

THE MAXIMUM LOAD CARRIED AND SCORED WILL BE 15 KILOGRAMS.

BOOMILEVERS ARE SCORED BY SIMPLE EFFICIENCY AND RANKED AS FOLLOWS:

1. BOOMILEVERS WHICH MEET ALL SPECIFICATIONS ARE IN THE FIRST RANK.
2. BOOMILEVERS WHICH DO NOT MEET ALL SPECIFICATIONS ARE IN THE SECOND RANK.
3. BOOMILEVERS WHICH CANNOT BE LOADED ARE IN THE THIRD RANK BY LIGHTEST MASS

EFFICIENCY = LOAD CARRIED(grams)/MASS OF BOOMILEVER(grams)

## 2007 SCIENCE OLYMPIAD BOOMILEVER

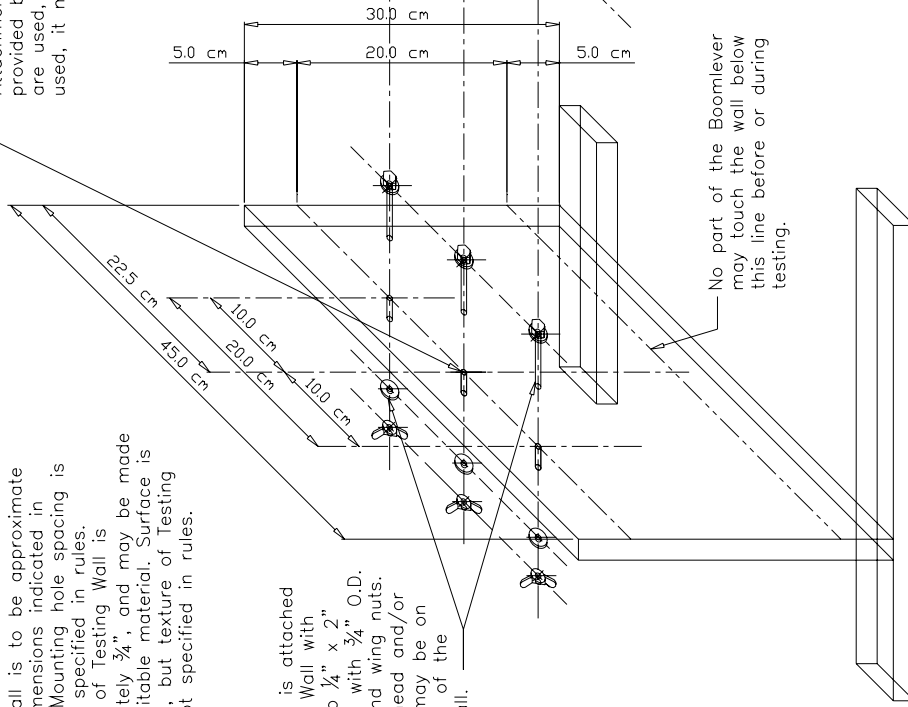
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2007 Boomilever

Some Testing Walls may have a center hole to facilitate single-hole Attachment Bases. This is not specified in the rules, but may be provided by the Event Supervisor. The rules specify that if two bolts are used, they are 20.0 cm apart. Therefore, if a center hole is used, it may not be used with either of the standard holes.

Testing Wall is to be approximate overall dimensions indicated in diagram. Mounting hole spacing is shown as specified in rules.

Thickness of Testing Wall is approximately  $\frac{3}{4}$ " and may be made of any suitable material. Surface is to be flat, but texture of Testing Wall is not specified in rules.

Boomilever is attached to Testing Wall with one or two  $\frac{1}{2}$ " x 2" long bolts, with  $\frac{3}{4}$ " O.D. washers and wing nuts. The bolt head and/or wing nut may be on either side of the Testing Wall.



**EXAMPLE 1:** Maximum size of Attachment base is 30 cm x 20 cm x  $\frac{1}{2}$ " thick. Bolt holes may be anywhere in the Attachment Base, but they MUST LINE UP with the holes in the Testing Wall.

**EXAMPLE 3:** Attachment Bases may be constructed to use a single hole for bolting to the Testing Wall, and may use any one of the holes in the Wall.

**EXAMPLE 2:** Attachment Bases may be made in two pieces, bolted to the two standard Testing Wall holes. The combined size to the two pieces may not be larger than the maximum size of a one-piece Base.

Pieces of the Boomilever which are not part of the Attachment Base may rest against the Testing Wall for support, provided that they do not touch the Testing Wall below the line. The only means allowed to attach the Boomilever to the Testing Wall is with the bolts.

## TESTING WALL

The Testing Wall and hardware are testing apparatus provided by the Event Supervisor and may not be modified by the competitors in any way.

## ATTACHMENT BASE

The Attachment Base is constructed by the competitors as a permanent part of the Boomilever, and is included in the mass of the Boomilever. The Attachment Base may be one or two pieces, and may be made from commercially available wood products. Attachment Bases are optional in the rules, however the only allowable means of attaching the Boomilever to the Testing Wall is with the mounting bolts. If the Attachment Base is not used, the bolts must attach directly to the Boomilever structure.

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