



## THE TERRA-TIRE

*Rigorous tests on all types of terrain under many different soil conditions give it a decided advantage over the conventional tire*

By **EDWARD EICKMANN**

General Manager, Aviation Products div.,  
Goodyear Tire & Rubber Co.

The Terra-Tire is the result of almost 10 years of development work. The Aviation Products div. of Goodyear has combined the high sidewall deflection principle of airplane tires with the ideas of extreme flexibility, large air volume at low pressure, and large ground contact area. The result is an axle loaded, axle driven tire that can operate at air inflation pressure as low as one lb. per sq. in.

Mobility on the course, without the tires rutting the soil, appears economically sound since it helps maintain the fairways and avoids well used paths.

Chart A (please turn page) shows how much greater is the volume of air in the Terra-Tire. The average golf car, loaded,

*This article is condensed from a speech made by Eickmann at the GCSA convention.*

will carry 300 to 400 lbs. per tire. It is easy to see that 300 lbs. on the 50 sq. ins. that touch the ground mean only 6 lbs. on each sq. in. as compared to the small ground contact area of the conventional tire. It is simple arithmetic to divide 300 lbs. by the sq. ins. and determine the increased weight on each sq. in. of grass that the higher pressure conventional tire puts down. Everyone has experienced a soft tire on his automobile and experienced high steering forces and high rolling resistance. It would be very logical to expect from this experience that the soft Terra-Tire would do the same, and you'd be correct, if you operated the Terra-Tire on concrete pavement.

### Off-Road Tire

Since the Terra-Tire is basically an "off-the-road" tire, let's look at it from a turf standpoint. Chart B shows the penetration of the 600-6 tire as compared to the Terra-Tire, both being properly inflated. It can now be seen that even the very small penetration of the conventional tire on firm sod means it is running up hill by



(Top) The Terra-Tire successfully withstands the broken glass test. (Center) Nelson Monical, supt. of Portage CC, Akron, O., has installed the tires on a flatbed trailer he uses for hauling equipment and materials. (Below) This isn't recommended, but Goodyear people say car equipped with Terra-Tires can be parked on greens and collars without doing any damage to the turf.

the amount of this penetration. The wide area of the Terra-Tire keeps it entirely on top. Rolling resistance is now in favor of the Terra-Tire. The softer the ground the more favorable is the Terra-Tire advantage.

Our development work never ends. Our most recent test program was undertaken to secure factual golf car tire data. On the two golf cars provided by Bill Freund of Victor Electric-Car div., this test was

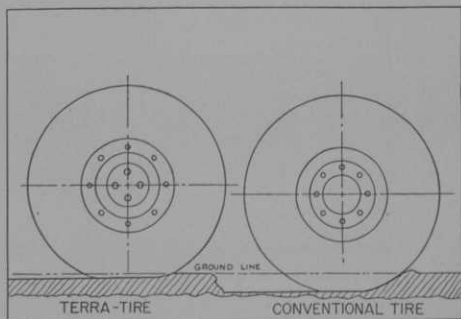


Chart A

started last Sept. and continued into Nov. One was equipped with Terra-Tires; the other with conventional tires. We were unable to test in all the conditions that might be encountered in North America

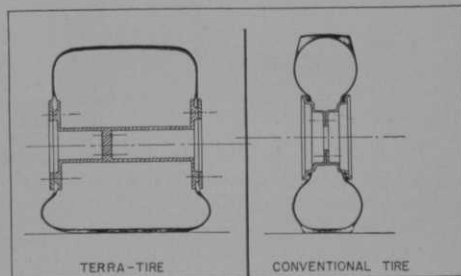
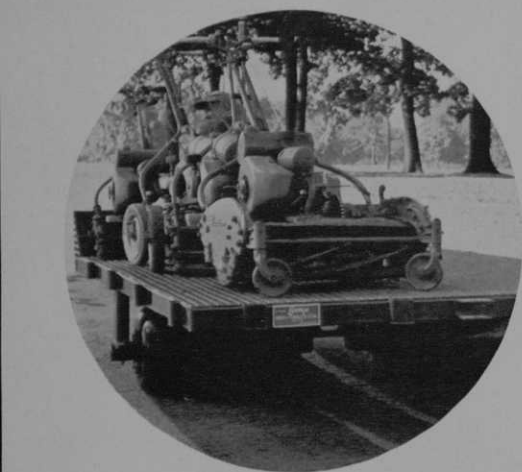


Chart B

but we were able to test in a sufficient number of representative soils to adequately cover the soil and turf conditions of average courses. We documented the tests with motion picture film. (Portions  
(Continued on page 154)



P  
R  
O  
-  
G  
R  
I  
P



"Greatest  
of  
Them All"

is prepared especially for the leather grips of Golf Clubs. It gives a firm, tacky grip with light hand pressure, permitting an easy relaxing rhythmic swing. Your Accuracy will improve, you'll feel relaxed — and those "Extra Strokes" will vanish.

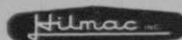
**Manufacturers' Specialty Co. Inc.**

2736 Sidney Street • St. Louis 4, Missouri

At last a truly new golfing product! The Hilmac Club Cleaner enables you to clean a set of clubs in minutes, simply and safely. The bench model reduces time of pro-shop club washing service by one-half. Coin model earns you money and provides useful service to your customers.



Write today for color literature on the economical, dependable Hilmac Club Cleaner.



Robert H. Storts, HILMAC CORP.  
10326 W. Woodward, Milwaukee, Wis.

and through more generous use of rubber mountings.

Westmont was backed up in the latter assertion by Herb Christiansen of the River Forest CC golf car committee who asserted that noise made by gas cars at his club haven't caused undue distraction to golfers. River Forest has been using the cars since 1959. About an hour a month has been the average maintenance time spent on each vehicle, Christiansen said. One car there has gone more than 300 rounds without any major overhaul being made and a new car, purchased last year, travelled more than 100 rounds on only routine checkups.

### The Terra-Tire

(Continued from page 64)

of film were shown at this point — Ed.)

In late Oct., after a very dry summer, the ground was very hard; both cars climbed a 35 per cent slope with about equal ease. Both cars found little trouble running this slope as a side slope so far as slide slip was concerned. The course was hilly and although the fairways were hard, we obtained a 30 per cent power savings on the Terra-Tire car as compared to the car on regular tires. Had the turf been normally soft, the Terra-Tire car would have shown even greater power savings.

Nelson Monical of the Portage CC, Akron, O., had a utility trailer made using our tires. The trailer (*as you see*) is pulled with ease behind an electric car also on Terra-Tires. Notice there are no tracks left by either vehicle. One area was used for repeated passes to determine turf damage. Fifty passes a day for 10 days made a total of 500 passes with each car. The area was then allowed to recover for five weeks. The damage caused by the 600-6 tires is still visible.

## HORACE W. SMITH

Golf Course Architect

## G. RUSSELL KERNS

Consultant Service Available

25 Years Experience

Renovation of Golf Courses

## QUALITY CONSTRUCTION

Box 74

Worcester, Pa.

PH-June 4-6101

Box 53

• Orchard Park, N.Y.

PH-Idlewood 4182

13 Miles N. W. of Philadelphia

### Test on Soaked Areas

This area was thoroughly soaked, such as by a two or three day rain. The car with 600-6 tires got stuck and the car with Terra-Tires went in and retrieved it. We took power readings in this area when it was only slightly wet and found the car with conventional tires required 66 amps. The Terra-Tire car required only 30 amps to traverse this soft condition.

Test results in a soft sand area were similar to the rain soaked area in that the conventional tires were bogged down and the Terra-Tires had no trouble. It shows that where sandy fairways or just sand traps are encountered, the Terra-Tire doesn't cause delay or damage.

These tests have proved that the Terra-Tire car used less than 50 per cent of the battery drain in some conditions. We took both cars to a regulation length, very hilly private golf course with watered fairways for an 18-hole test. Drivers changed cars at the end of nine. Hydrometer readings were taken before and after the 18-hole run. Total hydrometer drop for six batteries of the car with regular tires was 526 points while the drop in the Terra-Tire vehicle was 233 points.

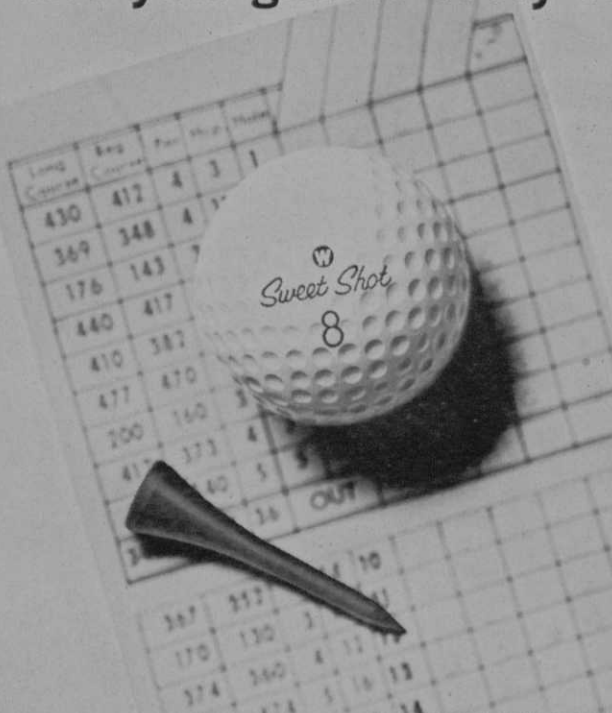


Esler Walker, Jr., son of the supt. at Longue Vue Club, Verona, Pa., tests the Worthington Model F tractor, with 7-gang wing lift, at the GCSA show in Toronto.

### "Tumble King" Recommended for Golf Centers

MacLevy Sports Equipment Co., 189 Lexington ave., New York City, has recently introduced the "Tumble King," said to be the safest and most effective rebound tumbler on the market. The all-weather unit is being used at at least 200 locations and has become very popular at golf centers. MacLevy has a complete package plan for the installation of the Tumble King at what it calls jump centers. The firm furnishes uniform engineering plans, advice on selection site, financing information, etc.

# Give your golfers every scoring advantage..



## RECOMMEND SWEET SHOTS

You want to help your golfers lower their scores. We concentrate on helping you do — by specializing (for 57 years) in building better golf balls. Nothing else.

Without resorting to wild claims, trick names or costly testimonials, we'll simply make you this promise about today's new Sweet Shot: *no championship golf ball has been built yet that gives you more distance, truer flight and roll, and more durability.* (Sweet Shot's new cover with polyurethane finish is virtually indestructible, always stays sparkling white.)

Give your golfers every scoring advantage. Recommend Sweet Shots. Sold exclusively through Golf Professionals.

# Worthington

GOLF INC. ELYRIA, OHIO