

ANCEL FX3000 Elite & PB500

ANCEL FX3000 Elite OBD2 Scanner & PB500 Power Circuit Probe Tester User Manual

Your comprehensive guide to automotive diagnostics and electrical testing.

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1. INTRODUCTION

This manual provides detailed instructions for the ANCEL FX3000 Elite OBD2 Scanner Diagnostic Tool and the ANCEL PB500 Power Circuit Probe Tester. These tools are designed to assist automotive professionals and enthusiasts in diagnosing vehicle issues and performing electrical system tests.

1.1 Product Overview

The ANCEL FX3000 Elite is a comprehensive OBD2 scanner capable of diagnosing four core vehicle systems: Engine, Anti-lock Braking System (ABS), Supplemental Restraint System (SRS/Airbag), and Transmission. It offers full OBD2 functions, including reading and clearing fault codes, live data streaming, and I/M readiness status checks. The device supports Wi-Fi updates for convenient software upgrades.

The ANCEL PB500 is a versatile power circuit probe tester designed for 12V/24V vehicle electrical systems. It can test DC/AC voltage, frequency, duty cycle, resistance, and diode, as well as activate components, test continuity, locate short circuits, and check ground connections.



Figure 1.1: ANCEL FX3000 Elite OBD2 Scanner and PB500 Power Circuit Probe Tester.

This image displays both the ANCEL FX3000 Elite OBD2 Scanner on the left and the ANCEL PB500 Power Circuit Probe Tester with its accessories on the right, showcasing the complete product package.

1.2 Package Contents

- 1 x ANCEL FX3000 Elite OBD2 Scanner
- 1 x ANCEL PB500 Power Circuit Probe Tester

2. SAFETY INFORMATION

Always observe the following safety precautions when using the ANCEL FX3000 Elite and PB500 to prevent personal injury or damage to the vehicle or tools.

- Always wear ANSI-approved eye protection when working on or around vehicles.
- Keep clothing, hair, hands, tools, and test equipment away from all moving or hot engine parts.
- Work in a well-ventilated area. Exhaust gases are poisonous.
- Keep a fire extinguisher suitable for gasoline/chemical/electrical fires nearby.
- Do not connect or disconnect any test equipment while the ignition is on or the engine is running, unless specifically instructed to do so.
- Keep the tools dry, clean, free from oil, water, and grease. Use a mild detergent on a clean cloth to clean the exterior.
- Do not use the tools if they are damaged.
- For the PB500, ensure proper connection to the vehicle's power source (12V/24V) and avoid contact with high voltage components.

3. SETUP AND INITIAL USE

3.1 ANCEL FX3000 Elite Setup

The FX3000 Elite is designed for quick and easy setup, often referred to as 'Plug and Play'.

1. **Plug into OBD2 Connector:** Locate your vehicle's 16-pin OBD2 diagnostic port, typically found under the dashboard on the driver's side. Plug the FX3000 Elite's cable into this connector.
2. **Turn on the Car Engine:** Ensure the vehicle's ignition is in the 'ON' position or the engine is running, as required for the diagnostic test.
3. **Enter Diagnostic Scanner to Start Diagnosis:** The device will power on automatically. Navigate the menu using the directional buttons and select 'Diagnose' to begin.



Figure 3.1: ANCEL FX3000 Elite Plug and Play Setup Steps.

This image illustrates the three simple steps for setting up the ANCEL FX3000 Elite: plugging into the OBD2 connector, turning on the car engine, and initiating diagnosis.

3.2 ANCEL PB500 Power Circuit Probe Tester Setup

To use the PB500, connect it to the vehicle's power source.

1. Connect the red clamp to the positive (+) terminal of the vehicle's battery.
2. Connect the black clamp to the negative (-) terminal of the vehicle's battery or a good chassis ground.
3. The PB500 will power on, and you can select the desired working mode.

4. OPERATING INSTRUCTIONS

4.1 ANCEL FX3000 Elite Operation

The FX3000 Elite provides comprehensive diagnostic capabilities for various vehicle systems.

4.1.1 4-System Diagnosis (Engine, ABS, SRS, Transmission)

The FX3000 Elite can read and clear fault codes for the four most important vehicle systems.

Enhanced **4 System** Diagnosis

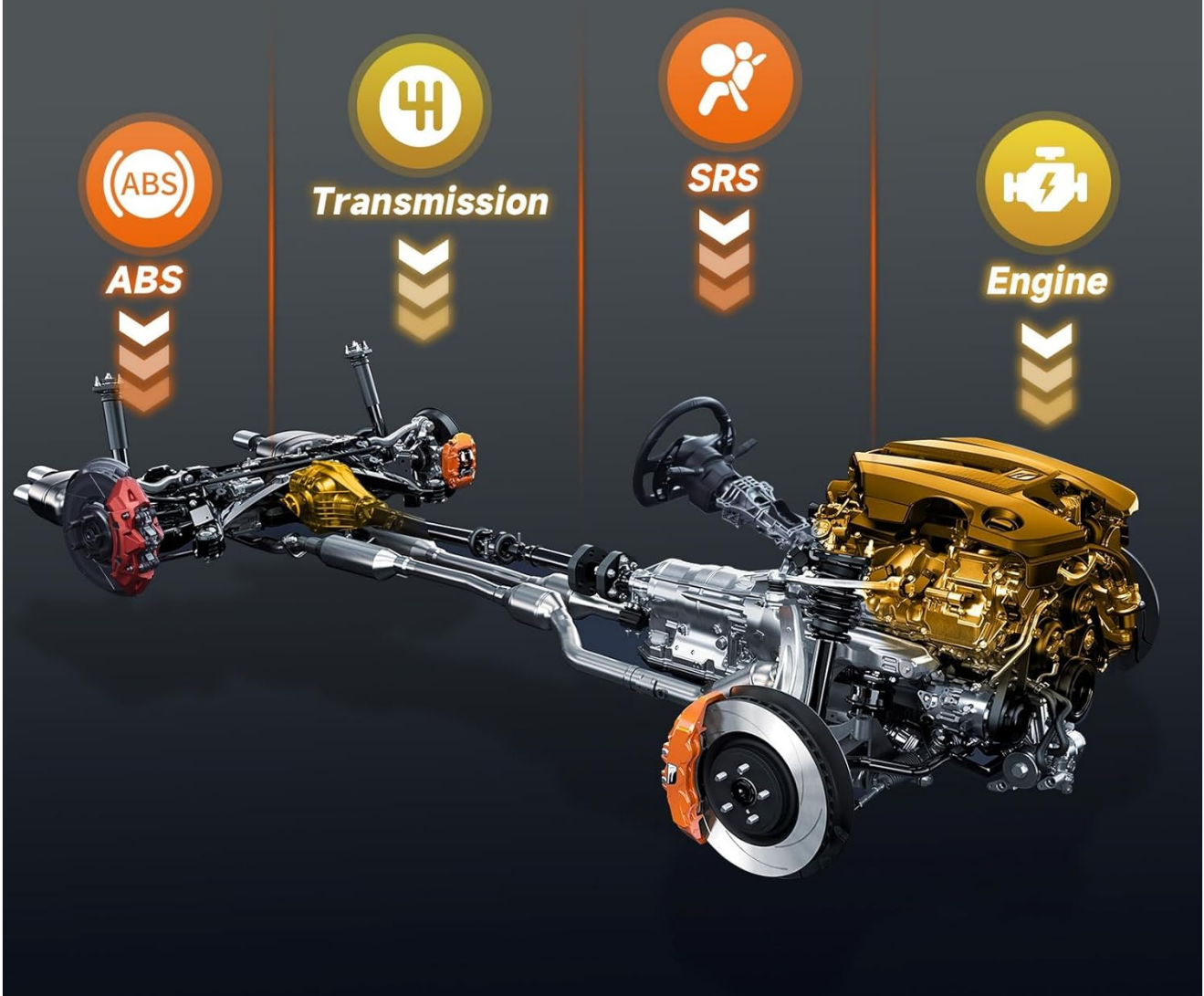


Figure 4.1: ANCEL FX3000 Elite Enhanced 4 System Diagnosis.

This image visually represents the four key systems the FX3000 Elite can diagnose: ABS, Transmission, SRS (Airbag), and Engine.

To perform a 4-system diagnosis:

1. From the main menu, select 'Diagnose'.
2. Choose the specific system you wish to diagnose (e.g., Engine, ABS, SRS, Transmission).
3. The scanner will establish communication with the vehicle and display any detected Diagnostic Trouble Codes (DTCs).
4. You can then choose to 'Read Codes' to view definitions, 'Clear Codes' to erase them, or view 'Live Data' for real-time sensor information.

Turn OFF ABS/Airbag/Engine/Transmission Light



Code reading - Fix scheme - Fix car - Clear code



Engine suddenly shuts off
solenoid valve



Injector circuit open?



Intake temperature too high?



Follow fault code DTC to fix
faulty components



Figure 4.2: ANCEL FX3000 Elite Reading and Clearing Fault Codes.

This image demonstrates the process of reading fault codes from the dashboard and subsequently clearing them using the ANCEL FX3000 Elite, aiming to turn off warning lights like ABS, Airbag, Engine, or Transmission.

4.1.2 Full OBD2 Functions

The FX3000 Elite supports all 10 modes of OBD2 testing.

OE-Level OBD2 Scanner Diagnostic Tool

Please use the professional OBD2 test mode to diagnose the car.



Figure 4.3: ANCEL FX3000 Elite OE-Level OBD2 Scanner Diagnostic Tool Functions.

This image displays the various OBD2 functions available on the ANCEL FX3000 Elite, including Clear Code, Read Code, Freeze Frame, Retrieve Vehicle Info, On-Board Monitor Test, EVAP System Test, O2 Sensor Test, View Live Data, DTC Lookup, and I/M Readiness.

- **Read Codes:** Retrieves generic (P0, P2, P3, and U0), manufacturer specific (P1, P3, and U1) codes, and pending codes.
- **Clear Codes:** Clears Diagnostic Trouble Codes (DTCs) and resets the Check Engine Light (MIL).
- **Live Data Stream:** Displays real-time data from the vehicle's sensors in text or graph format.
- **Freeze Frame Data:** Shows the engine conditions at the time a DTC was set.
- **I/M Readiness Status:** Checks the readiness of the emission monitoring systems.
- **O2 Sensor Test:** Retrieves O2 sensor monitor test results.
- **On-Board Monitor Test:** Retrieves test results for emission-related powertrain components and systems.
- **EVAP System Test:** Initiates a test of the vehicle's Evaporative Emission System.
- **Vehicle Information (VIN):** Retrieves the Vehicle Identification Number, Calibration ID, and Calibration Verification Number.
- **DTC Lookup:** Provides definitions for diagnostic trouble codes directly on the device.

4.1.3 Wi-Fi Update

The FX3000 Elite supports convenient Wi-Fi updates for software and firmware.



Figure 4.4: ANCEL FX3000 Elite One-Click WiFi Update.

This image highlights the ANCEL FX3000 Elite's capability for one-click Wi-Fi updates, emphasizing its ease of use compared to wired update methods.

To update the device:

1. Connect the FX3000 Elite to a Wi-Fi network or phone hotspot.
2. From the main menu, select 'Update'.
3. Follow the on-screen prompts to download and install the latest software.

4.2 ANCEL PB500 Power Circuit Probe Tester Operation

The PB500 offers multiple working modes for various electrical tests.

7 WORKING MODES

For 12V/24V Cars



Figure 4.5: ANCEL PB500 Power Circuit Probe Tester 7 Working Modes.

This image illustrates the seven distinct working modes of the ANCEL PB500: DC Voltage, AC Voltage, Frequency, Duty Cycle, Resistance, Diode, and Fuel Inject, suitable for 12V/24V cars.

ANCEL PB500 CIRCUIT PROBE KIT



► **Actice**

Components in your hand



► **Test**

Voltage & Polarity



► **Actice**

Components in the vehicle



► **Test**

Continuity



► **Actice**

Components W/Ground



► **Test**

Single Circuit



► **Following**

Locating Short Circuit



► **Test**

Trailer Lights and Connections



► **Checking**

Bad Ground Connect



Figure 4.6: ANCEL PB500 Circuit Probe Kit Features.

This image highlights the key functionalities of the ANCEL PB500, including activating components (in hand and in vehicle), testing voltage & polarity, continuity, single circuits, locating short circuits, and checking bad ground connections.

- **DC Voltage Test:** Measures direct current voltage.
- **AC Voltage Test:** Measures alternating current voltage.
- **Frequency Test:** Measures the frequency of an AC signal.
- **Duty Cycle Test:** Measures the percentage of time a signal is active.
- **Resistance Test:** Measures electrical resistance.
- **Diode Test:** Checks the functionality of diodes.
- **Fuel Inject Test:** Specific mode for testing fuel injectors.
- **Activating Components:** Safely power components on or off for testing.
- **Continuity Test:** Checks for open or closed circuits.
- **Locating Short Circuits:** Helps pinpoint short circuits in the vehicle's wiring.
- **Checking Bad Ground:** Identifies poor ground connections.

4.2.1 Display Modes

The PB500 offers two display modes for certain measurements.



Figure 4.7: ANCEL PB500 Power Circuit Probe Tester 2 Forms Display Mode.

This image demonstrates the ANCEL PB500's ability to switch between Waveform Display Mode and Digital Display Mode for measurements like AC Voltage, Frequency, Duty Cycle, and Fuel Inject Modes.

In AC Voltage, Frequency, Duty Cycle, and Fuel Inject Modes, you can switch between Waveform Display Mode and Digital Display Mode for a more detailed analysis of the signal.

5. MAINTENANCE

Proper maintenance ensures the longevity and accuracy of your ANCEL diagnostic tools.

- **Cleaning:** Use a soft, damp cloth with a mild detergent to clean the exterior of the devices. Do not use abrasive cleaners or solvents.
- **Software Updates:** Regularly check for and install software updates for the FX3000 Elite via Wi-Fi to ensure

compatibility with new vehicle models and access to the latest features and DTC definitions. The FX3000 Elite offers free lifetime updates.

- **Storage:** Store the tools in a clean, dry environment, away from extreme temperatures, direct sunlight, and corrosive materials.
- **Cable Inspection:** Periodically inspect all cables and connectors for signs of wear, damage, or corrosion. Replace if necessary.

6. TROUBLESHOOTING

If you encounter issues with your ANCEL FX3000 Elite or PB500, refer to the following common troubleshooting tips.

6.1 ANCEL FX3000 Elite Troubleshooting

- **Device Does Not Power On:** Ensure the OBD2 connector is securely plugged into the vehicle's port. Check the vehicle's battery voltage; it must be sufficient to power the device.
- **Communication Error:** Verify the vehicle's ignition is on or the engine is running. Check if the vehicle supports the OBD2 protocol. Try connecting to a different vehicle to rule out a vehicle-specific issue.
- **Codes Not Clearing:** Ensure the vehicle's ignition is on and the engine is off. Some codes may require multiple drive cycles to clear or may indicate a persistent underlying issue that needs repair.
- **Wi-Fi Update Failure:** Check your Wi-Fi connection strength. Ensure there is sufficient storage space on the device for the update. Try restarting the device and the update process.

6.2 ANCEL PB500 Troubleshooting

- **Device Does Not Power On:** Ensure the red and black clamps are securely connected to the correct battery terminals (positive and negative, respectively). Verify the vehicle's battery has sufficient charge.
- **Inaccurate Readings:** Ensure the probe tip has good contact with the circuit being tested. Check for corrosion on the battery clamps or probe tip.
- **No Continuity/Voltage Reading:** Confirm the circuit is powered and intact. Check for open circuits or blown fuses.

If problems persist, contact ANCEL customer support for further assistance.

7. SPECIFICATIONS

Feature	Description
Brand	ANCEL
Model	FX3000 Elite & PB500
ASIN	B0D8JFVYV2

Feature	Description
Date First Available	July 1, 2024
FX3000 Elite Supported Systems	Engine, ABS, SRS (Airbag), Transmission
FX3000 Elite OBD2 Functions	Read/Clear Codes, Live Data, Freeze Frame, I/M Readiness, O2 Sensor Test, On-Board Monitor Test, EVAP Test, Vehicle Info, DTC Lookup
FX3000 Elite DTC Library	35,901 DTCs built-in
PB500 Operating Voltage	12V/24V DC
PB500 Working Modes	DC Voltage, AC Voltage, Frequency, Duty Cycle, Resistance, Diode, Fuel Inject

8. WARRANTY AND SUPPORT




The ANCEL FX3000 Elite comes with free lifetime software upgrades, ensuring your tool remains up-to-date with the latest vehicle data and diagnostic capabilities.

For technical support, warranty claims, or any questions regarding the operation of your ANCEL FX3000 Elite or PB500, please contact ANCEL customer service through their official website or the retailer where the product was purchased. Please have your product model and purchase information ready when contacting support.

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Related Documents

ANCEL AD410 Usage/Upgrade/Feedback Issues	ANCEL AD410 Usage, Upgrade, and Feedback Issues Troubleshooting Guide A comprehensive guide detailing common issues encountered with the ANCEL AD410 automotive diagnostic scanner, covering usage, software upgrades, and feedback data handling, with solutions and troubleshooting steps.
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	<p>ANCEL AD310 Firmware Update Guide: Step-by-Step Instructions</p> <p>This guide provides clear, step-by-step instructions for updating the firmware of your ANCEL AD310 OBD II scanner. Learn how to download, decompress, install drivers, and perform the update process for your vehicle diagnostic tool.</p>
	<p>ANCEL FX3x00 Elite Series Scanner User Manual - Automotive Diagnostics</p> <p>Comprehensive user manual for the ANCEL FX3x00 Elite Series Scanner. This guide covers device layout, technical specifications, setup, vehicle diagnosis procedures, software updates via Wi-Fi and USB, troubleshooting common issues, warranty information, and FCC compliance.</p>
	<p>ANCEL V6 User's Manual: Automotive Diagnostic Tool</p> <p>Comprehensive user manual for the ANCEL V6 automotive diagnostic tool, covering product overview, specifications, software functions including Diagnosis, Hot Function, DTC Query, Data Manager, activation, cleaning, maintenance, and warranty information.</p>