

Million Mile Suburban Still Going Strong

When Ben Welch purchased his 1994 Chevy Suburban 1/2-ton truck with its 350 V-8 engine, he had no intention of keeping it for long, believing he would trade it for a new model every year.

Over 1 million miles later, it's still going strong without having received any significant engine work.

"When I went to trade it for a '95 model, Chevy had done away with the outside armrest on the front seat, which was so comfortable," Welch says. "I decided I'd wait another year, and they'd likely bring the armrests back, but they never did."

The truck has seen some hard times and abuse as Welch tells it.

At about 400,000 miles, while on a trip to Oklahoma in over 100 F heat, the air conditioner quit working. Assuming he was out of freon, Welch kept driving without giving the gauges much thought. Just south of Kansas City, he was having trouble steering and finally noticed the gauges were all buried in the red.

"I didn't even slow down because I figured the engine was ruined anyway," Welch laughs. "Eventually, I had to stop and shut it off. That's when it started making all kinds of noises, banging and jumping around."

The serpentine belt had broken, and Welch had run the truck over 100 miles without a water pump. His mechanic, Randy Bloom, recommended changing the intake manifold and head gaskets as there would be nothing left of them. Welch ignored the advice, but at 640,000 miles, he finally had the then-non-existent intake manifold gasket replaced. After postponing the head gasket job, he was forced to address it 50,000 miles later.

"It was a good thing because when we opened it up, we could see the cylinder



At 900,000 miles, he had some bodywork done, making the truck look almost brand new. The cloth interior and seats are also still in great shape.

condition," Welch says. "There was no wear at all. Not even a ring ridge, even though I treated it so badly."

At 900,000 miles, he had some bodywork done, making the truck look almost brand new. The cloth interior and seats are also still in great shape.

Welch gives most of the credit for the 1 million miles to the Conklin products he uses regularly in his vehicles. They include TKO engine oil additive, 4-Power fuel system cleaner, and Fuel Mate Plus every time he fills the gas tank. He keeps a pint of radiator conditioner in the system and uses Conklin products in the rear end and differential. Every 10,000 miles, he greases the truck with Rhino Grease.

He also credits his mechanic, Randy Bloom, who does his regularly scheduled maintenance, rotates his tires, and changes the oil and filters every 10,000 miles.

Welch still loves driving the million-mile truck, although he saves it for special trips since he finally bought a new Chevy model about 4 years ago.

Contact: FARM SHOW Followup, Ben Welch, Lincoln, Neb. (ph 402-430-7733).

Simple Fix Keeps Outboard Motor Running

When the water pump impeller on Philip Jenkins' 1999 50-hp. Suzuki outboard failed, it couldn't be fixed. Saltwater corrosion had fused the upper and lower unit's housing solid. A longtime friend, who is a professional outboard mechanic, told him he might as well scrap it, but Jenkins came up with a solution.

"It was a good 4-stroke fuel-injected engine that ran great, and we didn't want to junk it," says Jenkins. "My son ordered a 12-volt electric pump used to move fresh water in RVs and motor homes. The challenge was to create an intake port and connect the pump's discharge to the motor's cast water jacket."

To create the intake port, Jenkins drilled a 1/2-in. hole through the cavitation plate above the propeller and slipped a 3-in. long, 1/4-in. dia. pipe thread nipple through it.

The design of the water jacket provided the perfect place for connecting the discharge tube from the pump. A water pressure valve on the bottom right of the water jacket was covered by a 2-bolt flange.

"We took the flange off, removed the valve, and drilled a 1-in. hole into the water jacket," says Jenkins. "We inserted a 1-in. (OD) national pipe thread with a 3/4-in. (ID) and screwed in a bushing to reduce it down to a 1/2-in. (OD) pipe."

Jenkins secured the pump to the housing on the lower unit with a chain and a small turnbuckle. Before connecting flexible tubing to the fixtures on the pump and outboard, Jenkins made one addition. He added a strainer ahead of the pump to protect it from debris in the water.

"So far, it hasn't been a problem," he says. "If it did get plugged, the temperature sensor



Jenkins fitted an external water pump to replace a failed impeller pump on his Suzuki outboard.

on the motor would sound an alarm."

Jenkins installed a toggle switch for the pump by the outboard controls. He starts the pump running before the engine starts.

"It runs great, although it looks unusual," says Jenkins. "When it's out on the river, people want to know what the contraption is on the lower side of the motor."

Contact: FARM SHOW Followup, Philip Jenkins, 15319 Oaklawn Dr., Ponchatoula, La. 70454 (ph 985-662-4685; jenkins6438@bellsouth.net).



Madsen's grapple works well for jobs like clearing trees, and back blading gravel as the rocks flow through the holes in the concaves while driving.

He Made A Concave Grapple

The routine task of repairing the family combines sparked the idea of a homemade grapple fork for Kurt Madsen of Theodore, Sask.

"We were putting new concaves in our John Deere 680 combines, and I suddenly had the idea that the used ones might work for a grapple," Madsen says. "I started tinkering and building, and it came together quite easily."

The spring steel Sunnybrook concaves were already manufactured strong and became the perfect top and bottom sections of the fork. Madsen built his own adapter mount for his skid steer and welded brackets for hydraulic cylinder connections. He used old shafts from an air drill for the hinging operation.

"I put two cylinders on the top grapple, one on each side," Madsen says. "It tilts to any angle with the skid steer."

The strong grapple works well for jobs like

clearing trees, and back blading gravel as the rocks flow through the holes in the concaves while driving. It'll even scoop dirt when tilted all the way over.

"I can ram trees with them, and the concaves don't bend," Madsen laughs. "I cut a bunch of maples off at about 6 ft. high and then knocked them over with the grapple and picked them up by the roots. They were super heavy, but it'll lift about as much as the skid steer can handle."

Madsen recommends anyone building their own concave grapple fork should ensure it's welded properly, as he had to go back and weld in some places.

He estimates he spent about \$500 for the two new hydraulic cylinders and hoses.

Contact: FARM SHOW Followup, Kurt Madsen, P.O. Box # 41, Theodore, Sask., Canada S0A 4C0 (ph 306-521-0097; Kurtmdsn2@gmail.com).

Low-Cost In-Place Shaft Repair

Larry Harrington, L&K Machines, saves his clients big bucks when they have a bad front pulley or a worn crankshaft. Instead of ripping apart the engine and replacing the shaft or trying to machine it, he turns it in place.

"Some old Deere irrigation engines run good, but they're notorious for the front pulleys falling off when you hang a center pivot generator on it," says Harrington. "Often the crankshaft is worn and wears out the center hole on the old pulley."

He notes that sometimes farmers will buy a new pulley thinking that'll fix the problem. Usually, it won't stay on. Even if it does initially, it may run for months and then fall off.

Just taking the crankshaft out and putting it back in can cost more than \$1,000. Harrington can fix it and fix the old pulley most of the time for less than the cost of a new pulley.

Harrington has fixed machinery for over 50 years and has picked up a few tricks along the way. In this case, he starts with a special jig, a steel table that clamps in place close to and parallel to the shaft.

A slot on the table holds a carbide lathe bit. A handle on a rack and gear under the table slides the surface with the bit back and forth. The jig makes the bit go in a straight path, explains Harrington.

"I remove the radiator and have to be able to run the engine for about 3 min. total," he says. "I run it only a minute at a time for each pass of the bit."

With the engine running, Harrington takes his first shallow cut to see if the diameter is the same front and back on the shaft. If it is, he knows the jig is parallel to the shaft.

"If it's not parallel, I'll put a taper on the shaft, and I don't want to do that," he says. "It generally takes three passes to straighten the worn shaft."

Once he's turned the shaft back into shape,



Jig held in place with clamps and vice grips.

he shuts down the engine and measures the shaft with a micrometer to be sure it's straight. Then he goes to work on the pulley.

"The pulley has to fit the turned shaft," says Harrington. "The hole on the old one is usually worn out, and a new one can cost \$1,000."

If the rubber dampener on the old one is still good, he bores out the pulley. Then, he makes a sleeve to fit the gap between the pulley and the shaft. He notes that he can often salvage the pulley, but even a new one will have to be bored out, as it won't fit the turned shaft.

"The shaft may have a 30,000th of an inch turned off, and I'll bore that much out of the pulley," says Harrington. "I'll make a 60,000th of an inch sleeve, key it, and slip it on the shaft."

Harrington says he's made the repair on crankshafts more than 10 times, in the shop as well as in the field. He prefers doing it in the shop where he has all the equipment needed.

"I've never had a failure," he says. "If I can salvage the old pulley, I can do the whole job for less than the cost of a new pulley."

Contact: FARM SHOW Followup, L&K Machines, P.O. Box 484, Western, Neb. 68464 (ph 402-433-4751; lh44255@windstream.net).