



You Can Do It
PROJECT

Add-A-Battery

Don't get stranded
with a dead battery



Don't get stranded with a dead battery!

A dead starting battery is a common reason for needing a tow. Don't let it happen to you! Avoid the inconvenience and cost of a tow by adding a second battery to your boat's electrical system.

Adding a second battery will help you avoid being stranded. The Add-A-Battery is a simple approach that helps keep you and your boat safe.

The Add-A-Battery includes a Dual Circuit Plus™ Battery Switch and an Automatic Charging Relay. These components simplify switching and automate charging, so that all you have to do is turn the battery switch ON when you board and OFF when you leave.

Adding a second battery is a straightforward project that takes the worry out of battery management so you can enjoy the boating experience.



7649

7650



Supplies Needed

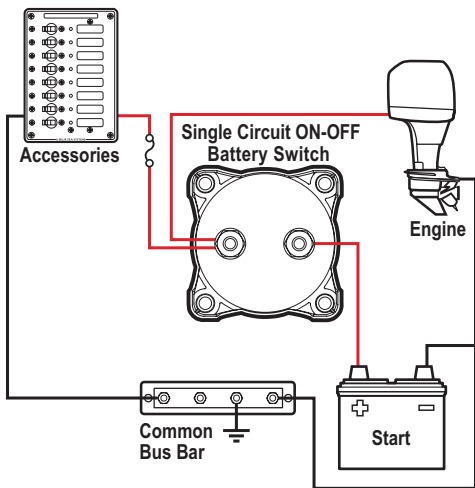
- Add-A-Battery Kit 7649 or 7650
 - Battery
 - Battery terminals
 - Cable for second battery, battery switch, and ACR connections
 - Fuses
 - Common bus bar
 - Cable and wire terminals
 - Cable clamps and ties
 - Heat shrink tubing
 - Mounting hardware
 - LED (optional) 8172
 - Wire for ground connection
- Optional - wire for Start Isolation and/or remote LED

Tools Needed

- Wire cutter
- Wire stripper
- Wire terminal crimper
- Power drill or driver
- Screwdrivers
- SAE socket set or wrenches
- Heat gun

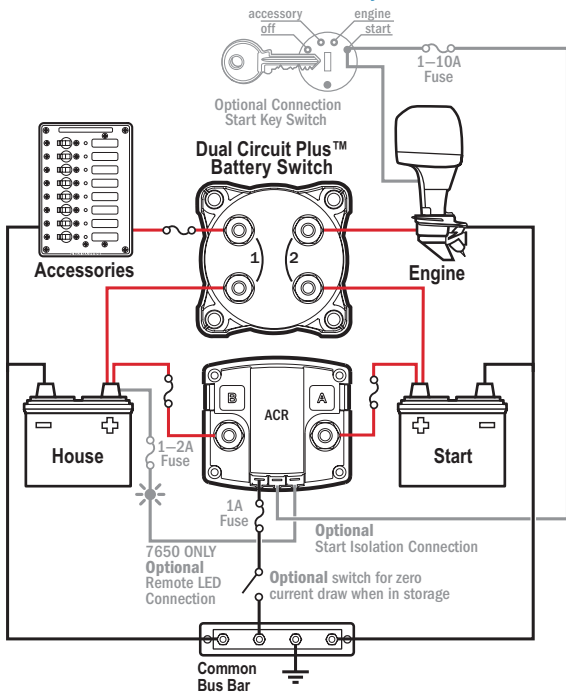
GO FROM HERE

Single battery with a single ON/OFF switch



TO HERE

Two batteries, with the Add-A-Battery



Wire Color Legend

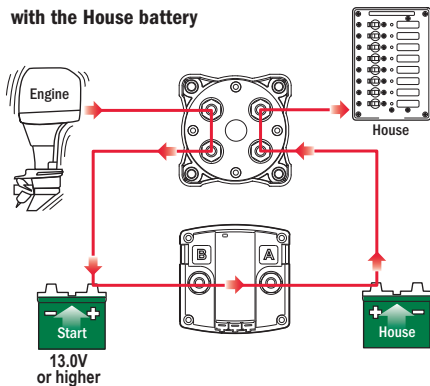
- Negative ———
- Positive ———
- Optional Connection ———

WHAT DOES IT DO?

The Add-A-Battery kit makes it easy to add an additional battery to your electrical system. A second battery will help prevent getting stranded with a dead start battery. The Add-A-Battery kit offers a simple way to switch two batteries with the Dual Circuit Plus™ Battery Switch, and to share a single source of charging between the two batteries with the Automatic Charging Relay.

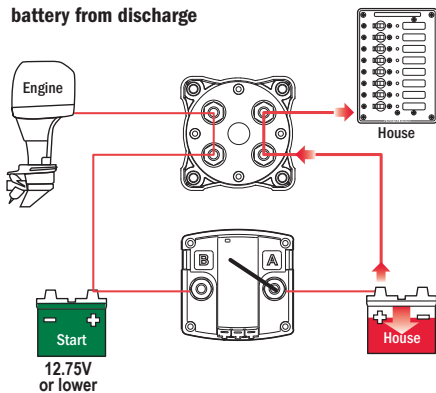
ENGINE ON

ACR combines batteries, sharing charge with the House battery



ENGINE OFF

ACR isolates batteries, protecting the Start battery from discharge



DC Current



The diagrams above illustrate how the 7650 and 7649 Add-A-Battery Kits work and are intended for reference only. Consult an ABYC certified marine electrical professional for system design and circuit protection.

HOW IT WORKS



7649

Mini Add-A-Battery

For most outboards



7650

Add-A-Battery

For outboards up to 350HP or
inboards with stock alternators

Dual Circuit Plus™ Battery Switches

- Combines batteries for emergency starting
- Isolates start and house circuits
- Simplifies switching



m-Series 6011

675A Cranking* (30 sec.)
450A Intermittent* (5 min.)
300A Continuous*
32V DC Maximum
Cable size 4/0 AWG (120mm²)

* Per circuit



E-Series 5511E

700A Cranking* (30 sec.)
525A Intermittent* (5 min.)
350A Continuous*
32V DC Maximum
Cable size 4/0 AWG (120mm²)

Automatic Charging Relays

- Automatically combines batteries during charging
- Disconnects when no charge is present
- Dual sensing senses charge on two battery banks
- The start isolation option protects electronics from voltage sags and spikes during engine cranking



m-ACR 7601

115A Intermittent (5 min.)
65A Continuous
12V or 24V DC Nominal
Max. Cable size 1/0 AWG (50mm²)



SI-ACR 7610

210A Intermittent (5 min.)
120A Continuous
12V or 24V DC Nominal
Max. Cable size 1/0 AWG (50mm²)

INSTALLING THE ADD-A-BATTERY

STEP 1

Plan your layout

- Mount the Dual Circuit Plus™ Battery Switch in a convenient location and the Automatic Charging Relay close to the batteries in a well-ventilated location.

STEP 2

Minimum connections for operation

- Use the Wire Size and Fuse Rating Chart (see instructions).
- Connect one battery bank to the ACR stud terminal A.
- Connect the other battery bank to the ACR stud terminal B.
- Connect the quick connect terminal marked **Ground** to the battery negative terminal or bus through a 1A in-line fuse.

STEP 3

Optional connections

Engine starting causes voltage sags and spikes in the starting circuit. If engines are started when batteries are combined, the resulting sag or spike may reset navigation equipment, and could damage sensitive electronics. Because of this, it may be desirable that batteries be isolated when starting engines.

Start Isolation Wire

- The Automatic Charging Relays can be configured to automatically disconnect when the starting circuit is engaged.
- Connect a wire from the quick connect terminal marked **Start Isolation** to the Ignition/Start terminal of the ignition switch or starter solenoid through a 1-10A in-line fuse.

Remote Indicator Lamp, (7650 ONLY)

- Connect the red wire of the LED to a 12/24V positive source through a 1-2A in-line fuse.
- Connect the yellow wire of the LED to the quick connect terminal marked **LED**.

USING THE ADD-A-BATTERY

- Turn the Dual Circuit Plus™ Battery Switch to the ON position when you get on the boat, and OFF when you leave. The Automatic Charging Relay will manage the charging of your house and start batteries when the boat is underway and also while at the dock or driveway when connected to a charger.
- In the unlikely event you need to use your house battery to start your engine, turn the Dual Circuit Plus™ Battery Switch to the COMBINE BATTERIES position. This will combine the batteries for engine starting.



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