



# ASSOCIATED

MODEL 6030  
BATTERY AND  
CHARGING SYSTEM  
TESTER

## OPERATOR'S MANUAL

### 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 around lead-acid batteries wear eye protection and avoid touching or rubbing the battery as well as clothing, skin and eyes. **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

1. Turn off engine and all accessories.
2. Connect negative (black) clamp to the negative (NEG, N, - ) battery post. Connect positive (red) clamp to positive (POS, P + ) 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 the clamps connected, the tester's display will indicate the battery's **STATE OF CHARGE** by displaying the battery open terminal voltage. If the voltage is less than 12.4 volts, the battery should be recharged before testing. When the battery voltage is below 12.4, the tester display will alternately read the battery voltage and the message CH, instructing the battery must be charged. If recharging does not bring the voltage above 12.4, than the battery is defective.

## NOTES:

- a) The 6030 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.
- b) Batteries that have an open circuit voltage above 13 volts will cause the tester to enter the CHARGING SYSTEM TEST program and display LO within 4 seconds of connection. To correct this error, depress the tester button for 10 seconds (disregarding any display messages) to draw off the battery's surface charge. Wait a minimum of one minute before retesting the battery so the testers' duty cycle is not exceeded.
4. Depress the load switch and hold for ten seconds. 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 test and the message PASS or FAIL.
6. If the initial battery voltage was below 12.4, the message will be CH because the battery was too discharged to make a valid test. However, if the voltage under load reached a fixed value and did not continue to drop, the battery is probably good and should be recharged and the test repeated.

## CHARGING SYSTEM TEST

This test measures the output voltage of the alternator and checks for under or over charging which leads to poor battery performance and short life.

1. Turn off all lights and accessories. Operate engine at fast idle (approximately 1500 RPM).
2. Connect tester clamps as described in step 2 under Battery 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 too 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 the three messages described in step 4.

## STARTER MOTOR TEST

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

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 starter 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.

NOTE: TOP AND REAR OF TESTER WILL HEAT UP DUE TO LOAD CURRENT. ALLOW TESTER TO COOL ONE MINUTE BETWEEN LOAD TESTS – MAXIMUM OF 3 LOAD TESTS IN A 5 MINUTE PERIOD. EXCEEDING DUTY CYCLE MAY CAUSE INCORRECT READING AND DAMAGE THE UNIT.

## 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 test. If the total number, volts + 0.3 = 10.0 or greater, then the battery is good.