

CLUBHEAD SPEED REVISED DOWN

In September, 1957 during the Amateur Championship at The Country Club, Brookline, Mass., Arthur D. Little, Inc., made high-speed (stroboscopic) motion pictures of several golf drives. Measurements from these films were published in the USGA Journal of February, 1958. The figures reported were club velocity, ball velocity, carry, loft and contact time. For Tim Holland, one of the performers, the average club speed was given as 212 feet per second.

Len Elliott, sports editor of the Newark (N.J.) Evening News, pointed out that Bob Jones' club speed had been given by Professor Edgerton, of Massachusetts Institute of Technology, at about 166 feet per second and questioned the accuracy of the measurement.

Mr. Elliott also obtained figures of about this magnitude with a photo-electric timing device. Subsequently, he employed the so-called Time-A-Swing of the Kay Electric Co., Pine Ridge, N. J., to make further measurements for several golfers, among them Holland. The hard hitters in the test group averaged in the 160s and Holland's peak was 168 feet per second.

As a result of tests, Arthur D. Little, Inc., concluded that the Time-A-Swing measurements are substantially correct. Top values were in the 160s.

A serious error in the Brookline work due to parallax had previously been noted. Arthur D. Little, Inc., discovered that it had failed to take account of the fact that the inch scale had been some distance behind the ball and not coincident with the ball itself.

The parallax error, however, still failed by a wide margin to account for the error in clubhead speeds. It appeared that after correction for parallax the club speeds were still in error by 12 per cent.

The major error in the clubhead-speed measurements, it developed, came about because, for want of a better marker, Arthur D. Little, Inc., had used a highlight in the photograph, which, instead of being an actual point on the club, was a reflected beam of light that shifted as the club approached the ball.

USGA PUBLICATIONS OF GENERAL INTEREST

THE RULES OF GOLF, as approved by the United States Golf Association and the Royal and Ancient Golf Club of St. Andrews, Scotland. Booklet, 25 cents (special rates for quantity orders, more than 500).

USGA GOLF HANDICAP SYSTEM FOR MEN, containing recommendations for computing USGA Handicap and for rating courses. Booklet, 25 cents. USGA Slide Rule Handicapper, 25 cents. Poster, 10 cents.

THE CONDUCT OF WOMEN'S GOLF, containing suggestions for guidance in the conduct of women's golf in clubs and associations, including tournament procedure, handicapping and course rating. 25 cents. USGA Slide Rule Handicapper, 25 cents. Poster, 10 cents.

HANDICAPPING THE UNHANDICAPPED, a reprint of a USGA Journal article explaining the Callaway System of automatic handicapping for occasional players in a single tournament. No charge.

TOURNAMENTS FOR YOUR CLUB, a reprint of a USGA Journal article detailing various types of competitions. No charge.

PREPARING THE COURSE FOR A COMPETITION, a reprint of a USGA Journal article by John P. English. No charge.

LETTER AND SPIRIT OF THE AMATEUR CODE, a reprint of a USGA Journal article by Joseph C. Dey, Jr. No charge.

PROTECTION OF PERSONS AGAINST LIGHTNING ON GOLF COURSES, a poster. No charge.

HOLE-IN-ONE AWARDS. No Charge.

GAMBLING IN GOLF TOURNAMENTS, a reprint of a USGA Journal article by Richard S. Tufts. No charge.

WORK OF A CLUB GREEN COMMITTEE, a reprint of panel discussions conducted by the USGA Green Section Committee. No Charge.

HOW TO MEET RISING COSTS OF GOLF COURSE MAINTENANCE, PARTS I & II, reprints of panel discussions conducted by the USGA Green Section Committee. No charge.

MISTER CHAIRMAN, a reprint of a USGA Journal article outlining the duties of the Chairman of the Green Committee. No charge.

ARE YOU A SLOW PLAYER? ARE YOU SURE? A reprint of a USGA Journal article by John D. Ames. No charge.

A JUNIOR GOLF PROGRAM FOR YOUR CLUB AND DISTRICT, a 16-page booklet containing details in organizing and developing junior golf programs at different levels. No charge.

TURF MANAGEMENT, by H. B. Musser (Mc Graw-Hill Book Co., Inc.), the authoritative book on turf maintenance. \$7.

USGA CHAMPIONSHIP RECORD BOOK. Detailed results of all USGA competitions since their start in 1895. \$2.

USGA JOURNAL AND TURF MANAGEMENT, a 33-page magazine published seven times a year. \$2 a year.

These publications are available on request to the United States Golf Association, 40 East 38th Street, New York 16, N. Y. Please send payment with your order.