

Jan 2014

Painted the front fenders and grill surround. After a complete drying I color sanded the finish and polished it out. Before installation on the car I had to attach lower rocker trim pieces since they will not be accessible after the fenders are installed.



Next the front grill support and chromed top piece were installed.



When I installed the top radiator support I found a problem. The support hit the blower pulley, After studying the factory photos I noticed they had cut it down to fit and clear the pulley So I cut it off and had it rechromed.



Next I put together the front grills and installed them.



The directional/park lamps were installed in the grills.



Rebuilt head lamp support.



The front fender lower shield was plated and installed on each fender.



Feb March2014

Installed the front bumper. The adjustments were a problem to get right and am still working on that.

I did manage to find drive belts for the blower. Since these were a small size in width I had to go with what was available. They are not a matched set but am hoping that manufacture tolerances are good enough to work. 8 Matching belts in this size were not possible to find.

The throttle linkage was a challenge to make work with the body foot peddle. The problem was the spring attachments to make sure the throttles went closed when you let up on the gas pedal. I had to find attachment places that would not apply force on the throttle levers at the carbs since this cause the linkage to get out of sync. After a lot of testing with springs and attaching points I got it work, It will still take a fair amount of pressure on the foot pedal to move the linkage.

Most of the under hood wiring is in and I have testing the lighting systems and things seem to all be working.

April May 2014

I began in April to try and solve the seat mounting and installation. There was nothing left of the original seats and mounts except for four holes in the floor on each side for some type of mount. From these mount holes and the photos, the seats were mounted on some type of "pods". These seats and the mounts were unlike anything used in later production. A close match to the seats were the shell buckets used in 1966-67 GM cars. After a lot of design and looking I decided to use the 1966 buckets as the base frame and make all the mounts and modification to these frames to look like the original seats. In my search I did find that the Buick Silver Arrow, the first Riviera, used a seat nearly the same as the X400. This car is in the Sloan Museum in Flint Mi. When attending a Buick Club meet in Flint some years ago the staff gave me permission to examine the seat and the mounting system. This is a typical show car where things were done to look good and not necessarily work. The seats moved back and forth, but the rear tip-tilt was controlled by a turn buckle attached to a mount plate and the rear of seat pan. It was very small and not very secure. The seat motor was wedged between the console and seat..

I tried several designs to match the mounts used in the Silver Arrow and after trying things determined none of this was very safe and secure to do. Since these were experimental seats GM probably removed them and installed standard 64 bucket seats and brackets, which were in the car when I got it.

I decided to work with the power seat mounts used for the 1966 buckets and modify them to mount using the hole positions in the floor pans. These would give safe support of the seats and also allow for power tip/tilt as well as forward and back motion.



4 way power seat mount

To make the mounts work I had to remove the mounting legs off of the fixed rails and design and make new mounts to fit the holes in the floor.



New seat mount stands

I had a section of floor pan that had been cut out of a Grand Prix that I could work with. I cleaned up the seat mounts and the gears that move the seats, lubed things and put things back together. I installed each side on the floor pan mounts; since each of these is closer together I now had to make a way for mounting the motor and transmission. The motor and transmission was located between the two rails and now that the rails were closer together they will not work and I cannot fit the drive cables. Based on the Silver Arrow I decided to copy what was done and mount the motor and transmission on the side next to the console. They are out of the way and cannot be seen unless you push the seat fabric way to look. This also allowed me to install the drive cables.

On the passenger side I made a metal plate that would hold the motor and drive that bolted to the upper track and would move with the seat. I was able to reverse each worm drive to face the console. Normally they faced in to the center area where the motor was located on the normal tracks. One problem was the drive cables and how to make them. These cables are like a super heavy duty speedometer cable. I took these to a company here that does speedometer repairs called Auto Tech. They had the tools to form the square ends on these cables. They did say this was the first time in many years that these tools were needed. I was able to make all drive cables to fit the mounts. The photos show all of the parts in the mount assembly.

During this time I started on the hood. I had the grills made several years ago. These were based on the grills used on the GTO and from the photos of the of the hood that I got from GM. The hood had to be cut for hood scoops. From the photos, GM removed the central braces under the hood and then attached the scoops. In the literature it was stated that the hood may have been fiberglass, in my research I found it was a standard metal hood cut for the scoops. I used SolidWorks to design the scoops and formed them out of metal.



Hood scoop being formed

Then the fun began. I took a hood and remove the brace under the hood as it appeared in the photos.



Back side of hood with brace removed

Next I laid out the location of the scoop and what need to be cut out. The cut was done using a plasma cutter with no problem. I planned on welding in the scoops. Try as I could I could not keep the unsupported hood from warping.



Holes cut and scoops ready for installation

So I had to make new scoops and use a new hood and keep the use of any welding or heat to a minimum. I stripped the hood by hand, cut the hole. I spot welded a metal plate that would hold the grill recessed below the hoods surface.



Metal supports for grills



Metal supports being attached to hood



Scoops held in place for tacking in place

Next I tacked the scoops to hold them in place; Next rivets were used to hold the scoops on so no heat would be used.



Tack welds and rivets installed

I filled the areas around the scoops for correct appearance in the finished hood and no heat was used on this unsupported metal.

June- July

There was a problem plating the rocker molding. Something that was done in the past to these contaminated the metal. The plating would pop off and no repairs would work. I decided to cut off the bad areas and weld in new metal. These were hand made in brass. After removing the bad parts I used a similar brass plate, cut it to fit and we used a TIG welder and attached the new part to the rocker.



These were reformed to fit the fender, ground off and finished. The chrome was done and fixed the problems.

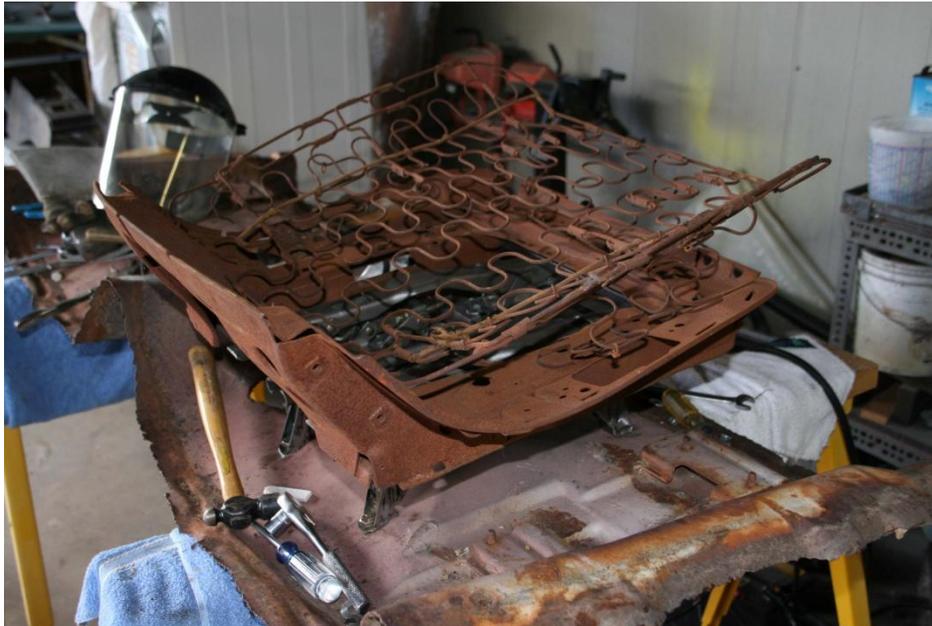


After repairs



Left side finished repairs and plating

I took each seat frame and stripped off all the old materials and the springs.



Seat before cleaning on new mounts

I had the frames blasted and powder coated to preserve them. When this was done I installed new springs and foam rubber. These would be modified to make the new seats based on the photos. I gave these to my upholster to make a test seat before we use the leather.

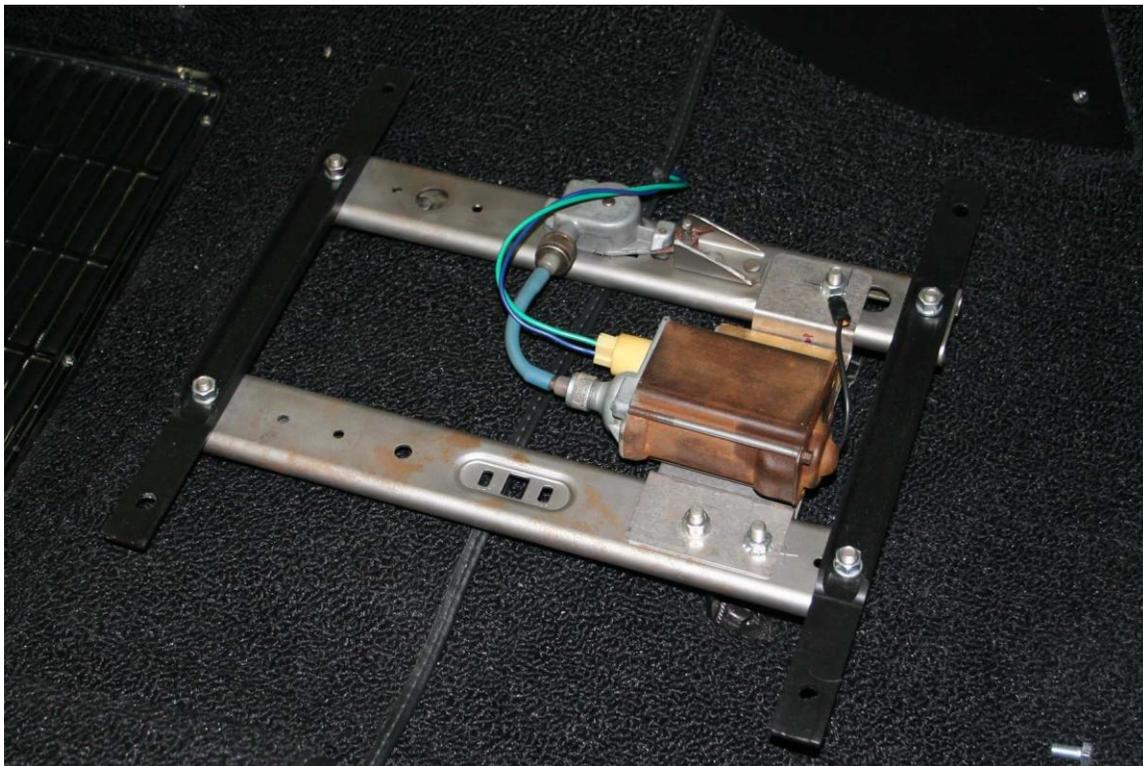


During this time I continued a search for the flame arrestors that were used on the engine. Over the years I have not been able to find anything. I only had two of the arrestor elements. I did a search on Ebay for flame arrestors as I had in the past. As I searched suddenly I saw one go by and it had the correct element . I got it as quick as I could. It was for a Zenith Carb used for marine engines. Much to my surprise I found another one the next week. I now had all the elements I needed. I designed new mount for the carbs based on the photos using SolidWorks. I looked in to have them made by 3d printing and castings. It turned out that we could use a NC mill and make them. This was done by Solid Concepts. These turned out perfect and now I need to make the frame to hold the elements.

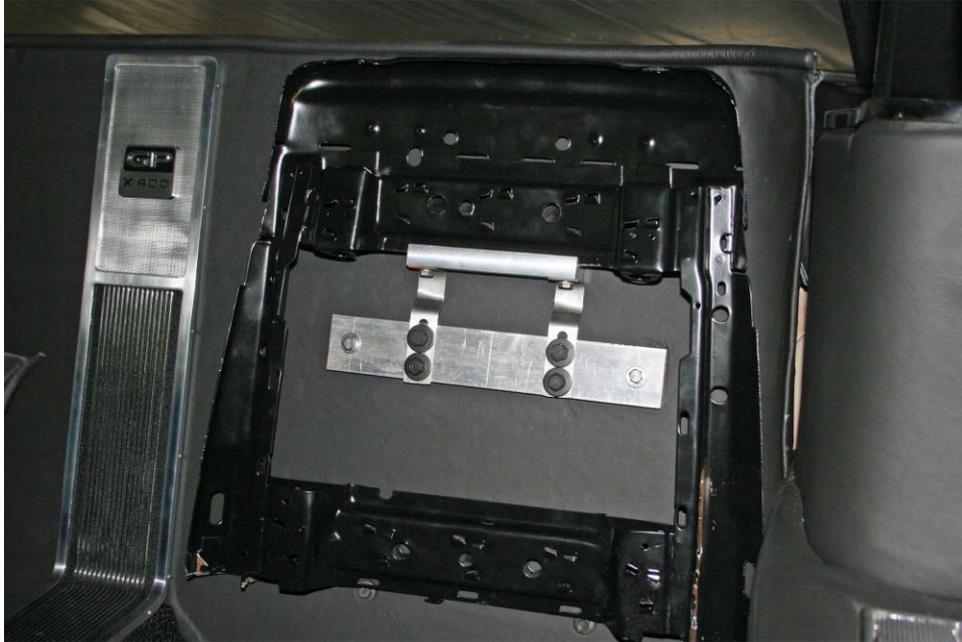
Nearly all the parts are in place to complete the engine. I still need a spacer for the water pump the fan as this takes more space because of the blower.

August September

The test seat was made so we would see how it fit and if we needed to do any changes. We installed it on the 4 way mount and could see that we had a problem with the height and clearance with the 4 speed shifter lever. The seat was worked on and the height reduced as much as possible. We installed the seat again and it was still too high. This presented a problem that only had one solution. I could not use the 4 way seat mounts I made, it was too high. So I made a new mount that only went back and forth. This was as close to the floor as possible and solved the problem. However this took nearly 5 days to make the new mounts and I had to scrap the ones I did earlier.



Work started on the mounting of the rear seats. I built a bracket to support the rear seat back using the back frame plate. A groove was milled into the bracket to hold the metal edge. Adjustments were built into the bracket to move the back up and down as well as side to side



I made special metal braces to attach to the bottom of the seat back these made clearance for the seat bottom to be inserted and the back to be bolted to the car floor. The springs were installed on the frames and the entire seat installed for testing.



October:

The floor grills were installed. These were the original grills from the car. The outer frame was made of brass and held up fairly well. The grid was made of steel and was rusty. The plating company did a lot of work on these and saved them. GM used vinyl under the grill. I made new pads and screwed the entire grill to a board for months to let the grill imprint the vinyl pad. These were very hard to install since the floor pans are not level surfaces. The frames had been bent to fit the floor pans and locating the screw holes through carpet, pad, sound deadener was a challenge.



Floor grill mounted on wood to impress the vinyl

