



updating a classic

the 57 Chevy
Bel Air

With the same
owner for 30
years this beauty
has seen 3
restorations.
Now it enters the
21st Century

With the approach of the new millennium, the owner of this classic knew it was time for a big change. It was time to bring this beauty into the 21st Century

Tom Stotts of Mena Arkansas acquired his 1957 Chevy in 1971. He was a Senior in High School at Loveland, Colorado.

Like most shoebox enthusiasts of the time, performance was the first thing on his mind. Out came the original 283 cu inch and 3 speed combination. The original engine was bored to 301 cu. inch and assembled with all the right stuff for a respectable street machine. Reinstalled with a 4 speed and a 456 differential, it was good to go.

Over the next several years the car went through many transformations from 327 cu. inch to 350's, 4 speed to turbo 400 and gears ranging from 308's to 536's. It had new paint on three occasions and interior twice.

The last drive train was a 350/400 combination with 308 gears. The best mileage Tom could attain was a meager 10-12 mpg. As many of you readers are well aware, it was time for a major change.

Tom was already leaning toward fuel injection when he made a visit to Street and Performance of Mena. After a tour of the plant and a good look at the LT-1 Tom's mind was made up. He had to have one! A new crate motor and transmission would not fit Tom's budget, but a used one would.

Mark Campbell of Street & Performance supplied a low mileage LT-4L60E combination out of a '94 Vette and the fun began. Tom enlisted the aid of Archie Speer, owner of Hot Rod Assembly Line to transplant the new powertrain. Archie was very tolerant and allowed Tom to work with him side by side on the installation. Power steering was added at this time using a 605 gear box.

The spare tire hole was removed and a large Rock Valley fuel tank, with internal high pressure fuel pump was installed. With approximately 22 gallons of gas Tom should be able to cruise all day without stopping for anything but fun. The fuel is transported by stainless steel lines by Tube Tech of Mena. Lokar accessories round out the cabin and engine compartment.

Previous updates include front disc brakes, Dakota Digital gauges, Air conditioning, Custom Auto Sound and Griffin Radiator.

The stock frame and suspension rides very well on four P245/60R14 TA's wrapped around classic Crager SS's.

All the bright work has either been polished, rechromed or replaced. Custom interior and a fresh coat of Black Cherry and white pearlcoats make this beauty truly ready for the 21st Century.



1 Tom's 1992 restoration included improving the power plant .



4 After removing the radiator and radiator frame assembly you can prepare your surfaces depending upon your application.



8 With the Side Motor Mount Kit from Street & Performance, it bolts in, no welding is necessary. The new side motor mounts are positioned, drilled and tapped, directly through the frame cross member.



2 Off with the Hood. After carefully marking the hinge locations to aid us during reinstallation, the hood is carefully removed.



5 The old 350 stands ready for removal



9 The new mounts are bolted into place. By locating motor mounts & power steering first, we can clean, paint & detail the entire engine compartment



3 Tom and Archie removed all of the front radiator housing and support framework. Bolts are hidden in a number of locations, including underneath the frame pan, so be patient.



6 The old engine and trans come away easy and the cleaning and detailing of the engine compartment and firewall can begin.

If you're replacing your computer now is the time to locate the computer unit and make appropriate modifications to the firewall.



7 Tom removes the old front motor mounts in preparation for the new side mounts which will reduce engine vibration. The original motor mounts interfere with new style power steering pumps.



10 Off with the old 57 steering gear box. The new power steering is the 605 55-57 Gear Box Kit from Mullin Steering Gear or your local hot rod shop.

The 605 Gear Box and column are fitted before detail.



12 With the engine compartment detailing completed, now you can start assembling the 605 steering and column.



15 This 94 LT-1 uses the 4L60E transmission, which shifts with the computer. 92-93 Vettes & 93 IROC had non electric overdrive. All 94-up LT-1 had the 4L60E transmission



18 The remainder of the motor mount kit is installed during installation of the motor.



13 The LT-1 engine is detailed. On Vette engines the oil pan has to be changed to IROC oil pan to clear the 55-57 front cross member. All IROC/TA, SS Impala, Cad & Buick oil pan will clear front cross member with out any modifications



16 The new engine and transmission are now ready to install.



19 With the LT-1 sitting in position we can now build the rear transmission mount.



14 Most LT-1 engines use an oil cooler which we removed because the engine oil cooler is not needed in the 55-57, where the Vette or IROC engine set half way under the cowl & the hood set on top of motor holding lots of heat in engine compartment



17 The LT-1 Factory Bracket Kit did not work in the 55-57 installation so we picked Street & Performance alt, air, power steering kit in chrome. The reason we went to chrome was for the easy maintenance and good looks. We used the wide style brackets (Vette Style) because we moved the battery to the back, on 57 if the battery box is in stock location you would have to run Street Rod Style brackets. On 55-56 you can run either because the battery is is on the firewall



20 Hot Rod Assembly Line built the rear cross member. Tom is going to run the Dakota electric speedometer & gauges, so the S & P harness will supply a wire to run the speedometer



21 Archie is installing a set of Street & Performance coated LT-1 Pro Car Headers for 55 - 57's. The LT-1 Pro-Car headers come w/two O-2 buns, because on LT-1's you must run two oxygen sensors, one on each side. The headers are complete with stainless steel bolts, gaskets and collectors.



24 Tom is adding the Street & Performance LT-1 Chrome Dress-up Cover Plate. The Cover Plate helps detail out the motor for that custom finished look and covers the unpolished portion of the intake. Available for all LT-1 motors the Cover Plate is easily installed using small drops of silicone.



27 Drilling the holes into the aluminum mounting tabs of the cross flow radiator.



22 Hot Rod Assembly Line wanted to hide the fuel lines, so the fuel rails were sent to Tube Tech to modify to low passenger side, rear of head. Vettes have fuel rail over passenger side rear, CAD, Buick, S.S. IROC & T/A have drivers side exit.



25 Archie of Hot Rod Assembly Line installs the rear exit fuel rail hold down brackets, available from Street & Performance.



28 With the radiator in 6 cylinder position you can mount the dual electric fans. We wanted to put the fans behind the radiator to improve cooling performance and looks.



23 Modified rear exit fuel rails being installed. Note the passenger side low rear exit. When installing injectors into the fuel rails take care to use a lubricant on the injector o-rings



26 Because Tom's 57 had a V-8 mount radiator, that needed to be moved to the 6 cylinder position. Tom decided to install a new S&P aluminum cross flow radiator which mounts to the original V8 mounts that relocates the radiator to the front of the core support. (The above picture shows Tom punching the radiator tabs.)



29 Radiator side panels have to be slotted for the mounting tabs and a hole cut out for the radiator hose. S&P now provides these new side panels precut for 55-56 or 57 passenger vehicles. Must know the type of engine to provide the correct panels.



30 Tom checks the fit of the side panels before painting them to match the cars black cherry finish.



34 The hose from the bottom of the reservoir back to the pump should be #8 or 5/8" hose and be rated for 20" to 27" of vacuum. If not rated for sufficient vacuum the hose may collapse & starve pump fluid flow.



37 Hard line stainless steel fuel lines by James Miller of Tube Tech. Both lines are stainless steel. Avoid rubber fuel lines.



31 S&P provides an adjustable thermostat switch that has a fitting and sensor that can be placed into the port which is added to the S&P cross flow just for this purpose.



35 The new power steering was detailed out with Aeroquip high pressure braided hose kit from Street & Performance.



38 The addition of a stainless steel gas tank from Rock Valley added more fuel capacity and had the high pressure fuel pump already installed in the tank. The larger size fuel tank required removal of the spare tire mounting hole. The Rock Valley tank was complete with stainless steel mounting straps. The pump in the tank is the most desirable method because it is a pusher, reducing the opportunity for vapor lock in hot weather. Internal pumps are quieter and run cooler. If you decide for an external pump planning pump location is very important in maintaining fuel flow.



32 With the radiator in place, Tom is able to install the Goodyear radiator hoses that were purchase from S&P with the cross flow radiator.

The power steering lines are mounted using Street & Performance aluminum hose separators from #6 high pressure hose from pump to gear box than from gear box back to reservoir. From reservoir back to pump be sure to use at least #8 AN Power Steering hose that is rated at least for 20" to 27" of vacuum. P/S hose kits are custom made for your application.



33 With the side panels painted and bolted into place, Tom mounts the radiator over flow reservoir to the passenger side panel



36 Street & Performance has all the fittings and hoses to make up your power steering lines. Weather you have gear box or rack, Street & Performance will make the power steering Hose kit to your particular application.



39 Tom is installing the Lokar LT-1 Braided throttle cable. The LT-1's w/4L60E transmission do not run detent cables like 93 & earlier.



41 Lokar pedals were used for the brake, accelerator, and dimmer switch. Installing Lokar throttle and brake pedals improved the looks as well as the throttle cable pulls from the inside for a cleaner fire wall. Lokar makes a bigger pad for non power brake cars. Tom and Archie converted this 57 to Power Brakes.



42 Hot Rod Assembly used Lokar 4L60E Firewall mount Transmission fill tube



43 Lokar engine oil dip stick. The Lokar dip stick is flexible, which lets you route around your headers



44 The spare tire well was removed to facilitate the installation of the Rock Valley gas tank. The result was a nice flat floor. Notice the battery box was relocated to the trunk area. Be sure to ground battery back to engine/transmission - engine to frame - engine to body. Grounds are very important



46 The old factory harness and computer that came off the engine & transmission.



45 Tom installs the Street & Performance LT-1 w/4L60E wiring harness, with the S&P LT-1 wiring you don't have to run the mass air flow on 94 & later. You can run speed density like 92-93 LT-1. On 94 & 95 we run 16188051 P.C.M. computer that was used on 94/95 IROC ~ T/A ~ Buick ~ Cad & S.S. '96 - '97 OBDII engines can use either computer, service numbers are #16214399 #16242921.



47 The new Street & Performance harness and computer that use GM factory computer that came with engine & transmission #16188051.

On '96 -'97 LT-1 engine you need S&P provides a wiring harness and computer reprogramming for the OBDII engines. All '94 to '97 computers can have the mass air flow & Vats removed. On 74 and earlier vehicles you can have the emissions removed. '96-'97 computers serv numbers are '96 #16214399 '97 #16242921



The finished Installation.



48 This harness for LT-1 uses the 92-93 #16159278 computer and is used when running 700 R-4 - 350/400 transmission. This computer uses a chip which Street & Performance can program for your application.



This is the rear exit passenger side stainless steel Fuel Line Kit from Street & Performance so you can run fuel line up passenger side.



55-57 Chevy small block Pro Car headers from Street & Performance with all stainless head flanges and collector flanges and O2 buns installed.



55-57 Type III headers for rack and pinion type steering. Comes with collectors and O2 buns installed.



The Tail Housing Kit from Street & Performance lets you add manual speedometer to your 4L60E transmission. You need to know your gear ratio & tire roll out dimension.



S&P offers EGR block off plates, gaskets and bolts for non emission vehicles which may include '74 and earlier vehicles

Rock Valley

815-645-2740 fax
Rt 72, Rothwell Box 352
Stillman Valley, IL 61084
800-344-1934
Stainless Steel Fuel Tank w/high pressure pump installed.

Street & Performance (www.hotrodlane.cc)

#1 Hot Rod Lane
Mend, AR 71953
(479) 394-5711
(479) 394-7113 fax
LT-1 Engine and accessories
Pro Car Headers
LT-1 Wiring Harness
Custom Machining

Tube Tech

101 Pedal to the Metal Lane
Mend, AR 71953
479-394-6466
Stainless Steel Fuel Lines & Accessories

Griffin Radiator

100 Hurricane
Creek Rd.
Redmont, SC 29673
864-845-5001
Aluminum Radiator

Lokar Ltd

10924 Murdock Drive
Knoxville, TN 37932
865-966-2269
865-671-1999 fax
Transmission & Oil Dip Stick, Throttle
Cable Brake, accelerator and dimmer pedals