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W-PT Description

W-PT Pull Test Bar

The Pull Test is the fastest way to verify the operation and specification compliance of MPI Yokes. Western's W-PT is designed for ease of use with AC Yokes (10 Pounds or 4.6Kg) where just one Bar is required.

For Yokes using the DC Method, several Bars are conveniently stacked and fastened together, as illustrated to the right. The requirements vary, depending on the Reference Specifications. *ASME Section V, Article 7* requires 40 Pounds or 18.2Kg. ASTM E709 and E1444 require 30 Pounds for a Pole Spacing of up to 4" and 50 Pounds for a Pole Spacing up 6". All W-PT's have Serial Numbers, and are supplied with Certificates of Compliance.

Testing of MPI Yokes is usually done with the Legs Straight for ease of the test. Leg Spacing should have no effect on the Lifting Force of any Yoke (AC, AC/DC, 12Volt, Cordless, or Permanent Magnet), as the losses in the Leg Hinges is the same if they are straight or adjusted to 90 degrees. The one item that must me watched, when doing a pull test, is that the Bottom of the Feet remain flat and in full contact with the Pull Test Bar. This may require tightening of the Leg Hinges, or by cutting a small piece of wood (non-metallic) to fit between the fully extended legs. However, the legs should be loosened when testing, so the operator can be mindful of the 'Contact' with the workpiece.

Pull Testing is fast and easy with any AC Yoke, however operators must be mindful of Pole Spacing with DC Yokes. Virtually all specifications limit Pole Spacing to 6" (150mm) with a DC Yoke, for very good reason. As the poles of a DC yoke are moved apart the flow of flux, from the positive pole to the negative pole, progressively reduces. When the poles are spaced beyond this maximum distance the flux flow will stop, thus changing the field characteristics drastically and not allowing indications to form.

The obvious items like; Condition of a Yoke's Pole Pieces, Flatness of the Feet, and other equipment serviceability issues must be adhered to. An item of greater importance in testing the effectiveness of a Yoke (and its operator) is the use of some

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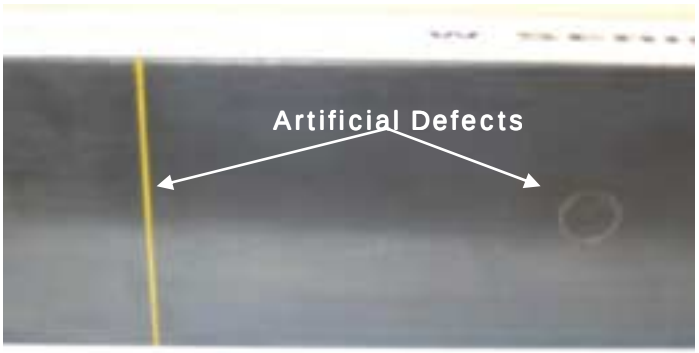
type of inspection verification, such as a W-PT-DB, QQI's, Castrol Strips, or a Pie Gauge, however nothing beats a test coupon with an actual defect!

Every third party auditor will want to see current Certification for Pull Test Bars, and this uneducated question leads inspection personnel too assume that a 'Calibration' should be done annually, but this is not the case. ASTM E719, as well as ASME Section V, Specifications state that a Pull Test Bar(s) only need to be recertified when there are physical signs of damage which may affect the weight. Handling Scratches, dents, or removal of the protective Conversion Coating will not affect the weight, however heavy Scratches (Gouges) may be cause for concern. W-PT's are manufactured to weight 10.1 Pounds or 4.7kg thus physical damage from normal use should not be a concern.

W-PT-DB Description

The W-PT-DB is identical to the Standard Stackable W-PT Pull Test Bar, however Artificial Defects have been introduced. The Artificial Defects are represented by a Circle in the Center of the Bar and a Transverse Notch toward one end.

The Circle is produced by the press fit of a 3/8" (9.5mm) Diameter Plug into the hole in the center of the bar, thus the W-PT-DB is not stackable. The Plug is machined from the same heat of steel as the parent bar.



The Transverse Notch is approximately 0.016" Wide x 0.032" Deep (0.41mm x 0.81mm), is Epoxy filled, and extends the width of the Bar The Notch is positioned 2 ½" (63.5mm) from the one end of the bar, to allow either indication to be used.

Testing, for sensitivity, is conducted on the bottom of the bar, however the . Circle can be detected from either side. The W-PT-DB is an excellent training and demonstration fixture, and ensures the 10 Pound Pull Test for AC Yokes.

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