

# Autostart 700 (models AS3/E....) Engine/Generator Controllers

mi6429  
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## Application note: internal battery replacement

**Note:** It is your responsibility to ensure that qualified mechanical and electrical technicians install and service this product. If in doubt, please contact your local Murphy representative.

### Description

Autostart 700 series engine/generator controllers (with part number prefix AS3/E...) are fitted with an internal 9 VDC (PP3 size) NiCd or NiMH battery. The battery maintains the Autostart power supply during engine cranking, when the main engine battery pack voltage can fall below 5 VDC.

The Autostart internal battery has an anticipated service life of between 5 and 8 years, after which time the battery typically fails to store sufficient charge. Higher ambient temperatures typically result in shorter battery life.

At the end of the battery's life, Autostart operation typically continues unaffected so long as the main engine battery voltage remains above 5 VDC. However, supply brown-out voltages below 5V can cause a complete or partial Autostart power-down, which may result in drop-out of the start or fuel outputs, or spurious fault indication and shutdown.

Factory repair or battery replacement is typically uneconomic, but on-site replacement of the battery is possible.

### Battery replacement



**WARNING:** The following procedure requires dismantling and handling of internal components, with risk of permanent component damage. Before beginning:-

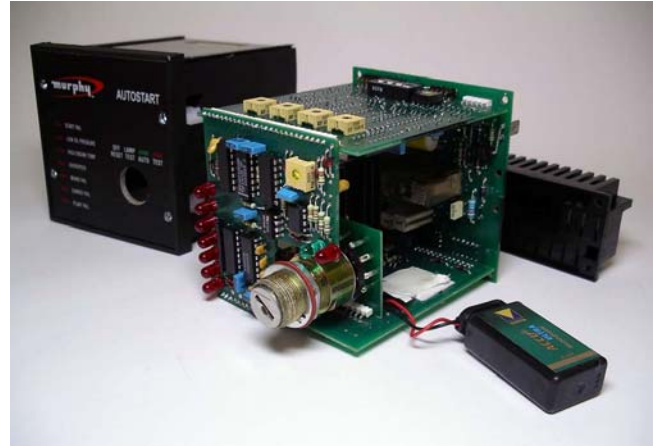
- ensure isolation of all DC and AC supplies, and disconnection of all electrical wiring
- observe static sensitive precautions, including earthed wrist bands and mat.
- where possible, avoid direct handling of electronic components and circuits.

**Murphy cannot accept liability for units that have been repaired, modified or adjusted outside of our quality control system, nor for any subsequent personal injury or damage to connected equipment. Product warranty may also be invalidated.**

**If in doubt, please contact our technical sales department for further advice.**

Remove the circuit board assembly from the case as follows:-

1. Remove the 8 screws at the rear of the Autostart, then remove the plastic 'H' shaped bar and 2 terminal covers.
2. On the front facia, unscrew the keyswitch bezel. A large pair of pliers is normally sufficient, with the jaws wrapped in insulation tape to minimise bezel scratching.



3. Remove the Autostart circuit board assembly out of the back of the unit. The top side covering plate may need to be raised slightly so that it clears switches 1 – 5 on the top circuit board.

The battery sits on the lower circuit board, either in its own plastic support with connectors, or (as shown above) glued and/or zip-strapped directly onto the circuit board with connections by flying lead. If the (large/heavy) battery has come loose, it may be possible that internal components are damaged.

If no other components are damaged, fit and secure the new, fully charged battery. If a replacement 9V NiCd battery is not available, a 9V NiMH (Nickel-Metal-Hydride) equivalent may also be used.

Re-assemble the Autostart in reverse order to the disassembly sequence. A thorough test of operation is recommended:-

- Check automatic startup and shutdown cycle
- Check manual startup and shutdown cycle
- Check all fault shutdown conditions (oil pressure, overspeed, etc).

### Further information:-

Document	Description
ms5893	Autostart 700 sales bulletin/specification
mi5316	Autostart 700 installation reference sheet



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