



OPERATING INSTRUCTIONS  
MODEL B300UF CONTOUR PROBE

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PARKER RESEARCH CORP.

NONDESTRUCTIVE TEST METHODS, SYSTEMS, INSTRUMENTS  
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The model B300UF Contour Probe is a rugged high performance instrument designed for Magnetic Particle inspections to accepted Non-Destructive testing standards of common practice. Certain operating procedures and safety precautions should be observed.

**ELECTRICAL:** The B300UF operates from a standard 115VAC, 60Hz, 1P power source through the GFCI Plug installed on the electrical cord.

The model 14880R GFCI Plug is designed to break the electrical circuit from the B300UF in the event of damage to the instrument or power cord. The GFCI Plug should be tested before each use by following the instructions printed here and on the GFCI Plug. Also see specifications on the back of these instructions.

1. Plug the GFCI into power receptacle.
2. Press Reset Button.
3. Press Test Button. Red Indicator should appear.
4. Press Reset Button again for use.
5. **CAUTION:** DO NOT USE IF TEST FAILS

FIG. 1

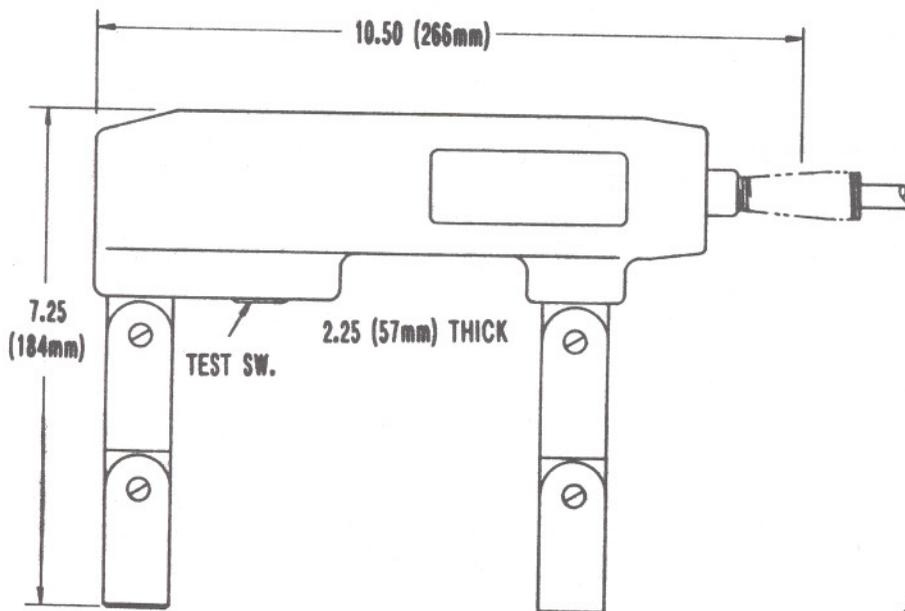
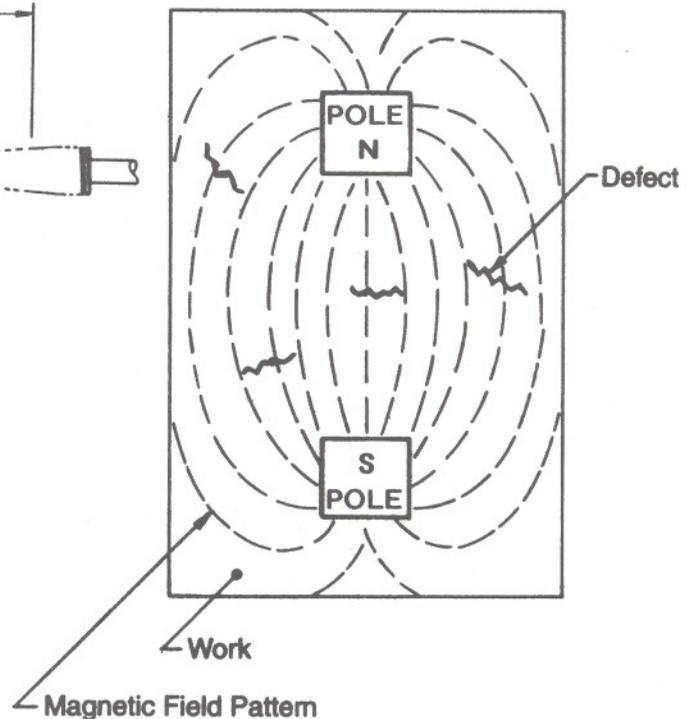


FIG. 2



**INSTRUMENT DESCRIPTION:** Basically, the B300UF Contour probe is an electro-magnet that produces a strong A.C. magnetic field. Placement of the two poles (legs) upon a ferrous metal test part merely provides a path for the intense magnetic field to pass from one pole to the other. The part completes the flux path and becomes highly magnetized in a longitudinal direction.

In overall design and performance, the B300UF Contour Probe comprises a coil wound on a laminated steel leg assembly contained within the rugged molded housing. Flexibility of the laminated legs permits the magnetic field to be "focused" to the precise area of inspection.

**OPERATION:** Connect the GFCI Plug into a Grounded power outlet of proper voltage. Place the Contour Probe legs upon the work surface with the suspected defect at right angles to the legs. Push the test switch to energize the instrument. Lightly dust or float dry magnetic inspection powder over the area being inspected. Defect indications will be revealed in a direction shown on figure 2. Turn the Probe 90 degrees from the first test and repeat the procedure. The test switch should be released after powder application. This same procedure may be utilized when applying a wet medium. The Contour Probe should be energized while the wet particles are applied to the work surface and should remain energized momentarily after the wet particles have been applied to allow for complete particle migration.

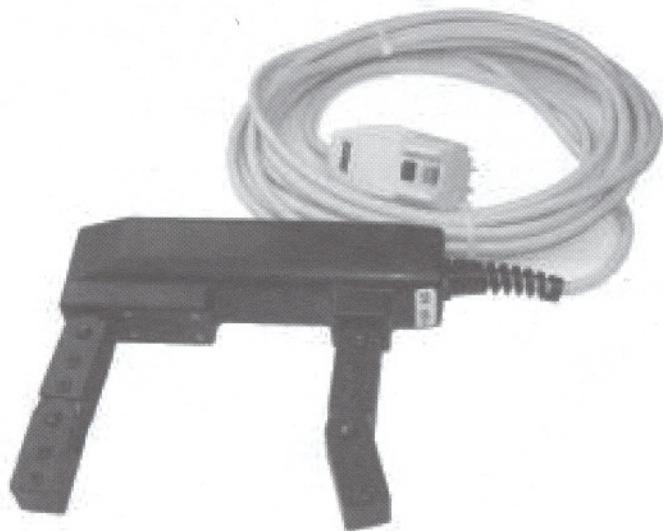
**DEMAGNETIZATION:** Small pieces, which have become residually magnetized, may be easily demagnetized by the following procedure. Energize the Probe and pass small parts through the area between the leg ends "feet" and withdraw to a distance of about two feet. On large pieces, place the Probe in the same position as inspection, energize the Probe and lift from the work surface to a distance of about two feet. This procedure may need to be performed more than once to remove residual field.

**A.C. MAGNETIZATION:** An A.C. magnetic field induced into a part is a "skin" or surface field and does not penetrate the cross section of the material. A bi-product of A.C. is in the form of eddy currents. These eddy currents tend to guide or direct the magnetic field in a narrow pattern between the poles. Another bi-product is a vibratory action, which adds mobility to the inspection particles to form a more highly defined powder build-up at the defect. For these reasons, an A.C. magnetic field is the most desirable for the detection of surface breaking defects.

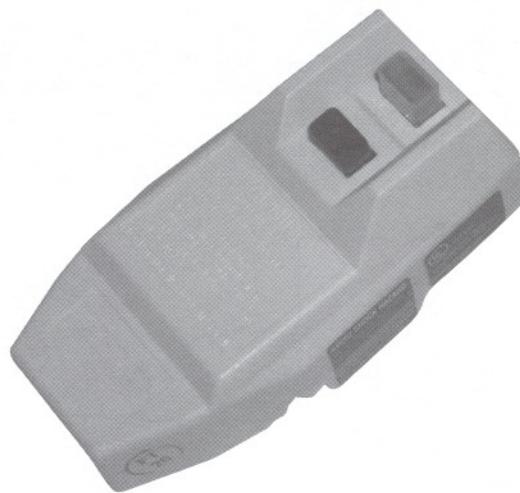
**WARRANTY:** The Parker B300UF is warranted against malfunction due to defective material and or workmanship. The defective unit will be repaired or replaced (less incoming freight charges) for a period of one year from the date of sale. This repair warranty does not apply to altered units. Repair or replacement of the defective unit will be made at the discretion of Parker Research Corporation. Repaired or replacement unit(s) will be returned to the original customer.

The obligation of Parker Research Corporation is limited to the repair or replacement of the defective unit. No other obligation is expressed or implied. Parker Research Corporation assumes no liability from any claim arising from the use of his equipment.

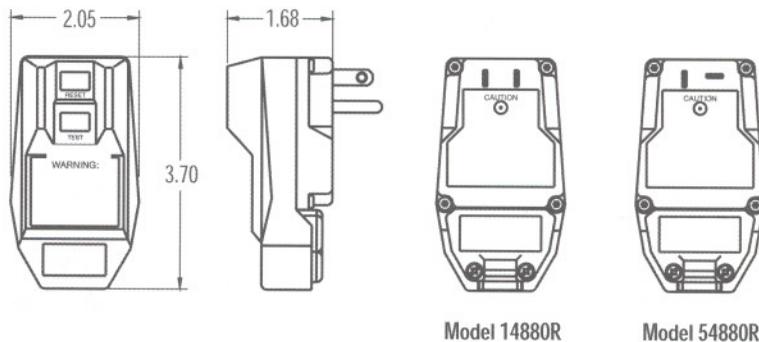
**CAUTION:** For the correct and safe use of this equipment, training of operating personnel is required. Use of proper inspection procedures, specification compliance and safety requirements will be the obligation of the user. **ALWAYS WEAR SAFETY GLASSES WHEN USING THIS EQUIPMENT.**



**B300UF CONTOUR PROBE W/GFCI**



**MODEL 14880R GFCI**



Model 14880R

Model 54880R

**FEATURES**

**Model 14880R** ⓘ

- ▶ Volts/Amps: 120V/15A
- ▶ Accepts 12 - 18 AWG. (SJT)
- ▶ NEMA 5 - 15 P
- ▶ Trip Level: 4 - 6 mA



**Model 54880R** ⓘ

- ▶ Volts/Amps: 120V/20A
- ▶ Accepts 12 - 18 AWG. (SJT)
- ▶ NEMA 5 - 20 P
- ▶ Trip Level: 4 - 6 mA



**TECHNICAL DATA**

Grounded neutral	4 Ohms typical
Trip response time for ground fault and grounded neutral trip	less than 25mS
Voltage surge withstand (MOV Protection)	3kv ringwave test and 4kv/2kA surge immunity test
Radio frequency noise susceptibility	operates within normal limits with 0.5 volts injected on power line 150-230 mHz
Frequency	50 / 60 Hz
Endurance	3,000 operations minimum
Overload Current	six times rated current
Operating temperature range	-35 °C to 66 °C
Effect of 10 Amp turn DC Shock on ground fault trip	5% maximum trip level variation
Insulation voltage	1500 VRMS - 1 Min.
Power On indication	mechanical indicator

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