

LIMITED WARRANTY

Associated Equipment Corporation, 5043 Farlin Ave., St. Louis, MO 63115, USA, makes this limited warranty to the original purchaser at retail of the Battery Tester Model 6030DV.

The Company hereby warrants to the Purchaser that if the Product, or any part thereof, shall prove to be defective due to improper workmanship or materials at any time up to and including one (1) year from the date of Product's purchase at retail, then the Company shall repair or replace the Product, or any part thereof, as the case may be, at the Company's option, without charge to the Purchaser for parts and labor, provided that Purchaser follows the procedures set forth herein.

This limited warranty does not and shall not apply: (1) to any Product parts subject to normal wear and tear, including, but not limited to, clamps and cables, (2) if the Product, or any part thereof, is subject to accident, misuse, abuse, or operated contrary to the Company's instructions pertaining to the Product, or (3) to the Product, or any part thereof, damaged by alteration, or by improper repair or service not rendered by the Company.

To obtain warranty repairs, the Purchaser must take the following steps:

(1) Carefully and securely pack the Product for shipping. The Company is not and shall not be responsible nor liable for damage to the Product caused by or during shipping.

(2) ENCLOSE PROOF OF PURCHASE AT RETAIL BY PURCHASER.

(3) Send the Product, with all postage, transportation and delivery charges prepaid, to Associated Equipment Corporation, 5043 Farlin, St. Louis, Missouri 63115.

(4) Request "Warranty Service" in writing. If the Purchaser does not request "Warranty Service" in writing, the Product will be returned to the Purchaser at the Purchaser's sole cost and expense with the Purchaser being charged for repairs or replacement. The Company assumes no responsibility for cost or damages incurred by the Purchaser resulting from the Purchaser's improper request for Warranty Service.

(5) Include a brief description of the problem.

If the problem is within the coverage of this limited warranty, the replaced or repaired Product will be returned to the Purchaser at the Company's sole cost and expense. If the problem is not within the coverage of this limited warranty, the product will be returned to the Purchaser after receipt of his Bank Card information and a charge may be imposed for a repair cost estimate.

THIS IS THE ONLY EXPRESS LIMITED WARRANTY ASSOCIATED WITH THE PRODUCT AND THE COMPANY NEITHER ASSUMES NOR AUTHORIZES ANYONE TO ASSUME OR MAKE ANY OTHER EXPRESS WARRANTY WITH RESPECT TO THE PRODUCT OTHER THAN THIS EXPRESS LIMITED WARRANTY. ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THIS PRODUCT IS LIMITED TO A PERIOD OF ONE (1) YEAR FROM THE DATE OF THE PRODUCT'S PURCHASE AT RETAIL BY THE PURCHASER. SOME STATES DO NOT ALLOW LIMITATION ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

ASSOCIATED EQUIPMENT CORPORATION
5043 Farlin Avenue, St. Louis, MO 63115
Tel. (314)385-5178 Fax. (314)385-3254



MODEL 6030DV DUAL VOLTAGE BATTERY TESTER

OPERATOR'S MANUAL



WARNING

Batteries produce explosive gases and can explode.



Wear safety goggles. (User and bystanders)



Keep flames and sparks away from batteries.



Read and follow instructions.

Battery explosion and ignited gases can cause injury.



WARNING

Battery acid can cause chemical burns.



Wear protective clothing. (User and bystanders)

Chemical burns can cause injury.

SAFETY INFORMATION

Working in the vicinity of lead-acid battery is DANGEROUS due to EXPLOSIVE GASES generated by the battery which can be ignited by a spark, cigarette or flame and blow the battery apart, forcefully showering the area with battery pieces and acid.

To reduce the chance of exploding batteries follow instructions by manufacturers of batteries as well as these instructions.

IN CASE OF ACCIDENT RINSE EYES WITH CLEAN WATER AT LEAST 5 MINUTES AND SEE A DOCTOR IMMEDIATELY. NEVER USE EYE DROPS OR OTHER MEDICATION UNLESS DIRECTED BY A DOCTOR.

When working around lead-acid batteries wear eye protection. NEVER smoke, have an open flame or sparks near battery. Have plenty of ventilation and keep your face as far as possible from the battery. Undercharged lead-acid batteries will freeze during cold weather. Never test or charge a frozen battery. Do not allow tools to drop onto a battery. Do not lay tester on battery.

BATTERY LOAD TEST

This test evaluates the battery's ability to crank an engine. The tester draws current from the battery while measuring its voltage level. The voltage level of a good battery will remain relatively steady under load, but a defective battery will show a rapid loss in voltage. Battery size (CCA rating) and temperature will affect test results - follow instructions carefully.

1. Turn off engine, accessories and battery test equipment.
2. Connect positive (red) clamp to positive (POS, P, +) battery post. Connect negative (black) clamp to the negative (NEG, N,-) battery post. "Rock" clamps back and forth to insure a good electrical connection. For batteries with side terminals, use the adapters in clamps.
3. With clamps connected, tester's display will indicate battery's STATE OF CHARGE. A decimal point appears in the lower right corner of the display window when connected to batteries with STATE OF CHARGE that is above 16 volts. If state of charge is less than 12.4 (24.8) volts, the battery should be recharged before load testing. When the battery voltage is below 12.4 (24.8) the tester display will alternately read the battery voltage and the message CH, instructing the battery must be charged. If recharging does not bring voltage to 12.4 (24.8), battery is defective.
NOTE: The 6030DV tester uses the battery under test for power. If the battery voltage is less than 7.5 volts, the display will not come on. If when connecting the tester, the display does not light up, check for correct polarity hookup. If correct, charge the battery and try again.
4. Depress the load switch and hold for 10 seconds. Left **RED** switch for 12V batteries. Right **WHITE** switch for 24V batteries. The tester will read the battery voltage and begin a 10 second timer. At the end of the 10 second period, the display will blink and read 8888. At this time release the load switch.
5. When the load switch is released after the 10 second load test, the tester will alternately display the voltage under load at the end of the test and the message PASS or FAIL.

WARNING: THE TOP AND REAR OF TESTER WILL HEAT UP DUE TO LOAD CURRENT. WITH 24-VOLT BATTERIES ALLOW THE TESTER TO COOL 5 MINUTES BETWEEN LOAD TEST - MAXIMUM OF 2 LOAD TEST IN A 15 MINUTE PERIOD. WITH 12-VOLT BATTERIES ALLOW TESTER TO COOL ONE MINUTE BETWEEN LOAD TESTS - MAXIMUM OF 3 LOAD TESTS IN 15 MINUTE PERIOD. EXCEEDING DUTY CYCLE MAY CAUSE INCORRECT READING, PROTECTION CIRCUIT TO DISENGAGE BATTERY, AND DAMAGE TO THE UNIT.

CHARGING SYSTEM TEST

This test measures the output voltage of the alternator/regulator. Check for under or overcharging - which leads to poor battery performance and short life.

ENGINE SHOULD BE AT NORMAL OPERATING TEMPERATURE

1. Turn off all lights and accessories. Operate engine at fast idle (approximately 1500 RPM).
2. Connect tester clamps to battery as described in Steps 1-2 under Battery Load Test.
NOTE: If the tester is still connected to the battery from a previous test, it is necessary to disconnect one of the clamps to reset the computer before performing another test.

3. Do not operate tester's load switch.
4. Four seconds after connecting the clamps, the tester display will indicate one of the following messages.

Good	=	Alternator output is normal
LO	=	Alternator output is too low.
HI	=	Alternator output is to high.
5. Disconnect one tester clamp from the battery. Turn on high beam lights and put blower on high.
6. Connect the tester clamp to the battery. Four seconds after connecting the clamp, the tester will display one of three messages described in step 3.

STARTER MOTOR TEST

This test identifies excessive starter current draw, which makes starting difficult and shortens battery life.

ENGINE MUST BE AT NORMAL OPERATING TEMPERATURE

1. Perform Battery Load Test. Proceed if result is "PASS".
2. Disconnect tester clamp to reset tester computer.
3. Reconnect tester clamp.
4. Start engine.
Note: If engine does not start in 5 seconds, release start switch.
5. Two seconds after releasing start switch the tester will alternately display the lowest voltage measured during engine start and one of the two following messages:

S - gd	=	Good Starter Test
S - bd	=	Bad Starter Test

A message of "S - bd" is an indication of excessive current draw. This may be due to bad connections, a failing starter motor or the battery is too small for the vehicle's requirements.

TEMPERATURE COMPENSATION FOR BATTERY LOAD TEST

Low temperature has a degrading effect on batteries and will effect test results. When load testing a battery below 32°F, add 0.3 volts to the voltage displayed after the test. If the total number, volts + 0.3 = 10.0 or greater, then the battery is good.