



**FAQ** How can I fit an oversized Class B (THHN) wire into a smaller lug?

### **Background**

More and more in recent years, we see 'oversized' cable runs to avoid voltage drop on a long run or to upsize the neutral for power quality. This usually means that the 'oversized' cable does not fit into the equipment lugs that are sized for the 'original' wire size.

For example, 600MCM cable is often run rather than 500MCM. Because the ampacity, circuit protection, and original equipment lugs were sized for the 500MCM cable, we now need to adapt the 600MCM cable to fit into the 500MCM lugs on the equipment.

### **PT-R Step-Down Adapters – PT-R Series**

To solve this problem on copper cable, Greaves manufactures PT-R Series ReduceЯ™ Step-Down Adapters. These all-copper compression adapters are designed to reduce Class B (THHN type) copper conductor to fit into a smaller lug. The plug-end (fits into the lug) is also Class B copper conductor, to provide a reliable and changeable connection. Standard PT-Rs reduce the wire by one or two sizes, and the sizes range from the PT10R2 (reduces #1/0 to #2AWG), through the PT1000R75 (reducers 1000MCM to 750MCM). Greaves can also fabricate special sizes for other wire combinations, or fabricate adapters with longer pins. An insulating cover is provided with each adapter.

### **OTHER POSSIBILITIES**

#### **High-Strand Flex-Wire Adapters – PT-FX Series**

For high-strand flexible copper cable, such as Weld (Class M) or DLO (Class I), Greaves manufactures Shoo-Pin™ PT-FX Adapters. The copper barrels are sized for flex-cable and made with a flared opening to help gather the strands which 'blossom' when cut.

#### **Step-Up Adapters**

While unusual, "upsizing" can be required when installing a new system to interface with existing lugs, such as in a renovation project. The smaller wire from the new system does not fit the existing lugs. So, Greaves can fabricate all-copper step-up adapters, or "reverse" reducers. For example, a PT20R40 would adapt a #2/0 wire for a lug whose minimum wire size is #4/0.

#### **Aluminum Wire Adapters – PT Series**

For aluminum cable, select a PT (Pin Terminal) Adapter. These adapters consist of an aluminum barrel (for aluminum or copper wire) and a multi-strand copper pin (for either copper/bronze or aluminum lugs). This type was originally designed to adapt aluminum wire to a copper/bronze lug. Other possibilities are AC-R one-piece reducers or ACK Aluminum-to-Copper Reducing Kits.

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