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GOLF CAR SALES SHOULD IMPROVE AS FLEETS FAIL

by THOMAS PACIELLO, equipment editor



Golf car sales should increase in 1982, despite the problems of rising production costs and high interest rates, according to many golf car manufacturers.

One of the main reasons for the positive sales outlook is the effect of reconditioned cars on the market. "Many golf courses are reconditioning their golf cars to get one or two more years out of them," said Tom Duffy, Harley-Davidson Milwaukee, WI. "In 1982, many of these reconditioned fleets will need to be replaced." All of the manufacturers contacted by *Weeds Trees & Turf* echoed Duffy's comments, noting that many golf courses have pushed their fleet turnover from 3-4 years back to 4-5 years. When the interest rate boom occurred last year many courses postponed their golf fleet purchases. Manufacturers are predicting that 1982 will be the year that many old golf car fleets are replaced.

In addition to reconditioning cars, golf courses have resorted to other methods to beat the high cost

of borrowing money while replacing their golf car fleet. Manufacturers noted an increase in the number of leasing and lease/purchase agreements. Creative financing is also on the rise but usually between the golf course and the dealer, not the manufacturer.

While high interest rates have affected golf course purchases, it has also made the marketplace more competitive. Manufacturers told *WTT* that the high cost of money, materials and labor have made it very difficult to compete simply on price. "When production costs go up so does the selling price," said Wayne Wilson, Davis 500, Inc., Greenville, SC. "Manufacturers are just trying to hold down costs as much as possible." Golf car prices for 1982 rose from as little as \$63 to as much as \$1085, according to comparisons between the 1981 and 1982 *Golf Car Guide*. "Competition in the golf car market makes sales more difficult and it affects the car's pricing and features," said Duffy. "Two of the features that we are stressing is that

our cars are quieter and more economical." Most golf car firms noted that efficiency was one of their biggest selling points.

While some manufacturers will rely on business from new golf courses, many agree that the lion's share of the business is in retaining existing accounts and converting others. In updating the *Golf Car Guide* for this year, *WTT* noticed that three companies changed ownership and two dropped out of the business altogether. With a limited amount of existing and conversion business available, if the predicted sales increase does not develop, check this guide next year for a current list of golf car manufacturers.

Possibly taking a lead from automobile manufacturers, most golf car companies have expanded the list of options that can be added to their 1982 models. Not every company could lay claim to a model that sports a radio, clock, cigarette lighter, refrigerator, television, sunroof, musical horn, whitewall tires, side and rear curtains, etc. (such as Elmco's Royal Ride 21E); however, even the moderately priced models are becoming more ambitious in how much optional equipment they make available.

While the average golf course turns over its fleet every 4-5 years, golf car manufacturers told *WTT* that the average life of their cars is approximately 8 years. Some manufacturers noted that one of the reasons for this difference is proper maintenance. Every manufacturer responding to *WTT*'s golf car survey stated that proper maintenance was the key to longer vehicle life. Estimated maintenance costs ranged from \$30 to \$200 per year.

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ation for the rider on the market and unparalleled fuel economy. Backed by our 2-year parts warranty on key engine components.



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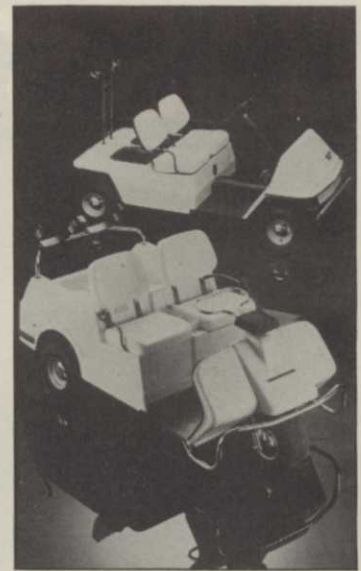
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For more information write or call: Harley-Davidson Motor Co., Inc. 3700 W. Juneau Ave., P.O. Box 653 Milwaukee, WI 53201 414-342-4680.



Golf Car Division

INTRODUCING



1982 GOLF CAR GUIDE

GOLF CARS	Model	Price	Fuel Mode	Wheels	Steering	Turning Radius (in.)	Weight (lb.)	Load Capacity (lb.)	Frame Mat.	Body Mat.	Warranty (yr.)	Mileage	Lifespan (yr.)	Service Contract	Maintained by	Forward sp.	Reverse sp.	Fuel cap.
Club Car Augusta, GA 404/863-3000	DS	3053	E	4	SW	276	815	750	Al	Fg	2 Pt. 1 L	—	8-10	Yes	P	14	7	
Legend Golf Cars	EV3	2795	E	3	SW	240	894	750	St	Ur	1	—	—	No	P	12	12	
Eagle Vehicles Dallas, TX 214/388-7431	EV4	2925	E	4	SW	300	935	750	St	Ur	1	—	—	No	P	12	12	
Electric Carrier Corp. San Antonio, TX 512/826-8694	Caddy	2795	E	4	SW	168	950	800	St	St	1	10 hrs.	5+	Yes	P	12	12	
Elmco Cookeville, IL 309/725-3533	11E	5000	E	4	SW	222	855	850	Al	Fg	1	18 mi.	10	No	P	14	7	
	L21E	6000	E	4	SW	247	975	800	Al	Fg	1	18 mi.	10	No	P	14	7	
E-Z Go/Textron Augusta, GA 800/241-5855	X440	3090	E	3	SW	210	—	550	St	St	1	—	—	Yes	P	4	4	
	X444	3220	E	4	SW	246	—	550	St	St	1	—	—	Yes	P	4	4	
	GX440	3220	G	3	SW	210	—	550	St	St	1	★ ³	—	Yes	P	4	4	
	GX444	3260	G	4	SW	246	—	550	St	St	1	★ ³	—	Yes	P	4	4	
Harley-Davidson Milwaukee, WI 414/342-4680	MGIII	3125	E	3	SW T	108 128	532 ¹	750	St	Fg	—	1.5 hrs.	8	Yes	—	10	10	
	MGIV	3310	E	4	T	122	569 ¹	750	St	Fg	—	1.5 hrs.	8	Yes	—	11	10	
	WGIII	2960	G	3	SW T	108 128	598 ²	750	St	Fg	—	25mpg	6	Yes	—	12	12	8.5
	WGIV	3125	G	4	SW	122	716 ²	750	St	Fg	—	25mpg	6	Yes	—	12	12	8.5
Melex, USA Raleigh, NC 919/828-7645	112	2950	E	3	SW	99	670 ¹	—	St	St	1	—	—	No	P	12	12	
	212	3060	E	4	SW	111	715 ¹	—	St	St	1	—	—	No	P	12	12	
Taylor-Dunn Mfg. Anaheim, CA 714/956-4040	Teebird	3540	E	4	SW	124	1132	1050	St	St	1	8 hr.	7	Yes	P	11	11	
Yamaha Motor Corp., USA Cypress, CA 714/761-7300	E3	—	E	4	SW	114	595 ¹	—	St	Ur	1	—	10	Yes	D	12	12	
	A3	—	G	4	SW	114	684 ¹	—	St	Ur	1	—	10	Yes	D	12	12	
TURF VEHICLES																		
Blasius Electric Truck Anaheim, CA 714/828-7155	164	4950	G	4	SW	—	1240	3000	St	St	1	—	—	No	—	13	10	4



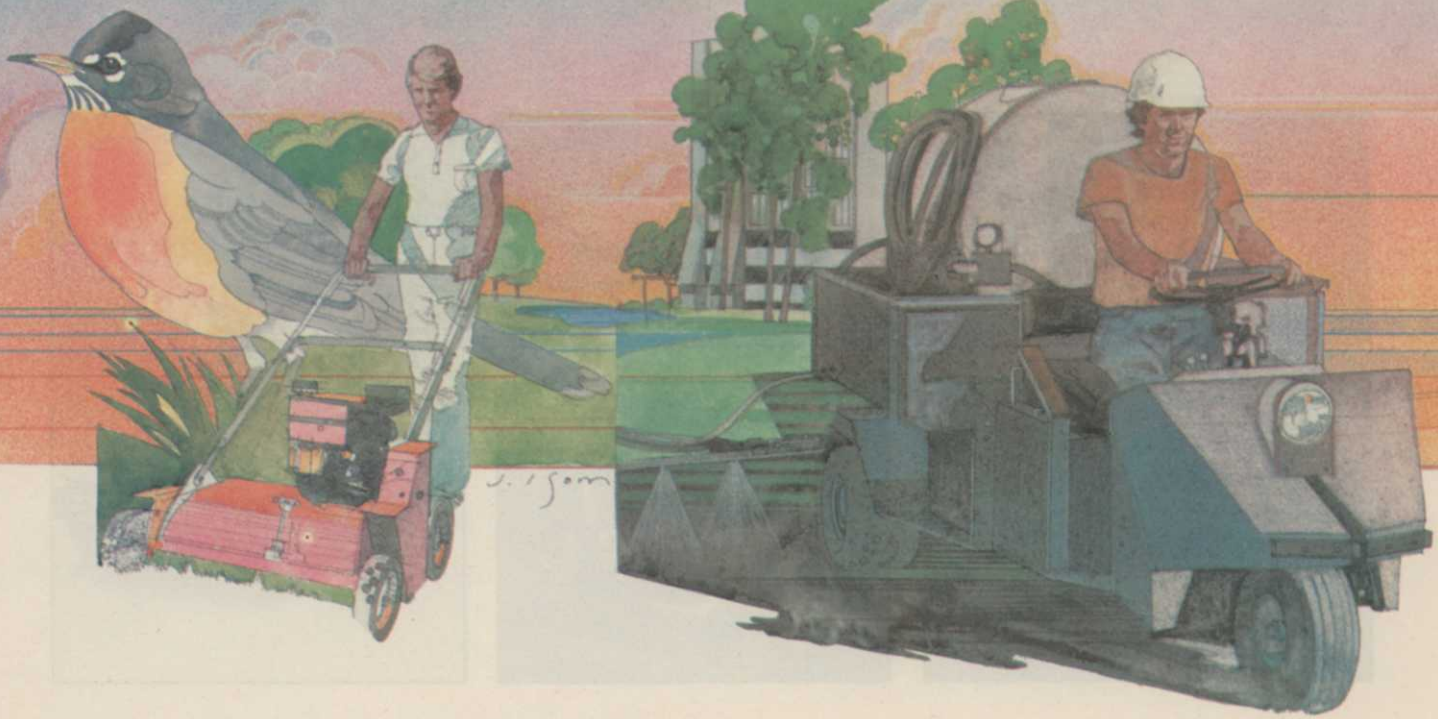
Model	Price	Fuel Mode	Wheels	Steering	Turning Radius (in.)	Weight (lb.)	Load Capacity (lb.)	Frame Mat.	Body Mat.	Warranty (yr.)	Mileage	Lifespan (Yr.)	Service Contract	Maintained by	Forward sp.	Reverse sp.	Fuel cap.	
Cushman/	532	—	G	4	SW	120	1110	1500	St	St	90day	30mpg	8	No	P/D	23	4	7
OMC Lincoln	530	—	G	3	SW	78	975	1500	St	St	90day	30mpg	8	No	P/D	23	4	6
Lincoln, NB 404/475-9581	531	—	G	3	HB	90	990	1000	St	St	90day	30mpg	8	No	P/D	18	4	6
	549	—	G	3	HB	45	535	250	St	St	90day	30mpg	8	No	P/D	14	—	1¼
Hahn Inc.	Spray Pro	4975	G	4	SW	—	1160	1500	St	St	90day	—	10	No	F	11	—	5
Evansville, IL 812/428-2024																		
Heckendorn Mfg.	73901	—	G	3	SW	—	570	—	St	—	1	—	10	No	P	8	2	1½
Cedar Point, KS	75902	—	G	4	SW	—	862	—	St	—	1	—	10	No	P	8	2	3
	76901	—	G	4	SW	—	1300	—	St	—	1	—	10	No	P	8	2	10
	77902	—	G	5	SW	—	1010	—	St	—	1	—	10	No	P	8	2	3
	78901	—	G	5	SW	—	1500	—	St	—	1	—	10	No	P	8	2	10
E-Z Go/Textron	GT-7	4500	G	3	SW	264	1400	1500	St	St	90day	—	5-7	Yes	P	—	—	8.5
Augusta, GA 800/241-5855																		
Jacobsen/Textron	UV-4	7500	G	4	SW	—	1460	1500	St	St	1	9.3mpg	5	No	P	—	—	5.3
Racine, WI 414/637-6711																		
Rivlex Ind.	Daihatsu	4800	G	4	SW	150	1180	1300	St	St	1	40mpg	—	No	P	12	12	8.6
Smithco	Little Red	2000	G	3	HB	—	650	500	St	St	1	—	8	No	P	—	—	.9
Wayne, PA 215/688-4009	Red Rider	2500	G	3	HB	—	750	1000	St	St	1	—	8	No	P	—	—	.9
Taylor-Dunn Mfg.	Model 5	4065	E	4	SW	132	1428	6000	St	St	—	8hrs.	7	—	P	12	12	—
Anaheim, CA 714/956-4040																		

abbreviations:

SW—steering wheel HB—handlebar T—tiller Al—aluminum St—steel Fg—fiberglass Ur—urethane P—purchaser D—dealer F—field service rep

Notes:

1. weight without batteries 2. weight without gasoline 3. 18 holes/quart



Any turfgrass seed works

**RUGBY
KENTUCKY
BLUEGRASS
IS DESIGNED TO
WORK IN THE
REAL WORLD.**



well with constant attention.

RUGBY KENTUCKY BLUEGRASS. IT DOESN'T NEED CODDLING TO LOOK GREAT.

As a turf professional, you know all the tricks to making grass look terrific. You lavish water and fertilizer on it, overseed, apply herbicides, and take great care in mowing.

But times are changing. Increasingly you're finding yourself pinched by escalating costs for materials and labor. And there's a growing movement among environmentalists to lessen dependence on fertilizers.

Rugby Kentucky Bluegrass answers these problems.

YEARS OF TESTING.

Rugby is a new Kentucky bluegrass. But it's not unproven. Before it was ready to be introduced to you, years of extensive testing were performed under a broad range of climatic and soil conditions. Test sites were located not only in the United States, but Canada as well.

The results? Our testing has shown Rugby to be unique. It's a truly *different* variety from anything else on the market, with superior performance.

How is it superior? Read on.

A TRUE LOW-MAINTENANCE TURF.

The most singular advantage of Rugby is its ability to provide high-quality dark green turf when maintained at *low* nitrogen fertility and restricted moisture levels.

Most improved Kentucky bluegrass varieties are *not* low-fertility types. You may be told they performed well in turf trials. Unfortunately, you're *not* told that those trials are often conducted using *optimum* nitrogen levels. So it's no wonder you have to fertilize the heck out of these varieties to get good results.

Not so with Rugby. *You can actually get better results with Rugby than with other Kentucky bluegrass varieties while using less nitrogen fertilizer.*

And you'll also save on the *labor* it would take to apply that extra fertilizer and to do the extra mowing.

A HIGH-QUALITY TURF.

But no matter how much we tell you about the low-maintenance aspects of Rugby, ultimately you look for — and demand — *superior turf*. Your professional standards wouldn't settle for anything less. And we wouldn't want it any other way.

Rugby has a rapid spring green-up rate and excellent fall color. And it

also displays *sustained growth during the mid-summer heat stress period*, even under low nitrogen fertility and restricted moisture.

Moreover, Rugby possesses a high level of resistance to most of the common and current turfgrass diseases. This is another factor which may well result in significant savings in turf management costs.

THE ENVIRONMENTALIST'S GRASS.

Using less water and fertilizer means potential dollar savings for you, of course. But you can also take satisfaction in the fact you'll be using *fewer natural resources*.

By now you're well aware of the increasing social consciousness among the population in this regard. And by making available a Kentucky bluegrass that fits the world of the '80's, we believe we're fulfilling an important need.

For more information on Rugby, write Rugby Kentucky Bluegrass, P.O. Box 923, Minneapolis, MN 55440.

Rugby
KENTUCKY BLUEGRASS
For low-maintenance turf.

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Two major sizes of turf vehicles are marketed today. The vehicle should only be used within its capabilities and maintained according to use and conditions.

TURF VEHICLE MAINTENANCE INCLUDES KNOWING LIMITATIONS

by EDGAR COMBEST

One of the more popular units of equipment found in daily use in landscape maintenance procedures is the utility vehicle. These compact but efficient "work horses" are depended on for a variety of jobs. It would be difficult to imagine a golf course, cemetery or institutional grounds without one or more of these truckster-type vehicles.

There are two major sizes marketed today. A smaller version, represented by the Toro Workmaster and the Red Ryder, has an engine capacity of 14 horsepower or less. Although their weight and box capacities are designed to handle accessories for heavier work loads, they are mainly utilized by supervisory personnel and for jobs requiring lighter loads.

Cushman Truckster and E-Z-GO

GT7 are models of the larger type and have a greater horsepower (18 HP) than their smaller counterparts. These vehicles have more optional accessories than a new Mercedes. Included in this list is a hydraulic dump box or flat bed, aerator, spiker, seeder/spreader, topdressing machine and a 100 gallon spray tank assembly. Maintenance tasks requiring many separate power sources can now be accomplished with one of these vehicles and the proper selection of accompanying attachments.

Because of this increased versatility, these units are in constant use throughout each working day and require a regimented preventive maintenance schedule if they are expected to work properly and to last through an estimated period of life expectancy without expensive repairs.

reflected in the manufacturer's manuals for these vehicles is shown in Table 1.

These are guidelines for units that are used under normal operating conditions. It is important not to overlook obvious adjustments to this schedule when the operating environment is more or less severe, such as extremely dusty conditions or long operating hours during the above time periods. Under dirty conditions the frequency of the maintenance schedule should be increased. The opposite approach should be taken if use is below normal for those time periods.

Problem areas

Problems encountered with utility vehicles are generally caused by the operator exceeding the limits of their designed capabilities. Even with the larger types, that can handle loads over 1500 pounds, overloading often occurs. This is evidenced by frequent breakdown and subsequent replacement of front wheel bearings and rear axle

Edgar Combest is an Instructor at the School of Golf Course Operations, Lake City Community College, Lake City, Florida.

Schedule One

A general pattern for preventive maintenance procedures that is

continues on page 50

"Mitsubishi tractors—the tough team that's never sidelined."

Bum Phillips, Head Coach, New Orleans Saints



In my business, I demand pro performance, the first time and everytime. That's why I want to tell you about the Mitsubishi line of two and four-wheel, mid-size tractors. Tractors built tough, to tackle all your landscaping and turf maintenance jobs, reliably and economically year after year.

Whether it's the compact Beaver, the economical Bison Diesel or the 38 hp, rugged Stallion, all Mitsubishi tractors can handle the implements you need for mowing, load-

ing, grading, snow removal and lots more. And Mitsubishi's multi-cylinder, water-cooled, diesel engines keep fuel consumption low and performance consistently high.

Designed with you, the grounds maintenance professional in mind, Mitsubishi tractors have tough-job features like a differential lock for greater traction, live hydraulics for really accu-

rate implement control and multi-speed PTO for equipment flexibility.

So, as one pro to another, if quality performance is the name of your game, check out the winning team of mid-size tractors built by the pros—Mitsubishi.



Bison Diesel
30 hp

 **MITSUBISHI**
Built by the PROS

TABLE I

DAILY	check battery fluid level check tire pressure check oil level
WEEKLY (50 hrs. of operation)	clean engine change crankcase oil service air cleaner
MONTHLY (100 hrs. of operation)	lubricate clutch and throttle linkage check transmission(s) and differential oil levels tighten all loose screws and nuts adjust brakes and clutch tune engine check master cylinder fluid level lubricate power take-off shaft lubricate drive shaft
EVERY 2 MONTHS (200 hrs of operation.)	replace oil filter lubricate starter drive
ANNUALLY	change transmission(s) oil change differential grease replace fork pivot, wheel and axle bearings lubricate steering gear

bearings.

A common complaint of grounds managers in regard to the utility units is engine overheating during normal use. In a majority of these cases, the overheating is caused by the engine not being timed properly (also timing of fuel pump in OMC engine) and not the stress of the workload. Improper or no cleaning at all of the engine, including cooling fins and incorrect SAE and type of oil along with a poor grade of fuel also creates conditions for overheating to occur. OMC and Onan engines should be periodically tuned to guarantee optimum performance and fuel efficiency.

An inventory of a few key parts for any unit of equipment is always a good idea. For utility vehicles it is suggested that a supply of seals, wheel bearings, tires, spark plugs, points, condensers and brake lines be kept on hand. If a reputable distributor is located nearby and has an adequate inventory of vehicle parts, then a personal supply need not be extensive.

Maintenance and repair of these units can easily be accomplished

with the normal complement of mechanical tools including torque wrench, tachometer, dial indicator and a set of micrometers. However, some special tools marketed by the individual manufacturers can simplify some complicated procedures. An example is the OMC special seal drive tools, that when used as recommended, will set the seals at the specified depth.

The manufacturers sponsor factory training schools and distributors sponsor local area workshops to train individuals on specific problem areas of their equipment.

Distributor relationship

When contacting the parts department of the utility vehicle distributor concerning a problem or part replacement, always give them the proper part name and number. A little time and thought to check the microfiche cards or parts manual will save a lot of time and frustration for you and the parts person in obtaining satisfaction and the proper part. This approach will inform the parts department personnel of exactly what you want and not leave him guessing or allow

him to give you what he thinks is the right part.

Problems that require consultation with the service department can be communicated better if an honest, straight forward approach is used. State, as simply as possible, what is happening. Do not adopt a defensive posture and curse the particular manufacturer or unit involved. Keep in mind that most problems are created by improper use and lack of adequate servicing, not by the product manufacturer. However, when problems arise that are directly related to the manufacturing process, manufacturers appreciate whatever feedback the operators or managers in the field can give them. The normal flow of feedback information should be from the user to the distributor's service department and from there to the manufacturer.

Distributors and manufacturers spend considerable effort and money for the purpose of educating customers in the proper handling and servicing of their particular products. Adherence to these established guidelines will prevent a lot of common problems observed in the field today.

Training personnel

A very common cause of equipment failure, and sometimes just plain destruction, is the operator's inability to adequately utilize the equipment. Down time and costly repairs can be traced directly to poor training of employees by the manager on proper use and care of the equipment.

Turf managers, as part of their responsibilities, should develop a detailed job procedure for use of equipment in each major function of their operation. Time should be taken with each new employee to explain the cost, limitations and proper conduct when working the mechanical unit.

The "Four-step Program" on how to instruct, as described in *Personnel Selection and Recruitment*, published by the Administrative Management Society is a proven guide to follow when developing a job procedure.

The "Four-step Program" ends with this conclusive message to supervisors: "If they haven't learned,

continues on page 52