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Here's why the versatile "Jeep" will be a paying investment on any golf course—why you need it on yours!

With its 4-wheel drive, it serves as an easy-on-turf tractor, with speeds of 2 to 30 mph, pulling mowers, fertilizer spreaders, seeders—even discs and drags.

In 2-wheel drive, the "Jeep" serves as an economical pick-up truck (carrying 800 lb. loads) and as a runabout... able to travel crosscountry as well as on roads.

With power take-off, you can use it as a mobile power unit to run power

sprays, compost machines and other equipment.

Ask your Willys-Overland dealer to demonstrate the Universal "Jeep" on your own course. Willys-Overland Motors, Inc., Toledo 1, Ohio.

The Universal 'Jeep'



The "Jeep" pulls and powers a sprayer for trees and shrubbery—one of many uses for the vehicle you use the year 'round.



With 4-wheel drive, the "Jeep" goes where conventional vehicles cannot—through mud and snow, up steep course grades.

Reviews Quarter Century of Course Architecture

By A. H. TULL

LOOKING back over the past 25 years, I cannot see that the fundamentals of golf course design have changed at all. The same principles of design used by Crump and Colt to such good effect at Pine Valley prevail today, and although a few freakish ideas have been brought forth from time to time they have never achieved recognition. The hole that demands an accurate long drive to win the reward of a possible try for a birdie, the hole that offers 2 or 3 different routes to the green over varying degrees of hazard, the short hole that requires an accurate pitch to a particular plateau on the putting surface, are all illustrative of principles that have been used since golf courses were first designed, and the ability to adapt them to the particular terrain available has always been the hallmark of good golf course architecture.

Most courses rated championship in calibre 25 years ago are still tops, and contrary to the fears sometimes expressed, few of them are too short today. The low scores made in tournaments during the last few years are not due as much to increased length of the ball in play, as they are to the decreased hazard in being off line in modern rough.

There has been, however, a considerable change in the *details* of golf course design in the past 25 years. These changes have been brought about largely by high maintenance-labor costs, the increased amount of play on popular courses, and last, but not least, a decided swing away from "golf for golf's sake" to golf for recreation and fun. There is no doubt that the large increase in the number of players during the last 2 decades has reduced the proportion of old time golfers who observed all the rules, and enjoyed a good fight against old man par, even tho they didn't expect to come within 20 strokes of beating him. Perhaps it is because of this fact that green committee chairmen are besieged with requests to keep the rough mowed short and the putting greens soft and easy to pitch to.

Much as one may decry the current practice of close rough mowing, and its effect on the accuracy of the next generation of golfers, player demand is such that the effect of this loss of a normal hazard must be considered in designing courses today. It is player demand also,

aided and abetted by our friends the greenkeepers, that is responsible for the present vogue of fewer sand traps. The elimination of hazards that catch only the poor duffer's weak shots can do no harm to the quality of any golf course, and will make the duffer's game more enjoyable. Leaving out sand traps that serve only to decorate the course without serving their proper purpose as hazards will certainly reduce maintenance costs. But leaving out bunkering that is properly designed and placed to catch the good players poor shots will make a mockery of any course, and the game played over it.

Greens Trapping Tendencies

Around the putting green, there is a laudable tendency to place hazards farther out from the putting surface so as to catch wild approach shots, rather than closer in, where they trap shots slightly off line, without enough penalty imposed on the wild hitter who misses both greens and traps. A small green surrounded by fairway, beyond which is placed good trapping, lends variety to the course, cuts maintenance costs, and on long par 4 holes particularly, graduates the penalty in proportion to the accuracy of the player.

At one time we had a craze for "picture greens" surrounded by artistically designed sand traps in which islands, capes and isthmuses of turf, sometimes planted with tall sedge grasses and small evergreens, made a beautiful picture. But on many of these a putter was sufficient to play from sand to green, and the poor greenman charged with the mowing went dizzy cutting the banks by hand. On British seaside courses and on some of our courses such as Pine Valley and Montauk Downs, it is sufficient to remove the scant top-soil and Nature will of her own accord fashion such beautiful trapping. But, except in these sandy sections, the high cost of maintenance is putting it out of fashion.

Green Contours Change

At about the same time that every new course was described as "very sporty" we had a craze for undulating greens, on which a player couldn't putt 10 feet without allowing for the "borrow" and the greenkeeper could never find a place to which to move the hole cup. Greens of this type are almost impossible to mow or water except by hand, and the modern



Known as a "course of contrasts" because of the striking difference between its well clipped fairways and greens and its unwatered desertland rough, unique Manito Golf and Country Club in Spokane, Washington, has been a favorite of Western golfers for 25 years. Recent tournaments at Manito have included the P.G.A. in 1944, the Western in 1942, Pacific Northwest in 1941 and the Women's Washington State this year.

Worthington grass-cutting equipment helps keep the Manito course in tip-top playing trim—as it does famous golf courses all over the country.

If you have a grass cutting problem, there is a Worthington Mower to solve it for you. Write to us for details about the new Worthington "Chief" Tractor, the 7-gang Fairway Mower, the 5-gang "Rough-Grass Blitzer", and the Walk-behind Sickle Bar Mower.

WORTHINGTON MOWER COMPANY

STROUDSBURG, PENNSYLVANIA

Division of Jacobsen Manufacturing Company

Established 1914



demand for power mowing has about doomed them.

About 20 years ago there were many courses built with huge greens generally placed just over the brow of a hill and built up to make them visible. The unlucky player who overshoots the green on these courses frequently takes several shots to get to the putting surface, and is then facing an 80 foot putt. Many of these greens are now maintained with a border of fairway length turf on the green, all around the putting surface, wide enough to be mowed with a gang mower. It is not likely that such monstrosities will be built in the future.

Today's favored design does make the poor player's game easier and more enjoyable, it provides for faster play through the fairgreen, and it takes full advantage of modern power maintenance machinery. We must however, be careful to so design our courses that the better players have to strive for accuracy and use of judgment in their choice of direction, or we shall end up by breeding a race of golfers who can drive a mile and pitch over a barn and nothing else.

Tomorrow's Architectural Features

Looking forward, I think we can discern certain definite trends in future golf course design. I think we shall demand more acreage than we have sometimes been forced to content ourselves with, so as to obviate the necessity of too great artificiality which comes from cramping holes into too small an area, with consequent high up-keep cost. I think we shall reach a sensible compromise between the old fashioned hay field called "rough," and today's rough which more closely resembles fairway. I think we shall use larger tees designed for gang mowing. The banks of tees, greens and traps will be so contoured that they can be mowed with a gang mower, and the sand-perimeter in sand traps will more closely follow the arc of machine mowing.

More emphasis will be placed on rewarding the accurate player and penalizing the good players' poor shots, and above all, more importance will be given to designing enjoyable courses that can be maintained with a minimum of labor.

Golf Featured for Army Occupation Troops

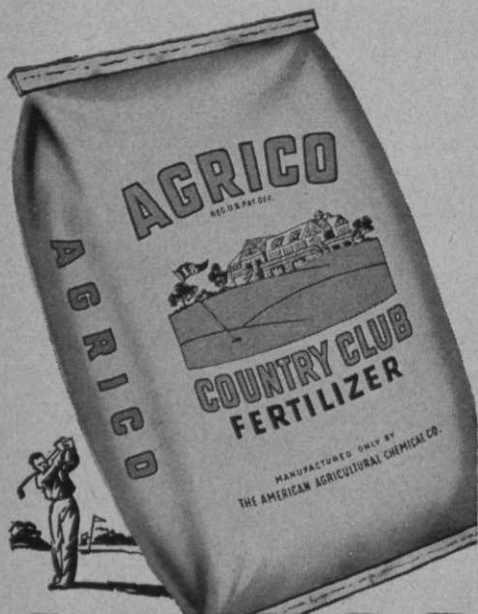
There is plenty of opportunity for golf under auspices of the U. S. Army's Theater Special Services.

Many fine courses, such as St. Cloud in Paris, where the European Theater Championship tournaments were held in 1945-46, are available to soldier-golfers. St. Cloud is one of the most exclusive in France and is open to American military personnel on weekdays.

Germany, where most American soldiers are located in Europe, has many excellent courses available to military personnel. They are spotted all over the occupied zone and there is plenty of golfing equipment furnished by Special Services for the benefit of American soldiers who wish to participate. Courses in Frankfurt, Garmisch, Bremen, Bad Nauheim, Starnberg, Berlin, Wiesbaden, Bad Kissingen, Bad Wildungen, Berchtesgaden, Kitzingen, Karlsruhe, and Regensburg contribute materially to the morale of the soldier-golfer. Many of these German courses are situated in luxurious surroundings and all have qualified teaching personnel who instruct beginners as well as cure the faults of chronic "duffers."

Competition is keen and there is plenty of it. Matches have been arranged with golfers from other nations and our inter-theater competitions have presented high caliber golfers.

"Germany is a golfers paradise," says Special Services. "Many good courses, excellent instructors, plenty of equipment, and an abundance of a tough competition. And it's all free of charge to the occupation soldier."



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AMERICA'S NO. ONE GOLF-COURSE FERTILIZER

Order Agrico now—ask your regular source of supply, phone nearest A.A.C. Sales Office, or write to The American Agricultural Chemical Co., 50 Church Street, New York 7, N. Y.

Far better

than any other driving tee mats!

That's the report of those using the new

MELFLEX

HEAVY DUTY AIRPLANE TIRE DRIVING TEE MATS

Mr. L. E. Warford
Melflex Products Company
415 Wheeler Lane
Akron 8, Ohio

Dear Mr. Warford:

In reply to your letter of August 8th, I waited before answering it to give the players a chance to test these mats on my practice fairway.

Your new Melflex mats are far better in material and construction than any mats I have been able to purchase since such mats have been on the market for this purpose.

The angle iron side strips make the mats lay flat and take all the beating that a heavy load of players can give each of them in a day's play here, without warping.

I will be glad to hear from you as to your specifications and prices on standing mats as I plan to use some of them next year.

Sincerely yours

(Signed) Art Hibbard

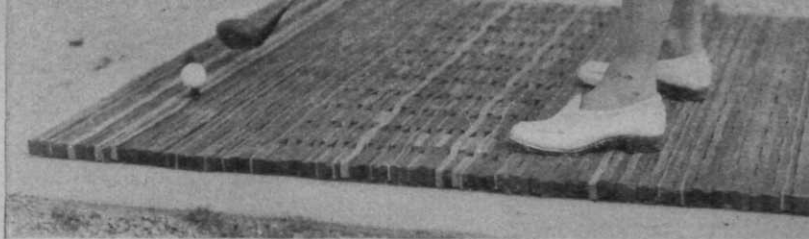
View showing tees equipped with Melflex Tee Mats, at Art Hibbard's Practice Fairway, Chicago . . . one of the finest practice ranges in the middle west.

Check These Features

Highest grade wear-and-shock resisting materials ever used in driving mats; weather proof—stays flat—does not warp or fray; non-slipping—wet and dry; self cleaning—reversible to provide four different driving areas—affords easy teeing of balls

FULL 1 INCH THICK
48 IN. WIDE x 60 IN. DEEP

MELFLEX COMPLETE LINE FOR GOLF INCLUDES: LINK MATS—MOLDED SAFETY STEP TREADS—MATS and RUNNERS for entrances, halls, locker-rooms, etc.—SAFETY STANDING MATS—SCRAPER-TYPE MATS, high-ribbed for entrances—CUSPIDOR MATS.



We set ourselves to making the best driving tee mats ever produced . . . tougher and longer lasting than the best of the prewar tee mats . . . with firmer footing to give the players more confidence.

How well we have succeeded is told in this typical letter from Art Hibbard, one of the many progressive practice fairway owners who have put the new Melflex Tee Mats to the test.

We knew they would stand the gaff of constant, hard play, because they are made from the tire carcasses of heavy bombers, the most durable material of its kind. We knew they would give maximum safety because under-foot safety is our specialized business, as hundreds of golf club customers will testify. We knew the design and construction were right because leading range operators checked and re-checked the specifications.



Production is proceeding as fast as special necessary materials will permit. If you want the finest driving range mats ever made, plan your requirements now and write for literature and prices without delay.

Order direct from Melflex headquarters for savings and service.



Jimmy Burns Suggests Five Trick Events

Jimmy Burns, sports editor, Miami (Fla.) Herald, tipped off John Mooney, Salt Lake City (Utah) Telegram sports editor, to some trick golf events that John noted in his column and which we now pass along.

Jimmy's suggestions:

1. Four consecutive clubs tournament. You have only four clubs and must use them in sequence. The luck of the draw starts you out with one club and you go in rotation the rest of the way, which often sees a golfer "driving" with a putter and "putting" with a wood.

2. Throw out tournament. After the round you are allowed to discard your scores on three of the holes, substituting par figures in their place. This means you can, on three holes, toss out those 8s, 10s and 9s and substitute par figures.

3. Blind partners. Everyone plays, and after the scores are in, partners are drawn, all of which means you may be shellacking the bejabbers out of par, only to draw a partner who is having a bad case of the whips and jingles from tee to green.

4. String tournament. Each golfer starts out with a 40-inch piece of string. If you are eight inches short with a putt, you can snip off the distance from the ball to the cup off your string and not count another stroke for dropping the putt. This can keep up as long as you have string remaining.

5. Most tournament. The committee decides, in secret, that the golfer having the most, say sixes, wins.

GOLFDOM'S

Annual

PLANNING ISSUE

The next issue of GOLFDOM, the final issue of 1946, will present the latest in equipment and supplies for your guidance in planning your operating and maintenance requirements for the big year ahead.

WEEDLESS FAIRWAYS

This Labor-Saving Way!

WEEDANOL

2:4D Turf Weed Killer
LEAVES GRASS HEALTHY

Available to you in two highly effective forms (WEEDANOL M1 and WEEDANOL 40% CONCENTRATE) WEEDANOL eradicates weeds on GREATER acreage at LESS cost! Easily prepared and sprayed, WEEDANOL is your means to beautiful, weed-free fairways! Ask your supplier for WEEDANOL, or write us for facts.

NOTE: Late summer or fall applications of WEEDANOL produce weed-free fairways for early spring play.



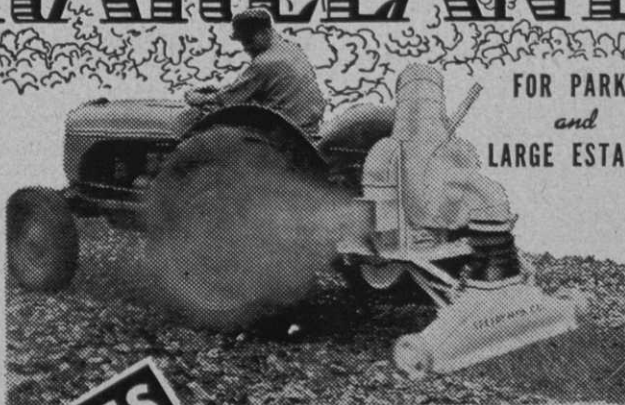
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Speedy POWER-VAC RAKELAND

FOR PARKS
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**SAVES
TIME
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**PROTECTS
SOD. Enriches SOIL**

- IT RAKES • IT VACUUMS
- IT PULVERIZES THE LEAVES
- IT FERTILIZES THE GROUND

All In One Operation

ROTATING RAKE TINES, GENTLY LOOSEN THE LEAVES FROM THE EARTH.

A POWERFUL VACUUM SUCKS THE LEAVES INTO A HAMMERMILL WHERE THEY ARE CRUMBLING INTO TINY BITS.

THIS PULVERIZED LEAF POWDER IS SPRAYED BACK ONTO THE TURF, WHERE IT SETTLES AROUND THE GRASS ROOTS FORMING A PROTECTION FOR THE SOD AND A PERFECT FERTILIZER FOR THE SOIL.

MANUFACTURED BY
SPEEDY MANUFACTURING COMPANY
710 SOUTH FIFTH AVE.—SIOUX FALLS, SO. DAKOTA

Southwest Turf Program is Set up by Grau-Noer Trip

TEXAS and Oklahoma turf enthusiasts staged an excellent series of turf clinics from August 5 to 17 for the purpose of getting a little closer to the principles of turf improvement. Planned and guided by Frank and Howard Goldthwaite of Texas and Bob Dunning of Oklahoma the program moved swiftly and surely. Principal figures in the educational and development programs were Fred V. Grau, Beltsville, Md., Director of the USGA Green Section, and O. J. Noer, Milwaukee, member of the Green Section Committee, assisted by Marvin Ferguson, a Texan, Fred's associate in the Bureau of Plant Industry at Beltsville.

Principal objectives of the trip were to:

- (1) Get acquainted
- (2) Study turf conditions
- (3) Build USGA membership
- (4) Expand USGA Green Section activities
- (5) Assist in developing strong state turf programs
- (6) Offer specific suggestions for the improvement of turf conditions.

The 10 meetings were attended by over 300 people who represented all phases of turf from putting greens to airfields. More than 40 golf courses were visited for the purpose of studying conditions and management so that suggestions for improvement could be offered. The sections covered, in turn, were: College Station, Houston, San Antonio, Kilgore, Dallas, Fort Worth, Texarkana, Odessa, El Paso,

Lubbock, Amarillo, Oklahoma City, and Tulsa. More than 100 golf clubs were represented at the meetings by superintendents, greenkeepers, golf professionals, managers, green-chairmen and by men from experimental stations, athletic fields, cemeteries, park departments and airfields. Thus were served the interests of the broad and important field of turf.

State Programs Started

The most significant development was the democratic selection, by each group in turn, of a leader in that group to serve on a state-wide Turf Advisory Committee. This committee will have the responsibility of developing the turf program in each state according to a roughly-outlined, suggested plan:

- (1) Plan and develop an annual winter Turf Improvement conference in conjunction with the Agricultural and Mechanical College at College Station, Texas, and at Stillwater, Oklahoma.
- (2) Plan and develop an educational program which will reach out to each and every person interested in turf improvement.
- (3) Plan and develop over a period of time a research program designed to meet first, urgent and immediate problems of turf, and second, a long-time turf improvement program through breeding and selection of grasses for special purposes, and through improvement management practices.

At Odessa C.C. August 12: This Club's tournament posters advise "Best Fairways and Worst Greens in West Texas." Actually fairways have no grass but greens are excellent Seaside, expertly fed and groomed by "Shorty" Hornbuckle. Fairway watering system has been installed and Buffalo grass will result. New Mexico also sent representatives to the Odessa meeting.





At Southern C.C., August 13: Scene of Women's Amateur, John Price, greenkeeper, and Wm. Wotherspoon, professional, have teamed up to produce nearly ideal turf for tournament play. Forks aerate the soil, permit introduction of granular material to induce deep rooting of bent grass.

Members of the Texas Turf Advisory Committee are:

Willie Maguire, Houston; Ben Strickland, Houston; Tod Menefee, San Antonio; Ralph W. Morgan, Tyler; Graham Ross, Dallas; Wells Howard, Fort Worth; H. T. Hornbuckle, Odessa; Jimmy Game-well, Hobbs, New Mex.; Jack Harden, El Paso; Morgan Hampton, Abilene.

Members of the Oklahoma Turf Advisory Committee are:

From Oklahoma City: Ben Owen, Art Jackson, Harold Butler, Bill Gober, O. T. Glidewell.

From Tulsa: Bob Erwine, T. R. McCaslin, Bob Dunning, Alex A. Repin, John Price.

This selection of local leaders by acclaim in each sectional group is the first important step in the development of a turf improvement program. The second step is the development of strong, active local groups representing all turf interests.

Problems Encountered

From the technical side, the most important problems encountered were:

PUTTING GREENS:

(1) **Soil conditions.** No other one problem in the Southwest is so acute as the physical condition of the soil. The immediate answer is the incorporation of larger quantities of coarse sand and fibr-

At Amarillo C. C., August 14: Seaside greens, developed by fall seeding into Bermuda, have flourished here for 17 years. Buffalo grass fairways develop naturally with watering and fertilizing. Ide P. Trotter, Director of Agricultural Extension in Texas, addressed this group and assured them of his interest in their plans.





At Oklahoma City C.C., August 15: 107° heat failed to stop these lovers of good turf from striving for even greater perfection. A pioneer in bent greens in the Southwest, Oklahoma is setting up a turf program to retain the lead position.

ous organic matter such as reed and sedge peat to improve drainage, aeration, and to minimize packing which results from 365 days of heavy play in a year.

(2) **Topdressing:** Observations indicated that a better grade of material should be prepared; that topdressing need not be applied so frequently as in the general practice; that midsummer application should be tapered off, that sterilization is needed to kill weed seeds.

(3) **Fertilization.** Present practices would give better results if soil conditions were improved but more generous use of balanced fertilizer is indicated, especially on Bermuda grass.

(4) **Brushing or raking.** Great improvement could be effected by timely vigorous brushing to remove excess mat on the surface on both bent and Bermuda.

(5) **Tree roots.** This is one of the most common problems around greens in this section.

FAIRWAYS:

(1) More adequate fertilization is needed on most fairway, lawn, park, airfield and similar types of turf. Weeds in Bermuda, Carpet and Buffalo grass turf generally result from lack of sufficient plant food in proper balance.

(2) **Watering.** Watered turf generally requires more plant food to produce satis-

factory turf. Crabgrass is the chief invader of watered turf which lacks adequate plant food.

(3) Arsenicals and 2,4-D both have a place in weed control programs but neither will have any lasting value where fertility levels are too low to build dense turf which will resist weed invasion.

The great need for a medium to effect an exchange of ideas on the principles and practices of turf improvement was evidenced on the entire trip. The problem of great distances in the Southwest is one which has limited more exchange of information. Jack Harden of El Paso traveled over 600 miles by car to attend the meeting at Odessa.

Talks given by Grau and Noer were on:
(1) The aims and objectives of the Green Section.

(2) The interest of the Green Section in turf problems of the Southwest.

(3) The need for greater financial support for the Green Section through USGA memberships and Green Section subscriptions to enable the work to go forward.

(4) The need for unselfish cooperation among all groups to solve the problems at hand.

(5) Technical considerations dealing with specific phases of turf management.

(6) Discussion on the need for and the