Toyota-Powered Skid Steer

By Jim Ruen, Contributing Editor

Take an old Owatonna 1700 skid steer loader with a burned-out diesel engine. Add a gas engine from a Toyota Corolla. Toss in a love for tinkering and you, too, could have a great working $650 skid steer loader.

"I was looking for a skid steer loader, but I didn't want to spend a lot of money," says Thad Smith, Scappouse, Oregon. "I was going to buy the hydraulics off an old skid steer parked at a local sawmill. The owner said, why not buy the whole thing, so I did, for $250."

Smith knew it wouldn't pay to replace the diesel engine in the Owatonna skid steer so he decided to try a small car engine. He found a Toyota Corolla station wagon that was totally trashed, except for the engine. He got it for only $200.

Smith proceeded to pull the diesel and replace it with the Corolla engine. "The skid steer was a direct drive from the diesel to the hydrostatic transmission. I had to remove the transmission and the clutch from the Toyota and adapt a plate from it to connect to the gearbox."

The adapter plate required the correct size spindle with keyway to slide into union with the gearbox. Smith used the clutch plate as a template for the holes and had the adapter plate fabricated at a local machinist.

Motor mounts also had to be adapted. Smith used tube steel, relying on templates made from cardboard. He welded them to the original engine mounts and dropped the Toyota engine into place.

"It fit like a hand in a glove," recalls Smith. "I moved the radiator up to the top of the engine compartment. I got an electric fan from a Chevy Celebrity and mounted it above the radiator to get cooling and then plumbed with flexible radiator hose down to the engine."

The fuel system and electrical harness also had to be installed. A new fuel line was run from the dual fuel tanks and electric fuel pump to the carburetor. A wiring harness had to be built to run the fuel pump, the ignition and the charging systems.

Switching from diesel to gas-power meant running an exhaust system to the top of the cab. He also had to build a throttle linkage, and he salvaged a seat from the Toyota.

Smith estimates it took about 40 hours time over a couple of months, but it was well worth it. "The first time I fired it up, the skid steer ran perfectly and all the hydraulics worked," he says. "I used it to pick up the Toyota and move it out of the way."

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Abandoned Owatonna skid steer and junked Toyota Corolla were combined to make a $650 skid steer loader. Its first job was to pick up what was left of the Corolla and haul it away.

Even in wet conditions, Gehrer's Gleaner keeps going where other units wouldn't.

Rebuilt Gleaner Does Double Duty

Uli Gehrer gets double duty out of his stripped down M6 Gleaner combine. When weeds need to be controlled, he mounts a 120-ft. MarFlex spray boom and 1,000-gal. tank on the machine. When it is time to swath, he drops the spray booms and installs the swather head to cart canola or other crops.

"We had been in such wet conditions in the summer and fall that I needed something that could drive through the fields," says Gehrer, noting that the rebuilt M6 keeps going when other self-propelled units are bogging down. "I needed to be able to cut crops in a timely manner, especially canola."

He started by stripping the Gleaner down to the cab, engine and frame and then raised it for 41 in. of clearance. Gehrer flipped the front axle final drives 90º using a set of home-made adapter plates to mount them in the new positions. He cut the rear axle off and welded rectangular tubing to extend down from the frame to achieve the same 41-in. clearance when he remounted the rear wheels.

When he flipped the final drives, they moved back a few inches, so Gehrer moved the cab back the same amount. He also mounted the big spray tank on the frame behind the cab.

"I shortened the feeder housing and made it shallower to make more room and mounted the adapter plate for the swather and sprayer," explains Gehrer.

Machine is equipped with a 120-ft. spray boom and 1,000-gal. tank for spraying.

He then welded upright braces on the rear sides of the frame for the two 50-ft. booms to rest during transport. A set of Bosch lights mount on top of the cab.

For swathing, Gehrer picked up a MacDon 973 Harvest Header with an adapter plate modified to fit the Gleaner.

Gehrer estimates that he has about $8,000 in the drive unit with the total cost for both rigs running in the low $20,000 range. Gehrer has used it with GPS and a light bar. He is looking forward to adapting a new auto-guidance system he bought for use with a tractor to the Gleaner.

"It will be the only Gleaner sprayer to drive itself," notes Gehrer.

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"Scoop" Kit Turns Tractor Blade Into Loader

Front-end loaders for Deere garden tractors sell for up to $3,000. But if you already have a blade on front of your tractor, you can convert it to a loader for far less money by using this new "scoop" attachment.

"It's an economical way to get a loader for dirt, gravel, mulch, and snow," says Keith Weinlader, Superior Tech, Inc., Lancaster, Penn.

The opening design of the scoop combined with the lift height of the blade assures complete emptying of material.

The scoop is designed for 54-in. blades on Deere 140, 300, 314, 316, 317, 318, 322, 330, 332, 400, 420, 425, 430, 445, 455 X series, and compact utility tractors. It bolts onto the back of the blade. Installation requires drilling five holes across the top where a hinge bracket bolts on.

The scoop is made from 11 ga. steel with a 3/8-in. thick cutting edge. It's equipped with a 1/2 by 1-in. steel reinforcement bar near the bottom, which keeps the blade from warping or bending. The bottom back side of the scoop fits tight against the front side of the blade.

No extra cylinders are required to operate the scoop. It's opened and closed by the cylinder that's normally used to angle the blade. The blade is raised and lowered by another cylinder already on the tractor (the tractor has to be equipped with two sets of remote outlets on front.

"It isn't designed to do everything a conventional front-end loader does, but it can move lot of material," says Weinlader. "The scoop weighs 108 lbs. and has a load capacity of 200 to 300 lbs. The scoop lifts only as high as the blade, which is about 1 ft., so you can't use it to load a truck. However, it works great for moving manure and landscape materials, etc. One advantage of the low lifting height is that you don't have to worry about tipping the tractor over.

Add-on scoop fits 54-in. blades on Deere tractors.

Scoop opens up to dump material where needed. It can be removed with four bolts.

"We designed the scoop for Deere garden tractors because they're built for heavy duty use, and because they have two remote outlets on front. The front blade that Deere makes for its garden tractors is the second most popular attachment sold for these tractors, after mowers," he notes.

Sells for $595 plus S&H.

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