

# The restoration of my 1966 Chevrolet Corvair Corsa 140 hp 4 speed.

Acquired January 2014.

The restoration, as shown in this document, is complete. I now have the confidence to drive this car anywhere, without the worry of a breakdown. At this time I think this car is reliable and safe to drive.



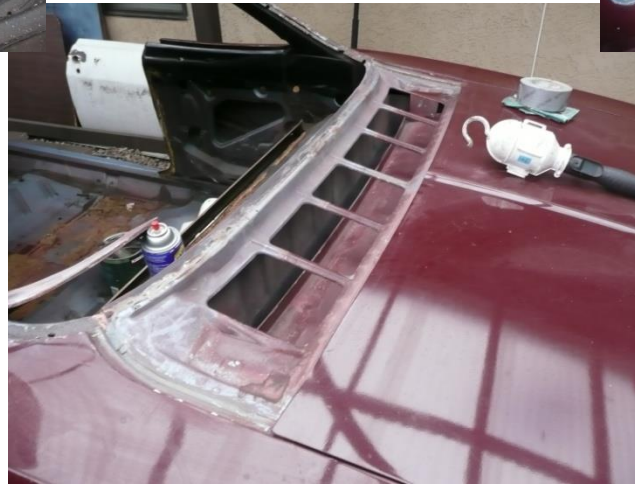
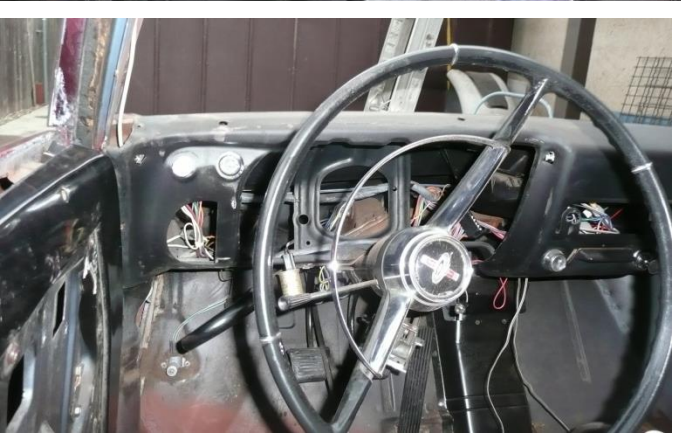


1966 Chevrolet Corvair Corsa 140 hp in January 2014





At this time I am just about ready to get started on the body work. It will take about four months to get the car back to its original blue color.







Refurbished parts Top photo shows rear shelf I fabricated with plywood sandwiched between a sound deadening material. Original GM used tar paper under cardboard for the rear shelf. Remainder are additional items I have cleaned and painted in prep for going back into the Corvair. View at 200%





3/8/14 Progress report.

I finished the rear seat bottom. A very difficult task, the material is stretched so tight it hurt my hands putting in each hog ring.

I am pleased with the way it turned out after three hours of stretching. Tomorrow the rear seat back, first I need to disassemble the seat back before the stretching begins.





The seats, with the exception of the drivers seat, are done. I can move onto something else to refurbish. The back seatback was not as hard as the bottom was, it did not have any hog rings only staples.



# Rust Repair



Front Windshield Rust Repair Top right



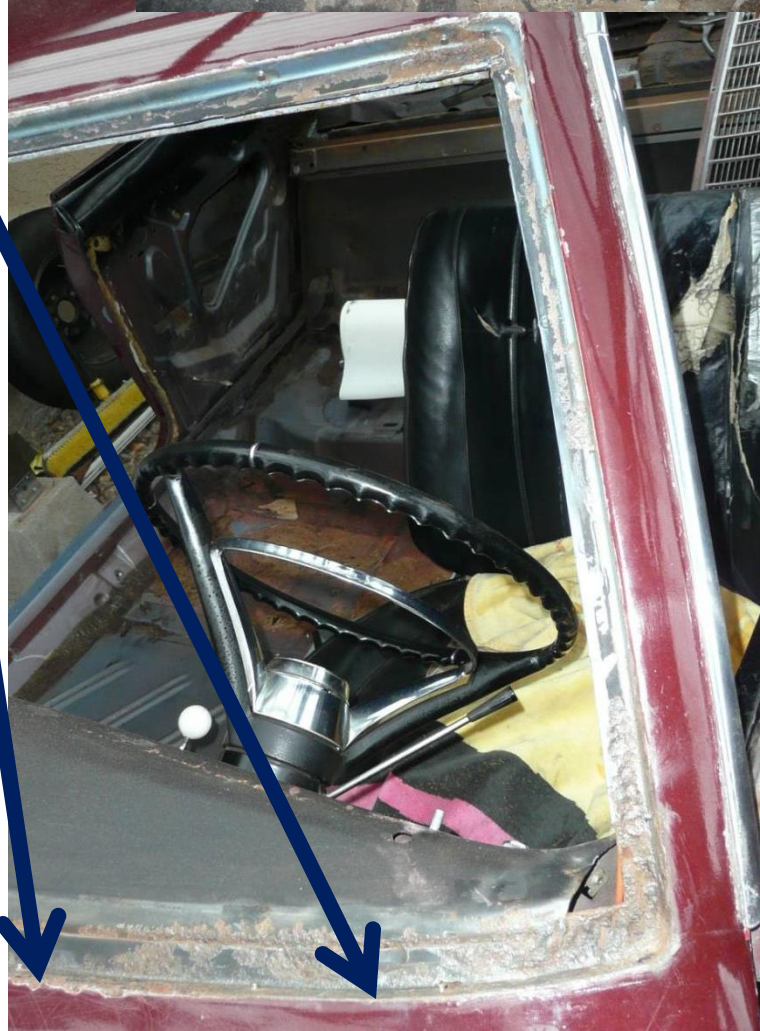
Trunk Bottom To be cut out and a new bottom (supplied) to be welded in.



Bottom right

Weld up Antenna hole Bottom right

Top and Bottom Left







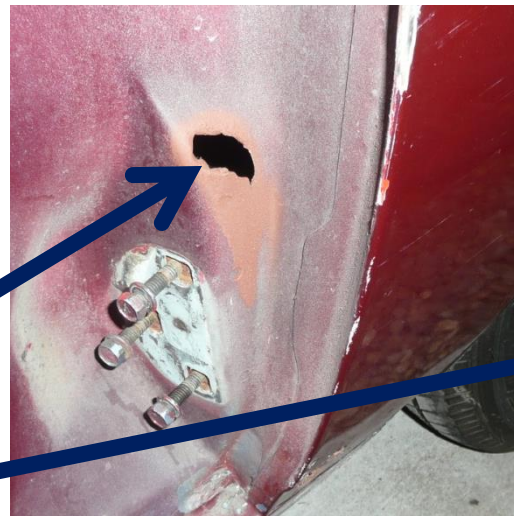
Left front Door Rust Repair



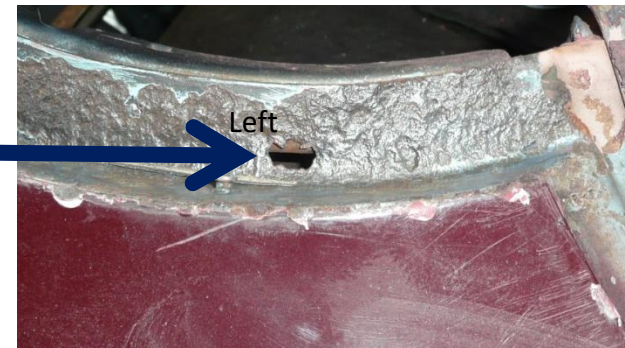
Left front Door Sill Rust Repair



Right front Panel Rust Repair

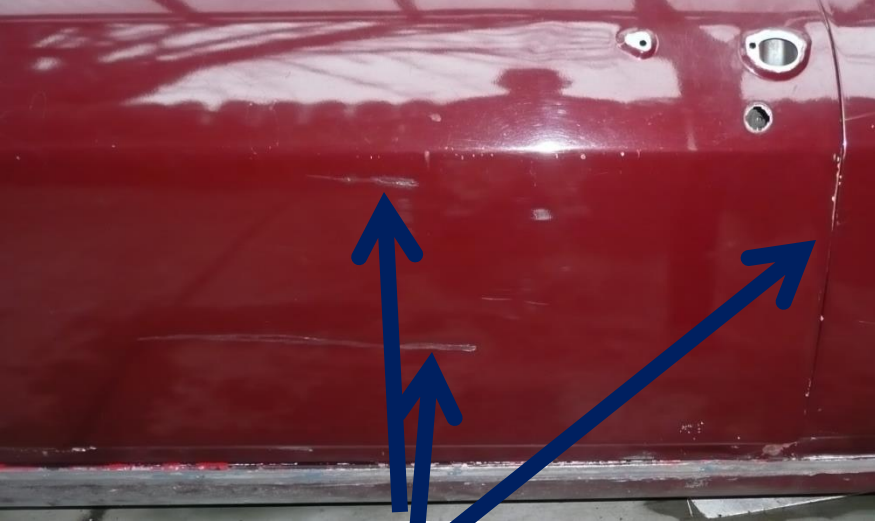


Back Window Frame Rust Repair



Left

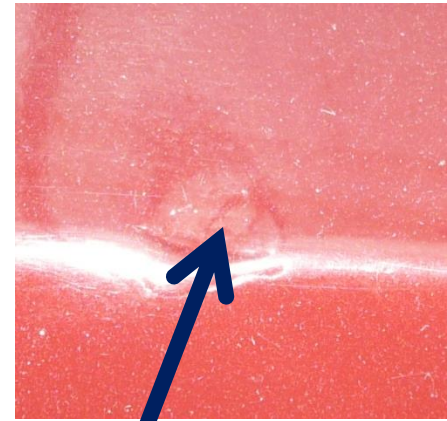
# Dent removal 1966 Corvair



Left front Door Dent Repair  
Major and minor dents to be removed



Front nose Dent Repair



Top left rear fender Dent Repair

Left rear fender Dent Repair



Left and right rear skirt Dent Repair





Right side in front and behind the door need dent Repair

Right front fender need dent Repair

A right side door is provided that must be installed prior to paint

The information shown here points out obvious dents and does not indicate all the locations for repair. It is expected that all visible dents be removed, especially the drivers side door.

The original 1966 GM Paint Color D (Mist Blue Poly Ditzler DDL-13042)

Lucite # 4630-L Rinshed-Mason A-1720



Corvair progress report. The metal work is coming to an end. The photos show some of the new metal pieces that were added to repair rust . In the 48 years the car has been around wet weather has produced some small pockets of rust. All these areas had to be removed and new metal welded in place. Once this is done the final body prep will begin. All in prep for new paint.





I went to see the progress on the car today. Good news, It looks like we will go to paint in around two weeks. This is what we have so far, the car needs a little tweaking around the front window.

I took the trim over to do a dry run and found a few places where we need to refine the radius on the window cutout.





I got the car back Saturday night so I have worked on it for two days. The car was painted with a sealer coat, a color coat and three clear coats  
I am trying to get it back on the street by the end of the month.  
I just found out the drivers seat bottom has four broken springs, always a monkey wrench in the schedule.





Progress report: I have added sound insulation installed all four side windows. Installed the headliner sun visors and mirror. Replaced the rear bumper with one with bumper guards. Added wiring for speakers, cruise control and rear power antenna.





Progress 12: installed rear package shelf, rear seat and front and rear carpet and all seat belts.





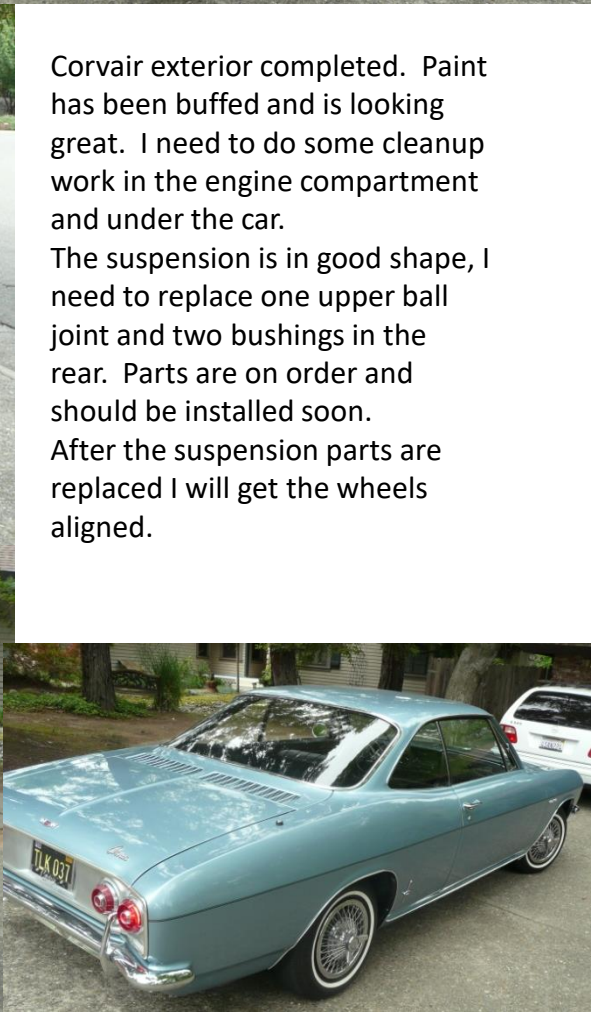


Progress Report 12: Completed the interior except for installing the seats and instrument panel. Installed the bow tie outside mirror.

Removed the steering wheel cleaned and painted it. Took the wheel off and lubed the directional mechanism. Removed all four wheels, cleaned and painted them prior to mounting the white wall tires.

Inspected the brakes and found them rebuilt with new drums, linings and wheel cylinders.







Corvair exterior completed. Paint has been buffed and is looking great. I need to do some cleanup work in the engine compartment and under the car.

The suspension is in good shape, I need to replace one upper ball joint and two bushings in the rear. Parts are on order and should be installed soon.

After the suspension parts are replaced I will get the wheels aligned.



Engine compartment before  now 



FOR WINTER OPERATION TURN  
AIR 180 DEGREES TO UNCOVER  
RESISTOR AIR WARNING SLOT  
FOR SUMMER OPERATION INSTALL  
SLATE OVER SLOT WITH ENGINE  
ARMED UP





Rear Crankshaft Seal

Rear crankshaft seal    Upper and lower right side ball joints



Replaced right side Tie Rod



Engine compartment light  
Trunk light



Turned both front and rear drums

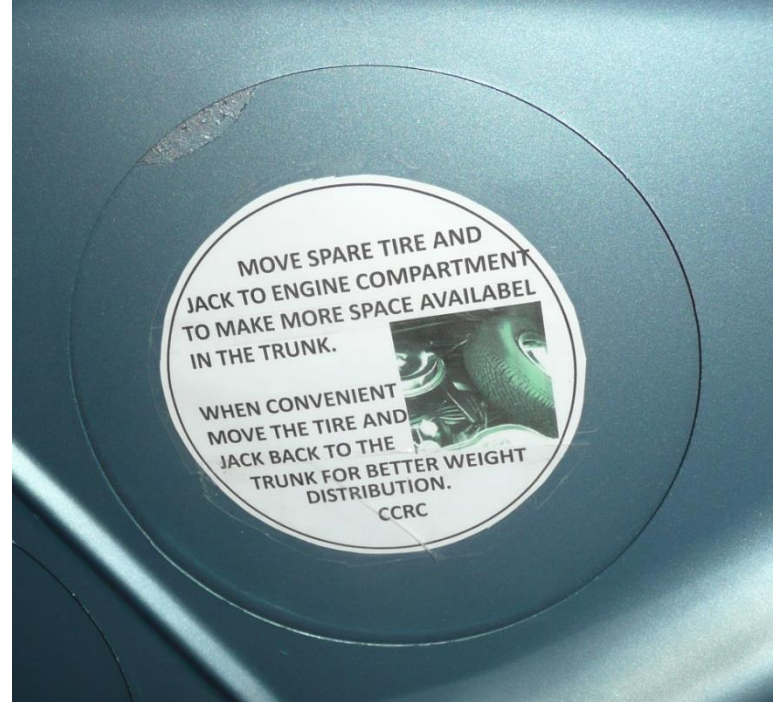


# Engine Work

1. The distributor that was installed on the car just prior to my purchasing it was the wrong type. The centrifugal advance was retarding the spark rather than advancing it. I replaced the distributor and the engine revved up as it should.
2. The engine had sensors disconnected, the oil pressure switch was bad and the high temperature switch was missing. They were replaced and I replaced the sonic alert for the high temp switch.
3. The secondary carburetors were disabled.
4. The primary carburetors were in poor condition and their throttle shafts were worn. The float helper springs were missing. The right carb. was of an older design. I replaced it with one I bought at a Corvair swap meet. I put new carburetor repair kits in all four carbs. This included new gaskets, float valves and seat and acceleration pump diaphragm. The right main carb. upper and lower choke control rod and coil was missing, I replaced them. The linkage to the secondary's was put together wrong. I corrected the linkage and replaced a missing e ring. The worn throttle shafts were sealed with a "O" ring and spring on each side of the throttle shaft on both primary carbs.
5. Both thermostats were non operational as was the left air door.
6. The rubber engine seal had holes and was not sealing. I replaced it with a used one.
7. The car had two Turbo Mini mufflers that were improperly supported. I improved the support of the right muffler with a stock hanger. The left was improved but not adequate. I added a crossover pipe to try to reduce the noise but they were still too loud. Both right and left muffler heat shields were missing.
8. I removed the turbo mufflers and replaced them with two stock mufflers. I installed a factory muffler hanger on the left side. They worked well as far as the noise went, however the left muffler has a broken part inside and needs to be replaced. I installed new heat shields.
9. The voltage regulator for the alternator failed and was replaced.
10. The engine top cover gasket was leaking oil and was replaced. The number 2 cylinder spark plug hole threads were cross threaded. I chased out the threads. The fan had a broken vane, I replaced the fan. Number one cylinder had some duck tape stuck to the head and cylinder partially blocking air flow. I cleaned the area.
11. The summer winter plate was missing. I bought a used one and installed it.
12. Replaced all fuel lines and rerouted the connection to the fuel filter. Added a brace to where the fuel line crosses the engine.
13. Replaced the distributor points with an electronic ignition.
14. Replaced the rear main crankshaft seal.

## Engine and Mechanical work continued

15. Replaced the fan on the alternator, it was for the wrong rotation.
16. Installed "top shock bushings" on both front shock absorbers.
17. Installed a spare tire lock with three sets of keys.
18. Right side secondary carburetor was warped and leaked gas. Replaced carb.
19. Replaced right side upper and lower ball joints.
20. Replaced right side tie rod.
21. Ruffed up the front break shoes to break the glaze.
22. Left front break cylinder front bolt loose.
23. Right front brake grabbed first, Turned both front drums problem solved.
24. Removed engine and transaxle, transaxle replaced with new 3:27 gear ratio unit.
25. Removed clutch and flywheel to replace bell housing seal. Re installed flywheel clutch and disk. Replaced throw out bearing.
26. Cleaned and painted shrouds.
27. Replaced pilot bearing.
28. Replaced transaxle mounts.
29. Replaced torque arm bushings.
30. Replaced heater control cable.
31. Turned rear brake drums.
32. Replaced pan gasket.
33. Relocated fuel filter to area near the starter.
34. Replaced fuel line in engine compartment.
35. Gear shift lever mount lower spacer is missing, must be installed to allow base to float in the for and aft direction. Purchased spacers, installed them and readjusted the shift lever.
36. The vertical heater hose is cracked, replaced.
37. Replaced both mufflers and added an equalizer pipe between the two exhaust sides.
38. Aligned all four wheels
39. Found clunk in front suspension was a loose bolt on right support for the stabilizer.
40. Installed inner front lower control "A" arm bushings
41. Replaced right front lower ball joint, that I replaced about a 1000 miles ago.



Mounted a spare tire mount to the trunk area. This is a factory alternative location for the spare tire and the jack. The factory mounted the tire and jack in this location when an air conditioner was installed in a car.

In this instance I wanted to shift the weight of the spare tire and jack forward for better weight distribution.

By leaving the spare tire mount in the engine compartment I have the option of moving the spare and jack back for added trunk space. This also makes engine access easier.







One of a kind center console. Made from material salvaged from the old seats and some scrap carpet material.





Used engine rear mount.

New Arm rest



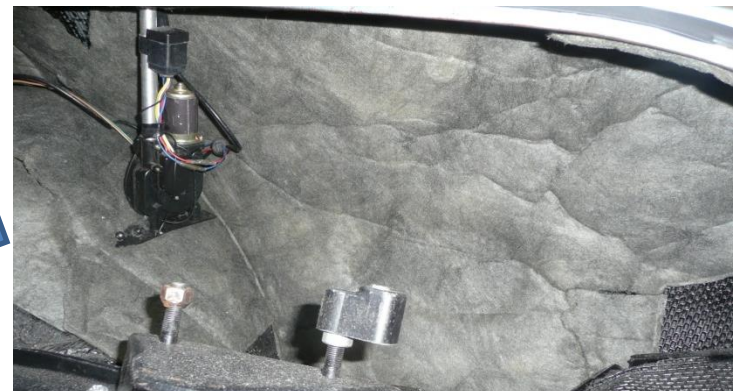
Engine insulation Rear

Glove box door decals



Engine insulation left fender

Engine insulation right fender





Engine removal to fix some poor workmanship and change the transaxle. A general cleanup with new transaxle mounts and shift tube bushings. New bell housing seal and trailing arm bushings. Stripped threads in pan need repair, Exhaust manifold hold down studs were also installed.





Engine removal and clutch and bell housing removal. Replaced bell housing seal. Cleaned and painted shrouds and tunnel covers.

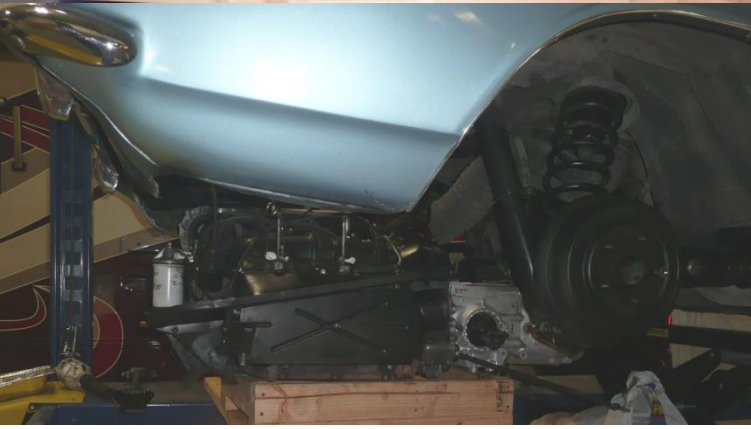




Rear suspension rebuilt and torque arm bushings installed. Rear brakes installed.

Engine and transaxle mated and ready to install





Original engine installation with 3.27 transaxle .





Drain Flaps



Clutch swivel



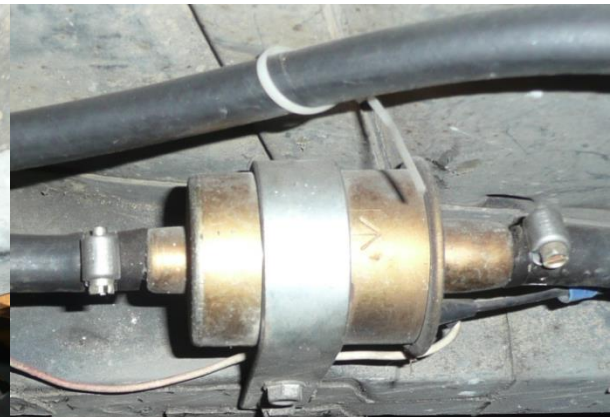
Control shaft



Tunnel cover



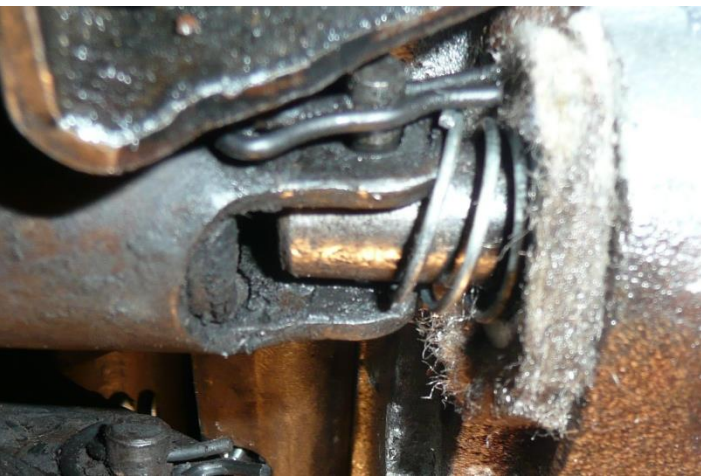
Fuel pump output



Fuel pump

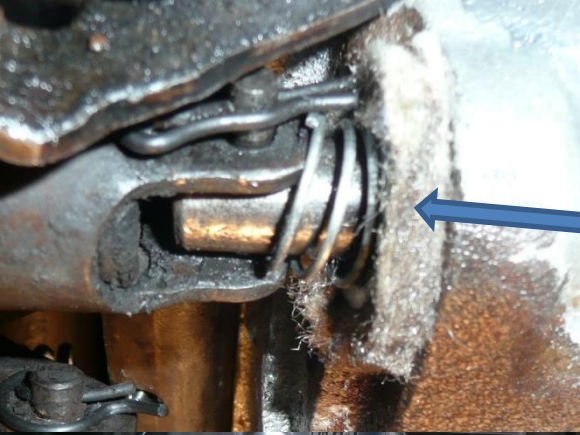
Control shaft

Fuel filter location by starter



Control shaft and clutch pivot

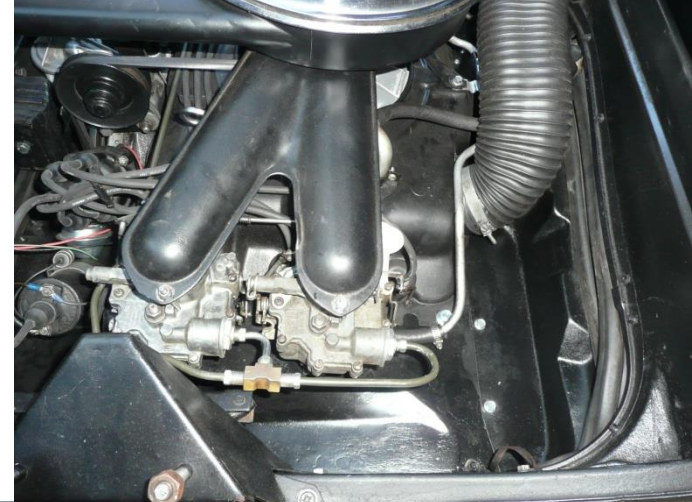




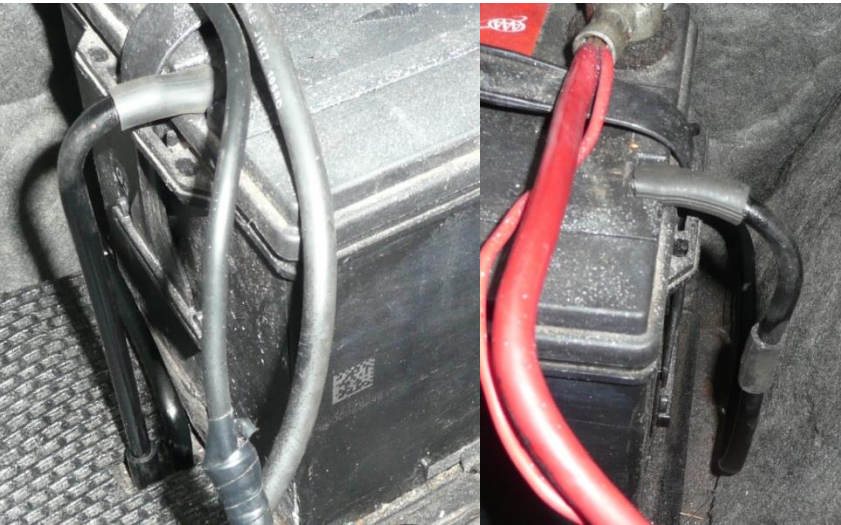
Felt spring and washer were added to the transaxle input control shaft to prevent drips



Engine compartment cleaned painted and new bolts were installed to hold down the shrouds







Refinished rear grill.  
Adjusted the chrome trim where it meets the engine lid. Made tubing vents for both sides of battery.  
Installed a new left side muffler.





Both mufflers were replaced along with a new right side tail pipe. The mufflers are AP 6503 that are very close to the size and shape of the original mufflers. All seams were welded like the original factory equipment.



Drivers side muffler after installation.

Transaxle mounted in vehicle, right side universal joint was not seated at the transaxle. Reseated the universal joint in the saddle.





Equalizer pipe installed between the right and left exhausts "U" pipes. I wanted to preserve the ground clearance so the pipe runs up where the stock crossover went. This pipe doubles the frequency in each muffler and decreases the noise level of the exhaust system.

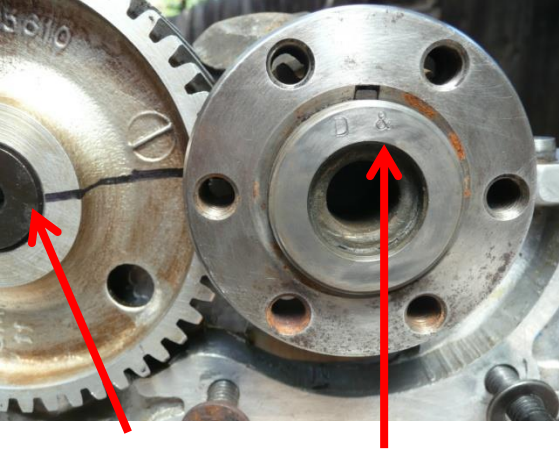




Removed and refurbished the lower front "A" arms.  
Replaced the inner bushings along with the ball joint  
on the right arm.



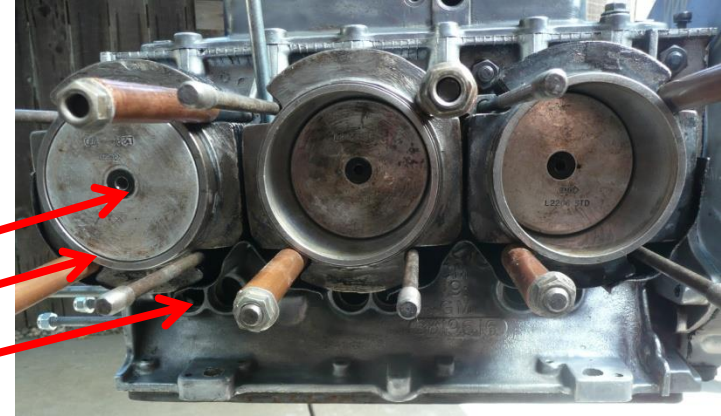
# 140 HP Rebuild 7/2015



TRW Drop Forged Pistons

Hastings Chrome Rings

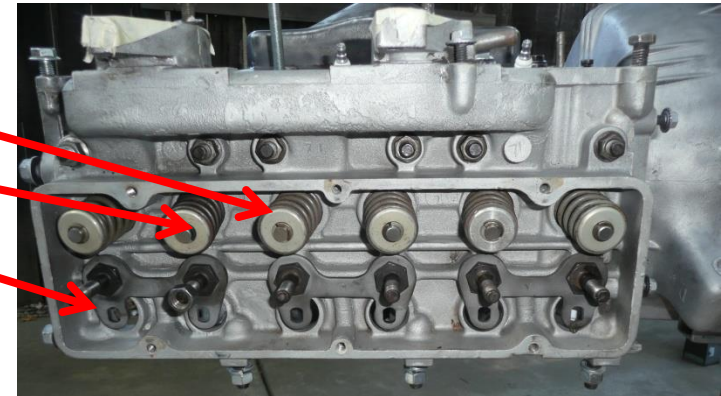
Elgin deep dimple hydraulic valve lifters



Aluminum Valve Spring Caps

OTTO Manganese Bronze Guides

OTTO Copper Head Gaskets

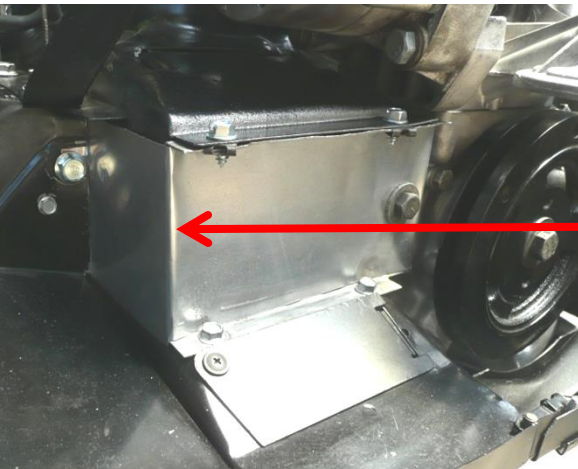


Viton Push Rod Tube "O" Ring Seals

Push rod tube heat shields self fabricated

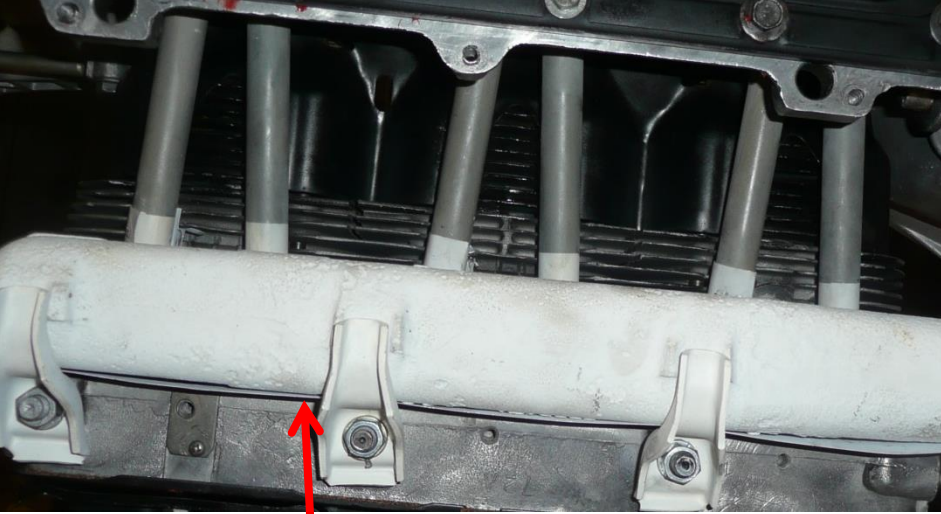
Oil Cooler Shield self fabricated

Exhaust Manifold heat shields self fabricated

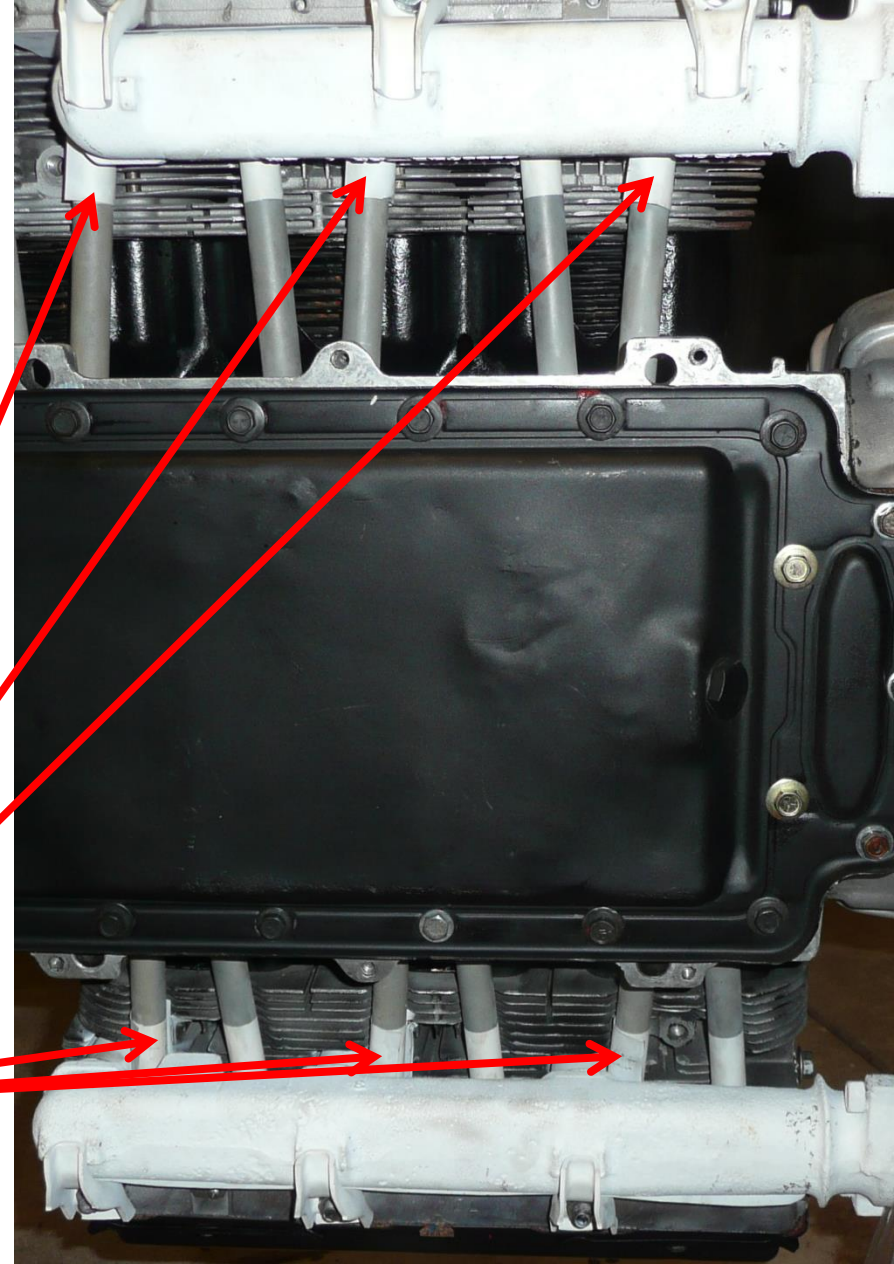


Camshaft is an 891 Nitrite Crankshaft

New Rod Bearings

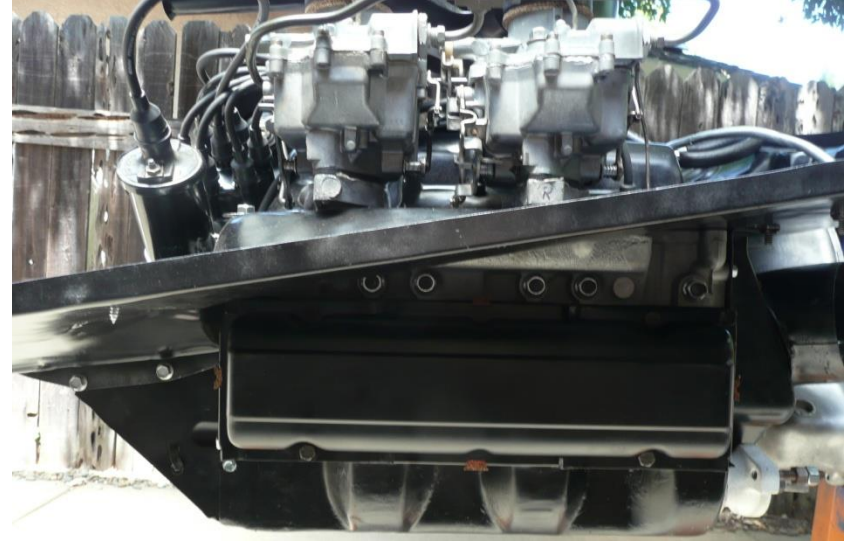


Exhaust Manifold heat shields, self fabricated



Pushrod tubes heat shields, self fabricated

Heat shields reduce the heat transferred to the oil returning to the crankcase from the heads. Exhaust manifolds and exhaust tubes are painted with VHT white paint to reduce heat radiated into the heads.



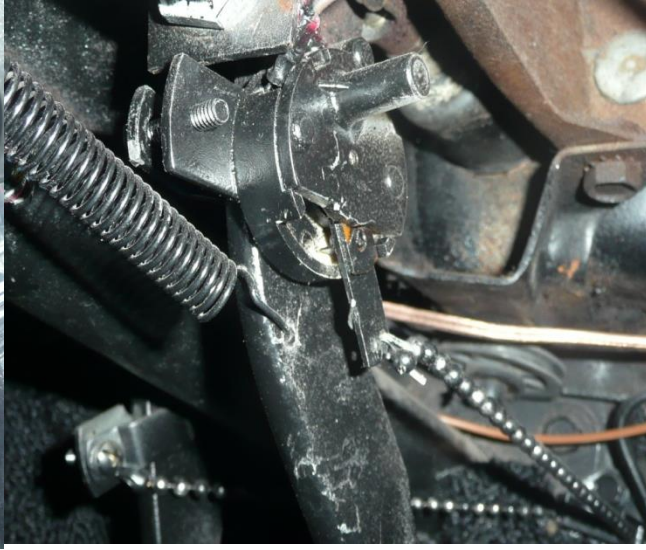
Replacement Engine Assembled 8/3/2015 Started 12/1/2015, Installed April 3, 2016 at 90,861 miles







Engagement Switch



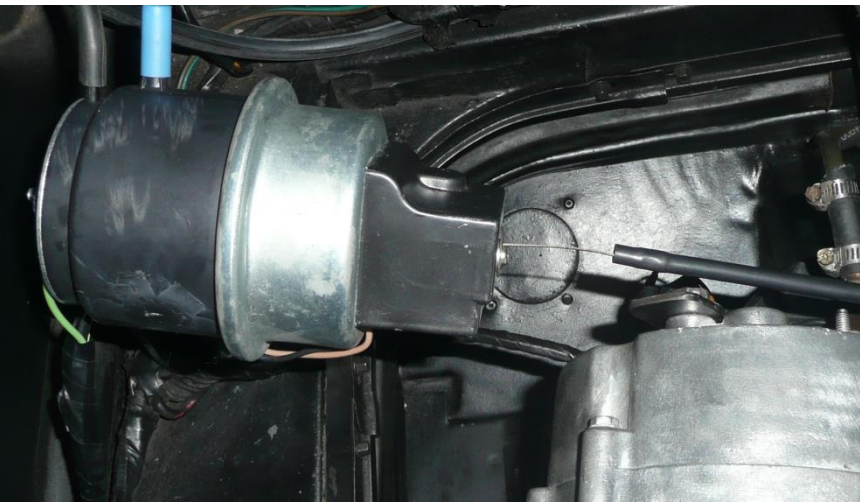
Disengagement Switch



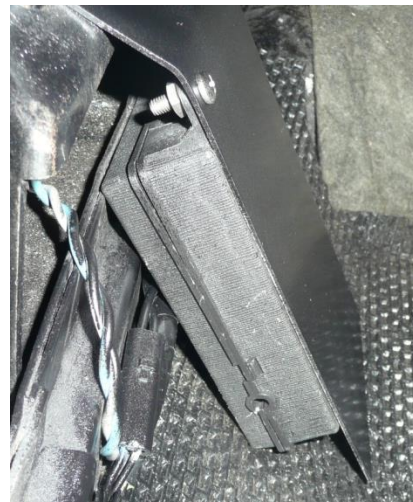
Deceleration Switch

## Cruise Control Installation Nov. 2015

Vacuum servo



Electronic Regulator



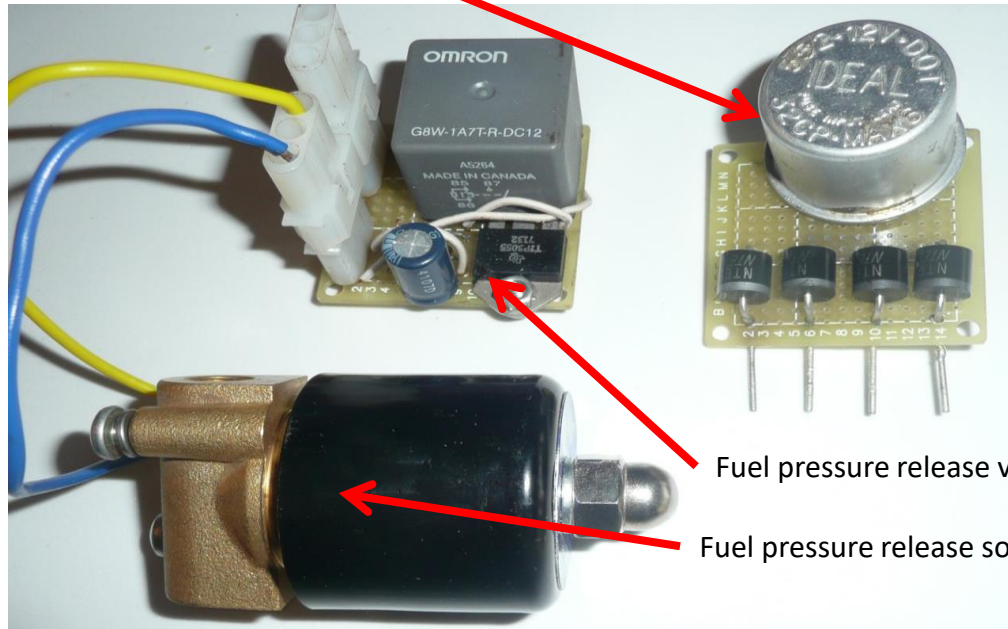
Road Speed pickup coil  
Right axle



# Additional Features

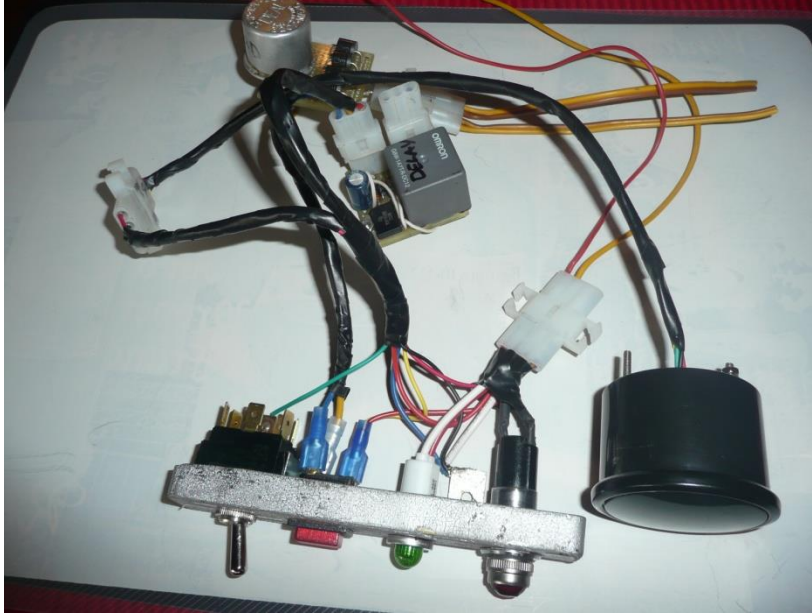


Emergency Brake   Cruise   Emergency   Flashers   Side select for fuel ratio Gauge



Fuel pressure release valve One shot controller

Fuel pressure release solenoid valve



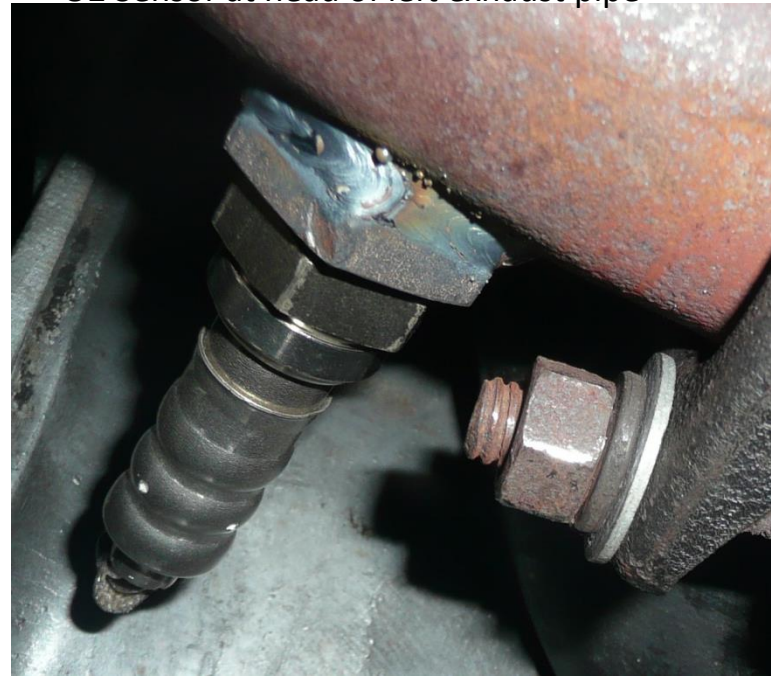
Wire harness for switches and gauge

O2 Sensor at head of right exhaust pipe



The fuel ratio gauge along with the O2 sensors allows the proper calibration of each carburetor for main jet selection and adjustment of the air bleed screw. A perfect ratio is 14.5 parts of air to one part of fuel. This gauge also monitors the battery voltage and displays it for a short time every 15 minutes.

O2 Sensor at head of left exhaust pipe





4/2016 Installed a Delta MK 10 Capacitive Discharge Ignition system. A switch mounted on the unit allows ignition to be switched back to standard points.

Purchased a pair of license plate frames with the name of the dealership that originally sold the car.





Engine running on all four rebuilt carburetors. The primaries have the idol jets enlarged to .031"

Both primaries are running a rich fuel/air ratio. Will try to rectify by reducing the idol jet size.

ID tags on all four carbs.



Copper Conductor high voltage ignition wires. Required to run a capacitive discharge ignition system

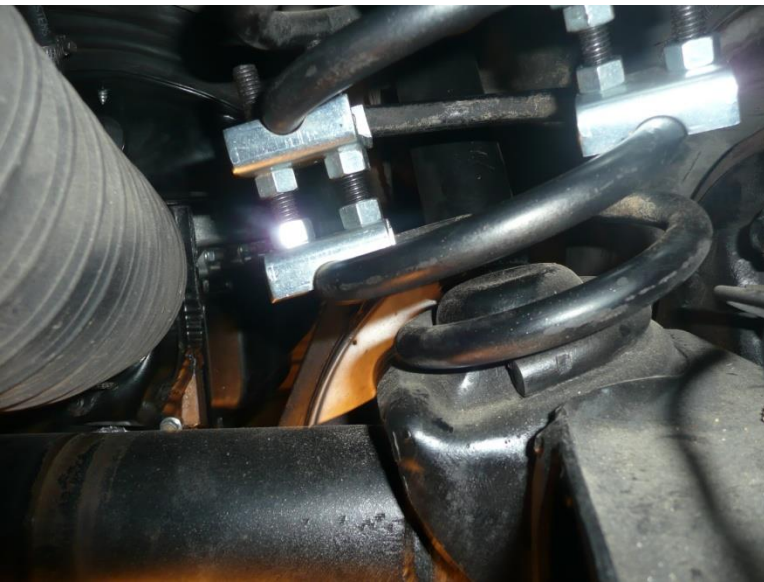




Front left  
spring.



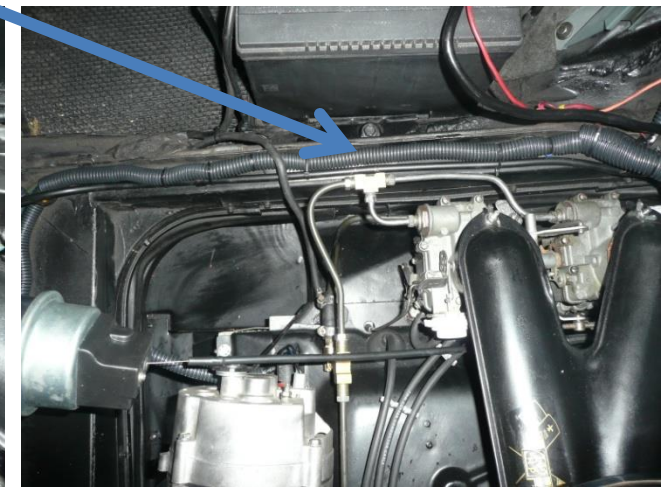
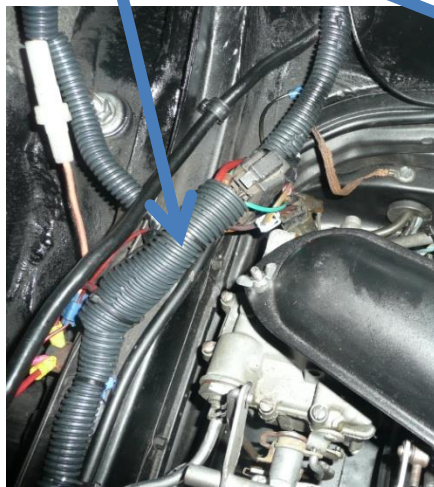
The car sagged on the left side with most occurring at the rear. The left rear was  $3/4$  " low when compared to the right hand side. All four corners are now at 25" height measured at the wheel arch above the axle +/- a  $1/4$ " now.



Rear left spring



Engine wire harness cleanup



## Rebuild of rear hubs.

Last project to improve reliability is to rebuild the rear hubs. The hubs were removed and shipped to Rear Engine Specialists in Golden Colorado. Steve Goodman agreed to rebuild the hubs to new specifications.

Upon disassembly and inspection Steve found the left side bearings had rust on both the rollers and races. The bearings were close to failure. The right side hub was from a 1965 car and had been replaced some ware during the cars lifetime. The assembly was good on grease and would have run for some time.

Steve will replace the 1965 yoke with a 1966 style and supply the bolts and straps with the returned hubs.



Hubs arrive in Colorado



Left side hub 1966 version with rust.



Right side hub 1965 version OK







Ready to install

Rear hubs prepped and painted and ready for assembly.





Best in Class  
Ironstone Concours d'Elegance  
Sept 23, 2017  
Wee Nicholas Folsom CA

Sept 23, 2017 sometime a little hard work pays off and you win Best In Class at a Concours d' Elegance





Chrome exhaust pipe tips aimed at directing the sound toward the rear of the car.

Added a baffle inside each exhaust tip to reduce the noise.



Installed "super bright" green LED bulbs in the instruments cluster



Mounted a thermometer on the end of the mirror mount.





Installed a telescopic steering column and a simulated wood steering wheel. The wheel slides in and out about 3" and locks in place. This was an option shared between the Corvair and Corvette starting in 1965. It was developed by the Saginaw Steering Division of GM.

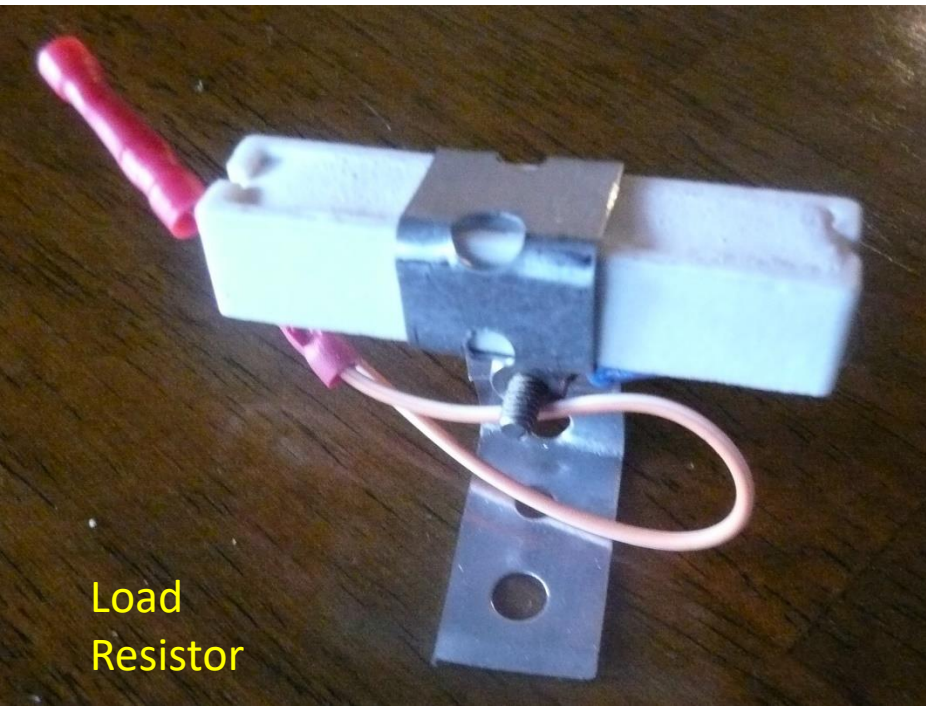




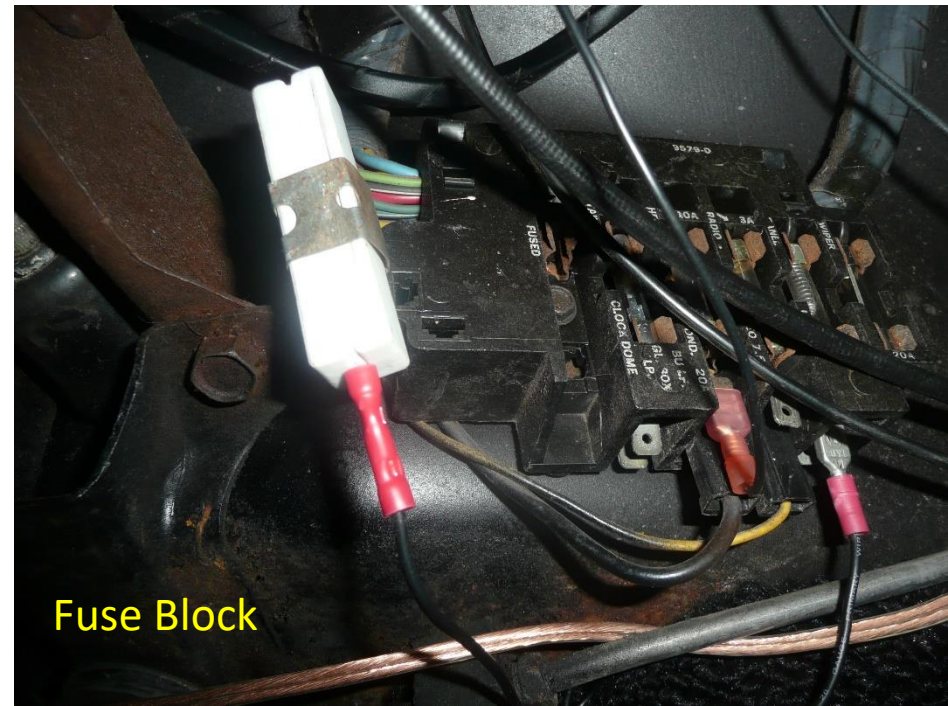
Windshield wiper delay 3 to 30 seconds, mounted to the right of the Hazard switch



After installing LED lights in the instrument panel the instrument dimmer switch did not work. A load resistor, that simulates the current draw of the incandescent lights, was added to allow the dimmer to function



Load Resistor



Fuse Block

My Corsa was featured on the cover of Cruisin' News Magazine in the November 2019 edition. There was a two page story and additional photos are included in the article "Air Cooled Cruiser". This publication is mostly for hot rods and mussel cars so a Corvair on the cover was most unexpected by its readers.





Installed an aluminum oil pan that I modified to add a baffle. This should keep the oil cooler in the summer. I have changed to full synthetic oil.







Installed new rear crossmember bushings. Accomplished with engine in the car.





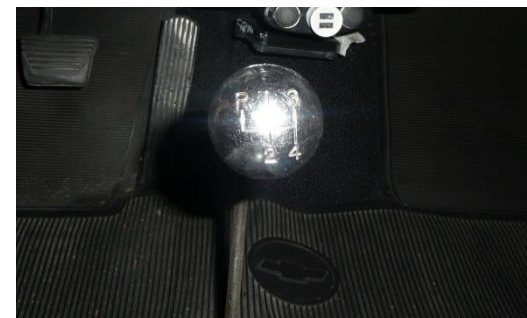
New Door Sill's right and left.



A chrome gearshift knob like my original had back in 1965



For car shows I remove the Bluetooth adaptor that is plugged into a lighter socket below the MUX..



Decided to hookup the Stereo Multiplex Adaptor to the AM/FM Delco radio. I added AUX inputs to the MUX that allows me to use a Bluetooth transmitter. I had to change all 4 stereo speakers to 8 ohms. It sounds very good, for a 60 year old radio, clear and strong



Ironstone Concours d' Elegance Murphys Calif Sept 2021 Corsa won again.



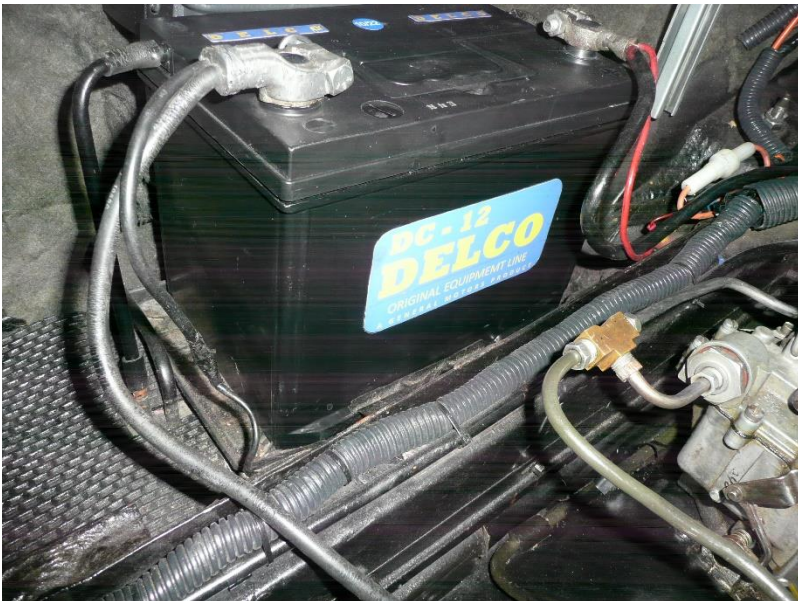
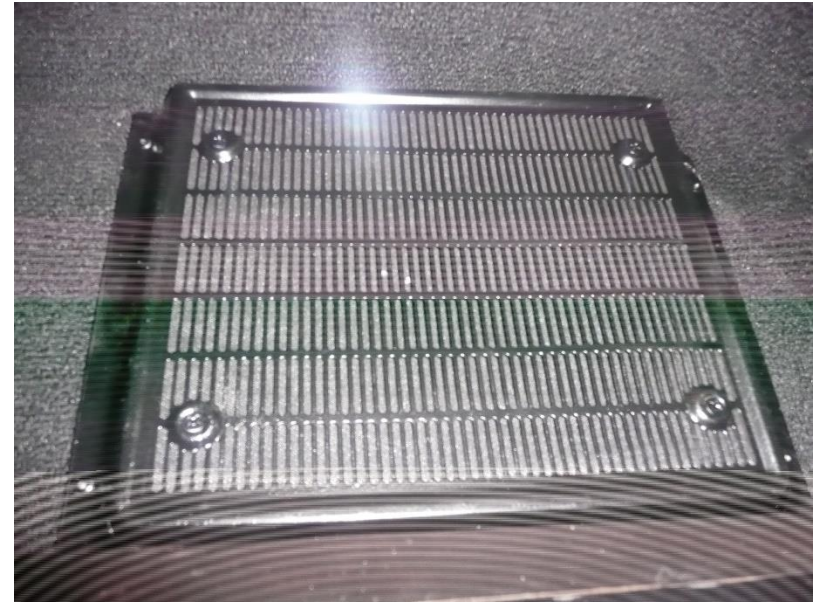
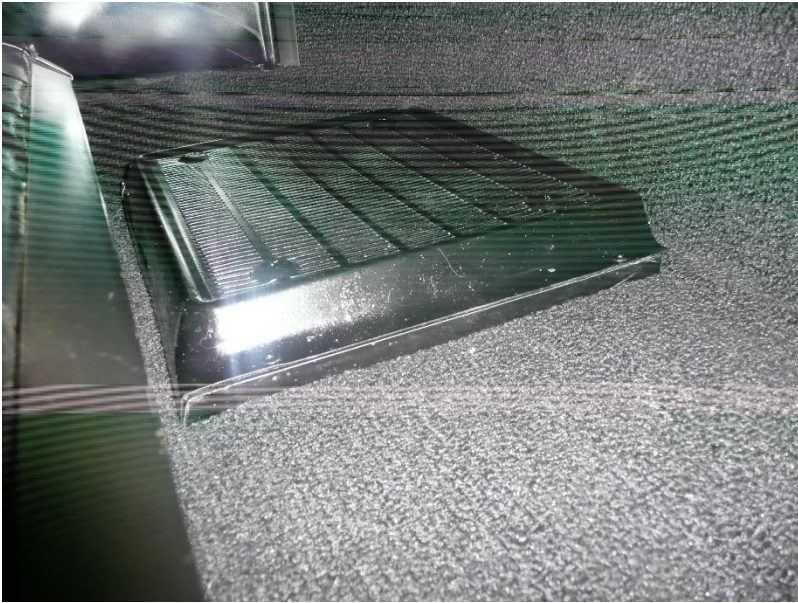
Tissue dispenser installed in alternate location, normal installation is under ashtray.  
The Multiplex Adaptor is installed in that location.



Remote control mirror



Installed OEM grills on the two rear speakers. One of these was original to the car and was centered on the shelf below the rear window. I located a second and placed them over both speakers I had mounted in the rear shelf.



Installed an OEM style Delco battery, the battery that came with the car lasted nine years. I modified the battery vents to connect to the tubes that carry the gas to the outside of the car.



CHEVROLET MOTOR DIVISION  
GENERAL MOTORS CORPORATION

Dealer To  
Whom Delivered  
**11223**

**MARX-DUFF CHEVROLET CO**  
**PO BOX 517**  
**GILROY, CALIFORNIA**

**268507**

Delivered To  
Dealer At  
(If Different  
From Above)

**CHEVROLET**

Vehicle  
Identification Number **107376L**

Final  
Assembly  
Point

**LOS ANGELES, CALIFORNIA**

**Manufacturer's Suggested Retail Price: (Includes Federal Excise Tax  
& Suggested Dealer Delivery & Handling Charge)**

**Model: 10737 CORSA 2D SPT CPE**

Destination Charge

**2519 00**  
**58 50**  
**2577 50**

**Subtotal**

Manufacturer's Suggested Retail Delivered Prices on Options and  
Accessories installed on this Vehicle by the Manufacturer

**3FAA** MIST BLUE

**00**

**3M20RC** 4 SPD TRANSMISSION

**89 55**

**3187AΔ** 140 HP 4 x 1 ENGINE

**00**

**3V75AA** REAR POWER ANTENNA

**28 45**

**3A02AA** TINTED WINDSHIELD

**12 65**

**3U69AA** AM-FM PUSH BUTTON RADIO

**133 80**

**3U80AB** REAR SEAT SPEAKER

**13 20**

**3PO2AA** SIM WIRE WHEEL COVERS

**57 95**

**3P19AA** SPARE TIRE LOCK

**5 30**

**3V31AA** FRT BUMPER GUARD

**9 50**

**3V32AA** REAR BUMPER GUARD

**9 50**

**3N36AB** TELESCOPIC STEERING SHAFT

**42 15**

**3P54AΔ** 700X13X2 PLY WSW

**28 20**

**3N34AB** SIM WOOD STEERING WHEEL

**31 60**

**3V39AA** DELUX SEAT BELTS FT/RR W/RETRACTORS

**10 55**

**3737AA** BLACK TRIM

**00**

**DLR** STEREO MULTIPLEXED ADAPTOR

**102 00**

**DLR** TISSUE DISPENSOR

**5 25**

**Factory Installed Options And Accessories**

**Subtotal**

**601 05**

**Total Amount** (Does not include dealer installed options or accessories, state or local taxes or license fees) **\$ 3178 55**

THIS LABEL AND THE INFORMATION THEREON HAS BEEN AFFIXED TO THIS MOTOR VEHICLE BY CHEVROLET MOTOR DIVISION, GENERAL MOTORS CORPORATION, PURSUANT TO THE REQUIREMENTS OF PUBLIC LAW 85-506, 80TH CONGRESS, WHICH PROHIBITS THE REMOVAL OR ALTERATION OF THIS LABEL PRIOR TO THE TIME THAT SUCH AUTOMOBILE IS DELIVERED TO THE ACTUAL CUSTODY AND POSSESSION OF THE ULTIMATE PURCHASER.