Designation: F3544 – 21

Standard Test Method for Hunting Saddle Static Load Capacity[1]

This standard is issued under the fixed designation F3544; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This test method covers the determination of the static load capacity of hunting saddles and bridge in terms of a factor of safety relative to the manufacturer's rated capacity.

1.2 The values shared are in inch-pound units and are to be regarded as the standard. No other units of measurement are included in this standard.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*[2]

F2337 Test Method for Treestand Fall Arrest System

F3543 Terminology Relating to Hunting Saddles

3. Terminology

3.1 Terminology and definitions applicable to this test method are referenced in Terminology F3543.

4. Summary of Test Method

4.1 A hunting saddle is donned on a rigidly mounted test weight torso. A cable is attached to the bridge of the hunting saddle. The cable is positioned over a pulley at a defined angle. A defined weight is suspended from the cable during a conditioning break-in period and during the static load evaluation period.

5. Significance and Use

5.1 This test method is intended for quality assurance and production control purposes.

6. Apparatus

6.1 Referring to Fig. 1, a hunting saddle test specimen is donned on the test weight torso as specified in Test Method F2337.

6.2 The said test weight torso is rigidly mounted to a reference surface. The test weight torso may be supported from a vertical and horizontal position to ensure no movement occurs during the test execution.

6.3 A cable is attached to a minimum 3000 lb rated connector with a diameter of ⅜ in. The connector is attached to the bridge of the hunting saddle. Care should be taken to ensure the connector is centered on the bridge.

6.4 A pulley is rigidly mounted above the reference surface locating the test weight torso. Care should be taken to ensure the pully is aligned with the center of the test weight torso.

6.5 The cable is positioned over the pulley. The angle ɵ equaling 45° is measured between the reference surface and the cable to ensure proper load on the bridge of the hunting saddle.

6.6 The rated load equaling the rated load printed on the product label or in the manufacturer's instructions shall be applied to the cable using calibrated weights or a mechanical device in conjunction with a calibrated load cell. The load shall be applied a minimum of 1 ft above the reference surface when the load is fully engaged. Caution should be exercised for operator protection with the use of weights in the case of slippage or premature failure.

6.7 The use of a mechanical device such as a tensile test machine or hydraulic load device requires the use of a calibrated load cell to ensure the proper load is applied.

7. Conditioning

7.1 Referring to Fig. 1, a load equal to the rated load capacity shall be applied to the cable for a period of 5 min. During this conditioning period the operator is to observe the hunting saddle as the components thereof settle into position as a result of the load applied.

[1] This test method is under the jurisdiction of ASTM Committee F08 on Sports Equipment, Playing Surfaces, and Facilities and is the direct responsibility of Subcommittee F08.18 on Treestands.

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[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

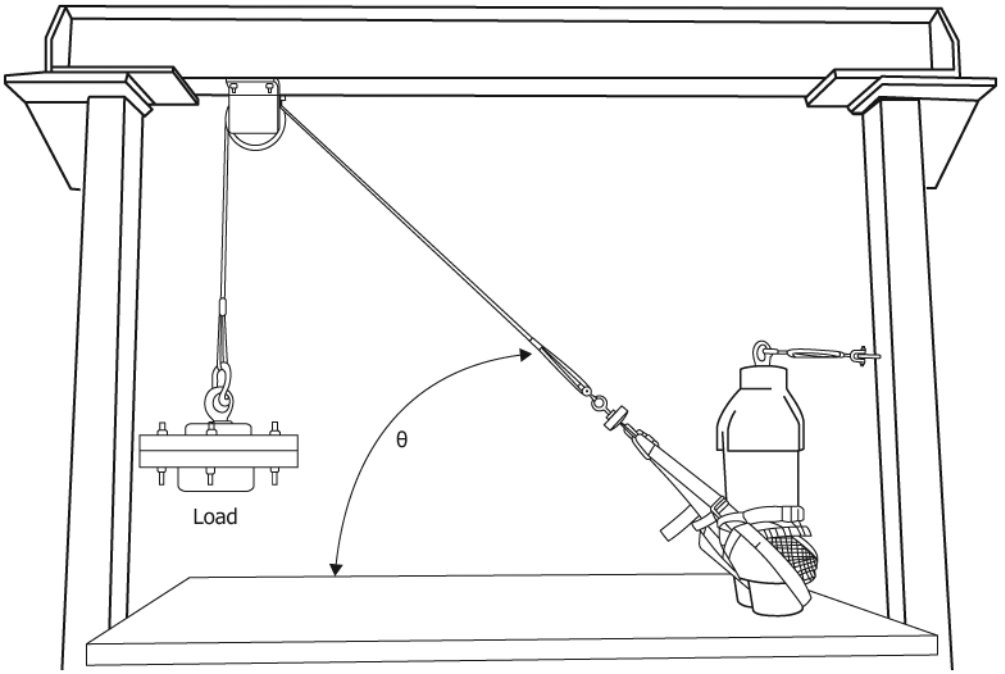

FIG. 1 Test Setup

7.2 After the load has been applied for 5 min, the load shall be removed, and the hunting saddle shall be inspected for damage. Compare the conditioning results to the requirements set forth in 10.2.

8. Procedure

8.1 After the hunting saddle has been properly conditioned with acceptable results, a load equaling 3× the rated load capacity is applied to the cable for a period of 10 min.

8.2 During this test period the operator is to observe the hunting saddle to determine if any failures are initiated as a result of the load applied as set forth in 10.3.

9. Recording of Results

9.1 Recording of results shall include the following:

9.1.1 Identification of the hunting saddle model, manufacturer and rated load capacity.

9.1.2 Photographs of the hunting saddle donned onto the test weight torso before conditioning, after conditioning, before the test and after the test.

9.1.3 Verification of calibration of weights or mechanical devices.

9.1.4 Written description of any damage incurred as a result of conditioning or testing.

9.1.5 Date of testing.

9.1.6 Name of operator conducting the test.

10. Pass-Fail Criterion

10.1 Conditioning the hunting saddle before the test and the test procedure must result in passing conditions prior to qualification approval of the test subject.

10.2 A hunting saddle is considered failed if during conditioning it allows the load to come in contact with the reference surface, if there are stitching failures observed, if any hardware associated with the hunting saddle under testing cracks, breaks, tears or results in permanent deformation (yield).

10.3 A hunting saddle is considered failed if at any time during testing it allows the load to come in contact with the reference surface.

11. Label Criterion

11.1 To be determined.

12. Precision and Bias

12.1 No information is presented about either the precision or bias of tests in Sections 7 and 8 since the test results are non-quantitative.