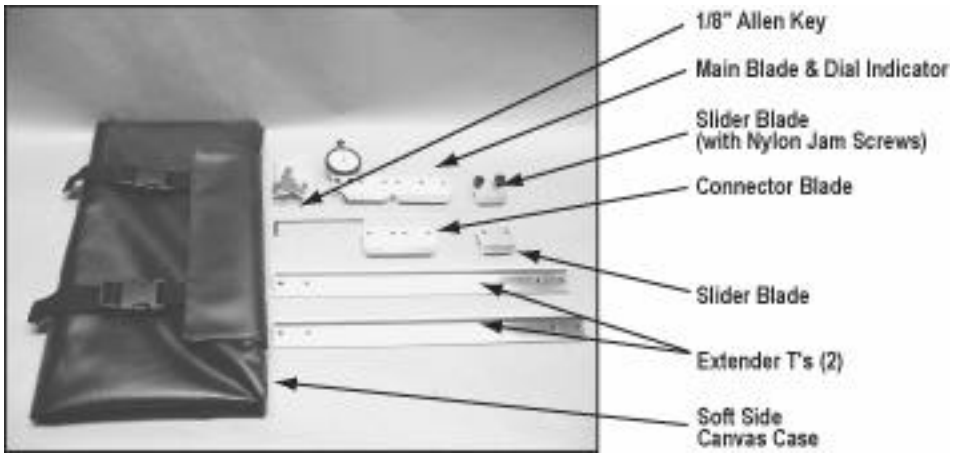
Bridging Pit Gauge

Description

Western Instruments Bridging Pit Gauge allows the Corrosion Inspector to Span or Cantilever over large areas of Weight-Loss Corrosion, to get a true measure of Pit Depth.

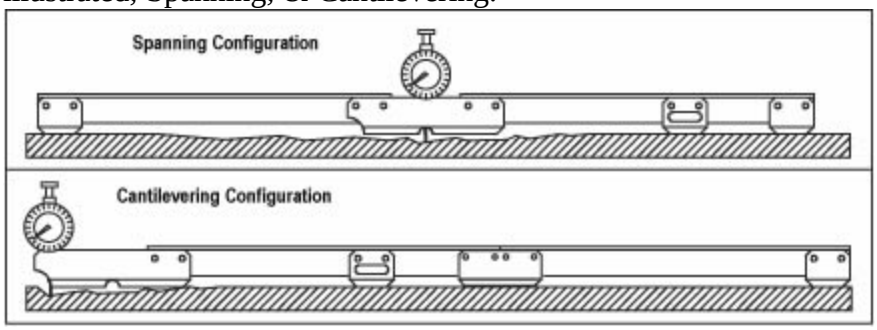
Parts

After unpacking your new Bridging Pit Gauge ensure all the parts illustrated and listed are included in you Kit.

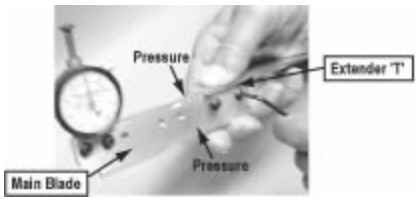


Configuration

The operator can use just the Main Blade for general inspection, however as conditions dictate, he can assemble the Bridging Pit Gauge into the two general configurations illustrated; Spanning; & Cantilevering.



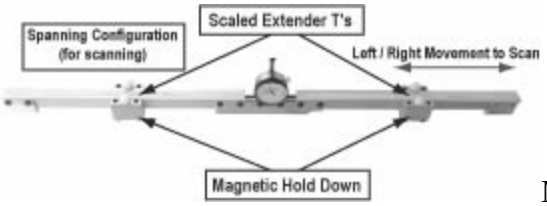
Assembly



All Blades, with the exception of the Slider Blade, have two distinct sides. The mounting holes on the Slider Blade are threaded through the thickness of the blade, while the other blades have a clearance hole on one side. When assembling start the fasteners on the Thread Clearance Side of the Blades.

When assembling the unit, press firmly (as illustrated) on the Extender T, and the Blade you are attaching to it, while tightening the 12-24 Button Head Machine Screws with the 1/8" Allen Key. When assembled in this fashion, the overall length of the unit should have a straightness of approximately +/-0.015". When more accuracy is required, assemble the unit on a flat surface.

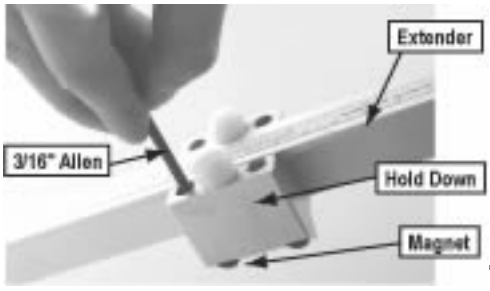
Magnetic Hold Downs



Magnetic Hold Down Blocks are specifically designed for use with the Bridging Pit Gauge, allowing operators to Scan an area of Corrosion. Magnetic Hold Downs also provide the inspector with increased mobility, as he is not required to support the Pit Gauge. The following are instructions for the use, and using, the Magnetic Hold Down Blocks for general and Scanning Pit Depth Measurement.

Height Zeroing to Work Piece

Magnetic Hold Down Blocks must be Zeroed to the work piece, whether the work is Flat (Steel Plate or Structural Sections), or Curved (Vessels, Pipe - 1.5" OD min.). Assemble the Bridging Pit Gauge in the desired configuration, with one Magnetic Hold Down Block on each Extender T, but leave all fasteners loose, and place the unit on a flat surface, of the same basic shape as the work piece. The flatter (or more straight) the surface, the more accurate the assembled unit will be.



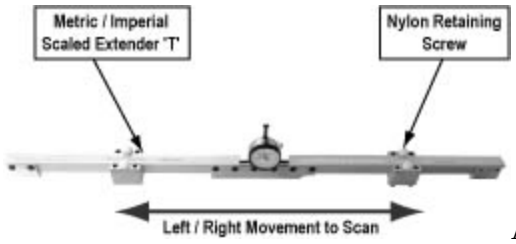
The elevation in each Magnet Cartridge must be adjusted to ensue the Hold Down Block contacts the surface of the Work Piece. This ensures the Blocks sit as Flat as possible for maximum magnetic attraction. This is accomplished by using the large 3/16" Allen Key, included in the kit, to bring each magnet cartridge up or down within the block.

The Magnet Cartridges must be as close as possible, or contacting, the work piece whether it is flat or curved. When the Hold Down Blocks are Zeroed, the operator can then tighten the balance of the fasteners on the Pit Gauge. After the unit is assembled, with the Magnetic Hold Down Blocks Zeroed, the unit can be placed on to the work piece in a vertical, inclined, or up-side-down position.

Scanning

Prior to testing on the Work Piece, the dial indicator needs to be re-Zeroed, as there may be a Stand-off distance between the Blades (Main, Connector, End, or End/Slider) and the dial indicator's contact point, due to the Hold Down Blocks. This Stand-off will vary, depending if the profile of the Work Piece (Convex, Concave, or Flat).

The Magnetic Hold Down Blocks are designed to slide on the Scaled Extender T's (Imperial and Metric Scale allowing the entire Bridging Pit Gauge to travel over an area of corrosion. This travel permits the Dial Indicator's Contact Point to be moved incrementally, to take multiple pit measurements. These measurements can then be plotted to get a cross-sectional view of the corrosion profile. When placed on the Work Piece, the Nylon Retaining Screws can be tightened or loosened for operator connivance.



After placing the unit on the Work Piece, the operator Zero's the longitudinal position of the Magnetic Hold Down Blocks, on the Scaled Extender T's. The operator can have over 7" (180mm) of travel with the End and Slider Blades installed or over 9" (230mm), with the End Blades removed. For recording purposes, the operator assigns a Depth Measurement with the corresponding longitudinal position, as referenced to one of the Magnetic Hold Down Blocks.

Care and Maintenance

Western's Dial Indicators (ADG Group 1 in Imperial or Metric, and Group 2 Digital) were developed for Field Pit Depth Measurement. While ruggedly manufactured, these units should not be dropped or subject to strong Vibration or Impact. While manufactured from Corrosion Resistant Materials, Pit Gauges and their Dial Indicators should be kept clean and dry. Fit and Finish of Pit Gauge parts are very important, operators should not hesitate to file rough edges, or clean with steel wool or wet dry abrasive cloth. New parts tend to be tightly fit, and will loosen with use. Care must be taken to ensure fasteners are not cross-threaded.