**Portable reel grinder**

Bruce Leonard, equipment manager at The Silverleaf Club in Scottsdale, Ariz., has a Foley 670 bedknife grinder, a Foley 650 Accu-Master reel grinder and an Express Dual reel grinder that are each operated about eight hours a day, six days a week. All three grinders are about seven years old.

Because the mechanic's shop is too crowded to operate all three grinders at once, the Express Dual has casters so the staff can move it easily outside the shop's garage door underneath a covered breezeway to operate it and then return it inside the shop each night.

Leonard acquired the caster setup from a local distributor. The two caster wheels, which are 6 inches in diameter, on the right side of the grinder are stationary. They're attached to a $\frac{3}{8}$-inch-diameter axle that's connected to a 2-inch-by-1-inch-by-0.120-inch steel rear bracket, which is attached to 3-inch-by-6-inch-by-0.250-inch flat steel brackets that are attached to the bottom of the grinder. The front bracket on the left side of the grinder also has two 6-inch-diameter caster wheels attached to a $\frac{1}{8}$-inch-diameter axle that are mounted on a front bracket.

The wheel assembly has two slots that a 57-inch, removable T-shaped handle fits into. The handle slides into a vertical slot and then can be moved to a horizontal position and locked in place. This movement lifts the grinder off the ground. The handle is then relocated to the other slot so a person can pull the grinder and steer it at the same time while transporting it.

The materials can cost as much as $150, and the labor needed for assembly can take as long as three hours.

**Aerifier trailers**

The staff at The Silverleaf Club in Scottsdale, Ariz., travels 1.7 miles to the first tee and more than two miles to the farthest green from their turf care center. Superintendent Kent Coburn and equipment manager Bruce Leonard built three trailers to transport two John Deere Aercore 800s and a Toro greens aerifier. The trailers save valuable time and prevent wear and tear on the machines.

Coburn and Leonard constructed the trailers by welding together 2-inch-by-2-inch-by-0.120-inch square tubing. The total length of the trailers, including the hitches, is 123 inches. The trailer width is 68 inches. The tongue is 48 inches wide and 42 inches long. The trailers themselves are 81 inches long.

The railing, which is 18 inches high, was made out of 1-inch-by-1-inch-by-0.120-inch square tubing. The total length of the trailers, including the hitches, is 123 inches. The trailer width is 68 inches. The tongue is 48 inches wide and 42 inches long. The trailers themselves are 81 inches long.

The ramps, which are 10 inches wide and 36 inches long, were constructed using 1-inch-by-1-inch-by-0.120-inch square tubing, 1-inch mesh and $\frac{1}{8}$-inch flat expanded metal welded together. The ramps on the trailers have two different mountings for the John Deere and Toro aerifiers because the axle widths are different - 48 inches and 50 inches, respectively. The axles fit inside the 2-inch-by-2-inch-by-0.250-inch square tubing. The golf cart turf tires and rims are standard, 4-lug, 18-inch-by-8.50-inch-by-8-inch stock items. The hitch pin measures $\frac{1}{4}$ inch by 6 inches, and the clip is $\frac{1}{4}$ inch.

Materials used to construct the trailers include:

- 60 feet of 2-inch-by-2-inch-by-0.120-inch square tubing $\ldots$ $100
- 50 feet of 1-inch-by-1-inch-by-0.120-inch square tubing $\ldots$ $50
- 50 inches of 2-inch-by-2-inch-by-0.250-inch square tubing $\ldots$ $25
- One sheet of $\frac{1}{8}$-inch flat expanded metal $\ldots$ $50
- $\frac{1}{8}$-inch plate steel for hitch scrap $\ldots$ $30
- Sotrailer axle kit $\ldots$ $265
- Rims and turf tires $\ldots$ $60
- Hitch pin $\ldots$ $25

The first trailer took about 40 hours to make, and the second and third trailers took about 20 hours each to make.