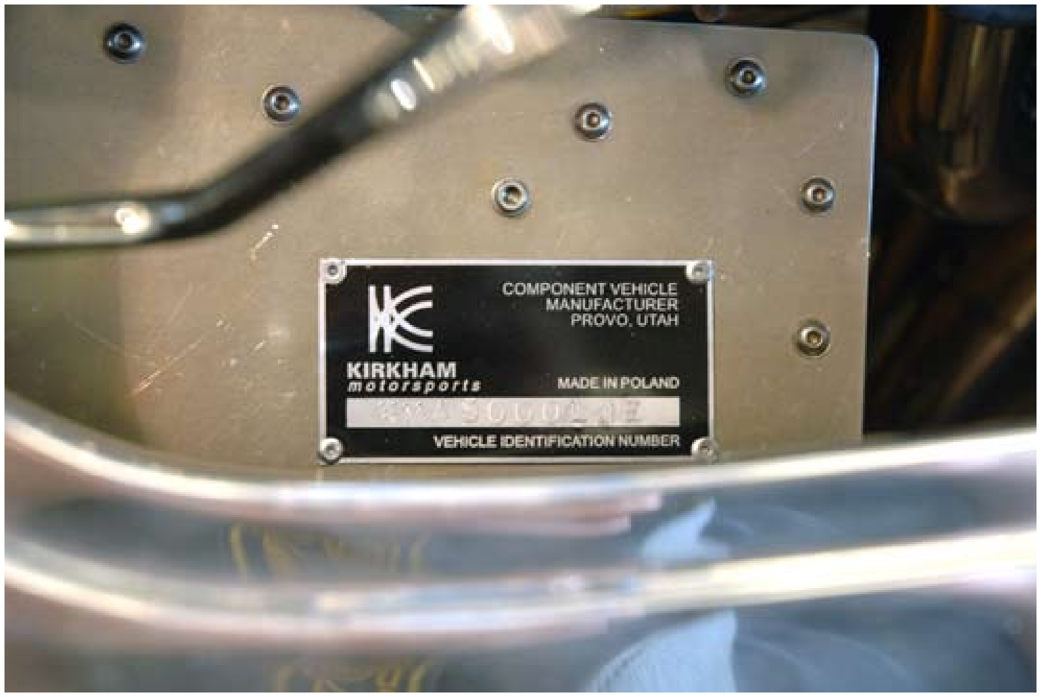
COMPONENTS

It is not the mountain we conquer but ourselves.

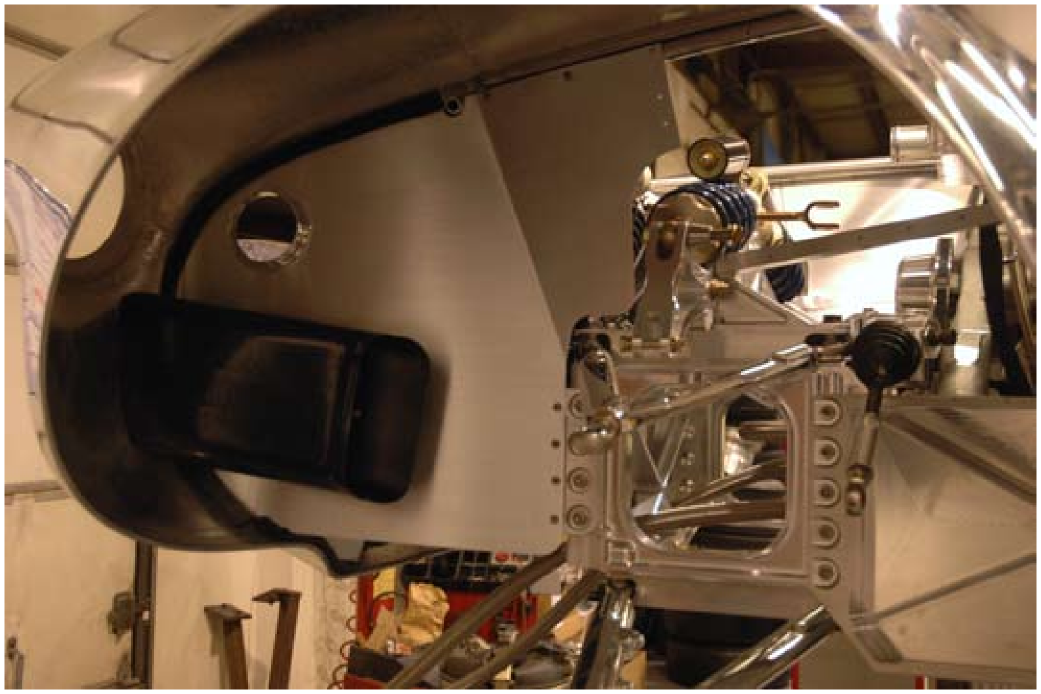
Sir Edmund Hillary

The hood prop rod was made from polished stainless steel.



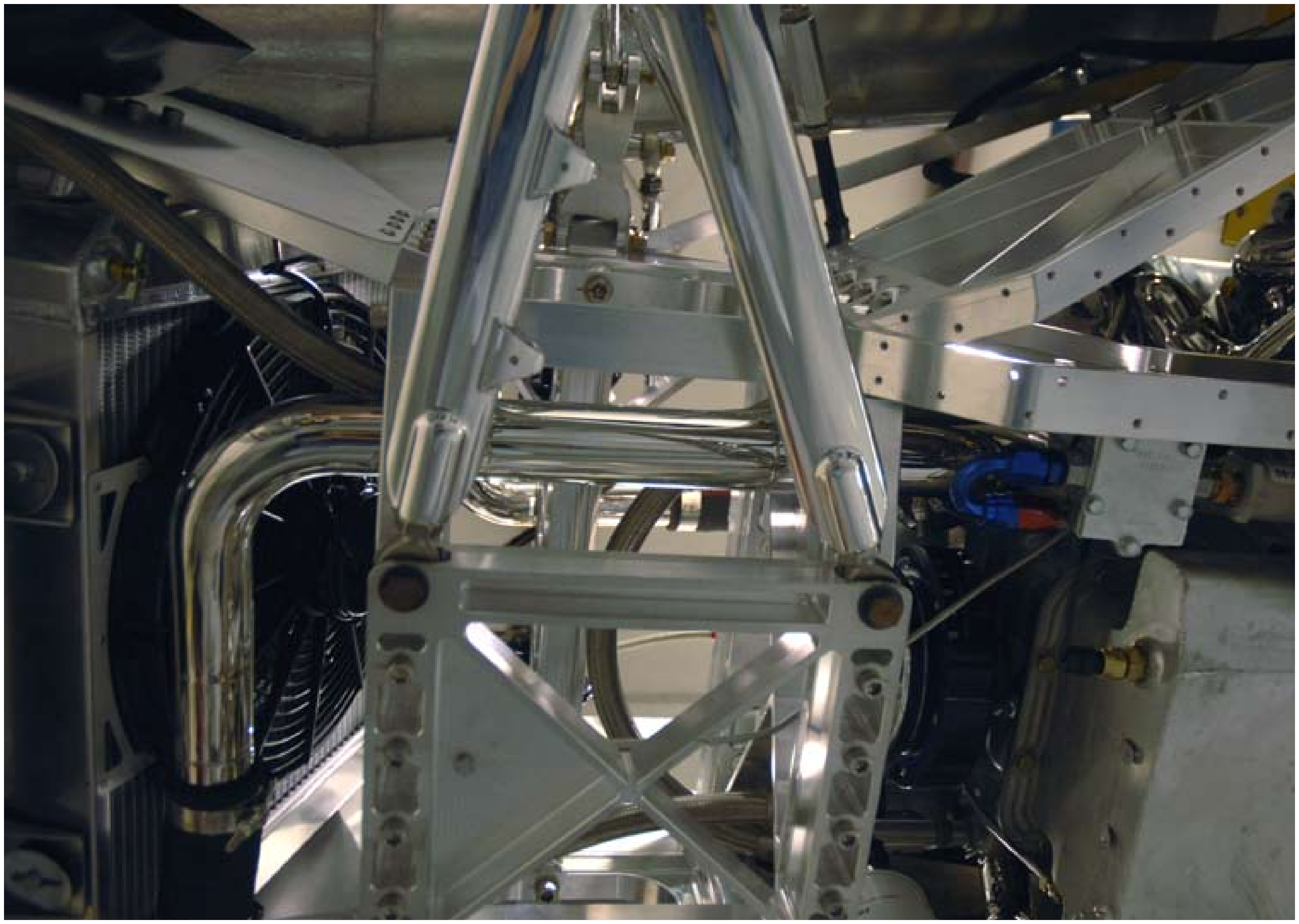
We made a special serial number for this project. KMA=Kirkham Motorsports America; 5000 was the first serial number in the 5000 series; LJE are Larry Ellison's initials. Only the body on Larry's car was made in Poland.

Fresh air for the passenger comes in through this hole—there is an identical one on the driver's side. Notice the beautifully brushed interior panels.

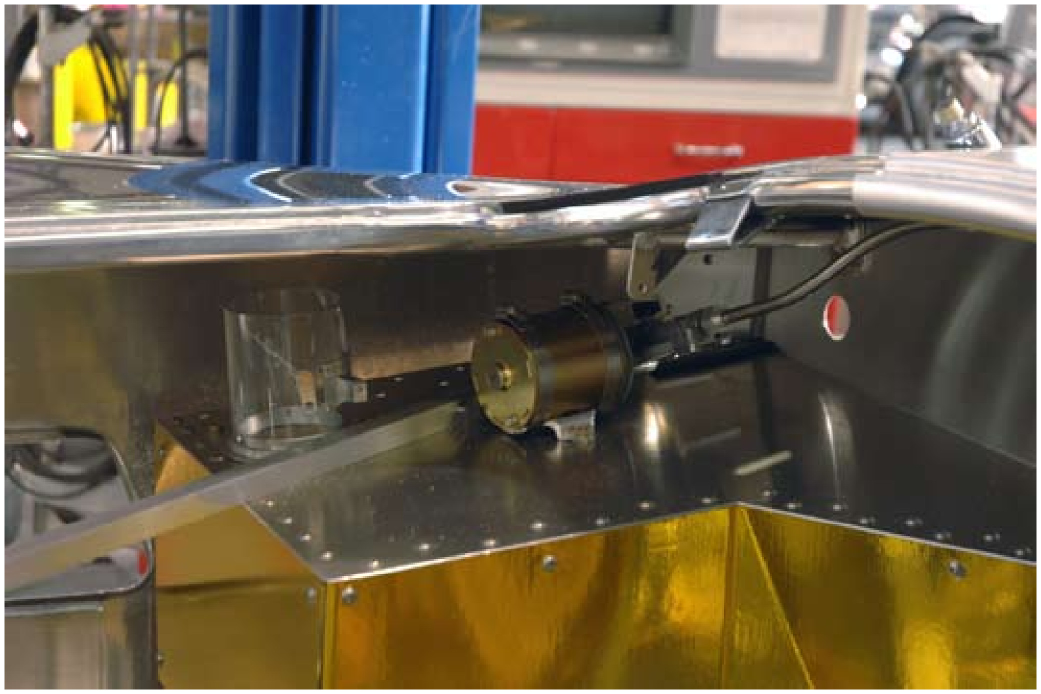


The fresh air flange as seen from the driver's wheel well.

The upper radiator bracket and mounting system is identical to an original Cobra.



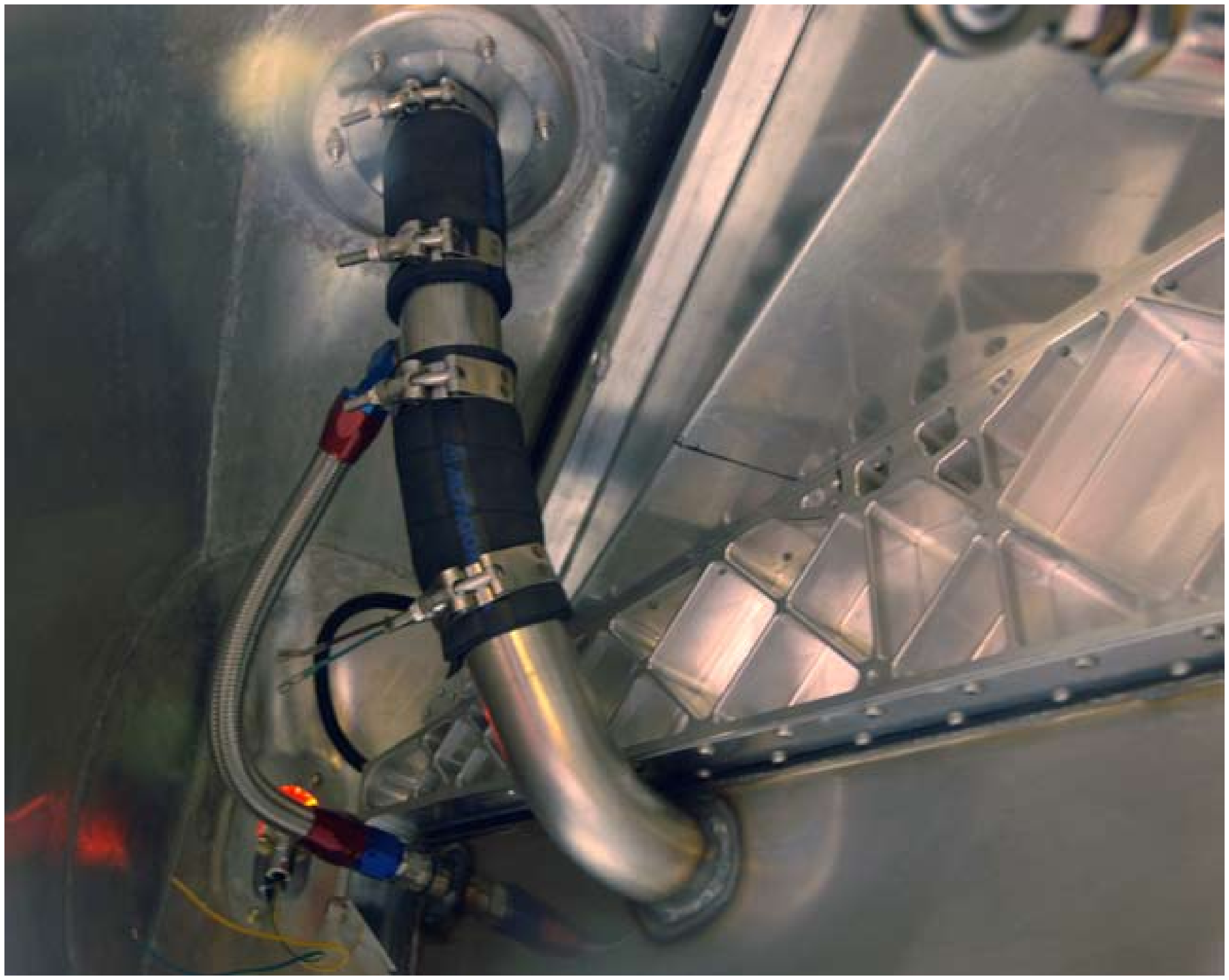
We custom made the lower radiator tube from aluminum. All fittings into the water passages on the engine were made from aluminum to prevent galvanic corrosion.



The fresh air can is made from clear polycarbonate. The wiper motor is mounted on the passenger's footbox. The hole in the firewall is for the wiring harness.

Fresh air flexible hose.

We used silver-plated stainless steel aircraft nuts. The nuts are silver plated because they are made for use on jet engines. The silver plating helps to prevent the stainless nuts from galling at the extreme temperatures encountered in jet engines. We used them because they don't rust or gall—and they look pretty sweet.



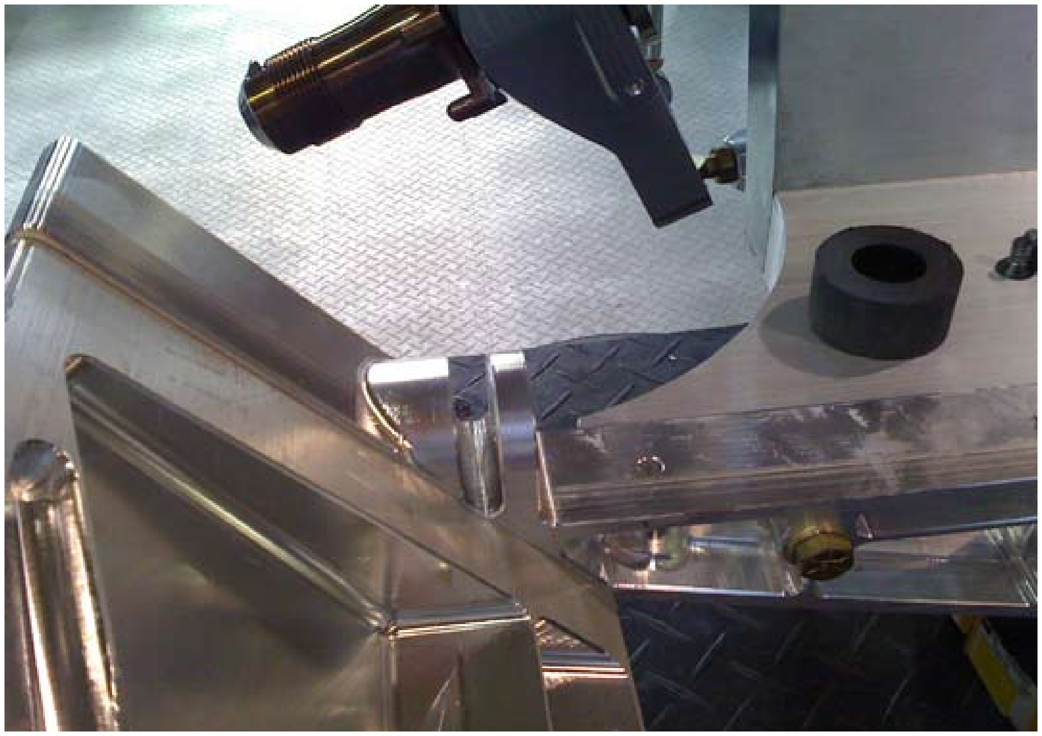
We made the gas tank from stainless steel. The filler has a breather to let the air escape out of the back of the tank as it is filled.

The battery cables are made from thick, 1 gauge cable.
The large cable minimizes voltage drop as the car heats up.

We made a special, lightweight windshield frame from aluminum. The original windshield frames are made from brass—which is four times heavier than aluminum. We removed weight everywhere we possibly could.

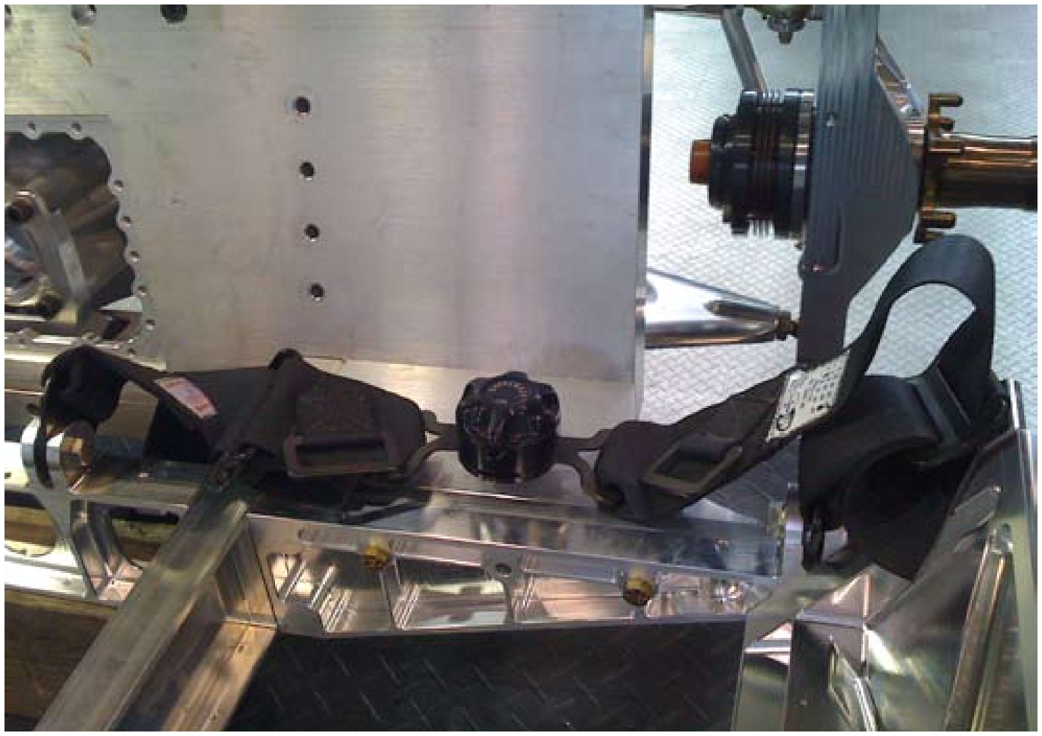
Custom fitting a prototype part.

Even the radiator was custom made.



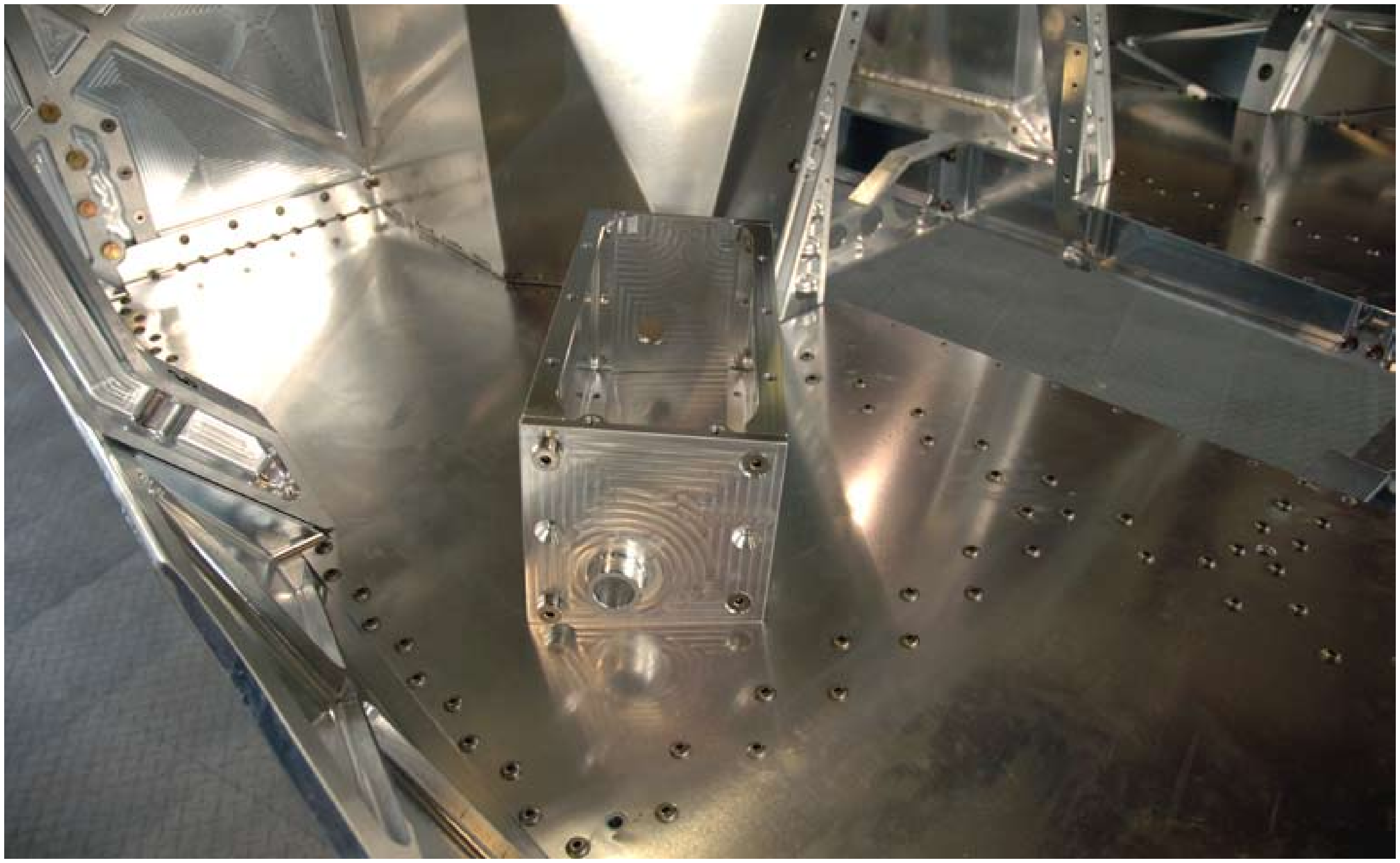
The inboard seat-belt anchor has a rib that pulls all the way from bottom of the chassis in case of an accident.

Outboard seat-belt anchor.



The outboard seat-belt anchor allows the seat belt to pivot on the mounting bolt so it cannot be put in a bind and torque anything in case of an accident.

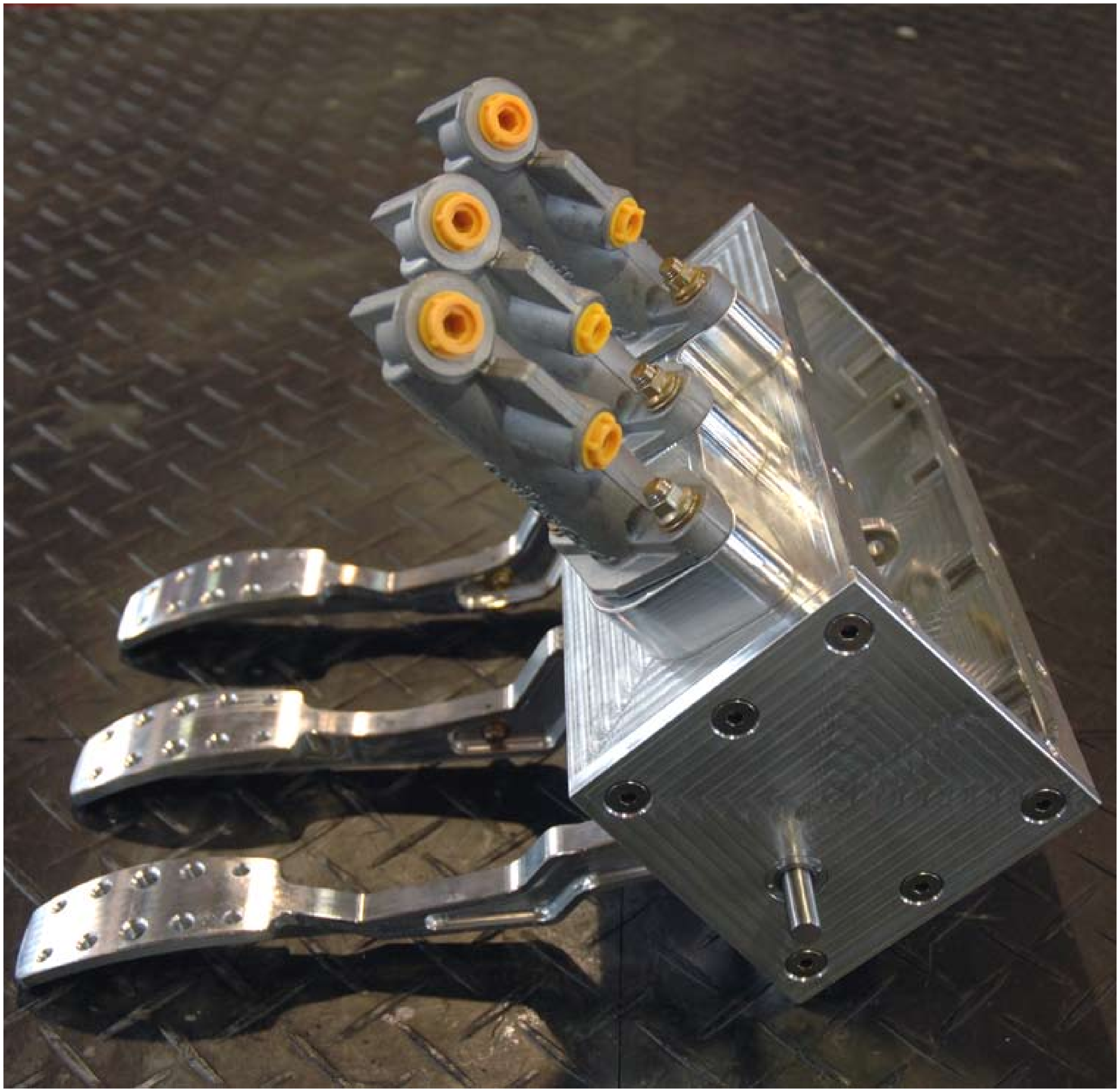
The seat belts were test fit into the chassis to make sure there was no binding.

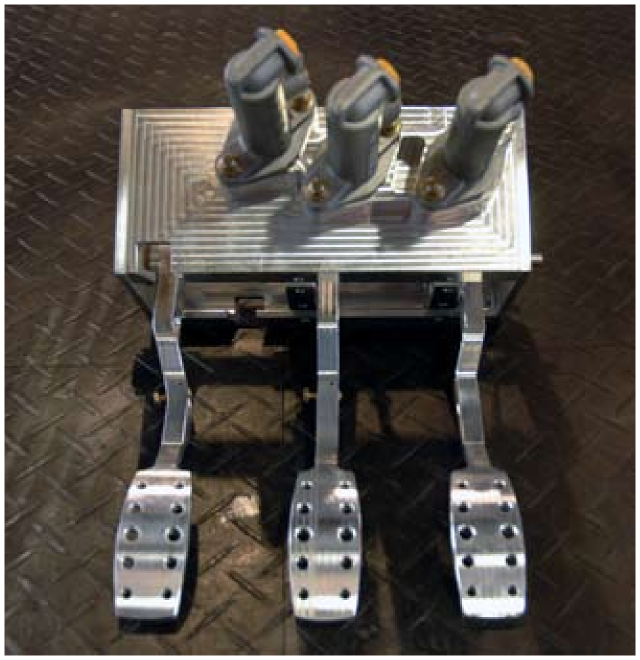


The pedal box (sitting on the floor pan) is just about ready to be installed.

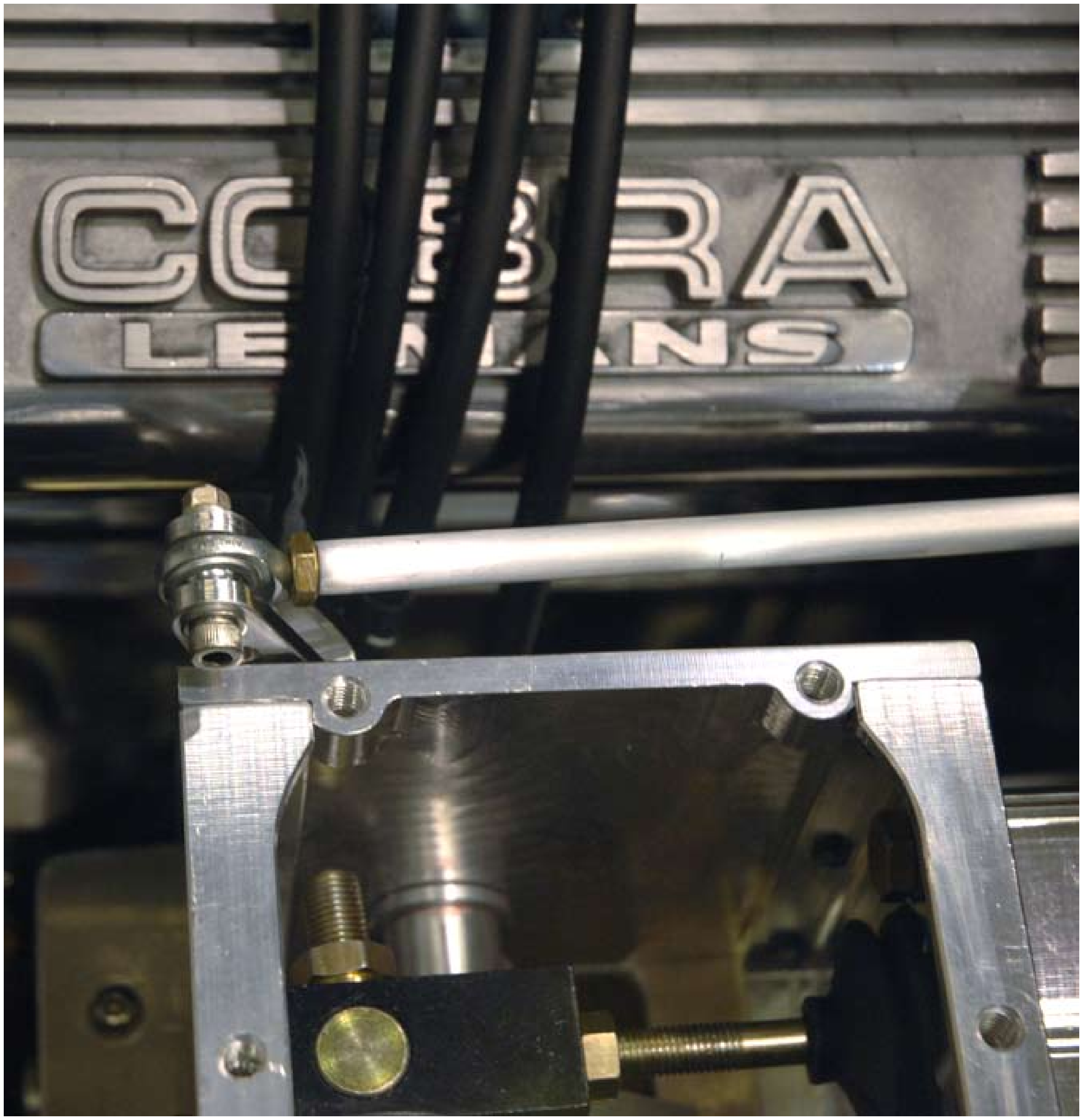
Below: Pedal box pivot pin supports. These supports minimize flex in the brake pedal pin under hard braking. We wanted a very precise braking feel in the car. If the pedal box or pivot pin flexes excessively, the driver receives vague feedback from the pedal—making pedal modulation very difficult.

The new pedal box coming together.





We support the pivot pin on both sides of the brake pedal to minimize the pin flex. We also machined away all unnecessary weight in the supports.

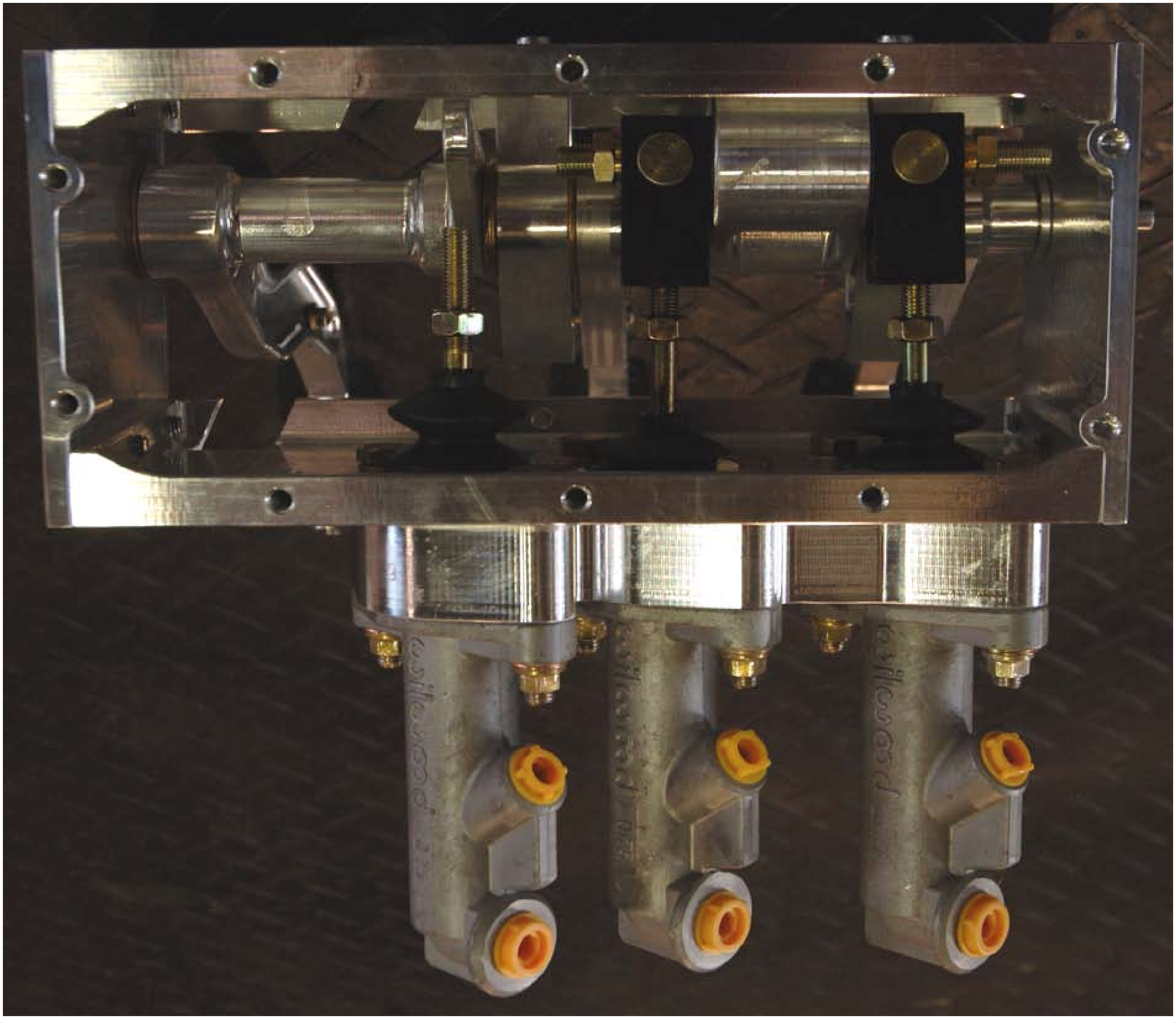


The clutch pedal is on the left and the brake pedal is on the right. The hollow cylinder at the top of the brake pedal is for the brake bias bar bearing.

Above: The throttle linkage supports the rod end in double shear. The three different holes allow very fine adjustment of the throttle linkage response speed.

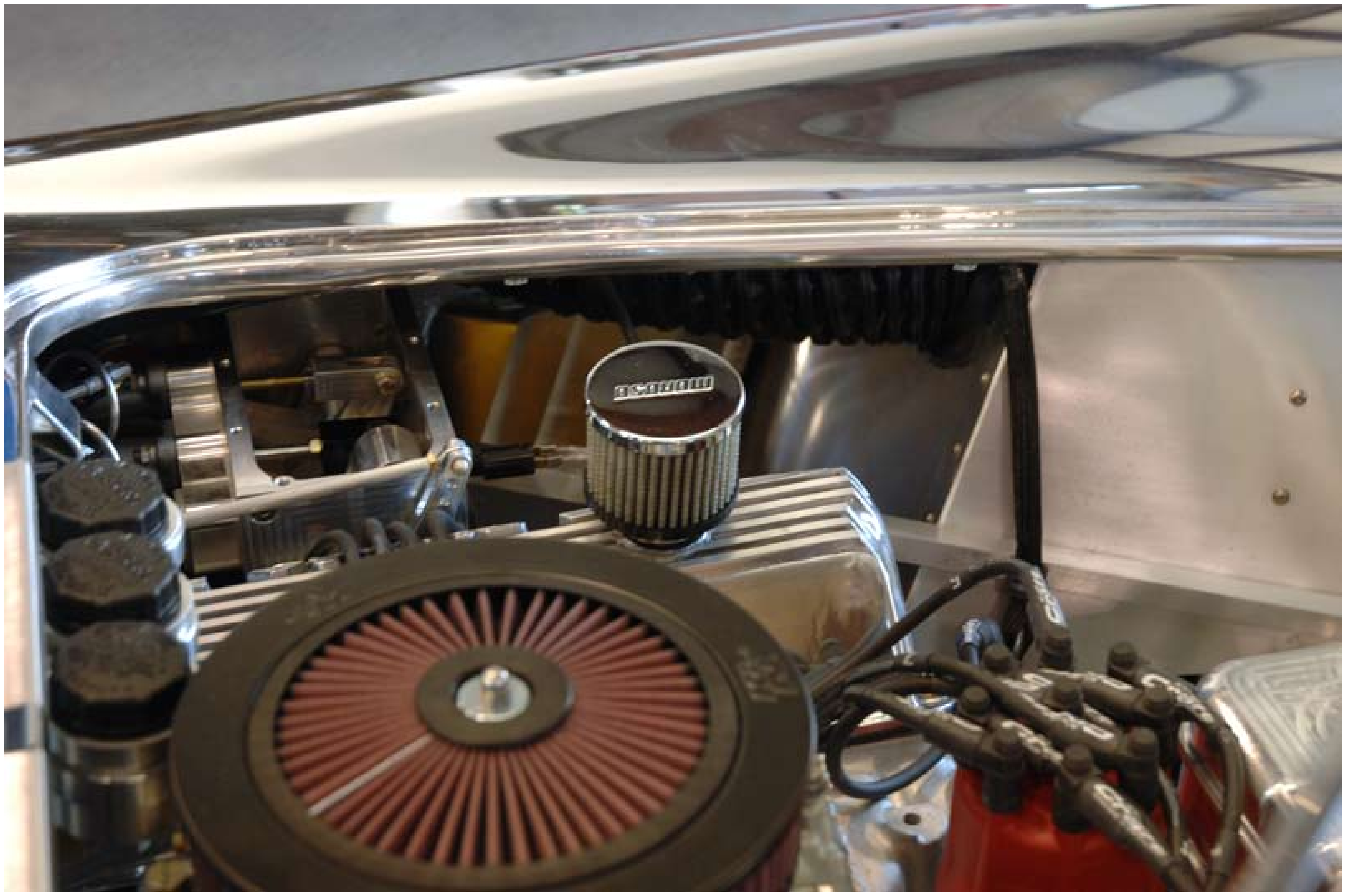
In the upper right photo, we hung the brake pedals from the top of the driver's footbox to provide clearance for the under-car exhaust. The brake pedal arm is machined so it does not have a bend between the brake pedal pad and the pivot pin. If you design a bend in the brake pedal at that point, the forces on the pedal from the driver's foot are not resolved in a straight line to the pivot pin. This causes the driver to unwittingly torque the pedal, twisting and flexing it. Pedal flex dramatically diminishes what a driver can feel in the brakes.

We milled the pedals out of a big block of aluminum to get the exact shape we wanted. We created the offset in the pedal by moving the master cylinder actuating arm down the pivot pin shaft. The pivot pin is then further supported on both sides by internal supports. This way we were able to make the pedal have the absolute minimum amount of flexing and twisting so the brake bias bar could push orthogonal to the master cylinders. Side loading is not a problem for the clutch or accelerator pedals as little force is required while using those pedals.

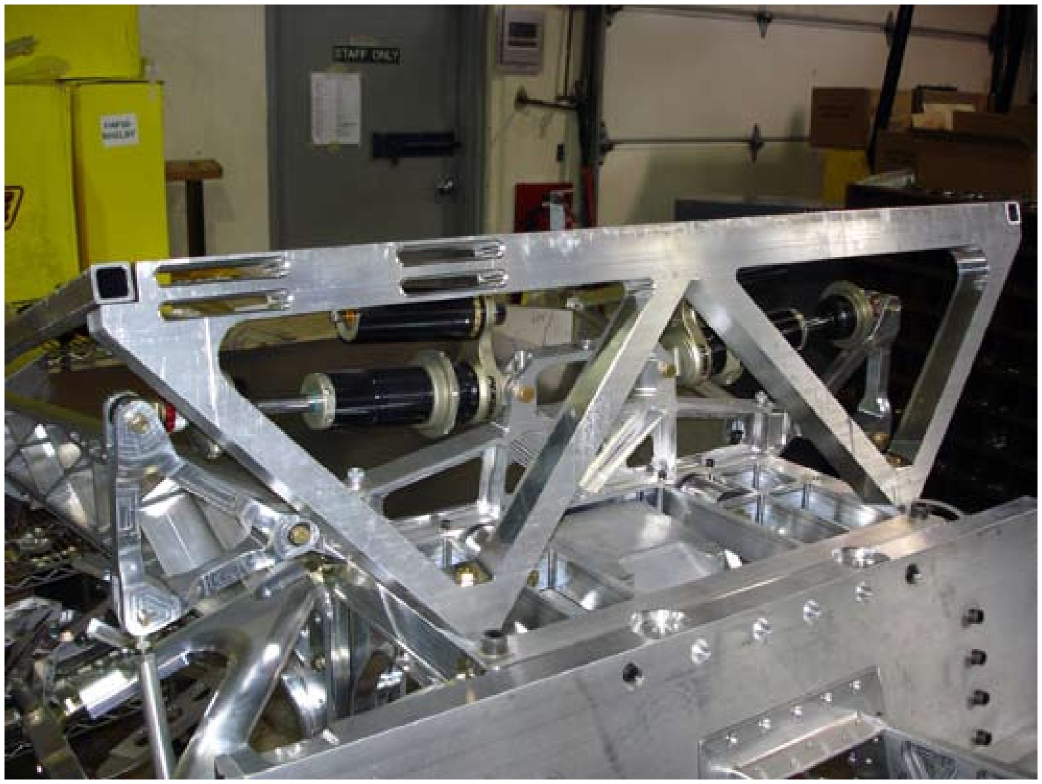


The clutch master cylinder is shown on the left in the picture. The front and rear brake master cylinders are in the center and on the right. There is an adjustable brake bias bar in between the pushrods of the brake master cylinders. Some racers adjust the brake bias by putting a choke valve in the rear brake line. This is a poor choice because it effectively cuts off the overall braking pressure. It is better to keep all the braking pressure possible in the system by balancing front and rear braking with a brake bias bar—thus keeping the line pressures as high as possible.

We placed the brake and clutch reservoirs where they were easily accessible for maintenance.



The pedals had to be hung from the top of the footbox because there would have been no room for the exhaust if the pedals were floor mounted (the master cylinders would have been in the way). This posed an extreme engineering challenge because the pedal box must be stiff. Consequently, the pedal box is mounted on a 1 inch aluminum plate that also serves as the top of the driver's footbox.

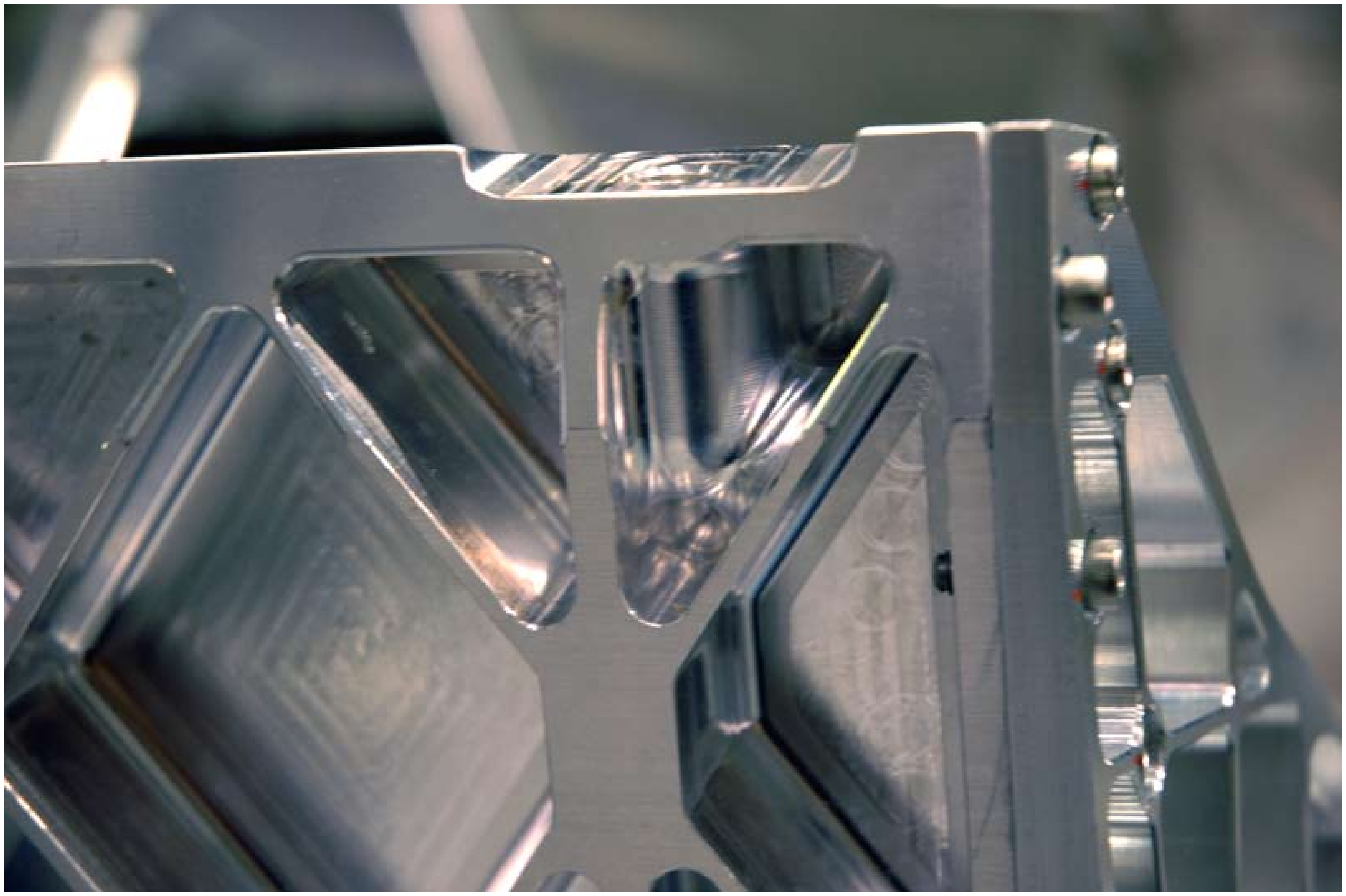


The "W" brace supports the entire rear substructure of the car. The slots on the top left (in the picture) are for the passenger's shoulder harness. The driver's shoulder harness mounts in the roll bar.

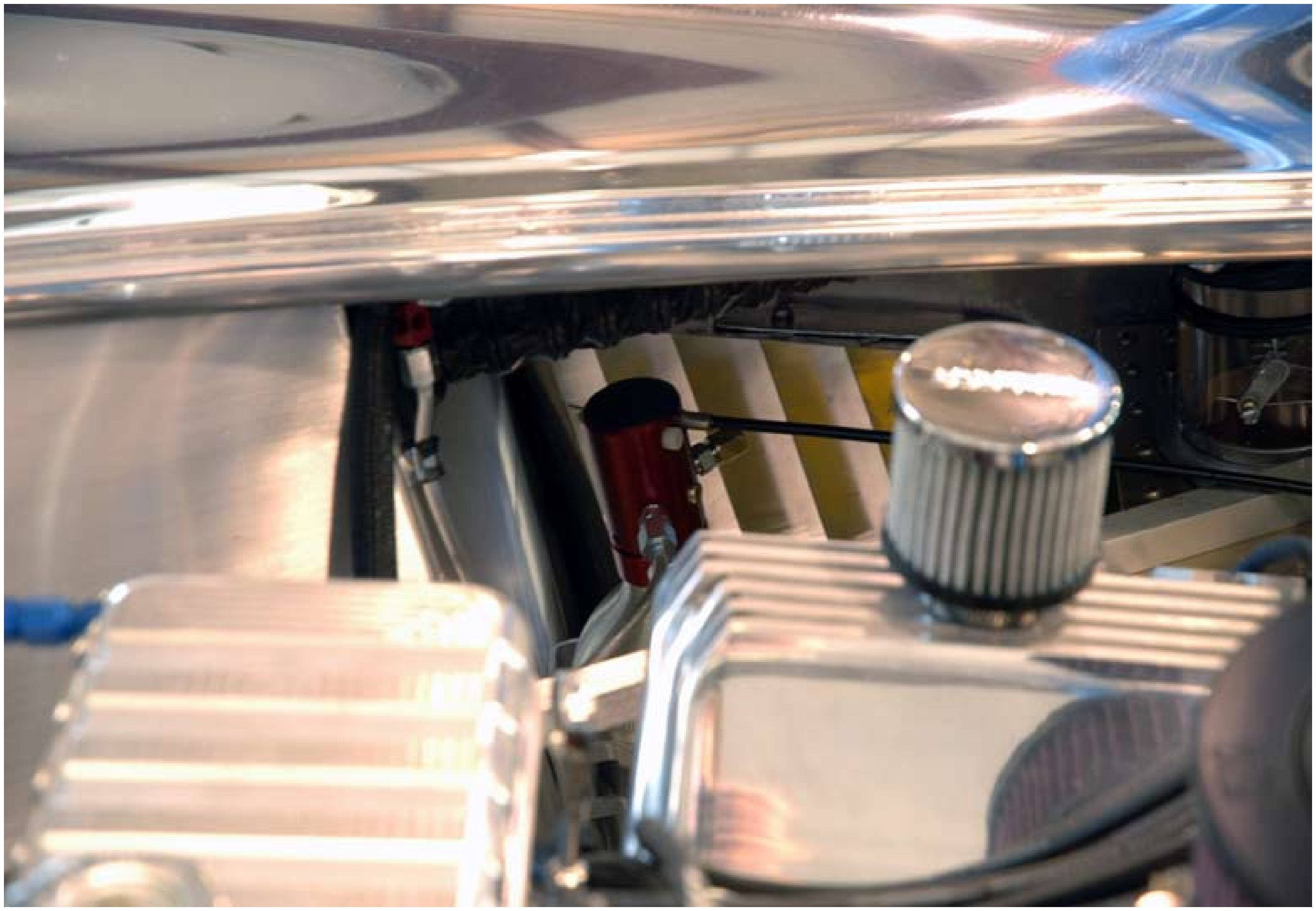
The roll bar mounts to machined cups sitting on top of the rear bulkhead.

The down brace of the roll bar bolts into the rear substructure tubing—just like an original car. We lathed little bushings and then welded them into the tube. The bushings prevent the tube from crushing when the bolts are tightened.

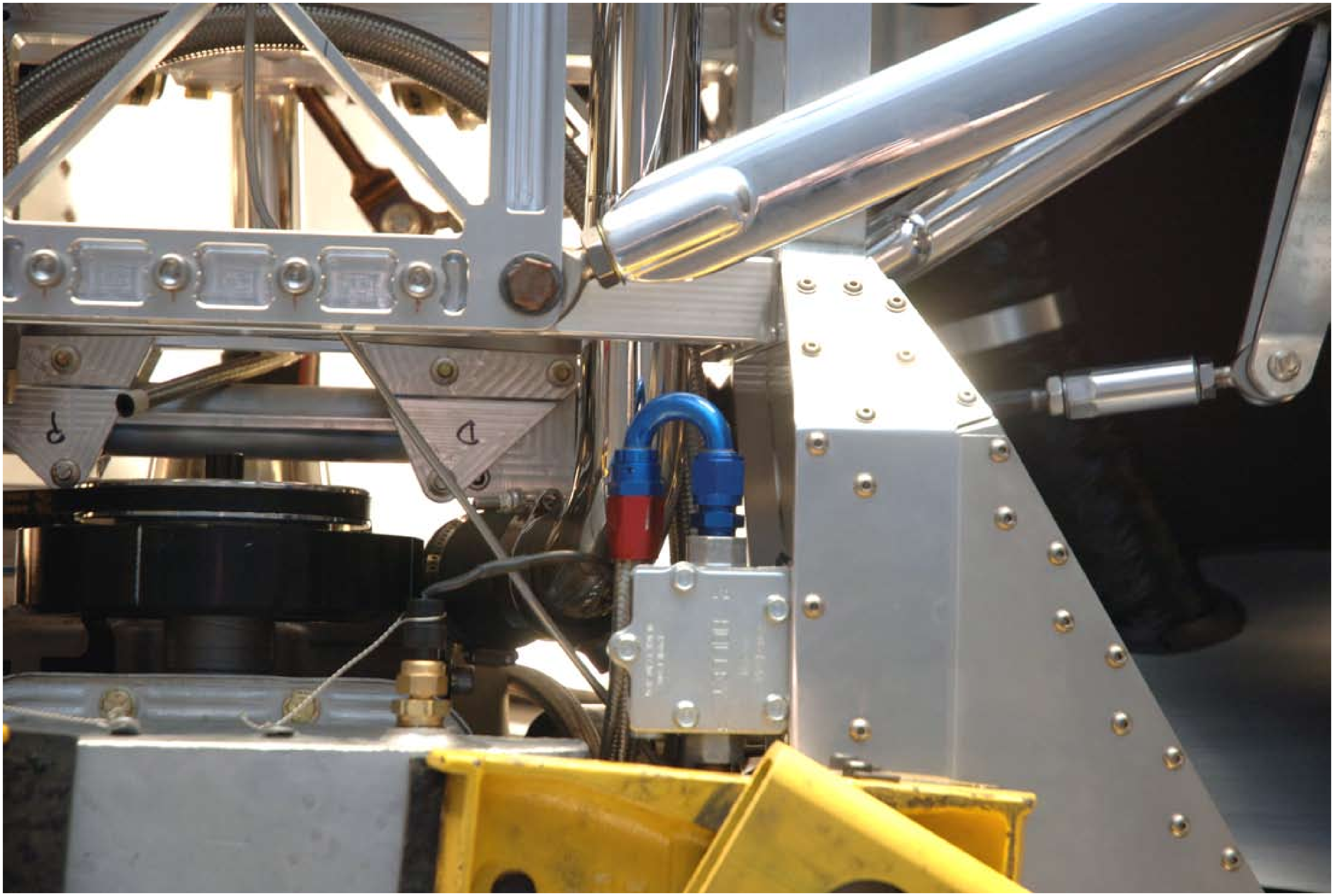
The roll bar is very solidly mounted into the vehicle by resting on—and being mounted to—the rear bulkhead. The cross brace welded in the roll bar is for the driver's shoulder harness.



Closeup of the mounting location of the roll bar cups. Notice the heavy ribbing to carry any loads through the bulkhead and into the chassis.



The halon fire extinguisher is mounted in the engine compartment behind the right front wheel.



High-flow fittings were used throughout all the plumbing systems. Here you can see a high-flow 180-degree fitting on the fuel pump. The fuel pump was mounted in the front of the chassis because the chassis is a closed monocoque structure. Notice the safety wire holding the oil-temperature sensor. Also, notice the "D" and "P" on the steering brackets. They are marked for the "Driver" and "Passenger" sides of the car.