

travels with  TERRY



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Globetrotting consulting agronomist Terry Buchen visits many golf courses annually with his digital camera in-hand. He will share helpful ideas relating to maintenance equipment from the golf course superintendents he visits – as well as a few ideas of his own – with timely photos and captions that explore the changing world of golf course management.

A 3-inch-diameter portable trash pump (right) is used often during and after heavy rainfalls throughout the growing season in the upper Midwest. To make it easier to transport around a course, the shop manager fabricated and built a pump trailer with efficiency in mind.

One-inch square tubing and 1-inch angle iron were welded together and used for the pump trailer, which was designed a little larger than required so a larger pump could be used. The pump is mounted on the trailer framework using rubber-mounted automotive shock bushings to reduce vibration caused by the engine. The tongue is made from 1-inch-square tubing that's about 36-inches long. A clevis pin is used to attach a smaller turf vehicle's trailer hitch. The tongue can be lengthened when using medium and larger turf vehicles. Six-inch-diameter steel wheels with "non-highway-service" lawn-and-garden tires and $\frac{3}{4}$ -inch-diameter bearing hub assemblies mounted on $\frac{3}{4}$ -inch-diameter cold-rolled steel axles were acquired from a distributor.

The platform mounted on top of the framework is distressed steel. A 20-foot-long suction hose and a 50-foot-long discharge hose – all with quick-connects – are rolled up and placed on the back of the platform for easy transport. The front of the platform has a 16-gallon fishing-boat fuel tank with a replaceable fuel filter and a shut-off valve mounted to it. The tank allows the trash pump to operate about 20 continuous hours compared with the fuel tank that came as standard equipment with the pump that would have to be refueled every 1.5 hours. This allows the pump



to operate overnight without having to be refueled. The fuel gauge that came with the larger fuel tank is inoperable and a replacement isn't available because it's not manufactured anymore, so consideration is being made to add a gas cap with a built-in fuel gauge.

Greg Ellis, certified golf course superintendent, and Scott Brock, shop manager, at the Berrien Hills Country Club in St. Joseph, Mich., worked together on this novel idea.



A 2- or 3-inch-diameter diaphragm pump is used extensively for pumping water out of bunkers quickly and easily.

The black framework (left) came with the diaphragm pump when it was purchased and mounted on the trailer, which was fabricated using 1.5-inch angle iron about $\frac{1}{16}$ -inch thick welded together. A 5-foot-long piece of 1.5-inch-square tubing was used for the tongue, which extends to the back of the trailer. The front portion is 42-inches long to the end of the hitch. The tongue-mounted hitch was made out of 1.5-inch flat stock steel welded together that's $\frac{3}{16}$ -inch thick. It has a permanently mounted $\frac{3}{8}$ -inch-diameter clevis pin and a $\frac{1}{2}$ -inch-diameter "T" handle with a $\frac{1}{8}$ -inch-diameter roll pin that holds the spring in place so the clevis pin can't be removed or lost.

A jack stand was built using 2-inch-by-2-inch square steel stock $\frac{1}{8}$ -inch thick. A 1.5-inch square stock piece of steel $\frac{1}{8}$ -inch thick slides

up and down with the built-in handle, which has holes drilled into it for the up, transport, down and stationary positions. All that's needed is to pull the spring-loaded pin with the built-in handle that will find the correct hole by sliding the jack stand up or down.

Six-inch-diameter steel wheels with turf tires and $\frac{3}{4}$ -inch-diameter bearing hub assemblies were mounted to a $\frac{3}{4}$ -inch-diameter cold-rolled steel axle that has holes drilled for cotter pins to hold the wheels in place. The 2-inch-diameter diaphragm pump uses a 20-foot-long suction hose and 15- to 50-foot-long discharge hoses with quick-connects. The 3-inch-diameter pumps use a 15-foot-long suction hose and 15- to 50-foot-long discharge hoses with quick-connects. All hoses are transported in the bed of the transport turf vehicle.

John Gosselin, assistant general manager; Tristan Engle, golf course superintendent; and Jerry Thompson, site mechanic, at The DuPont Country Club in Wilmington, Del., thought of the pump trailer ideas. GCN