

**TS SERIES TEST STANDS –  
TSA, TSAH, TSB, TSC, TSCH**

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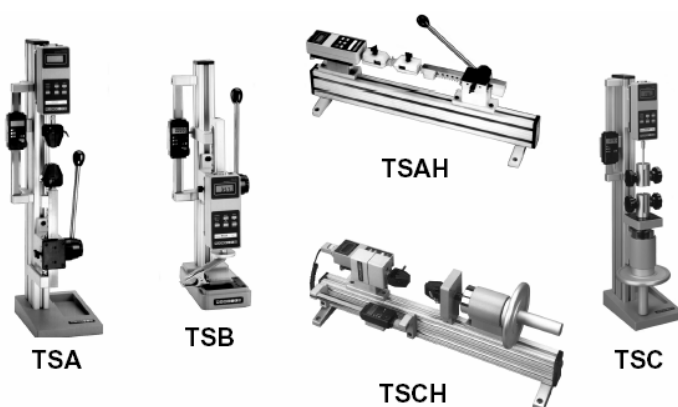
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## UNPACKING AND SETTING UP

- Carefully unpack the stand and inspect for any damage. Check to make sure you have received a complete test stand with all accessories – see the “List of included items” section.
- Install the loading lever on models TSA, TSAH and TSB. The position of the loading lever can be adjusted as required – see the “Operation” section for your particular model. No assembly is required for Models TSC and TSCH.
- Place the stand on a firm, flat and level working surface free from vibration to ensure accurate readings. It is recommended that the test stand be secured to a work bench – see the “Operation” section for your particular model.

## LIST OF INCLUDED ITEMS

Quantity	Item
1	Force measurement stand
4	# 6-32 thumb screws for gauge mounting
4	#10-32 thumb screws (all models except TSB)
1	User's Guide (this document)
1	Mounting hole drill template (except horizontal units)
1	Tool kit (all models except TSB)
1	Attachment kit (all models except TSB)– includes 2 hooks and a 2" diameter compression plate



## TSA / TSAH OPERATION

1. Mount the test stand to a firm, flat, and level working surface for maximum safety and accuracy using four 5/16 screws (not included). Use the included mounting hole drill template to accurately drill the holes. Testing can take place without securing the test stand in such a manner; however, it is strongly recommended that the stand be secured, especially for large forces.
2. Install a force gauge onto the gauge plate with four thumb screws. Cooper force gauges mount directly to the stand without adapters.
3. Install any needed attachments, including grips, adapters, and other materials necessary for your test sample. Make sure these items are set up in a secure and safe manner.
4. Zero out the force gauge, then begin the test by turning the handwheel clockwise for compression or counter-clockwise for tension.

The loading lever can be adjusted to allow for ease of operation. Reposition the loading lever by removing the knob and realigning the lever pin in the mounting hub. Move the loading lever clockwise for compression, counter-clockwise for tension.

The rack brake can be set by loosening the wing nut, positioning the rack to the desired location and re-tightening the wing nut.

The clearance on the rack can be set by adjusting the four set screws using the tool provided.

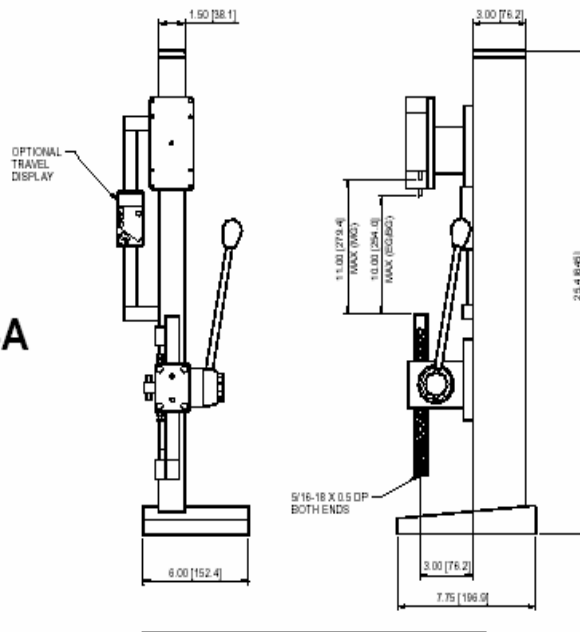
The travel stops can be adjusted in "0.5" [12.7mm] increments along the rack by moving the blocks to the desired location and tightening two screws. Fine adjustments can be made using adjusting screws on the housing and locking the jam nuts.

*Note:* To maintain smooth functioning of the stand, avoid overloads and repetitive shock loads.

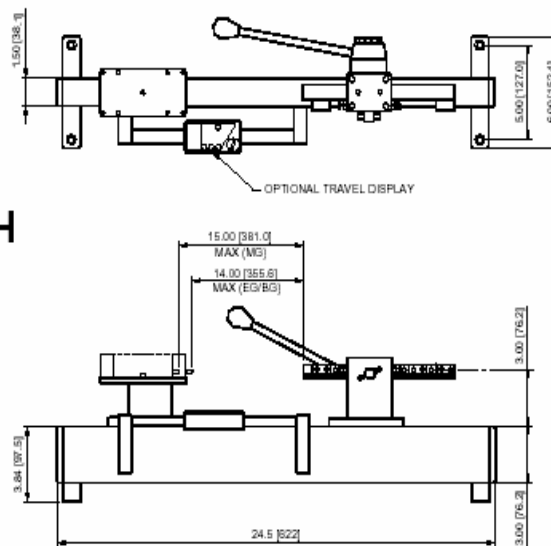
<b>TSA / TSAH SPECIFICATIONS</b>	
Load Capacity	750 lbs (3750 N)
Maximum travel	6" / 3.75" with stops (152.4 mm / 95.3 mm], with stops
Loading method/rate	Rack & pinion / 3" (76.2 mm) per rev.
Weight (test stand only)	TSA: 16 lbs (7.3 kg), TSAH: 13 lbs (5.9 kg)
Digital travel display resolution (optional)	0.0005" (0.01 mm)

# **DIMENSIONS** In [mm]

## **TSA**



## **TSAH**



## TSB OPERATION

1. Mount the test stand to a firm, flat, and level working surface for maximum safety and accuracy using four 5/16 screws (not included). Use the included mounting hole drill template to accurately drill the holes. Testing can take place without securing the test stand in such a manner; however, it is recommended that the stand be secured.
2. Install a force gauge onto the gauge plate with four thumb screws. Cooper force gauges mount directly to the stand without adapters.
3. Install any needed attachments, including grips, adapters, and other materials necessary for your test sample. Make sure these items are set up in a secure and safe manner.
4. Zero out the force gauge, then begin the test by turning the hand wheel clockwise for compression or counter-clockwise for tension.

The loading lever can be adjusted to allow for ease of operation. Reposition the loading lever by removing the knob and realigning the lever pin in the mounting hub. Move the loading lever clockwise for compression, counter-clockwise for tension.

The rack brake can be set by loosening the wing nut, positioning the rack to the desired location and re-tightening the wing nut.

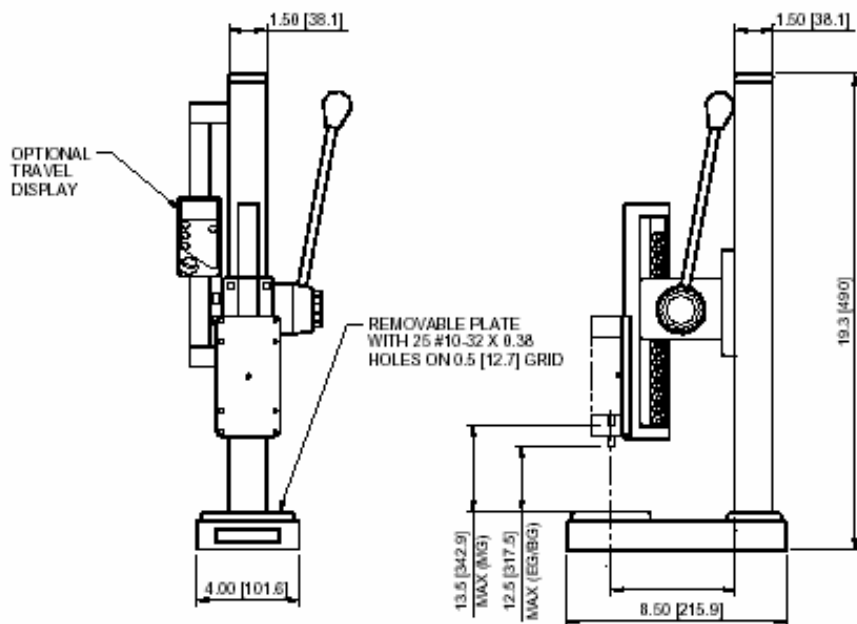
The clearance on the rack can be adjusted by removing the gauge plate, aligning the C-bracket holes with the set screws and adjusting as necessary.

Note: To maintain smooth functioning of the stand, avoid overloads and repetitive shock loads

TSB SPECIFICATIONS	
Load Capacity	100 lbs (500 N)
Maximum travel	6" / 3.75" with stops [152.4 mm / 95.3 mm]
Loading method/rate	Rack & pinion 3" (76.2mm) per rev
Weight (test stand only)	12 lbs (5.4 kg)
Digital travel display resolution (optional)	0.0005" [0.01 mm]

## DIMENSIONS

In [mm]



## TSC / TSCH OPERATION

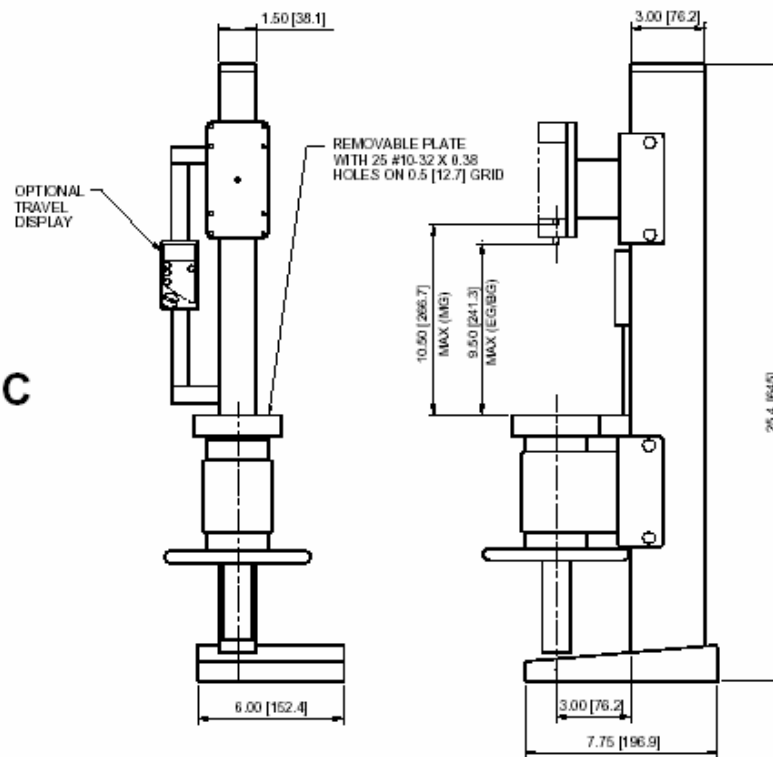
1. Mount the test stand to a firm, flat, and level working surface for maximum safety and accuracy using four 5/16 screws (not included). Use the included mounting hole drill template to accurately drill the holes (TSC, only). Testing can take place without securing the test stand in such a manner; however, it is strongly recommended that the stand be secured, especially for large forces.
2. Install a force gauge onto the gauge plate with four thumb screws. Mark-10 force gauges mount directly to the stand without adapters.
3. Install any needed attachments, including grips, adapters, and other materials necessary for your test sample. Make sure these items are set up in a secure and safe manner.
4. Zero out the force gauge, then begin the test by turning the hand wheel clockwise for compression or counter-clockwise for tension.

Note: To maintain smooth functioning of the stand, avoid overloads and repetitive shock loads.

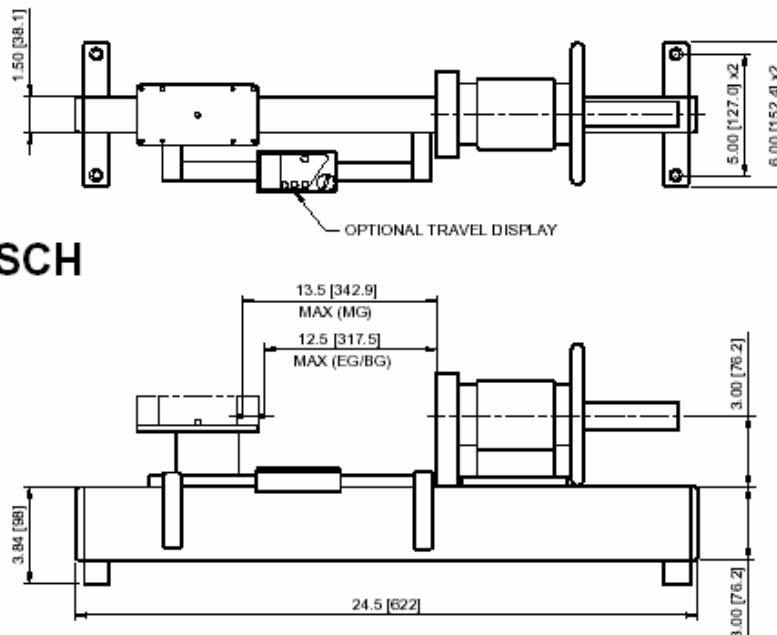
TSC / TSCH SPECIFICATIONS	
Load Capacity	1000 lbs (5000 N)
Maximum travel	3.5" (88.9 mm)
Loading method/rate	Handwheel 0.1" (2.54 mm) per rev.
Weight (test stand only)	TSC: 25 lb [9.0 kg], TSCH: 20 lb [11.3 kg]
Digital travel display (optional)	Resolution "0.0005" (0.01 mm)

# DIMENSIONS In [mm]

TSC



TSCH





## **WARRANTY REPAIR POLICY**

### **Limited Warranty on Products**

Any Cooper Instruments product which, under normal operating conditions, proves defective in material or in workmanship within one year of the date of shipment by Cooper will be repaired or replaced free of charge provided that a return material authorization is obtained from Cooper and the defective product is sent, transportation charges prepaid, with notice of the defect, and it is established that the product has been properly installed, maintained, and operated within the limits of rated and normal usage. Replacement or repaired product will be shipped F.O.B. from our plant. The terms of this warranty do not extend to any product or part thereof which, under normal usage, has an inherently shorter useful life than one year. The replacement warranty detailed here is the buyer's exclusive remedy, and will satisfy all obligations of Cooper whether based on contract, negligence, or otherwise. Cooper is not responsible for any incidental or consequential loss or damage which might result from a failure of any and all other warranties, express or implied, including implied warranty of merchantability or fitness for particular purpose. Any unauthorized disassembly or attempt to repair voids this warranty.

### **Obtaining Service under Warranty**

Advance authorization is required prior to the return to Cooper Instruments. Before returning the item, contact the Repair Department c/o Cooper Instruments at (540) 349-4746 for a Return Material Authorization number. Shipment to Cooper shall be at buyer's expense and repaired or replacement items will be shipped F.O.B. from our plant in Warrenton, Virginia. Non-verified problems or defects may be subject to a \$100 evaluation charge. Please return the original calibration data with the unit.

### **Repair Warranty**

All repairs of Cooper products are warranted for a period of 90 days from date of shipment. This warranty applies only to those items that were found defective and repaired; it does not apply to products in which no defect was found and returned as is or merely recalibrated. It may be possible for out-of-warranty products to be returned to the exact original specifications or dimensions.

\* Technical description of the defect: In order to properly repair a product, it is absolutely necessary for Cooper to receive information specifying the reason the product is being returned. Specific test data, written observations on the failure and the specific corrective action you require are needed.