HOW TO DAILY-DRIVE A PROJECT CAR

FALL 2015

# CHEVELLE

CHEVY'S MID-SIZE MUSCLE CAR

# RUSTED HULK TO TV STAR

'67 MALIBU SLEEPER INFUSED WITH MODERN POWER & TECHNOLOGY »

**TECH!**

582 HP FOR ZZ502

BARE CHASSIS BUILDUP

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INSTALL ANALOG LED GAUGES

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**REVISITED:**
'70 LS6 SS 454
ROAD TEST

'70 LS5
DROP-TOP
454 CRATE-MOTOR MAULER

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# SKELETON UP

## Going From Bare Frame to Rolling Chassis

**By Chevelle Staff, Mark Ehlen** Photograpy by Mark Ehlen, MCR Staff

There's been occasion where various car magazines have run articles on how to restore a car from the ground up by scavenging a body here, a frame there, and then building a car dirt cheap one part at a time, something like Johnny Cash did in his 1976 song "One Piece at a Time." That said, this isn't going to be one of those stories, but rather how to identify what's junk and what parts should never be reused, and how to build the best rolling chassis possible.

In the Summer 2015 edition of *Chevelle* we showed how Muscle Car Restorations (MCR) of Chippewa Falls, Wisconsin, checked to ensure a bare frame would be a good candidate to powdercoat and then stuff under a 1970 Chevelle. In this edition we're picking up from where the frame is square and shiny, and the MCR staff is assembling it into a rolling chassis using a combination of new and used parts. It might seem a bit unusual we mention used parts because every old car comes complete with a ton used parts, but in this instance MCR started with a bare frame and then rounded up a proverbial basket case of used parts. And that's where our story begins, by identifying used parts that are reusable or junk that should be replaced with new. And of course we'd be delinquent in our job if we didn't offer high-performance alternatives to boring, stock parts.

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**CLASSIC TUBE**
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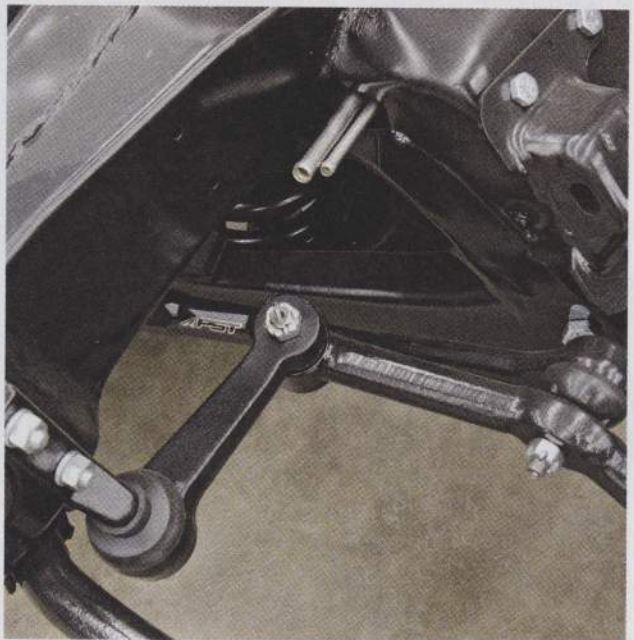
classictube.com

**MUSCLE CAR RESTORATIONS**
715.834.2223
musclecarrestorations.com

**ORIGINAL PARTS GROUP INC. (OPGI)**
800.243.8355
opgi.com

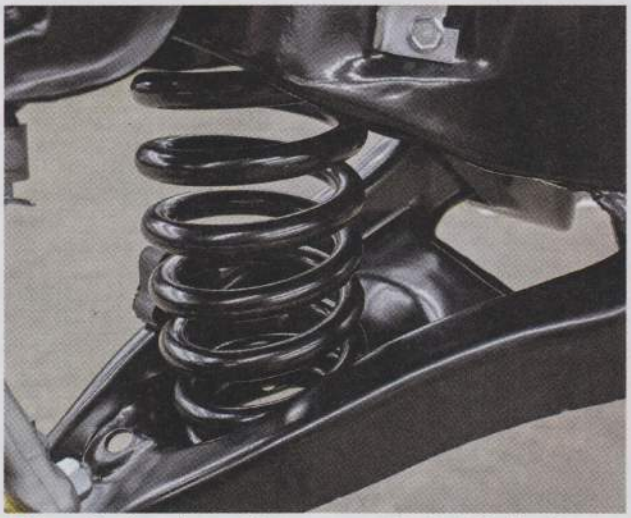
**PERFORMANCE SUSPENSION TECHNOLOGY (PST)**
877.226.4101
p-s-t.com

1. First check to ensure the control arms are not bent. As with the frame, after checking all of the ancillary components such as the control arms, brake drums, brake rotors, etc. they were powdercoated. Here, the worn-out OE (original equipment) rubber bushings have been pressed out and PST (Performance Suspension Technology) Polygraphite bushings are being pressed into the control arms. A proprietary product, PST developed a formula to impregnate polyurethane with low-friction graphite to offer the near-zero deflection of a urethane bushing combined with a self-lubricating bushing.



2. Here, a new PST idler arm and tie-rod ends have been installed. A worn-out idler arm can contribute massive amounts of slop to steering function.

3. For faster steering and a more positive road feel, a better approach over stock is to fit a CPP (Classic Performance Products) Series 500 power steering box.



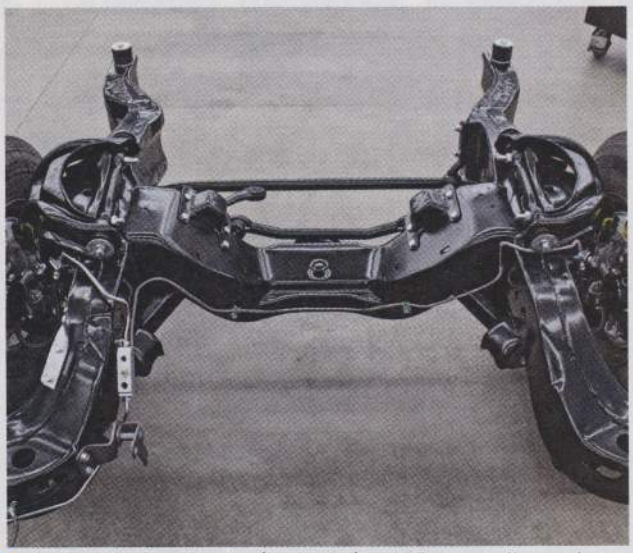
4. New coil springs give an old car a new car ride. Now's the time to match up spring rates to work with a heavier big-block engine, or stiffen up the ride for better handling. PST G-Max coil springs are available in stock or lowered configurations.

6. The front disc brake rotors were powdercoated gray and then turned down on the brake lathe. New tapered wheel bearings are included with new races. The old bearing races must be knocked out and replaced with new races.

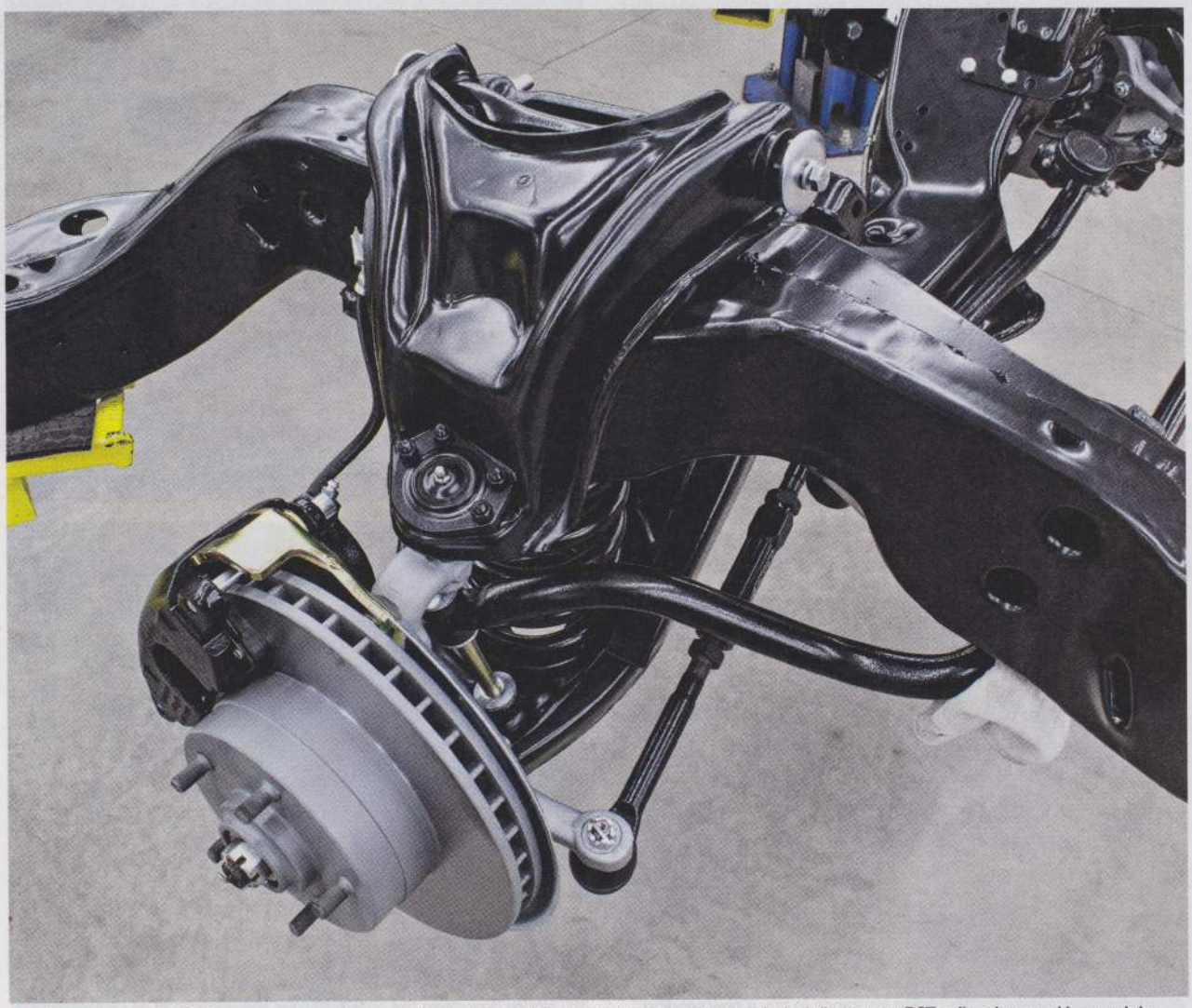
5. Muscle Car Restorations sourced the front and rear complete brake kits from PST. This is one of two rear drums that were powdercoated black. Afterward, a quick spin a brake lathe removed powdercoat overspray, and double ensured the drums were true (perfectly round).

7. A brake proportioning valve is included in the PST kit and mounted adjacent the power brake booster. In this instance, the proportioning valve was relocated to the stock location on the driver-side of the framerail.

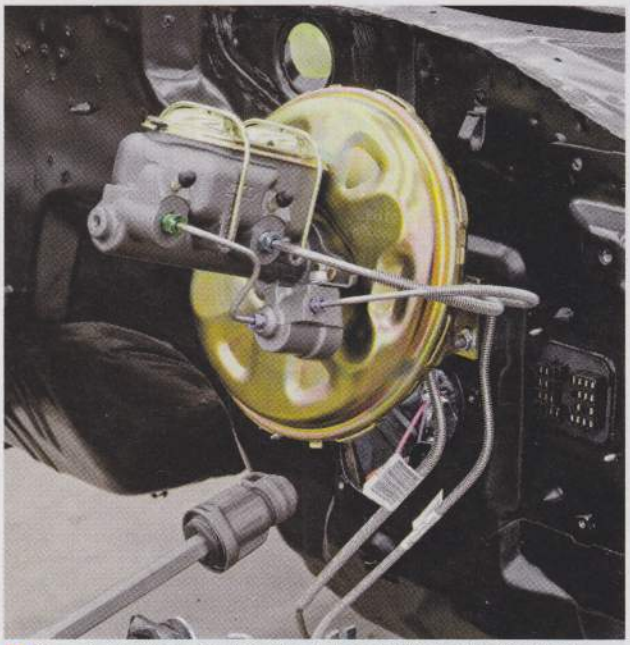

8. Replacing the rear brake shoes and wheel cylinders is not enough. The brake return springs are subject to intense amounts of friction-generated heat and lose temper and must be renewed.



9. Instead of custom bending (fabricating) brake lines, save time and hassle by buying new, pre-bent ones. Notice the number of special shaped bends that must be made to make the hydraulic brake lines fit as well as seen here and you'll have a new respect for the amount of time saved by buying preformed lines from Classic Tube of Lancaster, New York.

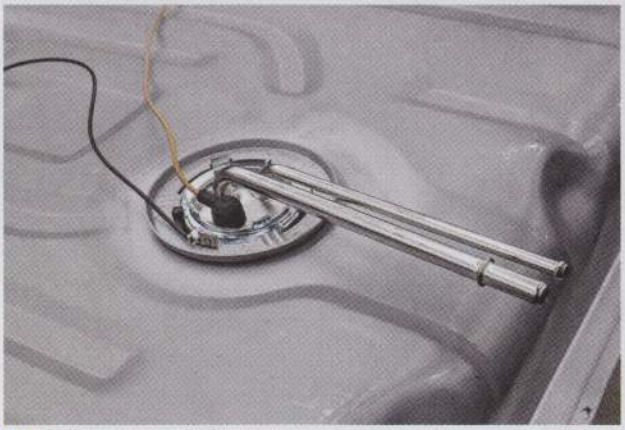


10. The addition of a PST rear sway bar helps to eliminate body roll. The next step from here was to install new rear PST coil springs and heavy-duty shock absorbers.



11. For a stock style restoration, the gold cad plating on the CPP brake master cylinder and vacuum brake booster looks just right. For the person that wants that custom touch, CPP offers chrome-plated and polished billet aluminum parts.

12. It's less expensive to buy a 100-percent new gasoline tank from Original Parts Group in Seal Beach, California, than it is to boil out a used tank.



13. For fuel gauge reliability it's cheap insurance to buy a new sending unit anytime the gas tank is removed from the car. And always ensure the filter sock on the pickup is free from tears or blockages before installing.

14. Even on carbureted cars it's a good practice to avoid grief in the future and ensure operating longevity by installing quality high-pressure fuel-injection hose. Note that it's harder to kink EFI hose.

15. It's a bad idea to forget to retain fuel and hydraulic brake lines to the chassis. The use of tie-wraps is mickey mouse. Available from CPP, PST, or Classic Tube, use OE-style or custom aftermarket brackets to prevent the lines from flapping about wildly in the wind.

16. Notice how clean the preformed gas line adheres to its factory original routing. Insulation (heat proofing) around the fuel line helps to prevent the car from vapor locking. ★