

Hybrid Ford 8N Does 50 Mpg

Install a 1948 Ford V-8 into a 1949 Ford 8N tractor and you end up with a hybrid that does 50 mph on the open road. All Jack Zembower had to do was design an adapter plate to match up the bell housing to the transmission, replace the cast iron oil pan with rails for a frame, and redesign the carburetor, air filters and distributor. Of course, nothing is really that simple in a project like this, especially when you cut steel plate with a drill press.

"It took about 1,200 holes to cut three pieces of steel plate out so I could weld them together to make the adapter plate," recalls Zembower.

Other changes weren't quite as time consuming, although the larger engine did require some adaptation to fit under the 8N hood. With no room for the original V-8 carburetor, Zembower crafted a water-heated manifold to sit where the carburetor normally sat. It extended to each side of the engine. He mounted an 8N carburetor to each side for dual carburetors. A second air cleaner was mounted opposite the original, and dual

exhaust pipes were also mounted on the engine.

Limited room beneath the hood also required the distributor to be redesigned. Instead of running the distributor off a gear on the camshaft, Zembower replaced it with an earlier design that runs directly off the camshaft. It was used on 1946 - 1948 Ford engines.

"The transmission is original, but I added an over and under auxilliary so it can cruise," says Zembower. "I also changed the rear tires from 28-in. to 24-in."

Because the hood remained the same, it takes a second glance to realize a V-8 sits in place of the original 4-cylinder. To mount the engine once the cast-iron oil pan was removed, Zembower installed 1/2-in. by 4-in. steel rails from the bell housing to the front axle supports. He then attached the V-8 to them. He also extended the hood about 2 inches ahead of the front axle to make more room for the engine.

Zembower estimates he has approximately



A 1948 Ford V-8 engine sits in place of the original 4-cylinder engine on Jack Zembower's 1949 Ford 8N tractor. "It does 50 mph on the open road," he says.

4,000 hours in the project.

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Massey 44 Restored Twice In 40 Years By The Same Man

In 1962, Ray Westermo, then a middle-aged tool and die maker, was looking for spare parts in a salvage yard near Green Isle, Minnesota, when he spotted a beaten up Massey Harris 44 tractor. "The first time I laid eyes on that faded piece of iron," says Ray, "I knew it deserved a better fate. Even though it didn't have an engine there was oil running out of the transmission. I decided to bring it back to life."

Westermo, who in addition to his machining skills was a creative mechanic and engine rebuilder, had the tractor delivered to his small shop in Minneapolis. His big city neighbors thought Ray was a bit eccentric when it came to rebuilding projects, and this one just added more proof. Their thinking was further reinforced when Ray fitted the old Massey with a 1953 Ford Mercury motor and installed a four speed Ford truck transmission. A modified wide front end gave the machine extra stability, and 15.5-38 rear tires with weights on each wheel added ballast for the tractor's new use: in modified tractor pulling events.

The old 44, sporting a new paint job, a V8 with more than 100 hp, and 20 speeds forward, turned a lot of heads throughout southern and southeastern Minnesota. "We'd fire up that old Merc with dual straight exhausts and people would stand up and take notice," Ray says with a smile. "I competed in the modified classes of many local pulling events

and won a lot of trophies."

Although he couldn't show the tractor's road speed capability to admiring fans, Ray says he drove it 50 mph, but wouldn't do so on a regular basis.

Ray sold the tractor after a couple years to a local farmer who used it in pulls until the 1980's, when the engine gave out and he parked it. In 2002, a friend of Rays bought the tractor and asked Ray to help him restore it. Says Ray, "I was more than 80 years old, but I couldn't resist rebuilding that tractor for the second time in 40 years."

When we first looked at it in the winter of 2002, we thought it would take about 500 hours to get her back into top shape," said Ray, "but as it turned out, that was just a dream." In the next year Ray, Mark Revland and Bruce Johnson put more than 1,050 man hours into the restoration. Chris Romness and Bob Flicke from Romness Machine Shop and Jeff Benson from Jeff's Welding also chipped in another 200 hours on the project.

Ray started by rebuilding the engine, using a 1947 block. He straightened the exhaust ports and made adapter plates to mount the stainless steel headers, which took about 80 hours. Flicke did the valve seats and bored and honed the cylinder holes. The only parts used from the original engine were connecting rods, the intake manifold and the 4-in. stroke crankshaft. New pistons, which Ray said were \$3 in 1962, cost \$53 each in 2002.



Ray Westermo restored this Massey Harris 44 tractor twice - once in 1962 and again in 2002 when he was more than 80 years old.

Edelbrock high compression stainless steel heads were a major upgrade, as was an MSD distributor and twin 3-in. dia. exhausts with stainless pipes. The V-8 now has a 9:1 compression and produces 175 hp at 5,000 rpm's. The original belt-driven fan was replaced by a 16-in. electric fan that gives the tractor seven extra horsepower.

Ray says Mark Revland spent a couple hundred hours sandblasting the whole tractor, straightening the hood, the grill and gas tank, then priming and painting it with \$300 a gallon clear-coat Massey-red paint. Rounding out the appearance package were \$90 custom decals, custom lights, a new battery case, a new 12-volt electrical system and custom gauges.

After eight months of work, Ray had the

honor of pouring a pint of gas into the carburetor and turning the key for the inaugural start up. "That was the sweetest sound, hearing that engine come to life," says Ray.

Revland and Johnson, the new owners, ran the tractor in a few vintage tractor pulls in the past year, and the gleaming 44 is also a favorite in local parades.

"It makes me real proud to see this tractor gain a third life with the help of so many people," says Westermo. "The new owners have assured me it will always be cared for and maintained. After all, I'm in my 80's and won't be around to do this again 40 years from now."

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1/2-Scale 1922 Avery Tractor

Using just photos and specifications that he got out of a book, Ed Rupp of Madelia, Minn., built this 1/2-scale model of a 1922 Avery 14-28 tractor. It's powered by a Chinese-built Sifang 8 hp, water-cooled diesel engine. The stamped seat on back is off a horse drawn implement.

Just like on the original Avery, the 1/2-scale model is built with one steel frame that slides on top of another. To engage the gears, you slide the frame that supports the engine and radiator rearward. The tractor is equipped with an open teeth gear just like on the original, and as you slide the engine forward, a shaft with a sprocket meshes with the gear.

"I like taking it to shows where I often run it in tractor parades," says Rupp. "I also use it at shows to belt-drive a shingle saw and a miniature sawmill. It does a nice job. It's surprising how much power it puts out.

"I live in town so I don't have room for a full size tractor. My half-scale tractor lets me enjoy this kind of tractor without the expense of a full-sized one."

Before building the 1/2-scale model Rupp bought a book that featured the 1922 Avery. The book had a chart that gave the tractor's dimensions, overall length, wheel diameter, rim widths, and so on. He used the photos to scale out the rest of the tractor's components. He bought the Chinese-made Sifang engine new from a guy who had been to China and brought back a whole bunch of the engines. "The engine runs at 2,200 rpm's so it runs at high speed. It's built heavy and weighs 275 lbs.," notes Rupp.

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