Can You Replace a 15 Amp Breaker with a 20 Amp Breaker?

MOCBP4-PL-15A

MOCBP4-PL-20A

A circuit breaker that keeps tripping can be frustrating, especially in aftermarket DC systems where accessories are added over time.

From auxiliary lighting and compressors to pumps, fans, and RV electronics, increased demand often pushes a 15 amp circuit to its limit. When this happens, the first assumption is often a simple upgrade: **Can a 15 amp breaker be replaced with a 20 amp breaker?**

Can a 15 amp breaker be replaced with a 20 amp breaker?

In most cases, not unless the entire circuit is rated for 20 amps.

A circuit breaker is not just a resettable switch with a labeled current rating. It is an overcurrent protection device that protects wiring and connected components by interrupting power from excessive current during overloads and fault conditions.

Installing a larger breaker without checking the rest of the circuit can create a dangerous condition where the breaker allows more current than the circuit was designed to handle.

The Short Answer

You can only replace a 15 amp breaker with a 20 amp breaker if the entire circuit is suitable for 20 amp operation.

That includes:

- Wire gauge, wire length, and insulation temperature rating
- Breaker voltage and interrupt rating
- Terminal and connector ratings
- Switch, relay, fuse block, or distribution block rating
- Load current and expected inrush current
- Reset type
- Installation environment

If any part of the circuit is only suitable for 15 amps, the breaker should not be upsized to 20 amps.

A larger breaker does not make the circuit stronger. It only increases the current allowed before it trips, which can leave wiring and components unprotected.

Wire Gauge Comes First

In automotive, marine, RV, and equipment circuits, the breaker's primary role is to protect the wiring, not just the connected devices.

If the wire is only suitable for a 15 amp circuit, replacing the breaker with a 20 amp version may allow the conductor to carry more current than it should. That can lead to overheated insulation, damaged connectors, burned terminals, excessive voltage drop, or intermittent equipment operation.

In low-voltage DC systems, wire size affects both safety and performance. Undersized wire can overheat, but it can also create voltage drop that prevents pumps, compressors, fans, actuators, radios, and electronics from operating correctly.

Before moving from a 15A breaker to a 20A breaker, confirm that the wire gauge, wire length, terminals, splices, and connectors are all rated for the higher current.

The Load May Be the Real Problem

A breaker that keeps tripping is not always the result of a defective unit or insufficient rating. In most cases, it is functioning correctly and disconnecting power in response to an overload condition in the circuit.

Common causes include:

- Too many accessories on one circuit
- A pump that is clogged or stalled
- A motor with high startup current
- A compressor with heavy inrush current
- Auxiliary lights drawing more current than expected
- A stereo amplifier pulling high current during peaks
- Loose, corroded, or damaged wiring

Before upsizing the breaker, check the actual load current and compare it to the circuit design. If the normal operating current is too close to 15 amps, the circuit may need to be redesigned, not simply fitted with a larger breaker.

Better Fixes Than Upsizing the Breaker

Add a dedicated circuit

High-current accessories should often have their own breaker, fuse, relay, and properly sized wire.

Check for damaged wiring

A short, pinched wire, loose terminal, or corroded connector can cause repeated trips.

Redesign the circuit for higher current

If the load truly requires more current, the wire, terminals, connectors, switchgear, and protection device all need to match the new circuit rating.

Review the breaker location

Thermal breakers can be affected by heat. A breaker mounted near an engine, exhaust component, charger, inverter, or enclosed hot compartment may trip sooner than expected.

So, Can You Replace a 15 Amp Breaker with a 20 Amp Breaker?

Sometimes, but only if the entire circuit is rated for 20 amps.

Do not replace a 15A breaker with a 20A breaker just to stop nuisance tripping. The breaker may be warning you that the circuit is overloaded, undersized, damaged, or exposed to too much heat.

A 20A breaker may be the right choice for a properly designed 20A circuit. But if the circuit was designed for 15 amps, upsizing the breaker can allow too much current to flow before the breaker opens.

The safest approach is simple: **Find the reason for the trip, then size the breaker to the circuit.**