

How to replace the junction box in a distribution box



Overview

How to Replace Your Old Junction Box: A Step-by-Step Guide Replacing an old junction box can be a daunting task, but with the right tools and instructions.

Key Takeaways

Replacing a junction box in a distribution box requires careful de-energization, proper box selection, and correct wiring to ensure safety and compliance. Safety First

Before starting, turn off the main circuit breaker to de-energize the distribution box and confirm with a non-contact voltage tester that no wires are live (). Safety gloves and eye protection are recommended to prevent electrical shock or injury.

Understanding the Components

A distribution box distributes incoming power to multiple circuits and houses protective devices like circuit breakers and fuses, while a junction box provides a safe enclosure for connecting and branching wires (). Junction boxes cannot replace the distribution box itself; they are used for wiring connections within or outside the distribution system.

Step-by-Step Replacement

- Remove the Cover: Unscrew the distribution box cover to access the junction box inside ().



- **Disconnect Wires:** Carefully loosen wire connectors and disconnect all wires from the old junction box. Label wires if necessary to ensure correct reconnection ().
 - **Remove the Old Box:** Unscrew or unclip the junction box from its mounting position. Inspect wires for damage; frayed or brittle wires should be replaced ().
 - **Select a Replacement Box:** Choose a junction box of equal or larger size and compatible type (plastic or metal) to meet code requirements and accommodate all wires ().
 - **Prepare the New Box:** Knock out holes for incoming and outgoing wires, attach mounting clips or plates, and secure the box in place using screws or a drill if new holes are needed ().
 - **Reconnect Wires:** Match wires by color (black to black, white to white, green/bare to green/bare) and secure with wire connectors. Wrap connections with electrical tape for added safety ().
 - **Organize and Close:** Press wires neatly into the box, ensuring no strain on connections, and replace the cover ().
- Additional Considerations**
- **Box Fill Compliance:** Ensure the new junction box meets NEC box fill requirements to prevent overheating ().
 - **Damage or Upgrades:** Replace boxes that are cracked, rusted, or too shallow for modern devices like GFCI outlets or smart switches ().
 - **Outdoor or Industrial Use:** For high-voltage or outdoor applications, use fully insulated, sealed junction boxes designed for harsh conditions (). By following these steps and safety precautions, you can successfully replace a junction box within a distribution box while maintaining electrical safety and code compliance.

Article Content

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