

WHEN DREAMS AND DETERMINATION PREVAIL ON AN F-150

CASH IN HAND AND F-150 PARKED OUTSIDE, STU ACKLEY APPROACHED

TOM MCKENZIE, DRIPPING WITH ANTICIPATION. "I'D LIKE TO HAVE A FOUR-LINK PUT ON THIS TRUCK," HE REQUESTED.

Tom sauntered over to Stu's newly purchased prize, which had already been the recipient of some metallic surgery. Tom did a cursory review of the truck. From a fabricator's viewpoint, it wasn't a pretty sight. The MIG wire protruding randomly through the roof was just one of the suspect items he saw. Tom broke the news: "I can't put a four-link on for you. This truck isn't safe."

Undeterred, Stu prodded, "Well, what can

you do with this truck?"

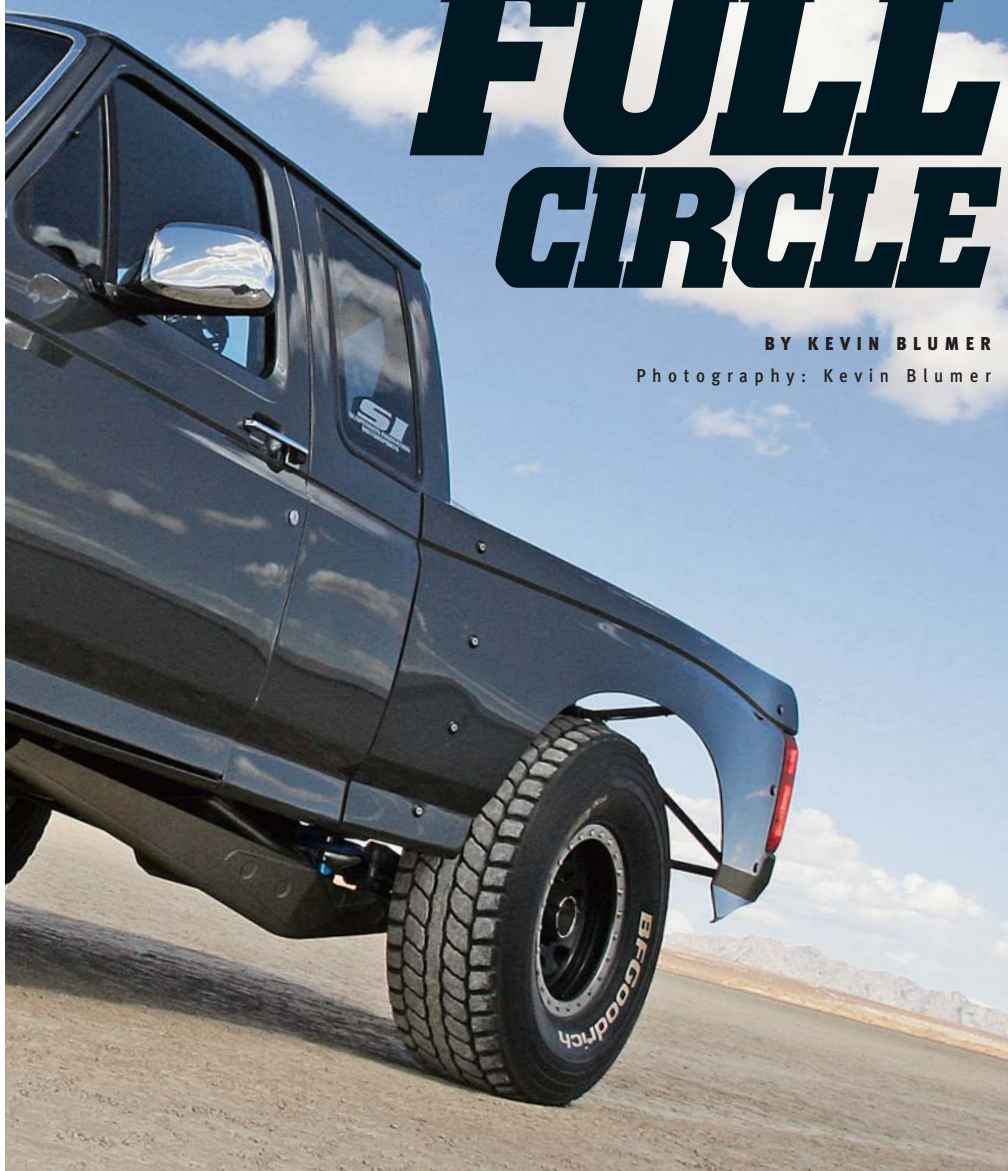
Tom's verdict: "I can probably save the doors."

Longtime *OFF-ROAD* readers will recognize Tom's resume as a fabricator. At an early age, Tom began helping Larry Plank with race prep in the Plank Motorsports shop. At the time, Larry was one of desert racing's rising stars and known for his aggressive driving style. Plank Motorsports produced one of the very first four-link kits for the Ford Ranger, which was featured in our pages. Plank Motorsports also built a bright-yellow F-150 prerunner for Dane Cardone, which was

featured in an *OFF-ROAD* article called "Drool Factor 10," written and photographed by former editor Randall Jachmann. Tragically, Larry Plank died in 2000 when his ultralight aircraft stalled during a flight and fell out of the sky. After Larry's too-soon passing, Tom McKenzie chose to start his own shop, Suspension Innovation Motorsports, or SI. Fellow Plank employee Nestor Berardi also started a fab shop called Newline Products. Although they own separate shops, Tom and Nestor have agreed to share the technology and fabrication jigs they helped

COMING FULL CIRCLE

BY KEVIN BLUMER
Photography: Kevin Blumer



develop while working for Plank.

Many would have given up after hearing "I can probably save the doors," but Stu wasn't about to quit. Inspired by the Dane Cardone truck, now better known as Big Bird, Stu regrouped and asked Tom to do whatever he needed to build an F-150 prerunner. "Stu gave me the chance to build the truck of my dreams," Tom acknowledges. "I got to take my time and put all of my best ideas, materials, and techniques into this truck."

After a few years of full-time fab shop ownership, McKenzie decided to restructure

his life around building truck after perfect truck. Perfect trucks don't take shape quickly, and perfect trucks don't fund bi-weekly paychecks. Laws, on the other hand, need constant enforcement, and those who do the enforcing definitely get bi-weekly paychecks in addition to benefits and retirement packages. Tom could see that having a steady job as a main source of income would free him up to pursue perfection, one truck at a time. As such, he entered the police academy. A few days a week, Tom hangs up his welding hood, dons a badge and gun, and puts in a full shift.





▲ While it wouldn't do justice to this truck not to stare at it for hours, the real fun begins after you climb in, sit down, and hang on as the landscape blasts by outside the window. This truck's wheelbase was originally 139 inches, but SI shortened it to 127 inches for improved handling characteristics. We like the way the bedsides envelop the back of the Super Cab.

"I have the best of both worlds," he says. "Running a fab shop full-time is stressful, and being a cop full-time is stressful, so it's good to be able to change up every few days."

Stu's patience and resources combined

with Tom's fabricating talents and meticulous nature to produce the wonder truck on these pages. Yes, it's picturesque. It's also one of the very best trucks we've seen to date. It's powerful. It's smooth. It's durable. It's

comfortable. It's easy to work on when necessary. Last but not least, it's got a nice set of doors. From unsafe heap to a genuine masterpiece, Stu Ackley's F-150 dreams have come full circle. **OR**



▲ Big ponies put out big heat, so a Ron Davis aluminum radiator sits up front to supply the chill. Tom's TIG-welding expertise also includes aluminum: He built the radiator shroud and sectioned the aluminum radiator tubing.



▲ As previously stated, this truck was designed to be easy to work on. If the Ken Mogi-built C6 needs to be dropped for maintenance, the entire framework and skidplate beneath it can easily be unbolted for access. A pair of MagnaFlow mufflers quiets down things while preserving the throaty note produced by the 650 ponies under the hood. The mufflers bolt to custom SI headers.

► Siiiiick! Killer! Gnar-gnar! Whatever your favorite expression is, it's gonna fit right here when describing the gorgeous and functional housing for the Fluidyne tranny and oil coolers and gas filler door. We took one look and said, "Dude!"



◀ If the King coilovers look big, that's because they are. Tom wanted a single shock that combined the fade-free performance of a large-diameter shock body with the accuracy and damping control of a bypass shock. Easy, single-point mounting and single-point tuning was also

a top priority and a byproduct of using only one shock per corner. Since he'd worked extensively with King in the past, Tom approached the King family about producing the shock of his dreams to go on the truck of his dreams. The result is a patent-pending, true 4-inch piston, internal-bypass über-shock. At the deepest reaches of compression travel, the shocks have a built-in bumpstop zone to control the harshest slams the desert can deliver. Up front, the big guns are supplemented by a pair of King hydraulic bumpstops, while a pair of rubber pucks insulates the rear frame from the axlehousing at full compression. After running the big F-150 at 75-plus through deep whoops in Lucerne Valley, we were stoked to find we could touch the shock bodies with our bare hands without scorching our skin — the large diameter and attendant volume of oil does a great job of dissipating the heat.



▲▶ Most of the time, we don't high-light interiors, but the controls and dash have more feature-worthy function than we dare to ignore. The panels are bordered by 'cage' tubing, and each is easily removable to access electrical components. Auto Meter gauges let driver and codriver know what's happening with the drivetrain, and a Roadmaster race radio helps connect with the world outside the cab. Wiring chores were handled by one of the best in the business: Tom Oliva. Most prerunners and race trucks use a pumper system to supply fresh, cool air to the helmets, but this truck's Vintage Air A/C keeps fresh, cool air circulating inside the whole cab. Positive air pressure keeps dust out as long as the windows are rolled up.





▲ Triangles are your friends. The more triangles you can integrate into a rollcage structure, the stronger it will be. There are no less than six of our three-sided friends in the upper section of the engine cage alone. To make engine extraction easy, the front “X” unbolts, as well as the brace that’s directly over the Outerwears-shrouded air filter. Beneath all the triangles and the Outerwears lives a Leon Patton-built Ford V8 based on a bored and stroked Dart block. Patton changed the 351’s dimensions to displace 442 cubic inches and worked his magic on the cylinder heads for better intake and exhaust flow. This motor puts out 650 hp and 600 lb-ft of torque, so moving the fullsize at high velocity is no problem. A 950-cfm Holley carb fuels it all.



▲ The cab cage is structurally sound but built as unobtrusively as possible. Ingress and egress are only slightly trickier than a stone-stock F-150. Once underway, one notices what’s lacking: the typical creaks and rattles that surface when stock sheetmetal is pierced by tubing. Ron Mangus’s talents are responsible for the upholstery that silences and civilizes the interior. Of course, without the quality metalwork that connects the stock sheetmetal to the 4130 tubing, there would be plenty of shakin’ goin’ on, but it wouldn’t be quite as loud when covered by upholstery.

► Once a radiator has done its job and pulled the heat from the engine coolant into the outside air, that heat still needs a place to go. Proper firewall and transmission tunnel clearances are part of the airflow needed to get rid of the heat; ditching the fenderwells helps too. SI Motorsports took the concept a step farther and integrated six screened vents into the Autofab hood that’s held in place with another sextet of Autofab hood pins.



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THE FOUR-LINK THAT STARTED IT ALL

As with everything else on this truck, Tom stepped up the rear suspension a notch. He explains: “Most four-link suspensions use a 2-to-1 shock ratio. The shock shaft moves 1 inch for every 2 inches of wheel travel. With a 2-to-1 ratio, the shocks require lots of damping to control the wheels. The higher damping rates mean lots of heat gets generated, which in turn means the shocks run hot. Hot shocks will fade if they get hot enough. I designed this four-link to use a 1.2-to-1 ratio. The shocks move faster than they would at a 2-to-1 ratio, but less damping is required, so the shocks run cooler.”



In addition to the cool-running shocks and fade-free shock ratio, the complete rear suspension is mounted to a single crossmember that Tom dubbed “The Gauntlet.” The Gauntlet is designed to take all of the force generated by the rear suspension, transferring none of it to the frame.

The stock frame is retained but has been kicked up several inches over the rear axle for more compression travel. Check out the super-clean differential breather line routing and the equally sanitary shock mounts. At the aft end of the trailing arms is a Sandy Cone 9-inch rearend with full-floating hubs, a spool, and CNC brakes. An SI sway bar rides on the housing and controls body roll via two stubs linked to the tops of the trailing arms. “There’s only one way to make a four-link work correctly, and that’s to use the right geometry,” Tom proclaims. “I’ve designed this four-link with less than 1/16 inch of driveshaft plunge, and the pinion angle changes less than 3 degrees in the 34 inches of rear wheel travel.”



SUPREME BEAMS

This front end cycles through 24 inches of wheel travel, but that’s only the beginning of this tale. The textbook-quality TIG welds are indicative of the high-end fabrication that’s found throughout this truck. TIG is the only welding process used at SI. In fact, Tom doesn’t even own a MIG welder. The I-beams and radius arms were machined from 4130 chrome-moly billet before being welded together where they meet. The beams connect at the kingpins to a set of steering knuckles also crafted from 4130 billet. Beyond their bombproof construction, the knuckles are designed to give perfect kingpin inclination at ride height for better handling.

The wheels are guided using a Plank-developed, SI-built swingset. The swingset and knuckles offer perfect Ackermann angle, which in a nutshell means that this fullsize can carve the tight corners. In case you’re wondering what an Ackermann angle is, it’s an imaginary line drawn through the center of the steering arm and the center of the knuckle’s pivot point (ball joint, kingpin, etc). Ideally, this line should intersect the center of the wheelbase. As such, the perfect Ackermann angle will vary with the wheelbase.

