

Half-Scale Oliver 1655 Masterpiece “Built From Scratch”

By Lorn Manthey, Contributing Editor

As a growing and inquisitive youngster, Rich Dossdall spent countless hours in his dad’s Oliver equipment dealership, learning all he could about how tractors were built. That love of Olivers reached its pinnacle in April, 2018, when he attached an 18-volt cordless drill to the starter on his hand-built, half-scale Oliver 1655 tractor and heard it sputter to life.

“That was a monumental moment for me,” says Dossdall, who’d spent days, nights, weekends and holidays during the previous 4 1/2 years building his masterpiece from scratch. “I made everything except a few items such as the tires, muffler and gas sediment bulb,” Dossdall says. “Every step of the way was a challenge, especially at night, because my mind would race ahead with ideas on what I needed to build. I’m glad to have it done because now I can sleep better.”

Dossdall says many people who build replicas start with a lawn mower frame and build sheet metal hoods to cover up an engine and drive train that has no resemblance to the original. His creation, however, is exactly 1/2-scale, built from scratch. He made all the castings out of cast iron, just like the original tractor, and a few pieces are aluminum. Dossdall points out that when something is built 1/2 size, its measurements indeed are 1/2 the length, width and height, but the metal volume is 1/8 of the original. He figures the completed tractor weighs about 800 lbs, while a full size 1655 is listed at 7,500 lbs.

Detailing on Dossdall’s masterpiece is exquisite, from the moulded grill, lighting, carburetor, engine block, pistons and valves right down to the polished hood, dashboard and multi-speed transmission. The engine block has wet replaceable sleeves, and the 3-pt hitch has absolute replica arms, complete with spring-loaded latches. The pto shaft is half size, and yes, it really works.

Dossdall points out the intricacy of all the engine parts, the authentic carburetor and float, and the grill’s radius pocket corners, which he achieved by using leather to make a smooth casting. He made roughly 60 different pattern pieces for the whole tractor, most of them from wood, which were then used to sand cast molds for the finished parts. The carburetor, made of 2 castings, required 3 tries for success. “The first one had a broken drill bit, the second one a broken tap, and the 3rd was finally perfect,” Dossdall says.

“On most parts I was successful the first time because I’m a self-taught machinist and mechanic and know the importance of extremely accurate measurements.” He winds his own springs, and the governor spring had to be re-done 5 times to get the exact pressure so the engine runs at any rpm from idle through full throttle.

The fit and finish of Dossdall’s masterpiece is perfect right down to the glass in the lights, the bezels in the gauges, and the size, shape and color of the decals. “I bought decals that were supposed to be the right size, but they looked terrible,” Dossdall says, “so I got patterns from the full size tractor, went on my CAD, designed them to scale, and had a local decal man produce them. They fit perfectly and look fantastic.”

Other details that look “factory original” include the clutch pedal with its radius shape, the hydraulic filter housing, the raised dimples on the mounting step and floor platform, switch knobs, and the dashboard. Glass in the gauges comes from pocket watches.

Dossdall spent 30 hours machining the steering wheel from a solid block of 14-in. square by 6-in. thick aluminum. The dash was originally 39 lbs. of aluminum that he milled, ground, honed and polished into a 2 lb. replica of the one found on a full size 1655. He made the radiator and gas tank from sheet brass, including the fill necks and twist lock caps. Yes they look authentic and hold fluids without leaking!

The original seat was made by Bostrum Seat Company with most of the pieces formed with dies and machined from solid steel to look like the full size original. Dossdall’s wife Jill helped sew the vinyl upholstery.

The tractor’s electrical system gains power from a small set of batteries. He made the alternator and distributor. He purchased a starter for his tractor, but it didn’t have the power to start the engine so now he uses a cordless drill to start it. With the engine running, Dossdall’s quick to show the throttle control, the 3-point hitch lift, the hydraulic system and run the wheels in forward or reverse. The tractor sits on a pedestal so it’s easy to start and demonstrate, but Dossdall has no plans to drive it around. He hopes to haul it to a special show in Michigan in 2019.

“Some people look at my tractor and



Rich Dossdall spent 4 1/2 years building this 1/2-scale Oliver 1655 tractor, making all but a few of the parts himself.



Dossdall cast every part for the 1/2-scale engine, building it in 2 halves which he bolted together.



He machined the intake, exhaust ports, and water passages (left) and made the crankshaft from a 3-in. dia. piece of 4140 steel, finish grinding the journals to 1/1,000th of an inch.



think it’s too small to be 1/2 size, so I keep a yardstick nearby to measure the grill, the wheels, platform, whatever they want. I show people that it all measures out, with dimensions pulled from my full-size 1655 that sits behind the replica in my shop.”

Last but not least, the paint job is absolutely authentic, too. It has 3 coats of DP90 epoxy primer, 2 coats of genuine Agco meadow green, and 2 coats of clearcoat.

“It’s the ultimate project for me, that’s for sure, and I find it really enjoyable to see how well it turned out,” Dossdall says. “It looks exactly like the tractors my dad used to bring home from the factory and sell to farmers years ago.”

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She Trains Miniature Horses For Therapy

When it comes to horses, Pine Island, Minn. trainer Bonnie Prestegard thinks small. Her under 34-in. tall horses are cute, cuddly and trained as therapy animals for vulnerable people of all ages.

“I started working with miniature horses because I saw the amazing bonds they form with elderly people,” Prestegard says. “As a very caring person myself, I saw training as a way to bring comfort and care to many others.”

Prestegard offers a 12-week program where she trains a horse and handler together. Upon completion, the handler receives a certificate of achievement listing the tasks the horse and handler have learned. She also offers individual lessons and 2-day workshops if people can’t commit to a 12-week course.

“I teach the animals to be comfortable around people and different noises, how to cross over gutters, holes and different levels of ground. Horses will go inside, so we train them to walk hallways and be in small rooms around people,” Prestegard says.

One of her training methods involves dressing the animals and handlers in costumes

and attending show competitions. It teaches both the handlers and the horse how to act around others, how to walk in a straight line, stand at attention and enjoy being obedient.

Her own horses are her stud, Billy the Kid, who she bought in 2011, along with Gracie, Lilly and Pearl. She says all of them love people, love attending events, and bring smiles to faces young and old.

“When we’re around small children we let them pet the horses, groom them and braid their hair into pony tails. Our horses love this attention and will stand for long periods of time as kids are near them,” Prestegard says.

“Visiting the elderly is a very unique experience for me, the horses and the residents. Seeing a small horse almost immediately brings smiles to people’s faces,” Prestegard says. “As the horse goes closer to an individual, the person reaches out to touch it, not thinking about the stiffness in their arm. This is real comforting therapy because it isn’t painful. Gracie is very sensitive to people’s reactions and doesn’t force herself on them. She’ll lean into a person’s lap, nuzzle them and take away any apprehension

they have. It’s a breath of God’s goodness in these little animals and I’m so thankful to bring this type of care forward.”

Visitors are welcome at A & B Ranch, where Prestegard allows them to groom and walk the horses, enjoy a horse fashion show, dress and dance with a horse, and see how they’re cared for. Reservations are required. Volunteers can also work at her ranch from May through October to learn her therapy concepts and work with the horses.

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Miniature horses love people and bring smiles to faces young and old. That’s why they make great therapy animals, says trainer Bonnie Prestegard.

