



◆Direct from Chevrolet Performance: the Connect & Cruise LS3—430 horses of 6.2L V-8 goodness—complete as shown, including engine management system and 4L65E overdrive transmission.

Connected & Cruising

Project '55 Revive Gets its Chevrolet Performance LS Transplant

By Rob Fortier | Photography by the Author

✚ Fifteen to twenty years ago, the Chevy 350/350 swap in full-bodied street rods was the norm. Today, the LS transplants are quickly taking over the SBC's reign, and for obvious reasons—you just can't beat the LS platform of engines, whether plucked from a retired car/truck or a brand-new crate offering from the aftermarket.

Chevrolet Performance has seen the need for the aftermarket to have a "packaged" deal in LS form, and have answered the demand by creating and offering its Connect & Cruise family of LS swap kits. From the standard 430hp LS3 to the incredible 638hp LS9, the supercharged 6.2L LSA to the carburetor-inducted LS376, they've designed packages to suit most every need—and budget.

Since its inception, Project '55 Revive was slated to be a recipient of a Connect & Cruise LS drivetrain—and considering the Bel Air's going to see plenty of long-haul drive time, it was agreed: the LS3 kit, with its 4L65E transmission, was the perfect choice ... and for more reasons than just the performance and reliability aspects alone. It just so happens that Classic Performance

Products offers pretty much everything you need to make the LS transplant as simple as possible—from their FitRite adjustable engine mounts to fuel system kits, adjustable transmission crossmembers to cast iron headers—the marriage was a perfect "fit."

Once we had the old reliable Blue Flame Six 235 plucked from its quarters, the Bel Air's engine compartment cleaned up nicely, making a perfect home for the much larger V-8. Matter of fact, other than removing a series of rivets for CPP's small-block Chevy engine mount pedestals and very minor trimming of the firewall-to-floor pinch weld flange (for transmission bellhousing clearance), no major modifications are



Source It

• Classic Performance Products
(800) 760-8536
classicperform.com

TECH

necessary. The use of a Holley oil pan conversion affords the CPP steering linkage to operate unobstructed; CPP's cast-iron headers route the exhaust free and clear of any components, including the 500 Series power steering box; and Lokar's newest fly-by-wire pedal combined with CPP's Tri-Five mounting bracket facilitated the throttle setup. Furthermore, an Eddie Motorsports S-Drive serpentine system's tight frontal fit allowed for ample clearance of the dual Maradyne fans affixed to the rear of the Hot Rods

by Dean cooling system we previously showed you.

Additionally, the Chevrolet Performance LS harness will be integrated with a complete vehicle harness supplied by American Autowire, as well as the previously showcased Dakota Digital VHX system—all of which add to the simplicity of the LS swap, not to mention make this the most modern-influenced Tri-Five it can be!

This installment will overview the engine/trans, following up with the fuel system and air intake afterward. **SR**



1 Out with the old—removing the Bel Air's original 235 inline-six was only part of the job ... CPP would also tear down (and subsequently replace, with all-new CPP components) all the factory suspension, steering, and brakes prior to mocking up the forthcoming LS drivetrain.



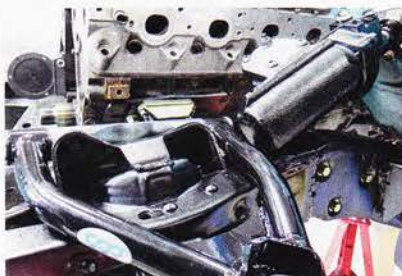
2-3 While standard small-block Chevy engine mount pedestals were installed, to facilitate the new LS, CPP's FitRite adjustable motor mounts were used ... starting with a stripped-down LS block and gutted transmission case.



4 The FitRite mounts allow for front/rear engine placement adjustment, however, to get the angle of the engine itself set ...



5 ... CPP used their adjustable transmission crossmember, which can either be bolted or welded to the framrails once set in its desired position.



6 The CPP tubular control arms, 500 Series power box, and steering linkage were all installed in the process of mocking up the engine and trans. Also, to ensure the linkage could articulate unobstructed, Holley's low-sump LS conversion pan (PN 302-1) would need to be used.



7 As shipped from Chevrolet Performance, the LS3's oil pan affords no room for tie-rod/centerlink clearance, let alone the ability to set the engine without hitting the crossmember.



8-9 The Holley 302-1 Retro-fit pan that CPP offers with their LS conversion kits prevents any of the aforementioned clearance issues—it comes complete with new pickup tube, windage tray, and hardware/fittings (filter and gasket sold separately).





10 Further ensuring “everything” would fit nice and proper, the LS was equipped with its intended accessory group—in this case, Eddie Motorsports’ satin black powdercoated S-Drive system, which includes everything shown: fully integrated front-mount bracketery, A/C compressor, Tuff-Stuff water pump, Powermaster 140-amp alternator, and ATI harmonic balancer.



11 Prior to installation, the complete engine management harness provided by Chevrolet Performance was hooked up to its respective ports on the LS.



12 The Connect & Cruise’s 4L65-E four-speed automatic—with supplied flexplate and torque converter—was also hooked up in preparation of post mock-up installation.

13 Snug fit, but thanks to some fabricated brackets attached to the cylinder heads, none of the wiring harness or any engine components were damaged in the process dropping the drivetrain in place.



14-15 Along with the ability to use in conjunction with standard SBC mounts/pedestals, CPP’s FitRite LS engine mounts are adjustable—up to 3-1/2 inches with their “long” option (“short” offers 1-1/2 inches front/rear movement).



16 Setting the LS back as far as possible, without hitting or interfering with the firewall, was the optimum result.

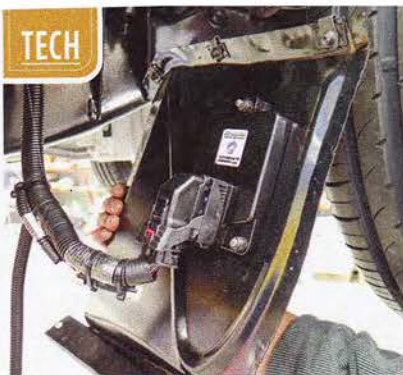


17 Once the engine was set, so too was the adjustable transmission crossmember. CPP supplies self-tapping hardware for mounting, however, welding the framerail side brackets on is also an option.



18-19 Included with the GM engine management harness are the control center components: the fuse panel and ECU. For user access, the panel was mounted via fabricated standoff bracket from the passenger-side inner fender, while the ECU was tucked out of sight in the fenderwell just behind.





20 The transmission controller unit was also mounted in the fenderwell, accessible from underneath the vehicle through the lower splash pan.



21 For the actual vehicle harness, CPP elected to use American Autowire's '55-'57 Classic Update kit—easily one of the most user-friendly wiring harnesses on the market.



22 Why the claim "most user friendly"? Simple: each and every section of the harness comes with a diagram/schematic that clearly illustrates things in color-coded fashion—and in the case of the Tri-Five's fuse panel, includes mounting instructions.



23 When integrating the GM harness it was necessary to undo a few of the connectors, such as the OBD-II and fly-by-wire throttle pedal plugs, for interior vehicle access without having to cut huge holes to accommodate.



24 Having a digital reference when dissecting and reassembling multi-wire plugs is always a plus—a good way to prevent having to diagnose electrical gremlins in the future, too.



25-26 The dissected sections were loomed together and sheathed in a high-temp flexible braid before being routed into the interior via a discrete "pedestal" mounted beneath the headlight dimmer switch.



27-28 While Chevrolet Performance supplies a Camaro-derivative electronic throttle pedal, CPP chose to use a Lokar fly-by-wire pedal, for which they developed a steel Tri-Five mounting bracket that places the pedal in the stock location.



29 And though the lead-in shot may suggest otherwise, when it came to exhaust, CPP's ceramic-coated cast-iron "headerfolds" fit the bill—and engine compartment—perfectly. No clearance issues whatsoever, unlike the full-length tube headers that preceded them. They're also available in plain and black high-temp coat. The O2 sensors were installed in the down pipes just past the collectors.



30 All shoehorned in and ready to rack up some miles this summer, '55 Revive's Connect & Cruise is good to go. Other than a pair of sheetmetal fuel rail covers, miscellaneous ARP hardware, and the aforementioned Holley pan, CPP left the LS3 as Chevrolet Performance intended—a strong yet reliable 430hp workhorse.