The importance of the shaft

You send the same registration number to the same manufacturer and the customer still complains that the set doesn't feel right. The reason could well be the wrong shaft.

by Roger Ganem

Have you ever wondered why a new set of golf clubs ordered to the same specifications of an older set feels different? Have you had members dissatisfied with your method of fitting even though you copied down the same registration number and wrote the same manufacturer?

According to one expert, "the new clubs are undoubtedly made with the same components of the old, but they don't reach a sufficient level of fatigue that would make them react as the old ones did. If the clubs went through a 'breaking-in' period, the customer might be more completely satisfied."

What does all this mean to you, the golf pro?

It means that you should know as much as possible about your customer's style of play so that you can provide the manufacturer with more information. He, in turn, will then be able to come up with the proper shaft for the customer.

Most weekend duffers are unaware of the importance of the shaft. And it might well be better that they aren't so concerned. For it's the club maker who can best decide just what is best for your customer. And the more information you can give him, the better the fit, and the happier the customer.

The manufacturer knows the variable of each of the shafts now available and he can use his experience of formulated know-how to come up with the right combination. Give him facts regarding physical characteristics, personal requirements, height, weight, arm length and age. Also, whether the

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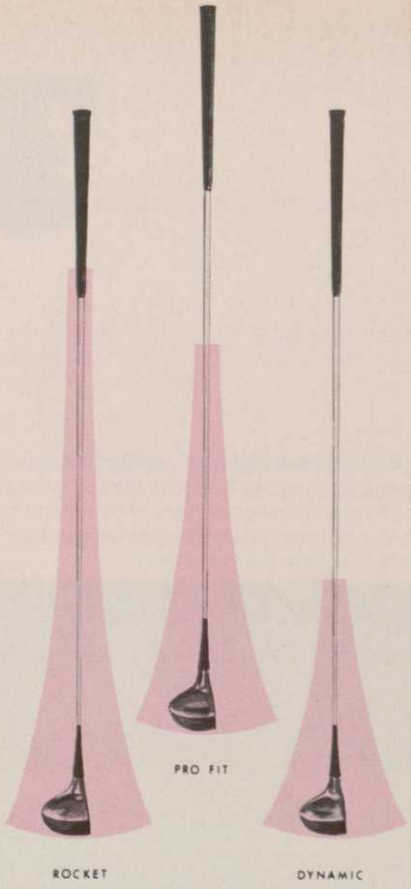
customer is a hitter or a swinger, what his main problems are (i.e. does he hook, slice, hit them high or low), the size of his hands, wrists, forearms and legs, and the specifics of the clubs he is presently using.

With all this information, the club maker should come up with the shaft that will get the clubhead in proper hitting position precisely at the instant his hands are in position.

The story of shafts is one directly related to hand action. It should form a straight line with the left hand-left arm at impact. The correct shaft will enable the good golfer to use his talents more automatically, without any need for compromising his swing or changing his personal tempo.

There are three popularly known shafts on the market, excluding the personalized names some manufacturers give theirs: the Pro Fit, the Rocket and the Dynamic. These shafts are available in extra stiff, stiff, regular, semi-flexible, and ladies'. (There are also the Meteor, the Century and the 325 Series all made by True Temper, but they are offered only in men's medium flex and in ladies' flex). Each of the categories is similar in butt diameter and tip diameter except the Dynamic Stiff wood. Its tip diameter of .294 is greater than the .286 of both the Pro Fit and Rocket wood shafts.

It isn't likely that the same feel could be produced in all these shafts. Each has a different pattern. The dimensions aren't alike as to location of steps, length of the steps, wall diameter, wall thickness



Of the three popularly-known shafts on the market, the Rocket has the flex point highest (near grip), the Dynamic lowest while Pro Fit is in between.

and distance from the tip of the shaft to the first step on the shaft.

The Dynamic shaft is considered to be a "strong" shaft and is much in use on the professional tour today. The Rocket shaft is described as having the kick up higher on the shaft, near the grip, while the Pro Fit generally splits this difference.

The matter of golf shafts was discussed with Irv Schloss recently. "It has been the goal of many manufacturers," he said, "to get the firmest, thinnest, lightest shaft possible on a properly balanced club; like having a shaft with zero weight, smallest possible size with stiffness. If this could be achieved, shafts with trimness and no bulk could be made to help even a lady play golf more effectively.

"To be good, a golf shaft must return as fast as possible to its original position after impact. This is known as the coefficient of restitution. And it should occilate, helping it return faster and give the player a feeling of the shaft's being alive.

"Because there are no machines now in use to measure the speed of return or the occilation, I took a shaft deflection board and, with pulled weights and release, did this measurement by judgment. After four years of developing, I'm introducing the Phantom Shaft which weighs only four ounces. It's steel. It has a thinner wall but has had no breakage from any structural weakness."

"Shaft deflection," reiterates John St. Clair, Spalding's club maker and manager of its custom-built department, "can be ordered by describing the member's swing. This is why we have to know whether he is a hard hitter or a swinger with a lesser clubhead speed. Also," as noted before, "an evaluation of his strength, size of hands, wrists, forearms and legs is important because all have a direct bearing on final specifications.

"Generally, the stiffer the shaft, the more control; the softer the shaft, the higher the ball will travel. But if a shaft forces the golfer to change his tempo, even if he can hit a straight ball, it is not the correct shaft for him. No golfer can compensate consistently."

"In today's shafts, the most flexible portion is in the lower section, near the head," says Mr. Schloss. "In my opinion, this is not the most efficient placement. I think there should be some solidity in the lower section to back up the shock of impact. Control point should be somewhere in the upper 2/3 of the shaft. I look at this as a fulcrum

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as well as the control flex area.

"The old Kroydon Company of Maplewood, N.J., had developed machines to produce high-powered shafts that could be controlled to any diameter and wall thickness in any part of the shaft. Its shape of configuration was such that it insured a very stiff lower section with controlled flexibility further up the shaft.

"But where do we go from here?" he asks. "I'm convinced," says Mr. Schloss, "that the tip diameter of shafts is too small for steel, aluminum or stainless steel. I'm conducting research for a shaft to fit over the neck of irons, to taper down to a controlled flex point or precise fulcrum up the shaft, then to taper again to reach a butt diameter of not more than .600.

"With woods, I'd increase the diameter and taper of the tip section of the shaft up some 3¼ inches from the bottom, then have a taper to a controlled flex point or fulcrum and finally graduate up to the same .600 or .580 diameter at the butt end.

"I say the lighter the weight of the shaft, the better the balance. But aluminum is not the answer. It does not return the club to its original position as fast and it doesn't occilate. It feels dead. Certainly, stainless steel can be considered the lifetime shaft."

John St. Clair agrees that "a lighter overall weight to the shaft will increase the velocity of the clubhead and generate more energy (distance), eliminating the need to change your timing." However, he feels that "this could be the aluminum shaft. You can't have help in the clubheld without control. A softer shaft that provides more distance only if your timing is perfect is not the answer. The correct shaft will have all compensating factors built right in."

But whether your shaft is aluminum, steel, glass or stainless steel, if it doesn't get the clubhead to the ball the exact instant your hands are in hitting position, then it is not the one for you.

Irv Schloss was then asked what else is new in shaft development.

"Most of the research and de-

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velopment into shafts took place before World War II. Since then, approximately 90 per cent of all shafts have followed the pattern introduced by True Temper in 1932.

"The True Temper Vickery pattern followed the 2/3-1/3 theory, as did the old Bell Bottom shaft, but the latter never really became popular because of too much flex in the upper section. The Heddon Tear Drop shaft was also used and is still well thought of.

"In 1964, True Temper made steel shafts at four ounces which still retained the firmness necessary for strong players. The shafts in the wood clubs were made in two-step configurations and in one-step for the irons. One large manufacturer and several makers of custom-built clubs used them constantly.

"But not enough research and development in other configuration changes is taking place. This is because a near-monopoly still exists: there is a minimum number of shaft manufacturers and consequently little or no competition."

In any case, Mr. St. Clair agrees with Mr. Schloss about the importance of giving the manufacturer as much information as possible. "I would like to see the home professional furnish us with specifics when ordering custom-built clubs for his members. Using the technical data booklet Spalding gives to each pro, he should ask for grip size, shaft length, lie and loft *in numbers*." (The standard club specifications are obtainable from manufacturers).

He also summed it up quite well. "If you have talent, you could probably do all right even with wrong clubs, just as you can learn to wear shoes that are too large. But if you have golfing talent together with the right clubs, you'll break through to much better success." □