

## Electric System Repair Method

Fault finding in an electrical system is a systematic process that involves identifying and isolating problems to restore normal operation. Here is a general procedure to follow when troubleshooting electrical system faults:

### Understand the System:

Familiarize yourself with the electrical system, including the circuit diagrams, schematics, and specifications. This knowledge will help you identify the components and understand the expected behavior.

### Safety First:

Before starting any work, ensure that you follow safety protocols. Disconnect power sources, use appropriate personal protective equipment (PPE), and work in accordance with safety guidelines and regulations.

### Gather Information:

Collect information about the problem, including when it started, any recent changes, and any specific conditions that seem to trigger the issue. Interview operators or maintenance personnel who may have observed the problem.

### Visual Inspection:

Perform a visual inspection of the system. Look for signs of damage, loose connections, burned components, or anything out of the ordinary. Pay attention to wiring, cables, and connections.

### Use Test Equipment:

Employ various testing tools and equipment such as multimeters, voltage testers, and oscilloscopes to measure voltages, currents, and other relevant parameters. These tools can help pinpoint the location and nature of the fault.

### Isolate Sections:

Divide the system into sections or subsystems and test each section individually. This step helps narrow down the location of the fault.

### Check Power Supply:

Verify that the power supply to the system is stable and within the specified range. Unstable power can cause malfunctions.

### Check Grounding:

Ensure proper grounding of the system. Poor grounding can lead to electrical issues. Check for loose or disconnected ground connections.

### Inspect Wiring and Connections:

#### **Petrik Naval SL Spain**

ESB21507207  
Carretera Acceso Central Termica SN  
Torres de Hercules  
Los Barrios 11379  
Cadiz Spain

#### **Engineering**

Automation  
Electronics  
Safety systems  
Pollution prevention  
Gas detection  
Metrology

#### **Petrik Naval Gibraltar Ltd**

World Trade Center  
6 Bayside, Unit 1.02  
GX11 1AA  
Gibraltar

#### **Partners**

Calgaz UK  
Pro-Face  
Schneider Electric  
Krohne  
Endress+Hauser  
MMC

Examine all wiring and connections for loose, damaged, or corroded components. Tighten loose connections, replace damaged wires, and clean corroded contacts.

#### Check for Overloads:

Determine if any part of the system is overloaded. Check for excessive currents, and make sure that the equipment is not drawing more power than it can handle.

#### Review Control Systems:

If applicable, review control systems and programmable logic controllers (PLCs). Check for proper programming, sensor inputs, and actuator outputs.

#### Document Findings:

Document all your findings, measurements, and actions taken during the fault-finding process. This documentation can be helpful for future reference and for sharing information with other team members.

#### Systematic Elimination:

If the fault is not immediately apparent, systematically eliminate potential causes one by one until the problem is identified and resolved.

#### Repair and Test:

Once the fault is identified and corrected, make the necessary repairs. After repairs, conduct tests to ensure that the system is functioning properly.

#### Preventive Measures:

Implement preventive measures to avoid similar faults in the future. This may include regular maintenance, monitoring, and updating systems as needed.

Remember that electrical fault finding requires careful attention to detail and a methodical approach. If you are unsure or dealing with a complex system, it is advisable to seek assistance from qualified professionals.

#### **Petrik Naval SL Spain**

ESB21507207

Carretera Acceso Central Termica SN

Torres de Hercules

Los Barrios 11379

Cadiz Spain

#### **Engineering**

Automation

Electronics

Safety systems

Pollution prevention

Gas detection

Metrology

#### **Petrik Naval Gibraltar Ltd**

World Trade Center

6 Bayside, Unit 1.02

GX11 1AA

Gibraltar

#### **Partners**

Calgaz UK

Pro-Face

Schneider Electric

Krohne

Endress+Hauser

MMC