



R&A Rules Limited
and
United States Golf Association

PROTOCOL FOR MEASURING THE FLEXIBILITY OF
A GOLF CLUBHEAD

TPX3004
Rev. 2.0
9 April 2019

Revision	Date	Details of Revision
1.1	Mar-2005	Note addressing procedure for determining impact location when testing irons. Note addressing alignment procedure when testing higher lofted clubs.
1.2	1-May-2008	Note addressing alignment procedure when testing higher lofted clubs. Appendix II, Rule 5a changed to Appendix II Rule 4c(i) to reflect re-numbering of Appendix II in the 2008 Rules changes. Appendix II, Rule 5a changed to Appendix II Rule 4c(i) to reflect re-numbering of Appendix II in the 2008 Rules changes. Appendix detailing test for conformance with Appendix II, Rule 4c(ii) of the Rules of Golf added.
2.0	9-Apr-2019	New major revision based on adoption of the revised interpretation of advanced spring design measurement in the Equipment Rules Part 2, Section 4c, published January 2016.

1 Scope

This protocol describes the method used to test golf clubheads with loft of 35 degrees or lower other than putters for conformance to the Equipment Rules Part 2, Section 4c as administered by R&A Rules, Ltd. (The R&A) and the United States Golf Association (USGA). Clubheads with loft of over 35 degrees are deemed to conform to the Equipment Rules Part 2, Section 4c.

2 Test Protocol

2.1 Preparation of the Golf Clubhead

- a. If the golf clubhead is provided without a shaft, affix a golf shaft enabling a free length of at least 10.75 inches (273 mm).
- b. Place the centre template (Figure 1) on the club face such that:
 - i. the heel and toe measurements at the edges of the club face are equal, and
 - ii. the sole and crown measurements at the edges of the club face are equal.
- c. Mark the centre of the face identified through step 2.1 b.

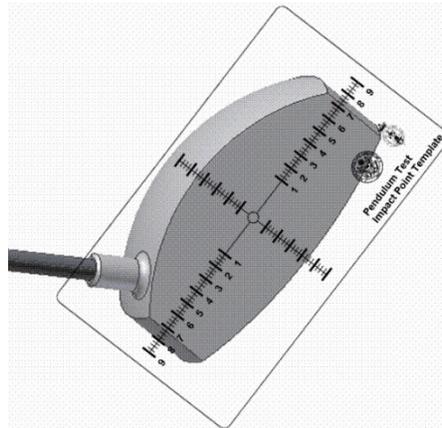


Figure 1: Proper alignment of the centre template on a golf clubhead.

2.2 Adjustable Features

- a. If the clubhead has adjustable or repositionable weights, the test shall be performed using the configuration of weights which maximizes the Characteristic Time measurement.

2.3 Characteristic Time of the Club Centre

- a. Use a pendulum test device as described in “Technical Description of the Pendulum Test” or equivalent. Specifications available on request by pendulum licensees from the USGA and The R&A.

- b. Use an approved release of the “PendulumTestConsole” software provided by USGA and The R&A. Please contact the USGA or The R&A to ensure the most current release.
- c. Mount the club in the pendulum such that the ball impact occurs:
 - i. at the centre of the face (as identified in step 2.1c), and
 - ii. perpendicular to the centre of the club face.
- d. Perform three impacts at each of three impact velocities as described in the “Technical Description of the Pendulum Test”.
- e. If prompted, perform an additional 9 impacts.
- f. In the case that the club face has a thick, compliant coating, see “Technical Description of the Pendulum Test”.
- g. Report the “intercept” value. This shall be the Characteristic Time (CT).

2.4 Off-Centre Characteristic time

Repeat the test described in 2.2 at additional points on the club face both within and outside of the impact area as defined in the Equipment Rules Part 2, Section 5b(i) (“impact area”).

3 Determination of Conformance Status

- a. If the CT value at the centre of the face is greater than $239\ \mu\text{s}$ plus an $18\ \mu\text{s}$ tolerance then the club does not conform to the Equipment Rules Part 2, Rule 4c (i and ii)*.
- b. If the maximum CT exceeds:
 - i. $239\ \mu\text{s}$ plus an $18\ \mu\text{s}$ tolerance anywhere within the impact area, or
 - ii. $257\ \mu\text{s}$ plus an $18\ \mu\text{s}$ tolerance outside the impact area,then the club does not conform to the Equipment Rules Part 2, Rule 4c (ii)*.

* Note: If the clubhead has:

- i. A depth of less than or equal to 1.5 inches (Figure 2) and

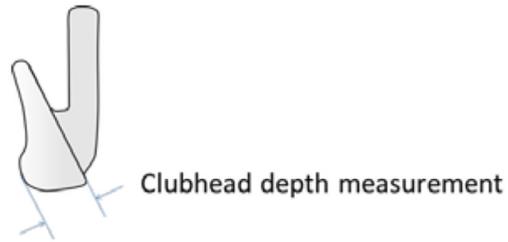


Figure 2 Definition of the clubhead depth for Section 3.c(i).

- ii. A radius of curvature of the club face that is greater than 30 inches, and
- iii. A CT value which would be non-conforming per 3a or 3b,

then the clubhead will require COR testing to determine its conformance to the Equipment Rules Part 2, Section 4c – see “Protocol for Measuring the Coefficient of Restitution of a Clubhead Relative to a Baseline Plate” for details.

Appropriate Screening methods may be applied.