



8<sup>th</sup> Comm BN  
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HEADQUARTERS UNITED STATES MARINE CORPS  
WASHINGTON, D. C. 20380

NORMAL

TI-10510-35/3A  
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U.S. MARINE CORPS TECHNICAL INSTRUCTION

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TROUBLESHOOTING PRINTED CIRCUIT BOARDS

ELECTRONIC EQUIPMENT

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1. Purpose. To provide technical information and instructions for an improved method of troubleshooting PCB's (printed circuit boards) on electronic equipment.

NOTE

This TI is based on information provided in NAVSHIPS E1B815.

2. Cancellation. TI-10510-35/3.

3. Information

a. Disadvantages of Troubleshooting PCB's With an Ohmmeter. Troubleshooting PCB's with an ohmmeter has these disadvantages:

(1) It requires that all but one lead of the component under test be disconnected from the circuit.

(2) Removal of the leads involves time-consuming and expensive labor in soldering and resoldering leads.

(3) The soldering techniques themselves have been rendered obsolete by the miniaturization and microminiaturization of electronic components and by the density of their placement.

(4) Heat from a soldering iron is particularly hazardous when components are tiny and close together.