## Turf Vehicles Reach A New Level Of Importance



Low profile sprayer on Cushman Turf-Truckster.

hen Ransomes purchased Cushman last year, manufacturers and distributors of utility turf vehicles and related attachments took notice. The acquisition was a signal to the industry that multi-use utility turf vehicles were reaching a new level of importance in the maintenance of golf courses, parks, schools, and other large turf areas.

In many respects, the turf equipment industry has come full circle with regard to the use of one power source to operate a number of different maintenance tools. Tractors have long been the "prime mover" for mowers, aerifiers, sprayers, spreaders, topdressers, and various other attachments. During the past 30 years, however, tractors have lost ground to equipment dedicated to one specific use. Mowers are the most obvious example of dedicated power units. The list has grown to include aerifiers, sprayers, bunker rakes, field liners, basepath groomers, and topdressers.

These dedicated units were designed to be more efficient, easier to operate, and specifically for the turf professional. Many golf course superintendents, groundskeepers, and other sports turf managers were willing to trade versatility for greater productivity. However, where productivity is not an issue or a certain type of equipment is used infrequently, dedicated units are not always economically feasible.

Productivity has become an important

factor in turf maintenance largely because of increasing labor costs. In addition to the amount of time needed to perform a maintenance task with a certain piece of equipment, getting from one place to another on a large turf facility is a big consideration.

Today's turf manager must be able to move his crew, necessary tools, and supplies around the facility quickly. This has led to the predominance of the utility vehicle. Greensmowers, irrigation parts, line markers, hole cutters, trimmers, seed, fertilizers, and sand can be carried in the bed of a vehicle by one or two workers from one worksite to others. The concept caught on and has evolved to broaden the versatility of such vehicles.

"The first utility vehicles were very work specific," explains Michael Alexander, product manager of Club Car's Carryall line of vehicles. "They were designed to accomplish a specific job. As labor costs continued to escalate, golf and sports turf managers started looking for ways to economically mobilize their work force.

"Used golf cars equipped with makeshift cargo boxes filled the basic need, but not without problems," Alexander states. Then a few golf car manufacturers started to upgrade suspensions, engines, transmissions, and chassis. They reengineered golf cars or personnel carriers to become cargo carriers.

The degree of reengineering varied con-



Club Car Carryall II with hydraulic dump cargo bed.

siderably and was reflected in the price of the vehicles. Payloads ranged from 500 pounds to 1,500 pounds. Some manufacturers started to offer a dump option for their cargo boxes, ramps, and stake beds. The versatility of the utility vehicle started to grow.

With each change, utility vehicles resembled golf cars less and less. They began to take on an identity of their own. Superintendents and sports turf managers started to use the cargo area of the vehicles to carry sprayers, spreaders and topdressers. In some cases they would add a hitch to pull small trailers, aerifiers, and gang reel mowers. They were discovering that some of the features of dedicated, single-use equipment could be added to utility turf vehicles.

A few manufacturers realized that a market was developing for "multi-purpose utility vehicles (MPUV)." They put their engineers to work in an effort to improve the safety, versatility, and power of the work systems. The engineers explored some of the factors that made single-use models valuable to institutional turf managers. These included powering the work unit from the vehicle's engine and increasing capacity and stability.

"We determined that when you added a sprayer to the bed of a Truckster, the center of gravity was too far back," recalls Clarke Staples, vice president of Cushman, Inc. "We began offering power take-off (PTO) to run a sprayer and spreader in the '60s. To improve the stability of the vehicle, we started to explore convenient methods of removing the cargo box so that other types of equipment could be attached lower on the chassis. In 1973, we developed the pin system, which enabled vehicle owners to convert their Truckster from a dump body to a sprayer or spreader in a matter of minutes." The system uses three pins to connect the work unit to the vehicle's chassis.

Today, Cushman, E-Z Go, Toro, John Deere and others compete for the multi-use utility vehicle market. Jacobsen has announced it will reenter the field this winter with a new line of vehicles offering a choice of work units. The concept of using one vehicle to perform a number of turf maintenance tasks is now embraced by the golf and institutional turf industries.

This has opened up the MPUV market to another level of vehicles which are less "work specific," says Club Car's Alexander. "As sales of MPUV's increased," he comments, "manufacturers began to seriously consider developing them separate from their golf car product lines. Since the early '80s, there have been significant changes in MPUV design features and a larger se-



John Deere 1500 utility vehicle with 1,500-pound payload bed.

lection to choose from. The most significant changes in the industry have occurred over the last five to ten years.

"Although somewhat fueled by growth, changes have been influenced more by a shifting in buyer preference from "work specific" turf trucks toward MPUVs," Alexander adds. "First, the cost of "work specific" vehicles continues to increase faster than MPUVs." Since these vehicle: utilize quick change options to perform a number of different jobs, Alexander says golf courses and sports turf facilities need just a few "work specific" vehicles. This



Jacobsen's new three-wheel utility vehicle.

continued on page 26

25



## **Turf Vehicles**

## continued from page 25

opens up the market for vehicles which can perform day-to-day tasks.

"As the need for MPUVs continues to rise with an abundance of models to choose from, the decision on which MPUV to acquire has become more confusing," admits Alexander. "You need to consider factors such as the main function the vehicle will perform, gasoline or electric power, threeor four-wheel suspension, body and frame construction, required vehicle speed, and alternative usage possibilities. Also pay attention to local dealer support, quality and availability of service support manuals, and purchasing or leasing options."

The main function of a MPUV can range from "bare bones" models to more work specific versions. Basic transportation vehicles can be used to perform such tasks as changing pin positions and tee areas, roping off ground under repair, carrying irrigation parts, or providing a mobile office for supervisors. Manufacturers are becoming more competitive in this category by offering options such as lights, fuel gauges, hour meters, seating for two people, and canopy tops. Some have hydraulic dumpbed options for lightweight hauling.

Gasoline power is preferred over electric, says Alexander. The primary reason is the limited range of electric models between battery charging. He adds that some four-wheel vehicles today are as maneuverable as three-wheel versions and provide more stability.

Manufacturers are increasing the dura-

bility of their vehicles with materials that are rust- and corrosion-proof, especially for frames and cargo boxes. Vehicle durability, appearance, and function have been improved by utilizing injection-molded plastic components. "MPUVs constructed of corrosion-resistant or rust-proof materials command a higher trade-in price and can lower the vehicle's long-term operating expense," Alexander reveals.

Speed is one way to differentiate between vehicles designed for turf applications and those for other industries. Alexander advises against vehicles which travel more than 16 miles per hour for turf facilities. He cites terrain and operator safety as major concerns. "Faster vehicles are intended for travelling longer distances on improved surfaces," he warns.

E-Z-Go is an example of a manufacturer that offers utility vehicles ranging from basic transportation to work-specific models. Today its electric XT-500 and two-cycle gasoline-powered GXT-800 are manufactured for light-duty personnel and cargo transport, while its GXT-1500 has been constructed for attachments and heavier duties. The large unit has a 20-hp, four-cycle gas engine and five-speed synchronized transmission that allows it to carry up to 1,500 pounds in its 19-cubic-foot bed, according to Ron Skenes, marketing communications manager.

Another company straddling both areas is John Deere. Its 1500 Utility Vehicle is clearly work-specific, while the AMT 600 and 622 are both transportation oriented. "Budget largely determines the type of



vehicle turf managers want," remarks Bill Frank, manager of product information for Deere's Golf & Turf Division. "Dedicated machinery is still very popular with highbudget facilities. We know this because our 1500 is often purchased as a dedicated sprayer, even though it has other attachments. When budgets start getting tight, the demand for the other attachments goes up."

Frank is uncertain whether or not the two levels of equipment will ever meet in the middle. "Any trend depends on the useful life of the vehicles and the life and performance of the attachments," he states.

The quality and productivity of attachments receive a high priority at Cushman. The company recently introduced a line of attachments based upon "fifth-wheel" technology. A single, fifth-wheel mounting on the frame of a truckster allows larger attachments to be towed with greater maneuverability by the vehicle. Now the truckster has the ability to pull a double-wide topdresser, the company's GA-60 aerifier, a sprayer, and a dump trailer.

"Fifth wheel attachments are as strong as dedicated units," says Staples. "Turf managers don't have to compromise quality or productivity any longer to achieve versatility." Furthermore, the economy resulting from increased versatility enables superintendents of municipal and daily fee courses, park superintendents, and institutional groundskeepers to raise their turf standards. Budgets are less of an obstacle to quality.

As you can see, the utility turf vehicle is approaching the tractor in terms of versatility. It is becoming a prime mover for all types of attachments, as well as challenging dedicated equipment in terms of productivity and efficiency.

A new challenge facing the industry in this decade will be regulations for off-highway emissions, Frank alerts the industry. As these regulations begin to impact equipment on parks, campuses, and golf courses, each piece of motorized equipment will be subject to increasing scrutiny. This may have the effect of reducing the number of prime movers for turf maintenance at recreational and institutional facilities. It may also rekindle interest in electric vehicles for transportation.

All these factors make the utility turf vehicle an important piece of turf equipment to watch in the '90s. Each change is a signal that the market is changing. Like manufacturers and distributors, turf managers should take notice.  $\approx$ 

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