

TMS 05

Standard Practice for Testing Ladder Treestand, Tripod Stand and Climbing Stick Load Capacity

1. Scope

- 1.1 This practice provides guidance for testing the load capacity of ladder and tripod type stands. This specification also applies to climbing sticks which shall meet the same requirements as the steps to ladder and tripod type stands. For changes to this specification since the last issue, refer to the Summary of Changes section at the end of the standard.
- 1.2 The values stated are in English units.
- 1.3 TMS Standards 02 and 03 are considered an integral part of this specification.
- 1.4 *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 and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

- 2.1 *ASTM Standards:*
- 2.2 *Federal Standards:*
- 2.3 *Manufacturing Standards:* Treestand Manufacturing Standards TMS 01, 02, 03, 04, 11, 12, 15 and 17.

3. Terminology

- 3.1 The terminology and definitions in the referenced documents are applicable to this practice.
- 3.2 *Definitions:*
 - 3.2.1 *Ladder treestand*—a treestand which is secured to the tree at an elevation where the platform is located. (The ladder treestand may be secured to the tree at other locations and has steps that are used to reach the platform or hunting position).
 - 3.2.2 *Tripod or Tower stand*—a tripod or tower stand (free standing platform) is constructed to be self supporting and is not required to be secured to a tree.
 - 3.2.3 *A Climbing Stick*—a device to assist climbing a tree particularly to a fixed position treestand. A structure that is secured to the tree and allows the user to support his weight and climb to a desired height on the tree.
 - 3.2.4 *Platform*—the horizontal structural area of a treestand on which the user stands, sits and/or places their feet.

4. Summary of Practice

- 4.1 This practice provides guidelines for the selection of tests for the evaluation of the load capacity of ladder treestands, tripod type stands and climbing sticks in accordance with manufacturer's capacity rating, particularly for quality assurance and adequacy of safety factors including:
 - 4.1.1 Static load test.
 - 4.1.2 Stability test.
 - 4.1.3 Repetitive loading test. NOTE: Steps only.

5. Significance

- 5.1 This practice is provided to develop and maintain uniformity for the evaluation of the load capacity of ladder and tripod type stands and climbing sticks, particularly with regard to quality assurance and safety factors.
- 5.2 It is emphasized that the use of these procedures will not alter the validity of data determined with specific test methods, but provides guidance in the interpretation of test results (valid or invalid) and guidance in the selection of a reasonable test procedure in those instances where no standard exists today.

6. Selection of Test Procedures

- 6.1 The following methods are recommended for individual units and situations:

- 6.1.1 An individual test unit of the specified model shall be selected at random.
- 6.1.2 The test units shall first be visually inspected for any flaws, and defects, missing parts, etc., and any discrepancies are noted. The test unit shall also be checked, and so noted, to assure that instructions are included with the unit.
- 6.1.3 A test shall be performed to determine the static load of the platform, steps, and seat (when present) in accordance with TMS 11, "Standard Test Method for Treestand Static Load Capacity." Tests shall be performed on the platform, seat section (when present), and 25 % or a minimum of one (1) step. Deflection measurements shall not be performed.
- 6.1.4 A stability test on the platform shall be performed in general accordance with TMS 12, "Standard Test Method for Treestand Adherence and Static Stability." Deflection measurements shall not be performed.
- 6.1.5 A repetitive loading test shall be performed in accordance with TMS 15, "Standard Test Method for Treestand Repetitive Loading Capability" on one (1) step with the test subject assembled and in place against the test pole (when applicable). The step shall be chosen at a location approximately two-thirds of the total assembled vertical height. The total number of load cycles shall be the number of steps multiplied by 500 (based on the usage of cycle up and down with each use, 25 days per year for 10 years.)
- 6.1.7 This section applies to test subjects that are designed to be used by two (2) people at the same time and thus have higher rated loads to include the weight of two (2) people. Static testing at twice the rated load and stability and adherence testing at one times the rated load shall be performed on the platform section, according to TMS 11, "Standard Test Method for Treestand Static Load Capacity," and TMS 12, "Standard Test Method for Treestand Static Stability and Adherence," respectfully. However, static and repetitive testing at one (1) times the rated load of the harness furnished **or the stated maximum single user weight rating (tripods only)** shall be performed on the step according to TMS 11 and TMS 15 since only one (1) person can stand on the ladder step at a time. **Static testing of seats shall follow the loading apparatus and procedure as given in TMS 17, "Standard Test Method for the Load Capacity of Treestand Seats" but loads for 2 person bench seats shall be 1 1/2 times the rated load and the load for individual 2 person tripod seats shall be at 1 1/2 times the maximum single user weight rating.**

7. Failure Criterion

- 7.1 During all testing yielding permanent deformation, cracks or other structural defects shall be cause for failure. Visual inspection shall be the main inspection method; however, other non-destructive test methods may be used to determine if yielding has occurred.

SUMMARY OF CHANGES

This section identifies the location of principle changes to this standard that have been incorporated since its last issue. Changes or additions are underlined on the section reference number.

Revision A – Standard number changed due to duplication of TMS 01 number.

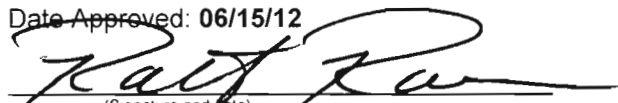
Revision B – Sections 6.1.3 and 6.1.5 replaced, Section 6.1.4 revised, and Section 6.1.6 added.

Revision C – Sections 2, 6 and 7 changed per addition of TMS 17 (Seats) and combining TMS 12 and 13.

Revision D – Section 6.1.7 revised.

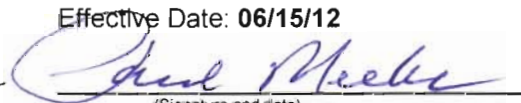
Revision E – Section 6.1.7 revised.

Date Approved: 06/15/12


(Signature and date)

Robert Ransom, President
Treestand Manufacturers Association

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(Signature and date)

Paul Meeks, Secretary
Treestand Manufacturers Association