

# General Tap Rules

Based on 240.21(B)

10' Tap Rule

25' Tap Rule

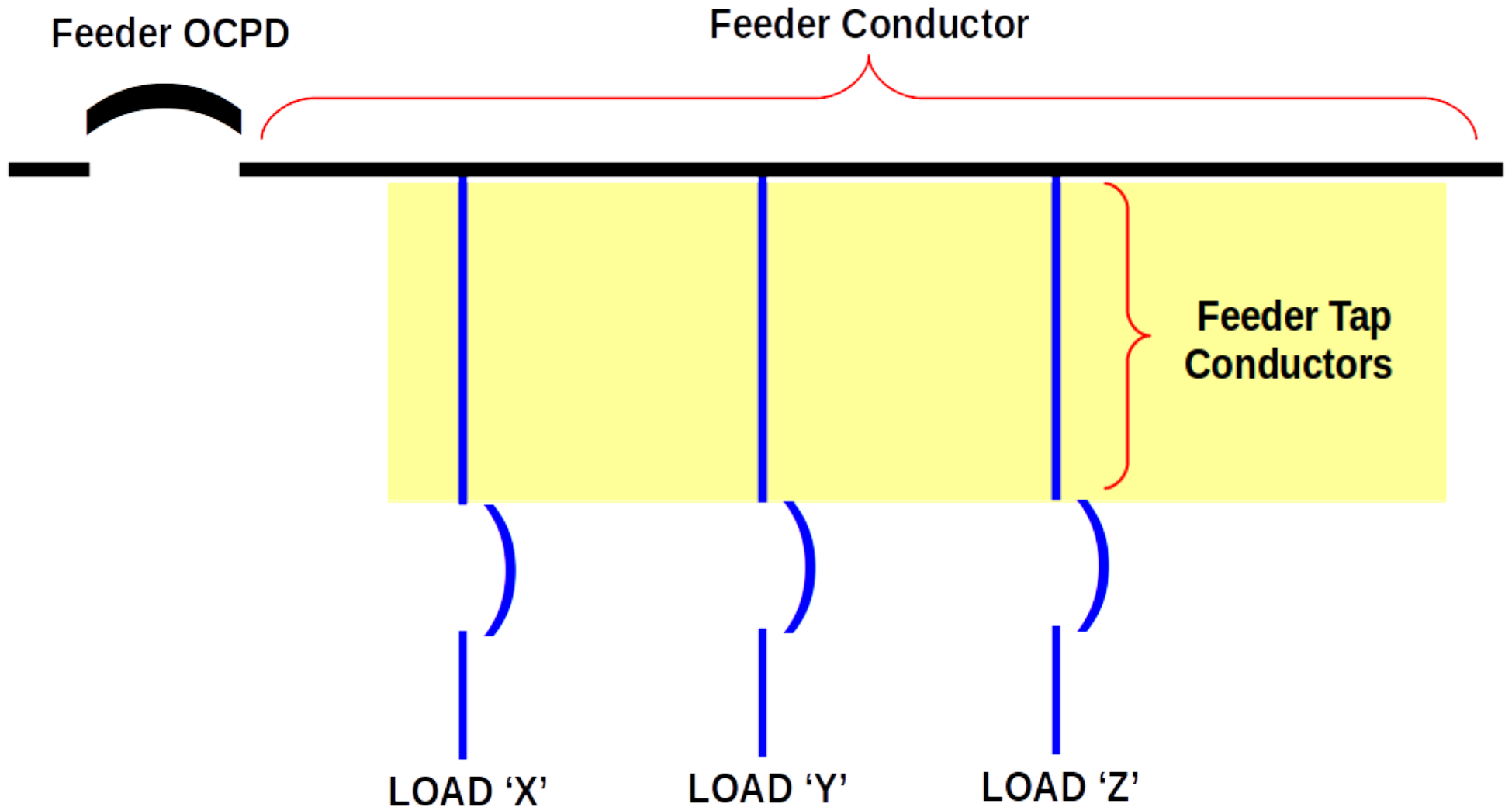
Outside Unlimited Tap Rule

# 240.2 Definitions

## Tap Conductor.

- A conductor, other than a service conductor, that has **overcurrent** protection ahead of its point of supply that exceeds the value permitted for similar conductors that are protected as described elsewhere in 240.4.

# Tap Rules based on 240.21(B)



# 240.21(B) Feeder Taps.

- Conductors shall be permitted to be tapped, without overcurrent protection at the tap, to a feeder as specified in 240.21(B)(1) through (B)(5). The tap shall be permitted at any point on the load side of the feeder overcurrent protective device. Section 240.4(B) shall not be permitted for tap conductors.

Feeder OCPD

Feeder Conductor

Conductors supplied under 240.21(A) through (H) shall not supply another conductor except through an overcurrent protective device meeting the requirements of 240.4.

Violation of 240.21.  
"Can't Tap a Tap"

LOAD 'X'

LOAD 'Y'

# 240.21(B)(1)

## Taps Not over 3 m (10 ft) Long.

If the length of the tap conductors does not exceed 3 m (10 ft) and the tap conductors comply with all of the following:

- (1) The ampacity of the tap conductors is a. Not less than the combined calculated loads on the circuits supplied by the tap conductors b. Not less than the rating of the equipment containing an overcurrent device(s) supplied by the tap conductors or not less than the rating of the overcurrent protective device at the termination of the tap conductors
- (2) The tap conductors do not extend beyond the switchboard, switchgear, panelboard, disconnecting means, or control devices they supply.
- (3) Except at the point of connection to the feeder, the tap conductors are enclosed in a raceway, which extends from the tap to the enclosure of an enclosed switchboard, switchgear, a panelboard, or control devices, or to the back of an open switchboard.
- (4) For field installations, if the tap conductors leave the enclosure or vault in which the tap is made, the ampacity of the tap conductors is not less than one-tenth of the rating of the overcurrent device protecting the feeder conductors.

# 240.21(B)(1)

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(2) The tap conductors do not extend beyond the switchboard, switchgear, panelboard, disconnecting means, or control devices they supply.

(3) Except at the point of connection to the feeder, the tap conductors are enclosed in a raceway, which extends from the tap to the enclosure of an enclosed switchboard, switchgear, a panelboard, or control devices, or to the back of an open switchboard.

(4) For field installations, if the tap conductors leave the enclosure or vault in which the tap is made, the ampacity of the tap conductors is not less than one-tenth of the rating of the overcurrent device protecting the feeder conductors.

## 240.21(B)(2)

### **Taps Not over 7.5 m (25 ft) Long.**

- (1) The ampacity of the tap conductors is not less than one-third of the rating of the overcurrent device protecting the feeder conductors.
- (2) The tap conductors terminate in a single circuit breaker or a single set of fuses that limit the load to the ampacity of the tap conductors. This device shall be permitted to supply any number of additional overcurrent devices on its load side.
- (3) The tap conductors are protected from physical damage by being enclosed in an approved raceway or by other approved means.



# 240.21(B)(2)

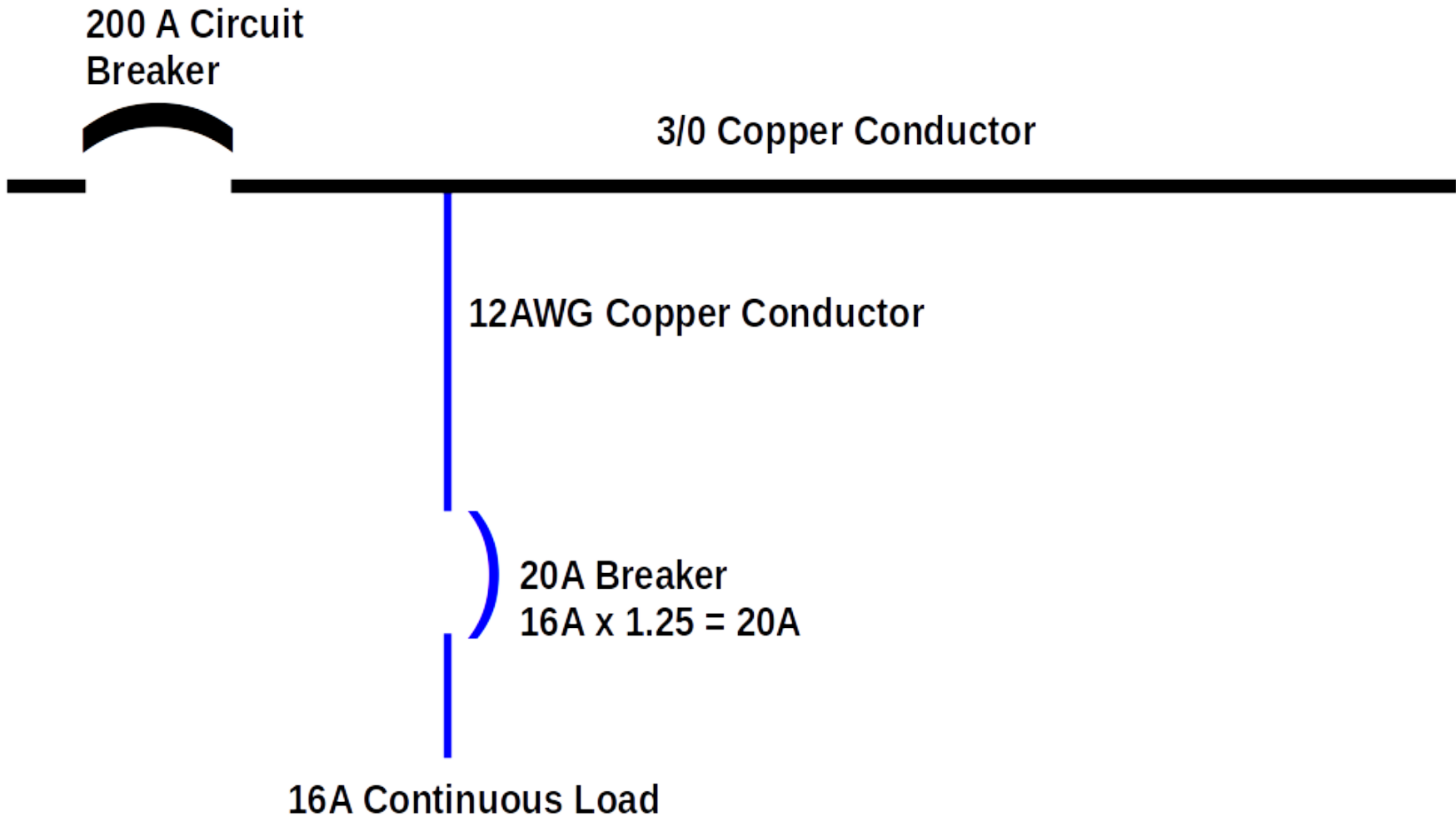
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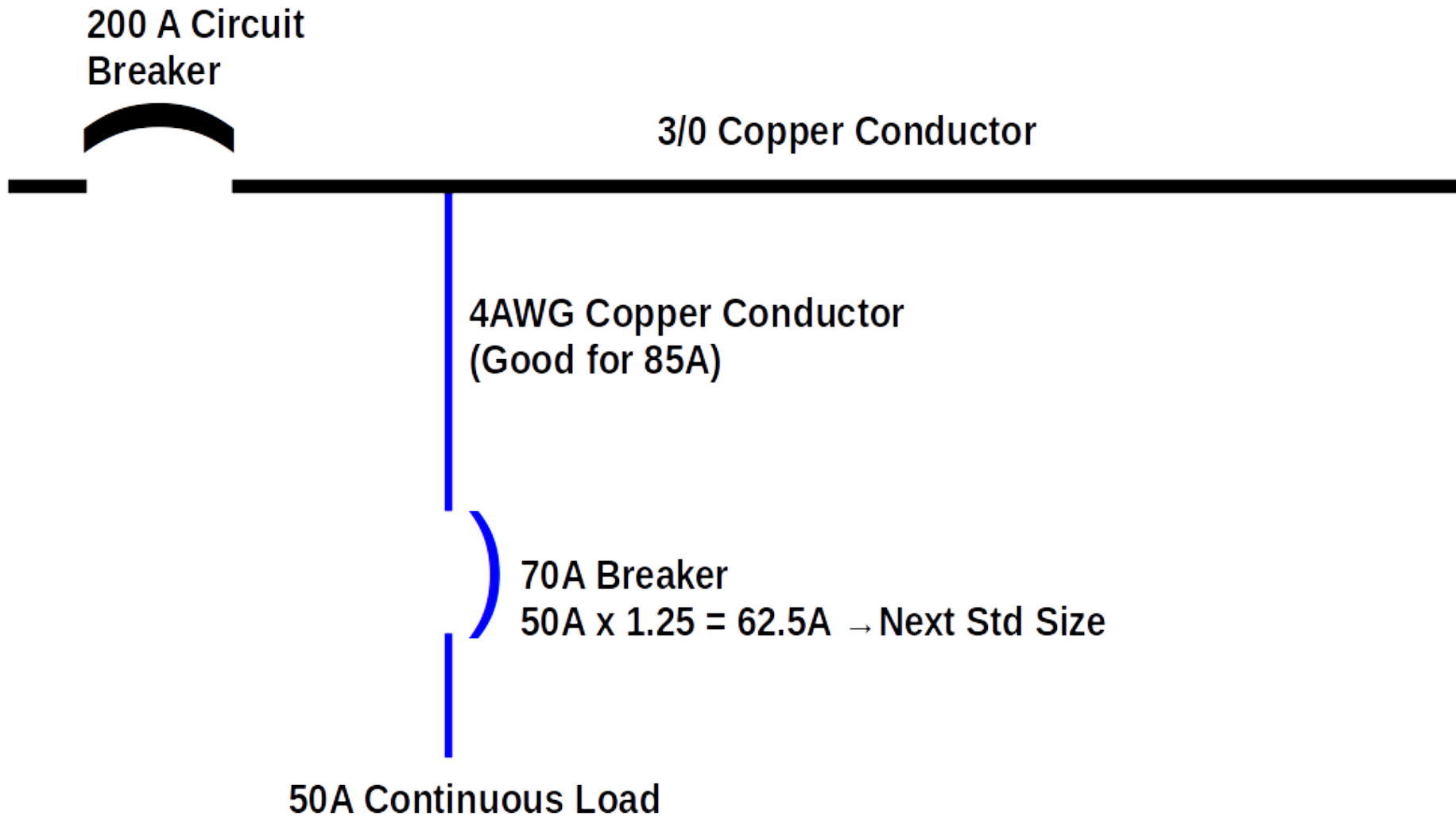
(2) The tap conductors terminate on a single circuit breaker or a single set of fuses that limit the load to the ampacity of the tap conductors. This device shall be permitted to supply any number of additional overcurrent devices on its load side.

(3) The tap conductors are protected from physical damage by being enclosed in an approved raceway or by other approved means.

# Example 1: 10' Tap

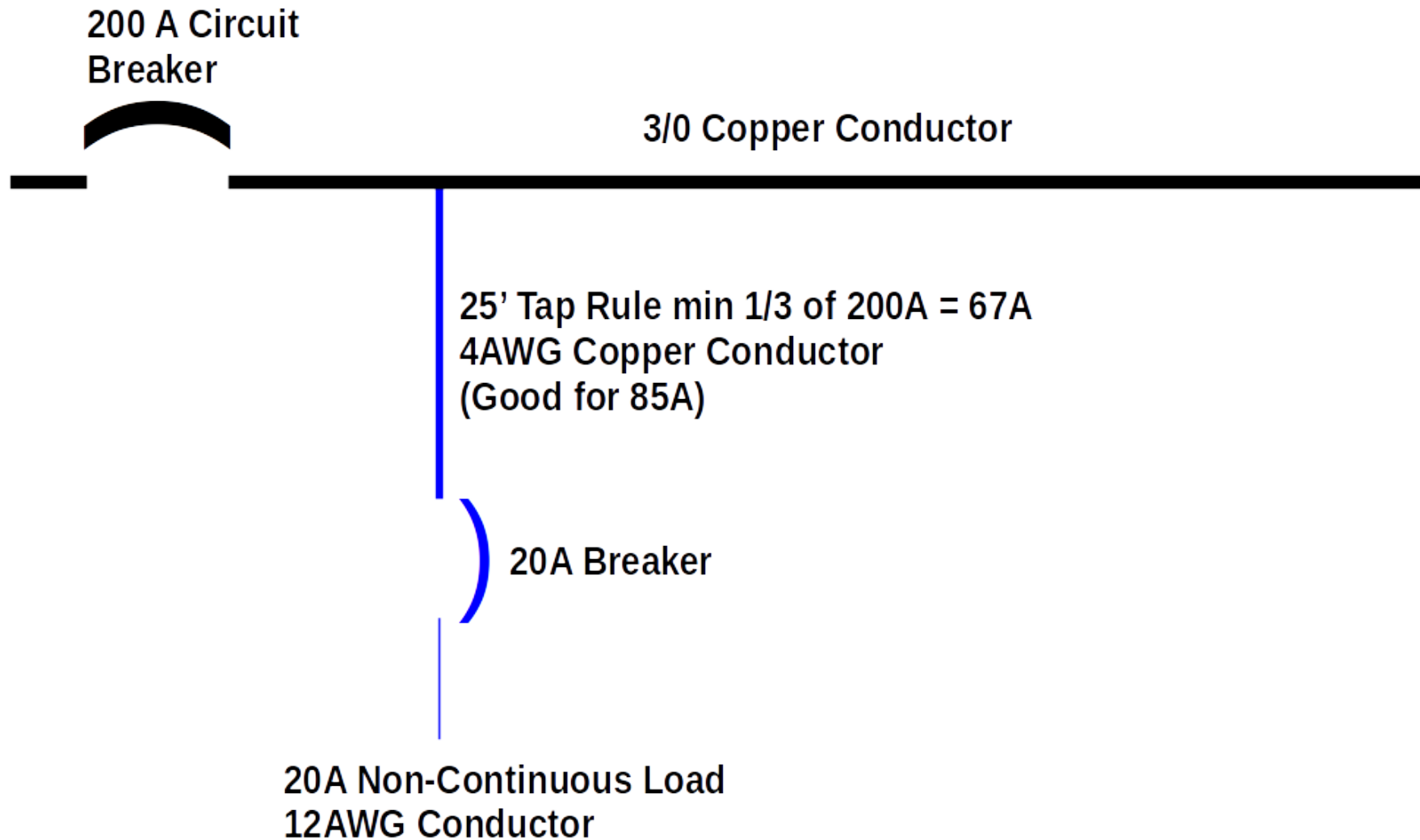


# Example 2: 25' Tap



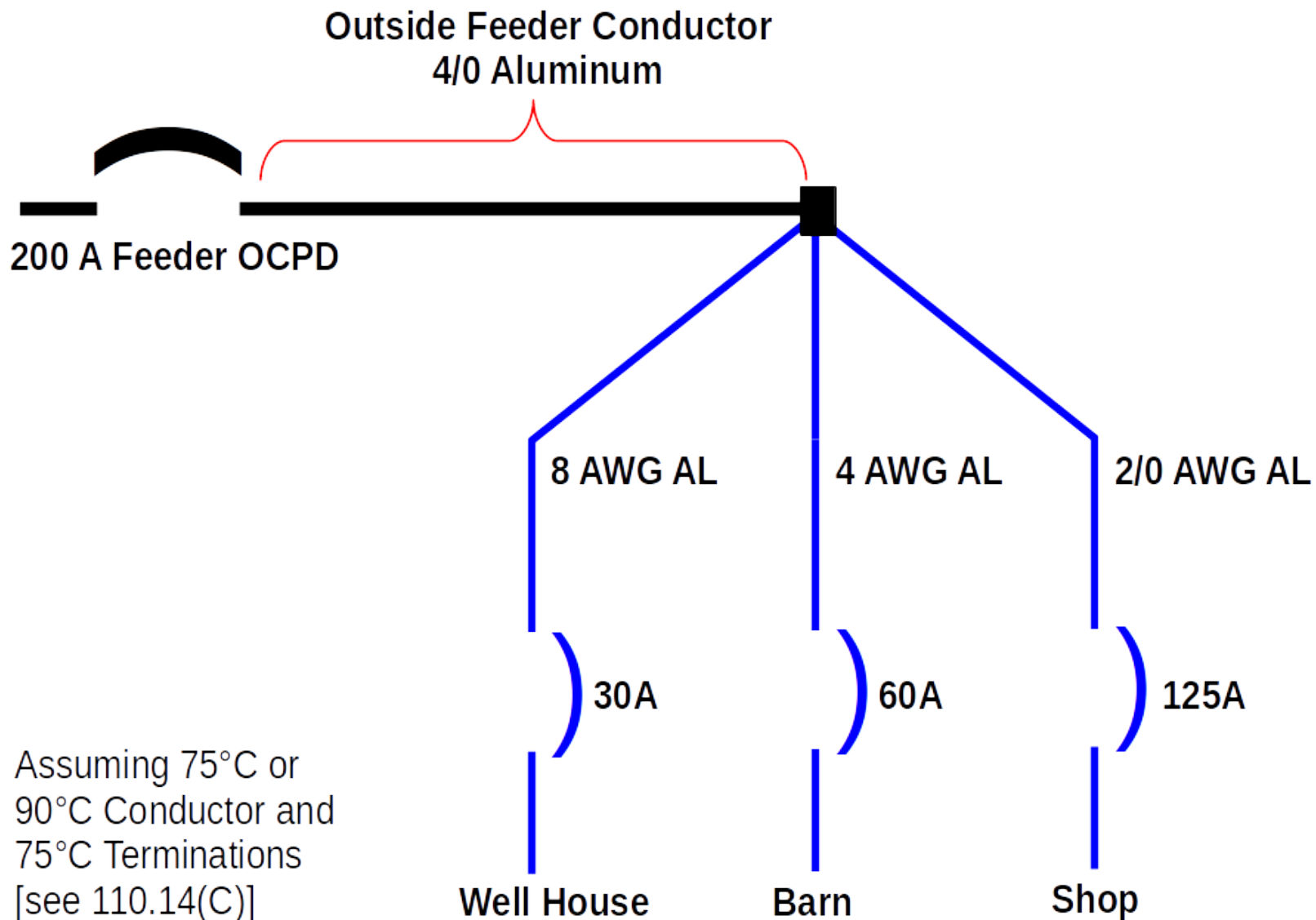
Assuming 75°C or 90°C Conductor and  
75°C Terminations [see 110.14(C)]

# Example 3: 25' Tap



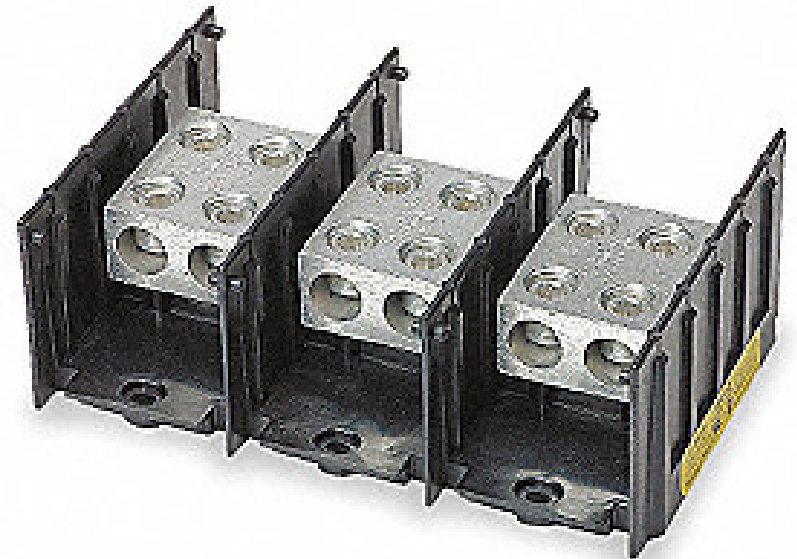
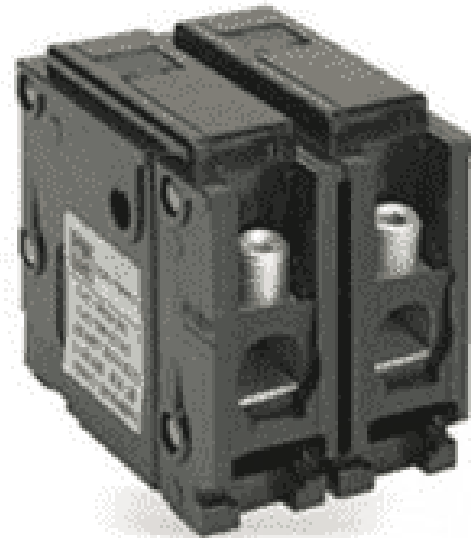
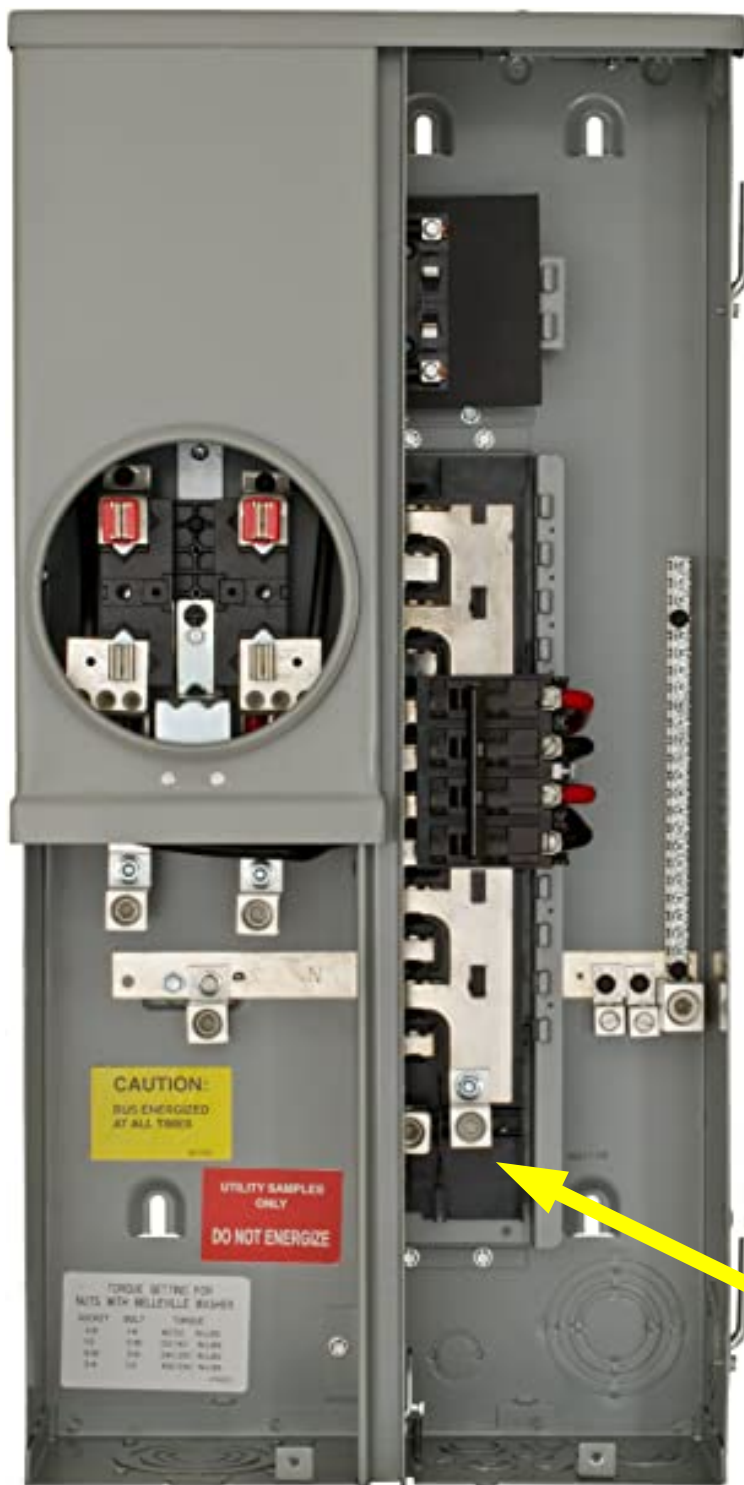
Assuming 75°C or 90°C Conductor and  
75°C Terminations [see 110.14(C)]

# Example 4: Outside Feeder Taps



Assuming 75°C or  
90°C Conductor and  
75°C Terminations  
[see 110.14(C)]

# Feed-Through Panel, lugs, tap blocks



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