

How To

“Pro Street” a Pickup

Today’s pickup trucks all descended from the horse-drawn wagon. Fortunately, horse power has long since given way to horsepower; direct drive has been replaced by torque-producing transmissions; and steel-belted wooden wheels have evolved into steel-belted radial tires. Yet that old wagon’s primitive, leaf-spring suspension is still on the job today, looking and working just about the same as it did a hundred years ago.

Chris Alston has come up with some revolutionary improvements for this all important, long-neglected area - including the first 4-link suspension designed specifically for high-powered street vehicles. As with all Chassisworks products, this Pro Street 4-link and several related components were engineered with the home builder in mind. As evidence, we offer these photographs of a recent conversion performed in-house by the Chassisworks crew.

This particular owner paid just \$300 for his 1974 Chevy “beater.” Envisioning a high-horsepower Pro Street truck that will see occasional duty at the drags, he wanted fat rear tires, without resorting to fender flares; as low of a profile as possible; and a rear suspension that would hook his truck to the pavement, yet remain comfortable

*New Chassisworks
Kits Let You Do It
Yourself!*

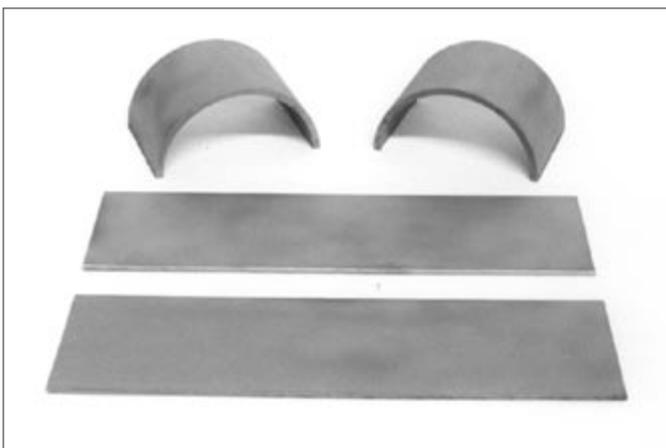
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▲ The project begins! Stock, high-mileage '74 Chevy was driven to Chassisworks' In-house chassis shop.



▲ This convenient hole is used as a reference mark on each side of the frame. The distance to the front of the axle housing is recorded to ensure correct housing location upon reassembly.



▲ Chassisworks' universal frame-notch kit creates up to three inches of clearance above the axle housings, allowing any truck to sit lower.



▲ After tracing the profile of the kit's curved section, each rail is notched. Installed notch plate and frame gusset are visible on far side.

How To

"Pro Street a Pickup

and safe for everyday driving. What he didn't want was the expense of installing a rear subframe.

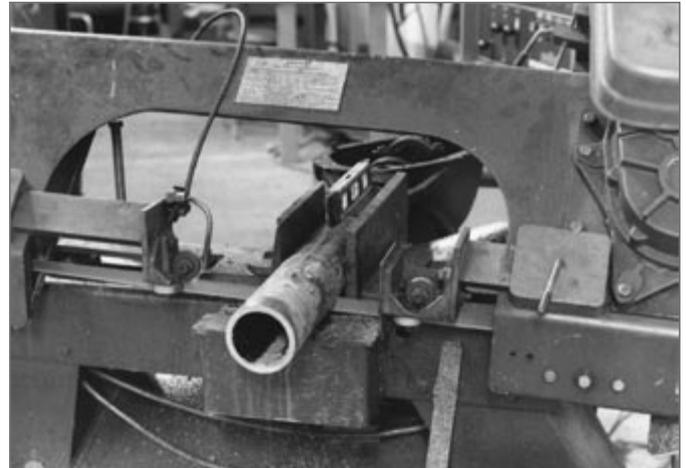
For all its success and popularity as a drag racing suspension, competition 4-links have experienced some problems in the transition from strip to street - including reports of rearends literally falling out of vehicles! The troubles start at the link bars themselves. With right- and left-hand-threaded rod ends on each bar, a racer has only to loosen the jam nuts to rotate and adjust the bar, without having to pull the rod ends out of the brackets. This provides for quick and easy adjustment at the track, and the bars are constantly checked. But on street cars, once the final adjustment is made, that's where it's going to be forever. So it's basically forgotten - unless, of course,

the rigors and vibrations of street driving cause the jam nuts to rattle loose. This lets a link bar rotate until it falls off, separating the rearend from the frame.

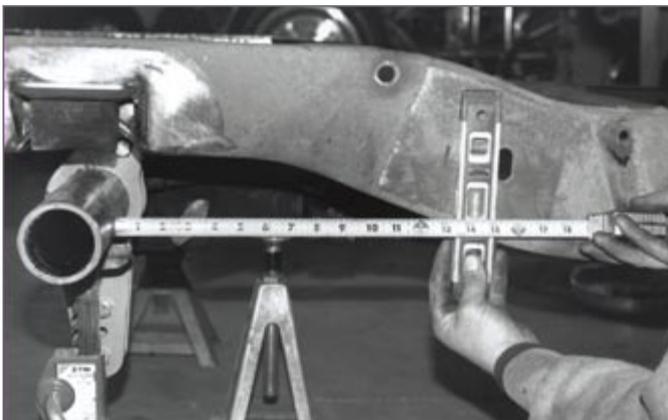
In any 4-link application, there must be a means of keeping the rearend from moving right and left. In race cars, the link bars and the track locator are fitted with rod ends, which allow everything to pivot as needed while keeping the rearend centered. However, putting these same parts in a street vehicle results in an extremely stiff, harsh ride. Conventional track locaters invariably bind up at some point in their travel, and spherical-type rod ends don't permit enough "body roll" to soak up irregularities in the road. Eventually, everything rattles and wears itself to death.



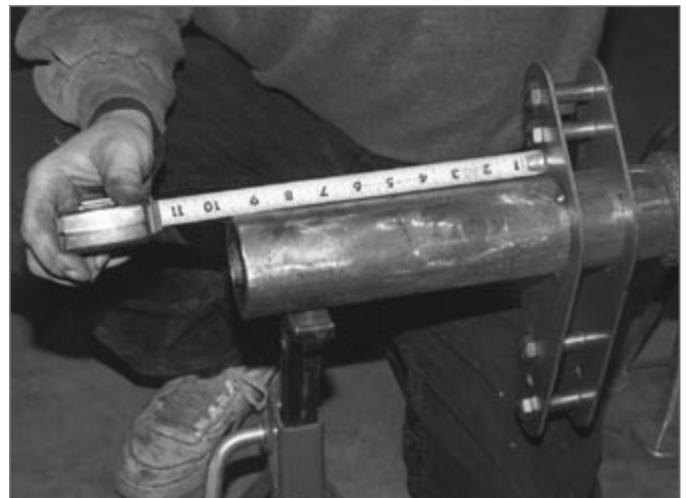
▲ Stock axle snubbers are relocated above each notch and welded directly to the frame.



▲ Original 12-bolt housing is narrowed seven inches per side to accommodate giant 33/19.50 Mickey Thompson rubber.



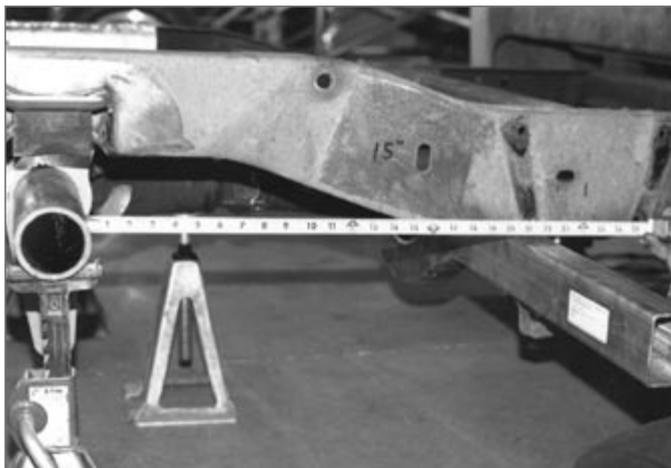
▲ Narrowed housing is centered in the frame by locating each side the original distance from the respective reference holes (shown); setting the correct height by measuring from the ground to the axle centerline; and equalizing the distance between the ends of the axle housing and the sides of the frame.



▲ Rear 4-link brackets are positioned to clear the frame. Each bracket's bottom bolt hole is centered under the housing.

How To

"Pro Street a Pickup



▲ Now the front crossmember is placed under the frame. (Its 58-inch length accommodates even the widest vehicles.) Distance from the housing is determined by the length of the 4-link assembly. Lowest part of the crossmember's bend is centered beneath the driveshaft.



▲ Before gusset plates are welded to the 4-link brackets, each lower shock mount is positioned, leveled and scribed for cutting along the bracket's back edge.



◀ After the bracket gussets are welded, shock mounts are positioned and tack-welded.

▶ The horizontal tube, brackets and hardware form Chassisworks' upper-shock-mount kit. With brackets properly aligned and upper shock mount trimmed to fit both above and between the frame rails, the fabricator inserts and levels a vertical "shock simulator" representing the shock absorber's length at ride height. Upper shock mount is then welded to the frame.

Last but not least, mounting the front brackets of a race-type 4-link has always necessitated the installation of an aftermarket subframe (or a full chassis). Chris Alston solved this problem by designing a "notched" front bracket that fits onto Chassisworks' standard 3x2-inch, dropped crossmember. This, in turn, mounts to a stock frame with an all-new set of "U"-bend gussets. Consequently, a Pro Street 4-link can now be installed between the stock rails of any full-frame vehicle.

The harsh ride was softened by substituting urethane bushings over steel sleeves for conventional rod ends in the link tubes and locator. The redesigned Chassisworks Pro Street locator also features a unique double clevis, dual-pivoting end which allows the rearend to go through its full range of travel unhindered.

To prevent parts from falling out onto the highway, one threaded end of each bar, including the locator, was replaced with a "weld eye." This makes one end rigid and one adjustable; should a jam nut loosen, nothing leaves the vehicle. To make the assembly as bulletproof as possible, all bar ends are made with 1-inch-diameter shanks, which will easily stand up to the power of supercharging or nitrous oxide.

For those inclined to ride as low as possible and run the widest rear rubber, Chassisworks has also developed a frame-notch kit and a steel wheel tub specifically for trucks. The lowering package bypasses the limitations of existing frame-rail dimensions, setting a truck those critical few inches closer to the ground. The tubs are thicker than normal, and specially shaped to fit the floors of pickup beds.

After collecting this Chevy and driving home, the owner checked back in with rave reviews. Instead of



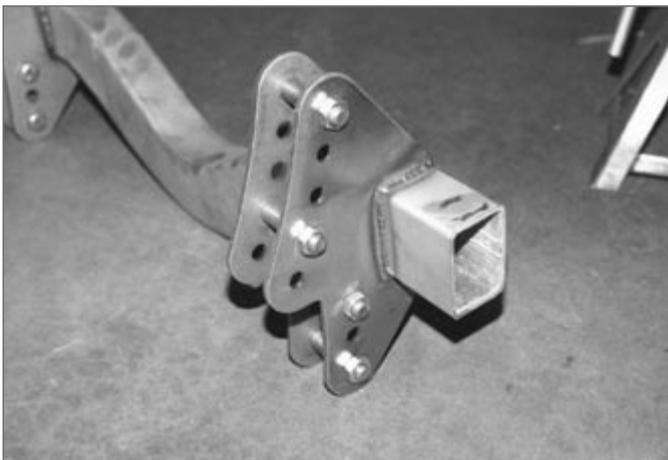
How To

"Pro Street a Pickup

spinning the tires, it now hooks up and "launches like a race car," he reported. Yet it rides so smoothly that body rattles he'd accepted as inevitable have completely disappeared. Cornering and handling have also improved.

Chris Alston estimates that anyone proficient in the use of a tape measure, level, cutting torch and welder could expect to accomplish this entire conversion in just two or three weekends. At that point, the back half of his truck would be capable of handling a 1000-horsepower motor with no fear of damage to the suspension. Chris also cautions that after undergoing such a procedure, a Pro Street pickup is no longer a beast of burden.

"The wheel tubs make the bed a lot smaller," he explains, "and when you notch the frame, it becomes a bit weaker. If you don't notch the frame, you could carry more weight, but the spring rate isn't set up for hauling anything but buns."



▲ This exclusive bracket design permits installation of Chassisworks' new Pro Street 4-link in stock framed vehicles. Designed specifically to fit the boxed crossmember, these notched front mounts match the width of the brackets on the rearend housing.



▲ The front 4-link brackets are welded to the trimmed crossmember, which then installs under the frame. Next, each "U"-bend gusset is welded to the crossmember and frame.



▲ Unique, double-clevis ends of Chassisworks' Pro Street locator eliminate suspension binding by allowing the locator to pivot in any direction.



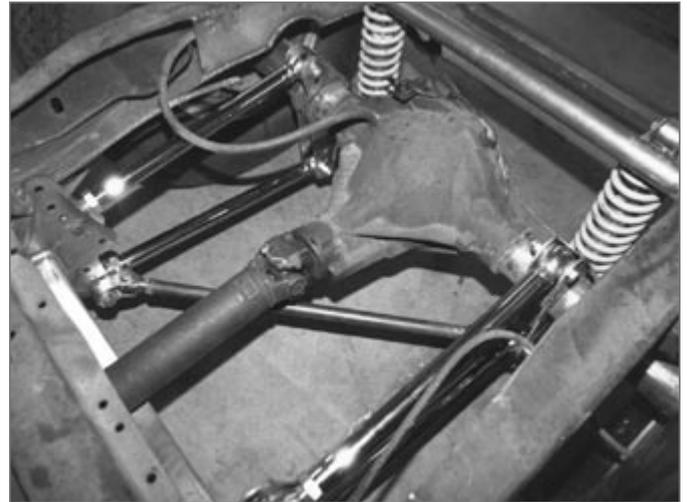
▲ With lower link bars installed, the track locator is cut to fit between two of Chassisworks' new double-clevis joints. Forward end of the tube welds on; the opposite end is threaded to accept a rod end.

How To

"Pro Street a Pickup



▲ Chassisworks' rearend-narrowing kit is used to precisely center housing-end mounting flanges for welding.



▲ Chrome-plated links and Koni coil-overs complete the suspension. A pair of Weld Racing's new billet-center, 1 5x 14-Inch Pro Star Truck wheels are bolted up to stock brake drums



▲ Moser "C"-clip rear axles were built to exact length for the narrowed 12-bolt rearend. Moser Engineering (Portland, Indiana) also supplied studs and bearings.



▲ Chris Alston selected a pair of 200-pound Chassisworks springs to complement Koni's adjustable Pro Street shocks.

How To

"Pro Street a Pickup



▲ Super-rigid suspension assembly Includes tubular bracing from the frame to the lower 4-link brackets, plus a small gusset plate between the top of each bracket and a stock crossmember (not visible).



▲ Weld wheels and massive M/T tires were removed for fitting of new Chassisworks truck tubs. Floor cut follows the outside of the frame rail and is centered over the axle.



▲ Outer edge of heavy-gauge, factory assembled steel tub is marked to follow body contour, then trimmed and welded to both the wall and floor. (For Stepside trucks with wooden floors, Chassisworks provides angle strips that rivet to the tubs and screw into the floor.)



▲ The former beater awaits its successful test run - and an engine swap that will replace its tired small-block with a healthy rat motor. Matching 15x14- and 15x8-inch Weld Pro Star Truck wheels respectively rotate Mickey Thompson 33119.50- 15 LT and 255/60-15 tires.

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