

# PRESERVING THE DEFENDER 90

BY JOHN ROBISON

**M**y favorite Land Rover is the Defender 90. Ninety refers to wheelbase—the ninety inches between the front and rear wheels. Land Rover makes Defenders in 90-, 110-, and 130-inch wheelbases, but most of them are not sold in North America. In 1993, 500 110's were sold here. In 1994, 1995, and 1997, a somewhat larger number of 90's were sold here. None before, none after.

Yet the Defender remains the most recognized and desired Land Rover model. It's the vehicle people picture when they think of "Tomb Raider" adventures, scientists doing research in the jungle, Army troops in the desert. The Defender figures in more imaginations than any other Land Rover, past or present.

The Defender's predecessors, the Series vehicles, made the Land Rover name known all over world. Kids like me grew up reading about safaris in the Kalahari and convoys to Ulan Bator at the school library. It's no wonder we grew up and wanted one for our very own. That's why clean Defenders sell for more today than they did when new and why it's important to preserve these unique rigs.

The Defender's weakest point has to do with corrosion. Even with aluminum bodywork, deterioration of the frame and body are a big problem. In salty places this problem is particularly acute. For some reason, Defenders seem more prone to corrosion than other Land Rover models.

At JE Robison Service Company, we've had good luck treating Defenders with a Swiss product called WaxOyl. It's a combination of paraffin wax and oils that sticks to metal surfaces and halts rust the same way that spraying oil on a rusty tool prevents it from rusting further. The wax keeps the oil from washing off in the rain. This process is not common in America, but it's worth seeking out if you have a classic car you'd like to preserve.

Defender hardware also rusts and falls apart. For example, the screws that hold the door hinges in place may rust and stain the sides of the vehicle. Stainless hardware kits are available to address this problem. If you install a kit yourself, I suggest patience, penetrating oil, and a hand-impact screwdriver.

Exhaust systems sometimes rust out, but stainless alternatives are available. They sound better and last longer, but they can be a bit more difficult to install because the stainless pipe is harder to bend and clamp. Look for rust around the tailpipe, where the front pipe joins the catalyst, and on the cases of the mufflers. Here's an easy way to test pipe to see if it is rusted out: grab it with a big pair of slip joint pliers and squeeze hard. If it crushes in, it's weakened and no good. If you can't budge it, the pipe is still good.

For shocks and suspensions, a good rule of thumb for Defenders is 8 years/80,000 miles; if your Defender's shocks are older or higher mileage than this, you'll notice a big improvement with new ones. Some people prefer stock parts while others prefer aftermarket pieces. Shocks from Bilstein are my choice.

Around 100,000 miles we see sagging springs and sloppy bushings on Defenders. A Rover with worn springs will squat down or sit crooked. If you see this on a Defender you're thinking of buying, be sure you don't confuse sagging springs with frame damage that resulted from an accident. A symptom of worn bushings is a tendency of the vehicle to veer one way when you step on the gas and another way when you let off. Just 1/16 of an inch of wear will make your Defender almost impossible to control at 70 MPH.

For off-road driving, the name of the game is keeping the wheels in contact with the ground on rough terrain. To do that, some people modify their suspensions to give even more travel than stock. Some kits will double the travel over a stock D90. But this travel comes at a price: significantly less stability at highway speeds.

Most Defenders have soft tops or removable hard tops. Other companies offer a wide range of choices if you'd like to customize your D90. You can get full tops, half tops, and tonneau covers like an old British sports car.

Some people have converted gas Defenders to diesel power, but more often I see gas V8 upgrades. People install 4.6 blocks for a 20-30% power increase. I've also seen people install performance chips, hotter cams, and other upgrades to their existing engines. Remember that engines modified like this may not

pass emission tests if your state has them.

The 1997 Defenders came to America with automatic transmissions. In my opinion, those are the easiest ones to drive, but there are plenty of folks who prefer the stick shift. Older Defenders have standard shift gearboxes. The transmission used in the early cars was less robust than the 1995 transmission, so that's something to pay attention to if you've got a 1993 or 1994 vehicle. If you have an LT77 transmission in an early Defender, you can convert to the more robust R380.

Steering systems in Defenders are strong, but the wheel bearings get fouled with water and dirt when running off-road. Any Defender that is used off-road should have the wheel bearings taken apart and serviced annually. Another weak point is the steering linkage.

Tie rods bend under the stress of rocks and logs. Tie rod ends wear, and if they get loose enough they can pop off, leaving you with a disconnected steering wheel in your hands while your truck takes off for parts unknown. Check all these parts carefully every time you go off-road.

