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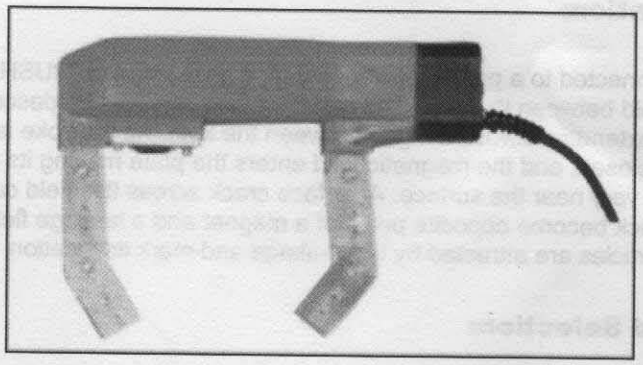
Y-7 AC/DC Yoke Operating Instructions



The Y-7 is an articulating leg magnetic yoke providing A.C. or D.C. magnetic fields for defect detection in ferromagnetic materials. The Y-7 has the capability of demagnetization, if required.

Specifications:

Power Source:	The Y-7 is configured for 115 volt, 50/60Hz.1 phase, OR 220 volt, 50 Hz.1 phase.
Current Draw:	115V version - 4 amps / 230V version - 2 amps.
Mechanical Capacity:	Minimum-maximum distance across poles: 1“ to 12".
Magnetic Field:	A.C: Constant level. D.C: Pulsed.
Pull Force:	The Magnaflux Y-7 yoke is designed to lift 10 lbs or 40 lbs as specified in ASTM E-444. Please refer to this specification for more details.
Yoke Weight:	7.7 pounds.
Controls:	Electronic - Solid state contained within the housing.
Manual:	Momentary, push to test switch A.C./D.C. selector switch
Duty Cycle:	33% with 80 seconds "ON" maximum.

Caution!

1. ***DO NOT connect the power cord to a battery for portable work-power source must be as noted on the nameplate.***
2. ***DO NOT change the AC/DC selector switch while the unit is energized.***

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Principle of Operation:

With the instrument connected to a proper power source, depressing the "PUSH to TEST" switch creates an intense magnetic field between the legs. The resultant field can best be described as a multiplicity of invisible lines of force extending across the gap between the legs. As the yoke is applied to a steel plate, the magnetic circuit is closed, and the magnetic field enters the plate making its passage between the legs of the yoke at and very near the surface. A surface crack across this field cuts the magnetic circuit; the two sides of the crack become opposite poles of a magnet and a leakage field occurs in the air above the crack. Magnetic particles are attracted by this leakage and mark its location.

Magnetizing Field Selection:

A.C. MAGNETIZATION-This induced field is a surface field which only detects indications open to the surface. It is particularly useful for inspecting thick and irregular sections for surface defects. Good results are generally obtained with dry method.

(PULSED) D.C. MAGNETIZATION-This induced field penetrates the work piece and detects both surface and (slightly) subsurface indications. Good results are generally obtained with the wet method. But experimentation with method variables should always be practiced.

Operation:

Adjust the legs to an appropriate spacing and place the yoke firmly upon the work piece (securing the best contact possible) with the suspected defect at a right angle to the poles. With the selector switch in either the AC or the DC position, depress the test switch to energize the yoke and lightly dust (dry powder) or flow (wet method) inspection particles over the area of interest. As an example, when testing for longitudinal surface cracks in a weld, the yoke would be positioned so that the legs straddle the weld. If the direction of a possible defect is not known, two inspections should be made in such area, turning the yoke approximately 90 degrees for the second inspection.

Using the powder blower bulb, the area between the legs of the yoke is dusted lightly with MAGNAFLUX powder and inspected closely for cracks or other indications. Current should remain "on" (continuous method). This process is repeated until the entire area of the part is inspected.

Experience with different parts and surfaces will indicate the best magnetizing current, particle application, and testing procedures to obtain good inspection results. The "continuous method" should always be used for maximum sensitivity.

Demagnetization:

The Y-7 yoke can usually be used to obtain satisfactory level of demagnetization. With the instrument in the AC mode, place the part across the poles and while the current is flowing slowly withdraw the part from the field to a distance of a least 18" before turning off the magnetizing current.

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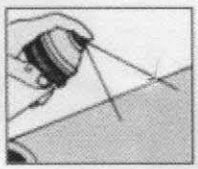
Warranty:

The Y-7 yoke is warranted against defective material and workmanship for 1 year. In the event service is required, the yoke must be returned, transportation prepaid, to our factory. The obligation of MAGNAFLUX Corporation is limited to the repair or replacement of the defective unit. No other obligation is expressed or implied. MAGNAFLUX Corporation assumes no liability from any claim arising from the use of this instrument.

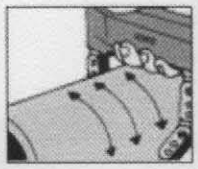
As with all inspection equipment and mediums, proper training of operating personnel is the obligation of the user and is necessary for the proper and effective use of this instrument.

How to use



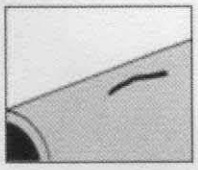
Preclean inspection area. Spray on Cleaner. Wipe off with cloth.

Place Yoke on test piece perpendicular to direction of suspected cracks.



Energize Yoke. Magnetic field will form in test piece.

Apply magnetic powder or prepared bath while Yoke is energized.



Indications will form immediately.

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Revised: 05/4/2006 kg

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