Hands-On

Outside Plant Technician

OSP: Bonding & Grounding, Copper Cable Splicing, OSP Tester/Fault Locating & Cable Troubleshooting

Course Description

This 5-day Hands-On Combination course has been developed by utilizing 3 of our highest in-demand courses

1. Hands-On OSP Bonding & Grounding
2. Hands-On Copper Cable Splicing
3. Hands-On OSP Tester, Fault Locating & Cable Troubleshooting

This customized course combines these courses into one strong OSP Combo course by explaining the importance of outside plant bonding and grounding. It covers the safety aspects and protection of the outside plant and customer equipment. From there it continues with different splicing methods. These would include the module splicing system, scotchloks, amps and any other connector types your company uses. It covers different closures, both aerial and buried and the correct procedure for the installation. Proper cable opening and bonding and grounding of the shield is explained with hands-on projects to reinforce each stage.

After completion of the various splices, Fault Locating techniques are explained. This section begins with a complete explanation of the local loop and the importance of parameter readings. Students will learn how to analyze a faulted cable pair and select the proper menu to locate the fault.

State of the art test equipment is used such as the DynaTel 965 DSP, Sidekick or any meter they may bring to class can be implemented into the class-labs. All menus of the meter will be covered especially the resistive fault locate, opens and TDR. This course is designed to be a 90 hands-on course so they will not only have knowledge of the testing but be able to put it to field use immediately finishing this course.

Emphasis will be placed on how to effectively use OSP Test Equipment. Most technicians in the field today only utilize about 30 of this test instruments capabilities our goal is to have a 100 of their test instruments capabilities put to use in the field. No sales pitch in this course, just training!

Our SMEs have the field experience to find the answers to real live scenarios, providing students with a Real-World Experience

Students Will Learn

- **Bonding & Grounding Topics Covered**
- **Causes And Effects Of Lightning**
- **Commercial AC Power on The Telephone Plant.**
- **Proper Outside Plant Bonding & Grounding Techniques.**
- **Testing Outside Plant Facility Bonding & Grounding Systems for Proper Installation And Operation.**

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- **Copper Cable Splicing Topics Covered**
- **The proper techniques to Open, Bond & Splice Copper Cables Correctly**
- **The Correct Pairs to Splice**
- **The Correct Closure for the Application**
- **Safety**
- **Print Reading**
- **Color Code**
- **Cable Counts**
- **Bonding & Grounding**
- **Splicing Connectors (Scotch locks Modules Amps)**
- **Splicing Techniques &Tools**
- **Test Acceptance of Cable Sections**
- **Aerial Terminals & Closures**
- **Buried Splice Closures**
- **Pedestals**
- **and more...**
- **OSP Tester, Fault Locating & Cable Troubleshooting Topics Covered**
- **Understand Fault Location**
- **Identify & Locate Faults in Copper "pic" Outside Plant Cables.**
- **Analyze a Faulted Cable Pair**
- **Select the Correct Test Set to Locate the Fault**
- **Locate Buried Cables**
- **Locate Resistive, Capacitive & Cross-Battery Faults using Multiple Test Sets.**
- **Cable Pair Balance**
- **Understand TDR Operation**
- **Understand Wideband Testing**
- **Use Advanced Trouble Analysis**
- **Use Sheath Fault Locator**
- **Incorporate students meter throughout the Hands-On Labs.**
- **Use Fault simulators in the Labs, providing Real-World Scenarios.**
- **Be successful with Minimal Supervision**
- **and More**

Target Audience

OSP Technicians, CO Technicians, ILEC Installation, Repair and Maintenance Technicians, Installers, Network Technicians, Technical Support Technicians, OSP Managers/Supervisors
and anyone requiring Hands-On skills for supporting, installation and/or maintenance of OSP services.

Prerequisites

A basic understanding of Telecommunications. This information can be obtained in course(s)
-TeleCom I or II
-Hands-On Basic Telphony & TeleCom Electronics

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Course Outline

Module I: OSP BONDING AND GOUNDING

A. Electrical Principles

a. Ohms Law

B. Lighting

a. Surge Potentials
b. Personnel Danger

C. AC Power Distribution

a. Power Distribution Schemes
b. Hazardous Faults
c. Testing For Stray Voltages

D. Telephone Outside Plant

a. Effects Of High Voltage And Current
b. Physical Makeup Of The OSP

E. Bonding And Grounding The Outside Plant

a. NEC And RUS Specifications
b. Grounding Procedures At The Customer Premise

F. Central Office Grounding

a. Single Point Grounding Method

Module II: COPPER CABLE SPLICING

A. Safety

a. Proper Use Of Tools
b. How To Open A Cable Safely

B. Pair Counts

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a. Color Code
b. Print Reading

C. Splice Types

a. Straight
b. Bridge
c. Halftap

D. Splice Connector Types

a. Scotch Loks
b. Modules
c. Amps

E. Closures

a. Aerial
b. Buried

F. Bonding And Grounding

a. Shield Bond Connectors
b. Proper Installation
c. Bonding Straps

G. Test Acceptance

a. Testing Spliced Pairs

Module III: OSP TROUBLESHOOTING AND FAULT LOCATING

A. Test Equipment Operation

a. VOM
b. DynaTel
c. Sidekick
d. Fluke

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B. Understanding And Testing The Local Loop

a. Voltage And Current
b. Circuit Loss
c. Noise And Power Influence

C. Identifying Faults

a. Resistive
b. Capacitive
c. Sheath Faults

Delivery Method

Instructor led with numerous Hands-On labs and exercises.

Equipment Requirements

(This apply's to our hands-on courses only)

BTS always provides equipment to have a very successful Hands-On course. BTS also encourages all attendees to bring their own equipment to the course. This will provide attendees the opportunity to incorporate their own gear into the labs and gain valuable training using their specific equipment.

Course Length

5 Days

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