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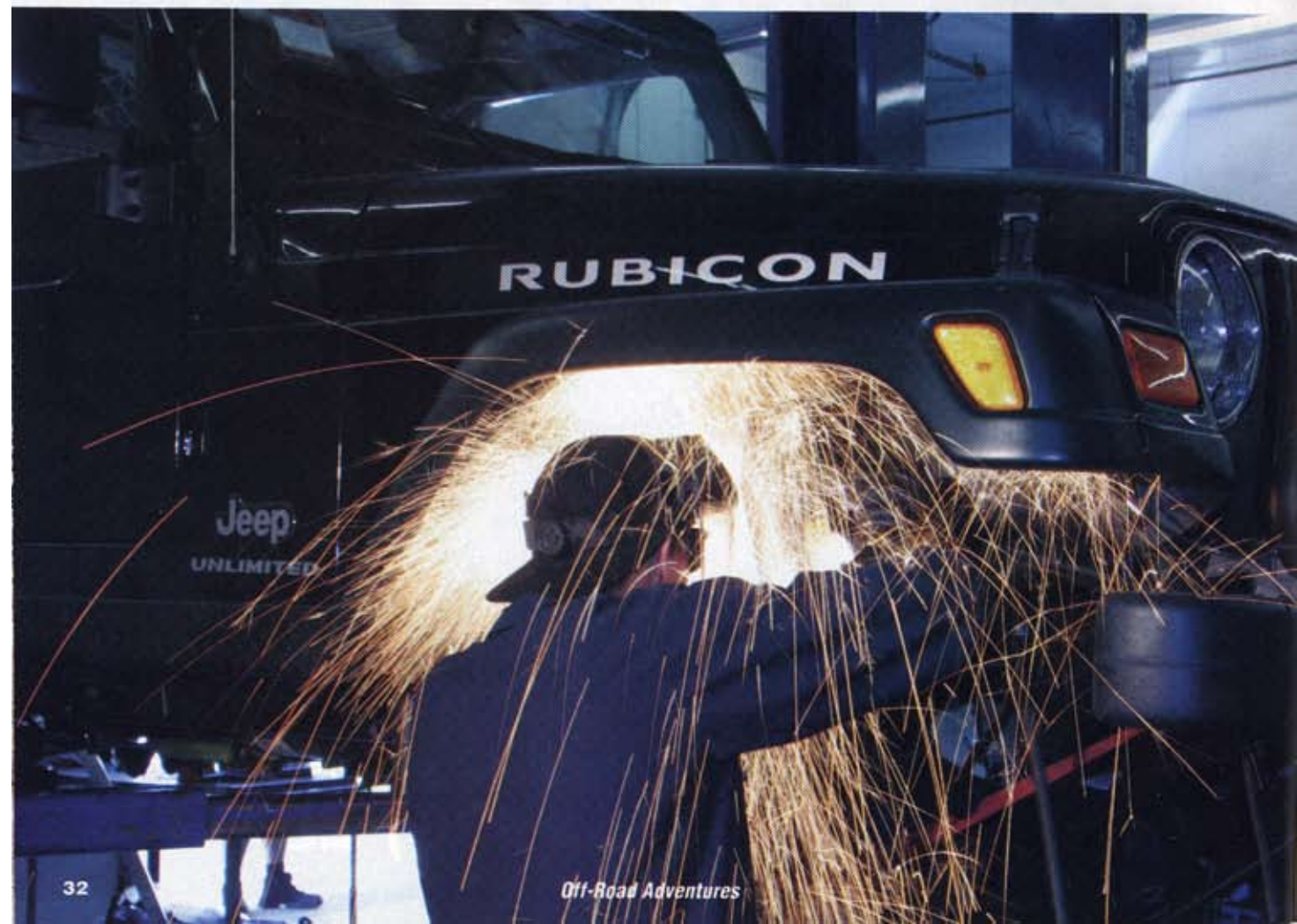
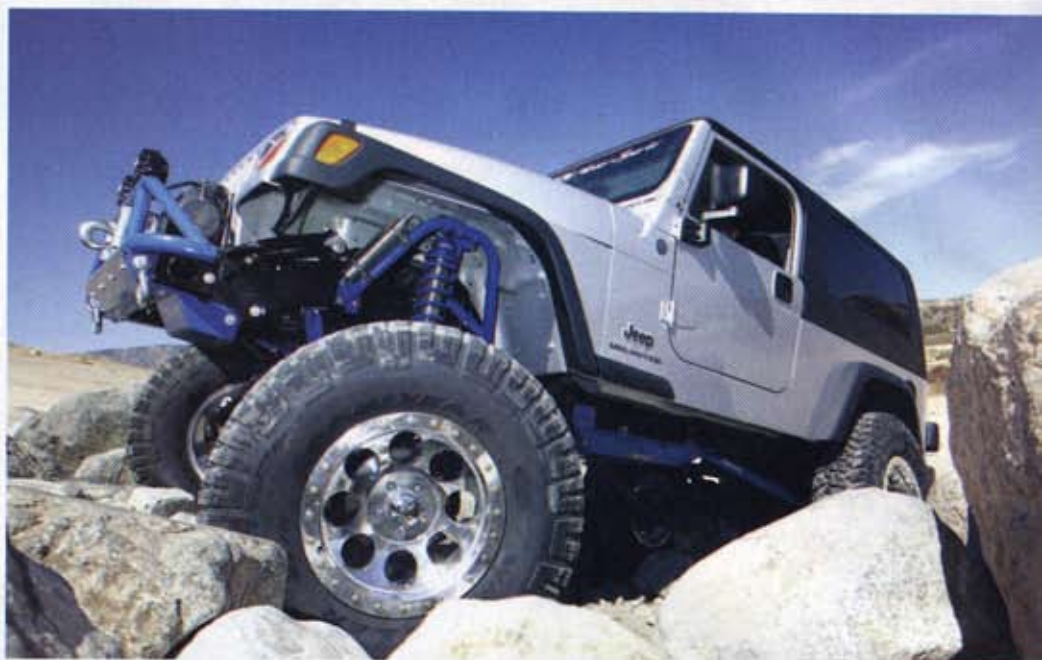
SHOCKING

Suspension Mods

! Be sure to completely read supplied manufacturer's instructions prior to installing this product kit.

story & photography by Mike Magda

Sparks Fly
Occasionally
While Installing
Fabtech's
8-inch Crawler
Suspension,
But It's Mostly
a Bolt-on Kit



Long-travel suspension kits are all the rage in off-roading, and with good reason. Suspensions are the foundation for improving performance in the desert, on the trail or over the rocks. And with longer wheel travel, you can go faster in the desert, traverse more difficult trails or climb bigger boulders.

Long-travel suspensions aren't just about tall lifts. The idea is to clear the tires, but also allow plenty of room for wheel movement. With a straight-axle application, the goal is to improve articulation and maintain tire contact with the trail surface, even at extreme axle angles. These kits aren't meant for show, although they do look tough. They're pricey because they work and improve vehicle performance accordingly.

Originally developed for desert racers, long-travel suspensions absorb larger berms and allow deeper droops through ruts, all the while maintaining control at faster speeds. Early Class 8 trucks were lucky to get 12 inches of wheel travel. Now Trophy Trucks claim upwards of 36 inches of wheel travel.

Vehicles with leaf springs can improve wheel travel with specially arched springs, but the real potential lies with a link arm/coil spring arrangement. That's why the current Jeep TJ model is such a great candidate for Fabtech's Crawler suspension system.

Based on proven designs Fabtech has tested on desert race trucks, the high-clearance Crawler features a radius-arm front suspension and 3-link setup in the rear. Front and rear components are linked with a heavy-duty transfer-case skid-plate. The front can be improved even more with huge, Dirt Logic 2.5 coil-over shocks in lieu of the Fabtech coil springs and performance shock absorbers.

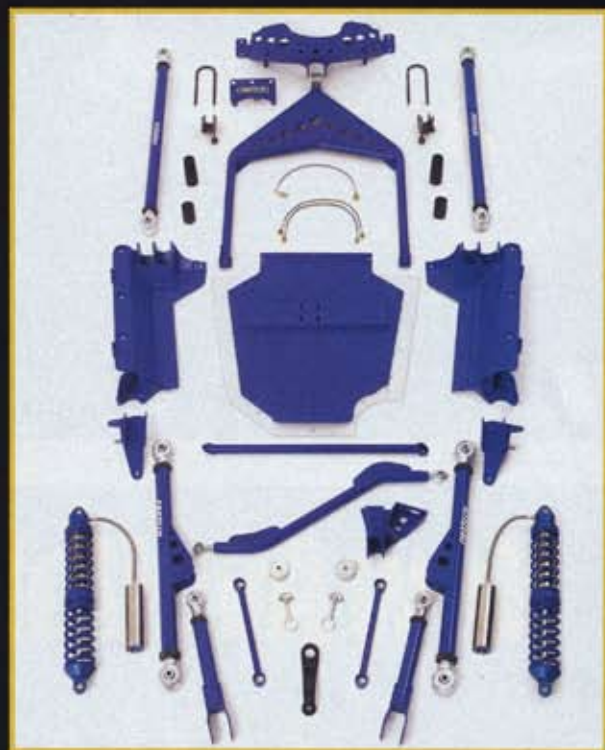
Just allowing for more wheel travel is not the only goal. Maintaining proper suspension geometry is also critical to performance. The Fabtech kit is designed to provide zero caster and pinion angle changes throughout the suspension range.

Basically, the kit is designed around long-arms that replace the factory links. Major components are made from 2-inch DOM (drawn over mandrel) tubing that is 5/16-inch thick and threaded for Fabtech's huge 2 5/8-inch forged adjustable link ends. The arms are designed to tuck up close to the frame to improve ground clearance. The kit also includes an adjustable trac-bar, front sway-bar disconnect links, dropped Pitman arm, stainless-steel brake hoses, bump stops and new coil springs and shocks for the rear. The kit provides an 8-inch lift to easily clear 37-inch tires.

Long-travel suspensions used to be one-off custom fabrications, but the Fabtech kit is mostly bolt-on. It can be installed by two seasoned mechanics in just a few days. The only welding required involves a support gusset on the front axle and the rear lower-shock mounts. A plasma cutter makes quick work of the factory brackets that need to be removed, but a cutting wheel will do the job. The most labor-intensive part of the project is drilling through the frame. Dozens of mounting holes are required, and Fabtech recommends a 3-step process to reach the desired diameter. So be sure you have a powerful drill, sharpened bits and the proper lubricant.

The kit uses existing brackets and mounting holes to help line up the new brackets. All the links are adjustable, and Fabtech provides a good starting point for the threaded adjustments to make sure the vehicle's footprint is square when finished.

Installation of the kit requires some changes to the vehicle equipment. Depending on the model, driveshaft changes will be necessary. Consult the Fabtech catalog for specifics. Also, the stock exhaust system from the catalytic converter rearward will not fit once the kit is installed. Modifications are required, or Fabtech offers a bolt-on stainless-steel replacement. Fabtech has other accessories to complement the kit, including a tubular front bumper and steering-box skid plate in the same color as the kit.



Before You Start

Fabtech recommends reading the detailed instructions completely before starting work. The company also suggests that all parts, including the hardware kits, be inventoried before installation to avoid downtime if there is a missing item. Each hardware kit could have close to 100 pieces, and some pieces are grade-specific to the application.

It's much easier to install the kit using a vehicle lift, but a floor jack and jack stands will work. An adjustable floor support is helpful when swapping the transmission crossmembers. The axles can be supported with adjustable ratchet straps when swapping suspension components.

Standard and metric wrenches/sockets are required in addition to the following tools:

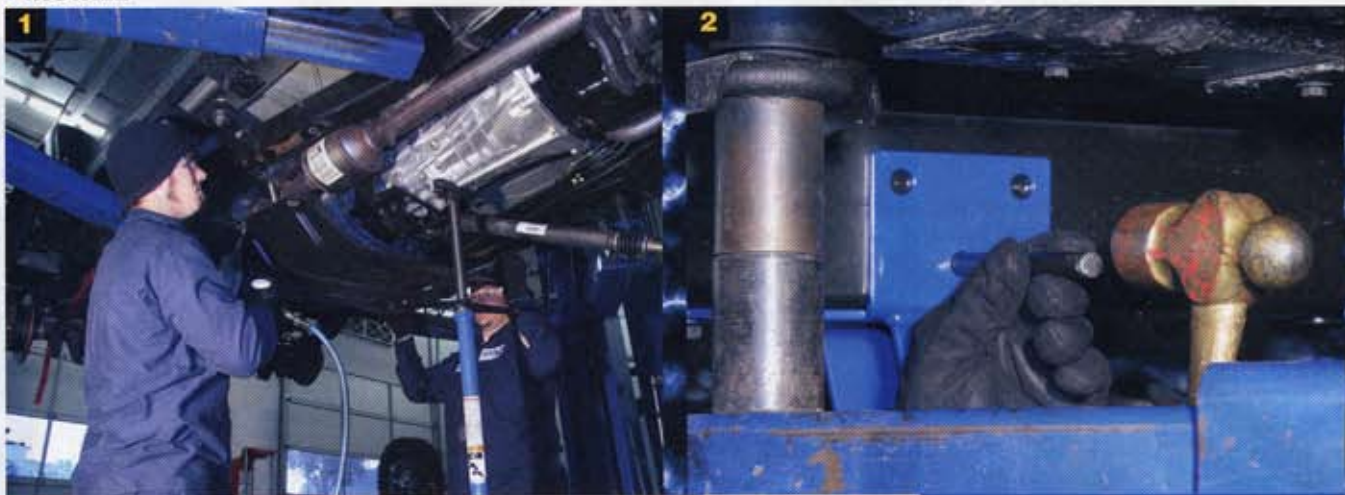
- *MIG welder
- *Die-grinder with cutoff and sanding wheels
- *Torque wrench
- *Grease gun
- *Pitman-arm puller
- *Power drill
- *Drill bits

Other hand tools such as assorted hammers, pry bars, tape measure and center punches are helpful. Also, some mounts require tab mounts, which may fall loose inside the frame while trying to bolt them down. Assorted magnetic pickups and slender flashlights come in handy when retrieving the lost hardware.

If the Jeep has a manual transmission, a threaded frame insert must be installed in both sides of the frame during early stages of the project. Automatic transmission models already have threaded holes where the transmission skid plate is secured. Fabtech recommends using a rivet nut tool and suggests a specific manufacturer and part number in the instructions.

Access to a plasma cutter will definitely save time when many of the frame brackets have to be cut out. The Fabtech crew also used an air chisel when removing brackets. Fabtech recommends at least two experienced mechanics work on the project, and always have the proper safety eyewear.

The vehicle must have proper front-end alignment before the installation begins, and the frame and suspension must be free of any damage. Also, the kit is designed for stock vehicles with no other aftermarket suspension or frame modifications.



1. With the vehicle safely lifted, the wheels, Pitman arm and driveshafts are removed. The rear portion of the exhaust pipe is also removed. The transmission and transfer case are safely supported before the factory crossmember is removed. If equipped, the electric auto-locker bracket (Rubicon models only) must be removed and secured from the crossmember. Skid plates for automatic-transmission models are also removed.

2. The front pivot pockets are positioned using the threaded mounting hole for the skid-plate. If the vehicle is a manual transmission, a threaded frame insert must be installed in the hole. Fabtech recommends using a rivet nut installation tool. Once the pocket is positioned, additional mounting holes must be drilled through both sides of the factory boxed-frame. Fabtech recommends a step process to reach the 3/4-inch diameter needed to support the frame sleeves for the mounting bolts.

3. The crossmember frame mounts are positioned using existing holes on the bottom of the frame rail and the just-mounted front pivot pockets. Additional mounting holes must be drilled through frame sides, just as before, to fully secure the crossmember frame mounts.

4. The crossmember center section is bolted in place and the transmission secured. If equipped, the auto-locker is mounted on the rear of the center section with the provided bracket. Fabtech also supplies a hard-plastic protective plate that is installed with counter-sunk Allen bolts.

5. With the front axle secured, the sway-bar end links are disconnected and the shock absorbers removed. The axles can be lowered slightly to remove the coil springs. The factory links are also removed. The front bump stops and shock mounts/coil-spring buckets are removed as are the factory lower and upper link mounts on the frame. A plasma cutter makes quick work of the removal but a cutting wheel can also be used.

6. The affected areas are dressed and repainted.



7. A rear section of the inner fenderwell must be trimmed according to the directions, before the coil-over shock hoop can be positioned with welding clamps. Take note where the support tube is positioned against the rear of the motor mount to help position the hoop. Holes are drilled through the motor mount and frame rail. Read the instructions carefully: Some holes do not go through both sides of the frame as nut tabs will be used. Other holes will receive frame sleeves to support the hoop's mounting hardware.

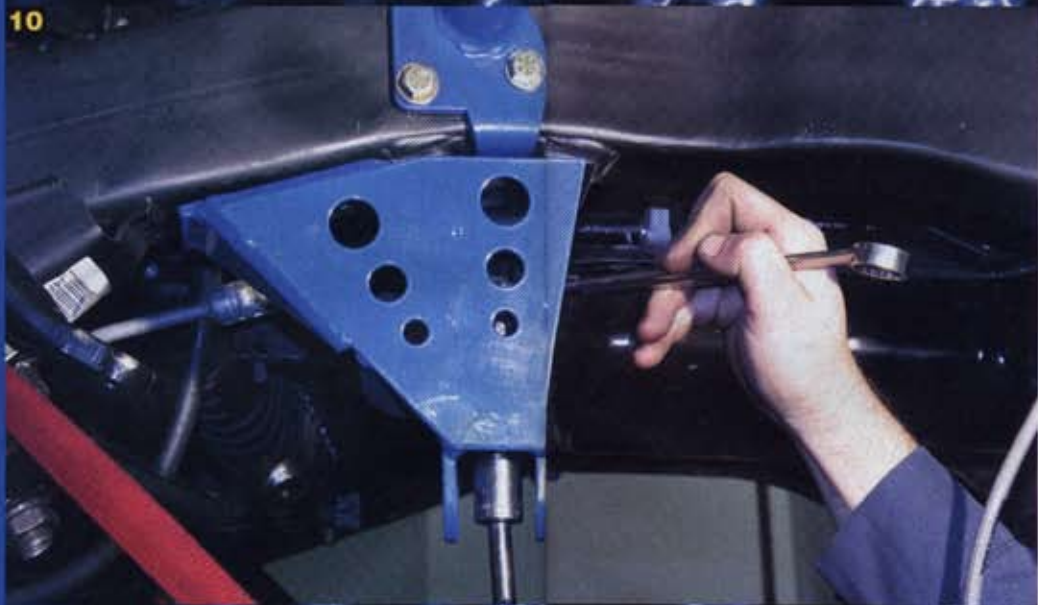
8. Before the Fabtech bump stop/lower coil-over mount can be bolted in place, the factory bump stop pad on the axle must be drilled and trimmed. Part of the factory lower shock mount must also be trimmed, as shown in the directions. The pieces are slightly different for each side, requiring different fasteners and spacers.

SHOCKING

9. A gusset is MIG-welded to strengthen the right-side upper link mount.



10. The factory trac-bar mount is drilled to allow installation of the Fabtec trac-bar bracket.



11. The lower links are assembled so there is 3/4-inch thread showing just above the jam nut, then installed. The factory alignment cams are used with the front pivot ends.



SHOCKING



12. The upper links are installed.



13. The trac-bar and support tube are bolted in place. The steering linkage can also be reconnected with the new dropped Pitman arm.

14. The coil-overs are installed. Note the shock reservoir brackets are in place. The front end is wrapped up by the installed upper bump stop, dropped Pitman arm, sway-bar link brackets and new brake lines.

15. Here's an overall view from the front with the sway bar hooked up. The Fabtech kit allows quick-disconnect of the sway bars and convenient mounting of the links high up into the frame.



16



17



16. With the rear axle supported, the shocks, springs and sway bar are removed. The factory lower-link frame pockets are cut off as are the lower shock mounts on the axle and upper trac-bar mount.

20



21



18



17. The factory upper-link pockets on the axle must be drilled out before Fabtech axle truss can be bolted in place. The factory sway bar can be bolted to the axle at this time but not connected to the links.

19



18. The truss is also secured in the rear using three mounting holes for the differential cover.

19. New shock mounts are welded on each side of the axle, using the factory lower-link mount on the axle as a reference point. Note the new lower bump stops have been installed on top of the coil perch. Fabtech recommends notching the rear of the perch for additional clearance of the shock absorber.

20. Bushings, sleeves and misalignment spacers are installed on the wishbone before it's positioned and bolted in place at the bearing end.

21. The link arms are bolted to the axle.



22



22. New sway-bar links, coil springs and shock absorbers are installed. Note the new upper bump stop.

23



23. A worm's eye view of the finished rear suspension work.



When You're Finished

All nuts and bolts should be tested for tightness, and steering clearances should be checked before the vehicle is driven. Also, the ride height needs to be measured and adjusted, if needed. After about 50 miles, the Jeep should be taken in for a 4-wheel alignment. All bolts should be checked and retorqued periodically.

The new suspension will provide increased wheel travel and axle articulation when the front sway bar is disconnected. ▲