TTESTB-005

BATTERY TESTER & ANALYSER

www.adendorff.co.za

Adendorff machinery mart

MAC AFRIC®

ORIGINAL OPERATING INSTRUCTIONS

DANGER! Read all safety regulations and instructions. Keep all safety regulations and instructions in a safe place for future use.

www.adendorff.co.za

SAFETY INFORMATION

1. Working in vicinity of a lead-acid battery is dangerous. Batteries generate explosive gases during normal battery operation. For this reason, it is of utmost importance that each time before using your tester, you read this manual and follow the instruction exactly.

2. To reduce risk of battery explosion, follow these instructions and those published by the battery manufacturer and manufacturer of any equipment you intend to use in vicinity of battery. Review cautionary markings on these products and on engine.

3. Do not expose the tester to rain.

PERSONAL PRECAUTIONS AND SAFETY

1. ⚠ WARNING: Wear complete eye protection and clothing protection when working with lead-acid batteries.

2. Make sure someone is within range of your voice or close enough to come to your aid when you work with or near a lead-acid battery.

3. Have plenty of fresh water and soap nearby for use if battery acid contacts skin, clothing, or eyes. If battery acid contacts skin or clothing, wash immediately with soap and water.

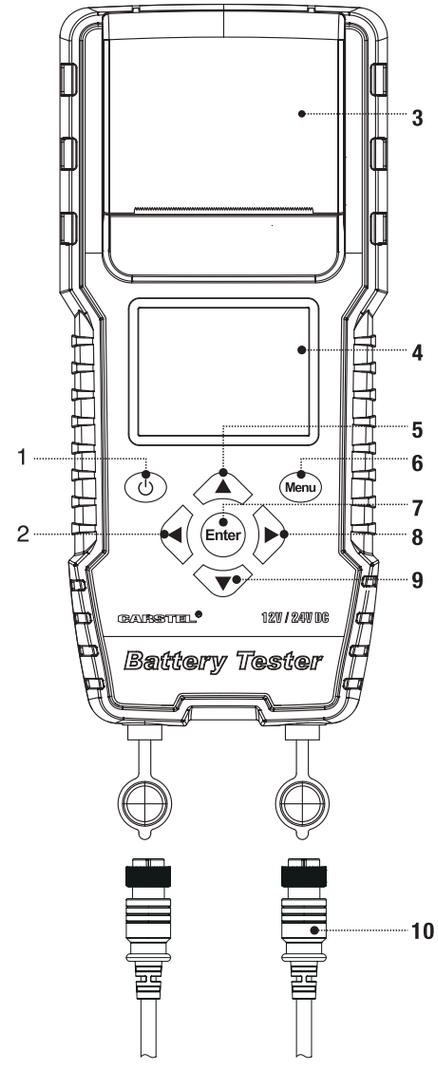
4. Avoid touching your eyes while working with a battery. Acid particles (corrosion) may get into your eyes! If acid enters your eye, immediately flood eye with running cold water for at least 10 minutes. Get medical attention immediately.

5. Remove all personal metal items such as rings, bracelets, neck laces, and watches when working with a lead-acid battery. A lead-acid battery can produce a short-circuit current high enough to weld a ring.

6. Take care not to drop a metal tool or other metal onto the battery. Metal may cause sparking or short circuit the battery or another electrical devise. Sparking may cause an explosion.

7. NEVER smoke or allow a spark or flame in the vicinity of the battery or engine. Batteries generate explosive gases!

FEATURES



1. ⏻ Press Power button to turn on and off the tester.

2/8. ◀/▶LEFT and RIGHT ARROW buttons to scroll to the menu options.

3. Printer

4. LCD Display

5/9. ▲/▼UP and DOWN ARROW buttons to choose test parameters.

6. Menu Press Menu button to return to the main interface.

7. Enter Press Enter button to make selections.

10. Detachable Cable

PREPARING TO TEST

1. Clean battery terminals and wire. Brush them if necessary.
   Make sure the clamps are in good contact with the battery posts.

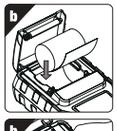
2. Inspect the battery for cracked broken case or cover. If battery is damaged, do not use the tester.

3. To get accurate test results, please fully charge the battery and leave battery stand still for some time (1-5 hours).

4. Connect the cable and tighten it by twisting the cap clockwise.

5. Load printing paper:
   The tester is integrated with a thermal printer and shipped with 2 roll of thermal printing paper. The roll size is 57mm wide by 40mm in diameter. Please see below for how to load and replace printer paper.

a. Open the clear cover.



b. Place a new roll of paper in the compartment, and pull the paper forward so that it extends past the serrated edge of the paper slot.

c. Close the cover and make sure the lever locks securely.

6. Connect the tester to the battery, red clamp to the positive (+) terminal and the black clamp to the negative (-) terminal.

Important: If you connect the tester to a voltage source greater than 30Vdc, you may damage the tester's circuit.

Turning on the machine.

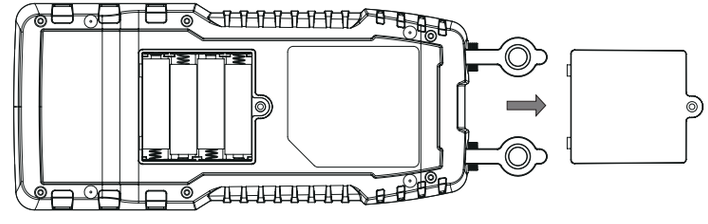
A. The tester will be turned on automatically if it's connected to an external battery over 8V and show the voltage of the battery.

B. The tester has internal battery (4x1.5V, LR6 AA alkaline batteries) installed which allows it to test batteries discharged down to 2V. It can be turned on by pressing the Power button when no external power source is connected.

If the display does not turn on:

- Check the connection to the vehicle battery.
- The vehicle battery may be too low (below 2V) to power the tester.
- The tester's internal battery may need to be replaced. Follow the directions in below "Replacing the Internal Battery" and replace the battery.

Replacing the Internal Battery:



1. Turn the tester face down.
2. Remove the screw securing the battery compartment cover using a screwdriver.
3. Take the battery compartment cover off.
4. Remove the discharged battery.
5. Insert 4 x 1.5 V, LR6 AA alkaline batteries , making sure the positive and negative terminals are positioned correctly.
6. Reposition the cover and tighten the screw.

Important: The tester retains setup information for 10 minutes while you change the internal battery.

CCA TEST (for 12V only)

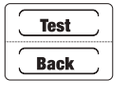
CCA test is mainly targeted to analyze the battery health status to calculate the cold cranking amps of the battery.

1. Choose CCA from main menu and press Enter.

2. Choose VRLA/GEL / EFB / AGM SPIRAL / AGM FLAT / REGULAR by pressing button and ▲/▼button to move◀/▶ational Standard selection.

3. ChooseSAE/EN/JIS/IEC/DIN by pressing button▲/▼and ◀/▶ button to input Rated CCA.

4. Press ▲/▼button to input rated CCA marked on your battery. The tester increases or decreases by 10CCA.



5. Press TEST to start test or BACK to return to main menu.

6. Press Printing to print testing result or Back to another test.

Global Battery Rating System

Standard	Description	Testing Range
SAE	Society of Automotive Engineers	100-2000
EN	Europa-Norm	100-1800
JIS	Japanese Industry Standard	100-2000
IEC	International Electrotechnical Commission	100-1200
DIN	Deutsche Industrie-Norm	100-1200

Battery Test Results

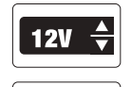
Decision	Interpretation
GOOD BATTERY	The battery is good and can be returned to service.
GOOD-RECHARGE	The battery is good but needs to be recharged.
CHARGE & RETEST	Fully charge the battery and retest. Failure to fully charge the battery before retesting may cause inaccurate results. If CHARGE & RETEST appears again after you fully charge the battery, replace the battery.
REPLACE BATTERY	The battery is bad and should be replaced immediately.
BAD CELL-REPLACE	Replace the battery immediately.

Important: The tester retains the parameters of your last test. If you don't want to change parameters, use◀/▶ button to move to the next papameter. Use ▲/▼button to change parameters.

ALTERNATOR TEST

Alternator test is mainly targeted to analyze charging system and the alternator's peak voltage.

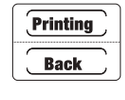
1. Choose Alternator from the main menu and press Enter .



2. Choose 12V/24V by pressing button.

3. Press TEST to start test or BACK to return to main menu.

4. After you press TEST, there will be 2 minutes countdown.Increase RPM to 2000r/min and keep it for 10seconds. Press TEST FINISHED manually or wait for 2 minutes. Then, the testing result will be shown.



5. Press Printing to print testing result or Back to another test.

Charging System Test Results

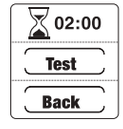
Decision	Interpretation
CHARGING VOLTAGE OK	The system is showing normal output from the alternator. No problem detected.
CHARGING VOLTAGE NONE	The alternator is not providing charging current to the battery. ● Check the belts to ensure the alternator is rotating with the engine running. Replace broken or slipping belts and retest. ● Check all connections to and from the alternator, especially the connection to the battery. If the connection is loose or heavily corroded, clean or replace the cable and retest. ● If the belts and connections are in good working condition, replace the alternator. (Older vehicles use external voltage regulators, which may require only replacement of the voltage regulator.)
CHARGING VOLTAGE LOW	The alternator is not providing enough current to the battery. ● Check the belts to ensure the alternator is rotating with the engine running. Replace broken or slipping belts and retest. ● Check the connections from the alternator to the battery. If the connection is loose or heavily corroded, clean or replace the cable and retest.
CHARGING VOLTAGE HIGH	The voltage output from the alternator to the battery exceeds the normal limits of a functioning regulator. ● Check to ensure there are no loose connections and that the ground connection is normal. If there are no connection problems, replace the regulator. Most alternators have a built-in regulator that requires replacing the alternator. In older vehicles that use external voltage regulators, you may need to replace only the voltage regulator.

CRANKING TEST

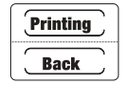
Cranking test is mainly targeted to analyze the starter system and the measured voltage drop.

1. Choose Crank from the main menu and press Enter.

2. Choose 12V/24V by pressing ▲/▼ button.



3. Press TEST to start test or BACK to return to main menu.After you press Test, there will be 2 minutes countdown. Start the engine within 2 mintues.



4. Press Printing to print testing result or Back to another test.

Starting System Test Results

Decision	Interpretation
CRANKING VOLTAGE OK	The starter voltage is normal and the battery is fully charged.
CRANKING VOLTAGE LOW	The starter voltage is low. Trouble shoot the starter with manufacturer's recommended procedure.
NO START DETECTED	The cranking voltage is not detected.

Important: Before starting the test, inspect the alternator drive belt. A belt that is glazed or worn, or lacks the proper tension, will prevent the engine from achieving the rmp levels needed for the test.

SETUP

Edit time and date.

The format of date is Month/Day/Year and format of time is Hour/Minute/Second.

Edit brightness of backlight.

Press ◀/▶button to adjust brightness of the LCD screen and Enter to confirm the setting.

Choose language.

Press ▲/▼button to choose language and press Enter to confirm the setting.

Reset the device.

Edit company name.

Press ▲/▼button to choose Letter (A-Z) or Number (0-9) you want and Enter to confirm. Press button to delete previous selection and button to start next edit. The maximum length is 16 digits.

HISTORY

The tester keeps the latest 5 testing records and you can choose to print the record out.

Choose the record you want to print and press Confirm.

Press Printing to print testing result or Back to exit.

TEST MESSAGES

In some cases, the tester may ask for additional information or warn you of a condition that prevents proper testing.

Was the battery charged or not?	For a more accurate result, the tester may ask if you're testing the battery after charging. If the vehicle has just been driven, select NO. Then, the product will resume test after you choose YES or NO.
Reverse connection	The clamps are connected in the wrong polarity.
Please make sure whether battery is connected.	□ No battery is connected. □ Battery voltage is under 2V.
Battery voltage too low to test.	The tester can only test battery>8V under 12V system.
Battery voltage too low to test or Non-12V system detected	The tester can only test battery>16V under 24V system.
Non-12V system detected.	The test is conducted on a non-12V battery.
Replace internal battery	The tester has 4x1.5V, LR6 AA alkaline batteries installed. Replace with new batteries when this message is shown.
Please add printing paper	□ There is no printing paper inside. □ The paper is inserted incorrectly
Please connect an external battery above 10V to print.	The battery voltage is too low to print.

SPECIFICATIONS

Model No.:	**01.55.066**
Operation Range:	**SAE(100-2000)/ EN(100-1800) JIS(100-2000) / IEC(100-1200) DIN(100-1200)/**
Rating System:	**SAE / EN / JIS / IEC / DIN**
Display:	**Colour LCD with backlight**
Battery type:	**VRLA/GEL, EFB, AGM spiral, AGM flat, REGULAR**
Operating Temperature:	**-10°C to 50°C**
Voltage Range:	**1.5-30V**
Measurement tolerance:	**± 5% cold starting current (CCA) ± 0.05 V**
Printing paper size:	**57mm*40mm**
Inner Battery:	**4 x 1.5 V, LR6 AA alkaline batteries**
Test Lead:	**180cm**