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› ANCEL MR500 Marine Diagnostic Tool User Manual

ANCEL MR500

ANCEL MR500 Marine Diagnostic Tool User Manual

Model: MR500

1. INTRODUCTION

The ANCEL MR500 is a marine diagnostic tool designed for Yamaha WaveRunner (PWC) and Outboard Engine models from 2003 to 2022. This device facilitates advanced diagnostics, parameter configuration, and performance analysis by communicating with the Engine Control Unit (ECU) and Engine Management Module (EMM).

Active Test

To verify the functionality of a specific ship component, you can send a command to activate it.



Image 1.1: The ANCEL MR500 Marine Diagnostic Tool, showcasing its 5-inch touchscreen interface.

2. PACKAGE CONTENTS

Verify that all items are present in the package:

- ANCEL MR500 Diagnostic Tool
- Diagnostic Cable(s) for Yamaha connection
- USB Cable for updates and power
- User Manual (this document)
- Hard Protective Case



Image 2.1: The ANCEL hard protective case, measuring 13.38 x 8.68 x 4.33 inches, designed for storage and transport of the MR500 and its accessories.



Image 2.2: Illustrates the portability of the ANCEL MR500 protective case.

3. PRODUCT FEATURES

- **Comprehensive Diagnostics:** Supports all Yamaha WaveRunner (PWC) and Outboard Engine models from 2003–2022.
- **ECU and Fault Code Management:** Reads and clears diagnostic trouble codes (DTCs) to identify and resolve engine issues.
- **15+ Special Functions:** Includes active tests, parameter configurations, and service resets.
- **User-Friendly Interface:** Features a 5.0-inch touchscreen tablet for intuitive operation.
- **Data Presentation:** Offers multiple display methods for live data, including graphs, tables, and dashboards, along with data freeze frame capabilities.

User-friendly, Marine Helper OBD2 Diagnostic Tool

One click to update/screenshot, one year free update

You can use it to read and clear codes, perform DTC lookup, and get detailed repair advice to fix your watercraft.



ANCEL MR500
fit for Yamaha Marine

Image 3.1: The ANCEL MR500's user-friendly interface, highlighting features like updates, screenshots, and DTC lookup.

4. COMPATIBILITY

The ANCEL MR500 is compatible with the following Yamaha models:

- **Yamaha WaveRunner (PWC) Models (2003-2022):** EX, EX Deluxe, EX Sport, EXR, EXR Deluxe, FX, FX 140, FX Cruiser, FZR, FZS, GP1300R, GP1800, GP1800R, VX, VX Cruiser, VX Cruiser HO, VX Deluxe, VX Sport, VXR, VXS, and more.
- **Yamaha HPDI Outboard Engine Models (up to 2022):** XF375, XF425, Z150, Z175, Z200, Z225, Z250, Z300, and more.

Support for all Yamaha watercraft models from 2003 to 2022



MR500 for Yamaha Jet Ski Broad Coverage



Support for all Yamaha outboard engine models up to 2022

Image 4.1: The ANCEL MR500 supports a wide range of Yamaha watercraft and outboard engine models from 2003 to 2022.

5. SETUP

1. **Power On:** Connect the diagnostic tool to a power source using the provided USB cable, or ensure the internal battery is charged.
2. **Connect to Vehicle:** Locate the diagnostic port on your Yamaha WaveRunner or Outboard Engine. Connect the appropriate diagnostic cable from the MR500 to the vehicle's diagnostic port.
3. **Initial Boot:** The device will power on automatically or prompt you to press the power button. Follow any on-screen instructions for initial setup, such as language selection.

6. OPERATING INSTRUCTIONS

6.1 Basic Navigation

The MR500 features a 5.0-inch touchscreen. Navigate through menus by tapping icons and options. Use the back button or gestures as indicated on-screen to return to previous screens.

6.2 Diagnostic Functions

After connecting the tool to your Yamaha vehicle, select the 'Marine Diag' option from the main menu to access diagnostic features.

- **Retrieve ECU Information:** Access details about the Engine Control Unit.
- **Read Codes:** Display current, pending, and historical diagnostic trouble codes (DTCs).
- **Clear Codes:** Erase DTCs from the ECU memory after repairs are completed.
- **DTC Lookup:** Provides definitions and potential causes for specific DTCs.
- **Read Engine Hours:** View the total operating hours of the engine.
- **Data Freeze Frame:** Captures specific vehicle data at the moment a fault code is set.
- **Live Data Stream:** Displays real-time sensor data and parameters. This data can be viewed in various formats, including graphs, tables, and dashboards, for comprehensive analysis.

For Yamaha Watercraft And Outboard Engine

- Retrieve Ecu Information
- Read Clear Codes
- Active Test
- Read Engine Hours
- DTC Lookup
- Data Freeze Frame

F100 /F100 F /F115 /F115 B /F130 A /F150 /F175 /F200 /F225 /F225F /F25 /F250 /F250D /F30 /F300 /F300B /F350 /F40 /F40G /F40H /F50 /F50H /F60 /F60F /F70A /F75 /F80 /F90

Image 6.1: Overview of diagnostic functions available for Yamaha watercraft and outboard engines.

Comprehensive Data Presentation

intuitive and convenient for analysis and troubleshooting



Image 6.2: The MR500 provides comprehensive data presentation through graphs, tables, dashboards, output reports, and data freeze frames.

6.3 Special Functions

The MR500 offers over 15 special functions to assist with maintenance and component testing. Access these functions through the 'Special Functions' menu.

- **Active Test:** Send commands to activate specific components (e.g., ignition coil, injector, electric fuel pump) to verify their functionality.
- **Tilt Limiter Set:** Adjust or reset the tilt limiter settings.
- **Oil Change Table:** Access information related to oil change procedures.
- **Remote Control System Reset:** Reset the remote control system.
- **Engine Records:** View historical engine data.
- **Rotor Reset (FWM):** Perform rotor reset procedures.
- **Oil Change Records:** Access records of previous oil exchanges.
- **SCU Configuration:** Configure the System Control Unit.
- **Initial Learning:** Perform initial learning procedures for various systems.

- **RiDE Bucket Learning:** Conduct learning procedures for the RiDE bucket system.
- **Transmission Test:** Perform tests on the transmission system.

MR500 15+ Special Function for Yamaha Watercraft



Image 6.3: The MR500 offers over 15 special functions for comprehensive maintenance and system adjustments.



Image 6.4: The Active Test function allows verification of specific component functionality by sending activation commands.

7. MAINTENANCE

- **Software Updates:** The MR500 includes a free one-year software update. Connect the device to a computer with internet access and use the provided update software to ensure the tool has the latest diagnostic data and features.
- **Cleaning:** Use a soft, dry cloth to clean the device. Avoid abrasive cleaners or solvents.
- **Storage:** Store the tool in its protective case in a dry, cool environment when not in use.

8. TROUBLESHOOTING

- **Device Not Powering On:** Ensure the battery is charged or the device is connected to a stable power source via the USB cable.
- **Connection Issues:** Verify that the diagnostic cable is securely connected to both the MR500 and the vehicle's diagnostic port. Ensure the vehicle's ignition is on.
- **Unable to Read Codes:** Confirm vehicle compatibility and that the correct vehicle model and year have been selected in the tool's menu. Check for any damaged cables.
- **Software Update Failure:** Ensure a stable internet connection and sufficient storage space on the device. Restart the update process if necessary.

9. SPECIFICATIONS

Feature	Detail
Model	MR500
Display	5.0-inch Touchscreen
Vehicle Coverage	Yamaha WaveRunner (PWC) & Outboard Engines (2003-2022)
Diagnostic Functions	Read/Clear DTCs, Live Data, Freeze Frame, ECU Info, Engine Hours
Special Functions	15+ functions including Active Test, Tilt Limiter Set, Oil Change Table, Remote Control System Reset
Software Updates	1-year free updates included
Protective Case Dimensions	13.38 x 8.68 x 4.33 inches

10. SUPPORT

For technical assistance, warranty information, or further inquiries, please contact ANCEL customer support. The product includes 24/7 email support and a free one-year software update. Please refer to the official ANCEL website or your purchase documentation for the most current contact information.