

Lancair Columbia 300/350/400 Installation Example Enhanced Flight Model BM-AIK Airframe Interface Kit for BatteryMINDER® Maintenance Charger

This installation example supplements the instructions for installing the BM-AIK1 or BM-AIK2 charger harness kit. Please read the kit instructions completely before referring to this example. The kit instructions recommend connecting to the battery relay and an airframe ground, instead of directly to the battery. However, for this example, the installer has elected to wire directly to the batteries (the Columbia has two batteries) due to limited accessibility of the ship's power grid and the non-conductive composite airframe. To insure adequate thread engagement on the terminals of the Concorde batteries, the installer sourced longer battery terminal bolts to accommodate the increased height of the stack.

The batteries are located in the aft baggage area under the baggage floor. A separate BM-AIK2 wiring kit must be installed for each battery, so they can be charged and tested individually. DO NOT wire multiple batteries to the same harness plug. The exact configuration of your aircraft may vary from this example and require variations from these instructions.

NOTE: Though a separate charger for each battery is the best solution, it is possible to maintain both batteries with a single BatteryMINDER once they are charged and tested individually. See the BatteryMINDER manual for specific instructions. **Never connect two or more batteries together before fully charging each and checking its condition. Failure to fully charge each battery and check its condition can result in a serious safety hazard.**

- 1) Remove the aft interior floor to access the battery area.
- 2) Remove battery box cover and disconnect battery terminal leads.
- 3) The charger plugs (red Anderson SB50) will be positioned near the aft edge of the baggage door as shown. Attach the red and black harness leads to the plugs and run the both harnesses aft along the left side to the battery area. Drill or make a slot for passing the wires through the access cover.

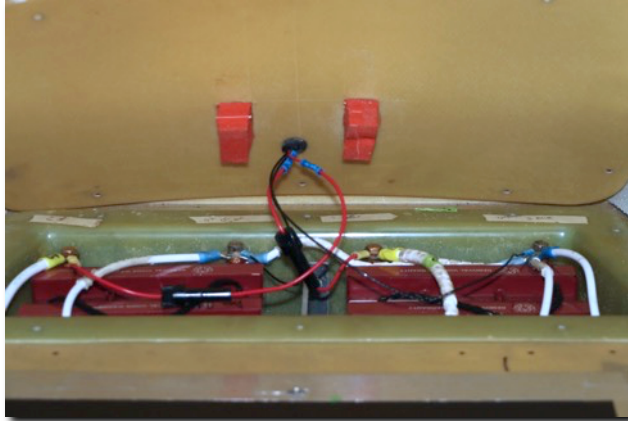


Columbia 400 aft baggage door.



Aft baggage interior with trim removed.

- 4) At each battery, or at the corresponding location on the power grid, connect the supplied fuse holder assembly to the positive terminal and splice the other end to the positive harness lead.
- 5) Connect the negative (black) harness leads to the negative terminals of the battery or power grid.
- 6) Use the supplied fiberglass harness sleeving where necessary to prevent chafing.
- 7) Attach the elastomeric dust covers to the red SB50 plugs and secure the plugs in position.



Dual battery box with separate fused charger harnesses.



SB50 charger plugs with protective covers.

- 8) Use the fiberglass sleeving to protect the harness and secure with nylon ties or cable clamps.
- 9) Route the positive lead from the plug to the positive stud on the battery relay, trim to length, and use small ring terminal to attach.
- 10) Label or placard the plugs or dust cover "MAINTENANCE CHARGER".
- 11) Reattach battery cables and test for proper voltage and polarity at the SB50 plugs with aircraft power OFF.
- 12) Attach the SAE to SB50 adapter harness to the BatteryMINDER. Connect charger to each aircraft plug and observe correct polarity and battery condition on the BatteryMINDER. Connect charger power cord to AC and verify normal operating indications on the BatteryMINDER.
- 13) Re-install battery access cover and interior. Perform functional test of aircraft electrical system.
- 14) Make appropriate entry in airframe maintenance logbook to document installation as minor alteration and return to service.

Installation example courtesy of:
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