

Epilogue

Well before the Pruck was totaled in a 3 car collision on 11 February 2017, I had decided that I would publish an article detailing the lessons learned, and what I would do differently if I were to do it over again, which I won't. The crash, which sent a 2002 Jeep into the left front of the Pruck, added yet another item to this list. I will list each item in order of perceived importance.

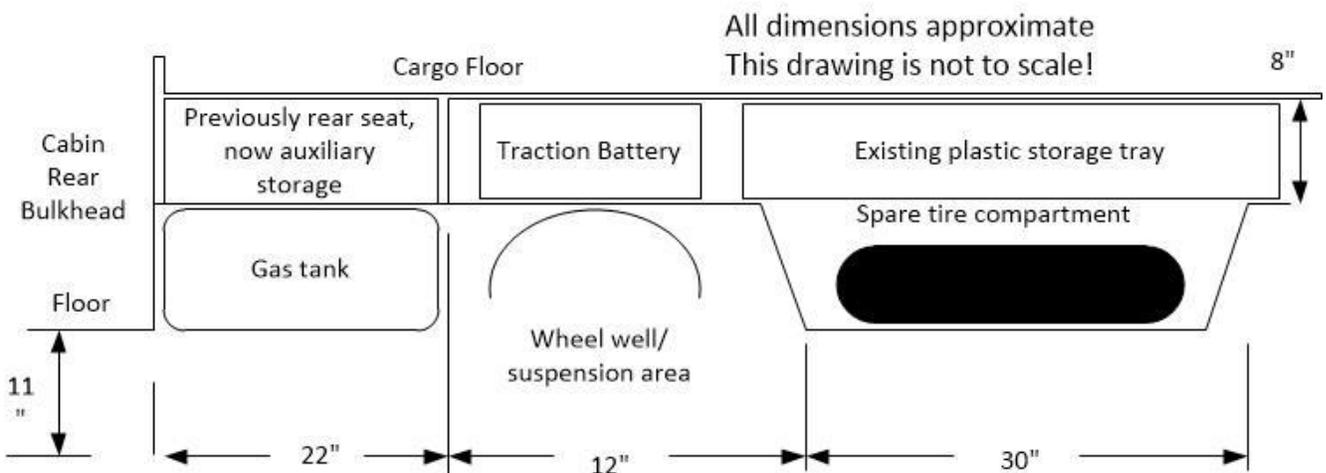


1. Removal of the side curtain

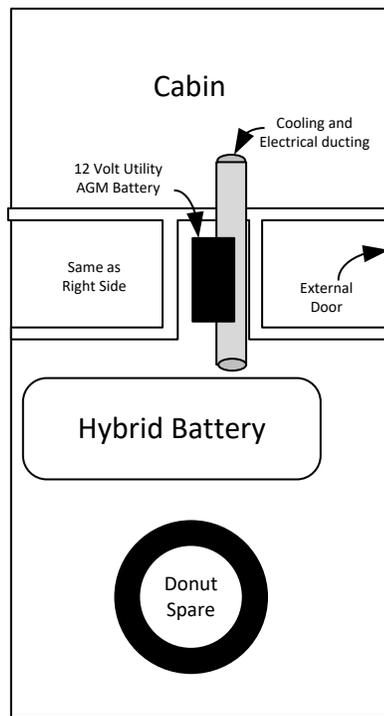
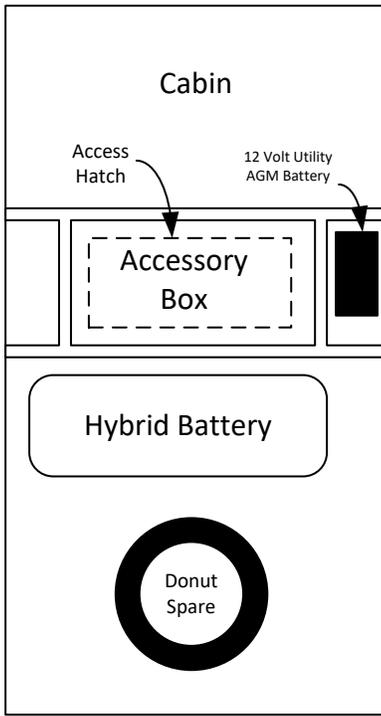
air bags. These are not required by law. The side curtain airbags run the entire length of the passenger compartment, one on each side. The squibs for these airbags are located in the center above the door openings, just about above the door pillars, and were thus in the way of removing the rear passenger compartment. So they and the air bags were removed, and the SRS computer was kept happy by soldering a 3.3 Ohm resistor across the squib connector wires so the dash warning light would not stay on all the time. I even had a small warning label on the dash advising the front seat passenger that these curtain airbags were not installed.

Looking at the crash damage, if the other vehicle had hit me about 4 or 5 feet further aft, I would have been seriously injured if not killed in this crash. Knowing what I know now, I would have tried to find a substitute "front only" set or curtain airbags. Failing that, I probably would have abandoned this project as too compromising to safety. A major crash is a sobering event.

- ### 2. The concept of the accessory compartment was to reclaim space liberated by removing the rear seat, in front of the hybrid battery and above the fuel tank. It was given an access hatch through the truck bed floor, that has eight half-turn military latches and two rubber mating surfaces to make it water proof. In actual practice, the hatch developed a slight warp, so it was hard to latch down, although it



was waterproof. However it was impractical, and required too much effort and reach to unlatch and latch and was ultimately never used, partially also because I kept a thick rubber mat in the cargo bed.

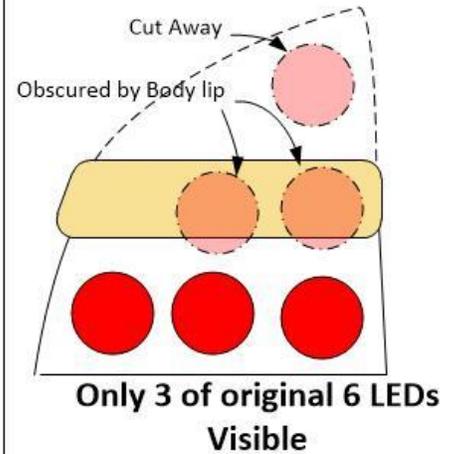


If I had to do this again, I would (see right portion of figure) use the center portion of this area as a way to route wiring and ducting to the aft areas of the vehicle, and relocate the Utility Battery there. That would have also eliminated the convoluted arrangement of plastic tubes to route cooling air to the Hybrid Battery cooling intake. All of this would still be accessible by removing the truck bed, which remains amazingly simple and fast to do. Then I would make “through the side”, lockable access doors on each side of the vehicle to access separate left and right compartments.

3. The Gen II Prius brake light is a stack of 6 LEDs. Three on the bottom row, two in the middle, and one on top. I knew that in order to make the side panels fit right, I would have to remove the top LED, leaving me 5 remaining brake LEDs. But then, in order to bring some strength to the very end portion of the side panels, I had to build in a lip which turned out to obscure the second row. This left me with only 3 brake LEDs, and it was decided that additional brake lighting would be required. These



then were incorporated in the fairings and were bright enough to serve as brake lights by themselves. Had I thought this out properly before hand, I could have safely removed all of the brake light section in the original tail lights, giving me more of an area to work with and achieve adequate strength here. I could have also shaped that area so that the rear tail light assemblies could be removed.



4. The aft roof corners are where the existing top of the rear doors, the extruded longitudinal roof structure, and the 1.75 x 1.75”

tubular steel diagonal supports are welded together. I prepared that area meticulously for fit, and had this welding done commercially, as I considered it to be critical to the strength of the car. Although I originally planned to also have round tubular steel running along the top from left to right as sort of a roll bar, I abandoned that because 1) there is a considerable support just 4 to 5 inches forward of that area,



and 2) it would have been difficult to weld this into this junction due to the complex structure of the unibody roof edges (see picture).

I think my simplified approach, although adequate from a safety perspective, was inadequate to prevent some lateral flexing such as what happens if you go over a speed bump at an angle. This constant flexing produced small cracks in the (considerable) Bondo in that area. I was planning a major re-inforcement modification to fix this problem, when it became overcome by the events of 11 February.

I am sad that the Pruck is beyond repair. Although the picture may not show it, the frame is bent. When you get hit on the left side, and try to open the passenger door to get your proof of insurance and registration, and the door won't open, you know the frame is seriously bent. I immensely enjoyed driving it for about 8 months as my primary source of transportation. Even though at the end it had 194K miles on it, it used no oil, had no mechanical problems that I am aware of, and it still got 43 MPG. That's below average for a Gen II Prius, but mainly due to loss of aerodynamic efficiency/streamlining when it became a "Light Duty Truck". The things I'll miss most :

- The modification idea, the design concept, learning new skills, and execution kept me entertained and occupied.
- Talking to people in parking lots, taking their picture with the car, answering questions, watching drivers behind me take pictures, and generally basking in the appreciative attention the vehicle got.
- Most unexpectedly, it became my concert hall. It had great acoustics, in part due to the small cabin, the insulation and upholstery of the rear bulkhead. With four (new) midrange speakers, one woofer, two (new) tweeters, and a JBL sound system, the orchestral sounds were superb. I have conducted many a concerto or symphony while on the road. I love classical music, especially piano and violin concertos.



That's all folks !!