

TSP-jr Almen Gage



Electronics Inc.
Shot Peening Control

Electronics Inc.

56790 Magnetic Drive

Mishawaka, Indiana 46545

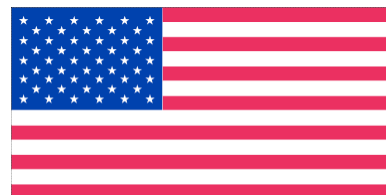
1-800-832-5653 (Toll Free)

Phone: 1-574-256-5001

Fax: 1-574-256-5222

E-mail: sales@electronics-inc.com

Website: www.electronics-inc.com



Made in the USA

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1. Description

The TSP-jr Almen Gage is a precision device used for measuring the deflection or curvature of a metal test coupon called an Almen strip. It is fitted with a calibrated high accuracy analog indicator with a low-force spindle spring to provide highly accurate and repeatable measurements.

Treated properly, this gage will give many years of trouble-free service. A flat “Check Block” is supplied with each gage to allow the owner to set the zero datum. The gage should be re-calibrated (both indicator performance and ball wear) annually or more frequently if conditions warrant.

The analog indicator has a resolution of 0.0005 inch.
For additional information see:

Use of Almen Gage	U.S. Patent 2,350,440
Construction of Gage	SAE J442
Use of Gage	SAE J443
Shot Peening Practice	SAE HS-84

2. Quick Start

- A Place the flat side of the “Check Block” onto the gage with the indicator tip touching the flat side.
- B Rotate the bezel (rim of indicator) until the indicator points to “zero”.



- C. Select a new Almen strip and place it on the gage to check its flatness. Be sure to measure both sides of the strip to determine the pre-bow (flatness) on the display. The larger number, regardless of positive or negative sign, is used as the flatness value.

Common limits of pre-bow (flatness)

MIL-S-13165	0.038mm or 0.0015"	Grade 3 or 2 Almen strip
SAE J 442	0.0254mm or 0.001"	Grade A1 Almen strip
SAE AMS 2432	0.0127mm or 0.0005"	Grade A1-S Almen strip

3. General Information

A Placement of strip onto gage for correct reading—the indicator tip touches the non-peened side of the strip. This should always give a positive reading.

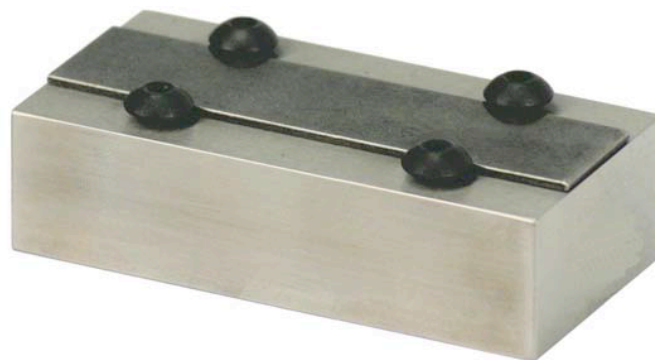


correct



incorrect

B. Place an Almen strip onto the holder. Be sure the attachment screws are secure and that no shot or other contamination is beneath the strip. Be sure the pre-bow measurements are marked on the strip on the side facing down (not to be blasted).



- C After blasting place the strip onto the gage with the indicator touching the non-peened side of the strip. Refer to SAE J443 for additional information on procedure for measuring peening intensity.
- D Temperature limits:

	Temperature Range
Storage:	4° - 140° F
Operation:	60° - 90° F

4. Maintenance

No regular maintenance, other than cleaning with a dry cloth or compressed air, is recommended. The Almen gage should be calibrated annually.

DO NOT APPLY ANY OIL OR OTHER LUBRICANTS TO THE INDICATOR.

5. Calibration



A specially designed calibration kit is available from Electronics Incorporated. Kit part number 999430 is used for inch calibrations. Kit part number 999431 is used for metric calibrations.

Request Instruction Manual IM0085 for proper procedures.

Note: IM0085 is designed for the TSP-3 digital Almen gage. You may use that procedure with the following changes:

1. Calibration resolution for the TSP-JR is ± 0.001 inch. The reference block is flat on both sides. No curved block is supplied for TSP-JR.
2. Calibration resolution for the TSP-JR metric is 0.01 mm.
3. Be sure to be in (approximately) the middle of the analog gage range of operation when securing the indicator to the base plate.
4. TSP-JR does not have end-stops. Ignore the end-stop holes provided on the 9-hole template.

6. Warranty

The #2 Almen gage is warranted to be free from defects and materials for a period of one (1) year from date of shipment from Electronics Incorporated. Any problems, other than customer abuse or normal wear will be corrected free of charge. Send the gage with freight pre-paid to:

Electronics Incorporated
56790 Magnetic Drive
Mishawaka, In 46545 USA

Your repaired gage will be returned freight prepaid via United Parcel Service (UPS) unless specified otherwise (additional cost). Non-warranty work is chargeable and will be quoted in advance. Loaner gages are available in advance. Contact the factory for assistance.