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## LAUNCH LAUNCH X431 SMARTLINK C

# LAUNCH X431 SmartLink C 2.0 Heavy Duty Truck Diagnostic Tool User Manual

Model: LAUNCH X431 SMARTLINK C

## 1. PRODUCT OVERVIEW

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The LAUNCH X431 SmartLink C 2.0 is a robust vehicle diagnostic module designed for heavy-duty vehicles such as trucks, buses, construction machinery, and agricultural equipment. It operates on a Linux-based system with a dual-processor architecture (Cortex-A7 + Cortex-M7) for efficient performance. This tool facilitates comprehensive diagnostics, including reading and clearing fault codes, displaying live data streams, and performing actuation tests.



Figure 1.1: Front and rear view of the LAUNCH X431 SmartLink C 2.0 diagnostic tool, highlighting its compact design and connectivity ports.

The SmartLink C 2.0 offers significant hardware and function upgrades, ensuring faster and more stable data transmission for precise fault diagnostics. It is designed to work seamlessly with LAUNCH X431 series diagnostic tablets, providing a powerful and integrated diagnostic solution.

# X431 SMARTLINK C 2.0

## ULTIMATE UPGRADE

### Hardware Upgrades

- ✔ 5x faster Transmission Speed
- ✔ More Stable Connection
- ✔ Faster Diagnostic
- ✔ Accurate Repair Solutions

### Function Upgrades

- ✔ Visual Interface
- ✔ Wider Range of Vehicle Models
- ✔ Super Remote Diagnostics.



Figure 1.2: Diagram illustrating the ultimate upgrades of the X431 SmartLink C 2.0, including enhanced hardware for faster transmission and improved diagnostic functions.

## 2. SETUP AND INITIAL ACTIVATION

Before using the LAUNCH X431 SmartLink C 2.0, ensure you have a compatible LAUNCH X431 tablet (e.g., X431 V+, X431 APEX, or other X-431 Series). The SmartLink C 2.0 module cannot be used independently.

### 2.1 Package Contents

Upon opening the sturdy carry case, you will find the following components:

# WIDE VEHICLE COVERAGE WITH NO IP LIMITED



- ✔ **300+ Worldwide HD Models Coverage**
- ✔ **Standard Diesel Protocols: SAE J1587/J1708/J1939**
- ✔ **Proprietary Vehicle CAN protocol for HD VOLVO, MACK, and international trucks**
- ✔ **Euro III to Euro VI standards**
- ✔ **Latest ISO 27145 diagnostic protocol**
- ✔ **American HD Trucks (Class4-Class8)**



Figure 2.1: Visual representation of the complete package contents, including the SmartLink C module, various OBDII and proprietary adapters, USB cables, and power accessories.

- LAUNCH X431 SMARTLINK C Display tablet
- OBDII 16-test Connector
- USB Cable
- Cigarette Lighter Cable
- Battery Clamps Cable
- 15m Gigabit Networking Cable
- Password Envelope
- OBD I Adapter
- Leighter Fuse\*6
- Switching Line 01-09
- JUMPER 10
- OBD-6 Adapter
- Type II OBD-9 Adapter
- OBD-16 Adapter
- HYUNDAI-16 Adapter
- IVECO-30 Adapter
- IVECO-38 Adapter
- BENZ-14 Adapter
- MITSUBISHI-12+16 Adapter
- RE-12 Adapter
- VOLVO-8 Adapter
- CAT-9 Adapter
- MAN-12/37 Adapter

## 2.2 Connecting the SmartLink C 2.0

The SmartLink C 2.0 offers multiple communication options for flexible connectivity:

- **Wired Communication:** Use the USB cable for direct connection to the X431 tablet or an Ethernet cable for high-speed data transmission.
- **Wireless Communication:** Connect via Wi-Fi for remote diagnostics and software updates, or Bluetooth for short-range wireless communication.

Ensure both the vehicle and the diagnostic tool are connected to a stable network before use, especially for remote diagnostics or software updates.

## 2.3 Activating SmartLink C

To activate your SmartLink C module and integrate it with your X431 diagnostic tablet, follow these steps:

1. On your X431 device, navigate to "Personal Center" and then select "Activate VCI" (Vehicle Communication Interface).
2. Input the SmartLink C Serial Number (S/N) and the Activation Code found in your package.
3. Download and install the necessary HD diagnostic software.
4. Once activated and software installed, the "Heavy-duty" icon will appear on your X431 tablet's homepage, indicating readiness for heavy truck diagnostics.



Figure 2.2: Step-by-step guide on how to activate the SmartLink C module and integrate it with your X431 diagnostic tablet.

## 3. OPERATING INSTRUCTIONS

The LAUNCH X431 SmartLink C 2.0, when paired with an X431 tablet, provides comprehensive diagnostic capabilities for heavy-duty vehicles. This section outlines the primary operational functions.

### 3.1 Full System Diagnostics

The tool supports full-system fault diagnostics, allowing you to access and analyze data from all available vehicle modules. This includes:

- **Code Reading:** Retrieve Diagnostic Trouble Codes (DTCs) from various systems.
- **Code Clearing:** Erase DTCs after repairs are completed.
- **Data Stream Reading:** View real-time live data parameters from vehicle sensors and components.
- **One-Click Detection:** Automatically detect all vehicle modules and generate a comprehensive health report.
- **Health Report Management:** Print or share health reports via Wi-Fi or email for further analysis.
- **Live Data Stream Record/Playback/Sharing:** Record live data for later analysis and share with others.

Figure 3.1: Overview of the full diagnostic capabilities, including J2534 ECU Programming, Topology Mapping, ECU Online Coding, and various service functions.

### 3.2 Bidirectional Control and Active Tests

The SmartLink C 2.0 supports full bidirectional control, allowing the diagnostic tool to send commands to vehicle systems and components to test their functionality. This includes:

- Actuation tests for components like fuel pumps, brake systems, and cylinder cut-out.
- Specific tests such as Aftertreatment Fuel Shutoff Valve, DEF Pressure System Test, Throttle Position Sweep, Speaker Test Routine, VGT hysteresis test, Modulator Valve (Chuff) test, KOEO Injector Test, and Turbo Actuator Effort Test.



Figure 3.2: Illustration of various active tests that can be performed, demonstrating the tool's ability to send commands and receive responses from vehicle components.

### 3.3 Live Data Streaming

Monitor real-time data streams from various vehicle sensors and modules. This feature is crucial for diagnosing intermittent issues and verifying repairs. The tool allows for graphical display of data, recording, and playback for detailed analysis.



Figure 3.3: Example of the live data streaming interface, showing multiple parameters being monitored simultaneously for comprehensive vehicle analysis.

## 4. ADVANCED FUNCTIONS

Beyond standard diagnostics, the LAUNCH X431 SmartLink C 2.0 offers a wide array of advanced functions and special services to address complex vehicle issues.

- **ECU Programming & Coding:** Perform ECU programming, online coding, and module installation for various vehicle systems.
- **Special Functions & Resets:** Access over 60 reset and service functions, including:
  - Aftertreatment Reset
  - D-P-F Regeneration
  - Fuel Injector Reset
  - DEF Pressure System
  - Install a New or Cleaned DPF
  - Idle Shutdown
  - Oil Life Reset
  - Sensor Initialization
  - Reset the Soot Level
  - CDPF Reset
  - Cruise Speed Limits
  - Injector Quantity Adjustment
  - Compression Test
  - Initialize Rail Pressure
  - Trip Reset
  - Memorized Components

- Power Balance Test
  - KOER Glow Plug Monitor Self-Test
  - RVS Disable History
  - And many more...
- **Component Matching & Adaptation:** Perform component matching, adaptation, and initialization procedures.
  - **Online Account Login Service & Calibration:** Support for online account login services and online calibration.
  - **Guided Functions & Offline Coding:** Utilize guided functions for complex procedures and perform offline coding.
  - **Flash Hidden Functions:** Unlock and activate hidden functions in compatible vehicle ECUs.



Figure 4.1: Visual representation of the extensive list of advanced functions and reset services available with the SmartLink C 2.0.

## 5. VEHICLE COMPATIBILITY

The LAUNCH X431 SmartLink C 2.0 is designed for extensive vehicle support, covering a wide range of heavy-duty and commercial vehicles globally.

## 5.1 Supported Vehicle Types and Protocols

This diagnostic tool supports mainstream diagnostic protocols such as CAN2.0, CANFD, DOIP, and KWP2000. It is suitable for both 12V and 24V fuel and new energy vehicles. Supported vehicle types include:

- Trucks
- Buses
- Construction Machinery
- Agricultural Machinery
- Trailers
- Ships
- Vans
- Coaches
- Cranes
- Excavators
- Diesel Engines
- Pick-up Trucks
- Hybrid Vehicles
- Tankers
- Ferries



Figure 5.1: A visual guide to the diverse range of heavy-duty vehicle types supported by the LAUNCH X431 SmartLink C 2.0.

## 5.2 Engine and Truck Model Coverage

The tool covers diagnostic software for popular engine brands and supports over 70 heavy truck models, with continuous software updates adding more models. Compatibility includes:

- **Engine Brands:** Cummins, Bosch, Weichai, Shangchai, Yuchai, Xichai, Chaochai, Yangchai, Quanchai, and more.

- **U.S. Heavy Truck Models:** Cummins, DS\_USA Ford, Allison, Bremach, Caterpillar, Detroit, Freightliner, International, Kenworth, Peterbilt, Sterling, WABCO\_ABS, Western Star, Mack, and more.
- **European Heavy Truck Models:** Benz, Bosch, Deutz, ERF, Irisbus, JCB, Man, Neoplan, Setra, Volvo, DAF, and more.
- **Asian Heavy Truck Models:** Astra, Fuso, Hino, Isuzu, UD, Tata, Ashok Leyland, Doosan, Hyundai, Sunwin, DLF, Dachai, Faw Jiefang, Fotonauman, Bonluck, Chaochai, Goldendragon, Higer, Iveco, JMC, Quanchaity, Sitcar, Steyr, Sunlong, Xichai, Yangchai, Yufeng, Zhongtong, JAC, Scania, Shangchai, Sinotruk, WP Diesel, Yuchai, Utong, and more.



Figure 5.2: Map illustrating the extensive worldwide coverage of heavy-duty vehicles, categorized by U.S., European, and Asian models.

# ALL-SYSTEM CHECK FOR 99% GLOBAL TRUCK

Post-Processing Fuel System

Engine Braking System

ABS System ADAS

Natural Gas Suspension

Caterpillar	Cummins	Detroit Diesel	Paccar	Mack
Navistar International	Freightliner	Volvo	Weichai	Shanghai

MORE

Figure 5.3: Diagram showing the comprehensive system checks available for 99% of global trucks, including engine, fuel system, braking system, and more.

The tool also supports proprietary vehicle CAN protocols for HD VOLVO, MACK, and international trucks, adhering to Euro III to Euro VI standards and the latest ISO 27145 diagnostic protocol.

## X431 SMARTLINK C PACKAGE LIST

OBDII 16test Connector

USB Cable

Cigarette Lighter

Battery Clamps Cable

15m Gigabit Networking

Password envelope

OBD I Adaptor

Leighter Fuse\*6

switching line 01-09

JUMPER 10

OBD-6 Adaptor

Type II OBD-9 Adaptor

OBD-16 Adaptor

HYUNDAI-16 Adaptor

IVECO-30 Adaptor

IVECO-38 Adaptor

BENZ-14 Adaptor

MITSUBISHI-12+16 Adaptor

RE-12 Adaptor

VOLVO-8 Adaptor

CAT-9 Adaptor

MAN-12/37 Adaptor

Figure 5.4: Illustration of the wide vehicle coverage without IP limitations, highlighting support for CANFD & DOIP, AutoAuth for FCA SGW, and 12V & 24V trucks from 1996-2024.

6. SPECIFICATIONS

Key technical specifications for the LAUNCH X431 SmartLink C 2.0 module:



Figure 6.1: Detailed visual breakdown of the SmartLink C 2.0 specifications, including CPU, operating system, memory, and communication options.

Feature	Specification
Manufacturer	LAUNCH
Model	X431 SMARTLINKC
Item Weight	12.72 pounds
Package Dimensions	16.9 x 14 x 6.8 inches
Country of Origin	China

Feature	Specification
Item Model Number	LAUNCH X431 SMARTLINKC
Manufacturer Part Number	LAUNCH X431 SMARTLINK C
Operating System	Linux
Automotive Fit Type	Universal Fit
UPC	850052860196
CPU	Dual processor (Cortex-A7 + Cortex-M7)
Storage	8GB
Memory	256MB
Working Temperature	-10°C ~ 50°C
Working Voltage	9-36V
WiFi Range	100m
Size	204 x 110 x 47 mm

## 7. TROUBLESHOOTING

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This section provides guidance for common issues you might encounter while using the LAUNCH X431 SmartLink C 2.0.

### 7.1 Connection Issues

- **No Communication with Vehicle:**

- Ensure the SmartLink C module is securely connected to the vehicle's diagnostic port.
- Verify that the correct adapter cable is being used for the vehicle model.
- Check the vehicle's battery voltage; low voltage can prevent communication.
- Confirm that the SmartLink C is properly paired and activated with your X431 tablet (refer to Section 2.3).
- Try a different communication method (e.g., switch from Bluetooth to USB or Ethernet if available).

- **Wi-Fi/Bluetooth Disconnection:**

- Ensure the SmartLink C and X431 tablet are within the effective range (up to 100m for Wi-Fi).
- Check for interference from other wireless devices.
- Restart both the SmartLink C module and the X431 tablet.

### 7.2 Software and Functionality Issues

- **Diagnostic Software Not Loading/Crashing:**

- Ensure your X431 tablet's operating system and diagnostic software are up to date.
- Clear the cache of the diagnostic application on your X431 tablet.
- If the issue persists, consider reinstalling the specific diagnostic software for the vehicle type.

- **Specific Function Not Working:**

- Verify that the function is supported for the specific vehicle model and year. Compatibility can vary.
- Ensure all prerequisites for the function (e.g., engine running, ignition on) are met.

- Check for any pending software updates that might resolve the issue.

## 7.3 General Performance

- **Slow Performance:**
  - Close any unnecessary applications running on your X431 tablet.
  - Ensure sufficient storage space is available on the tablet.
  - Perform regular software updates to benefit from performance improvements.

## 8. WARRANTY AND SUPPORT

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LAUNCH provides support for its products to ensure customer satisfaction and proper functionality of the diagnostic tools.

### 8.1 Product Warranty

Specific warranty details for the LAUNCH X431 SmartLink C 2.0 are typically provided with the product documentation at the time of purchase. It is recommended to register your product upon receipt to activate any applicable warranty. For detailed warranty terms and conditions, please refer to the official LAUNCH website or contact customer support.

Extended protection plans may also be available for purchase, offering additional coverage beyond the standard manufacturer's warranty. Please check with your retailer for options such as 3-Year or 4-Year Protection Plans.

### 8.2 Technical Support

For technical assistance, software updates, or any operational queries, please contact LAUNCH customer support. Support resources typically include:

- **Official LAUNCH Website:** Visit the official website for FAQs, software downloads, and support contact information.
- **Online Support Portal:** Many issues can be resolved through online resources and knowledge bases.
- **Customer Service Hotline:** For direct assistance, a customer service hotline is usually available during business hours.
- **Remote Assistance:** The SmartLink C's remote diagnostic capabilities can also be utilized by professional technicians to provide remote support.

When contacting support, please have your product model number (LAUNCH X431 SMARTLINK C) and serial number ready to expedite the process.



