

MAXIMUM LOAD TESTING of HAWAIIAN SAWHORSE TRUCK RACK

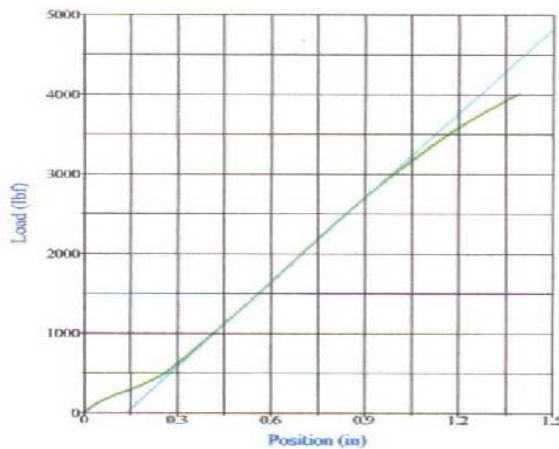
Cargo carrying truck racks are usually tested through static load testing. A commonly accepted industry-wide standard is any pickup rack should be able to withstand a static load that is at least 3 times the rated load they are assigned. This provides a 3 to 1 safety margin.

U.S. Rack pickup truck racks well exceed this standard and are tested at the Hayward, California facilities of Anamet, Inc. a respected independent materials testing laboratory. Each pickup rack is tested in a machine that simultaneously measures vertical load applied to the rack as well as material deflection (bending). Since all materials bend a tiny amount when even the slightest load is applied, it is possible to measure the maximum strength of materials by measuring load and deflection. In the graph below, the curved line represents the actual deflection of the rack as the load is increased. The straight line represents the theoretical deflection of the material. The upper point where the straight line and curved lines diverge is called the "limit of elastic deflection". Beyond this point the material will fail and the rack will be permanently bent. Anamet labs provided the below data.

HAWAIIAN SAWHORSE TRUCK RACK, manufactured by U.S. Rack:

Load Rating for one section of this rack is **150 lbs.**

Actual tested material failure point was about **3,000 lbs.**, a 20 to 1 safety margin.



Test Results	
Load at Peak Load:	4014,0000 lbf
Position at Peak Load:	1,3924 in
Position at Break:	1,3915 in
Load at Break:	4012,0000 lbf
Young's Modulus:	3535,4700 lbf / in
Load at Offset:	2807,9020 lbf

Test Summary	
Counter:	9959
Elapsed Time:	00:02:47
Anamet Job Number:	5004,1689
Specimen Identification:	Sawhorse 2x4 60" #5
Operator:	edf/bck
Comments:	distributed load
Procedure Name:	Compression Load
Start Date:	12/17/2007
Start Time:	11:07:19 AM
End Date:	12/17/2007
End Time:	11:10:06 AM
Workstation:	Anamet
Tested By:	Ed

WARNING: This data is provided for information only. DO NOT ASSUME BECAUSE LABORATORY TEST RESULTS INDICATE THIS PRODUCT WILL CARRY MORE THAN THE LOAD LIMIT THAT YOU CAN SAFELY EXCEED THIS LIMIT IN ACTUAL USE. STATIC LOADS ARE NOT THE SAME AS THE DYNAMIC LOADS OCCURING DURING USE. OTHER FACTORS, INCLUDING ADDITIONAL LOADING CAUSED BY BRAKING, ACCELERATING, TURNING AND TRAVELING ON SLOPED OR BUMPY SURFACES AMPLIFY FORCES IN ALL DIRECTIONS AND CAN LEAD TO MATERIAL FATIGUE OR FAILURE OF THE RACK OR THE TRUCK BED IF PUBLISHED LOAD LIMITS ARE EXCEEDED. DO NOT EXCEED LOAD RATING.



TEST APPARATUS WITH SAWHORSE RACK DURING TEST



SAWHORSE RACK SHOWN AFTER TEST AT OVER 3,000 LBS.

NOTE: The test rack was never stressed to the point where it actually broke and the wood 2 x 4 construction grade lumber returned to it nearly original shape.