

Name 1: _____

Take Home Quiz 1: 25 HW Points

Name 2: _____

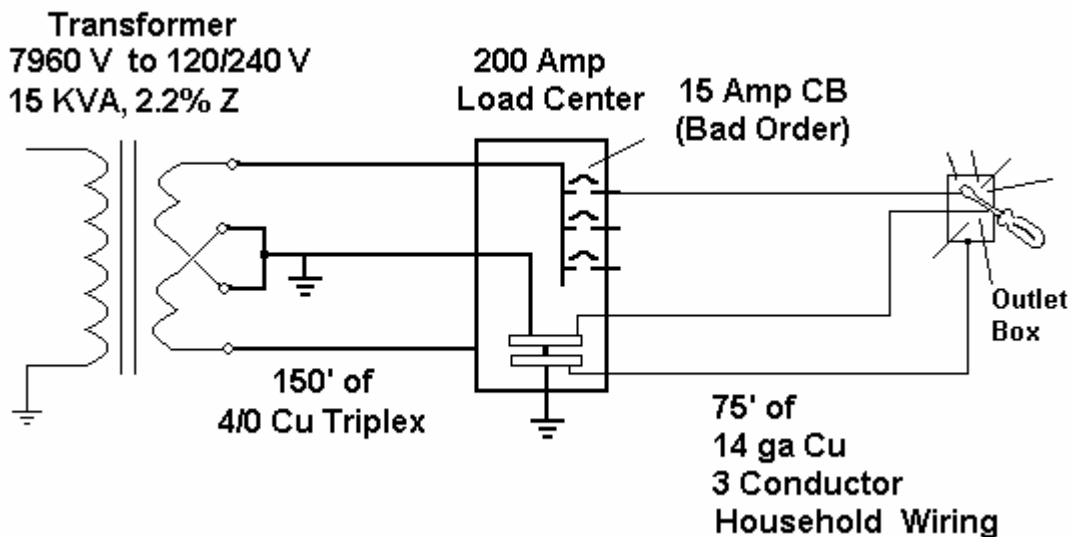
(Graded 25 or 0):

Help your Uncle (with or without a friend):

Your Uncle was replacing a 120V wall receptacle in his home. He had opened the circuit breaker (he claims!) and was working inside the metal outlet box when his screwdriver simultaneously contacted the hot wire, neutral wire and grounded metal box. He received quite a scare, but was not injured (your Aunt says, "It would have served you right, George!"). It turns out that contacts in the 15 Amp circuit breaker protecting the line were stuck in the closed position.

Unfortunately, George knows you to be an engineering student and asks you the following question. "How many amps was I drawing through that screwdriver?"

As you mentally curse your career decision, you gather information from Uncle George and construct the following sketch:



You inform George that you'll need to look up some additional information and do some calculations and get back to him soon.

What will you tell your Uncle? _____