

### CAUTION

Batteries contain dangerous amounts of energy. To reduce the chance of sparks, damage, or injury:

- Remove metal jewelry from hands and wrists
- Use only tools with insulated handles
- Turn off engine
- Disconnect external chargers

### COMPATIBILITY

The BB-SBM12 can be installed on any 12V (nominal) lead acid battery used for engine starting.

### INSTALLATION

1. Loosen the clamp nut that secures the vehicle battery wire to the positive (RED, '+') battery post. It is not necessary to remove the battery wire from the battery. Doing so can cause some vehicle electronics to reset.
2. Slip the metal end of the Battery Bug RED wire into any available gap on or near the battery post, wire clamp, or clamp nut, and tighten.
3. Repeat the steps above to attach the Battery Bug BLACK wire to the negative (BLACK, '-') battery post.
4. Attach the Battery Bug body to a clean and viewable surface on or near the battery using the adhesive pad on the back cover.

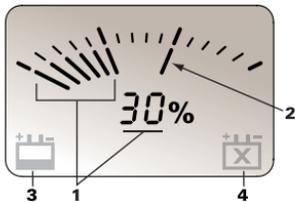
If you do not feel comfortable performing the installation, ask a professional mechanic to install the Battery Bug for you.

### OPERATION

The Battery Bug Battery Failure Warning System becomes active one minute after installation. The starting performance of the battery is

measured every time the engine is started. The lowest measured starting performance over time determines the starting health indicated on the display.

The numerical display will alternately indicate the battery voltage and the starting health of the battery. The analog 'fuel gauge' display graphically indicates the overall starting health of the battery (solid bars) and the starting performance of the most recent engine start (flashing bar).



- 1 Starting health
- 2 Starting performance of last start
- 3 Weak battery indicator
- 4 Replace battery indicator

When starting health drops below 30%, the 'weak battery' icon () will turn on. When starting health drops below 10%, an audible alarm will sound for 30 seconds after the engine is turned off, and the 'replace battery' icon () will turn on. When this condition occurs, your battery is near the end of its useful life and starting failure is imminent. Replace your battery to avoid an unexpected failure.

A low charge alarm () and the 'weak battery' icon () indicates the battery is significantly discharged. Recharge immediately and resolve

the cause of the discharge. Extended periods of discharge cause permanent battery damage. An overcharge alarm () and flashing voltage value indicates the battery is being charged at a damaging high voltage. Stop charging immediately and resolve the cause of the overcharge.

A low temperature icon () indicates battery temperatures below 14F (-10C) and low starting health indications are expected in such conditions. If your battery must perform in very low temperature conditions, replace your battery when indicated by the Battery Bug, otherwise your battery will perform adequately under normal temperature conditions and replacement now is not necessary.

**NOTE:** If the battery was unusually or accidentally discharged immediately prior to a low starting health indication, the weak starting health may be the result of the discharged condition rather than poor battery health. Fully charge the battery and reset the Battery Bug by temporarily disconnecting one of the Battery Bug wires from the battery for 10 seconds. If a low starting health is indicated after the next start, replace the battery.

For more information about this or other Argus Analyzer products, visit [www.argusanalyzers.com](http://www.argusanalyzers.com).

### Warranty

For a period of 12 months from the date of purchase by the first user, Argus will repair or replace this product should it stop working as a result of normal use. Physical, chemical, or other damage is not covered by this warranty.

To make a warranty claim, send the defective Battery Bug and the original purchase receipt postage prepaid to: Argus Analyzers, Product Service, PO Box 203, Jamestown RI 02835, USA.

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