What Pros Should Know About Golf Club Specifications*

By JOE WOLFE

We, as golf club manufacturers, place a great reliance on the suggestions, ideas, and experience of the home or club pro. I do not intend to eulogize the merits of our golf clubs or any of our fellow manufacturers. I am merely going to try to convey to you your importance to us in the Wilson factory and the necessity of both of us exactly understanding what you want.

Among my duties at the factory is that of keeping our staff men "equipment happy." In keeping with this assignment, about a year ago the executives of our organization decided to send me out on the tournament trail. The purpose was twofold: first, I would be better able to recognize the club problems that the staff men encounter and cope with them, and second, I was to pick up any ideas for advancing club design.

The first was no problem. In pursuing the second, however, I soon found difficulties. The staff men recognized a good club and were able to handle one but their lack of familiarity with factory terminology made it a problem to decipher their wishes. As a rule, the tournament player is interested basically in his own personal club problems or gripes. Here once more, his lack of factory terminology made it difficult for us to understand his personal club problems. Naturally, there are exceptions to this rule. We rely tremendously on the advice of some of our staff men and their understanding of the game and its players.

To recite a few examples of the tournament player's idiosyncracies: Johnny Revolta has a large, ham-like hand, yet he uses a small, ladies' gauge grip on his clubs; Gene Sarazen has small, chubby hands, but uses large, oversize grips on his clubs. Dutch Harrison wants the blades on his irons set back, or extremely offset; Pete Cooper wants no offset at all. San Snead desires a thin top line on his blades; Claude Harmon requests a heavy top line on his personal set. These examples alone are proof enough that individualities are being expressed, rather than basic design features which we so anxiously seek for general application.

In our factory we have the personnel and ability to make any golf club to almost any specification. But where the pro might lack in understanding of factory terminology, and the factory lack understanding of the professional's terminology, we obtain one result — confusion.

A Vague Order

Let us take a typical order which was placed in the factory by a staff man, and could have been placed by any one of many pros. The order was: "One set special woods, 43 inches long, about D-6 swingweight, 13⅝ ounces in weight. The driver not too deep — a little extra loft. Bulger faces — not too much hook. Medium shafts — not too stiff, about 4½ ounces. A little upright. Grips should be a little big." Now let's review this: A set of woods 43 inches long weighing 13⅝ ounces would and could be made to finish approximately D-6 in swingweight, but now we get into that driver. He wants it "not too deep." "Not too deep" to Sam Snead would mean 1-9/16 inches in depth, and to the factory a deep face is 1¾ inches. The difference between these two figures is of course 3/16 of an inch. This may not mean much in building a house, but when you're talking in terms of depth of woods, that is a tremendous amount.

The staff member is so familiar with factory terminology that he understands the depth of a deep faced driver is 1¾ inches plus, and the standard depth is 1⅝ to 1-11/16 inches. Now, in ordering, with this knowledge at hand, it is a comparatively simple matter to order a set with the driver 1/16 inch shallower than standard, or ⅛ inch shallower than standard, or he can even use the exact figures, as: "driver to be 1⅝ inches deep" or "driver to be 1-9/16 inches deep." In conjunction with this information, this same staff man has learned that the standard depth of a brassie is 1-7/16 inches, the spoon is 1-5/16 inches, and the No. 4 spoon 1¼ inches.

This information could prove valuable to you in this respect: One of the basic functions of your job is to sell clubs that should and could improve the game or scoring of your member. Now it may be that yours is one of the courses that enjoys lush, soft fairways. Being aware of that, you would not want to order any wood clubs with the faces any shallower than the figures I just quoted. On the other hand, your fairways might be the sparse type and you might find that the

*(At Indiana PGA spring meeting)

depths mentioned are much too deep for your particular course condition. At this moment we are using those figures in our fairway woods, but you professionals are the ones who dictate our specifications — either knowingly or unknowingly. If the voice of the pro comes in to us strong, criticizing the depths of our wood clubs, we then, of course, heed the constructive criticism and alter the depths. I cite this incident to impress upon you that you, and not we in the factory, are the final judges on club specifications.

Precision in the Loft

Let's carry on with this order. He calls for "a little extra loft." "A little extra loft" to Jack Shields, for instance, is 2 degrees. To any one of you it might mean 1 degree or 3 degrees, or it might even mean standard loft. It would have been extremely simple if he had known that the loft on a standard depth driver is 10 degrees, brassie 13 degrees, spoon 16 degrees, and the No. 4 spoon 19 degrees. In this way, knowing that the difference of loft between each club is 3 degrees, he would know what he wanted specifically— 1 degree or 2 degrees more loft than standard. Or, he could quote actual factory terminology by asking for "a little extra loft — make the driver 11 degrees," (incidentally, 11 degrees is the loft most manufacturers use on their deep faced drivers), "14 degrees on the brassies, 17 degrees on the spoons, and 20 degrees on the No. 4 spoons."

As far as I know, there has been no scientific device developed that definitely proves that 10 degrees, 13 degrees, 16 degrees, and 19 degrees are the perfect playing lofts on wood clubs. If enough of you home teaching pros order clubs extra lofted, which would be 11 degrees, 14 degrees, 17 degrees, 20 degrees, or if most of you finally decided that wood clubs should be more under-lofted, meaning 9 degrees, 12 degrees, 15 degrees, 18 degrees — we manufacturers would then heed your advice and change our specifications.

Now, on with the order! He calls for bulger faces. All wood clubs are bulged somewhat, but let's get straight with the factory terminology.

We consider the lateral measurement on the face of a wood club the bulge, and the vertical measurement the roll. Face bulges and rolls are measured in terms of "radius." The bulge which the factory shoots at in most models is an 8½ inch radius. The roll on woods is the same. This pertains to the driver and brassie. On the No. 3 and No. 4 spoon, we shoot at a 9½ inch radius and roll. On some models our standard is 9½ inches on the driver and brassie, and 10½ inches on the No. 3 and No. 4 spoon. With this span we can cover practically all orders. As an example: Jim Ferrier and Cary Middlecoff use a 9½ inch bulge on their drivers, but Harmon and Mangrum insist on an 8½ inch bulge. Now, let's get ito this 8½ inch-9½ inch radius bulge and roll. If you were to take a pencil or crayon and draw a circle with an 8½ inch radius, the arc described by this 8½ inch radius would be equivalent to the bulge of a driver and brassie.

If you were to draw a circle with a 9½ inch radius, as shown in Fig. 1, then the arc described would coincide with the bulge on a No. 3 and No. 4 spoon. Let me repeat, this standard is not necessarily fixed permanently. Dutch Harrison believes that a 7½ inch bulge fits his game. (A 7½ inch radius circle would describe a smaller circle, and

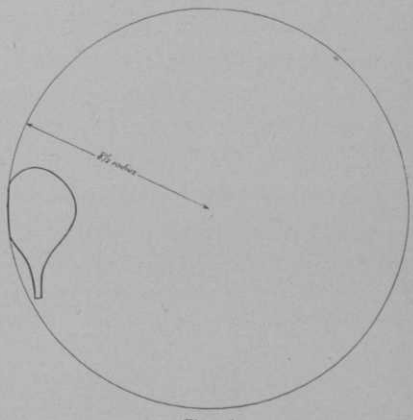

Fig. 1

naturally means more of a bulge.) Sam Snead leans toward a straighter face — closer to 10½ inches. If we were to find that the majority of you insisted or believed that a 9½ inch radius bulge was the most efficient and eye-appealing, we certainly would set that up as our standard.

Fitting the Shafts

Back to the order. He wanted "medium shafts" — not too stiff—about 4½ ounces. The True Temper shaft company has done a great job in helping the golf pro select his shafts. You are all no doubt familiar with their categories: "A" softer than standard, "T" standard, "S" stiff, "X" extra stiff.

Of course we, as most manufacturers, have some special categories for individual specifications. However, the point is this: When this staff member asked for a "4½ ounce staff — not too stiff" he really left us in the middle. As a general rule, the the stiffness of a shaft increases in proportion to the weight of the shaft, but we have many more factors to consider. It is altogether possible to have a ladies' shaft weighing 4½ ounces, and possible to have an "S" or stiff shaft weighing 4½ ounces. So you see, in ordering a

shaft by weight, the staff member was not really helping the factory to a marked degree.

In wood club steel shafts we have tip diameters and butt diameters to contend with. The tip is, of course, the narrow end that is inserted into the head, and the butt end is the gripped end. The shafts for ladies' woods have a .270 tip and a .560 butt diameter. The next step up in stiffness is their "A" shaft which has a .580 butt end and a .277 tip. The next grade is the standard or "T" shaft which also has a .277 tip diameter but the butt diameter increases to .600. We then swing into the stiff or "S" shaft which has a .294 diameter tip and a .620 butt.

Starting with the ladies' .270 tip and .560 butt, the ideal weight is 4⅛ ounces. As we move up into the "A", "T", and "S" shafts, each category should increase in weight ⅛ of an ounce, until we end up with our "S" stiff staff at 4⅝ ounces.

Unfortunately, the shaft manufacturers find it extremely difficult to maintain these perfect weights. For instance, it is altogether possible to have a standard "T" shaft weighing 4⅛ ounces, and also a standard "T" shaft weighing 4⅝ ounces. A manufacturer could, and does, have a ladies' shaft — an "A" or soft men's shaft, a "T" or medium shaft, and an "S" or stiff shaft that all weigh 4⅜ to 4-7/16 ounces.

So you can readily understand the impossible situation that this order presents to the factory. Here's an interesting sidelight on this steel shaft for wood clubs picture: Quite often a professional might send in a stiff shafted wood and ask that the factory reshaft it with a softer or medium flex shaft. Being aware of these tip sizes, .294 on the stiff, and .277 on the medium, you can readily see that the only alternative is for the factory to build up the .277 diameter shaft with some foreign substance, until it reaches the diameter of the .294 hole already bored in the head. Cutting off two inches from the bottom of the medium shaft would possibly insure a better fit but in cutting off the two inches from the medium shaft, we once more make it into a stiffer shaft, which was not the original idea in reshafting the club.

Explains Lie Specifications

In asking for his set a little upright, the staff member really left the factory dangling. The lie on our driver is 54 degrees, the brassie 54 degrees, spoon 55 degrees, and No. 4 spoon 56 degrees. "A little upright" might mean 2 degrees or 3 degrees to the professional, and ½ degree to the factory. It it understandable that all professional golfers do not necessarily have to be factory-wise 100% but able to transfer degree measurements into simple, understandable language.

Our staff men now have this simple formula: On a 43 inch driver, each ⅞ inch of deflection, either upright or flatter, is equivalent to a 1 degree change in lie. (See Fig. 2.) Let's put it another way: Take a driver 43 inches long; address an imaginary ball at the club's standard lie; now move the gripped end or hands upright ⅞ of an inch — that new position is 1 degree upright; move it up another ⅞ of an inch — that's 2 degrees upright. The same principle applies to a flatter lie — each ⅞ inch is equal to 1 degree. This varies somewhat on the irons. On a 38½ inch No. 2 iron, which is standard

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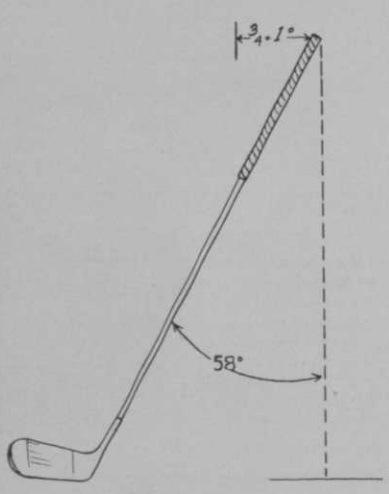
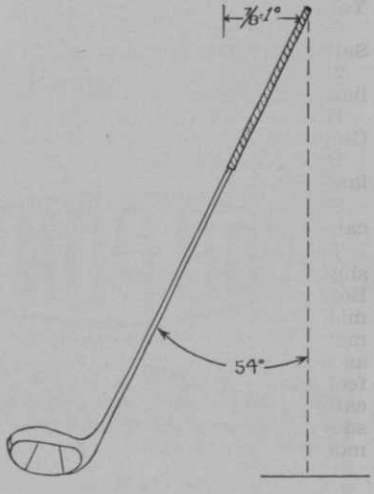


2 IRON

Fig. 2



DRIVER

not only be limited by cost, but also by the effect of the chemicals on grass when treated sand is driven onto adjacent putting green turf by an "explosion-shot". As this was not determined in this study, further tests are planned in this respect, along with additional work on various rates of application. Leaching away of the chemicals in the sand traps, as well as continuous raking are other factors that have a bearing on the effectiveness of the chemicals.

It should be understood that the above report is based on preliminary testing of the chemicals. Some of the chemicals and rates used appear practical. The results are given as a suggestion of what chemicals might be effective and as a guide for further testing under actual conditions.

Certainly, the effective use of chemicals for purposes mentioned above will save many hours of hand labor and expense.

NOTE: The author would appreciate the benefit of any suggestions or experiences of others in the chemical method, or any other method, for controlling weeds in sand traps.

Southern California Holds Third Turf Conference

Southern California third annual conference on turf culture, April 30 and May 1, held its first session on the turf plot at the University of California at Los Angeles, giving visitors an opportunity to see comparative trials of the many new and standard turf grasses under various cultural treatments. More than 200 persons from various parts of Southern California attended the two-day meeting.

The meeting was opened by Dean Robert W. Hodgson, head of the Los Angeles division of the University of California College of Agriculture. Prof. H. B. Musser, Pennsylvania State College, explained the operation of his program, one of the oldest and largest turf research programs in the United States. Prof. Musser also discussed control of weeds.

Dr. F. V. Grau, Director, USGA Green Section, described new improved turf grasses, including Zoysia Z-52, U-3 bermuda grass and Merion bluegrass, and discussed their use in combinations of warm and cool season grasses. He also reviewed turf aeration.

O. J. Noer showed many color slides illustrating maintenance methods and solutions of turf problems. Dr. Robert Hagan of the Division of Irrigation on the University of California's Davis campus, discussed the fundamentals of watering turf grasses.

John E. Gallagher of the University of California Division of Floriculture and Ornamental Horticulture on the Los Angeles campus presented results of experimental trials of herbicides and fertilizers on the turf plots at UCLA.

These five speakers earlier conducted a broadcast panel discussion on turf culture for Armed Forces Radio, with emphasis on the military aspects of turf.

Additional speakers on turf subjects from UCLA were Prof. Pierre A. Miller of the Division of Plant Pathology, who discussed turf diseases and their control by fungicides, and Prof. V. T. Stoutemyer, chairman of the Division of Floriculture and Ornamental Horticulture, who explained the purpose of some of the experimental grass plots.

Another panel discussion on trees and turf at the morning session of the second day evoked many questions. This panel was conducted by Fred W. Roewekamp, city Forester of Los Angeles, Prof. Pierre A. Miller, and Dr. Mildred E. Mathias of the U.C.L.A. Botany Department. William H. Johnson, president of the National Golf Course Superintendents Assn. presided at this meeting.

At the final afternoon session, John J. McElroy of the Agricultural Extension Service on the Berkeley campus of the University of California described their methods of operation and the possibility of assistance to those groups concerned with recreational and ornamental turf.

WHAT PROS SHOULD KNOW

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length, each ⅜ inch deflection, upright or flatter, is equal to a 1 degree change in lie.

Hook Variations

The next item on the order is "not too much hook." The factory has means of checking and measuring hook, but the amount of hook on a wood club varies with practically every pro, that is, as far as personal opinion goes. A straight face to Cary Middlecoff is 2 degrees open to the factory. A straight face to Skip Alexander is 1 degree hook to the factory. The standard hook on a driver and brassie is ½ degree, ¼ degree on the No. 3 spoon, and on the No. 4 spoon 0 degree. This is a perfect example as to the importance of the home professional to the factory. It is understandable that the touring pro uses a wood club faced much more open than the club you would recommend for Mr. Average Golfer. The exact amount of hook necessary to make a club more playable, or the lack of hook, comes to us directly from your recommendations.

That last item on the order was "grip a little oversize." The factory uses a ladies' gauge, a men's standard gauge, slightly oversize, and full oversize. Reducing these descriptions to simple figures, the difference between each gauge is 1/32 of an inch in diameter. "A little

oversize" to Gene Sarazen is 3/16 of an inch; to Jim Turnesa it is 1/32 of an inch. Once again, this brings out the importance of factory terminology.

This completes our order for a set of woods placed by the staff member. You

Wilson's Russell Dreher (R) shows Joe Wolfe (L) and Dr. Cary Middlecoff finished club head he has just polished on factory buffing machine.

can easily see the impossibility of the task facing the factory in trying to build this set of woods accurately.

Iron Orders Also are Hazy

A typical iron order causes less confusion than the companion order of woods. However, we quite often receive an order of this type: "One set of irons, same as Pete Cooper's, same swingweight, same head weights, etc., only make clubs ½ inch longer and step up irons a little, and also make a little upright."

It is quite important to know that when a club is lengthened ½ inch, the swingweight automatically increases approximately three points. To keep the same swingweight on this set, we would have to remove 3/16 of an ounce from the head. A sixteenth of an ounce placed in the head or removed is equivalent to adding or subtracting one swingweight point. Of course, this same principle holds true in shortening a club; for every ½ inch that the club is made shorter,

three swing points are lost. Then, in order to compensate for the loss of head feel, obtained by shortening the club, we would have to add 3/16 ounces.

In making this club ½ inch longer, the pro undoubtedly felt that because his customer was tall, the clubs should be made upright. All well and good, but how much is upright? In knowing the factory terminology he would know that the standard lie on the No. 1 and No. 2 irons is 58 degrees and as we progress we change 1 degree for each club, becoming more upright, of course. The No. 8 and No. 9 irons, as a rule, have the same lie — 64 degrees, and the pitching iron and sand iron have the same lie — 65 degrees. Now that we know the factory specifications, and also remembering that on a 38½ inch No. 2 iron deflection of ¾ of an inch is equal to 1 degree, why then it should and would be a simple matter to build the clubs exactly to specifications.

In asking for the irons to be "stepped up a little," we really run into a tough one. Our factory remains constant in our lofts on iron clubs: 17 degrees on the No. 1 iron, 21 degrees on the No. 2 iron, and 4 degrees between each club, right down to the sand iron. At present, the competitive race of the club manufacturers, which is always a good thing, has led to a little confusion as to the lofts on irons.

Some brands believe that reducing the lofts on the irons will aid in more distance, which is true, and also swing Mr. Average Golfer and the pro into using their particular brand or brands. We remain constant on our lofts at present, choosing to allow the merits of the club to sell itself. Once again, in the final analysis, it is the home pro who will give the factories the answer as to what is the most desirable loft on an iron.

SUCCESSFUL SUPT.

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become more important in their eyes, and again that is exactly what we are trying to accomplish with this sales campaign of letters.

Learn to Speak

Anyone who finds it difficult to talk to groups should take one of the many courses offered in all communities to aid people to more easily and forcefully express themselves. Remember that the members of your committees are business men and will give more consideration to and have more respect for your proposals and suggestions if they are properly voiced, and in respecting the proposal will