

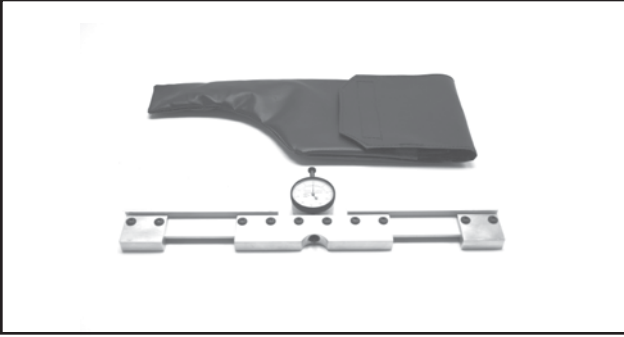
# Western Instruments

Since 1965

## Span Gauge

### Description

Western Instruments Span Gauge provides Corrosion Inspectors with an economical alternative to our Bridging Pit Gauge, for the Inspection of large areas of Weight-Loss Corrosion.



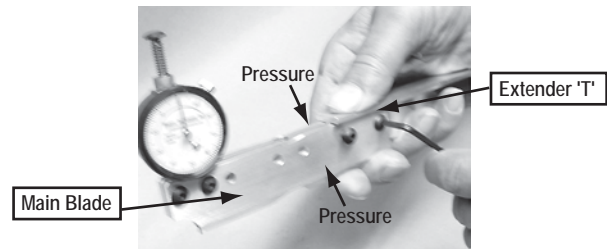
\*NOTE: Span Gauge, as illustrated, fits assembled into its optional holster.

Name	Model #	Description
Span Gauge Kit	N88-11	Soft Case, Main Blade, End Blade, Two Tees, Dial Indicator, Fasteners & Wrench. Span Gauge Blades are not a Knife Edge, but Bridging Pit Gauge Components can be used with the Span Gauge to extend its reach.
Basic Span Blade	N88-11B	Main Blade, Dial Indicator, Fasteners & Wrench.
Main Blade	N88-11-1	Centre Mount for Dial Indicator, 5.5" (140mm) long
End Blade	N88-11-3	End Blade, 1.5" (38mm) long (2 included).
Tee Section	N88-11-5	5.5" (140mm) long, will accept Magnetic Hold Downs Blocks and/or Extender Blades.
Carrying Case	N88-11-8P	Accommodates Span Gauge Kit.
Holster	N88-11-8H	Accommodates Assembled Span Gauge

## 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.

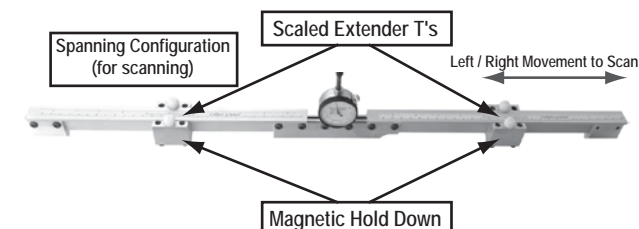


The fasteners only need to be 'snug', to ensure the Blades and Extender 'T's do not move relative to one another.

## Magnetic Hold Downs

The Bridging Pit Gauge is offered with 2 models of Magnetic Hold Downs; Basic and Adjustable. The powerful Basic Magnetic Hold Downs are cast in plastic, equipped with 2 fixed magnets and will accommodate most inspection needs. The Adjustable Magnetic Hold Downs are equipped with 4 adjustable magnet cartridges, allowing the inspector to fully Zero the Magnets to the workpiece.

Magnetic Hold Downs provide the inspector with increased mobility, as he is not required to support the Pit Gauge, but more importantly these magnets permit Scanning an area of Corrosion. Magnetic Hold Downs are designed to slide on the Scaled Extender T's (Imperial and Metric Scales), 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 obtain a Cross-Sectional View of the corrosion profile.



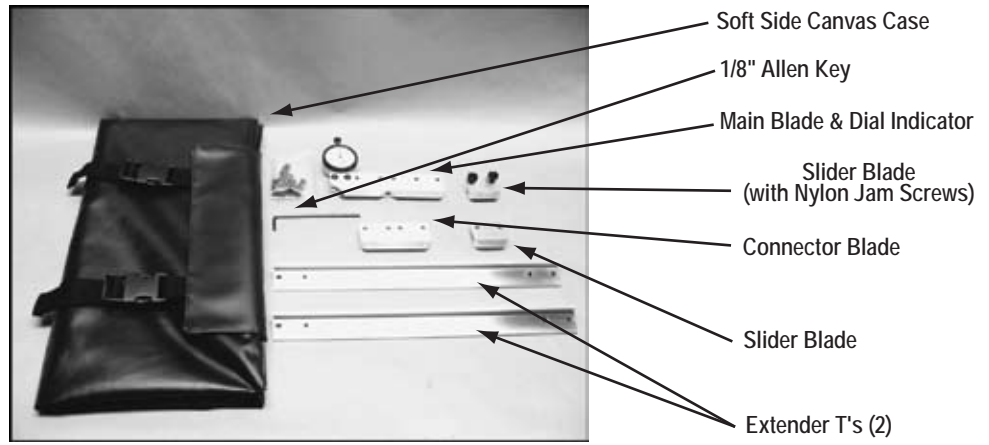
## THE Bridging Pit Gauge System

### 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.

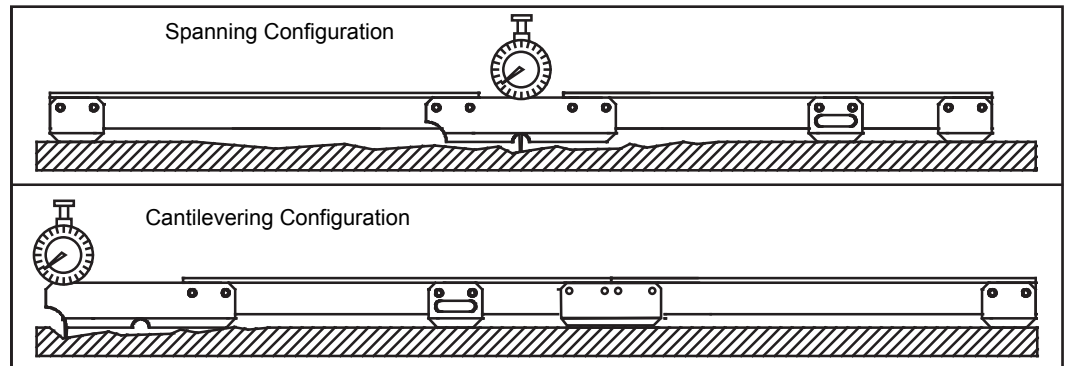


Name	Model #	Description
Standard Bridging Kit	N88-9	Soft Case, Main Blade, Connector Blade, End Blade, Two Tees, Slider Blade, Dial Indicator, Fasteners & Wrench. Multi Piece unit can be assembled in spanning or cantilevering configurations for testing large areas of Corrosion.
Basic Bridging	N88-9B	Main Blade, Dial Indicator, Carrying Case, Fasteners & Wrench.
Main Blade	N88-9-1	Centre and End Dial Indicator mounting positions 5.5" (140mm) Long.
Connector Blade	N88-9-2	3.5" (89mm) Long
End Blade	N88-9-3	1.5" (38mm) Long
Slider Blade	N88-9-4	1.5" (38mm) Long (Slider Blade doubles as an End Blade for Spanning Configuration)
Tee Sections	N88-9-5	12" (305mm) Long (Scaled T's required for Magnetic Option)
Fasteners and Wrench kit	N88-9-7	12 Fasteners, Allan Key, & 2 Nylon Fasteners
Carrying Case	N88-9-8P	Accommodates entire Kit.
Options:		
Adjustable Magnetic Holds downs	N88-9-6	1.625" (41mm) Long. 1 required for each Tee Section, supplied in pairs.
Basic Magnetic Holds downs	N88-9-6P	1.625" (41mm) Long (Plastic). 1 required for each Tee Section, supplied in pairs.

## Configuration

As conditions dictate, the operator can assemble the Bridging Pit Gauge into the two general configurations illustrated; Spanning or Cantilevering.

The operator can use just the Main Blade for general corrosion measurement.

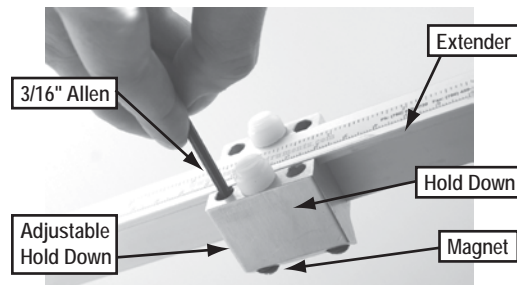


## Height Zeroing to Work Piece

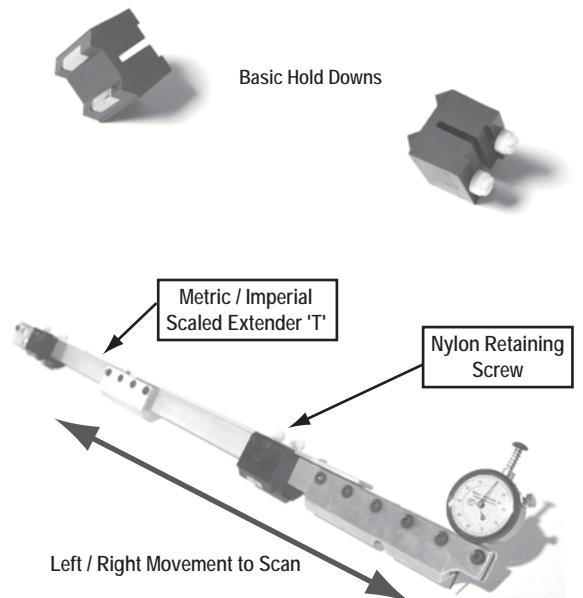
Magnetic Hold Down Blocks must be Zeroed to the work piece, whether the work is Flat (Steel Plate or Structural Sections), or Curved (Vessels, Pipe - 1.5" OD min.). Assemble the Bridging Pit Gauge in the desired configuration, with one Magnetic Hold Down Block on each Extender T, but leave all fasteners 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 ensure 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 to, 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.



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 convenience.



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 subjected 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, clean with steel wool or wet dry abrasive cloth/pads. New parts tend to be tightly fit, and will loosen with use. Care must be taken to ensure fasteners are not cross-threaded.

## 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 on the profile of the Work Piece (Convex, Concave, or Flat).

