

YOU COULD WIN

GEOSTASH ADVENTURE CONTEST

July's Prize: extreme Ring from Superlift



4 WHEEL DRIVE

& SPORT UTILITY MAGAZINE

WHEELING LOCALLY WITHOUT HASSLE

OFF-ROAD PARKS

AND WHERE TO FIND THEM

SAFETY & COMFORT

The Hottest New Race Seats

NO MORE SECRETS

Calculating Your Crawl Ratio

What's the Best T-Case?

BULLETPROOF

Building the NV4500 Transmission

ADVENTURE

High Altitude Trails

Dirty Dusty Salton Sea

DISPLAY UNTIL 6/13/06 \$4.99 • \$6.99 IN CANADA



0 70992 30251 2

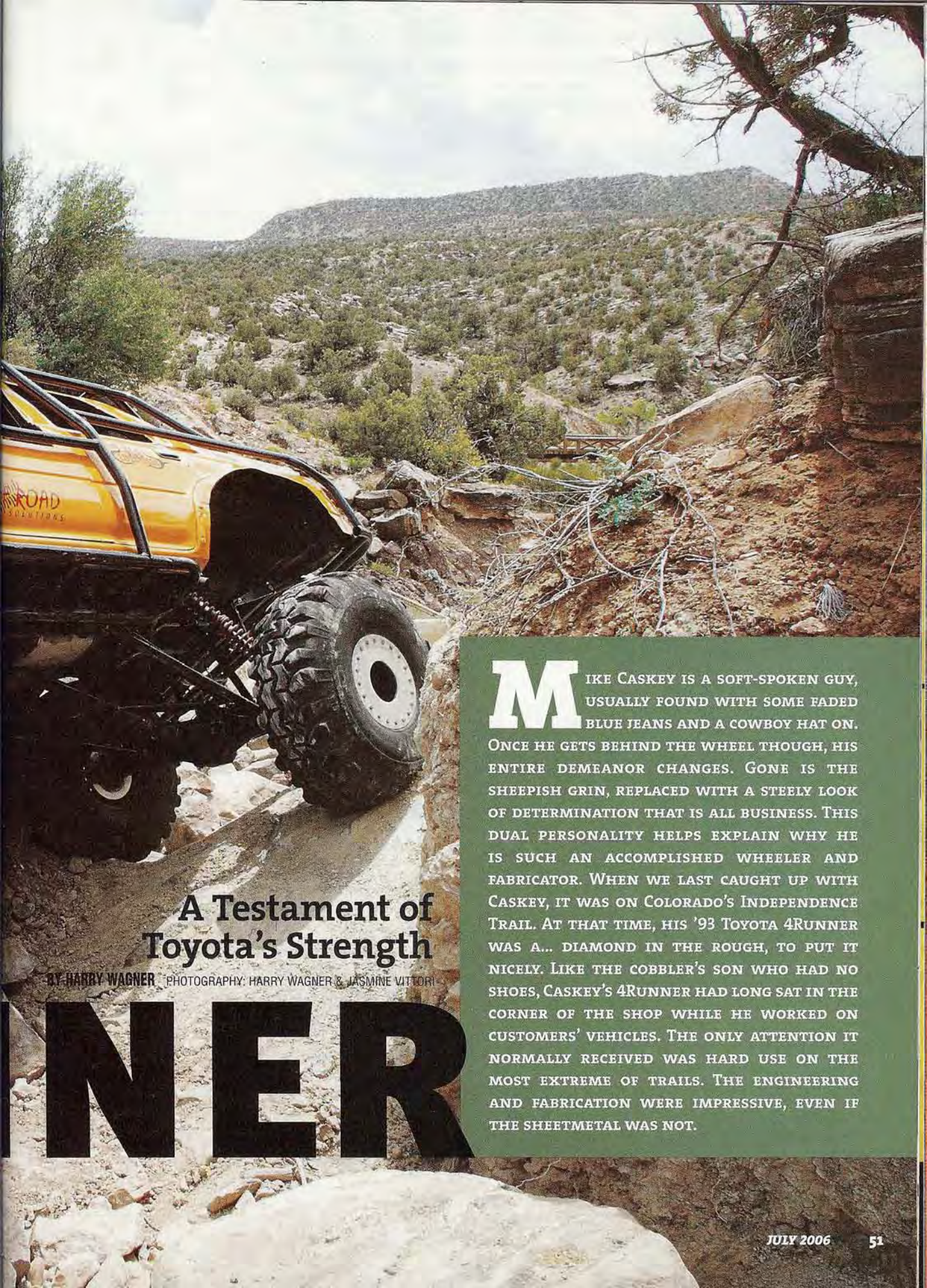
07



ROAD SOLUTIONS

BY HARRY W

4X4 RUNN



A Testament of Toyota's Strength

BY HARRY WAGNER PHOTOGRAPHY: HARRY WAGNER & JASMINE VITTORI

4RUNNER

MIKE CASKEY IS A SOFT-SPOKEN GUY, USUALLY FOUND WITH SOME FADED BLUE JEANS AND A COWBOY HAT ON. ONCE HE GETS BEHIND THE WHEEL THOUGH, HIS ENTIRE DEMEANOR CHANGES. GONE IS THE SHEEPISH GRIN, REPLACED WITH A STEELY LOOK OF DETERMINATION THAT IS ALL BUSINESS. THIS DUAL PERSONALITY HELPS EXPLAIN WHY HE IS SUCH AN ACCOMPLISHED WHEELER AND FABRICATOR. WHEN WE LAST CAUGHT UP WITH CASKEY, IT WAS ON COLORADO'S INDEPENDENCE TRAIL. AT THAT TIME, HIS '93 TOYOTA 4RUNNER WAS A... DIAMOND IN THE ROUGH, TO PUT IT NICELY. LIKE THE COBBLER'S SON WHO HAD NO SHOES, CASKEY'S 4RUNNER HAD LONG SAT IN THE CORNER OF THE SHOP WHILE HE WORKED ON CUSTOMERS' VEHICLES. THE ONLY ATTENTION IT NORMALLY RECEIVED WAS HARD USE ON THE MOST EXTREME OF TRAILS. THE ENGINEERING AND FABRICATION WERE IMPRESSIVE, EVEN IF THE SHEETMETAL WAS NOT.



With the hood and fenders removed, the swapped-in 3.4L is easy to access while still being protected by the front tube structure. Off Road Solutions offers 3.0L to 3.4L swaps based off of Caskey's work with this rig.



The front suspension consists of a three-link setup with a panhard bar. The Bilstein coilovers are wrapped in Eibach triple-rate springs and all the links consist of 1.75-inch, 0.281-wall DOM tubing capped with 3/4-inch rod ends. Off Road Solutions is now offering this suspension as a kit for the front of Toyota pickups and 4Runners.



Details on this rig abound. Caskey spent nearly five hours trimming the two front fenders with a cutoff wheel, a nibbler, and an air saw to wrap them smoothly around the front tubework.



The front of the 4Runner features an FZJ80 axle, 17-inch Bilstein coilovers, and plenty of Off Road Solutions tubework. The front axle is stuffed with 5.29 gears, an ARB Air Locker, Poly Performance chrome-moly axleshafts, and CV Unlimited Newfields.



The newly painted sheetmetal presents a whole new set of criteria for Caskey to consider when he is out on the trail. Some creative maneuvering got him out of this situation without any harm.

Since we last saw him, Caskey has polished his diamond up to a high shine. He recently had Oleg Kazantsev in Aurora, Colorado, perform extensive paint and bodywork to turn his 4Runner into a rolling billboard. He did this to coincide with the launch of 4x4Lifestyles, which he recently started in addition to Off Road Solutions (ORS), his existing shop. 4x4 Lifestyles, as the name implies, sells anything and everything for the rabid rockcrawler, from apparel to posters, trail guides to DVDs.

When you run a rockcrawling shop that caters to Toyotas, it makes a lot of sense to run what you sell, and this rig has been a testbed for a variety of ORS products. The engine is a 3.4L Toyota Tacoma mill that has been swapped in place of the anemic 3.0L using, you guessed it, an Off Road Solutions engine conversion kit and wiring harness. From the engine, power is transferred through an Aisin R151F transmission and dual 23-spline Toyota transfer cases mated with a Marlin Crawler adapter and 4.7:1 Marlin Crawler gearset. The transfer cases are secured with a Front Range Off-Road Fabrication high-clearance crossmember and are protected by Front Range's transfer case skidplate, which also acts as a girdle and solidly ties the dual cases and adapter together.

From the long-travel driveshafts, the torque is transferred to Toyota axles front and rear. The front unit was sourced from an FZJ80 Land Cruiser and outfitted with Newfields from CV Unlimited, chrome-moly axleshafts from Poly Performance, and an ARB Air Locker and 5.29 Yukon gears in the high-pinion, 8-inch third member. Gusseting was also added to the front housing for strength.

The rear axle was sourced from a T100 and contains a Front Range Off-Road Fabrication full-floater kit with



The 17-inch coilovers provide incredible flex and stability on the trail. With the added width of the FZJ80 front axle and wheel spacers, Caskey often has to take creative lines to fit where other Toyotas tread. All the tubework on the rig was performed by Caskey at Off Road Solutions. The front stinger bumper ties into the frame and engine cage and houses a Warn M8000 winch wrapped in Rockstomper synthetic cable.



The back of the 4Runner was reworked to provide room for the fuel cell and massive tires while limiting the amount of sheetmetal exposed to the rocks. Once the bodywork was completed it was protected with more custom tubework.



The rear half of the frame was cut out and replaced with 2-inch DOM tubing to provide room for the coilover suspension. As with the front, the rear features 17-inch Bilstein coilovers and Eibach coils, and the triangulated four-link is made from 1.75-inch, 0.281-wall DOM tubing and 3/4-inch rod ends.



The rear axle is a Toyota 8-inch model out of a T100 fitted with a Front Range Off-Road Fabrication full-floater kit, 5.29 gears, an ARB Air Locker, and heavy gusseting.

disc brakes, 5.29 Yukon gears, an ARB Air Locker, and extensive gusseting. All these modifications were deemed necessary to make the axles survive the 42-inch Super Swamper TSLs and undercut ledges they frequently encounter. The giant Swampers are mounted to 15x10-inch steel wheels fitted with aluminum ORS beadlock rings. Factory Toyota parts provide the steering as well, although Caskey admits that hydraulic steering would be more effective and will be added in the future. The stock steering arms on the FZJ80 front axle place the tie rod behind the axle, limiting its vulnerability; however, a custom DOM drag link and tie rod were still used to keep them from pretzeling when the tires are wedged up in the rocks.

When it came time to design the suspension, Caskey left the factory components far behind. In place of the stock independent front suspension and rear coil springs are 17-inch Bilstein coilovers and Eibach coils. The front suspension is a three-link design with a panhard bar, while the rear geometry consists of a triangulated four-link with a Currie Anti-Rock sway bar added for stability. All the control arm links are constructed of 1.75-inch, 0.281-wall DOM tubing and capped with 3/4-inch rod ends. Fitment for the suspension required the front clip and the rear portion of the frame to be removed. In their place, Caskey used 2-inch, 0.120-wall DOM tubing for strength and rigidity while accommodating the suspension. After fine-tuning the front suspension, Caskey is so pleased with its performance that he is now offering his three-link coilover kit to the public.

Additional body modifications were mainly performed to limit vulnerability on the trail. The entire cab was gutted, and the windshield frame has been vacant for years. At this point, ORS

employee Hans Nelson performed some tricky sheetmetal work. In the rear, the hatch was grafted on behind the rear doors to create a small, makeshift bed behind the back seats. The rear fenderwells were also removed and replaced with custom sheetmetal to cover the big Swampers and custom fuel cell required by the four-link suspension.

The front tires are covered by a narrowed hood and heavily cut fenders that mount to the front tubework. The grille was narrowed to match the hood and fitted with Hella lights to provide some semblance of legality. Even though the doors were welded shut, Caskey chose to coat his Toyota in deep yellow instead of painting it orange and putting a Confederate flag on the roof. Speaking of the roof, it is protected from invading rocks by an exocage that also envelopes the A- and C-pillars and ties into the frame at multiple locations.

Now Mike Caskey finally has a rig that looks as good as it performs. With the kinds of trails he tackles though, we doubt it will stay that way for long. **4WD**

SPECIFICATIONS

Year/Make/Model:	'93 Toyota 4Runner
Owner/Hometown:	Mike Caskey Arvada, Colorado
Engine:	Toyota 3.4L V-6 5VZ-FE
Induction:	EFI
Transmission:	Aisin R151F
Front Suspension:	Three-link with panhard bar
Rear Suspension:	Triangulated four-link
Ring-and-pinion:	5.29
Tires/Wheels:	42-inch Super Swamper SSL/15x10-inch steel wheels w/ORs beadlocks