



An overall view of Rich Dossdall's 4-cyl. engine shows intricate parts design, construction, and detailing. The exhaust stack and block housings are cast metal with milled grout lines.

Four-Cylinder Tabletop Engine Is A Work Of Art

By Lorn Manthey, Contributing Editor

Rich Dossdall says he'd never seen a 4-cyl. steam engine in all his years attending shows, auctions, and other events, so he decided to build one of his own design. With his imagination working overtime, the self-trained machinist, model builder, and craftsman built his "one-of-a-kind" work of art on a 32-in. wide by 4-ft. long tabletop platform. The result is a compilation of all original parts assembled into a colorful engineering masterpiece that purrs like a kitten. It's identified by the hand-painted "Dossdall Engine Co." nameplate and embossed "DE" letters on the ends of each cylinder housing.

Dossdall's engineering marvel has four

identical cylinders, one on each corner of the platform. Each piston has an elaborate housing and a machined rod connected to a central gear system. Three gears in a pyramid shape are on each side. The bottom two connect to the cylinders, and the top gear of the trio links to a 16-in. diameter flywheel in the center of the platform. He machined authentic oil cups on the top of each shaft and railings on each cylinder with his CNC lathe. Copper tubing runs from the make-believe two-story boiler room to each cylinder. The second story of the boiler room even has a catwalk with brass railings.

Dossdall used all the machining tools in his extensive shop to produce the cylinders,

valves, gears, shafts, mounting blocks, pulleys, and the authentic-looking brick smokestack. "First, I made wood patterns for all the parts, then cast them from iron or machined them from steel. The shiny 6-spoked flywheel is like others I've made for scale-model steam engines. The bore and stroke of each cylinder is 2 1/2 by 3. Each cylinder has brass lagging to replicate the insulating jacket that keeps actual working steam-powered cylinders hot, so the steam doesn't condense," Dossdall says. "I run this engine on about 5 lbs. of compressed air moving through a regulator that controls the piston speed. Air is piped into each cylinder just like steam." He has the pistons perfectly timed so there's never a top dead center. They run smoothly and only emit a small puff of air through the exhaust stack at the top of their

compression cycle.

"Of all the parts on this project, the 18-in. tall chimney was the most time-consuming," Dossdall says. "I milled all the 1/8-in. mortar lines with a dividing head then painted each one of those lines with a tiny brush. I could only work on that for about 15 minutes at a time because of the eye strain."

Always a perfectionist in his work, Dossdall says the project took him a full year to complete, and he's very satisfied with how it turned out. "It has a little more gear noise than I'd like, which could be remedied with gear lube, but that'd create oil spatter that I'd rather do without."

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Partially completed view of engine shows detail all designed and cast by Dossdall.

Case Spirit Of '76 Bicentennial Tractor: A Celebration Of Patriotism

By Lydia Noyes, Contributing Editor

Few tractors have ever demanded as much attention at parades as the patriotic Case 1570 Bicentennial Spirit of '76.

Case tractor founder Jerome Case began the business in 1842 and made his living building and selling threshers, along with other ventures like horse racing, selling insurance, and starting banks. Case was known for his patriotism and served as a member of the Wisconsin Senate, the mayor of Racine, and the president of the Racine Agricultural Society. In 1865, his company modified its logo to include a likeness of "Old Abe," a bald eagle that was the official mascot of the 8th Wisconsin Volunteer Infantry Regiment and famous for following the soldiers into battle.

The Case Spirit of '76 carried its founder's patriotism forward at the celebration of the country's bicentennial. Case released this specialty version of the Case 1570 in 1976. It was the largest 2-WD tractor yet built by the company. The Case 1570 weighed nearly 16,000 lbs. and was powered by a 12-speed transmission and an 8.3L 6-cylinder diesel engine.

It came standard with air conditioning and heat, with options to upgrade to an adjustable steering wheel, radio, and 8-track tape deck. The 7-way adjustable seat within the Case Comfort Control cab was known as the Easy Rider after the cult motorcycle movie released several years prior.

The Spirit of '76 model comprised approximately 14 percent of all Case 1570s built in 1976. While official records of how many Case Spirit of '76s were released have

been lost to history, estimates put the number between 200 and 300. For those who wanted to join the patriotic fervor without the price tag of a new tractor, Case sold decals suitable for standard 1570s.

Today, it's possible to find the Case Spirit of '76 at fairs and parades across the county. Their rarity means many fans will create replicas by refinishing Case 1570s in a similar color scheme. No matter how you manage to see one, this tractor is a memorable celebration of our country's two centuries of history that its founder would surely have approved of.



Photo courtesy of Mecum Auctions

Case estimates that just 200 to 300 of the Case 1570 Bicentennial Spirit of '76 models were produced.

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