



**NATIONAL TESTING STANDARDS INC.**  
**RESEARCH AND TESTING LABORATORIES**

---

Report No. 30518-2

June 6, 2011

Client: Jensen Swing Products, Inc.  
9327 Weatlands Rd.  
Santee, CA 92071

Reference: Charvet Vecchio  
Letter of 05/17/11

Subject: Tensile Breaking Force of Pendulums.

**Sample Description:**

Two cast metal parts were submitted by the Client and identified as pendulums. Each part had a U shaped end with a smooth hole in one leg and a threaded hole in the other leg. One leg of each U shaped end was broken off such that the broken surface ran from the bottom of the U downward and outward.

The other end was a round solid mass with a bearing hole perpendicular to the main axis of the part.

**Request:**

Measure the force necessary to break in tension the remaining side of each of the submitted cast parts.

**Method:**

Each of the submitted parts was mounted in a CRE tensile machine and loaded at the rate of 0.05 in/min.

**Results:**

In both of the submitted parts the break occurred in the metal periphery of the bolt hole. The broken surface was entirely perpendicular to the side of the U.

The actual measurements were 1770 lbs. of force and 1550 lbs. of force respectively.

Continued. . .

**NATIONAL TESTING STANDARDS INC.**

Report No. 30518-2

June 6, 2011

Page 2

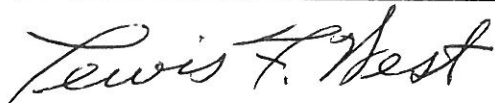
Client: Jensen Swing Products, Inc.

Comments:

The tensile break resulted in a surface entirely different from the original break in the submitted parts.

The original break is a flexural break resulting from the lack of a shoulder on the bolt where the threads meet the shank of the bolt. This shoulder is necessary to prevent the two sides of the U from being squeezed together. The cantilever nature of the original break is demonstrated by the visible fact that the original break is approximately 135° to the sides of the U.

NATIONAL TESTING STANDARDS



by Lewis F. West