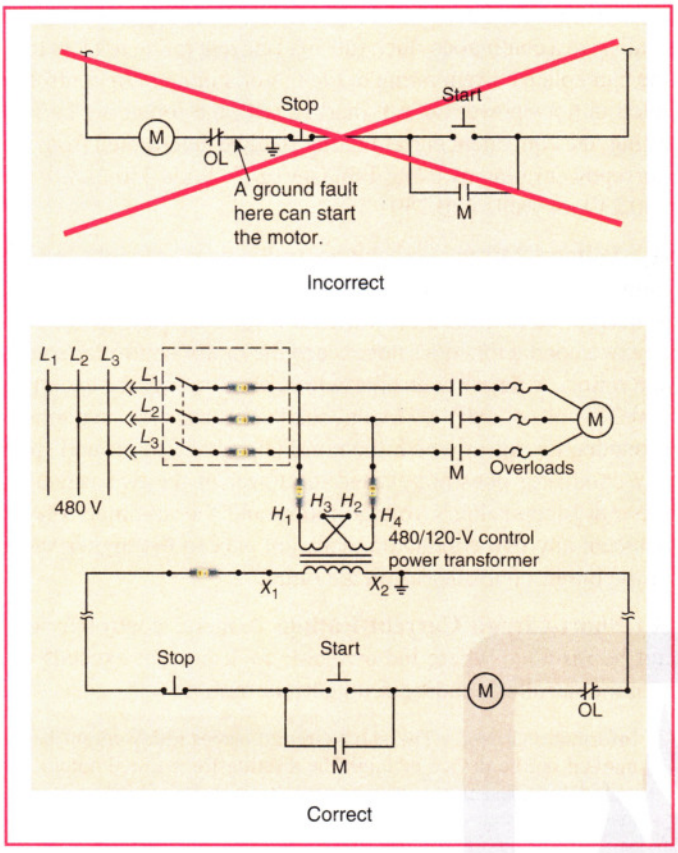

EXHIBIT 430.15 An example of control wiring using a 480/120-volt control power transformer. (The upper control circuit is not in compliance with 430.74.)

is ungrounded, the first fault could go undetected. One solution is to use double-pole control devices with one pole in each of the two control lines.

430.75 Disconnection.

(A) General. Motor control circuits shall be arranged so that they will be disconnected from all sources of supply when the disconnecting means is in the open position. The disconnecting means shall be permitted to consist of two or more separate devices, one of which disconnects the motor and the motor controller from the source(s) of power supply for the motor, and the other(s), the motor control circuit(s) from its power supply. Where separate devices are used, they shall be located immediately adjacent to each other.

Exception No. 1: Where more than 12 motor control circuit conductors are required to be disconnected, the disconnecting means shall be permitted to be located other than immediately adjacent to each other where all of the following conditions are met:

(1) Access to energized parts is limited to qualified persons in accordance with Part XII of this article.

(2) A warning sign is permanently located on the outside of each equipment enclosure door or cover permitting access to the live parts in the motor control circuit(s), warning that motor control circuit disconnecting means are remotely located and specifying the location and identification of each disconnect. Where energized parts are not in an equipment enclosure as permitted by 430.232 and 430.233, an additional warning sign(s) shall be located where visible to persons who may be working in the area of the energized parts.

Exception No. 2: The motor control circuit disconnecting means shall be permitted to be remote from the motor controller power supply disconnecting means where the opening of one or more motor control circuit disconnecting means is capable of resulting in potentially unsafe conditions for personnel or property and the conditions of items (1) and (2) of Exception No. 1 are met.

(B) Control Transformer in Motor Controller Enclosure. Where a transformer or other device is used to obtain a reduced voltage for the motor control circuit and is located in the motor controller enclosure, such transformer or other device shall be connected to the load side of the disconnecting means for the motor control circuit.

Part VII. Motor Controllers

430.81 General. Part VII is intended to require suitable motor controllers for all motors.

(A) Stationary Motor of ⅛ Horsepower or Less. For a stationary motor rated at ⅛ hp or less that is normally left running and is constructed so that it cannot be damaged by overload or failure to start, such as clock motors and the like, the branch-circuit disconnecting means shall be permitted to serve as the motor controller.

(B) Portable Motor of ⅓ Horsepower or Less. For a portable motor rated at ⅓ hp or less, the motor controller shall be permitted to be an attachment plug and receptacle or cord connector.

430.82 Motor Controller Design.

(A) Starting and Stopping. Each motor controller shall be capable of starting and stopping the motor it controls and shall be capable of interrupting the locked-rotor current of the motor.

(B) Autotransformer. An autotransformer starter shall provide an "off" position, a running position, and at least one starting position. It shall be designed so that it cannot rest in the starting position or in any position that will render the overload device in the circuit inoperative.

(C) Rheostats. Rheostats shall be in compliance with the following:

(1) Motor-starting rheostats shall be designed so that the contact arm cannot be left on intermediate segments. The point