



**OPERATING INSTRUCTIONS
MODEL B310PDC
CONTOUR PROBE**

**BULLETIN 269
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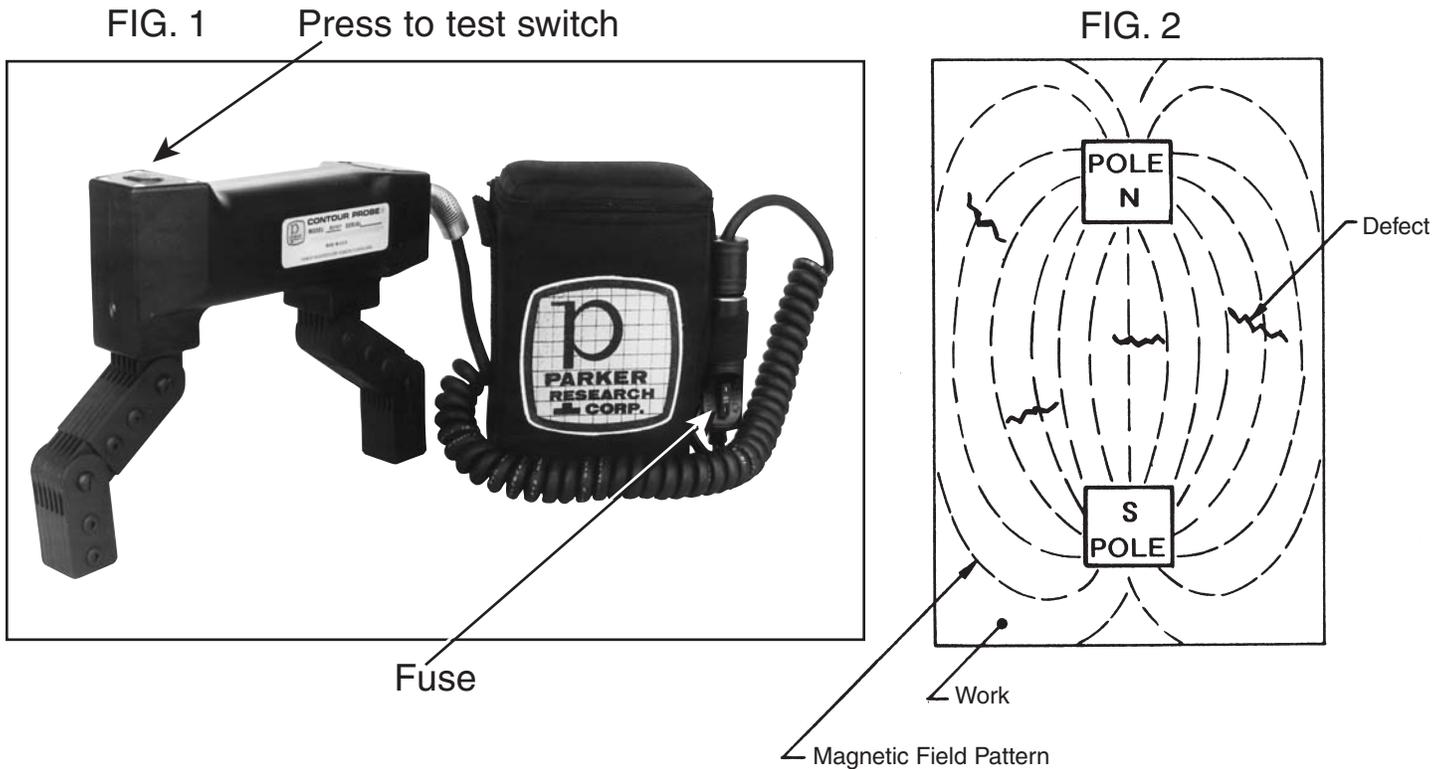
PARKER RESEARCH CORP.

NONDESTRUCTIVE TEST METHODS, SYSTEMS, INSTRUMENTS
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The model **B310PDC (PULSED D.C.)** Contour Probe is a very portable, battery operated Magnetic Inspection Yoke designed for Magnetic Particle inspection. It is especially convenient for use where outside power is unavailable or where operator safety is a concern. Certain operating procedures and safety precautions should be observed.

BATTERY PACK: The B310PDC operates from any 12VDC storage battery or optional Parker Battery Packs, P/N BP-7 (7.2 Amp Hour) and P/N BP-15 (14.4 Amp Hour). A 15A fuse is located on the battery connector. **Caution:** To dispose of old batteries, follow the regulations of local ordinances.

REPAIRS: Repair of the B310PDC Probe or either of the battery packs should not be attempted. Units are sealed and should be returned to the factory for service and repair.



INSTRUMENT DESCRIPTION: The B310PDC Contour Probe is an electro-magnet that produces a strong Pulsed D.C. magnetic field. A circuit board contained within the Probe assembly produces a high frequency Pulsed D.C. field. Although this Pulsed field produces more defined defect indications over that of a pure D.C. field, the Pulsed D.C. field may not in all instances produce the same sensitivity to detect minute defect indications that might otherwise be obtained by an A.C. field. Further, the Pulsed D.C. field does not capture the magnetic field width of the surface test area that is obtained with A.C. Care should be taken to test for defects in a line between the poles (legs) upon the work surface. As a precaution, a test standard should always be utilized to verify sensitivity to detect the smallest rejectable application defects and overall system performance. The B310PDC will comply with the D.C. weight lift test of 30 to 50 pounds. Occasional checks of the weight lift test should be made during testing to verify.

ELECTRICAL: The B310PDC obtains its power from a portable 12V battery. A Green “Battery Level” LED is located at the rear of the unit (figure 3). Should the battery voltage drop to an insufficient level, the light will go out indicating that charging is necessary. Additionally, if the green LED fails to light with a sufficiently charged battery, it is an indication that there is a malfunction with the internal circuit or with the connection to the battery. If a malfunction is suspected, the instrument should be returned to the factory for repair. The 7.2 amp hour battery should remain at sufficient charge for approximately eight hours or longer depending on use. The 14.4 amp hour battery should last nearly sixteen hours or more.

OPERATION: Basically, the B310PDC Contour Probe is an electromagnet producing a strong Pulsed D.C. magnetic field. Place the Probe legs upon the ferrous metal work surface at a right angle to suspected defects. Push the test switch and lightly dust or float sufficient magnetic inspection powder over the test area located between the pole (leg) placements. Defect indications will be revealed in a direction as indicated on figure 2. Turn the Probe 90 degrees from the first test and repeat the procedure. The test switch should only be released after the powder has been applied to the test area. If excess powder is to be lightly blown away, as is the procedure to reveal minute indications, the Probe should remain energized while the procedure is performed. Care should be taken so as not to remove the power buildup at the defect indication.

MECHANICAL: The exclusive reversible strainrelief feature permits the B310PDC to be used in very confined spaces. The strainrelief may be rotated to exit at the top of the unit (figure 3) or conventionally at the end (figure 4). With the B310PDC disconnected from the battery, remove the four Phillips-head screws holding the strainrelief plate. Rotate the plate assembly to reposition the strainrelief. Care should be taken not to twist the internal wires more than once in either direction or to damage the internal pulsed D.C. circuitboard. Replace the plate assembly.

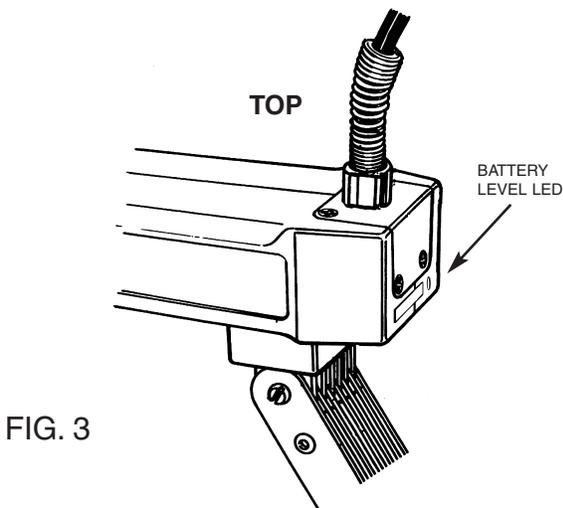


FIG. 3

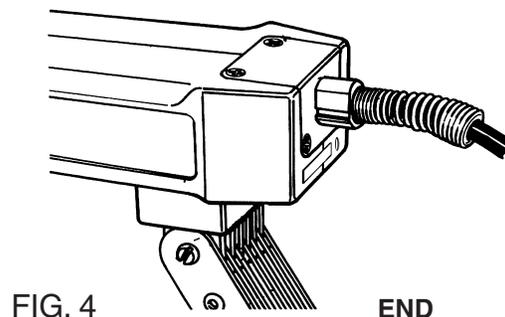


FIG. 4

WARRANTY: All new Parker Contour Probes, with the exception of those units that have been altered, will be repaired or replaced due to malfunction including user damaged units at no charge (less incoming freight charges) for a period of one year from the date of sale. The warranty shall cover repair or replacement of the returned Probe(s).

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 prepaid.

The **BATTERY PACK** is warranted against defects in materials and workmanship for a period of three months from the date of purchase. **CAUTION:** Old Batteries should be disposed of in accordance with local ordinances.

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 this equipment.

CAUTION:

For the correct and safe use of this equipment, proper training of operating personnel to inspection techniques, specification requirements and safety requirements is necessary and is the obligation of the user.

ALWAYS WEAR SAFETY GLASSES WHEN USING THIS EQUIPMENT OR WHEN CHANGING OR CHARGING BATTERIES.

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PARKER

MAGNETIC PARTICLE INSPECTION INSTRUMENTS



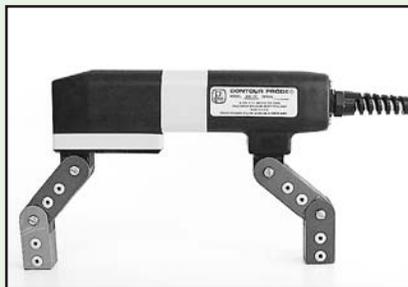
DA400-Contour Probe. Most popular A.C./D.C. Yoke. Available in various Kit forms and with Y400 Inspection Light.



B300-A.C. Contour Probe comes with Y300 Inspection Light. Also available with GFI Plug.



A210-Heavy Duty A.C. Contour Probe. Strongest A.C. Field Yoke available.



UW115 & UW12 Underwater A.C. and D.C. Yokes.



PL8 & PL10-Magnetizing Coils. 8" & 10" I.D. Complete with Carrying Case.



BAC310-Portable, Stand alone Battery Inverted 115VAC Power Supply. Operate A.C. Yokes or other Instruments where normal power sources are unavailable.



DA750 & DA1500-Portable Mag units. Heavy duty 750 or 1500 AMP. Available with all accessories.



PB5-Magnetic Powder Blower Self contained with internal Five Pound Powder Reservoir and Compressor. Apply powder evenly to all surfaces.



B310PDC-Portable 12VDC Contour Probe. Very Lightweight (6.5 lbs.) Available with 7.2 or 14.4 Ah Battery Pack with shoulder strap.



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