



DRIVESHAFT SOLUTIONS

Most severe suspension and drivetrain modifications require the driveshaft to be modified as well. The shaft more than likely needs to be lengthened and perhaps needs a CV (constant velocity) joint or different flanges to match different drivetrain components.

Such was the case with our 1986 Suzuki Samurai. Outfitted with Toyota axles, the Samurai requires a special shaft that can work with both the Samurai transfer case and the Toyota pinion flange. Our Samurai also has quite a bit of lift, so the driveshaft needs to accommodate the extra length. To complicate matters further, the Samurai's rear transfer case output is offset to the passenger side of the vehicle, while the Toyota rear axle features a center-located pinion flange. The severe angle of the lifted suspension combined with the offset transfer case creates a compound driveline angle that requires a CV knuckle.

We had been running a custom driveshaft that utilized mostly Toyota driveline parts. This shaft consisted of a Toyota flange (connecting to the Toyota pinion flange) and a Toyota CV joint. The shaft worked great but the parts were expensive, particularly the Toyota CV knuckle. This part alone costs upward of \$300, which adds up if you decide to have a spare shaft built. The other downside to the Toyota components was the availability of parts and ease of repair on the trail. The U-joints used in the Toyota components were fairly difficult to disassemble



Coast Driveline Solves Our Driveshaft Dilemma

and reassemble on the trail, and if new parts were needed, they had to be ordered.

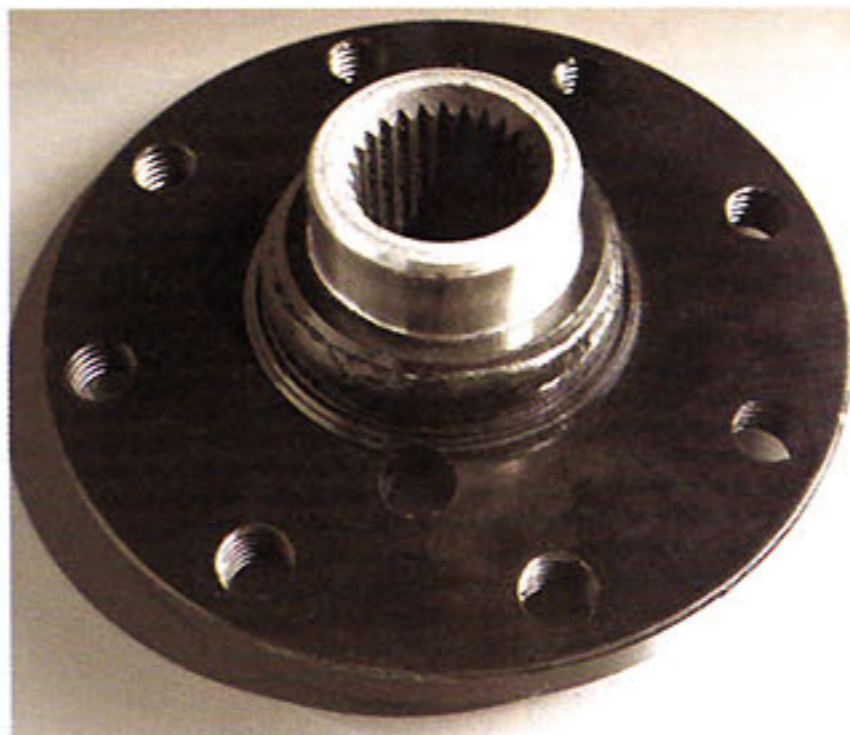
Recently, we stretched the wheelbase of our Samurai 4 inches by relocating the rear axle further back. The driveshaft we had been running needed to be lengthened, so we took it to Coast Driveline, and in a couple of hours, we had our longer shaft. The first run on the trail proved nearly fatal for our new driveshaft when a large rock took aim for the lower U-joint. We brought the wounded driveshaft back to Coast Driveline and decided it was time for a radical change.

With the recent driveshaft damage, we decided that carrying a spare driveshaft and parts for repairs on the trail would now be a top priority. The guys at Coast Driveline devised a creative new plan to solve our rear driveshaft dilemma. They decided that an entirely new driveshaft setup should be created using inexpensive, readily available parts that can be repaired easily on the trail. The plan involved fabricating a custom rear output flange for the Samurai transfer case that would adapt a common Saginaw CV knuckle. Coast Driveline took the rear transfer case flange and machined every-

thing off except the hub containing the Samurai T-case splines. This hub was then welded inside of a machined-out 8.8-inch Ford pinion flange. With this custom flange, we could bolt on the common Saginaw CV knuckle found on a number of popular GM and Dodge trucks. Coast Driveline created the rest of the shaft utilizing the Saginaw CV combined with a 2x.120-inch wall DOM tube and incorporated commonly found Spicer U-joints. The shaft features 4 inches of stroke from full collapse to full extension (1-inch longer than our existing shaft).

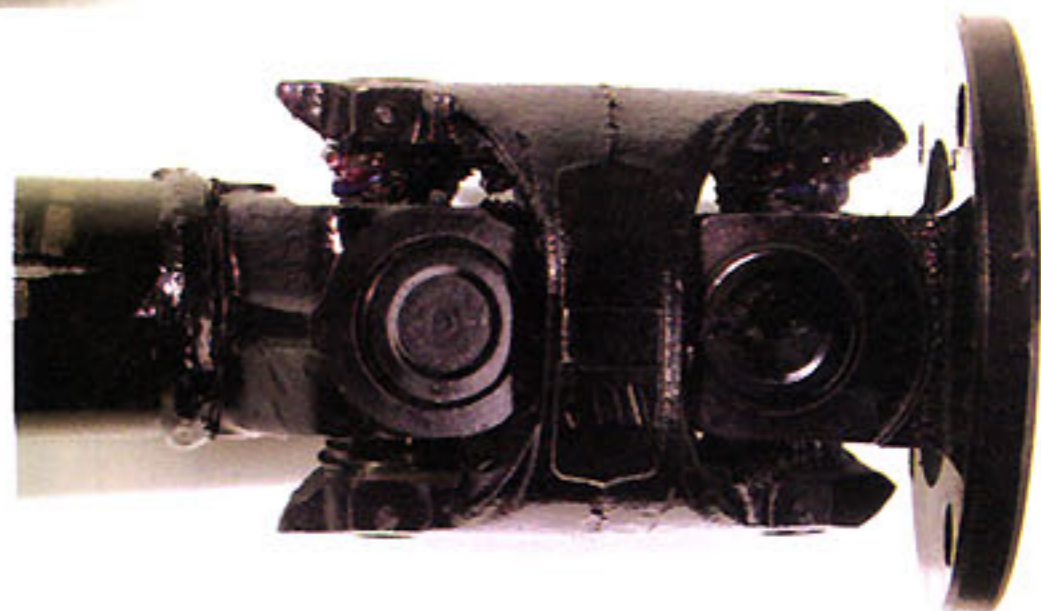
This shaft was exactly what we needed. Each and every component can be replaced very easily, and we can build an identical spare shaft all for less than building a single spare Toyota-based shaft. The guys at Coast even took our driveshaft a step further and increased our operating angle by clearancing the edges of the Saginaw CV. This shaft will now operate on a much more extreme angle than our Toyota-based shaft ever could.

There are a number of Samurais on the trails running Toyota axles with setups much like ours. Of the

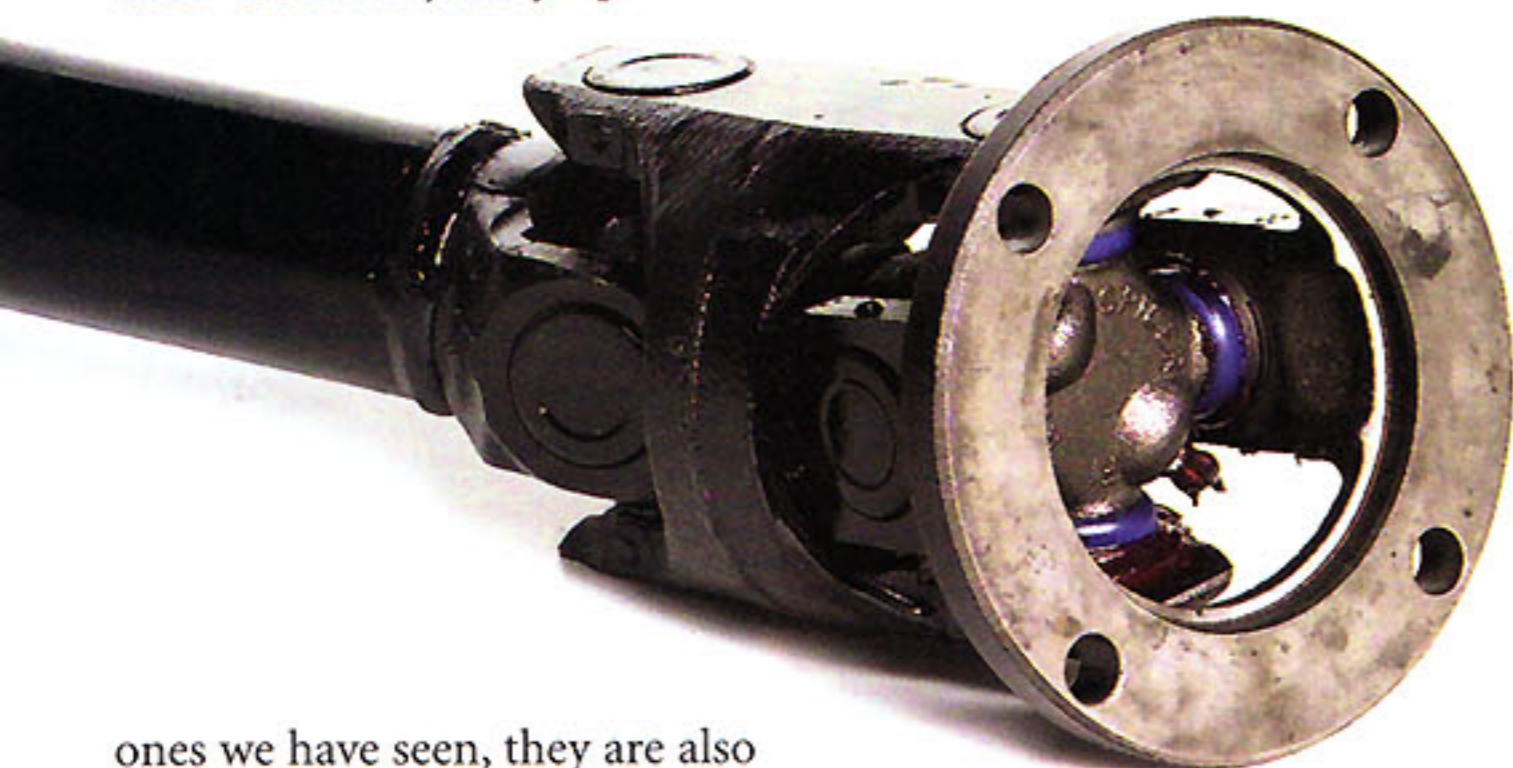


The custom flange was created by machining everything off of our stock Samurai flange except the center, which was inserted as a hub into a machined 8.8-inch Ford pinion flange. The piece was precision welded and balanced by computer.

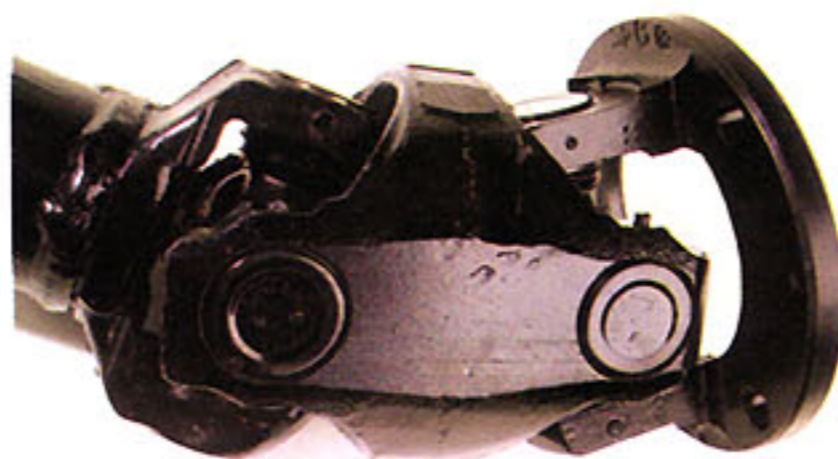
Coast Driveline created this custom flange to adapt our Samurai's rear transfer case flange to a commonly found Saginaw CV knuckle. While this component may not be a common item, it allows the rest of the driveshaft to be made of common, easily repaired items.



The Saginaw CV "H-housing" knuckle is so common that finding one in a salvage yard should be cheap and easy. Here are a few of the vehicles to look for: 1979-1986 K-10 Chevy 4x4 trucks, 1978-1993 Dodge 1500 4x4 trucks (all front driveshafts) and 2000-2003 S-10 2WD long-bed pickups (rear driveshaft).



ones we have seen, they are also using the common Toyota drive-shaft setup, much like our old setup. Assuming these rigs are running similar trails and seeing similar damage, it only makes sense that they are in need of spares and trail repairs for their driveshafts. Perhaps they are shelling out big bucks for spare Toyota-based shafts. Maybe these folks are unaware that solutions to their driveshaft dilemmas exist. With so many different driveline components available, almost anything can be created to solve any dilemma. However, one thing is for certain: Coast Driveline knows driveshaft dilemmas and what's available, so calling them is a good step toward finding a solution.



Coast Driveline took the extra effort to clearance our Saginaw CV knuckle by grinding the protruding edges down smooth, allowing for more extreme angles.



Comparing our old Toyota-based driveshaft to the new driveshaft, you can see the increased angle the clearance Saginaw CV knuckle affords.



With the ends of our old Toyota-based driveshaft and new driveshaft extended to "ride-height" length, we can see that the new driveshaft has a full inch more of collapsible travel.



Coast Driveline highly suggests using these special metric driveshaft bolts from Ford. These bolts secure the driveshaft to our new custom T-case flange. The bolts come with a thread-locking compound already applied and ready to bolt up.

Product Profile

Coast Driveline
Dept. 4x4
2495 Palma Dr.
Ventura, CA 93003
800/533-8087
www.coastdriveline.com