## Battery Maintainer Authorization Request Phoenix Deer Valley Airport

Tenant:	Hangar:
Aircraft Registration:	
Aircraft Make & Model:	
I hereby request authorization to use the referenced above:	e following battery maintainer installation on my aircraft and in my hangar
Battery Maintainer: Battery Maintainer: Schauer	MINDer Model 128CEC1 or 244CEC1 Model JAC0512-DVPA or JAC0524-DVPA
Aircraft Connection: Audio Authority Mo	odel BM-AIK1 or equivalent
Airport Specification Airport Specification	ner and aircraft connection installation conforms to the <b>Phoenix Deer Valley ons and Procedures for Battery Maintainer Use</b> current on the date of my with these requirements, as revised. Failure to comply with these requirement
Tenant/Aircraft Owner:	Date:
Approved this date:	<del></del>
Phoeniy Deer Valley Airport Manager	

# **Battery Maintainer Operating Procedures**

#### Connecting

- 1. Prior to connection to the aircraft, verify that the Battery Maintainer is **DISCONNECTED FROM AC POWER**
- 2. NO AC EXTENSION CORDS ARE PERMITTED
- 3. Locate the Battery Maintainer near the AC power outlet
- 4. Battery Maintainer Device may NOT be used within the Class I, Division II Hazard area
- 5. Extend the Battery Maintainer DC cable and plug into the aircraft battery maintainer socket
- 6. AFTER the DC cable is in place, connect the Battery Maintainer to AC power
- 7. Verify that the Battery Maintainer automatic cycle has begun

#### Disconnecting

- 1. **DISCONNECT AC POWER** from the Battery Maintainer
- 2. Disconnect the Battery Maintainer DC cable from the aircraft

CAUTION: AC POWER MUST BE REMOVED FROM THE BATTERY MAINTAINER BEFORE CONNECTING OR DISCONNECTING THE DC CABLE TO THE AIRCRAFT!

A copy of this authorization must be posted in the hangar

# Phoenix Deer Valley and Goodyear Airports

# **Battery Maintainer Specifications and Procedures**

Phoenix Deer Valley and Goodyear Airport Management recognize that tenants may wish to use modern battery maintainer technology to optimize the life of their aircraft batteries while the batteries are installed in the aircraft. This will be permitted for those installations complying with these specifications and procedures.

#### **Specifications**

- Battery Maintainers will be of the computer-controlled, fully automated type with the following minimum features:
  - a. UL Listed and so marked on the device
  - b. Zero voltage on DC terminals prior to battery connection (no sparks)
  - c. Reverse polarity protection
  - d. Rejection of shorted battery
  - e. Reject batteries that are below a minimum Open Circuit Voltage (OCV) of 22.5V/11.25V, indicating a possible defective battery
  - f. Fully automated operating cycle
  - g. No AC extension cords
  - h. Direct plug-in connection to aircraft no alligator clips are permitted
- 2. Referenced devices:

Schauer Models JAC0512-DVPA, JAC0524-DVPA, includes Extended DC Cable (1-800-899-8658), Ext. 13

http://battery-chargers.com/our-products/mobile-equipment-electronic-chargers/

BatteryMINDer Model 244CEC1 series (24 volt only), plus Extended DC Cable (1-800-379-5579)

http://www.batteryminders.com/aircraft-battery-chargers

- 3. Aircraft Connection will be via a hard-wired, direct connection to the aircraft electrical system with the following features:
  - a. Polarized, insulated, shielded socket mounted in the aircraft, outside the Hazard Area
  - b. Mating, polarized plug on the Battery Maintainer DC cable
  - c. No "alligator" clips are permitted
  - d. No opening of the aircraft battery box is permitted during connection or operation, if the aircraft the aircraft is so equipped.
  - e. Installation of the connection system in the aircraft will be in accordance with FAA AC43-1B standards
  - f. Referenced connection kit: Audio Authority Airframe Interface Kit, Model BM-AIK1 or equivalent: https://www.audioauthority.com/product\_details/BM-AIK1

## Phoenix Deer Valley and Goodyear Airports

# **Battery Maintainer Specifications and Procedures**

This Procedure must be posted in the hangar near the AC power outlets

# **Operating Procedures**

#### **Connecting**

- 1. Prior to connection to the aircraft, verify that the Battery Maintainer is **DISCONNECTED FROM AC POWER**
- 2. NO AC EXTENSION CORDS ARE PERMITTED
- 3. Locate the Battery Maintainer near the AC power outlet
- 4. Battery Maintainer Device may <u>NOT</u> be used within the Class I, Division II Hazard area
- 5. Extend the Battery Maintainer DC cable and plug into the aircraft maintainer socket
- 6. AFTER the DC cable is in place, connect the Battery Maintainer to AC power
- 7. Verify that the Battery Maintainer automatic cycle has begun

### Disconnecting

- 1. **DISCONNECT AC POWER** from the Battery Maintainer
- 2. Disconnect the Battery Maintainer DC cable from the aircraft

CAUTION: AC POWER MUST BE REMOVED FROM THE BATTERY MAINTAINER BEFORE CONNECTING OR DISCONNECTING THE DC CABLE TO THE AIRCRAFT!



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# BatteryMINDer® Model 244CEC1-AA-S5: 24V 4 AMP CONCORDE® Aviation Battery Charger-Maintainer-Desulfator



Price: \$239.95

Availability: In Stock

\* Free Digital Voltmeter:

You must tick the Free Digital Voltmeter option.

Our new CONCORDE® aviation battery specific 2016 line of BatteryMINDer® battery chargers-maintainers-desulfators are the most advanced we have ever produced. In addition to charging and maintaining sealed or wet cell (filler caps) CONCORDE® aviation batteries users can now determine the level of charge remaining in their battery, and if weak and in need of replacement, before going bad. Units test for weak/dead cells and will recover weak or severely discharged batteries that other chargers would reject. Known as the CEC1-AA series they feature advancements in easy to understand battery analysis and condition not previously available in any other single model. Their high efficiency design, controlled by industrially-rated microprocessors, allow continuous operation (24 hrs/day) for less than \$0.43/month\* Temperature sensors prevents over/under charging from freezing to 130-F.

SmarTECHnology™ = Advanced Technology made simple to use. 1 Year 100% Money Back Guarantee 5 Year "No Hassle" Warranty.

#### BotteryMINDer® Charger-Maintainer-Desulfator 7 Stages of Charging

Analyze: Desulfate: Soft Start: **Bulk**:

Test-Qualify/accept or reject battery Begins removal by dissolving harmful sulfate Applies low current if battery tests low

Absorption: Test:

Provides maximum output to charge to 85% Provides low current to complete to 100% To determine if battery needs further desulfation

Maintenance:

Maintains temperature-compensated full-charge

Description

Other Details

Reviews

G+

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#### **Features & Benefits:**

BatteryMINDer® Model 244CEC1-AA-S5: 24-Volt 4 AMP CONCORDE® Aircraft Battery Charger-Maintainer-Desulfator

These chargers-maintainers-desulfators are designed for all size and type 24-Volt CONCORDE® Aviation Batteries. If you want the longest possible life and performance from your batteries there is no other product better at doing just this and BatteryMINDer® Guarantees it!

NONE OF OUR AIRCRAFT MODELS ARE DESIGNED TO FUNCTION AT INPUT VOLTAGES ABOVE 120 VAC EXCEPT WHEN COMBINED WITH AN ISOLATION STEP-DOWN TRANSFORMER.

#### BatteryMINDer Model 244CEC1-AA-S5 24V 4 AMP CONCORDE® Aviation Battery Charger/Maintainer/Desulfator

- Guaranteed to never overcharge/undercharge. (33°F to 130°F)
- · Tested and endorsed by leading Battery makers.
- 100% Full Time U.S. Patented Pulse-type Desulfation keeps battery free of sulfate or dissolves sulfate completely in older batteries.
- Detects and rejects batteries with bad cells. Terminate charge to prevent out-gassing.
- Maximize battery life and capacity, recovers weak batteries.
- Diagnoses battery's condition / state-of-charge.
- Recovers weak or deeply discharged batteries: including but not limited to flooded filler cap, maintenance-free, valve regulated leadacid (VRLA), sealed lead-acid (SLA), starter, deep cycle and hybrid.
- Maintain up to 2 batteries at a time. (requires BatteryMINDer<sup>®</sup> Y-Connector Accessory <u>210-AY</u>)
- · Auto-Restart after power failure.
- Intrusion protected from water and dust per IEC STANDARD IP65.
- · Bad cell detection with auto-shutdown.
- Includes Short circuit, spark, reverse polarity protection, thermal runaway protection, automatic D/C disconnect on A/C failure and quick-connect/disconnect fused alligator clip assembly.
- Very high efficiency. California CEC Approved. Certified to California Energy Commission Standards.
- · Automatically detects input AC power.
- ECO-mode with hi-efficiency / low power consumption. This allows the unit to always remain connected to AC while consuming very low level of electricity.

- Ambient temperature compensation. Built-in temperature sensor automatically adjusts charge rate to ensure full-charge. (as low as 0°F or as high as 130°F)
- 12 LED indicators show state-of-charge and important status mode / battery condition.
- · Rugged, vibration-resistant construction.
- Never connect two or more batteries together before fully charging each and checking their condition. Failure to fully charge each battery and check their condition can result in a serious safety hazard.

#### Learn Why You MUST use an Aviation-Specific Charger

12 Volt	C:II / CII .			
12 Volt 128CEC1- AA	Gill (Sealed + Flooded	Hawker- Odyssey <sup>2</sup>	Concorde (Sealed Valve-Regulated AGM + Flooded [We Cell/Filler Cap])*	
	[Wet Cell/ Filler Cap]) <sup>1</sup>	Gill LT 7000 Series <sup>a</sup>		
24 Volt 244CEC1-	Gill (Sealed + Flooded	Hawker- Odyssey <sup>2</sup>	Concorde (Sealed Valve-Regulated AGM + Flooded [We Cell/Filler Cap])*	
AA	[Wet Cell/ Filler Cap]) <sup>1</sup>	Gill LT 7000 Series <sup>a</sup>		

#### What's in the Box

- Model 244CEC1-AA-S5 Charger-Maintainer-Desulfator
- · 6' AC cord, 6' DC cord with quick connector (SAE)
- Auto-Temp Compensation Sensor (Installed)
- 2' Insulated Battery Clip Cord Set with Quick Connector and 15A replaceable fuse

<u>Click Here To View The Instruction Manual</u>
(PDF opens in a new window)

Please note that you need Adobe Acrobat Reader to view the file.

If you do not have it, <u>CLICK HERE</u> to install it.



#### **Optional Accessories**

- 210AY: Y Multiple Battery Connector
- 210RT: Y Multiple Battery Connector w/ Ring Terminal Connector
- ABS-248: At the Battery Temperature Sensor
- ATS-1: Ambient Temperature Sensor
- BC-AA: Insulated Battery Clip Cord Set
- BC2AY: Insulated Battery Clips w/ 210AY Y Multiple Battery Connector
- BM-AIK2: Airframe Interface Kit for use with FAA-Certified Aircrafts
- DCE12: DC Extension Cables 12ft.
- DCE25: DC Extension Cables 25ft.
- RTA-2415EXP: Connection for Experimental Aircraft
- VPP-12: 12/24 Volt Vehicle Power Plug

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# Schallers Battery Chargers Schaler is a trademark of the Brookwood Group Inc.



Schauer 3210 Wasson Road Cincinnati, Ohio 45209

1-800-899-VOLT (8658) Fax: 1-513-791-7192 www.battery-chargers.com

# MODEL JACO212, JACO224, JACO324, JACO348, JACO436, JACO512, JACO524, JACO724, JAC1212



Intelligent chargers follow battery impedance to end of charge cycle for all battery types. Fully automatic. Red LED indicates AC power on, yellow LED indicates battery is charging, green LED indicates float mode. Aluminum case.

- World-Wide Universal AC Input 90 260 volts, 50/60Hz.
- Charge control: modified constant current charge to a constant finishing voltage then to a float standby.
- Current limiting.
- Fully automatic 3 stage charger can be left on the battery indefinitely.

- For any type lead acid battery, including conventional, maintenance free, deep cycle, gelled-type, valve regulated batteries.
- Finishing voltage: 2.28 volts per cell float; 2.4 volts per cell finishing. May be preset to customers specification for battery type.
- Not intended for use as a DC power supply.
- Full load at 2.1 volts per cell continuous 100% duty cycle.
- Short circuit proof.
- Reverse polarity protection (except 2 amp model).
- Battery clips, ring terminals strip leads or 3 pin xlr plugs available.

JAC0212(3)         2 AMPS         12 VOLTS         4.6"w x 2.3"h x 1.4"d         1.2 lbs.           JAC0512(1)         5 AMPS         12 VOLTS         6.5"w x 3.5"h x 1.8"d         1.8 lbs.           JAC1212(2)         12 AMPS         12 VOLTS         6.5"w x 3.5"h x 1.8"d         1.8 lbs.           JAC0224(3)         2 AMPS         24 VOLTS         4.6"w x 2.3"h x 1.4"d         1.2 lbs.           JAC0324(1)(3)         3 AMPS         24 VOLTS         6.5"w x 3.5"h x 1.8"d         1.8 lbs.           JAC0524(1)         5 AMPS         24 VOLTS         6.5"w x 3.5"h x 1.8"d         1.8 lbs.           JAC0724(1)         7 AMPS         24 VOLTS         6.5"w x 3.5"h x 1.8"d         1.8 lbs.           JAC0436(1)         4 AMPS         36 VOLTS         6.5"w x 3.5"h x 1.8"d         1.8 lbs.           JAC0348(1)         3 AMPS         48 VOLTS         6.5"w x 3.5"h x 1.8"d         1.8 lbs.					
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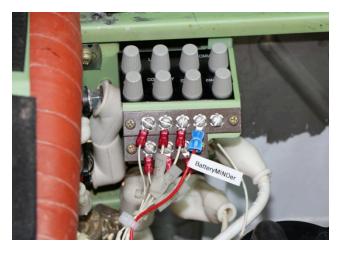
(1.) DC cordsets 3' long: with ring terminals or XLR connector. (2.) with stripped leads. (3.) with battery clips.

**NOTE:** Chargers available for other currents and voltages, contact factory.



2048 Mercer Road Lexington, Kentucky 40511 • Phone: 800-322-8346 or 859-233-4599 • www.audioauthority.com/GPU

# Installation Instructions Model BM-AIK1 Airframe Interface Kit for GPU BatteryMINDer®Option





Charger harness wired to battery bus.

Maintenance charger plug & cover installed.

#### **Background Information – Read Completely Before Beginning Installation**

This kit provides standard aircraft parts acceptable under 14 CFR §21.9 for a FAA certificated mechanic to fabricate and install a fused, 2-wire harness to access a certified aircraft's lead-acid storage battery or related battery electrical bus, for the purpose of connecting an aviation-specific BatteryMINDer brand of low-current (8A or less), continuous-duty, maintenance-type battery charger. The finished harness typically has ring terminals at the battery relay & ground, connecting to an Anderson SB50 polarized plug at the opposite end via MIL-spec unshielded 16-gauge aircraft wire, with a 10-amp in-line protective fuse. An insulating dust cover protects the plug when not connected to the charger. This product is not compatible with chargers greater than 8-amperes.

This kit can be installed as a minor alteration under 14 CFR §1.1 and §21.93(a) as it has "no appreciable effect on the weight, balance, structural strength, reliability, operational characteristics, or other characteristics affecting the airworthiness" of the aircraft. No Form 337 submittal or FSDO field approval is required per FAA Order 8900.1 Figure 4-67. A §43.9 airframe maintenance logbook entry is required and sufficient for return to service.

These instructions are advisory only. Individual aircraft models and configurations vary, so an airworthy installation depends on the judgment of a competent mechanic to determine the best option among many. This kit provides commonly used installation parts. Other airframe configurations may require different or additional parts that are not supplied. Similarly, a length of protective fiberglass MIL-spec sleeving is provided to protect the harness from airframe chaffing, as needed in the judgment of the installing mechanic. Other protective and security measures not included in this kit may be employed at the discretion of the installing mechanic, who is ultimately responsible for an airworthy installation.

Temperature sensing for charger output calibration is accomplished by an ambient temperature sensor that is embedded into the GPU's charger output cable, and therefore is not part of this installation.

#### **Parts List**

Part Number	Description	Qty	Weights
6331G2	Anderson SB50 polarized plug (red) w/solder contacts	1	all negligible
716-367	Elastomeric insulating cover for SB50	1	
761-451	Cover Label "BATTERY MAINTENANCE CHARGER ONLY"	1	
852-2225	MIL-W-22759/16 16-gauge unshielded wire, red (250°C)	6'	
852-0005	MIL-W-22759/16 16-gauge unshielded wire, black (250°C)	6'	
882-014	MIL-I-3190E silicone-coated fiberglass sleeving	3'	
908-059	Fuseholder, phenolic in-line bayonet w/15" wire loop (125°C)	1	
031-056	Fuse, 10-amp AG3	1	
910-102	14-16 AWG 5/16" ID ring terminal	2	
910-103	14-16 AWG #8 ID ring terminal	2	
910-035	14-16 AWG crimp butt splice	2	

#### **Installation Procedures**

- 1. Determine best electrical access to the aircraft battery. Since batteries are regularly removed for inspection, maintenance and replacement, we recommend attaching the positive ring terminal to the battery relay post or stud that is connected to the positive battery cable and the negative to a convenient airframe ground. Plastic or composite airframes that do not have battery busses may require connecting directly to the battery terminals. The best place to access the battery will vary from one aircraft type to another and must be determined by the installing mechanic.
- 2. Determine a safe location to secure the red SB50 plug where it can be readily accessed for connecting the charger. Keep the distance from the plug to the DC source as short as possible.
- 3. Assemble SB50 plug to wiring. Fill the plug's wire cavities with RTV for strain relief and allow it to set.
- 4. Route and secure the wiring harness and trim to length. Use protective sleeving as necessary to prevent chaffing against airframe or other components.
- 5. Position 10A inline fuse holder as close to the battery or battery relay as possible.
- 6. Crimp the appropriate terminals to harness leads and attach to the battery relay terminals, red wire to the positive terminal and black to negative or ground. If required, use alternate approved terminal hardware.
- 7. Placard the SB50 plug/cover using the supplied label, or equivalent.
- 8. Use a DC voltmeter to verify continuity and proper polarity to battery.
- 9. Connect the BatteryMINDer and test for proper operation.
- 10. Make appropriate entry in airframe maintenance logbook to document installation and return aircraft to service. Sample text below, edit as required for specific installation:

"Fabricated & installed 2-wire battery charger connection harness using MIL-W-22759/16 wire with 10A inline circuit protection fuse. Attached to battery relay and airframe ground with ring terminals. Terminated opposite end with Anderson SB50 plug with protective cover and mounted in forward baggage compartment. All work IAW AC43.13/1B. Verified continuity, polarity, tested with charger and for proper aircraft electrical system operation. No defects noted at this time."