

Why do jumpers need to be installed on the first-stage beam splitter



Overview

The need for the main bonding jumper is to build an efficient method of connecting an electrical current that would otherwise be interrupted by the ground earth. A system bonding jumper creates the essential connection between the grounded conductor (neutral) and the equipment grounding conductor (EGC) system at one specific point—either at the service disconnect or the source of a separately derived system. This establishes the effective ground-fault. Mike Holt explains that you must either connect the grounding electrode conductor to the XO lug or connect the grounding electrode connector to the XO lug with a system bonding jumper (wire jumper). These connections can be either temporary or permanent, serving various strategic purposes within an electronic circuit. Unlike the. By service, if you mean the service entrance equipment (main service switch or the breaker), it is because by the code definition the service conductors and transformer upstream of the service entrance equipment is owned by the utility company, which do not fall under NEC. NEC is applicable to. Section 250.



Article Content

May 06, 2026

Jumping on System Bonding Jumpers: Connecting up to

This article takes an in-depth look at the main and system bonding jumper and the role it plays in grounding and bonding, how we size it up and

Nov 04, 2025

Wiring Jumpers Part 2: Types and How we Use Them

Today we will show you some of the different types of jumpers that you might encounter and also how to install and use these jumpers. Keep in mind, the

Aug 16, 2025

Understanding Jumper Cables in RF Systems-manirontronics

What They Are and Why They Matter Jumper cables, also known as RF jumpers or feeder jumpers, are short coaxial cables used to connect various components in an RF transmission

Aug 10, 2025

General Installation Procedures

GENERAL INSTALLATION PROCEDURES FOR PERSONAL PROTECTIVE JUMPERS General guidelines only are presented here. A discussion of some of the applications peculiar to specific

Apr 09, 2026

Subsea Connections and Jumpers

the engineering principles involved and identifying the key areas that are often overlooked, such as managing availability and the reliability of Subsea Connections and Jumpers.

Sep 26, 2025

PCB Jumper Wires: What is it and How to Use Them

Why Use Jumper Wires? The decision to incorporate jumper wires into a PCB design is often driven by a combination of practical benefits, addressing both economic and engineering

Feb 15, 2026

Microsoft Word

It is recognized that at times, conveyance electrical circuits will need to be temporarily bypassed with jumpers while performing work on conveyances. All field employees shall be trained in

May 18, 2026

Wiring Jumpers Part 1: What They Are & Why We Use

However, they do make the job much easier. [3m:19s] Next, we will actually show you some different types of jumpers and how to actually use them with the

Aug 17, 2025

Introduction to Surface Mount Jumpers

This can lead to confusion, as surface mount jumpers do not actually function as resistors and do not provide any resistance in the circuit. While surface-mount jumpers and resistors are both integral

Oct 01, 2025

The Role of Jumpers in PCBs

In PCB (Printed Circuit Board) design, jumpers are a common method of establishing connections. They are used to connect circuit elements that are too far apart or cannot be directly

Apr 16, 2026

Jumper Planning Guide

CAUTION: Fiber optic cable is sensitive to excessive pulling, bending, and crushing forces. Consult the cable specification sheet for the cable you are installing. Do not bend the cable more sharply than the

Jul 14, 2025

10 Essential Rules for Circuit Board Jumper Wires

This paper defines ten essential rules for reliable jumper wire installation. It covers placement, routing, insulation, bonding, and documentation to ensure electrical

May 08, 2026

Proper Use of Jumpers in Elevators and Escalators

In the world of vertical transportation, safety is not a choice -- it's a responsibility. Among the various maintenance practices in elevators and

May 04, 2026

03A Jumpers_New_Hire_NEII Comments (1)

It is recognized that at times, conveyance electrical circuits will need to be temporarily bypassed with jumpers while performing work on conveyances. All field employees shall be trained in the proper

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Mechanical Jumpers

– NEVER have an energized or grounded jumper end in the bucket – Communicate during job-briefing the procedures for installation and removal - site specific – Assign a dedicated observer and clearly

Jan 23, 2026

System bonding jumper at xo or first point disconnect?

If a system bonding jumper is not installed at the transformer and therefore the xo is not bonded to the outdoor transformer, then the system bonding jumper would be installed at the first

Aug 17, 2025

PCB Jumpers FAQ

FAQ: What can Printed Circuit Board (PCB) jumpers do? February 29th 2016 A circuit board jumper is basically a conductor that gets soldered between two points on the board to make a connection.

May 22, 2026

Jumpers Tips and Tricks

[4m:9s] When installing jumpers, it is very important to make sure that each terminal connection is tightened securely to the terminal point to ensure good electrical continuity.

Oct 16, 2025

Main Bonding Jumpers Vs System Bonding Jumpers

Electricians must use the main jumping bonder for safety reasons. The main bonding jumper helps prevent circuit breakers from tripping improperly and potentially causing any fire

Nov 28, 2025

Ten Rules for Jumper Wires

The reason is simple; components may need to be reworked, and they cannot be reworked effectively if access is blocked by jumper wires. And, heat sinks may melt wire insulation and result in shorts.

Sep 12, 2025

Substation Bay Jumpers | Eng-Tips

I do not see a lot of concerns sizing the substation jumpers. The usual practice selecting jumpers is using the same conductor of the substation

Feb 21, 2026

System Bonding Jumpers vs. Supply-Side Bonding

A supply side bonding jumper is installed before the service equipment, on the line side, to bond metallic parts like conduits that are part of the service entrance.

Dec 11, 2025

PCB Jumper Wires: What is it and How to Use Them

Wire jumpers are highly flexible but require manual installation, which can increase assembly time and introduces the potential for human error. They are a fundamental method of

May 24, 2026

Service & Main Bonding Jumpers

Since different sizes of service-entrance conductors may be installed at various locations, the minimum size of the equipment bonding conductor and main

Nov 23, 2025

A Guide to Jumper Wires in PCB Design

This guide covers PCB jumper wire definitions, types, ten design rules, manufacturing methods, trace comparisons, and typical applications.

Jul 25, 2025

Article 100. Bonding Jumper, Supply-Side.

The supply-side bonding jumper ensures the required electrical conductivity between metal parts required to be electrically connected.

Dec 07, 2025

Main Bonding Jumper" | Eng-Tips

Originally there was a circuit breaker installed inside the LV compartment of the padmount transformer, which fed one of the buildings. At some point the breaker was removed and

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