

MAIN FRAME RAILS

The word impossible is not in my dictionary.

Napoleon Bonaparte



The main frame rails just as they are starting to be assembled.

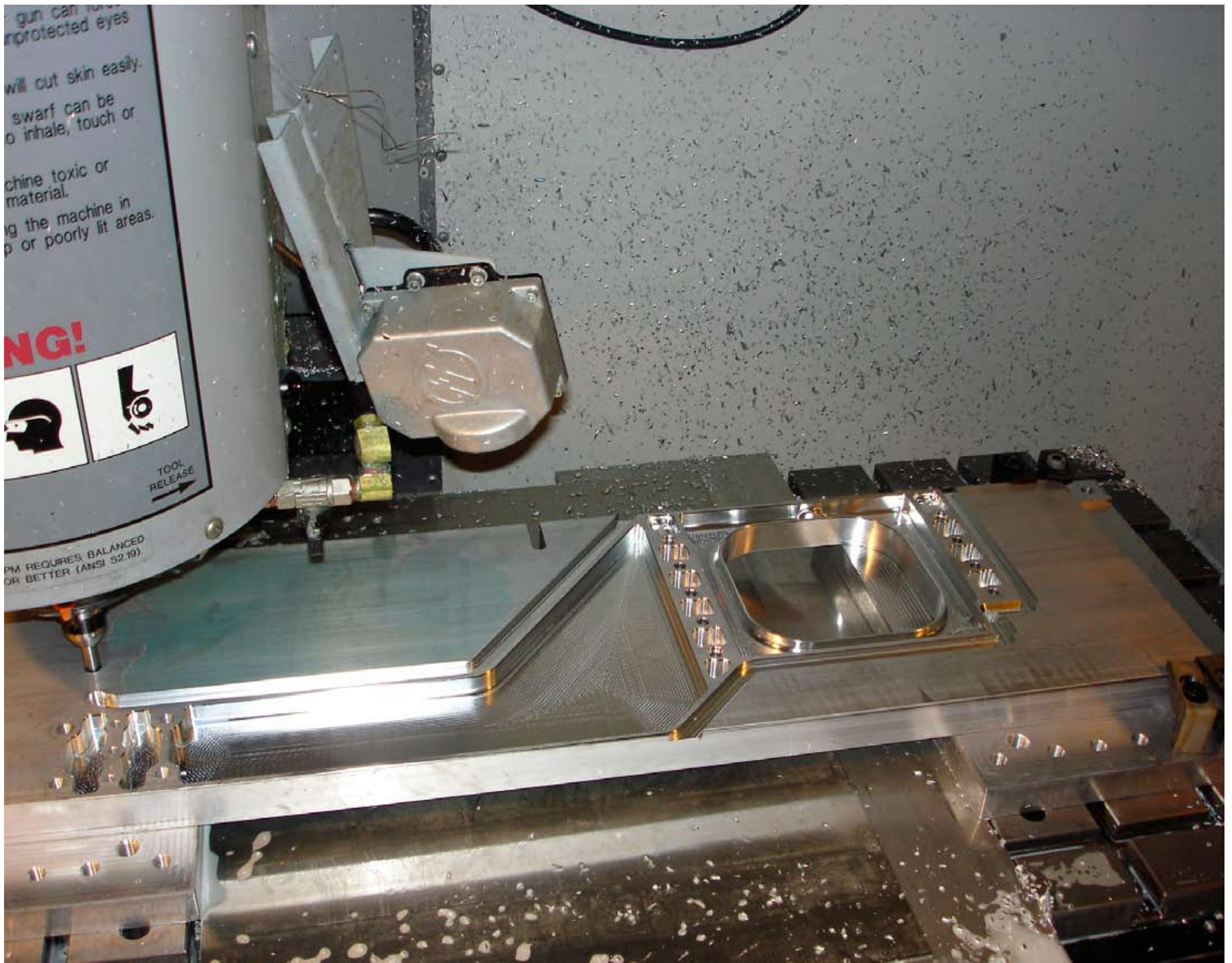


The main frame rails were first blanked out of a 1 1/2 inch x 4 foot x 12 foot plate of aluminum.



The main chassis rails had to be made on a large CNC mill we purchased for this project. Even so, the main frame rails were much longer than the machine area, so we had to hang the ends out of the machine. Machining the main frame rails was extremely labor intensive. They were so long they

had to be machined in 12 separate operations for each frame rail. It was very difficult to hold the tolerances over the 8 foot length of each of the main frame rails. As you can see from “Sandwich’s” smile, he did an incredible job of blending the sections. The blends are almost invisible.



Because the main frame rails were so long, we made a special tool to go into a drilled hole in the unused portion of the plate to positively locate the plate. Then we programmed the mill to plunge the tool into the hole. The clamps were then loosened,

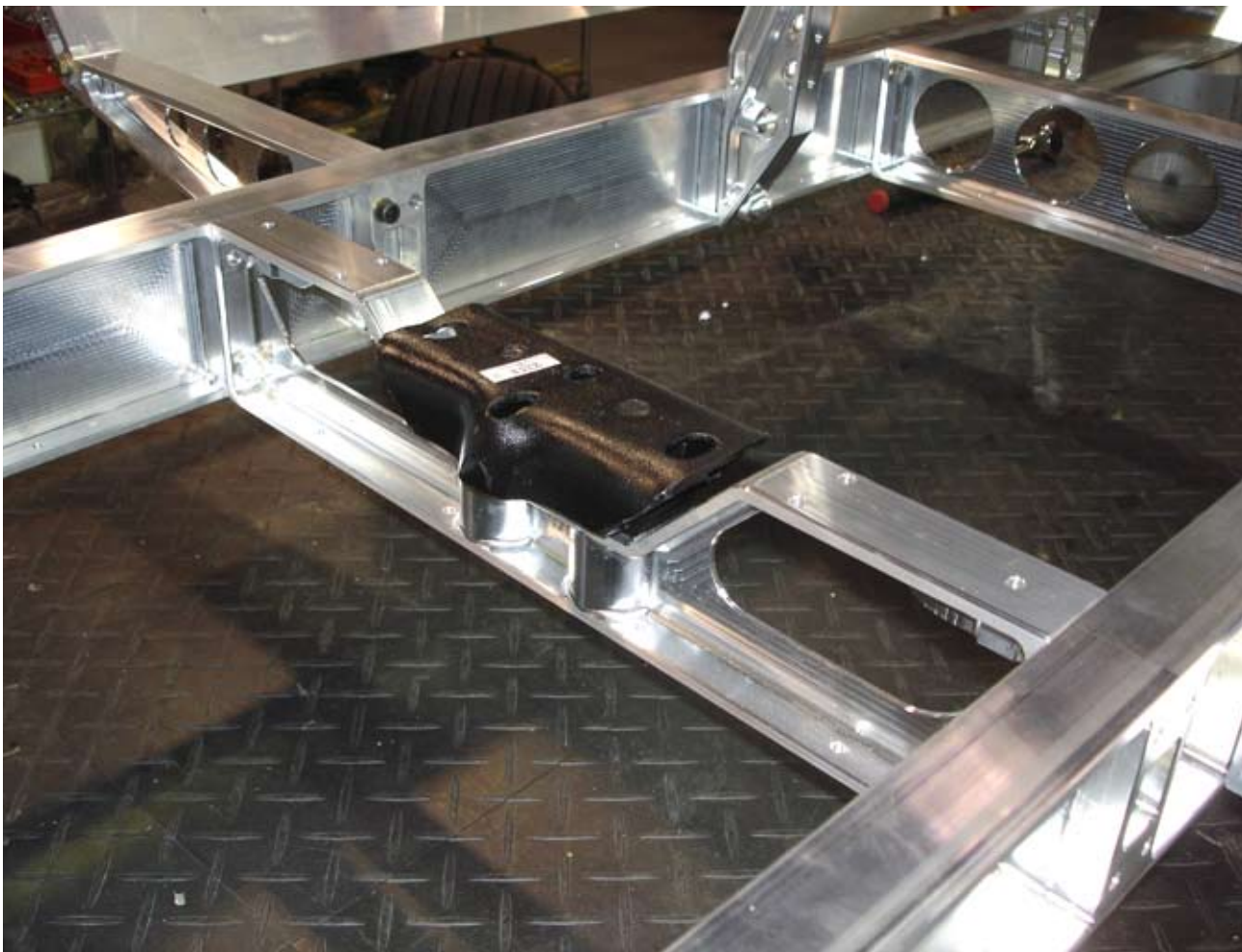
and the mill was commanded to move to the new position. The spindle head held the plate in place while the table slid to the new position. We then clamped the main frame rails down again and repeated the process 12 times for each side.



Closeup detail of the main frame rails.



Sandwich deburring the main frame rails after the first operation. Any burrs will throw the plate out of alignment when it is put back into the fixture for the remaining operations—causing significant error over the 8 foot span of the rails.



After the chassis was cleaned, all the water was blown out of the holes. The chassis build started with the assembly of the main rails and cross members. To the left is the transmission mount.