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8 May 2015

To: **ALL MANUFACTURERS**

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## **SPRING EFFECT AND DYNAMIC PROPERTIES**

Appendix II, 4c of the Rules of Golf states that:

*The design, material and/or construction of, or any treatment to, the clubhead (which includes the club face) must not:*

*(i) have the effect of a spring which exceeds the limit set forth in the Pendulum Test Protocol on file with the USGA; or*

*(ii) incorporate features or technology including, but not limited to, separate springs or spring features, that have the intent of, or the effect of, unduly influencing the clubhead's spring effect; or*

*(iii) unduly influence the movement of the ball.*

On 28 May 2008, The R&A and the USGA sent out a Notice to Manufacturers regarding a proposed revision to the interpretation of spring features in clubheads. The R&A and the USGA subsequently received a number of comments from manufacturers regarding this proposed revision which prompted further analysis and consideration. As a result, an interim method was adopted to accommodate those clubs which required additional analysis for potential non-conformance to Appendix II, 4c(ii), without delaying determination of the conformance status for all others.

Since that time, the interim procedure has substantially improved the clarity and timeliness of the decision making process for most driver submissions. Recently however, an increasing number of submissions have required substantial evaluation and analysis, resulting in unavoidable delays in the conformance process. As a result, The R&A and the USGA are proposing a revised procedure for the determination of conformance of clubheads to Appendix II, 4c(ii).

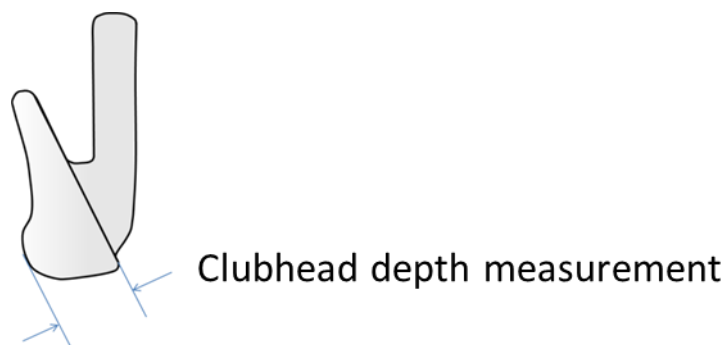
The details of the proposal are:

1. All clubs (except putters) with claimed, marked or measured lofts of 35 degrees or less, and a clubhead depth exceeding 1.5 inches (see figure below illustrating the measurement method) or a radius of curvature of the face that is less than or equal to 30 inches will be evaluated for spring effect solely using the Pendulum Test. The maximum characteristic time (CT) over the entire impact area<sup>1</sup>, will be 239 microseconds (plus an 18 microsecond tolerance). It is proposed that the

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<sup>1</sup> The impact area for drivers, fairway woods and hybrids is defined as the central strip down the middle of the club face having a width of 1.68 inches (42.67 mm). For the purpose of this measurement, the portions of the impact area within 0.25 inches (6.35 mm) of the sole and crown are excluded.

maximum characteristic time outside the impact area be 257 microseconds (plus an 18 microsecond tolerance). All tests will be performed using the modified Pendulum device, which de-lofts the club face.



2. Clubheads with claimed, marked or measured lofts of 35 degrees or less, a clubhead depth that is less than or equal to 1.5 inches and a radius of curvature of the club face that is greater than 30 inches will be screened over the entire impact area<sup>2</sup> using the modified pendulum tester. In the event that a CT value above 239 microseconds (plus an 18 microsecond tolerance) is found, such clubs will continue to be tested using the cannon test at an appropriate speed, usually 133 ft/s. Clubs which measure more than 0.008 above a baseline plate will be ruled non-conforming.
3. Clubs with lofts greater than 35 degrees will be deemed to meet the requirements of Appendix II, 4c(ii) and will not be tested.
4. All other Rules of Golf pertaining to equipment, including plain in shape, will continue to be considered in making conformance evaluations, whether or not a submitted club meets the requirements of Appendix II, 4c(ii).

This revised procedure will help to further ensure that the conformance evaluation criteria for spring effect are transparent, understandable and reproducible. It will also help to further ensure that manufacturers receive conformance decisions in a timely manner. Existing decisions would not be revisited based on the proposed evaluation.

Comments on this proposal should be sent to The R&A, for the attention of Dr Steve Otto, The R&A, St Andrews, Fife, KY16 9JA, e-mail: [steveotto@randa.org](mailto:steveotto@randa.org) by **15 August 2015**.

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<sup>2</sup> The impact area for this category of clubs is defined as that part of the club where a face treatment has been applied (e.g., grooves, sandblasting, etc.) or the central strip down the middle of the club face having a width of 1.68 inches (42.67 mm), whichever is greater.