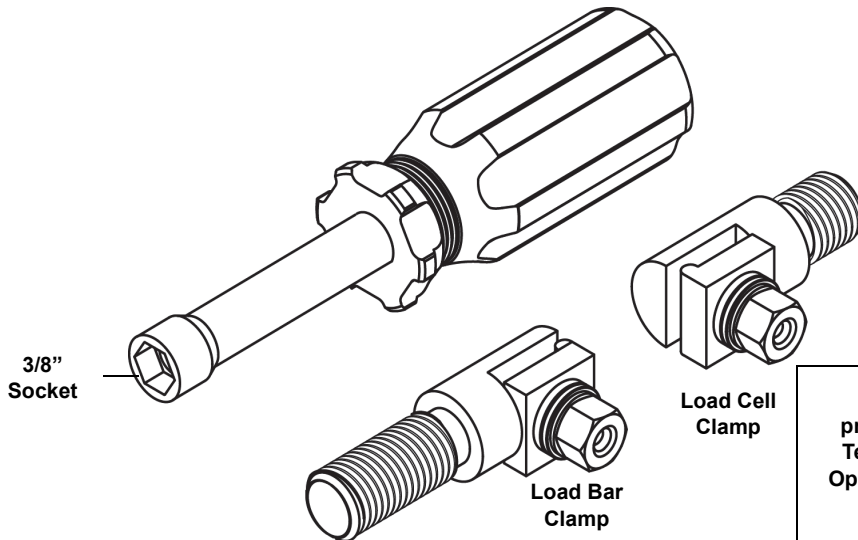


Materials Coupon Adapter

ME-8238

For Use with the Materials Testing Machine (ME-8236)



WARNING: Provide proper eye protection when using the Materials Testing Machine or its Accessories. Operate the Materials Testing Machine behind a protective shield.

Included Items
Materials Coupon Adapter
3/8" Socket Nut Driver

Required Items*
Materials Testing Machine (ME-8236)
PASCO Interface (PASPORT compatible)
PASCO Data Collection Software

*See the PASCO catalog or web site at WWW.PASCO.COM

Required Materials ¹
Plastic Coupons (AP-8222)
Metal Coupons (AP-8223)

¹AP-8217A Replacement Test Coupons (Full Set) consists of the AP-8222 Plastic Coupons and the AP-8223 Metal Coupons.

Introduction

The Materials Coupon Adapter is designed to work with the PASCO Materials Testing Machine (ME-8236), part of the Materials Testing System (ME-8230). The Materials Testing Machine is a device for measuring force and displacement for various materials as the materials are stretched, compressed, sheared, or bent. The Materials Testing Machine has a built-in load cell (strain gauge transducer) capable of measuring up to 7100 newtons (N) of force (1600 pounds), and an optical encoder module that measures displacement of the load bar. Force data from the load cell and displacement data from the encoder module can be recorded, displayed, and analyzed by a PASCO Interface with PASCO Data Acquisition Software. The sensor cable from the Materials Testing Machine connects to a PASPORT input port.

Materials Coupon Adapter (ME-8238)

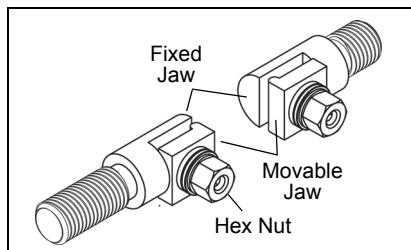
The Materials Coupon Adapter includes two clamps and a 3/8 inch socket nut driver. The nut driver is used to loosen and tighten the hex nut on each clamp. The clamps are designed to hold a plastic or metal coupon (available separately) so that the coupon can be mounted between the Load Cell and the Load Bar on the Materials Testing System. One clamp fits in the load cell and the other fits in the load bar.

Operation

Caution: Be sure to wear adequate eye protection when using the Materials Testing Machine or its accessories. Operate the System from behind a protective shield.

Basic operation involves mounting the item to be tested onto the Materials Testing Machine, connecting the Materials Testing Machine to an interface for data recording, and then turning the crank.

Prepare the Clamps



Loosen *but do not remove* the hex nut on each clamp. The jaws of the clamp are spring loaded, so the movable jaw will separate from the fixed jaw. Screw the clamp with the shorter threaded section into the top of the load cell. Put the threaded section of the other clamp up through the hole in the load bar, and use the load bar round nut to hold the upper clamp. NOTE: Do not completely tighten the round nut yet.

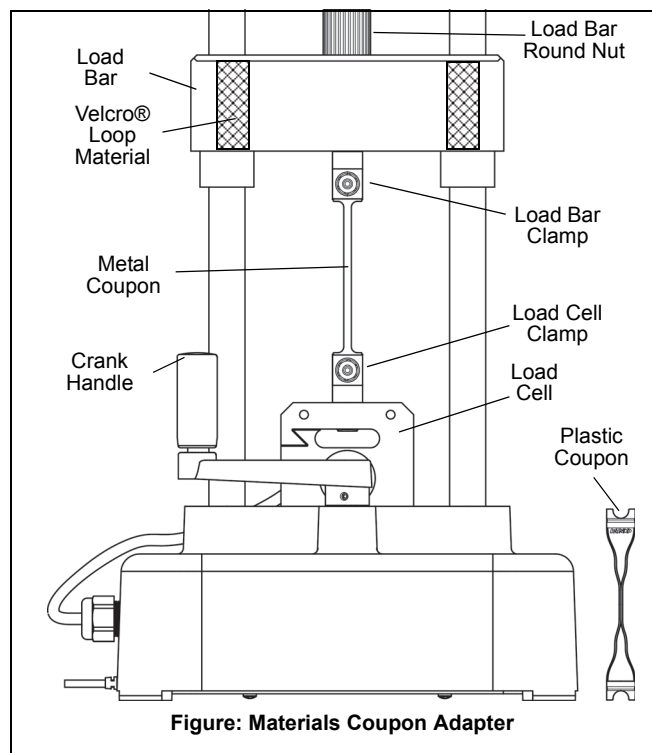


Figure: Materials Coupon Adapter

Carefully place one end of a coupon between the jaws of the bottom clamp. While holding the movable jaw to keep it aligned with the fixed jaw, use the nut driver to tighten the hex nut. CAUTION: Each coupon is fragile. Do not let the

movable jaw twist out of alignment with the fixed jaw as this might bend the coupon.

Turn the upper clamp so that it is aligned with the lower clamp. Adjust the position of the load bar so that you have room to carefully put the top end of the coupon between the jaws of the upper clamp. Keep the movable jaw aligned with the fixed jaw so that the coupon does not twist or bend. Once again, carefully tighten the hex nut.

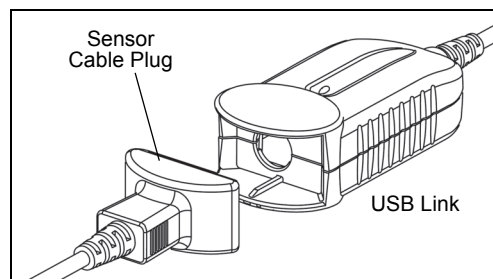
Hold the upper clamp so it remains parallel to the lower clamp and tighten the load bar round nut slightly to remove any slack in the coupon.

Attach the Safety Shields

Attach the safety shields that come with the Material Testing Machine. Match the Velcro® hook material on the two safety shields to the Velcro® loop material on the front and back of the Load Bar. Adjust the position of the shields so that they will block any fragments that may come from the sample.

Prepare to Record Data

Connect the sensor cable plug into a PASPORT input port on a PASCO interface such as the USB Link.



Start the PASCO software and arrange a graph display of force versus position. Use the software to zero the two sensors of the Material Testing Machine.

Record Data

Start data recording in the software. Turn the crank in a clockwise direction to apply a tension force on the coupon. Observe the graph display of force and position.

Experiment Guide

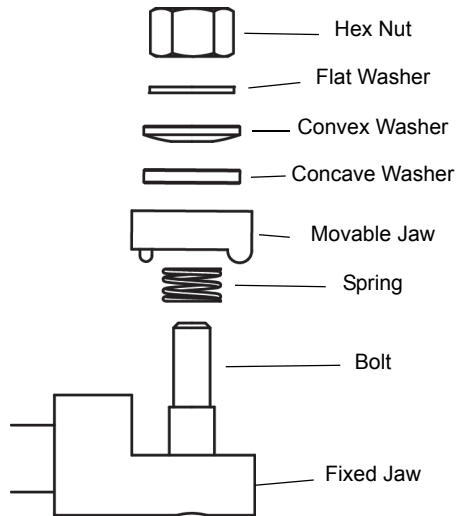
NOTE: An Experiment Guide in electronic format for the Materials Testing System is available to download from www.pasco.com.

Enter "Materials Testing System" in the Search window and look for the down-loadable file(s) under "User Resources".

Other Equipment

Other accessories are available separately for the Material Testing Machine. Please see the PASCO web site at www.pasco.com for more information.

Clamp and Washer Detail



The figure shows the arrangement of the washers and other parts on each of the Materials Coupon Adapter clamps.

Technical Support

For assistance with any PASCO product, contact PASCO at:

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Roseville, CA 95747-7100

Phone: +1 916-462-8384 (worldwide)
800-373-0300 (U.S.)

E-mail: support@pasco.com

Web www.pasco.com

For the latest information about the Materials Coupon Adapter, the Materials Testing System, or the replacement items and accessories, go to the PASCO web site at www.pasco.com and enter the model number or the model name in the search window.

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