## JD0064-00

## AT10.1/AT30 Series Battery Charger *Preventive Maintenance Procedure*

MAINTENANCE DATE	PERFORMED BY

All vents clean and open.   Remove dust and debris from inside of unit.   □ OK	Step (standard features)	Instructions	Results
Test front panel indicators	Clean battery charger	All vents clean and open.	□ OK
Internal wiring connections tight, slip-on connectors fully seated. Wire and lug insulation in good condition.   Terminations at battery or bus are tight and corrosion free.   OK   OK		Remove dust and debris from inside of unit.	□ OK
And lug insulation in good condition.  Terminations at battery or bus are tight and corrosion free.    OK		TB1 connections all tight.	□ OK
Terminations at battery or bus are tight and corrosion free.	connections and wiring		□ОК
Value must be within +10%, -12% of nominal.			□ ОК
with front panel voltmeter within 1%, and must be correct values for your battery. If the charger is using a temperature compensation probe, see the curve in Section 1.11 of user's manual to determine correct battery voltage.  Check ripple voltage  Measure at battery terminals using ac voltmeter set to millilvolts scale.  Check against specification in Appendix A of user's manual.  Press AMP TEST key on front panel.  Press AMP TEST key and hold for 4 seconds. Common alarm relay will transfer.  Exercise front panel controls  Press AMP TEST key and hold for 4 seconds. Common alarm relay will transfer.  Exercise front panel controls  Press AMP TEST key and hold for 4 seconds. Common alarm relay will transfer.  Cycle through the dc circuit breaker. Er 7 may appear on display (requires at least 5% of rated output current). Reset breaker.  Cycle through meter modes. See Section 2.2.2 of user's manual.  Cycle through meter modes. See Section 2.2.2 of user's manual.  Cycle through equalize methods. See Section 2.2.3 of user's manual.  Turn off ac circuit breaker. The AC INPUT FAILURE indicator should light. Reset breaker.  Check voltage and alarm settings  Turn off ac circuit breaker. The AC INPUT FAILURE indicator should light. Reset breaker.  Use EDITIENTER key to scroll through settings. See Section 2.3 of user's manual.  Press Up Arrow and EDIT/ENTER keys together to check current limit setting  Make sure plexiglas safety cover is in place over I/O terminal board.  Restore charger to normal operation.	Check ac input voltage		•
your battery. If the charger is using a temperature compensation probese the curve in Section 1.11 of user's manual to determine correct battery voltage.  Check ripple voltage  • Measure at battery terminals using ac voltmeter set to milliVolts scale. • Check against specification in Appendix A of user's manual.  Test front panel indicators  Test common alarm relay  • Press LAMP TEST] key and hold for 4 seconds. Common alarm relay will transfer.  Exercise front panel controls  • Switch from Float to Equalize, then back to Float.  • Turn off the dc circuit breaker. Er 7 may appear on display (requires at least 5% of rated output current). Reset breaker.  • Cycle through meter modes. See Section 2.2.2 of user's manual.  • Cycle through equalize methods. See Section 2.2.3 of user's manual.  • Turn off ac circuit breaker. The AC INPUT FAILURE indicator should light. Reset breaker.  • Use EDIT/ENTER key to scroll through settings. See Section 2.3 of user's manual.  Check voltage and alarm settings  • Press Up Arrow and EDIT/ENTER keys together to check current limit setting  • Make sure plexiglas safety cover is in place over I/O terminal board.  • Restore charger to normal operation.	Check dc output voltage		
See the curve in Section 1.11 of user's manual to determine correct battery voltage.  Check ripple voltage  • Measure at battery terminals using ac voltmeter set to milliVolts scale. • Check against specification in Appendix A of user's manual.  • Press LAMP TEST key on front panel. indicators  Test common alarm relay will transfer.  Exercise front panel controls  • Switch from Float to Equalize, then back to Float. • Turn off the dc circuit breaker. Er 7 may appear on display (requires at least 5% of rated output current). Reset breaker.  • Cycle through meter modes. See Section 2.2.2 of user's manual.  • Cycle through equalize methods. See Section 2.2.3 of user's manual.  • Cycle through equalize methods. See Section 2.2.3 of user's manual.  • Turn off ac circuit breaker. The AC INPUT FAILURE indicator should light. Reset breaker.  • Use EDIT/ENTER key to scroll through settings. See Section 2.3 of user's manual.  • Press Up Arrow and EDIT/ENTER keys together to check current limit setting  • Make sure plexiglas safety cover is in place over I/O terminal board. • Restore charger to normal operation.			
Check ripple voltage  • Measure at battery terminals using ac voltmeter set to milliVolts scale. • Check against specification in Appendix A of user's manual.  • Press LAMP TEST key on front panel.    OK			•
Check against specification in Appendix A of user's manual.  Press LAMP TEST key on front panel.  Controls  Press LAMP TEST key and hold for 4 seconds. Common alarm relay will transfer.  Exercise front panel controls  Switch from Float to Equalize, then back to Float.  Turn off the dc circuit breaker. Er 7 may appear on display (requires at least 5% of rated output current). Reset breaker.  Cycle through meter modes. See Section 2.2.2 of user's manual.  Cycle through equalize methods. See Section 2.2.3 of user's manual.  Check voltage and alarm settings  Check voltage and alarm settings  Check voltage and alarm settings  Auro See Section 2.2.3 of user's manual.  Check voltage and alarm settings  Auro See Section 2.3 of user's manual.  Check voltage and user's manual.  Alarm OK  Final checks  Auke sure plexiglas safety cover is in place over I/O terminal board.  Restore charger to normal operation.			
Test front panel indicators  Test common alarm relay  Press AMP TEST key on front panel.  Press AMP TEST key and hold for 4 seconds. Common alarm relay will transfer.  Exercise front panel controls  **Press AMP TEST key and hold for 4 seconds. Common alarm relay will transfer.  **Switch from Float to Equalize, then back to Float.  **Turn off the dc circuit breaker. Er 7 may appear on display (requires at least 5% of rated output current). Reset breaker.  **Cycle through meter modes. See Section 2.2.2 of user's manual.  **Cycle through equalize methods. See Section 2.2.3 of user's manual.  **Cycle through equalize methods. See Section 2.2.3 of user's manual.  **Cycle through equalize methods. See Section 2.2.3 of user's manual.  **Cycle through equalize methods. See Section 2.2.3 of user's manual.  **Cycle through equalize methods. See Section 2.2.3 of user's manual.  **Cycle through equalize methods. See Section 2.2.3 of user's manual.  **Cycle through equalize methods. See Section 2.2.3 of user's manual.  **Description of the circuit breaker. The AC INPUT FAILURE indicator should light. Reset breaker.  **Check voltage and alarm settings**  **Use EDIT/ENTER** key to scroll through settings. See Section 2.3 of user's manual.  **Description of the circuit breaker. The AC INPUT FAILURE indicator should user's manual.  **Description of the circuit breaker. The AC INPUT FAILURE indicator should light. Reset breaker.  **Description of the circuit breaker. The AC INPUT FAILURE indicator should user's manual.  **Description of the circuit breaker. The AC INPUT FAILURE indicator should light. Pailure indicator should user's manual.  **Description of the circuit breaker. The AC INPUT FAILURE indicator should light. Pailure indicator shoul	Check ripple voltage	,	
Test common alarm relay relay  Press AMP TEST key and hold for 4 seconds. Common alarm relay will transfer.  Switch from Float to Equalize, then back to Float.  Turn off the dc circuit breaker. Er 7 may appear on display (requires at least 5% of rated output current). Reset breaker.  Cycle through meter modes. See Section 2.2.2 of user's manual.  Cycle through equalize methods. See Section 2.2.3 of user's manual.  Turn off ac circuit breaker. The AC INPUT FAILURE indicator should light. Reset breaker.  Use EDIT/ENTER key to scroll through settings. See Section 2.3 of user's manual.  Check voltage and alarm settings  Use EDIT/ENTER keys to scroll through settings. See Section 2.3 of user's manual.  Ploat OK Equalize OK HVDC OK LVDC OK Current Limit setting  Make sure plexiglas safety cover is in place over I/O terminal board. Restore charger to normal operation.			mvac
Exercise front panel controls   Switch from Float to Equalize, then back to Float.   OK   OK   OK   OK   OK   OK   OK   O		Press LAMP TEST key on front panel.	□ OK
Turn off the dc circuit breaker. Er 7 may appear on display (requires at least 5% of rated output current). Reset breaker.      Cycle through meter modes. See Section 2.2.2 of user's manual.      Cycle through equalize methods. See Section 2.2.3 of user's manual.      Cycle through equalize methods. See Section 2.2.3 of user's manual.      Manual Timer Manual Equalize Auto-Eq Timer      Turn off ac circuit breaker. The AC INPUT FAILURE indicator should light. Reset breaker.  Check voltage and alarm settings      Use EDIT/ENTER key to scroll through settings. See Section 2.3 of user's manual.  Press Up Arrow and EDIT/ENTER keys together to check current limit setting  Make sure plexiglas safety cover is in place over I/O terminal board. Restore charger to normal operation.			□ OK
Cycle through meter modes. See Section 2.2.2 of user's manual.	-	Switch from Float to Equalize, then back to Float.	
Check voltage and alarm settings  - Press Up Arrow and EDIT/ENTER keys together to check current limit setting  - Make sure plexiglas safety cover is in place over I/O terminal board.  - Cycle through equalize methods. See Section 2.2.3 of user's manual.  - Manual Timer - Manual Equalize - Auto-Eq Timer - Alarm OK - Float OK - Float OK - Float OK - HVDC OK - LVDC OK - LVDC OK - Current Limit - Adc - OK - Restore charger to normal operation.	controls		□ OK
Cycle through equalize methods. See Section 2.2.3 of user's manual.      Cycle through equalize methods. See Section 2.2.3 of user's manual.      Manual Timer Manual Equalize Auto-Eq Timer      Turn off ac circuit breaker. The AC INPUT FAILURE indicator should light. Reset breaker.  Check voltage and alarm settings      Use EDIT/ENTER key to scroll through settings. See Section 2.3 of user's manual.  Float OK Equalize OK HVDC OK LVDC OK LVDC OK Current Limit setting  Adc  Final checks  Make sure plexiglas safety cover is in place over I/O terminal board. Restore charger to normal operation.		Cycle through meter modes. See Section 2.2.2 of user's manual.	☐ Volts
Cycle through equalize methods. See Section 2.2.3 of user's manual.      Manual Timer     Manual Equalize     Auto-Eq Timer      Turn off ac circuit breaker. The AC INPUT FAILURE indicator should light. Reset breaker.  Check voltage and alarm settings      Use EDIT/ENTER key to scroll through settings. See Section 2.3 of user's manual.  Press Up Arrow and EDIT/ENTER keys together to check current limit setting  Press Up Arrow and EDIT/ENTER keys together to check current limit setting  Manual Timer     Alarm OK  Float OK     Equalize OK     HVDC OK     LVDC OK     Current Limit     Adc  Final checks  Make sure plexiglas safety cover is in place over I/O terminal board. Restore charger to normal operation.			' '
Manual Equalize			
Turn off ac circuit breaker. The AC INPUT FAILURE indicator should light. Reset breaker.  Check voltage and alarm settings  • Use EDIT/ENTER key to scroll through settings. See Section 2.3 of user's manual.  • Press Up Arrow and EDIT/ENTER keys together to check current limit setting  • Make sure plexiglas safety cover is in place over I/O terminal board.  • Restore charger to normal operation.		Cycle through equalize methods. See Section 2.2.3 of user's manual.	
Turn off ac circuit breaker. The AC INPUT FAILURE indicator should light. Reset breaker.  Check voltage and alarm settings      Use EDIT/ENTER key to scroll through settings. See Section 2.3 of user's manual.  Press Up Arrow and EDIT/ENTER keys together to check current limit setting  Press Up Arrow and EDIT/ENTER keys together to check current limit setting  Adc  Final checks  Make sure plexiglas safety cover is in place over I/O terminal board.  Restore charger to normal operation.  □ OK □ O			•
light. Reset breaker.		Turn off ac circuit breaker. The AC INDIT FAILURE indicator should.	•
alarm settings  user's manual.  □ Equalize OK □ HVDC OK □ LVDC OK Current Limit setting  • Make sure plexiglas safety cover is in place over I/O terminal board. • Restore charger to normal operation.  □ CVDC OK Current Limit Adc			L / liai iii Ok
Press Up Arrow and EDIT/ENTER keys together to check current limit setting  Press Up Arrow and EDIT/ENTER keys together to check current limit Adc  Final checks  Make sure plexiglas safety cover is in place over I/O terminal board. Restore charger to normal operation.  □ OK □ CV			☐ Float OK
Press Up Arrow and EDIT/ENTER keys together to check current limit setting  • Press Up Arrow and EDIT/ENTER keys together to check current limit Adc  Final checks • Make sure plexiglas safety cover is in place over I/O terminal board. • Restore charger to normal operation.  □ OK	alarm settings	user's manual.	•
Press Up Arrow and EDIT/ENTER keys together to check current limit setting     Adc  Final checks     Make sure plexiglas safety cover is in place over I/O terminal board.     Restore charger to normal operation.     OK □			
setting Adc  Final checks  • Make sure plexiglas safety cover is in place over I/O terminal board. • Restore charger to normal operation.		December Assessment EDIT/ENTED have to make a to all assessed limit	
Final checks  • Make sure plexiglas safety cover is in place over I/O terminal board.  • Restore charger to normal operation.  □ OK □ OK			
• Restore charger to normal operation.	Final checks		
Treated a harman operation.	i iliai ollooko		
0.000 (0.00) 0.1 (1.00) 0.000		Close latch on front panel door.	□ ОК

Step (optional features)	Instructions	Results
Test auxiliary alarm relays	Press LAMP TEST key and hold for 4 seconds. Alarm relays will transfer.	□ OK
Check integrity of remote wiring	<ul> <li>Remote sense wiring. See Section 1.9 of user's manual.</li> <li>Temperature compensation wiring. See Section 1.11 of user's manual.</li> <li>Temperature compensation probe. See Section 1.11 of user's manual.</li> </ul>	□ OK □ OK □ OK
Final checks	Close padlock or key lock.	□OK