

Special points of interest:

- Calculating Sling Tension
- Forged Eyebolt Working Load Limits
- Standards Watch
- American vs. Import Hardware



Tel 310.834.5914  
Fax 310.834.3042  
www.atmflyware.com

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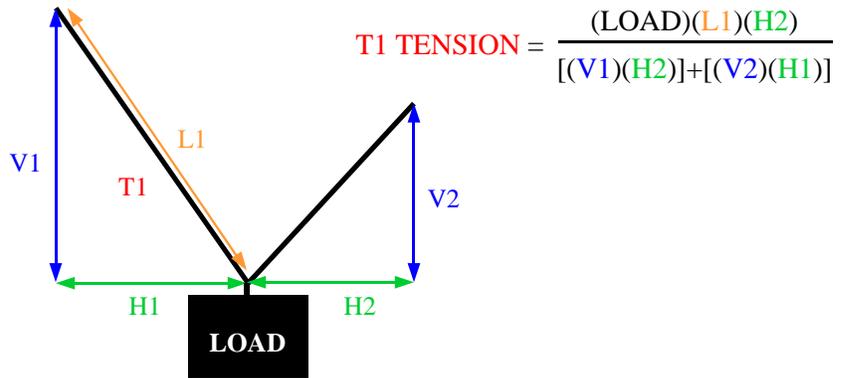


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# Fly Paper

## Calculating Sling Tension

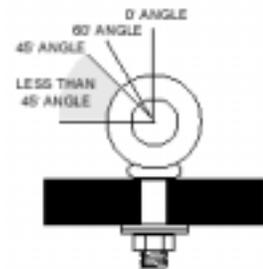
When suspending an object with a sling, the tension in the sling is not necessarily equal to the load being suspended. As the sling is angled, the tension within the sling increases very quickly. The formula below is a quick way to confirm what the sling tension is:



Use caution when suspending a loudspeaker with angled slings as the tension between the two slings will be channeled through the loudspeaker enclosure's suspension points and the loudspeaker structure. It is easy to exceed the working load limit of many attachment hardware devices and loudspeaker enclosures unless care is taken in design.

## Forged Eyebolt Working Load Limits

Forged shoulder eyebolts are one of the most common pieces of rigging hardware found in use today. There are specific rules that apply to their correct use. And, even when used correctly, the working load limit of a shoulder eyebolt can be drastically reduced depending on the direction of applied load.



Shank Diameter	0° Angle	60° Angle	45° Angle	< 45° Angle
1/4"	650 Lb	420 Lb	195 Lb	160 Lb
3/8"	1550 Lb	1000 Lb	465 Lb	380 Lb
1/2"	2600 Lb	1690 Lb	780 Lb	650 Lb

## Standards Watch

Public comments have been incorporated into the next revision of BSR E1.8 Entertainment Technology—Loudspeaker Enclosures Intended for Overhead Suspension—Classification, Manufacture and Structural Testing; and should be released this month. Check [www.ESTA.org](http://www.ESTA.org) for additional standards information.

## American vs. Import Hardware

Standards compliant hardware can be located around the globe. Unlike some countries, America penalizes manufacturers who lie about compliance, so USA made is my choice.

## Sound & Video Rigging Systems