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ANCEL DS500 Elite, BT310

ANCEL DS500 Elite OBD2 Scanner and BT310 Battery Tester User Manual

Comprehensive Guide for Operation and Maintenance

1. INTRODUCTION

This manual provides detailed instructions for the ANCEL DS500 Elite Bidirectional Scan Tool and the ANCEL BT310 12V/24V Car Battery Tester. Please read this manual thoroughly before operating the devices to ensure correct usage and optimal performance. Keep this manual for future reference.

2. PRODUCT OVERVIEW

2.1 ANCEL DS500 Elite Bidirectional Scan Tool

The ANCEL DS500 Elite is an advanced diagnostic scan tool designed for comprehensive vehicle system analysis. It features bidirectional control capabilities, allowing users to send commands to vehicle modules and monitor system responses. This tool supports full-system deep scans and offers over 3,000 active test commands.

- **Bidirectional Control:** Perform active tests on various components like fuel pumps, cooling fans, windows, and mirrors.
- **Full System Deep Scan:** Uncover critical data from every module and sensor, including Engine, ABS, Airbag, Transmission, TPMS, SAS, ESP, BCM, HVAC, EBS, and ACM.
- **Hot Reset Service:** Access over 28 maintenance reset functions for various car brands, including D-P-F Regeneration, AdBlue Reset, Oil Life Reset, EGR Adaptation, IMMO Reset, Gear Learning, Battery Matching, SAS Calibration, A/F Ratio/Fuel Reset, ABS Bleeding, Air Suspension Reset, NOx Sensor Reset, AFS Reset, ETA Reset, Coolant Pump Activation, Brake-pad Reset, Seat Calibration, and Airbag Reset.
- **Lifetime Free Updates:** Ensures compatibility with evolving vehicle diagnostic systems without subscription fees.

BI- DIRECTIONAL CONTROL

For All Systems

Select Model → System → Control Modules → Specific Testing Modules



More...



Image: ANCEL DS500 Elite demonstrating bidirectional control functions, including fuel injector test, window control, rearview mirror control, and light control. The device shows an 'OK Activated' status for a command and an 'ERROR No Response' for another, illustrating its diagnostic capabilities.

28+ HOT RESET SERVICE

Solve 99% of Car 100+ Brands Maintenance



- A/F**
Air/Fuel Ratio Reset
- (ABS)**
ABS Bleeding
- Air Suspension**
Reset
- NOx Sensor**
Reset
- AFS**
Reset
- ETA**
Reset
- Coolant Pump**
Activation
- Brake-pad**
Reset
- Seat**
Calibration
- Airbag**
Reset



Note: You can contact us with the make, model and year of your car before purchasing to check compatibility.

Image: The ANCEL DS500 Elite interface showcasing over 28 hot reset service functions, such as D-P-F Regeneration, AdBlue Reset, Oil Life Reset, EGR Adaptation, IMMO Reset, Gear Learning, Battery Matching, and SAS Calibration, indicating its comprehensive maintenance capabilities.

FULL SYSTEM DEEP SCAN

Uncover Critical Data From Every Module And Sensor



Image: A visual representation of the ANCEL DS500 Elite performing a full system deep scan, highlighting its ability to access critical data from various modules and sensors like I.M.M.O.bilizer, SAS, ESP, BCM, HVAC, EBS, and ACM, along with functions like Read Codes, Erase Code, View Freeze Frame, Live Data, I/M Readiness, and Evap Leak Test.

2.2 ANCEL BT310 12V/24V Car Battery Tester

The ANCEL BT310 is a versatile battery load tester compatible with both 12V and 24V battery systems. It supports various battery types and provides accurate health assessments, cranking tests, and charging tests.

- **Universal Compatibility:** Supports 12V and 24V Lithium and Lead-Acid batteries, including Flooded, AGM (Spiral & Flat Plate), GEL, and EFB types.
- **Multiple Standards:** Compatible with major battery standards such as CCA, BCI, CA, MCA, JIS, DIN, IEC, EN, SAE, and GB.
- **Key Diagnostics:** Measures State of Charge (SOC), State of Health (SOH), Voltage Test, Rated and Measured CCA, and Internal Resistance.
- **Test Results:** Provides clear results: [GOOD BATTERY], [GOOD-RECHARGE], [CHARGE & RETEST], [REPLACE BATTERY], and [BAD CELL-REPLACE].



Image: The ANCEL BT310 battery tester highlighting its compatibility with different battery types (Flooded, AGM, EFB, GEL, Lithium-Ion) and various vehicles such as ATVs, boats, cars, SUVs, pickups, and motorcycles, emphasizing its broad application.

3. SETUP

3.1 ANCEL DS500 Elite Setup

1. **Power On:** Connect the DS500 Elite to the vehicle's OBD-II port. The device will power on automatically.
2. **Initial Configuration:** Follow the on-screen prompts to select language, time zone, and Wi-Fi connection.
3. **Software Updates:** Ensure the device is connected to Wi-Fi and check for available software updates to maintain optimal performance and vehicle compatibility.

3.2 ANCEL BT310 Setup

1. **Connect to Battery:** Ensure the vehicle engine is off. Connect the red clamp to the positive (+) terminal of the battery and the black clamp to the negative (-) terminal.
2. **Power On:** The BT310 will power on automatically once connected to the battery.
3. **Select Battery Type:** Use the navigation buttons to select the correct battery type (e.g., Flooded, AGM, GEL, EFB,

Lithium) and standard (e.g., CCA, BCI) as prompted on the screen.

DRIVE WITHOUT BATTERY WORRIES



Know Your Battery's Health Before It Fails



No More Road Trip Surprises



Vehicle Maintenance Made Easy



Image: The ANCEL BT310 battery tester connected to a car battery, illustrating the proper setup for testing. The image also highlights the device's 12V and 24V compatibility and its 100-2000 CCA testing range.

4. OPERATING INSTRUCTIONS

4.1 ANCEL DS500 Elite Operation

1. **Vehicle Connection:** Plug the OBD-II cable into the vehicle's diagnostic port, usually located under the dashboard.
2. **Vehicle Identification:** The DS500 Elite will automatically detect the vehicle's VIN or prompt you to manually enter vehicle information (make, model, year).
3. **Diagnostic Menu:** Navigate the main menu to select desired functions:
 - **Diagnose:** Perform full system scans, read/clear fault codes, view live data streams, and check I/M readiness.
 - **Active Test:** Select specific control modules and components to perform bidirectional tests (e.g., activate ABS pump, cycle cooling fan).
 - **Service:** Access various reset and maintenance functions (e.g., Oil Reset, EPB Reset, SAS Calibration).

- **Update:** Check for and install software updates.
4. **Data Review:** After performing tests, review the diagnostic reports, freeze frame data, and live data graphs on the device screen.

4.2 ANCEL BT310 Operation

1. **Main Menu:** Once powered on, the BT310 will display the main menu with options like 'Battery Test', 'Cranking Test', 'Charging Test', and 'Review Data'.
2. **Battery Test:** Select 'Battery Test'. The device will prompt you to enter the battery's rated CCA (Cold Cranking Amps) or other standard values. Follow the on-screen instructions. The test will provide results such as SOC, SOH, Voltage, Measured CCA, and Internal Resistance, along with a clear status (e.g., GOOD BATTERY, REPLACE BATTERY).
3. **Cranking Test:** Select 'Cranking Test'. The device will instruct you to start the vehicle. It will then measure the cranking voltage and time, providing an assessment of the starter system's performance.
4. **Charging Test:** Select 'Charging Test'. The device will instruct you to run the engine at idle and then at a higher RPM (e.g., 2500 RPM). It will measure the alternator's output voltage and ripple, assessing the charging system's efficiency.
5. **Review Data:** Select 'Review Data' to view previously saved test results.

MASTER BATTERY HEALTH



Good Battery



Good-Recharge



Charge & Retest



Replace Battery



Bad Cell-Replace

- Voltage Test
- Measured CCA
- Set Rated CCA
- State of Health
- State of Charge
- Internal Resistance



Image: The ANCEL BT310 battery tester screen showing detailed battery health metrics including Health, Charge, Voltage, Internal Resistance, and a 'GOOD BATTERY' status. It also illustrates the five possible battery health results: Good Battery, Good-Recharge, Charge & Retest, Replace Battery, and Bad Cell-Replace.

CRANKING & CHARGING TEST

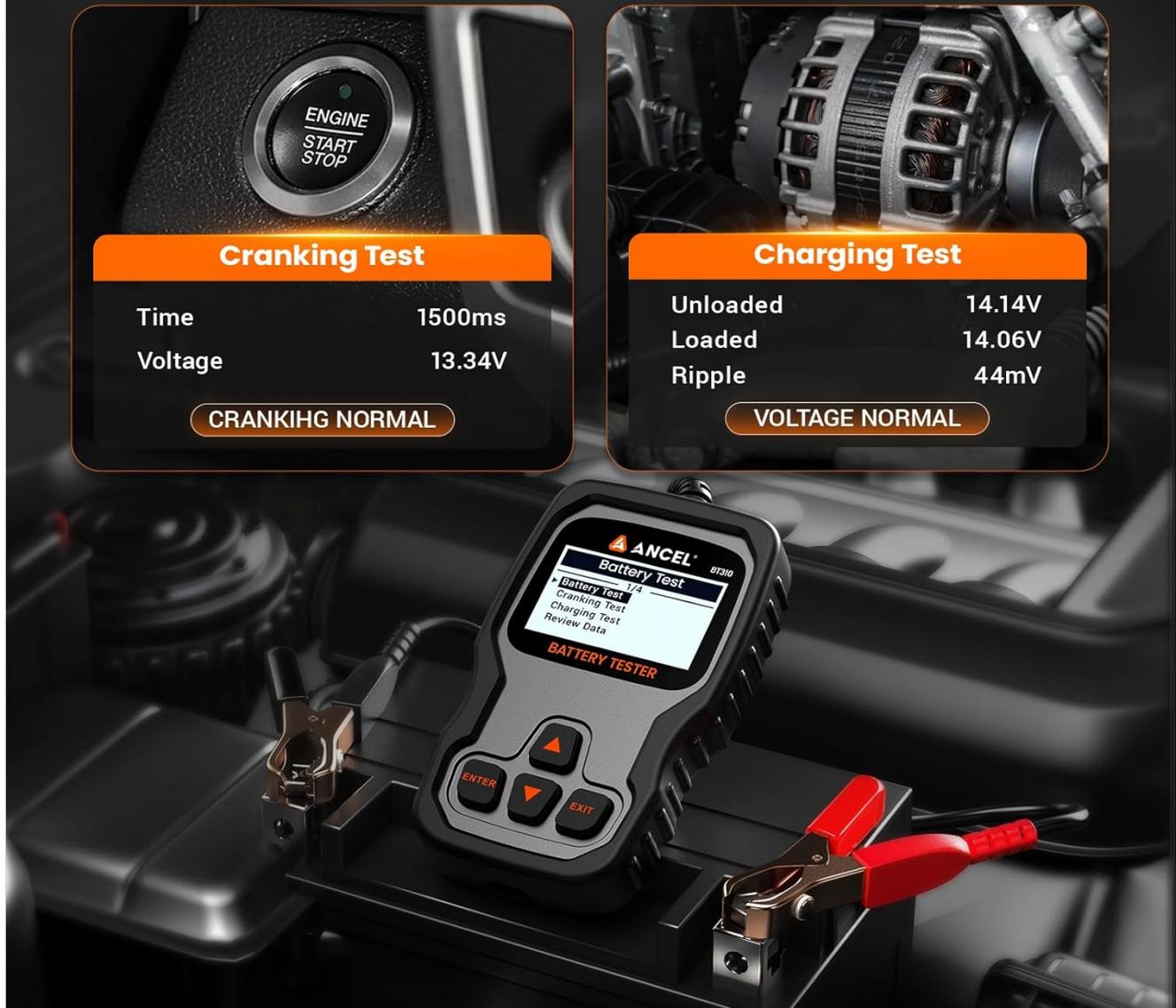


Image: The ANCEL BT310 battery tester displaying results for both Cranking Test (Time, Voltage) and Charging Test (Unloaded, Loaded, Ripple), indicating 'CRANKING NORMAL' and 'VOLTAGE NORMAL' statuses, demonstrating its ability to assess the vehicle's starting and charging systems.

5. MAINTENANCE

- **Cleaning:** Use a soft, dry cloth to clean the device screens and bodies. Avoid using abrasive cleaners or solvents.
- **Storage:** Store both devices in a dry, cool environment, away from direct sunlight and extreme temperatures.
- **Cable Care:** Inspect cables regularly for any signs of damage. Do not pull on the cables to disconnect them; always grasp the connector.
- **Software Updates (DS500 Elite):** Regularly check for and install software updates to ensure the scanner has the latest vehicle data and diagnostic capabilities.

6. TROUBLESHOOTING

- **Device Not Powering On:**

- **DS500 Elite:** Ensure the OBD-II cable is securely connected to the vehicle's diagnostic port. Check the vehicle's battery for sufficient charge.
- **BT310:** Verify that the clamps are correctly connected to the battery terminals (red to positive, black to negative) and that the battery has sufficient voltage.

- **Communication Error (DS500 Elite):**

- Check if the vehicle's ignition is on.
- Ensure the OBD-II connector is fully seated.
- Verify that the vehicle supports the OBD-II protocol.
- Try testing on a different compatible vehicle to rule out a vehicle-specific issue.

- **Inaccurate Battery Test Results (BT310):**

- Ensure the battery clamps are clean and have good contact with the battery terminals.
- Verify that the correct battery type and CCA rating were entered into the tester.
- Ensure the battery is fully charged before testing for the most accurate results.

- **Screen Freezes or Device Unresponsive:**

- Perform a soft reset by holding the power button (if available) or disconnecting and reconnecting the device.
- If the issue persists, contact ANCEL support.

7. SPECIFICATIONS

7.1 ANCEL DS500 Elite Bidirectional Scan Tool

- **Processor:** 2.0GHz Cortex-A53 Quad-Core
- **Operating System:** Android 10.0
- **Memory:** 2GB RAM, 32GB ROM
- **Display:** 7-inch screen, 1024x600 resolution
- **Battery:** 3150mAh, 3.8V
- **Connectivity:** Wi-Fi for updates and online support
- **Diagnostic Functions:** Full system diagnostics, bidirectional control, 28+ reset services.

2025 FULL UPGRADE HARDWARE

5X Faster Navigation, Zero Delay at Your Fingertips

2.0GHz

Cortex-A53

Quad-Core



Android 10.0



Image: Detailed hardware specifications of the ANCEL DS500 Elite, including its 2.0GHz Cortex-A53 Quad-Core processor, Android 10.0 operating system, 2GB RAM, 32GB ROM, 7-inch 1024x600 resolution display, and 3150mAh 3.8V battery, highlighting its robust internal components.

7.2 ANCEL BT310 12V/24V Car Battery Tester

- **Voltage Range:** 12V and 24V
- **CCA Range:** 100-2000 CCA
- **Supported Battery Types:** Flooded, AGM (Spiral & Flat Plate), GEL, EFB, Lithium.
- **Supported Standards:** CCA, BCI, CA, MCA, JIS, DIN, IEC, EN, SAE, GB.
- **Tests Performed:** Battery Health (SOC, SOH, Voltage, Internal Resistance, Rated/Measured CCA), Cranking Test, Charging Test.

8. WARRANTY AND SUPPORT

The ANCEL DS500 Elite comes with lifetime free software updates, ensuring your tool remains compatible with evolving vehicle diagnostic systems without additional subscription fees. For technical assistance or support, you can easily contact the professional engineering team through the online chat window available on the DS500 Elite device. Feedback can also

be provided via the feedback section on the device to help improve services.