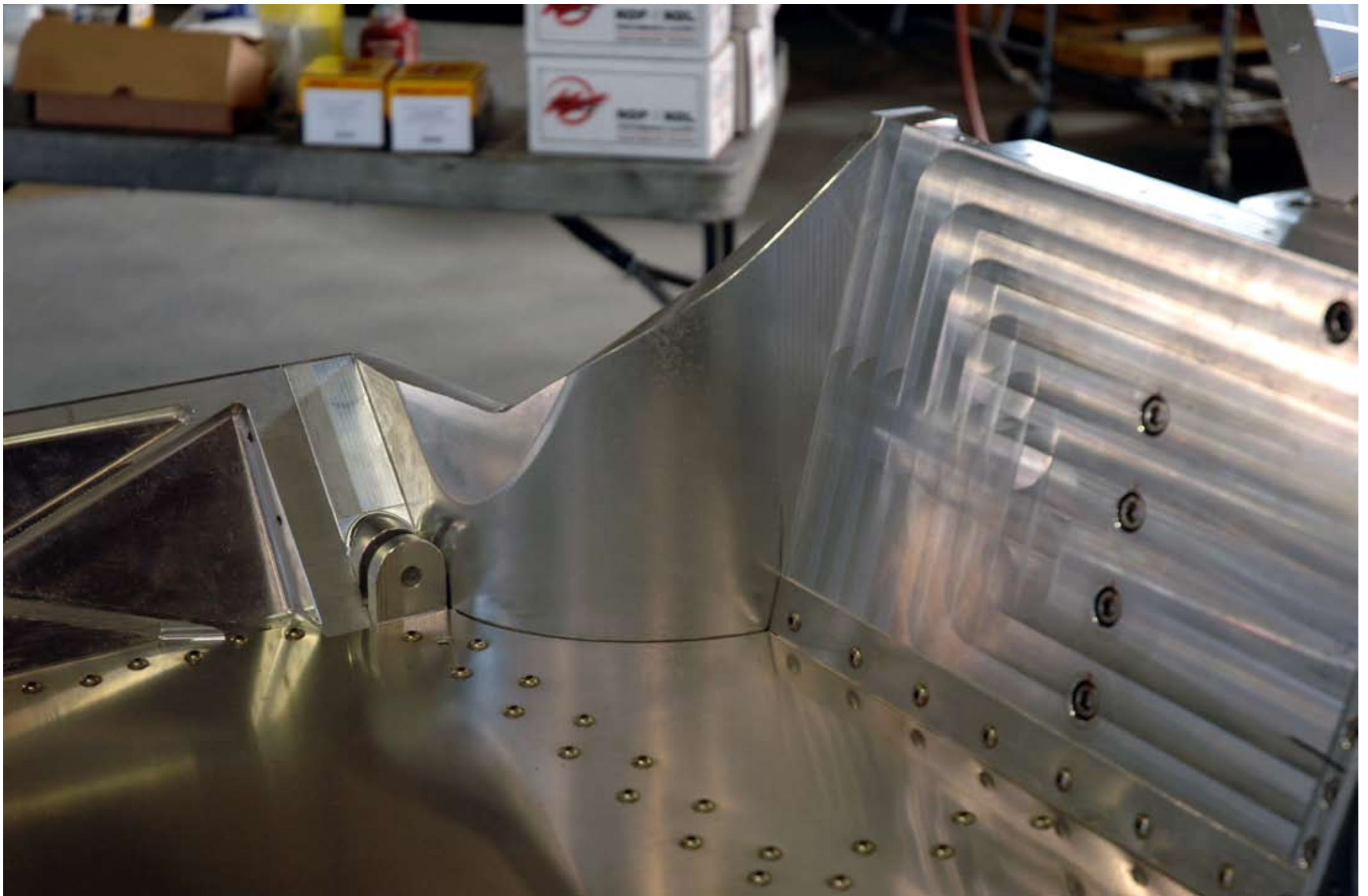
This is the side of the wheel well that faces the cockpit—behind the seat.



The finished wheel well weighs a scant 3.82 pounds.



The finished wheel well bolted into place. This completed the tub that ties the rear suspension to the front suspension, making the structure very stiff. The rear bulkhead the wheel well is bolted to is 1 1/2 inches thick.



The inside of the wheel well as seen from the cockpit. From here it is easier to see how the wheel well connects the rear bulkhead (on the right) to the plate under the door (on the left), which forms the sides of the “tub.” By raising up the sides of the “tub,” we were able to make the structure stiffer—much like a bowl is stiffer than a plate.