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VDIAGTOOL BT500+P60

VDIAGTOOL BT500 Car Battery Tester and P60 Digital Circuit Tester User Manual

Models: BT500, P60

Introduction

This manual provides detailed instructions for the VDIAGTOOL BT500 Car Battery Tester and the VDIAGTOOL P60 Digital Circuit Tester. The BT500 is designed for comprehensive battery health analysis, including cranking and charging system tests for 6V, 12V, and 24V automotive batteries. The P60 is a versatile digital circuit tester for detecting voltage, continuity, and polarity in DC electrical systems ranging from 3V to 70V. Please read this manual thoroughly before operating the devices to ensure proper use and safety.

Safety Information

Always observe the following safety precautions:

- Wear appropriate eye protection when working with automotive batteries.
- Ensure proper ventilation when working with batteries, as they can emit explosive gases.
- Avoid contact with battery acid. If contact occurs, flush immediately with water and seek medical attention.
- Do not use the BT500 on lithium batteries.
- The P60 is designed for DC voltage only. Do not attempt to measure AC voltage.
- Ensure connections are secure to prevent sparks or damage to the vehicle's electrical system.
- Keep tools clean and dry.

Package Contents

Verify that all items are present in your package:

- VDIAGTOOL BT500 Car Battery Tester Unit

- VDIAGTOOL P60 Digital Circuit Tester Unit
- User Manual (this document)
- Necessary connection cables and clips for both devices

Product Overview

VDIAGTOOL BT500 Car Battery Tester

The BT500 is a diagnostic tool for assessing the health of 6V, 12V, and 24V automotive batteries. It performs battery tests, cranking tests, and charging system tests to provide a comprehensive analysis.



Image: VDIAGTOOL BT500 Battery Tester displaying its main menu and key functions like 6V-24V compatibility, 5-3000 CCA range, Battery Test, Cranking Test, Charging Test, and Waveform analysis.

- Supports 6V, 12V, and 24V batteries.
- Tests batteries with ratings from 5 to 3000 CCA.
- Compatible with various battery types: regular flooded, AGM flat plate, AGM spiral, GEL, and EFB.
- Performs battery health analysis, cranking system tests, and charging system tests.
- Supports multiple battery standards including CCA, BCI, CA, MCA, JIS, DIN, SAE.

VDIAGTOOL P60 Digital Circuit Tester

The P60 is a digital test light designed for electrical system diagnostics in vehicles. It features a wide voltage range and a clear digital display for accurate readings.



Image: VDIAGTOOL P60 Digital Circuit Tester showing its transparent body, digital voltage display (12.5V), LED indicators, probe, and coiled cable with alligator clip.

- Operates within a 3V to 70V DC range.
- Provides accurate voltage detection with 0.1V resolution and ±0.2V accuracy.
- Features a bright blue backlit LCD screen for clear readings in various lighting conditions.
- Used for continuity testing, polarity identification, and checking various electrical circuits.
- Designed with minimal current draw to protect sensitive vehicle ECUs.

Setup

BT500 Car Battery Tester Setup

1. Ensure the vehicle's ignition is off and all accessories are turned off.
2. Connect the red clamp of the BT500 to the positive (+) terminal of the battery.
3. Connect the black clamp of the BT500 to the negative (-) terminal of the battery.
4. The BT500 will power on automatically.

P60 Digital Circuit Tester Setup

1. Connect the alligator clip of the P60 to a reliable ground point on the vehicle chassis.
2. Ensure the connection is secure to provide an accurate ground reference.
3. The P60 is now ready for testing by touching its probe to the desired circuit point.

Operating Instructions

BT500 Car Battery Tester Operation

After connecting the BT500 to the battery, navigate the menu using the device's buttons.



Image: VDIAGTOOL BT500 displaying its comprehensive testing capabilities including Voltage Test, State of Charge, State of Health, Cranking Test, Charging Test, Waveform, Load Test, Resistant Test, Ripple Analysis, Data Review, and Data Print.

1. Battery Test

1. From the main menu, select 'Battery Test'.
2. Choose the battery type (e.g., Regular Flooded, AGM Flat Plate, GEL).
3. Enter the battery's CCA rating as indicated on the battery label.
4. The tester will perform the analysis and display results such as Voltage, State of Charge (SOC), State of Health (SOH), and internal resistance.



Image: VDIAGTOOL BT500 screen showing the 'Select Type' menu with options like Regular Flooded, AGM Flat Plate, AGM Spiral, GEL, and EFB, indicating its wide compatibility.

2. Cranking Test

1. Select 'Cranking Test' from the main menu.
2. Follow the on-screen prompts to start the vehicle's engine.
3. The BT500 will analyze the starter motor's performance during cranking and display results such as cranking voltage and cranking time.

3. Charging Test

1. Select 'Charging Test' from the main menu.
2. Follow the on-screen prompts to run the engine at specified RPMs.
3. The tester will evaluate the alternator's output and display results like ripple voltage and charging voltage.

P60 Digital Circuit Tester Operation

With the P60 grounded, use the probe to test various electrical points.



Image: VDIAGTOOL P60 highlighting its features: Quick Self-Test, Polarity Indicator, Voltage Detection, Continuity Testing, Bidirection Testing Mode, LED Digital Display, Accurate Measurement, Backlight Display, and Overvoltage Protection.

1. Voltage Detection

Touch the P60's probe to the circuit point you wish to test. The digital display will show the DC voltage reading. The backlit screen ensures visibility in dark environments.

2. Polarity Identification

When the probe touches a live circuit, the P60's LED indicators will illuminate: red for positive (+) and green for negative (-). The digital display will show the voltage.

3. Continuity Testing

To test for continuity, ensure the P60 is grounded. Touch the probe to the component or wire. If continuity exists, the P60 may show a voltage reading (if powered) or an indicator light may illuminate, depending on the circuit. For unpowered

circuits, a dedicated continuity mode might be available or indicated by a specific LED.

4. Circuit Testing Applications

The P60 can be used to check various vehicle electrical circuits, including:

- Headlights and taillights
- Turn signal circuits
- Faulty sockets
- Relay and fuse connections
- Ground detection
- Trailer light and fuse testing
- Identifying hidden shorts or breaks



Image: VDIAGTOOL P60 demonstrating various applications such as Polarity Identification, Car Battery & Alternator Voltage Check, Trailer Light & Fuse Testing, Light Socket & Relay Testing, Hidden Shorts & Breaks Finding, and Ground Detection.

Maintenance

Proper maintenance ensures the longevity and accuracy of your VDIAGTOOL devices.

- **Cleaning:** Wipe the devices with a soft, damp cloth. Do not use abrasive cleaners or solvents.
- **Storage:** Store the BT500 and P60 in a dry, cool place, away from direct sunlight and extreme temperatures.
- **Cable Care:** Inspect cables and clamps regularly for any signs of damage, fraying, or corrosion. Replace if necessary.
- **Probe Protection:** For the P60, ensure the anti-lost needle cover is used when not in operation to protect the sharp stainless steel probe.

Troubleshooting

Problem	Possible Cause	Solution
BT500: No power/display	Loose battery connections; Battery completely dead; Reversed polarity.	Ensure clamps are securely connected to the correct battery terminals. Check battery voltage with another device if possible.
BT500: Inaccurate test results	Incorrect battery type or CCA entered; Corroded battery terminals; Battery not fully charged before test.	Verify battery information. Clean battery terminals. Charge battery fully before retesting.
P60: No voltage reading/LEDs	Poor ground connection; Circuit is not live; Probe not making good contact.	Ensure alligator clip is on a clean, reliable ground. Verify the circuit is powered. Press the probe firmly onto the test point.
P60: Incorrect voltage reading	Poor connection; Interference.	Re-establish connections. Ensure no other electrical interference.

Specifications

VDIAGTOOL BT500 Car Battery Tester

Voltage Range	6V, 12V, 24V DC
CCA Range	5-3000 CCA
Supported Battery Types	Regular Flooded, AGM Flat Plate, AGM Spiral, GEL, EFB (Does NOT work on lithium batteries)
Test Standards	CCA, BCI, CA, MCA, JIS, DIN, SAE
Functions	Battery Test, Cranking Test, Charging Test, Waveform Analysis

VDIAGTOOL P60 Digital Circuit Tester

Voltage Range	3-70V DC
Voltage Resolution	0.1V
Voltage Accuracy	±0.2V
Display	Backlit LCD Digital Display

Functions	Voltage Detection, Continuity Testing, Polarity Identification

Warranty and Support

VDIAGTOOL offers a **2-Year Warranty** for this product. For technical assistance or warranty claims, please contact VDIAGTOOL customer support. Lifelong technical assistance is available.
For support, please refer to the contact information provided with your purchase or visit the official VDIAGTOOL website.

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