



# HW04 JLR Technical Key Tool Designed for 2010 to 2025+ Jaguar and Land Rover Vehicles

## User Manual

Version 1.3.1.1



## Important notes

---

Lock50® software and hardware products are developed, designed and manufactured by Oliveston Ltd. Lock50® software and hardware products are designed for non-commercial use unless stated otherwise. During the production process we comply to all safety and quality regulations and standards, aiming at highest production quality. Lock50® hardware and software products are designed to build a coherent ecosystem, which effectively solves a wide range of vehicle-related tasks, such as:

- Diagnostic scanning.
- Key programming.
- Module replacement.
- ECU programming.
- Configuration and coding.

All software and hardware products by Oliveston Ltd. are copyrighted. Permission is not granted to copy Lock50® software files except for back-up purposes, only. Should you wish to copy this manual or parts of it, you are granted permission only in the case it is used with Lock50® products, and has the “Lock50” watermark on all copies, and is used for actions that comply to respective local law and regulations.

## Warranty

---

As an owner of Lock50® hardware products, you are entitled to a one year warranty. If the hardware product you have purchased has been properly connected, and is used according to its instructions, it will function correctly. In case the product does not function correctly, you are entitled to claim warranty within the stated terms. Lock50® is entitled to request evidence of the defect or malfunction, upon which the decision to repair or substitute the product shall be made.

There are certain conditions, upon which the warranty cannot be applied. The warranty shall not apply to damages and defects caused by natural disaster, misuse, improper use, unusual use, negligence, failure to observe the instructions for use issued by Lock50®, modifications of the device, repair works performed by unauthorized persons. For example, when the damage of the hardware has occurred due to incompatible electricity supply, mechanical or water damage, as well as fire, flood or thunder storm, the warranty does not apply. Each warranty claim is inspected individually by our team and the decision is based upon thorough case consideration.



## Copyright information

---

### Copyright:

All material herein is Copyrighted ©2010-2025 Oliveston Ltd. Lock50 software, hardware, and firmware are also copyrighted. Users are given permission to copy any part of this manual provided that the copy is used with Lock50® products and the "Copyright © Oliveston Ltd." statement remains on all copies as used in this manual with "Oliveston Ltd." and all its affiliates. The "Lock50®" logo is a registered trademark of Oliveston Ltd.

### Notices:

The information contained in this document is subject to change without prior notice. Lock 50 shall not be held liable for technical/editorial errors or omissions herein. Warranties for Lock50® products and services are set forth in the express written warranty statements accompanying the product.

Nothing herein should be construed as constituting any additional warranty. Lock50® assumes no responsibility for any damage resulting from the use, misuse, or negligent use of hardware or software.

## Safety information

---

Lock50® products are to be used by trained and experienced users in diagnostics and reprogramming of vehicles and equipment. Users must have a good understanding of vehicle electronic systems, as well as potential hazards while working with vehicles. There are numerous safety situations that cannot be foreseen, thus we recommend that the user read and follow all safety measures in the available manual, on all equipment they use, including vehicle manuals, as well as internal documents and operating procedures. Some important points:

Block all wheels of the vehicle when testing.

Be cautious when working around electricity.

Do not ignore the risk of shock from vehicle and building-level voltages.

Do not smoke, or allow sparks/flame near any part of the vehicle fuel system or batteries.

Always work in an adequately ventilated area, vehicle exhaust fumes should be directed towards the exit of the shop.

Do not use this product where fuel, fuel vapours, or other combustibles could ignite.

In case any technical difficulties occur, please contact the

**Lock50® Support Team by email at [support@lock50.co.uk](mailto:support@lock50.co.uk)**

# Table of contents

## **1. Introduction**

- 1.1 User manual
- 1.2 Minimum System Requirements
- 1.3 Your Lock50® HW04 JLR tool-kit

## **2. Getting Started**

- 2.1 Software installation steps

## **3. Introduction to Lock50® Software**

- 3.1 Software Menu Options
- 3.2 Identify Smart Key
- 3.3 Key Identification
- 3.4 File Utilities
- 3.5 Diagnostics Utilities
  - 3.5.1 Control Modules
  - 3.5.2 DTC Report
  - 3.5.3 CCF Utilities
  - 3.5.4 PEPS Utilities
  - 3.5.6 Special Tools

## **4. Alarm-Off**

- 4.1 Alarm-Off with HW03B CAN-Wires
- 4.2 Alarm-Off with HW03C RFA Adapter
- 4.3 Alarm-Off with HW03D OBD Cable
- 4.4 Alarm-Off with Key Copy

## **5. Key Copy**

- 5.1 Key Copy with HW04 Device
- 5.2 Key Copy with HW03B CAN Wires
- 5.3 Key Copy from Dump File to Key
- 5.4 Key Copy with HW03C RFA Adapter

# Table of contents

## **6. Add Spare Key**

6.1 Add Spare Key with HW03D OBD Cable

6.2 Add Spare Key from Dump File

## **7. Service Functions**

7.1 SW28 RFA Replacement function

7.2 SW36 Key Duplicator function

## **8. JLR Vehicles Supported**

8.1 Jaguar Vehicles Supported

8.2 Land Rover Vehicles Supported

8.3 Range Rover Vehicles Supported

## **9. Troubleshooting**

## **10. Lock50 Change-ID Keys**

10.1 Working with Lock50® HW05A/HW06A Change-ID Keys

10.2 Working with Lock50® HW05B/HW06B Change-ID Keys

10.3 Working with Lock50® HW13/HW14 Change-ID Keys

10.4 Working with Lock50® HW07/HW08 OEM Change-ID Keys

10.5 Working with Lock50® HW09/HW10 OEM Change-ID Keys

10.6 Working with Lock50® HW11/HW12 Land Rover Defender Change-ID Keys

10.7 Working with Lock50® HW15/HW16 PEPS, Non-UWB OEM Keys

10.8 Working with Lock50® HW17/HW18 PEPS, Non-UWB Aftermarket Keys

10.9 Working with Lock50® HW25/HW26 PEPS/UWB OEM Keys

## **11. Cables**

## **12. Control Modules**

12.1 JLR RFA Modules

12.2 JLR BCM Modules

12.3 JLR Telematics Control units

# Table of contents

---

- 13. JLR Diagnostics Software
- 14. JLR Coding Software
- 15. JLR DoIP VCI
- 16. Laptop Computers
- 17. Pelican Cases
- 18. HW04 Software License and Support Plan
- 19. Glossary of Terms, Abbreviations and Acronyms

# 1. Introduction

---

Lock50® works together with your Windows based laptop computer as a powerful technical key tool programmer for Jaguar, Land Rover, and Range Rover vehicles. Lock50® is an advanced JLR car key programming tool developed by Oliveston Ltd. intended for use between a laptop computer and JLR vehicles. Lock50® hardware should be used together with Lock50® software developed by Oliveston Ltd. Lock50® is a trademark of Oliveston Ltd.

## 1.1 User Manual

This document describes the software and hardware installation of your Lock50® JLR technical key tool programmer.

## 1.2 Minimum System requirements

Windows 10. 10GB HDD Available Storage. 4GB RAM (8GB recommended).

---

### 1.3 Your Lock50® HW04 Tool Kit

Your HW04 series tool-kit contains:

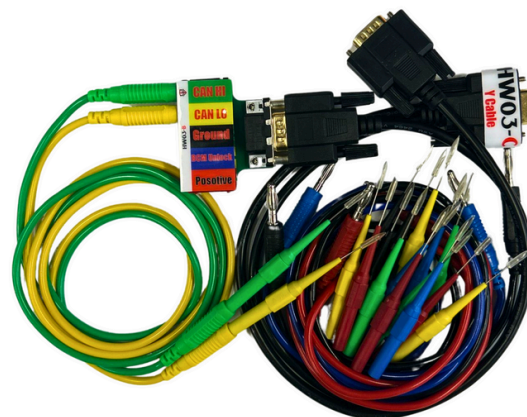
#### 1. HW04 JLR Technical Key Tool Programmer



#### 2. HW03A SPC Adapter Clip Read/Write Clip for Unlocked MCU



#### 3. HW03B CAN Wires Alarm-Off Adapter Cable For 2010 to 2022 CAN Vehicles



---

#### 4. HW03C RFA Adapter Cable

For 2017 to 2025+ Vehicles



#### 5. HW03D OBD Cable

For 2010 to 2025+ CAN Vehicles



#### 6. HW03E OBD Cable

For 2017 to 2025+ DoIP Vehicles



7.

**USB Flash Drive**

Contains Lock50® Software Application for HW04 JLR Technical Key Tool Programmer



8.

**USB-A to USB-C Cable**

Hi-Speed Data Cable for HW04 JLR Technical Key Tool Programmer





## 2. Getting Started

### 2.1 Software installation steps

Please follow the steps below when installing software for your HW04 JLR technical key tool.

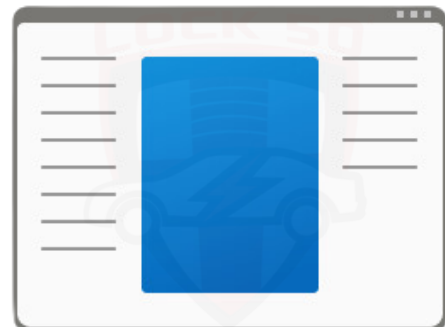
**Note: The Setup JLR KeyTool executable file (.exe) must be executed for the installation to complete otherwise the software and hardware will not function correctly.**

Software for your Lock50® HW04 JLR technical key tool can be found on the USB flash-drive enclosed in your HW04 JLR technical tool kit. Please make sure to follow the steps below.

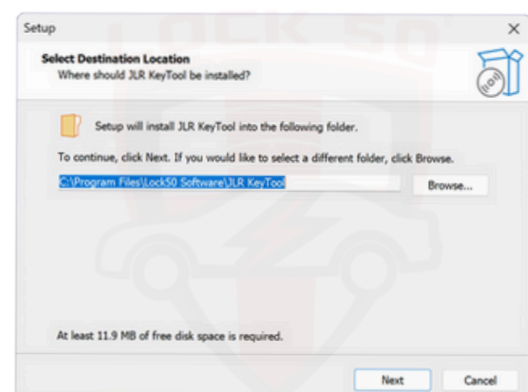
**Step 1.** Plug in the enclosed USB flash-drive into your laptop computer.



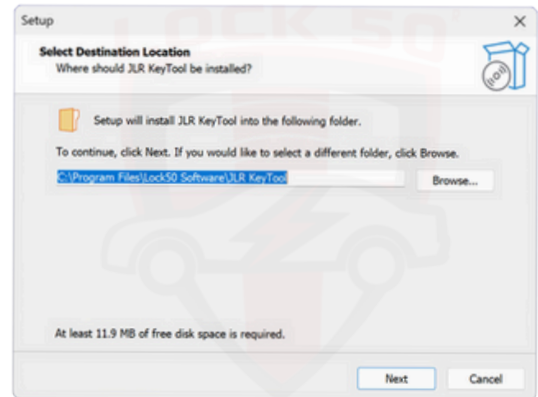
Select the executable file **Setup JLR Key Tool** from the enclosed folder to begin installation and follow the on-screen instructions.



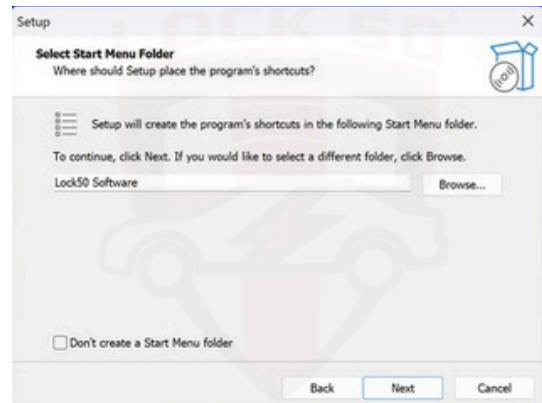
Select "Next" to proceed with the installation.



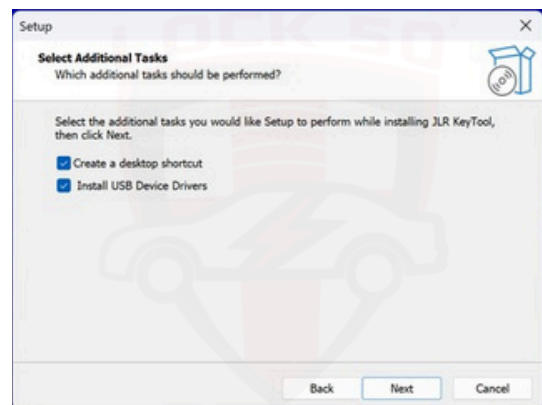
Select “Next” to proceed with the installation.



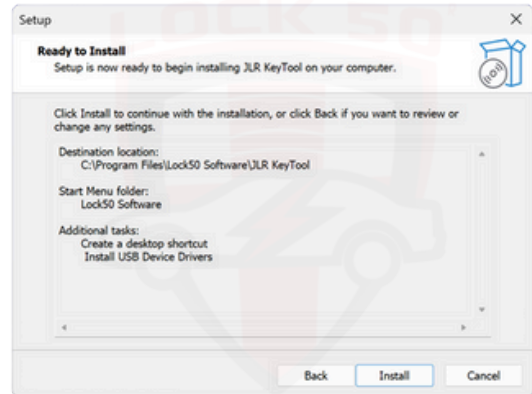
Select ‘Next’.



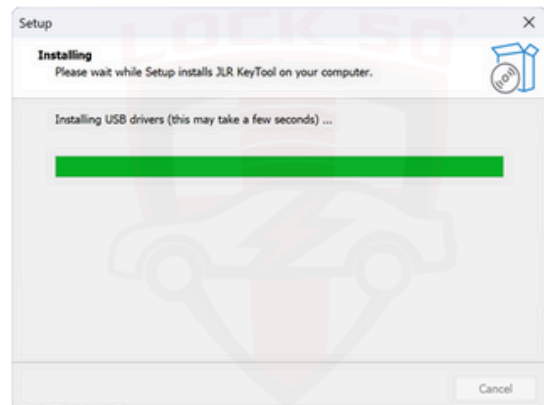
Select ‘Next’.



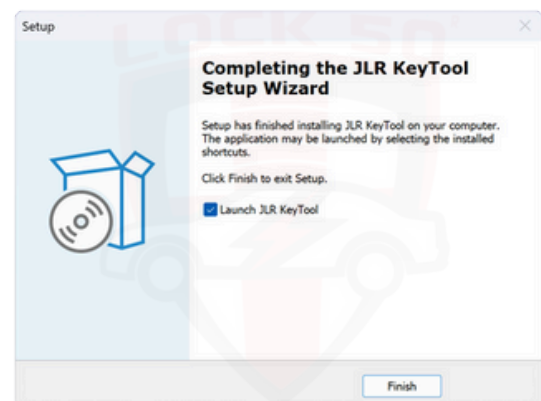
Select 'Next'.



Wait for the installation to complete.



Select 'Finish' to launch the Lock50® JLR Key Tool software application.



## 3. Introduction to Lock50® Software

### 3.1 Software Menu Options

**IMPORTANT:** Ensure hardware connections are secure and you have a good internet connection at all times before you execute the JLR Key Tool software application or your device will not work correctly.

Allow permissions for the JLR Key Tool software application on your antivirus agent and Windows Security agent before proceeding or your device will not work correctly.

Once your device is activated, you can proceed to launch the **JLR Key Tool** software application by selecting the shortcut created on the desktop during the installation process.



The **JLR Key Tool** software application presents you with a Workshop menu toolbar with shortcuts to vehicle info, device, back, and home. The Workshop menu also presents you with three tiles:

- Identify Smart Key.
- File Utilities.
- Diagnostics Utilities.



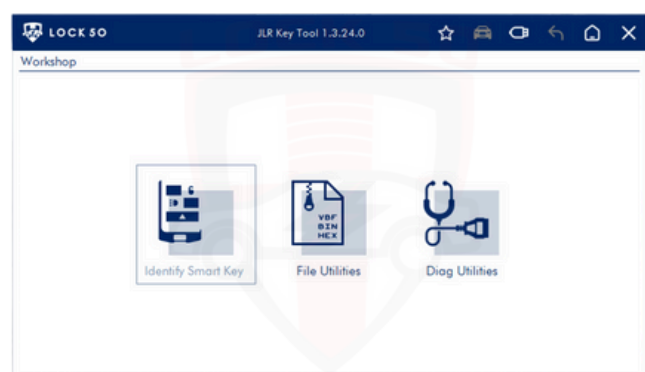
### 3.2 Identify Smart Key

**Connect HW04 via USB with HW03D OBD Cable**

*Place the key inside the cradle on the HW04 device.*

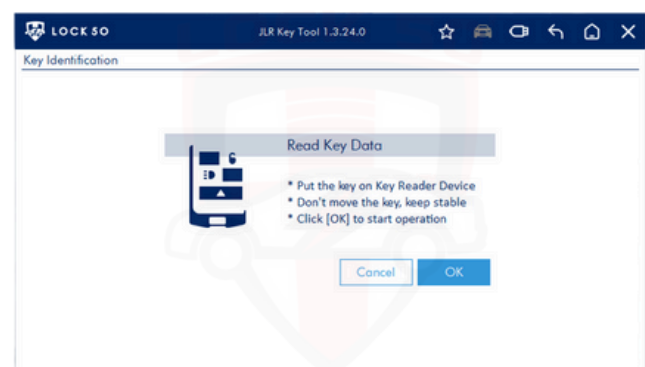


#### Identify Smart Key



#### Read Key Data

- Put the key on Key Reader Device.
- Don't move the key, keep stable.
- Click [OK] to start operation.



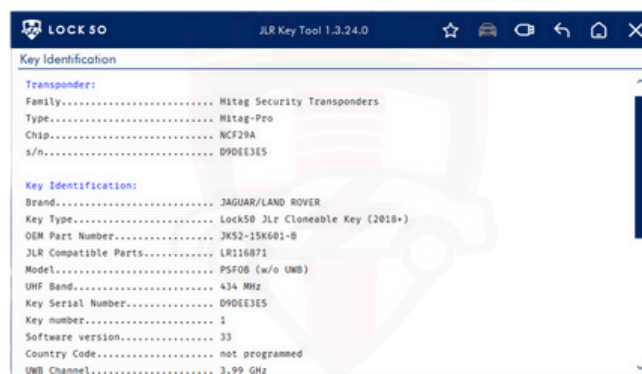
**Note:** ensure all connections are secure before starting any operation to avoid errors.

### 3.3 Key Identification

#### Key Identification menu

##### Transponder

Displays key information about the key transponder, transponder type, transponder chip, and serial number.



##### Key Identification

Displays key information about the key brand, key type, part number, model, UHF band, key serial number, key number, software version, UWB channel, learning status and lock status.



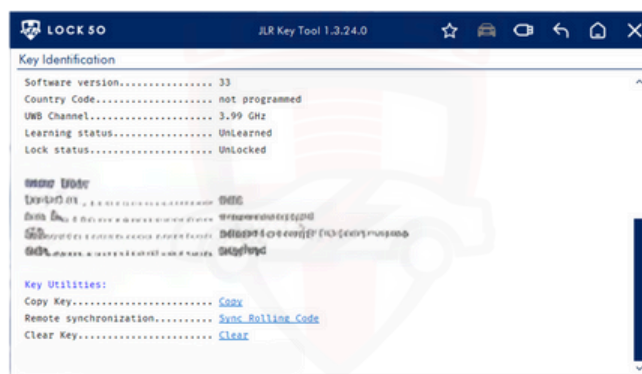
##### Key Utilities

Displays key functions such as:

**Copy Key** (for key-copying).

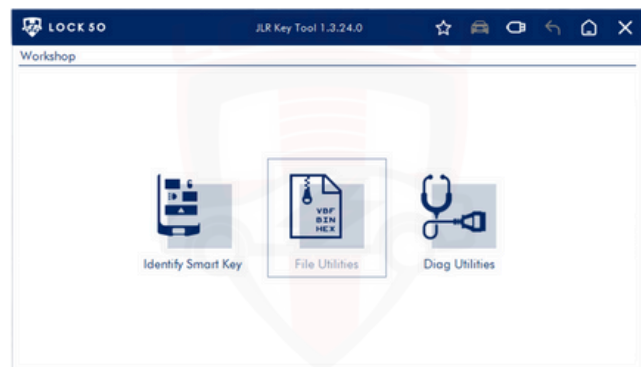
**Clear Key** (when the key is learned/locked).

**Remote Synchronization** (to synchronise the key with a rolling code).



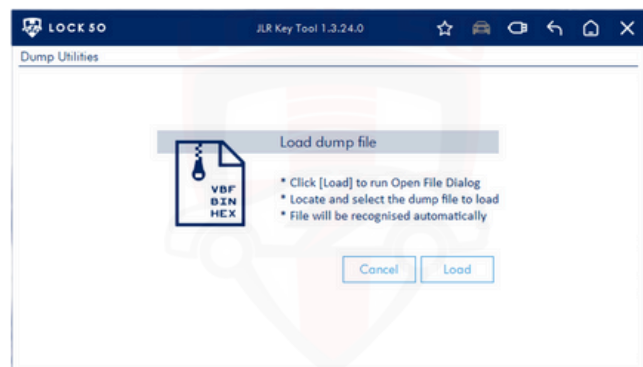
**Note:** to return to the main Workshop menu, select the back arrow positioned at the top right corner of the toolbar.

### 3.4 File Utilities



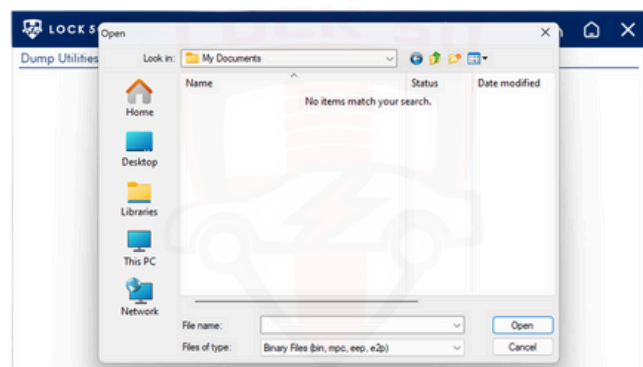
#### Load Dump File

Select 'Load' to run Open File Dialog.



Search and select the dump file from your file directory. *Dump files are recognised automatically.*

Select 'Cancel' to return to the previous menu and 'Cancel' again to return to the Workshop menu.



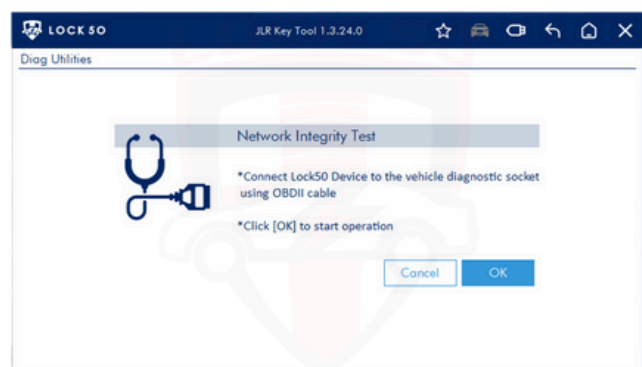
### 3.5 Diagnostics Utilities

Select 'Diag Utilities' to enter the Diagnostics Utilities menu.



#### Network Integrity Test

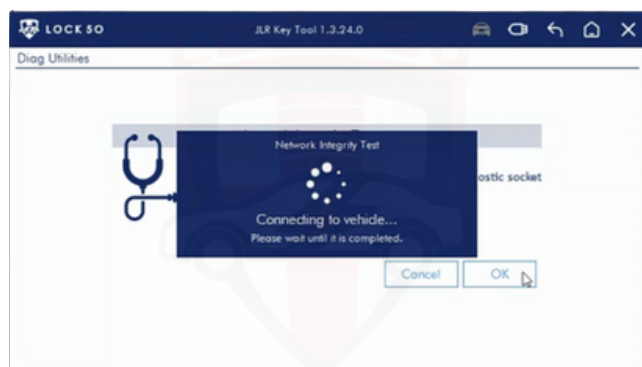
Connect your Lock50® HW04 device to the vehicle diagnostic socket using the OBDII cable and select 'OK' to start the operation.



Select 'OK' to start Network Integrity Test

The vehicle's *As-built file* is downloaded from the server during this process before scanning all vehicle control modules.

**Note:** This operation will force the vehicle's ignition to turn on.





## Vehicle Info menu

Displays menu tiles to the right such as **Control Modules**, **DTCs Report**, **CCF Utilities**.

Displays vehicle information such as VIN, make, model, year, engine, and transmission.



## Vehicle Info menu continued.

Displays additional menu tiles to the right such as **PEPS System** and **Special Tools**.



*VIN number is omitted in the illustrations for security purposes.*

### 3.5.1 Control Modules

#### Modules

Displays all control modules found on the vehicle according to the vehicle's *As-built* file.

Hover and hold the mouse pointer over the modules to display the full name of modules.



#### Modules Status

- **Green** indicates no DTC's found.
- **Amber** indicates DTC's found.
- **Red** indicates failure to communicate.
- **Grey** indicates module unavailable.



Select 'BCM', Body Control Module.

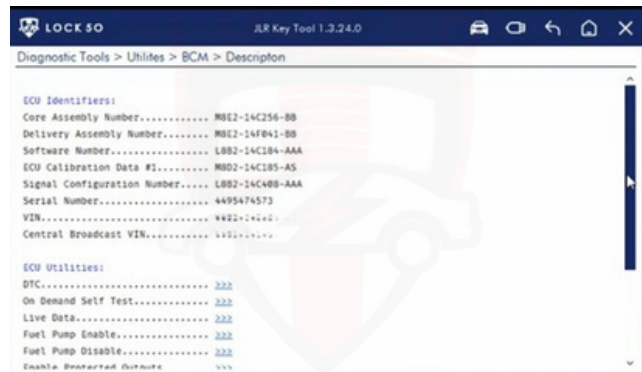


**Note:** if modules appear greyed-out whilst using the HW03D DoIP cable on 2017+ DoIP vehicles, use the HW03E DoIP ethernet cable to access the greyed-out modules.

## BCM Description

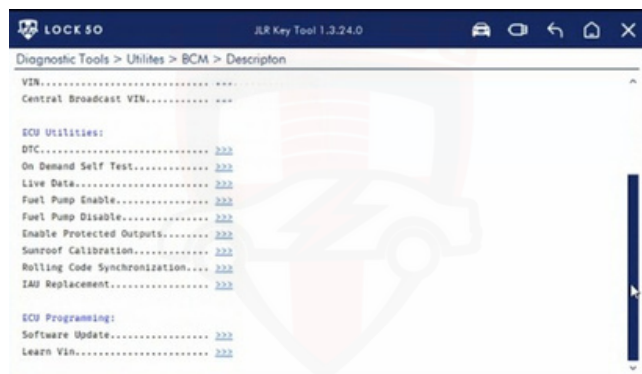
### ECU Identifiers

Displays BCM identification numbers such as Core Assembly Number, Software Number, Serial Number and VIN number.



### ECU Utilities

Displays ECU utilities, such as **Live Data**, **DTC**, **On Demand Self Test**, **Rolling Code Synchronisation**, and **IAU Replacement**.



### ECU Programming

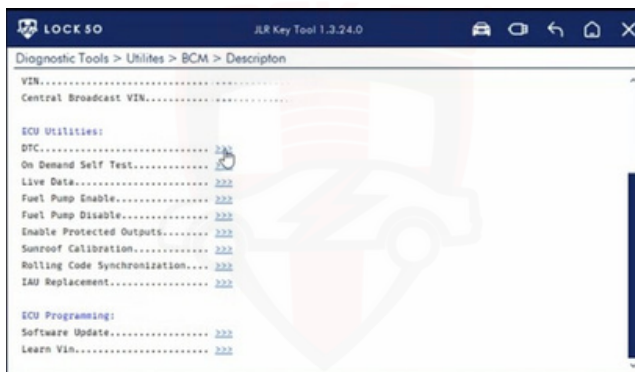
Displays ECU programming options, such as **Learn VIN** and **Software Update**.



*VIN number is blurred in the illustrations for security purposes.*

## ECU Utilities

Select 'DTC'

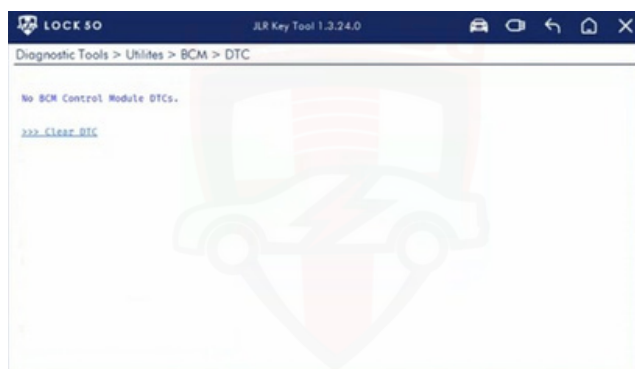


Follow the on-screen instructions and select 'OK' to continue.



All DTC's found appear on-screen.

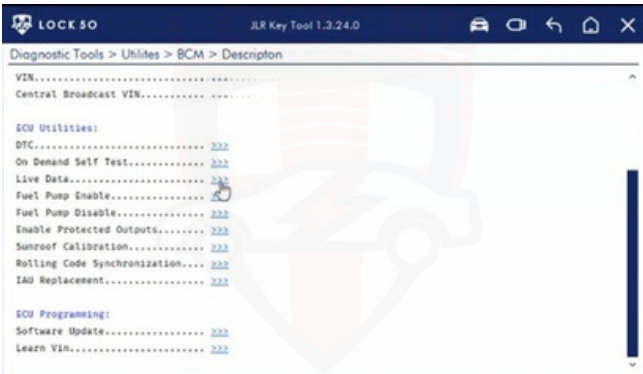
Select 'Clear DTC's' if any are found before starting any operations to avoid errors.



**Note:** to return to the previous menu, select *back arrow* positioned at the top right corner of the menu bar.

ECU Utilities

Select 'Live Data'.

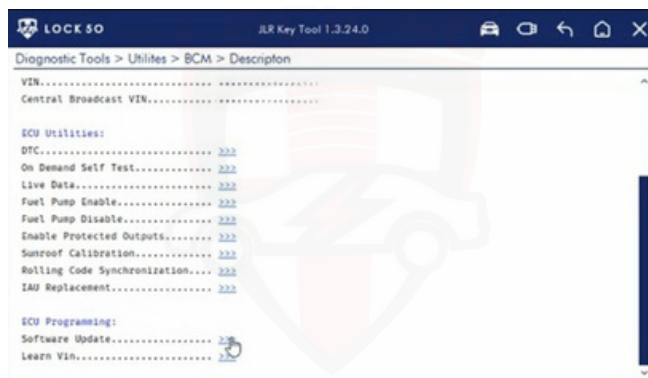


Access Live Data to Start Authorisation Status, Remote Key Identification, Leisure Key Identification, and Secure Locking Status.

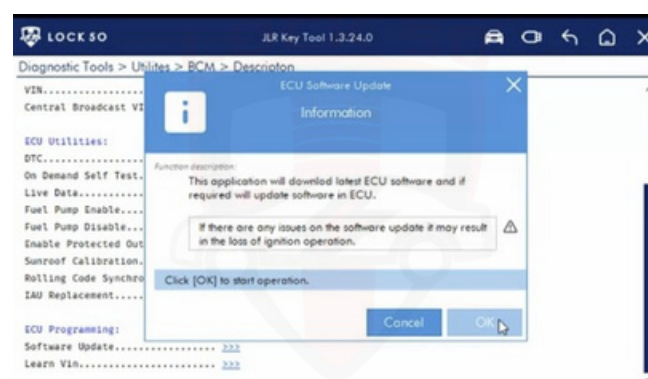


## ECU Programming

Select 'Software Update'.

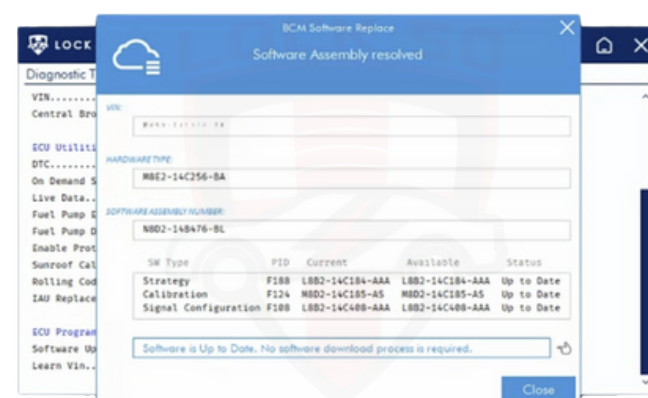


Follow the on-screen instructions and select 'OK' to continue.



**BCM Software Replace** dialog box displays VIN, Hardware Type Number, and Software Assembly Number.

*Software is up to date. No updates are required.*





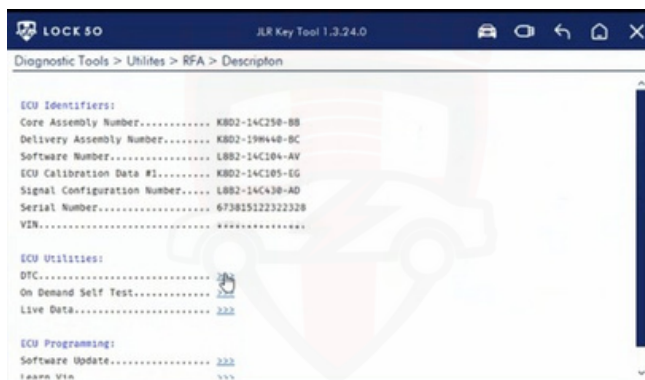
## Control Modules

Select 'RFA'.



## ECU Utilities

Select 'DTC'.



Follow the on-screen instructions and select 'OK' to continue.



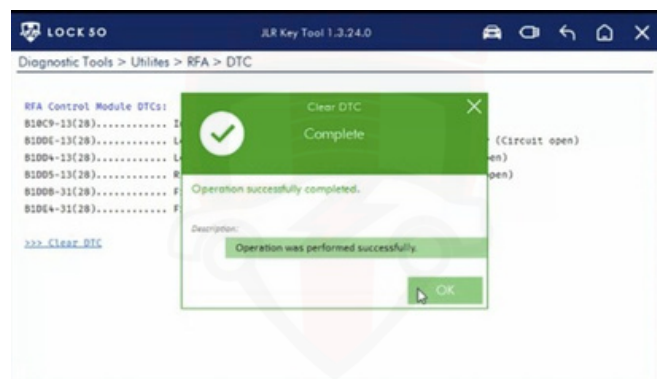
All DTC's appear on-screen.

Select 'Clear DTC' if any are found.



Clear DTC operation complete.

Select 'OK' to return to the previous screen.



Select 'Back Arrow' positioned at the top right corner of the menu bar and re-select DTC to acknowledge all DTC's have cleared.

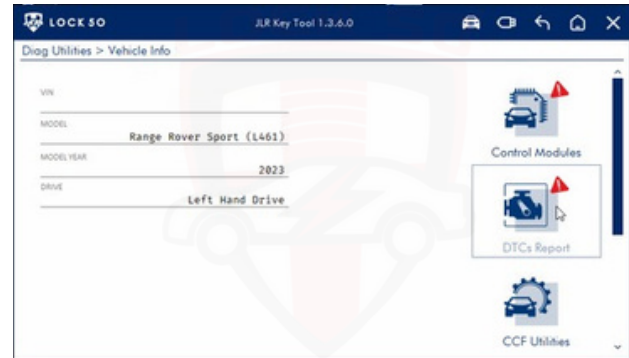




### 3.5.2 DTC Report

#### DTC Report

Displays a full list of all modules with DTC's (Diagnostic Trouble Codes).



DTC's can be found displayed alongside the name of each control module on the vehicle.



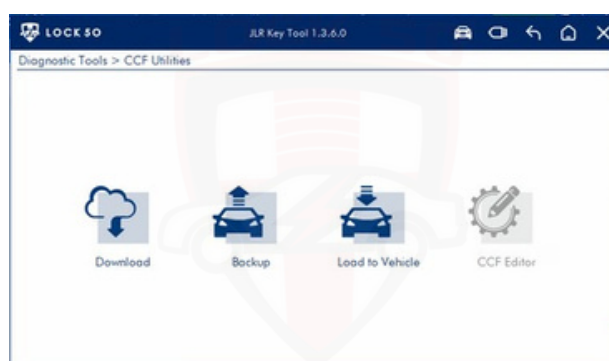
**Note:** to clear DTC's on control modules, return to Control Modules by selecting the *back arrow* positioned at the top right corner of the menu bar, and select the module from the Control Modules displayed.

### 3.5.3 CCF Utilities

Each vehicle has a CCF, *Car Configuration File*, embedded in the car. The CCF can be edited to enable/disable features on the car, such as *Auto Start/Stop*, *Approach Unlock & Walk-Away Lock*, *Android & Apple CarPlay*, etc.

#### Download CCF from Server 2017 - 2024

Enables you to download the original CCF for the vehicle from the cloud.



#### Backup CCF from Vehicles 2017 - 2025+

Enables you to create a back-up of the vehicle's existing CCF.



#### Load CCF to Vehicles 2017 - 2025+

Enables you to upload a CCF to the vehicle.



### Edit CCF on Vehicles 2017 - 2025+

Enables you to edit the CCF for the vehicle to enable/disable features, such as Approach Unlock and Walk-Away Lock, Auto Start/Stop, Android and Apple CarPlay, etc.



**Note:** CCF Editor is disabled and requires activation to be enabled.

For more information, please visit [Lock50.co.uk](http://Lock50.co.uk)>Dealer Tools>CCF Editor.

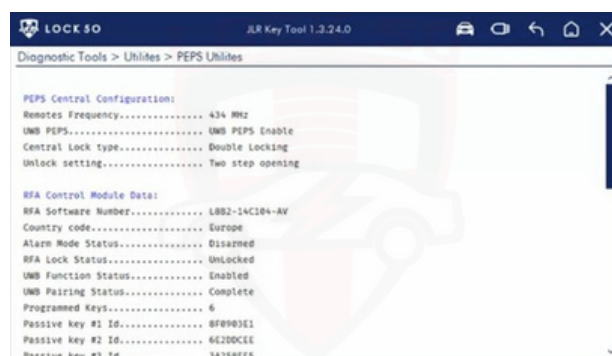
### 3.5.4 PEPS Utilities

Select 'PEPS System' from Vehicle Info menu.



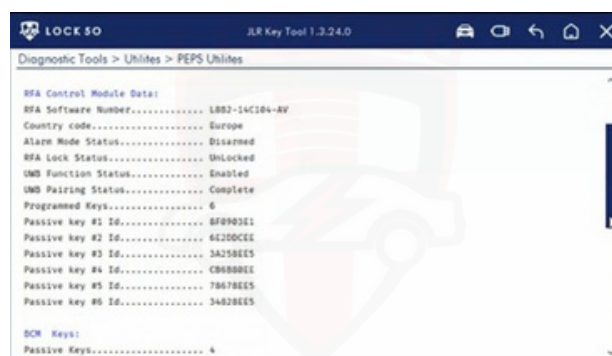
#### PEPS Central Configuration

Displays the Remote Frequency, UWB PEPS status, Unlock Setting, and Central Lock Type.



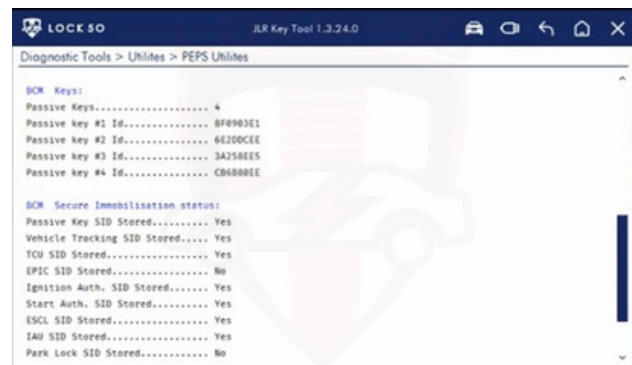
#### RFA Control Module Data

Displays the RFA Software Number, Country Code, Alarm Mode Status, RFA Lock Status, UWB Status, Number of Keys Programmed and Key ID Numbers.



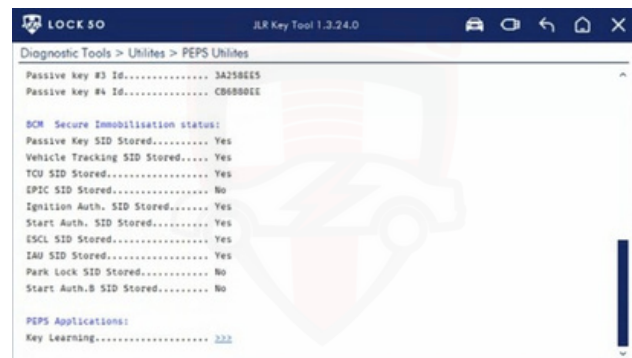
## BCM Keys

Displays information about Keys in the BCM.



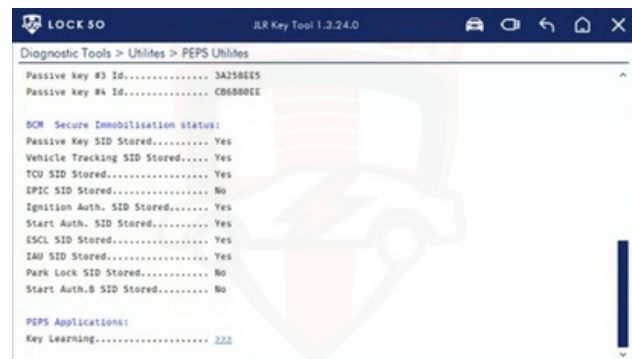
## BCM Secure Immobilisation Status

Displays information about Passive Key SID, Vehicle Tracking SID, Ignition Auth. SID, Start Auth. SID, ESCL SID, IAU SID & Park Lock SID.



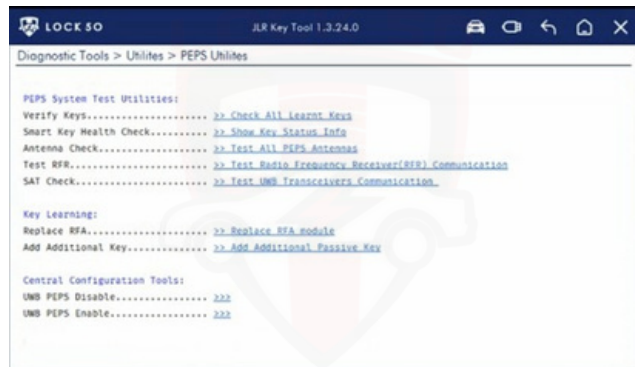
## PEPS Applications

Select 'Key Learning'.



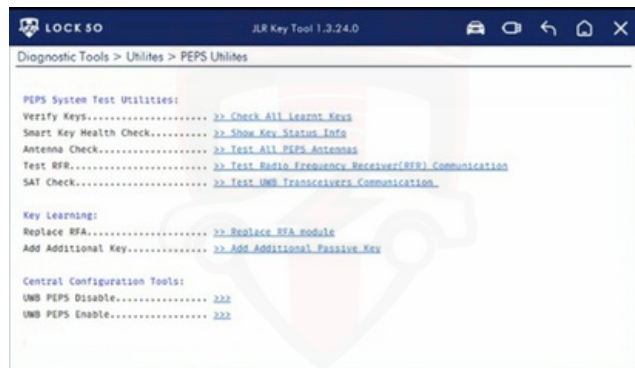
## PEPS System Test Utilities

Displays key information and functionality such as **Verify Keys**, **Smart Key Health Check**, **Antenna Check**, **Test RFR**, and **SAT Check**.



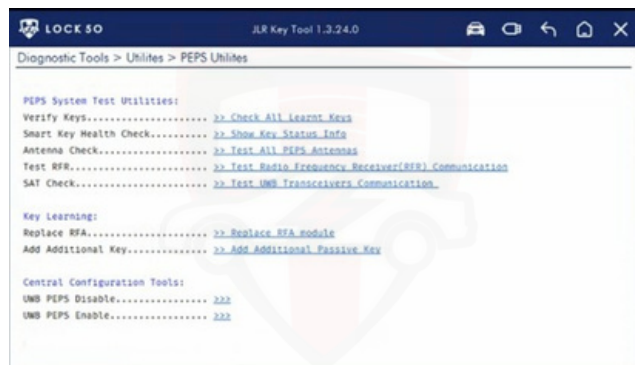
## Key Learning

Displays key functions such as, **Replace RFA** and **Add Additional Key**.



## Central Configuration Tools

**Disable/Enable UWB** key function.

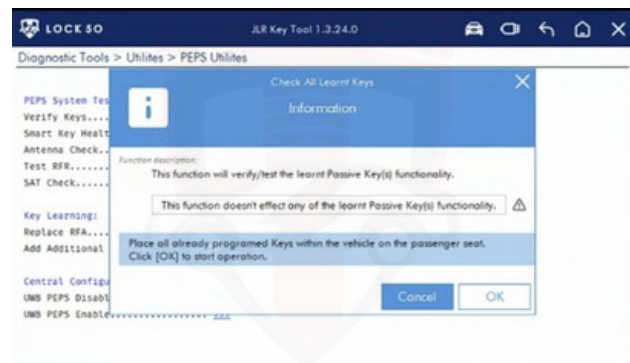


**IMPORTANT:** Check All Learnt Keys, View Key Status, and test All Antenna's for best practise before starting any critical operations.

Select 'Check All Learnt Keys'.

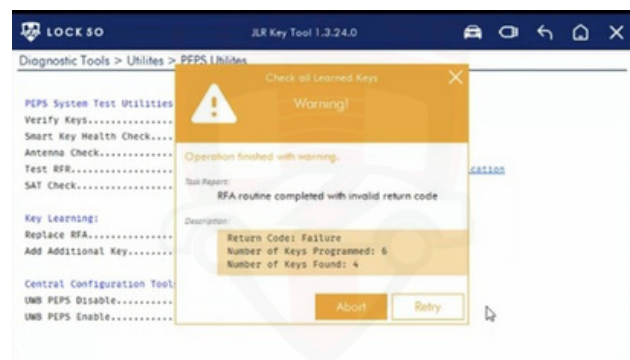


Follow the on-screen instructions and select 'OK' to continue.



**Check All Learned Keys** displays the Number of Keys Programmed and Found.

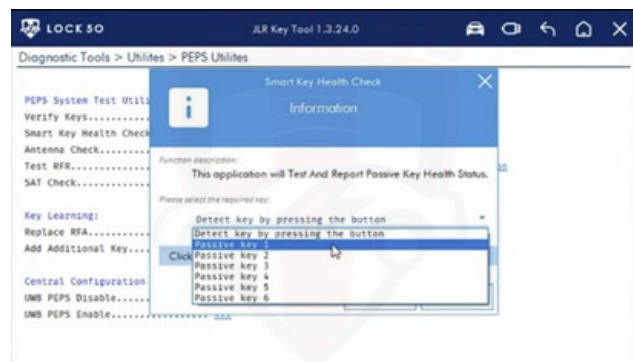
Select 'Abort' to return to PEPS Utilities.



Select 'Show Key Status Info'.



Select the drop-down keys menu and the required key to view Key Status Information.



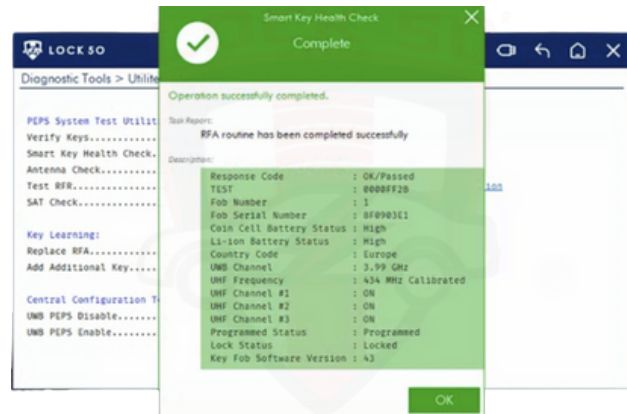
Select 'OK' to download Key Status Info.



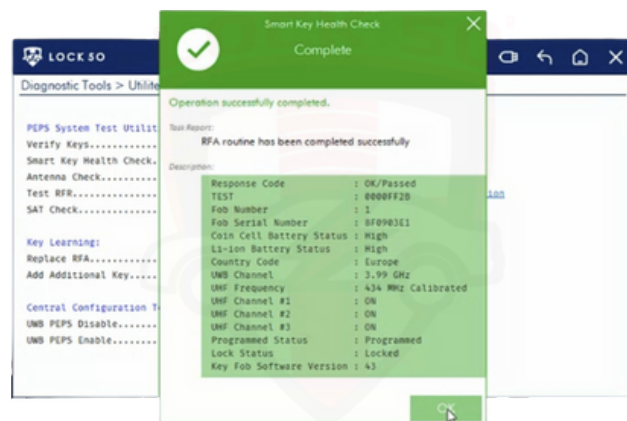


## Smart Key Health Check

Displays key information such as Fob Number, Serial Number, Li-ion Battery Status, Coin Cell Battery Status, UWB Channel, UWB Frequency, Country Code, Programmed Status, Lock Status, and Key Fob Software Version.



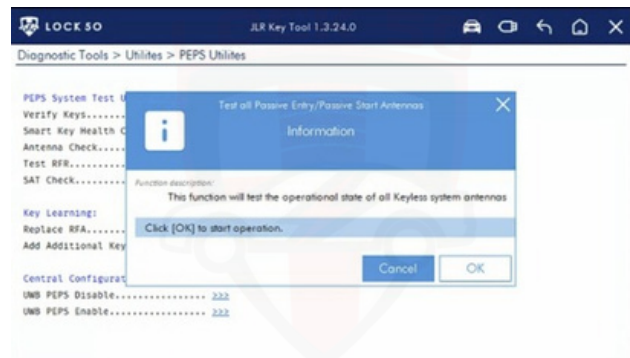
Select 'OK' to return to PEPS Utilities.



Select 'Test All PEPS Antennas'.

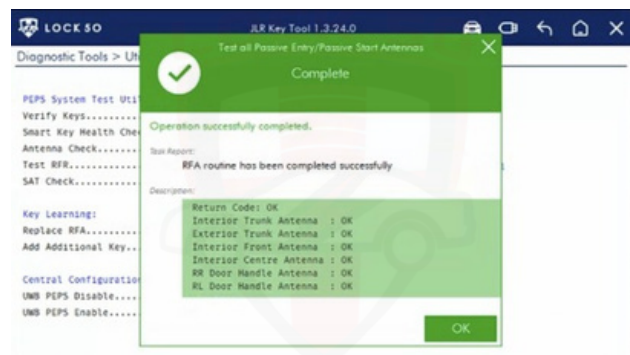


Follow the on-screen instructions and select 'OK' to continue.



PEPS Antenna's dialog box displays information about all PEPS Antenna's.

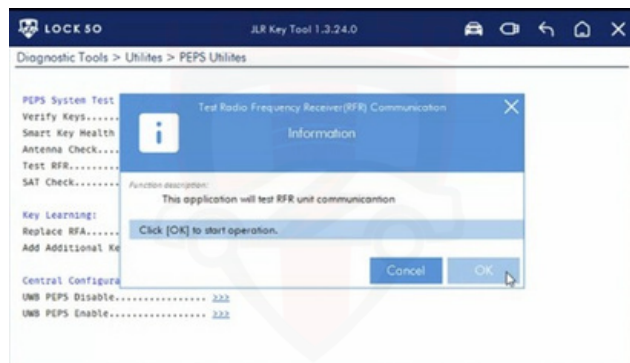
Select 'OK' to return to PEPS Utilities.



Select 'Test RFR Communication'.

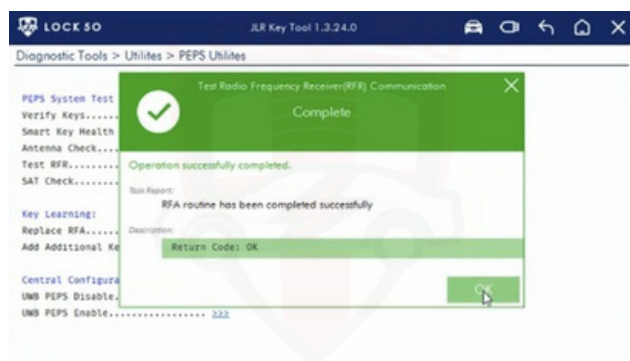


Follow on-screen instructions and select 'OK' to continue.



RFR Communication Test Successful.

Select 'OK' to return to PEPS Utilities.



Select 'Test UWB Transceivers Communication'.

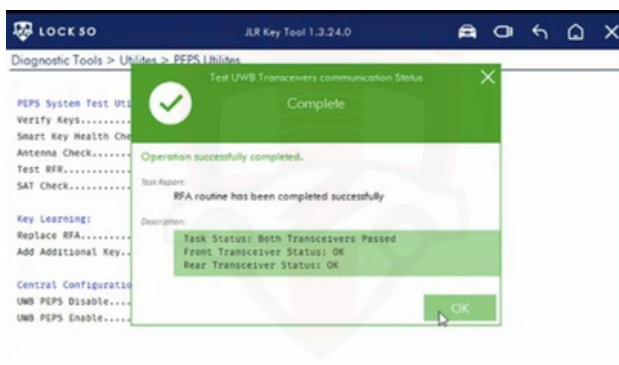


Follow the on-screen instructions and select 'OK' to continue.



UWB Transceivers Communication successful

Select 'OK' to return to PEPS Utilities.



Select 'Replace RFA Module' when Replacing the RFA, and follow on-screen instructions to complete the operation.

**Note: update software before RFA Replacement.**



Select 'Add Additional Passive Key' to add additional keys to the vehicle and follow the on-screen instructions to complete the operation.



Select 'UWB PEPS Disable/Enable' to disable/enable the PEPS key function and follow on-screen instructions to complete the operation.



### 3.5.6 Special Tools

Select 'Special Tools'.

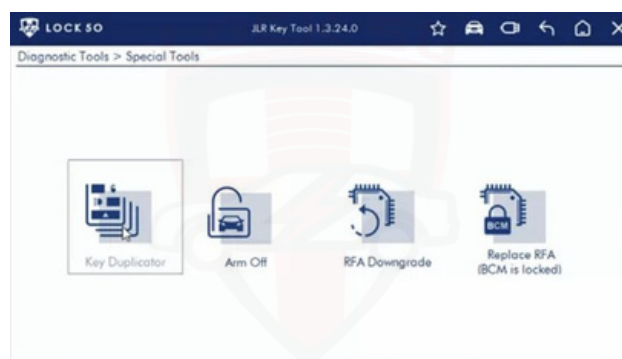


Special Tools displays functions, such as

- Key Duplicator when RFA is locked.
- Alarm Off via OBD and CAN Wires.
- RFA Downgrade via OBD.
- Replace RFA (when BCM is locked).



Select 'Key Duplicator'.



Key Duplicator displays key functions available for key-copy such as PEPS function, Remote Lock/Unlock, and Emergency Start.

Select 'OK' to continue and follow on-screen instructions to complete the operation.



**Note:** use Key Duplicator to copy keys via OBD on vehicles from 2010 to 2021 with locked KVM. HW05/HW06 keys can be copied via OBD with Emergency Start and Remote function. Key Duplicator requires Change-ID keys.



**Note:** use Key Duplicator to copy keys via OBD without keyless function on 2017 to 2020 vehicles with locked RFA. Key Duplicator shows **Not Allowed for Copy** message when the RFA is unlocked whilst copying UWB keys unless UWB is first disabled in the BCM in **PEPS Utilities**.

**IMPORTANT:** Telematics Control Unit must be present in vehicles before executing Key Duplicator or Adding Additional Keys to the vehicle or the operation will not be successful.



## 4. Alarm-Off

### 4.1 Alarm-Off with HW03B CAN Wires

Connect HW04 via USB with HW03B CAN Wires Adapter and HW03D OBD Cable using the Y-Cable

Connect banana cables to the green (**CAN high**) and (**CAN low**) yellow ports on the HW03B adapter, and use the prongs to connect to the CAN2 network.



### Special Tools

Enter Diagnostic Utilities and select 'Special Tools'.



### Alarm Off

Select 'Alarm Off' and follow the on-screen instructions to complete the operation.



**Note:** ensure all connections are secure before starting any operation to avoid errors.



## 4.2 Alarm-Off with HW03C RFA Adapter

### Connect HW04 via USB with HW03C RFA Adapter

Place the key inside the cradle on the HW04 device.

Plug HW03C-M RFA wiring-plug into the RFA module, and remove wiring-plug from the RFA module and insert it into the HW03C RFA adapter for a secure connection.



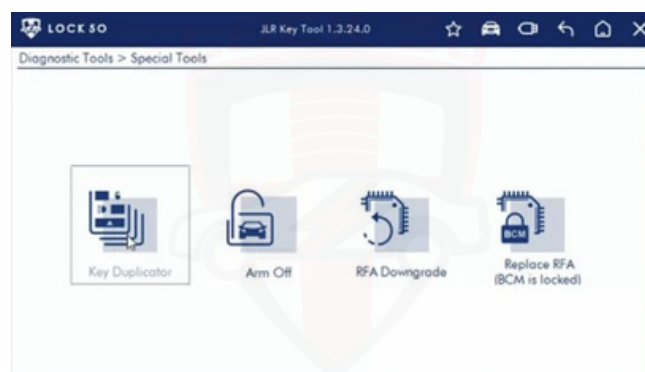
## Special Tools

Enter Diagnostic Utilities and select 'Special Tools'.



## Key Duplicator

Select 'Key Duplicator' and follow the on-screen instructions to complete the operation, and use the key fob to disarm the vehicle (when alarm is armed and greyed-out).



**Note:** only HW04C devices can use Key Duplicator to copy a key and disarm the vehicle using the remote on 2010 to 2025+ vehicles. SW36 Key Duplicator function is required for HW04A and HW04B devices.

### 4.3 Alarm-Off with HW03D OBD Cable

Connect HW04 via USB  
with HW03D OBD Adapter Cable



#### Special Tools

Enter Diagnostic Utilities and select 'Special Tools'.



#### Alarm Off

Select 'Alarm Off' and follow the on-screen instructions to complete the operation.



**Note:** Alarm-Off with HW03D OBD cable supports 2010 to 2021 PCF7953 key systems. KVM is not required. Vehicles that are not supported will not allow you to disarm the Alarm. Use HW03B CAN wires instead.

## 4.4 Alarm-Off with Key Copy

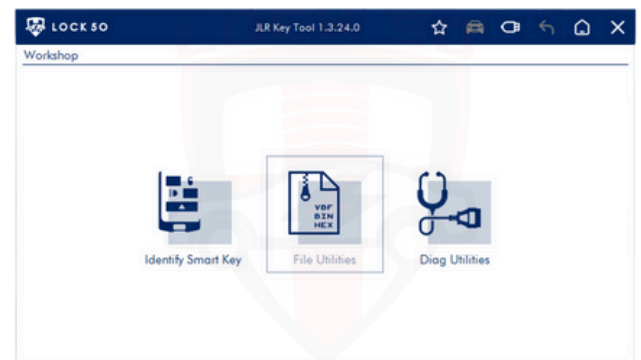
### Connect HW04 via USB

Place the key inside the cradle on the HW04 device.



### File Utilities

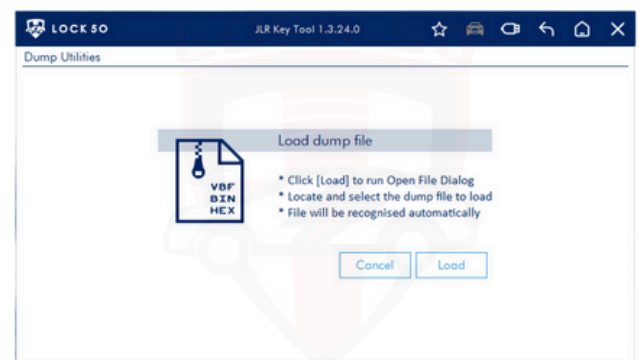
Select 'File Utilities'.



### Load Dump File

Select 'Load' to run Open File Dialog and select RFA/KVM MCU files.

Follow the on-screen instructions to complete the operation and use the key fob to disarm the alarm.



Copy HW05 to HW10 keys from KVM D-flash and EEPROM files to prepare fully working keys on 2010 to 2021 vehicles.  
Copy HW13/HW14 keys from BCM EEPROM file to prepare keys with Emergency Start only, on 2017 to 2025+ vehicles.  
Copy HW13/HW14 keys from RFA D-flash with Emergency Start & Remote Keyless function on 2017 to 2025+ vehicles.

## 5. Key Copy

### 5.1 Key Copy with HW04 Device

#### Connect HW04 via USB

Place the key inside the cradle on the HW04 device.



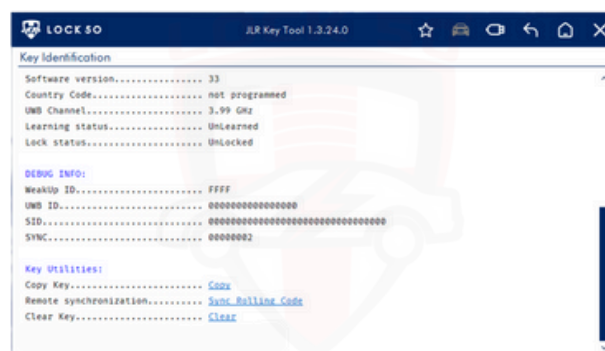
#### Identify Smart Key

Select 'Identify Smart Key'.



#### Key Copy

Select 'Copy' and follow the on-screen instructions to complete the *key-to-key copy* operation.



*Copy HW05/HW06 keys. Copy from Original/Aftermarket keys with Fixed/Change-ID.  
Copy HW13/HW14 keys from Original/Aftermarket keys when keys are already unlocked.*

## 5.2 Key Copy with HW03B CAN Wires

Connect HW04 via USB with HW03B CAN Wires Adapter and HW03D OBD Cable using the Y-Cable. Place the key inside the cradle on the HW04 device.

Connect banana cables to the green (CAN high) and (CAN low) yellow ports on the HW03B adapter, and use the prongs to connect to the CAN2 network.



### Identify Smart Key

Select 'Identify Smart Key'.



### Key Copy

Select 'Copy' and follow the on-screen instructions to complete the operation.



*Bypass BCM on 2010 to 2020 CAN2 vehicles to Key Copy with HW03B CAN wires adapter.*

### 5.3 Key Copy from Dump File to Key

#### Connect HW04 via USB

Place the key inside the cradle on the HW04 device.

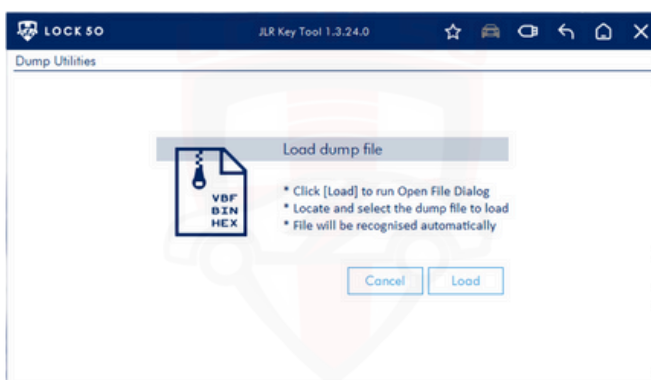


#### File Utilities

Select 'File Utilities'.



Select 'Load' and follow the on-screen instructions to complete the operation.



*Copy Keys will full functionality from KVM file on 2010 to 2021 vehicles.*

*Copy Keys from BCM file with Emergency Start on 2017 to 2025+ vehicles.*

*Copy Keys from RFA file with Emergency Start, Remote, and PEPS keyless function on 2017 to 2025+ vehicles.*

**Note: you must disable UWB to add keys via OBD for full UWB keyless function on 2017 to 2025+ vehicles.**



## 5.4 Key Copy with HW03C RFA Adapter

**Connect HW04 via USB  
with HW03C RFA Adapter to RFA**

*Place the key inside the cradle on the HW04 device.*

*Plug HW03C-M RFA wiring-plug into the RFA module, and remove wiring-plug from the RFA module and plug it into the HW03C RFA adapter for a secure connection.*



## Special Tools

Enter Diagnostic Utilities and select 'Special Tools'.



## Key Duplicator

Select 'Key Duplicator' and follow the on-screen instructions to complete the operation.



**Note:** Key Duplicator with HW03C Adapter supports 2017 to 2025+ UWB/PEPS vehicles. Only HW04C devices can use Key Duplicator. SW36 Key Duplicator function is required for HW04A and HW04B devices.

## 5.5 Key Copy with HW03D OBD Cable

Connect HW04 via USB with HW03D OBD Cable  
Place the key inside the cradle on the HW04 device.



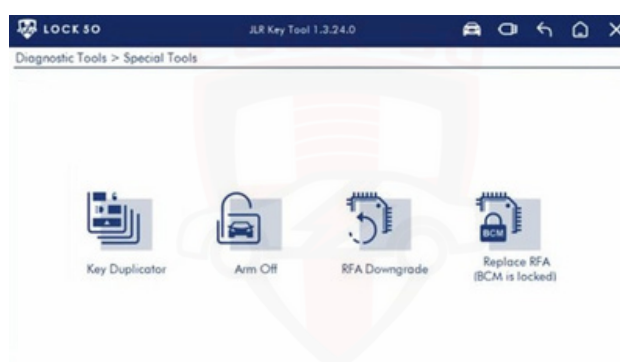
## Special Tools

Enter Diagnostic Utilities and select 'Special Tools'.



## Key Duplicator

Select 'Key Duplicator' and follow the on-screen instructions to complete the operation.



**Note:** Key Duplicator via OBD supports 2010 to 2021 JLR vehicles where HW05 to HW10 keys are used.  
SW36 Key Duplicator function is required for HW04A and HW04B devices to copy keys for 2017+ vehicles.  
Only the HW04C device supports the SW36 Key Duplicator function for 2017 to 2025+ vehicles.



## 6. Add Key

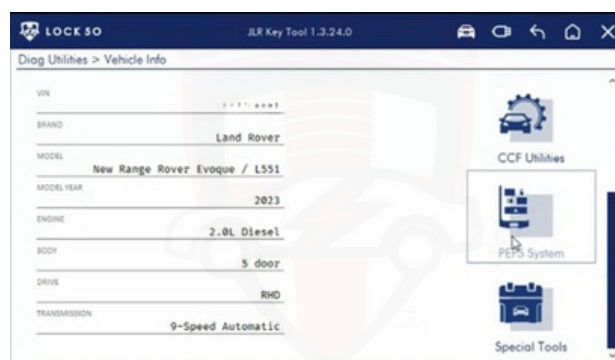
### 6.1 Add Key with HW03D OBD Cable

Connect HW04 via USB with HW03D OBD Cable  
Place the key inside the cradle on the HW04 device.



#### PEPS System

Enter Diagnostic Utilities and select 'PEPS System'.



#### Add Additional Key

Select 'Add Additional Passive Key' and follow the on-screen instructions to complete the operation.



**Add keys with HW03D OBD cable when KVM/RFA is unlocked on 2010 to 2025+ vehicles.**

**Add keys with HW03D OBD cable when RFA is locked on 2021+ EVA-2 vehicles when 2 working keys are found.**  
EVA-2 vehicles can be identified by R8E2 or M8E2 BCM's. FK72 and HPLA modules are locked on vehicles up to 2021. 2021+ vehicles undergo BCM mitigation updates by Jaguar and Land Rover dealerships, which locks the BCM.  
**Locked BCM's can be unlocked with the SW28 service function.**

## 6.2 Add Key from Dump File

### Connect HW04 via USB

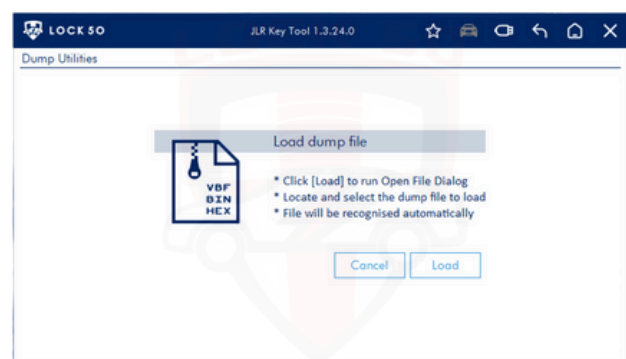
Place the key inside the cradle on the HW04 device.



Select 'File Utilities'.



Select 'Load' to run Open File Dialog and follow the on-screen instructions to complete the operation.



**Note:** Add Keys from KVM/RFA with File Utilities on 2010 to 2025+ vehicles. Emergency Start not supported.

## 7. Service Functions

### 7.1 SW28 RFA Replacement Function

New RFA's can not be adapted to 2021+ JLR vehicles without first replacing the locked BCM on vehicles that have returned to the dealership for software updates. The SW28 RFA Replacement function enables you to replace/adapt a new RFA without replacing the locked BCM (R8E2 and M8E2 Supported). Additionally, the SW28 function allows you to program spare keys or lost keys without replacing the BCM when locked when mitigation updates have been applied.



**Note:** SW28 RFA Replacement function is not included with the HW04 series device, and is available only as a paid-service or as a one-time purchase for anytime use. This does not apply to HW04 PAYG devices.

### 7.2 SW36 Key Duplicator Function

Key Duplicator supports 2017 to 2025+ JLR vehicles equipped with *Ultra-Wide Band*, UWB and PEPS, *Passive-Entry*, *Passive-Start* systems. The SW36 Key Duplicator function enables you to program new keys with emergency-start, remote function, and full keyless function when the RFA is locked, or when the RFA and BCM are simultaneously locked. This function allows you to program keys in UWB/PEPS equipped vehicles without changing any modules.



**Note:** HW13/HW14 keys are required to use this function. This function is included in the HW04C device and is available for HW04A and HW04B devices as a paid-service or as a one-time purchase for anytime use.

## 8. JLR Vehicles Supported

### 8.1 Jaguar Vehicles Supported

E-Pace X540	F-Pace X761	F-Type X152	I-Pace X590	XE X760	XF X250	XF X260	XJ X351	XK X150
								
E-PACE	F-PACE	F-TYPE	I-PACE	XE	XF	XF	XJ	XF
2026	2026	2026	2026	2026	2015	2026	2020	2015
2025	2025	2025	2025	2025	2014	2025	2019	2014
2024	2024	2024	2024	2024	2020	2024	2018	2013
2023	2023	2023	2023	2023		2023	2017	
2022	2022	2022	2022	2022		2022	2016	
2021	2021	2021	2021	2021		2021	2015	
2020	2020	2020	2020	2020		2020	2014	
2019	2019	2019	2019	2019		2019	2013	
2018	2018	2018		2018		2018	2012	
	2017	2017		2017		2017	2011	
		2016		2016		2016	2010	
		2015						
		2014						

*All Jaguar vehicles listed are supported by the HW04 series JLR technical key-tool.*

**X250 XF 2010-2015**

YEAR	KEY TYPE	RFA STATUS			ALARM-OFF	COPY	ADD
2010	HW05 to HW10	Unlocked			HW03B/HW03D		HW03D
2011	HW05 to HW10	Unlocked			HW03B/HW03D		HW03D
2012	HW05 to HW10	Unlocked			HW03B/HW03D		HW03D
2013	HW05 to HW10	Unlocked			HW03B/HW03D		HW03D
2014	HW05 to HW10	Unlocked			HW03B/HW03D		HW03D
2015	HW05 to HW10	Unlocked			HW03B/HW03D		HW03D

**X351 XJ 2010-2019**

YEAR	KEY TYPE	RFA STATUS			ALARM-OFF	COPY	ADD
2010	HW05 to HW10	Unlocked			HW03B/HW03D		HW03D
2011	HW05 to HW10	Unlocked			HW03B/HW03D		HW03D
2012	HW05 to HW10	Unlocked			HW03B/HW03D		HW03D
2013	HW05 to HW10	Unlocked			HW03B/HW03D		HW03D
2014	HW05 to HW10	Unlocked			HW03B/HW03D		HW03D
2015	HW05 to HW10	Unlocked			HW03B/HW03D		HW03D

**X152 F-TYPE 2014-2024**

YEAR	KEY TYPE	RFA STATUS			ALARM-OFF	COPY	ADD
2014	HW05 to HW10	Unlocked			HW03B/HW03D		HW03D
2015	HW05 to HW10	Unlocked			HW03B/HW03D		HW03D

**Note:** Add Keys directly via OBD using the HW03D OBD cable when the RFA is Unlocked.

**X351 XJ 2010-2019**

YEAR	KEY TYPE	RFA STATUS			ALARM-OFF	COPY	ADD
2016	HW05 to HW10	Locked			HW03B/HW03D	HW03D	
2017	HW05 to HW10	Locked			HW03B/HW03D	HW03D	
2018	HW05 to HW10	Locked			HW03B/HW03D	HW03D	
2019	HW05 to HW10	Locked			HW03B/HW03D	HW03D	

**X152 F-TYPE 2014-2024**

YEAR	KEY TYPE	RFA STATUS			ALARM OFF	COPY	ADD
2016	HW05 to HW10	Locked			HW03B/HW03D	HW03D	
2017	HW05 to HW10	Locked			HW03B/HW03D	HW03D	
2018	HW05 to HW10	Locked			HW03B/HW03D	HW03D	
2019	HW05 to HW10	Locked			HW03B/HW03D	HW03D	
2020	HW05 to HW10	Locked			HW03B/HW03D	HW03D	
2021	HW05 to HW10	Locked			HW03B/HW03D	HW03D	
2022	HW05 to HW10	Locked			HW03B/HW03D	HW03D	
2023	HW05 to HW10	Locked			HW03B/HW03D	HW03D	
2024	HW05 to HW10	Locked			HW03B/HW03D	HW03D	

**X260 XF 2016-PRESENT**

YEAR	KEY TYPE	RFA STATUS			ALARM OFF	COPY	ADD
2016	HW05 to HW10	Locked			HW03B/HW03D	HW03D	
2017	HW05 to HW10	Locked			HW03B/HW03D	HW03D	
2018	HW05 to HW10	Locked			HW03B	HW03D	
2019	HW05 to HW10	Locked			HW03B	HW03D	
2020	HW05 to HW10	Locked			HW03B	HW03D	
2021	HW13 & HW14	Locked			HW03C	HW03C	
2022	HW13 & HW14	Locked			HW03C	HW03C	
2023	HW13 & HW14	Locked			HW03C	HW03C	
2024	HW13 & HW14	Locked			HW03C	HW03C	
2025	HW13 & HW14	Locked			HW03C	HW03C	

**X760 XE 2016-2024**

YEAR	KEY TYPE	RFA STATUS			ALARM OFF	COPY	ADD
2016	HW05 to HW10	Locked			HW03B/HW03D	HW03D	
2017	HW05 to HW10	Locked			HW03B/HW03D	HW03D	
2018	HW05 to HW10	Locked			HW03B	HW03D	
2019	HW05 to HW10	Locked			HW03B	HW03D	
2020	HW13 & HW14	Locked			HW03C	HW03C	
2021	HW13 & HW14	Locked			HW03C	HW03C	
2022	HW13 & HW14	Locked			HW03C	HW03C	
2023	HW13 & HW14	Locked			HW03C	HW03C	
2024	HW13 & HW14	Locked			HW03C	HW03C	

**X761 F-PACE 2017-PRESENT**

YEAR	KEY TYPE	RFA STATUS			ALARM OFF	COPY	ADD
2017	HW05 to HW10	Locked			HW03B/HW03D	HW03D	
2018	HW05 to HW10	Locked			HW03B	HW03D	
2019	HW05 to HW10	Locked			HW03B	HW03D	
2020	HW05 to HW10	Locked			HW03B	HW03D	
2021	HW13 & HW14	Locked			HW03C	HW03C	
2022	HW13 & HW14	Locked			HW03C	HW03C	
2023	HW13 & HW14	Locked			HW03C	HW03C	
2024	HW13 & HW14	Locked			HW03C	HW03C	
2025	HW13 & HW14	Locked			HW03C	HW03C	

**X540 E-PACE 2018-PRESENT**

YEAR	KEY TYPE	RFA STATUS			ALARM OFF	COPY	ADD
2018	HW13 & HW14	Locked			HW03B/HW03D	HW03C	
2019	HW13 & HW14	Locked			HW03B/HW03D	HW03C	
2020	HW13 & HW14	Locked			HW03B/HW03D	HW03C	
2021	HW13 & HW14	Locked			HW03B	HW03C	
2022	HW13 & HW14	Locked			HW03C	HW03C	
2023	HW13 & HW14	Locked			HW03C	HW03C	
2024	HW13 & HW14	Locked			HW03C	HW03C	
2025	HW13 & HW14	Locked			HW03C	HW03C	





**X590 I-PACE 2019-PRESENT**

YEAR	KEY TYPE	RFA STATUS			ALARM OFF	COPY	ADD
2019	HW13 & HW14	Locked			HW03B	HW03C	
2020	HW13 & HW14	Locked			HW03B	HW03C	
2021	HW13 & HW14	Locked			HW03C	HW03C	
2022	HW13 & HW14	Locked			HW03C	HW03C	
2023	HW13 & HW14	Locked			HW03C	HW03C	
2024	HW13 & HW14	Locked			HW03C	HW03C	
2025	HW13 & HW14	Locked			HW03C	HW03C	

**Note:** Key copy with the HW03C RFA Adapter requires the HW04C device. The SW36 Key Duplicator, paid-service function is required for HW04A and HW04B devices to copy keys for UWB enabled vehicles using the HW03C RFA Adapter. Once two keys are learned, you can proceed to Add Additional Keys via OBD. For non-UWB vehicles, use the HW03D OBD cable to copy keys using Key Duplicator when the RFA is locked.



8.2 Land Rover Vehicles Supported

Defender L633	Discovery Sport L550	Discovery 4 L319	Discovery 5 L462
			
DEFENDER	DISCOVERY SPORT	DISCOVERY	DISCOVERY
<div><div>✓</div>2026</div>	<div><div>✓</div>2026</div>	<div><div>✓</div>2016</div>	<div><div>✓</div>2026</div>
<div><div>✓</div>2025</div>	<div><div>✓</div>2025</div>	<div><div>✓</div>2015</div>	<div><div>✓</div>2025</div>
<div><div>✓</div>2024</div>	<div><div>✓</div>2024</div>	<div><div>✓</div>2014</div>	<div><div>✓</div>2024</div>
<div><div>✓</div>2023</div>	<div><div>✓</div>2023</div>	<div><div>✓</div>2013</div>	<div><div>✓</div>2023</div>
<div><div>✓</div>2022</div>	<div><div>✓</div>2022</div>	<div><div>✓</div>2014</div>	<div><div>✓</div>2022</div>
<div><div>✓</div>2021</div>	<div><div>✓</div>2021</div>	<div><div>✓</div>2013</div>	<div><div>✓</div>2021</div>
<div><div>✓</div>2020</div>	<div><div>✓</div>2020</div>	<div><div>✓</div>2012</div>	<div><div>✓</div>2020</div>
	<div><div>✓</div>2016</div>	<div><div>✓</div>2011</div>	<div><div>✓</div>2019</div>
	<div><div>✓</div>2015</div>	<div><div>✓</div>2010</div>	<div><div>✓</div>2018</div>
			<div><div>✓</div>2017</div>

All Jaguar vehicles listed are supported by the HW04 series JLR technical key-tool.



### L319 DISCOVERY 4 2010-2016

YEAR	KEY TYPE	RFA STATUS			ALARM OFF	COPY	ADD
2010	HW05 to HW10	Unlocked			HW03B/HW03D		HW03D
2011	HW05 to HW10	Unlocked			HW03B/HW03D		HW03D
2012	HW05 to HW10	Unlocked			HW03B/HW03D		HW03D
2013	HW05 to HW10	Unlocked			HW03B/HW03D		HW03D
2014	HW05 to HW10	Unlocked			HW03B/HW03D		HW03D
2015	HW05 to HW10	Unlocked			HW03B/HW03D		HW03D
2016	HW05 to HW10	Unlocked			HW03B/HW03D		HW03D

**Note:** Add Keys directly via OBD using the HW03D OBD cable when the RFA is Unlocked.

## L550 DISCOVERY SPORT 2015-PRESENT

YEAR	KEY TYPE	RFA STATUS			ALARM OFF	COPY	ADD
2015	HW05 to HW10	Locked			HW03B/HW03D	HW03D	
2016	HW05 to HW10	Locked			HW03B/HW03D	HW03D	
2017	HW05 to HW10	Locked			HW03B/HW03D	HW03D	
2018	HW05 to HW10	Locked			HW03B/HW03D	HW03D	
2019	HW05 to HW10	Locked			HW03B/HW03D	HW03D	
2020	HW13 & HW14	Locked			HW03B	HW03C	
2021	HW13 & HW14	Locked			HW03B	HW03C	
2022	HW13 & HW14	Locked			HW03B	HW03C	
2023	HW13 & HW14	Locked			HW03B	HW03C	
2024	HW13 & HW14	Locked			HW03C	HW03C	
2025	HW13 & HW14	Locked			HW03C	HW03C	

## L462 DISCOVERY 2017-PRESENT









YEAR	KEY TYPE	RFA STATUS			ALARM OFF	COPY	ADD
2017	HW05 to HW10	Locked			HW03B	HW03D	
2018	HW13 & HW14	Locked			HW03B	HW03C	
2019	HW13 & HW14	Locked			HW03B	HW03C	
2020	HW13 & HW14	Locked			HW03B	HW03C	
2021	HW13 & HW14	Locked			HW03C	HW03C	
2022	HW13 & HW14	Locked			HW03C	HW03C	
2023	HW13 & HW14	Locked			HW03C	HW03C	
2024	HW13 & HW14	Locked			HW03C	HW03C	
2025	HW13 & HW14	Locked			HW03C	HW03C	

## L663 DEFENDER 2020-PRESENT

YEAR	KEY TYPE	RFA STATUS			ALARM OFF	COPY	ADD
2020	HW13 & HW14	Locked			HW03C	HW03C	
2021	HW13 & HW14	Locked			HW03C	HW03C	
2022	HW13 & HW14	Locked			HW03C	HW03C	
2023	HW13 & HW14	Locked			HW03C	HW03C	
2024	HW13 & HW14	Locked			HW03C	HW03C	
2025	HW13 & HW14	Locked			HW03C	HW03C	

**Note:** Key copy with the HW03C RFA Adapter requires the HW04C device. The SW36 Key Duplicator, paid-service function is required for HW04A and HW04B devices to copy keys for UWB enabled vehicles using the HW03C RFA Adapter. Once two keys are learned, you can proceed to Add Additional Keys via OBD. For non-UWB vehicles, use the HW03D OBD cable to copy keys using Key Duplicator when the RFA is locked.

8.3 Range Rover Vehicles Supported

New Range Rover L460	Range Rover L406	Range Rover L322	New Range Rover Sport L461	Range Rover Sport L494	Range Rover Velar L560	New Range Rover Evouqe L551	Range Rover Evouqe L538
							
NEW RANGE ROVER	RANGE ROVER	RANGE ROVER	NEW RANGE ROVER SPORT	RANGE ROVER SPORT	RANGE ROVER VELAR	NEW RANGE ROVER EVOQUE	NEW RANGE ROVER EVOQUE
✓ 2026	✓ 2022	✓ 2012	✓ 2026	✓ 2022	✓ 2026	✓ 2026	✓ 2018
✓ 2025	✓ 2021	✓ 2011	✓ 2025	✓ 2021	✓ 2025	✓ 2025	✓ 2017
✓ 2024	✓ 2020	✓ 2010	✓ 2024	✓ 2020	✓ 2024	✓ 2024	✓ 2016
✓ 2023	✓ 2019	✓ 2009	✓ 2023	✓ 2019	✓ 2023	✓ 2023	✓ 2015
✓ 2022	✓ 2018			✓ 2018	✓ 2022	✓ 2022	✓ 2014
	✓ 2017			✓ 2017	✓ 2021	✓ 2021	✓ 2013
	✓ 2016			✓ 2016	✓ 2020	✓ 2020	✓ 2012
	✓ 2015			✓ 2015	✓ 2019	✓ 2019	✓ 2011
	✓ 2014			✓ 2014	✓ 2018		
	✓ 2013						

All Jaguar vehicles listed are supported by the HW04 series JLR technical key-tool.

### L538 RANGE ROVER EVOQUE 2012-2019

YEAR	KEY TYPE	RFA STATUS			ALARM-OFF	COPY	ADD
2012	HW05 to HW10	Unlocked			HW03B/HW03D		HW03D
2013	HW05 to HW10	Unlocked			HW03B/HW03D		HW03D
2014	HW05 to HW10	Unlocked			HW03B/HW03D		HW03D

**Note:** Add Keys directly via OBD using the HW03D OBD cable when the RFA is Unlocked.

**L538 RANGE ROVER EVOQUE 2012-2019**

YEAR	KEY TYPE	RFA STATUS			ALARM OFF	COPY	ADD
2015	HW05 to HW10	Locked			HW03B/HW03D	OBD	
2016	HW05 to HW10	Locked			HW03B/HW03D	OBD	
2017	HW05 to HW10	Locked			HW03B/HW03D	OBD	
2018	HW05 to HW10	Locked			HW03B/HW03D	OBD	
2019	HW05 to HW10	Locked			HW03B/HW03D	OBD	

**L405 RANGE ROVER 2013-2022**

YEAR	KEY TYPE	RFA STATUS			ALARM OFF	COPY	ADD
2013	HW05 to HW10	Unlocked				HW03D	
2014	HW05 to HW10	Unlocked			HW03B/HW03D	HW03D	
2015	HW05 to HW10	Locked			HW03B/HW03D	HW03D	
2016	HW05 to HW10	Locked			HW03B/HW03D	HW03D	
2017	HW05 to HW10	Locked			HW03B	HW03C	
2018	HW13 & HW14	Locked			HW03B	HW03C	
2019	HW13 & HW14	Locked			HW03B	HW03C	
2020	HW13 & HW14	Locked			HW03B	HW03C	
2021	HW13 & HW14	Locked			HW03B	HW03C	
2022	HW13 & HW14	Locked			HW03B	HW03C	

**L494 RANGE ROVER SPORT 2014-2022**

YEAR	KEY TYPE	RFA STATUS			ALARM OFF	COPY	ADD
2014	HW05 to HW10	Unlocked			HW03B/HW03D	HW03D	
2015	HW05 to HW10	Locked			HW03B/HW03D	HW03D	
2016	HW05 to HW10	Locked			HW03B/HW03D	HW03D	
2017	HW05 to HW10	Locked			HW03B	HW03D	
2018	HW13 & HW14	Locked			HW03B	HW03C	
2019	HW13 & HW14	Locked			HW03B	HW03C	
2020	HW13 & HW14	Locked			HW03B	HW03C	
2021	HW13 & HW14	Locked			HW03B	HW03C	
2022	HW13 & HW14	Locked			HW03B	HW03C	

**L560 VELAR 2018-PRESENT**

YEAR	KEY TYPE	RFA STATUS			ALARM OFF	COPY	ADD
2018	HW05 to HW10	Locked			HW03B	HW03D	
2019	HW05 to HW10	Locked			HW03B	HW03D	
2020	HW05 to HW10	Locked			HW03B	HW03D	
2021	HW13 & HW14	Locked			HW03C	HW03C	
2022	HW13 & HW14	Locked			HW03C	HW03C	
2023	HW13 & HW14	Locked			HW03C	HW03C	
2024	HW13 & HW14	Locked			HW03C	HW03C	
2025	HW13 & HW14	Locked			HW03C	HW03C	

**L551 NEW RANGE ROVER EVOQUE 2020-PRESENT**

YEAR	KEY TYPE	RFA STATUS			ALARM OFF	COPY	ADD
2020	HW13 & HW14	Locked			HW03B	HW03C	
2021	HW13 & HW14	Locked			HW03C	HW03C	
2022	HW13 & HW14	Locked			HW03C	HW03C	
2023	HW13 & HW14	Locked			HW03C	HW03C	
2024	HW13 & HW14	Locked			HW03C	HW03C	
2025	HW13 & HW14	Locked			HW03C	HW03C	

**L460 NEW RANGE ROVER 2022-PRESENT**

YEAR	KEY TYPE	RFA STATUS			ALARM OFF	COPY	ADD
2022	HW13 & HW14	Locked			HW03C	HW03C	
2023	HW13 & HW14	Locked			HW03C	HW03C	
2024	HW13 & HW14	Locked			HW03C	HW03C	
2025	HW13 & HW14	Locked			HW03C	HW03C	

**L461 NEW RANGE ROVER 2023-PRESENT**

YEAR	KEY TYPE	RFA STATUS			ALARM OFF	COPY	ADD
2023	HW13 & HW14	Locked			HW03C	HW03C	
2024	HW13 & HW14	Locked			HW03C	HW03C	
2025	HW13 & HW14	Locked			HW03C	HW03C	

**Note:** Key copy with the HW03C RFA Adapter requires the HW04C device. The SW36 Key Duplicator, paid-service function is required for HW04A and HW04B devices to copy keys for UWB enabled vehicles using the HW03C RFA Adapter. Once two keys are learned, you can proceed to Add Additional Keys via OBD. For non-UWB vehicles, use the HW03D OBD cable to copy keys using Key Duplicator when the RFA is locked.

## 9. TROUBLESHOOTING

The IAU module is located on the inside of the steering column, and is installed with a bolt.



The RFA module is located in the boot space, above the wheel arch, on the right side or the left side of the vehicle.



**Note:** use Topix Cloud for vehicle documentation to identify the location of control modules, antennas, and other vehicle components.

The CAN2 network is used to disarm the vehicle and can be found located on the side pillar of the passenger door (in most vehicles).

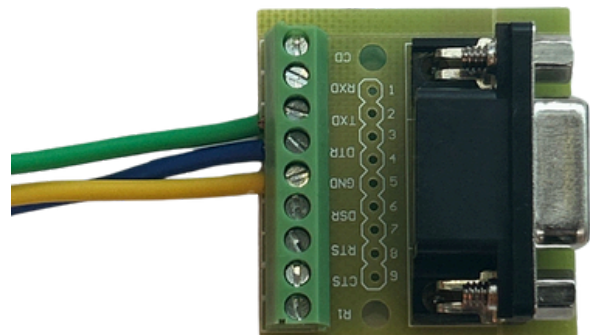
**Note:** use *Topix Cloud* for vehicle documentation to identify the location of the CAN2 bus on vehicles.



The HS CAN bus consists of a twisted-pair, and is colour coded: *Green* is CAN high. *Yellow* is CAN low.



CAN Wires connection on old HW03B Adapter  
*Green* is CAN high. *Yellow* is CAN low. *Blue* is IAU (used for RFA Replacement when the BCM locked).



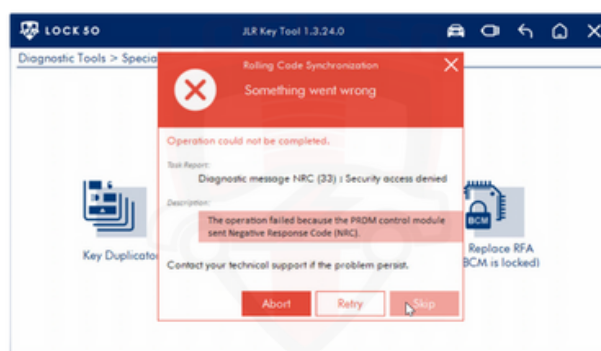


Prevent Windows Defender from deleting the Lock50® software application automatically.

- Open Windows Defender.
- **Virus & Threat Protection Settings.**
- Scroll down to **Exclusions** and select **Add or Remove Exclusions.**
- Select **Folder: C:\Program Files, Lock50 Software** to prevent Windows Defender from deleting it.

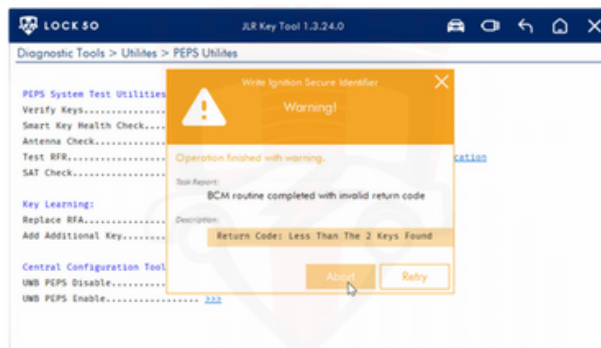
### Rolling Code Synchronisation during RFA Replacement. NRC (33). Security Access Denied.

This operation could not be completed because the PRDM module had uncleared DTC's. If similar errors occur, select *Skip* to complete the operation then enter [PEPS Utilities>BCM](#) and [Run Rolling Code Synchronisation](#) to resolve it.



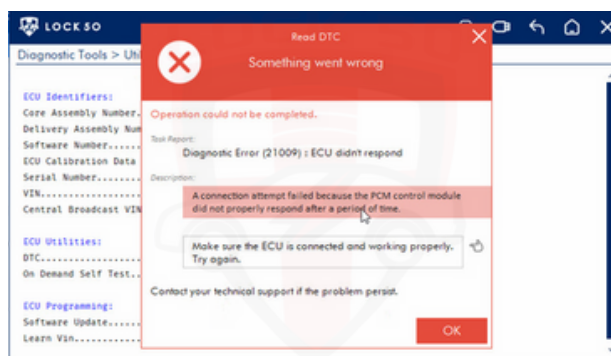
### BCM warning prompt when adding a key.

BCM routine completed with invalid return code. Return Code: Less Than 2 Keys Found. This prompt occurs when the BCM is locked and the SW28 RFA Replacement function is required to complete the operation.



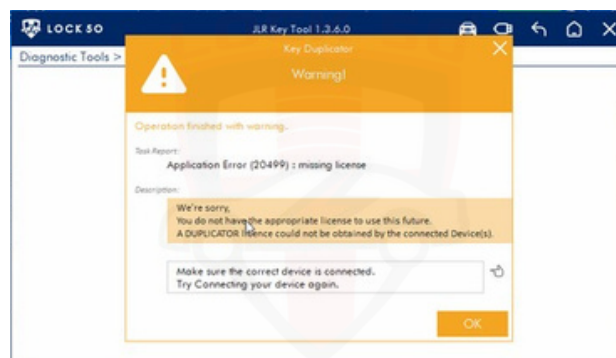
### Read DTC prompt during RFA Replacement.

Read DTC prompts with Diagnostic Error (21009): ECU didn't respond. This error occurs when the BCM is locked and the SW28 RFA Replacement function is required to complete the operation.



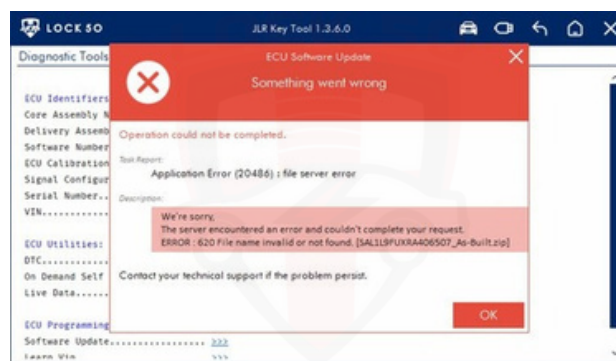
### Key Duplicator warning when duplicating a key.

Key Duplicator prompts with Application Error (20499): Missing License. Key Duplicator function is required to successfully complete this operation.



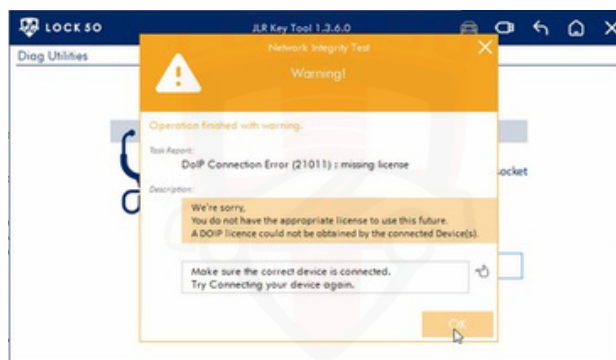
### ECU Software Update error prompt.

ECU Software Update prompts with Application Error (20486): File Server Error. This error occurs on the latest vehicles when the *As-Built* file is not yet available. Refer to Topix Cloud to acquire the latest *As-Built* file.



### Network Integrity Test warning using DoIP cable.

Network Integrity Test prompts with DoIP Connection Error (21011): Missing License. This occurs on HW04A devices where flashing where HW03E DoIP Ethernet cable is not supported and requires a license or upgrade to the HW04B device.



## 10. Lock50® Keys Matrix

	LOCK50 HW04			SUPPORTED FUNCTIONS			A B C	A B C	C
HWXX	OEM	Freq	CHIP TYPE	Change ID	Add Key Via JLR DEALER TOOL	PEPS UWB 2017 – 2025+	Add Key in DUMP	Can ADD KEY OBD IN ANY UNLOCKED RFA/KVM	Can ADD KEY OBD IN 21+ LOCKED RFA IF PVI PRO
HW05	NO	433	PCF7953	YES	YES		YES	YES	NOT APPLICABLE
HW06	NO	315	PCF7953	YES	YES		YES	YES	NOT APPLICABLE
HW07	YES	433	PCF7953	YES	YES		YES	YES	NOT APPLICABLE
HW08	YES	315	PCF7953	YES	YES		YES	YES	NOT APPLICABLE
HW09	YES	433	PCF7953	YES	YES		YES	YES	NOT APPLICABLE
HW10	YES	315	PCF7953	YES	YES		YES	YES	NOT APPLICABLE
HW11	NO	433	PCF7953	YES	YES		NO	NO	NOT APPLICABLE
HW12	NO	315	PCF7953	YES	YES		NO	NO	NOT APPLICABLE
HW13	NO	433	NCF29A1	YES	YES	NO	YES	YES	YES
HW14	NO	315	NCF29A1	YES	YES	NO	YES	YES	YES
HW15	YES	433	NCF29A1	NO	YES	NO	YES	YES	YES
HW16	YES	315	NCF29A1	NO	YES	NO	YES	YES	YES
HW17	NO	433	NFC29A1	NO	YES	NO	YES	YES	YES
HW18	NO	315	NCF29A1	NO	YES	NO	YES	YES	YES
HW19	YES	433	NCF29A1	NO	YES	NO	YES	YES	YES
HW20	YES	315	NCF29A1	NO	YES	NO	YES	YES	YES
HW21	YES	433	NCF29A1	NO	YES	YES	YES	YES	YES
HW22	YES	315	NCF29A1	NO	YES	YES	YES	YES	YES
HW23	YES	433	NCF29A1	NO	YES	YES	YES	YES	YES
HW24	YES	315	NCF29A1	NO	YES	YES	YES	YES	YES
HW25	YES	433	NCF29A1	NO	YES	YES	YES	YES	YES
HW26	YES	315	NCF29A1	NO	YES	YES	YES	YES	YES

	LOCK50 HW04			SUPPORTED FUNCTIONS			A B C	C	A B C	C	C
HWXX	OEM	Freq	CHIP TYPE	Change ID	Add Key Via JLR DEALER TOOL	PEPS UWB 2017 – 2025+	Can Copy To Using DUMP TO LOCK50 KEYS	Can Copy To Using CAN WIRES HW03-B TO LOCK50 KEYS	Can Copy From Unlocked KEY TO LOCK50 KEYS	Can Copy To Using HW04 OBD HW03-D	Can Copy To Using RFA/KVM HW03-C
HW05	NO	433	PCF7953	YES	YES		YES	YES	YES	YES	YES
HW06	NO	315	PCF7953	YES	YES		YES	YES	YES	YES	YES
HW07	YES	433	PCF7953	YES	YES		YES	YES	YES	YES	YES
HW08	YES	315	PCF7953	YES	YES		YES	YES	YES	YES	YES
HW09	YES	433	PCF7953	YES	YES		YES	YES	YES	YES	YES
HW10	YES	315	PCF7953	YES	YES		YES	YES	YES	YES	YES
HW11	NO	433	PCF7953	YES	YES		YES	YES	YES	NO	NO
HW12	NO	315	PCF7953	YES	YES		YES	YES	YES	NO	NO
HW13	NO	433	NCF29A1	YES	YES	NO	YES	YES	YES	YES	YES
HW14	NO	315	NCF29A1	YES	YES	NO	YES	YES	YES	YES	YES
HW15	YES	433	NCF29A1	NO	YES	NO	NO	NO	YES	NO	NO
HW16	YES	315	NCF29A1	NO	YES	NO	NO	NO	YES	NO	NO
HW17	NO	433	NFC29A1	NO	YES	NO	NO	NO	YES	NO	NO
HW18	NO	315	NCF29A1	NO	YES	NO	NO	NO	YES	NO	NO
HW19	YES	433	NCF29A1	NO	YES	NO	NO	NO	YES	NO	NO
HW20	YES	315	NCF29A1	NO	YES	NO	NO	NO	YES	NO	NO
HW21	YES	433	NCF29A1	NO	YES	YES	NO	NO	YES	NO	NO
HW22	YES	315	NCF29A1	NO	YES	YES	NO	NO	YES	NO	NO
HW23	YES	433	NCF29A1	NO	YES	YES	NO	NO	YES	NO	NO
HW24	YES	315	NCF29A1	NO	YES	YES	NO	NO	YES	NO	NO
HW25	YES	433	NCF29A1	NO	YES	YES	NO	NO	YES	NO	NO
HW26	YES	315	NCF29A1	NO	YES	YES	NO	NO	YES	NO	NO

**Note:** For best practise, always read the clients' key first.

Unlock the clients' key if the key is locked before running key duplicator.

Make sure key duplicator is **allowed** for key copy or the clients' key will not function correctly.

If **smart key not found, wrong key, battery low** message appears on the vehicle's display after key copy, place the key on the HW04 device and select *Identify Smart Key*. Proceed to *Sync Rolling Code* within *Key Utilities* and complete the process to restore the remote key with full functionality. Alternatively, complete the procedure by using two Lock50® keys.

## 10. Lock50® Key Programming Guide

### Lock50® Key Programming Guide Simplified

Vehicle Year	KVM/RFA Part Numbers	UWB Enabled/ UWB Disabled	Method	Key Functionality	Important Notes
2010–2013	AH22, BJ32, DPLA	Disabled	Add Keys via OBD (Do not use Key Duplicator)	Full functionality	Using Key Duplicator will cause loss of key function.
2013–2020	FK72, HPLA	Disabled	Key Duplicator via OBD	Full functionality	Direct copy supported.
2017–2020	Up to K8D2-19h440-AB	Disabled	Key Duplicator via OBD	Full functionality	Only for non-UWB systems.
2017–2025+	JPLA, J9C3, K8D2, M9R3	Enabled	Key Duplicator via RFA (with HW03C RFA cable)	Full functionality	OBD copy disables keyless entry (use RFA method).

#### ✓ If Key Duplicator Fails:

- Replace RFA (if allowed).
- If BCM is locked, use SW28 function to replace RFA **without** replacing BCM.

#### ✓ Reference.

- Always start with an OBD scan (HW03D cable).
- 2010–2013 models (AH22/BJ32/DPLA): *Do not use Key Duplicator*—add keys via OBD.
- Non-UWB (2017–2020): Use Key Duplicator via OBD to copy keys with full functionality.
- UWB-enabled (2017+): Use HW03C RFA cable + RFA method to copy keys with full functionality.



RFA Type	UWB On	UWB Off	RFA Status	
K8D2 AB-AC		Yes	If Locked	If Unlocked
JPLA/J9C3 K8D2 BB-BC M9R3 BD-BE	Yes		Turn UWB off in PEPS utilities and use key duplicator to add HW15 keys by OBD  Add HW17 keys by OBD only if 2 keys are learned	Add keys via OBD with A, B or C.

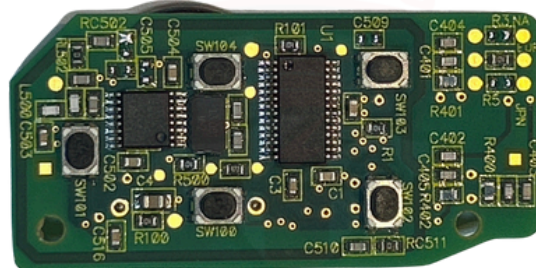
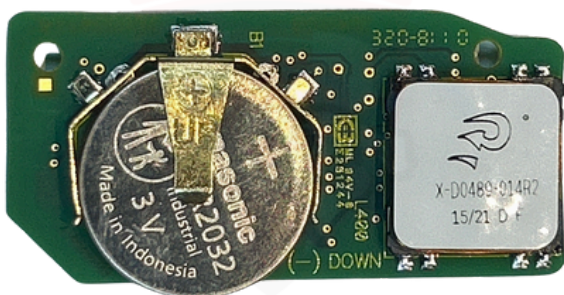
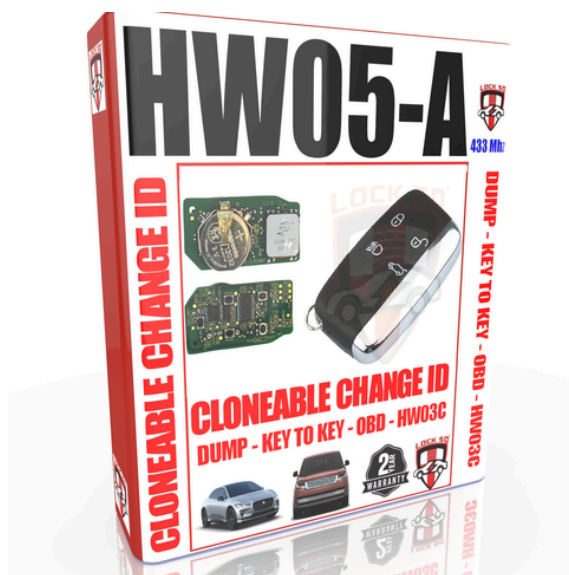
Do not use Key Duplicator via OBD on UWB-enabled vehicles with RFA modules: JPLA, J9C3, K8D2, M9R3.  
Using Key Duplicator to copy keys via OBD on UWB-enabled vehicles will disable keyless entry function.

## 10. Lock50® Keys

### 10.1 Working with Lock50® HW05-A Change-ID Keys

Lock50® HW05-A, 433Mhz JLR keys are designed with Change-ID technology.

They are designed for use with the Lock50® HW01 or HW04 series, JLR key-programming tools.



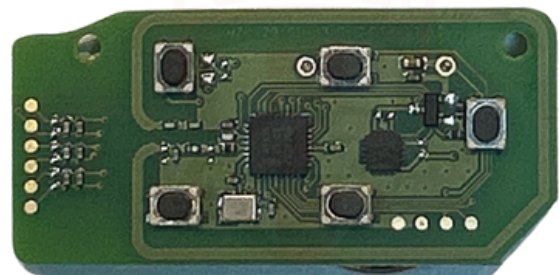
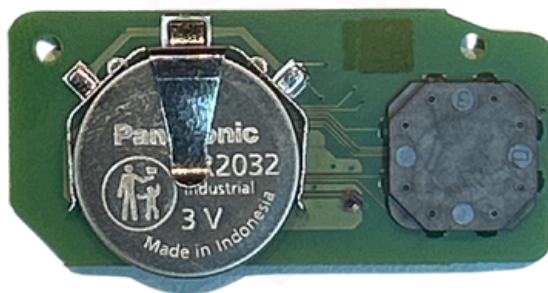
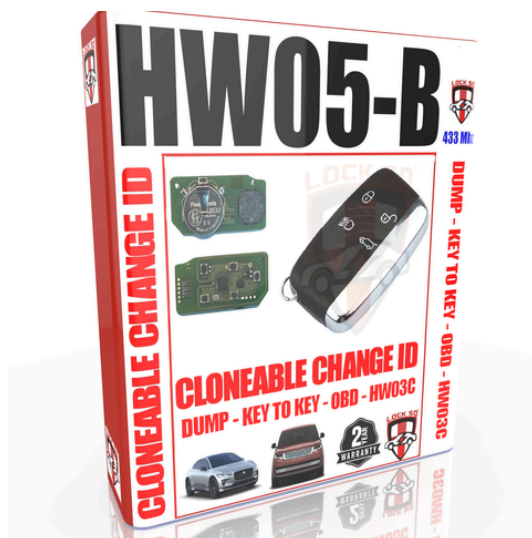
Lock50® HW05-A keys are made of high-grade quality with high-conductive gold-plated points, high-quality 433Mhz antenna, 3V Panasonic cell-battery, and hardened-plastic, protective casing with a polished, chrome-strip, and stainless steel blade. All keys come with 2 years warranty.



## 10.2 Working with Lock50® HW05-B Change-ID Keys

Lock50® HW0-5B, 433Mhz JLR keys are designed with Change-ID technology.

They are designed for use with the Lock50® HW01 or HW04 series, JLR key-programming tools.

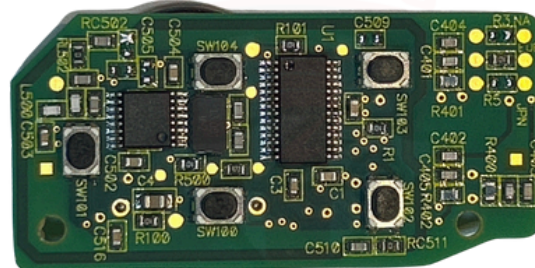
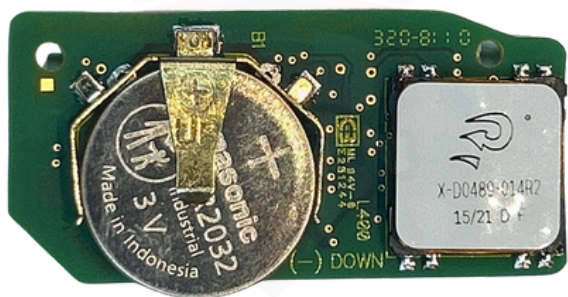
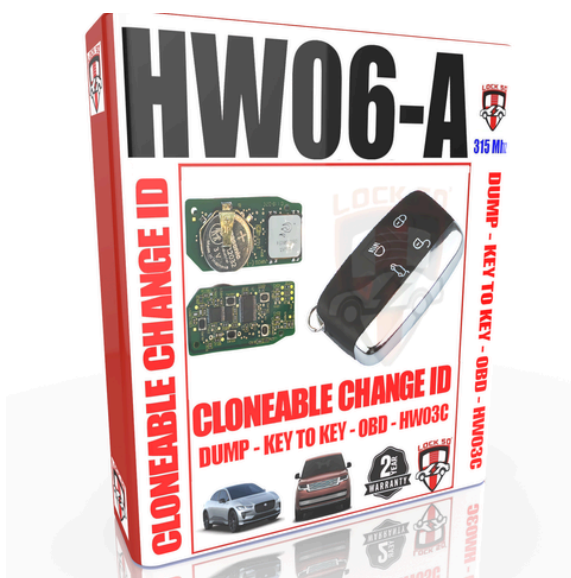


Lock50® HW05-B keys are made of medium-grade quality with a high-quality 433Mhz antenna, 3V Panasonic cell-battery, and hardened-plastic, protective casing with a polished, chrome-strip, and stainless steel blade. All keys come with 1 year warranty.

### 10.1 Working with Lock50® HW06-A Change-ID Keys

Lock50® HW06-A, 315Mhz JLR keys are designed with Change-ID technology.

They are designed for use with the Lock50® HW01 or HW04 series, JLR key-programming tools.



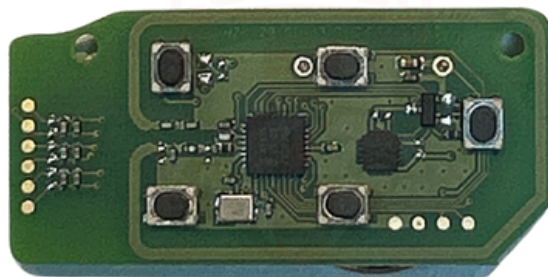
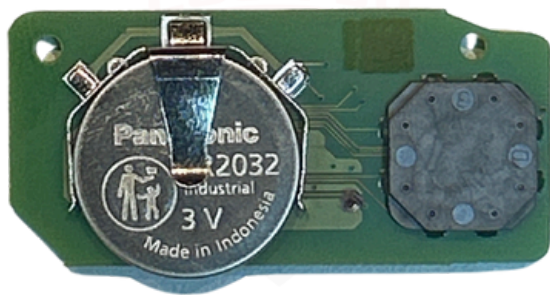
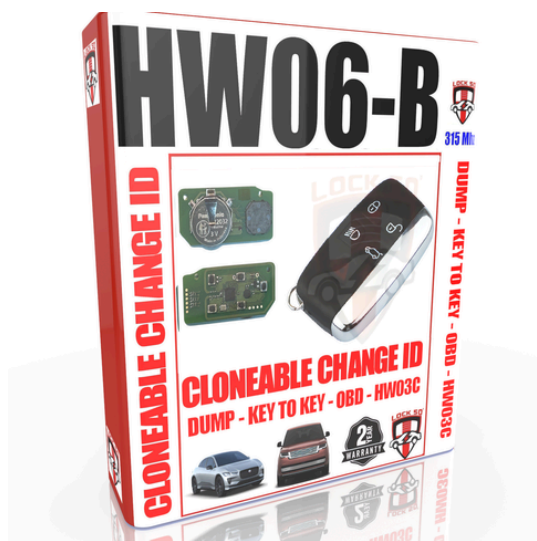
Lock50® HW06-A keys are made of high-grade quality with high-conductive gold-plated points, high-quality 315Mhz antenna, 3V Panasonic cell-battery, and hardened-plastic, protective casing with a polished, chrome-strip, and stainless steel blade. All keys come with 2 years warranty.



## 10.2 Working with Lock50® HW06-B Change-ID Keys

Lock50® HW06-B, 315Mhz JLR keys are designed with Change-ID technology.

They are designed for use with the Lock50® HW01 or HW04 series, JLR key-programming tools.

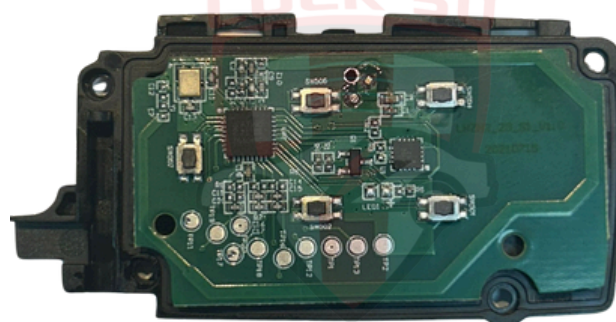
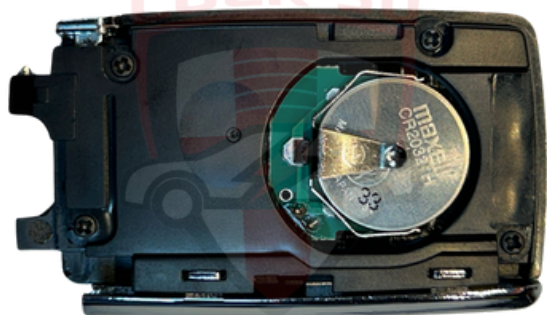


Lock50® HW06-B keys are made of medium-grade quality with a high-quality 315Mhz antenna, 3V Panasonic cell-battery, and hardened-plastic, protective casing with a polished, chrome-strip, and stainless steel blade. All keys come with 1 year warranty.

### 10.3 Working with Lock50® HW13 Change-ID Keys

Lock50® HW13, 433Mhz JLR keys are designed with Change-ID technology.

They are designed for use with the Lock50® HW01 or HW04 series, JLR key-programming tools.

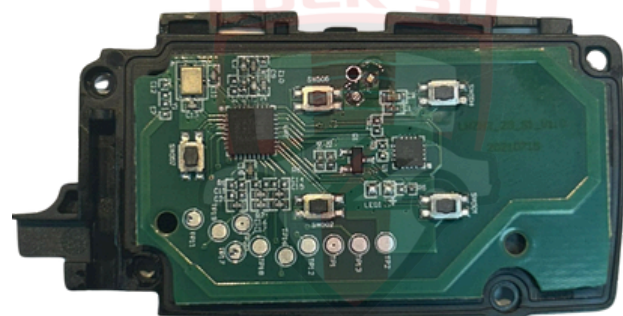


Lock50® HW13 keys are made of high-grade quality with high-conductive gold-plated points, high-quality 433Mhz antenna, 3V Maxell/Panasonic cell-battery, and hardened-plastic, screwed-down, protective- casing with a polished, stainless-steel blade. All keys come with 2 years warranty.

### 10.3 Working with Lock50® HW14 Change-ID Keys

Lock50® HW14, 315Mhz JLR keys are designed with Change-ID technology.

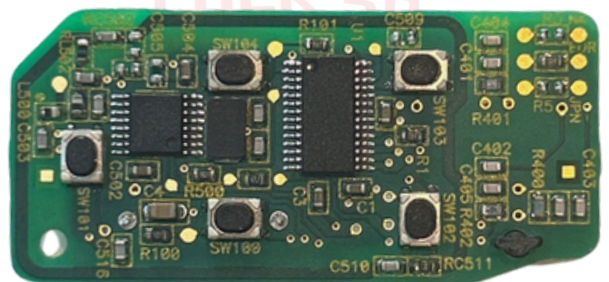
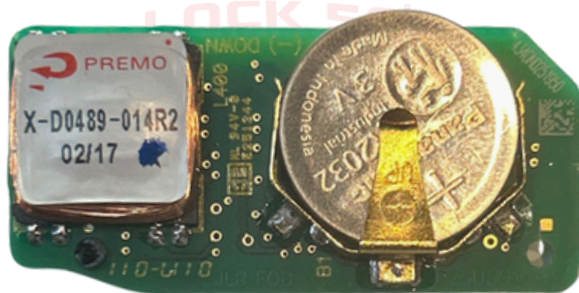
They are designed for use with the Lock50® HW01 or HW04 series, JLR key-programming tools.



Lock50® HW14 keys are made of high-grade quality with high-conductive gold-plated points, high-quality 315Mhz antenna, 3V Maxell/Panasonic cell-battery, and hardened-plastic, screwed-down, protective- casing with a polished, stainless-steel blade. All keys come with 2 years warranty.

#### 10.4 Working with HW07 OEM Change-ID Keys

Lock50® HW07, 433Mhz JLR OEM Change-ID keys are original Jaguar and Land Rover keys. They are designed for use with the Lock50® HW01 or HW04 series, JLR key-programming tools.

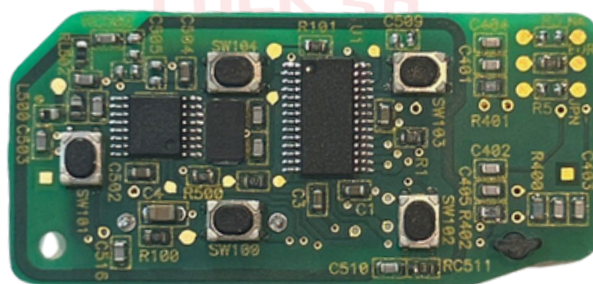


Lock50® HW07 JLR OEM keys are original manufacturer's keys made of high-grade quality with high-conductive gold-plated points, original 433Mhz antenna, Lithium cell-battery, and hardened-plastic, protective-casing with a polished, stainless-steel blade. All keys come with 2 years warranty.



#### 10.4 Working with HW08 OEM Change-ID Keys

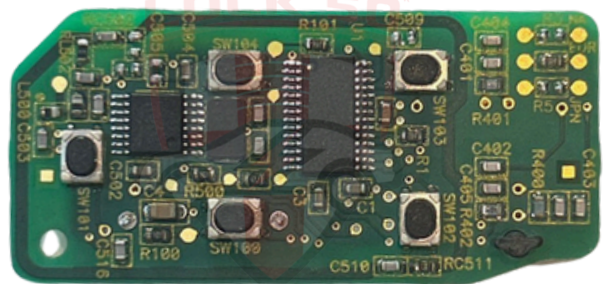
Lock50® HW08, 315Mhz JLR OEM Change-ID keys are original Jaguar and Land Rover keys. They are designed for use with the Lock50® HW01 or HW04 series, JLR key-programming tools.



Lock50® HW08 JLR OEM keys are original manufacturer's keys made of high-grade quality with high-conductive gold-plated points, original 315Mhz antenna, Lithium cell-battery, and hardened-plastic, protective-casing with a polished, stainless-steel blade. All keys come with 2 years warranty.

### 10.5 Working with HW09 OEM Change-ID Keys

Lock50® HW09, 433Mhz JLR OEM Change-ID keys are original Jaguar and Land Rover keys. They are designed for use with the Lock50® HW01 or HW04 series, JLR key-programming tools.



Lock50® HW09 JLR OEM keys are original manufacturer's keys made of high-grade quality with high-conductive gold-plated points, original 433Mhz antenna, Lithium cell-battery, Li-ion battery, and hardened-plastic, protective-casing with a polished, stainless-steel blade. All keys come with 2 years warranty.

### 10.5 Working with HW10 OEM Change-ID Keys

Lock50® HW10, 315Mhz JLR OEM Change-ID keys are original Jaguar and Land Rover keys. They are designed for use with the Lock50® HW01 or HW04 series, JLR key-programming tools.

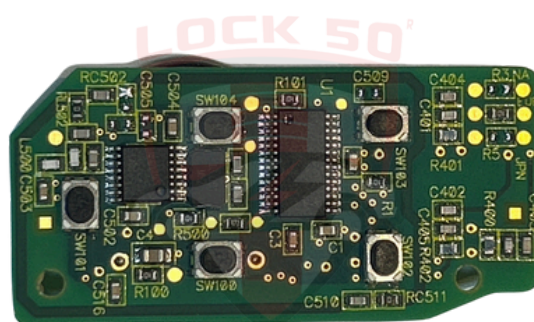
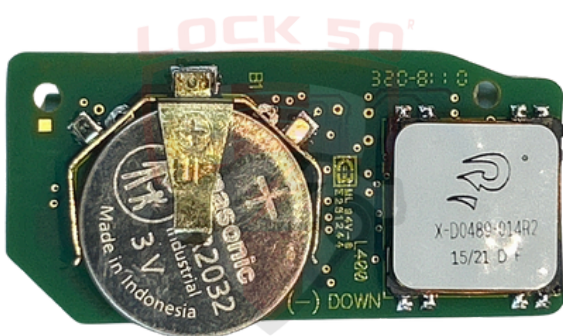


Lock50® HW10 JLR OEM keys are original manufacturer's keys made of high-grade quality with high-conductive gold-plated points, original 315Mhz antenna, Lithium cell-battery, Li-ion battery, and hardened-plastic, protective-casing with a polished, stainless-steel blade. All keys come with 2 years warranty.



## 10.6 Working with HW11-A Land Rover Defender Change-ID Keys

Lock50® HW11-A Land Rover Defender 2007 to 2016 Change-ID keys are aftermarket keys. They are designed for use with the Lock50® HW01 or HW04 series, JLR key-programming tools.

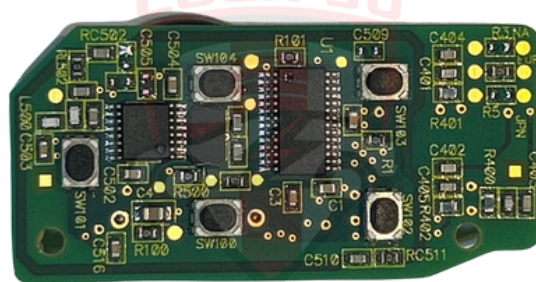


Lock50® HW11-A Land Rover Defender keys are made of high-grade quality with high-conductive gold-plated points, high-quality 433Mhz antenna, 3V Panasonic cell-battery, and hardened-plastic, protective casing with a polished, chrome-strip, and stainless steel blade. All keys come with 2 years warranty.



## 10.6 Working with HW11-B Land Rover Defender Change-ID Keys

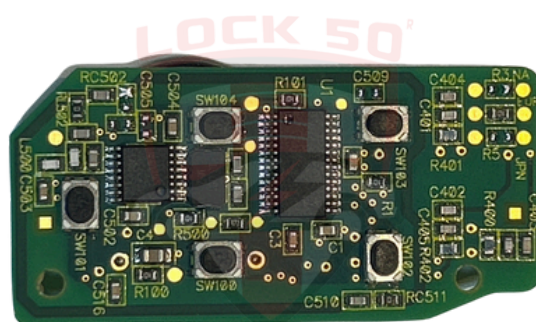
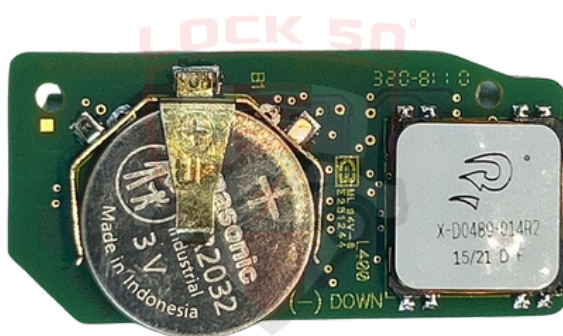
Lock50® HW11-B, 433Mhz Land Rover Defender 2007 to 2016 Change-ID keys are aftermarket keys. They are designed for use with the Lock50® HW01 or HW04 series, JLR key-programming tools.



Lock50® HW11-B Land Rover Defender keys are made of high-grade quality with high-conductive gold-plated points, high-quality 433Mhz antenna, 3V Panasonic cell-battery, and hardened-plastic, protective casing with a polished, chrome-strip, and stainless steel blade. All keys come with 2 years warranty.

### 10.6 Working with HW12-A Land Rover Defender Change-ID Keys

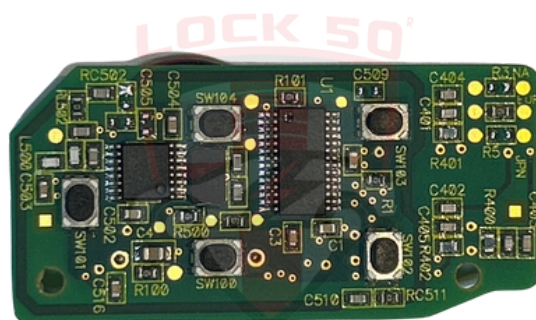
Lock50® HW12-A, 315Mhz Land Rover Defender 2007 to 2016 Change-ID keys are aftermarket keys. They are designed for use with the Lock50® HW01 or HW04 series, JLR key-programming tools.



Lock50® HW12-A Land Rover Defender keys are made of high-grade quality with high-conductive gold-plated points, high-quality 315Mhz antenna, 3V Panasonic cell-battery, and hardened-plastic, protective casing with a polished, chrome-strip, and stainless steel blade. All keys come with 2 years warranty.

## 10.6 Working with HW12-B Land Rover Defender Change-ID Keys

Lock50® HW12-B, 315Mhz Land Rover Defender 2007 to 2016 Change-ID keys are aftermarket keys. They are designed for use with the Lock50® HW01 or HW04 series, JLR key-programming tools.

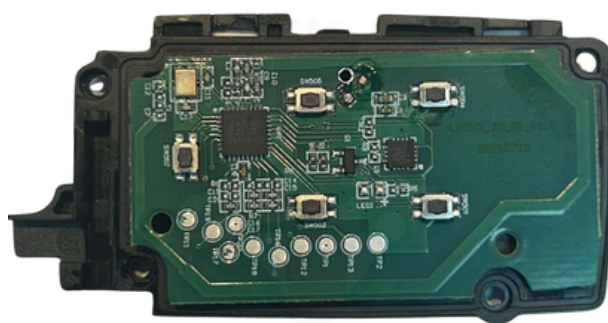
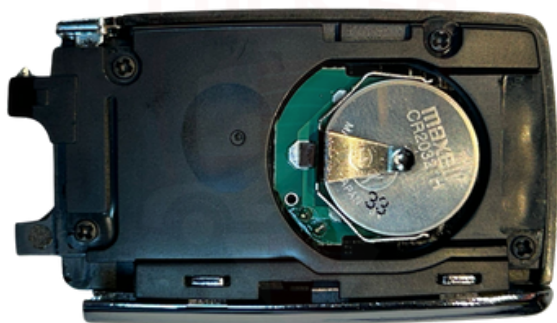


Lock50® HW12-B Land Rover Defender keys are made of high-grade quality with high-conductive gold-plated points, high-quality 315Mhz antenna, 3V Panasonic cell-battery, and hardened-plastic, protective casing with a polished, chrome-strip, and stainless steel blade. All keys come with 2 years warranty.



### 10.7 Working with HW15 PEPS, Non-UWB, OEM Keys

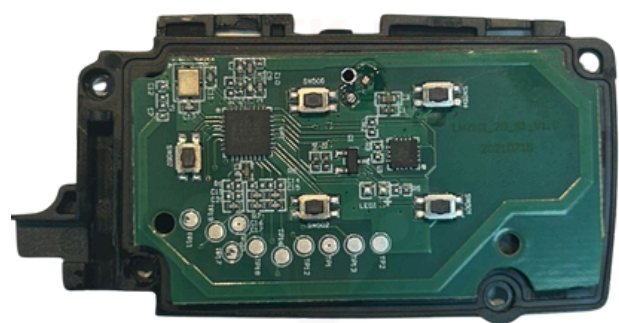
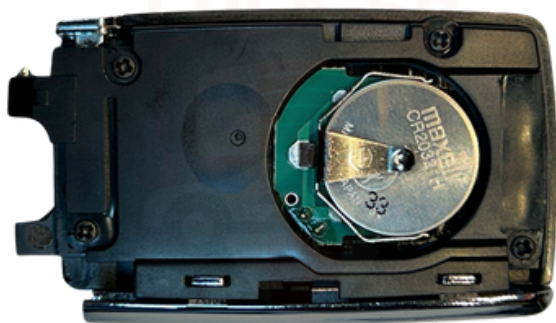
Lock50® HW15, PEPS, Non-UWB, OEM JLR keys are designed with Fixed-ID technology. They are designed for use with the Lock50® HW01 or HW04 series, JLR key-programming tools.



Lock50® HW15 PEPS, Non-UWB, OEM JLR keys are made of high-grade quality with high-conductive gold-plated points, high-quality 433Mhz antenna, 3V Maxell cell-battery, and hardened-plastic, screwed-down, protective-casing with a polished, stainless-steel blade. All keys come with 2 years warranty.

### 10.7 Working with HW16 PEPS, Non-UWB, OEM Keys

Lock50® HW16 PEPS, Non-UWB, OEM JLR keys are designed with Fixed-ID technology. They are designed for use with the Lock50® HW01 or HW04 series, JLR key-programming tools.

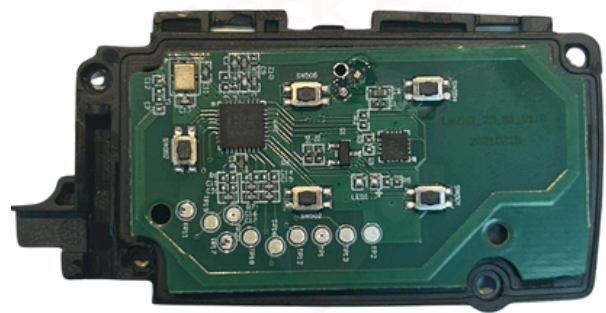
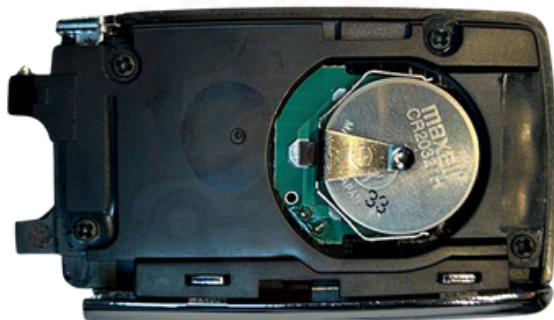


Lock50® HW16 PEPS, Non-UWB, OEM JLR keys are made of high-grade quality with high-conductive gold-plated points, high-quality 315Mhz antenna, 3V Maxell cell-battery, and hardened-plastic, screwed-down, protective-casing with a polished, stainless-steel blade. All keys come with 2 years warranty.

### 10.8 Working with HW17 PEPS, Non-UWB Aftermarket Keys

Lock50® HW17 PEPS, Non-UWB, JLR keys are designed with Fixed-ID technology.

They are designed for use with the Lock50® HW01 or HW04 series, JLR key-programming tools.

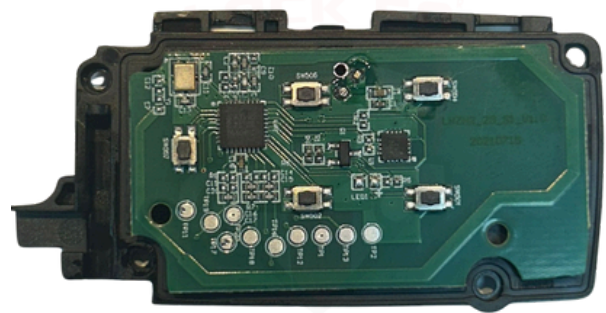
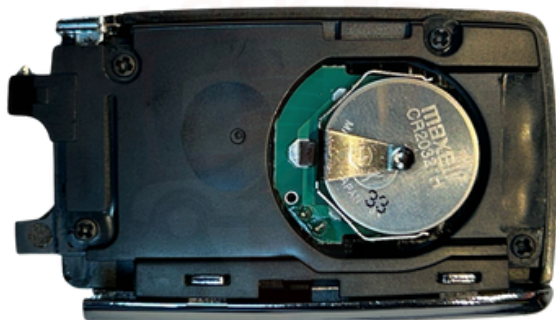


Lock50® HW17 keys are made of high-grade quality with high-conductive gold-plated points, high-quality 433Mhz antenna, 3V Maxell cell-battery, and hardened-plastic, screwed-down, protective-casing with a polished, stainless-steel blade. All keys come with 2 years warranty.

### 10.8 Working with HW18 PEPS, Non-UWB Aftermarket Keys

Lock50® HW18 PEPS, Non-UWB, JLR keys are designed with Fixed-ID technology.

They are designed for use with the Lock50® HW01 or HW04 series, JLR key-programming tools.

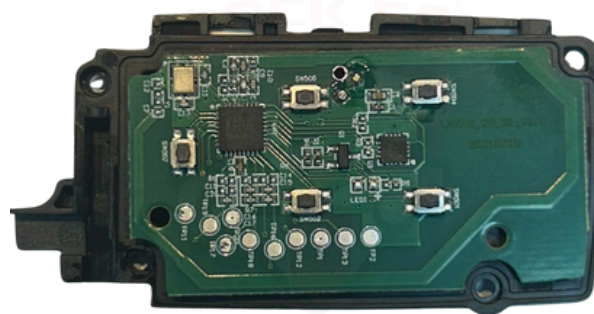
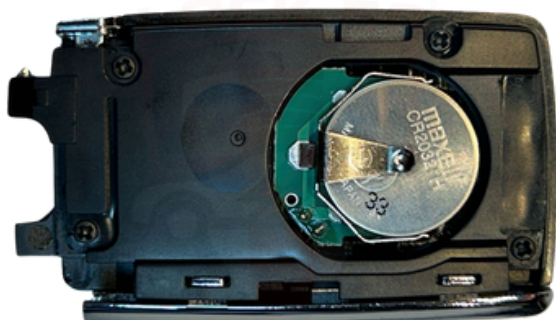


Lock50® HW18 keys are made of high-grade quality with high-conductive gold-plated points, high-quality 315Mhz antenna, 3V Maxell cell-battery, and hardened-plastic, screwed-down, protective-casing with a polished, stainless-steel blade. All keys come with 2 years warranty.



### 10.8 Working with HW19 PEPS, Non-UWB, JLR OEM Keys

Lock50® HW19 PEPS, Non-UWB, JLR OEM keys are designed with Fixed-ID technology. They are designed for use with the Lock50® HW01 or HW04 series, JLR key-programming tools.

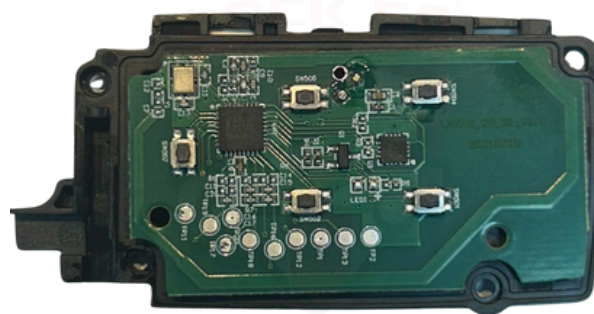
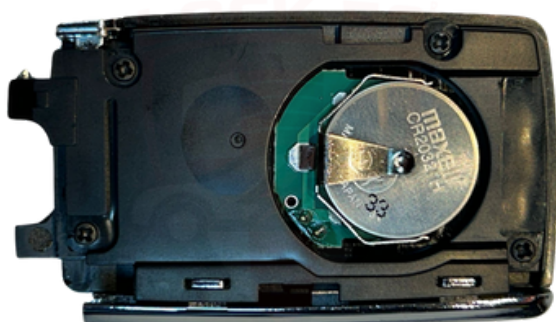


Lock50® HW19 PEPS, Non-UWB, JLR OEM keys are original keys made of high-grade quality with high-conductive gold-plated points, original antenna, 3V Maxell cell-battery and screwed-down, hardened- plastic, protective-casing with a polished, stainless-steel blade. All keys come with 2 years warranty.



### 10.8 Working with HW20 PEPS, Non-UWB, JLR OEM Keys

Lock50® HW20 PEPS, Non-UWB, JLR OEM keys are designed with Fixed-ID technology. They are designed for use with the Lock50® HW01 or HW04 series, JLR key-programming tools.

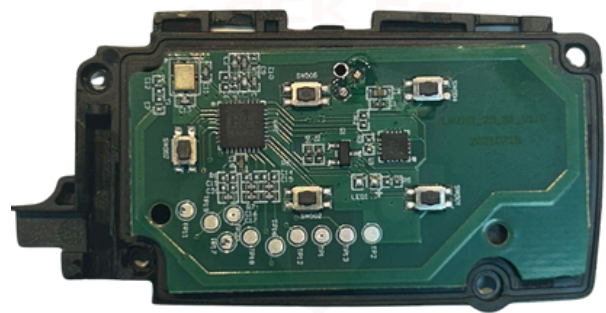
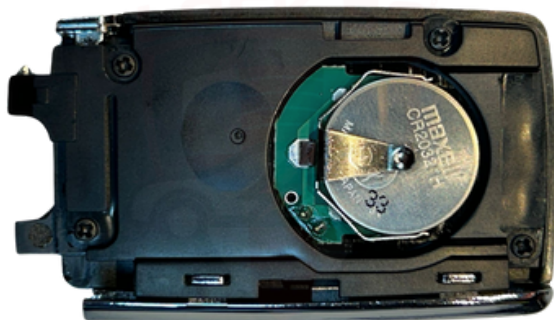


Lock50® HW20 PEPS, Non-UWB, JLR OEM keys are original keys made of high-grade quality with high-conductive gold-plated points, original antenna, 3V Maxell cell-battery and screwed-down, hardened-plastic, protective-casing with a polished, stainless-steel blade. All keys come with 2 years warranty.

### 10.8 Working with HW21, **PEPS/UWB**, JLR OEM Keys.

Lock50® HW21, **PEPS/UWB**, JLR OEM keys are original Jaguar and Land Rover keys.

They are designed for use with the Lock50® HW01 or HW04 series, JLR key-programming tools.

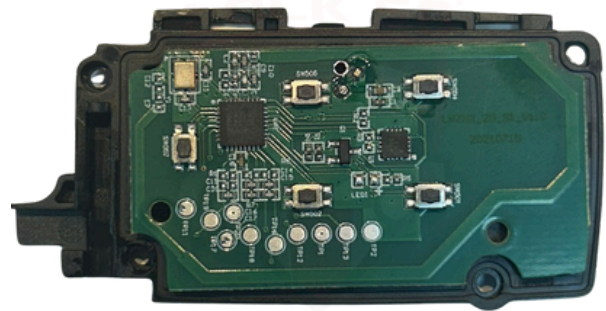
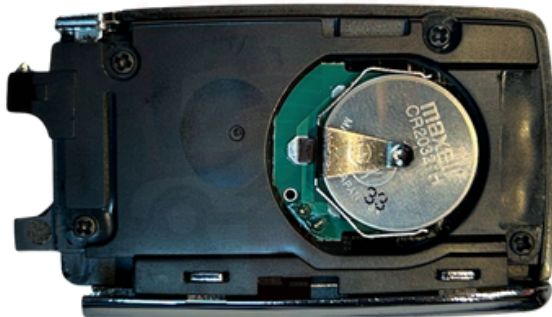


Lock50® HW21, **PEPS/UWB**, JLR OEM keys are original keys made of high-grade quality with high-conductive gold-plated points, original antenna, 3V Maxell cell-battery, Li-ion battery, and screwed-down, hardened-plastic, protective-casing with a polished, stainless-steel blade. All keys come with 2 years warranty.

### 10.8 Working with HW22, **PEPS/UWB**, JLR OEM Keys.

Lock50® HW22, **PEPS/UWB**, JLR OEM keys are original Jaguar and Land Rover keys.

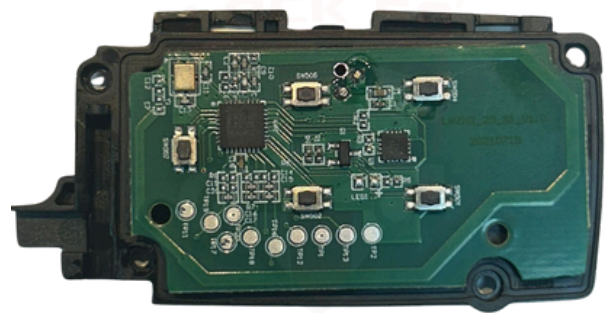
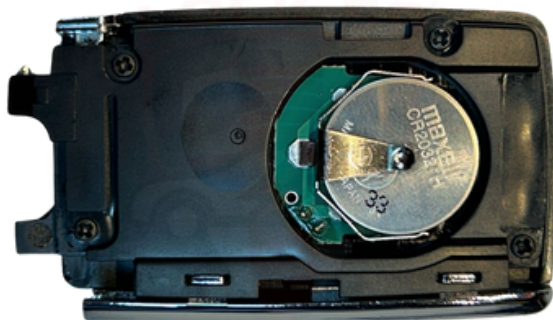
They are designed for use with the Lock50® HW01 or HW04 series, JLR key-programming tools.



Lock50® HW22, **PEPS/UWB**, JLR OEM keys are original keys made of high-grade quality with high-conductive gold-plated points, original antenna, 3V Maxell cell-battery, Li-ion battery, and screwed-down, hardened-plastic, protective-casing with a polished, stainless-steel blade. All keys come with 2 years warranty.

### 10.8 Working with HW23, PEPS/UWB, JLR OEM Keys

Lock50® HW23, **PEPS/UWB**, JLR OEM keys are original Jaguar and Land Rover keys. They are designed for use with the Lock50® HW01 or HW04 series, JLR key-programming tools.



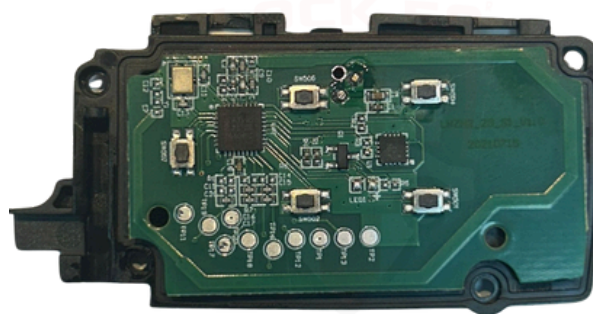
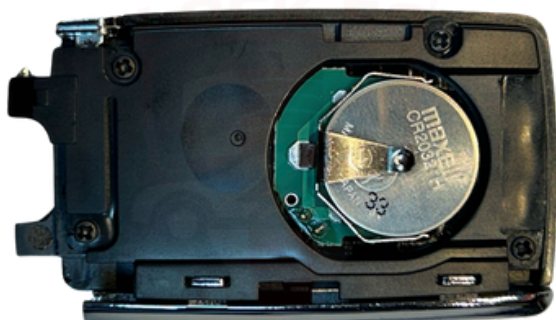
Lock50® HW23, **PEPS/UWB**, JLR OEM keys are original keys made of high-grade quality with high-conductive gold-plated points, original antenna, 3V Maxell cell-battery, Li-ion battery, and screwed-down, hardened-plastic, protective-casing with a polished, stainless-steel blade. All keys come with 2 years warranty.



### 10.8 Working with HW24, PEPS/UWB, JLR OEM Keys.

Lock50® HW24, **PEPS/UWB**, JLR OEM keys are original Jaguar and Land Rover keys.

They are designed for use with the Lock50® HW01 or HW04 series, JLR key-programming tools.

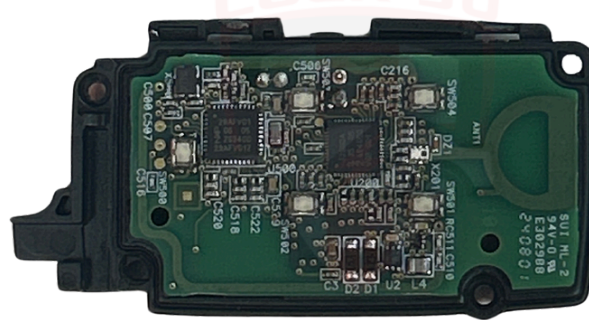


Lock50® HW24, **PEPS/UWB**, JLR OEM keys are original keys made of high-grade quality with high-conductive gold-plated points, original antenna, 3V Maxell cell-battery, Li-ion battery, and screwed-down, hardened-plastic, protective-casing with a polished, stainless-steel blade. All keys come with 2 years warranty.

### 10.9 Working with HW25, **PEPS/UWB**, JLR OEM Keys

Lock50® HW25, **PEPS/UWB** JLR OEM keys are original Jaguar and Land Rover keys.

They are designed for use with the Lock50® HW01 or HW04 series, JLR key-programming tools.

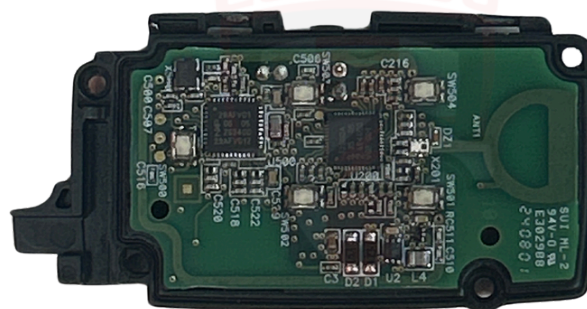


Lock50® HW25, **PEPS/UWB**, JLR OEM keys are original keys made of high-grade quality with high-conductive gold-plated points, original antenna, 3V Maxell cell-battery, Li-ion battery, and screwed-down, hardened-plastic, protective-casing with a polished, stainless-steel blade. All keys come with 2 years warranty.

### 10.9 Working with HW26, PEPS/UWB, JLR OEM Keys

Lock50® HW26, **PEPS/UWB**, JLR OEM keys are original Jaguar and Land Rover keys.

They are designed for use with the Lock50® HW01 or HW04 series, JLR key-programming tools.



Lock50® HW26, **PEPS/UWB**, JLR OEM keys are original keys made of high-grade quality with high-conductive gold-plated points, original antenna, 3V Maxell cell-battery, Li-ion battery, and screwed-down, hardened-plastic, protective-casing with a polished, stainless-steel blade. All keys come with 2 years warranty.

## 11. Cables

---

### HW03A SPC Adapter Clip

Read/Write Clip for Unlocked MCU.



### HW03B CAN Wires Alarm-Off Adapter Kit

For 2010 to 2022 CAN Vehicles.



### HW03C RFA Adapter Kit

For 2010 to 2025+ Vehicles.





---

**HW03D OBD Cable**  
For 2010 to 2022 CAN Vehicles.



**HW03E OBD Ethernet Cable**  
For 2021 to 2024+ DoIP Vehicles.

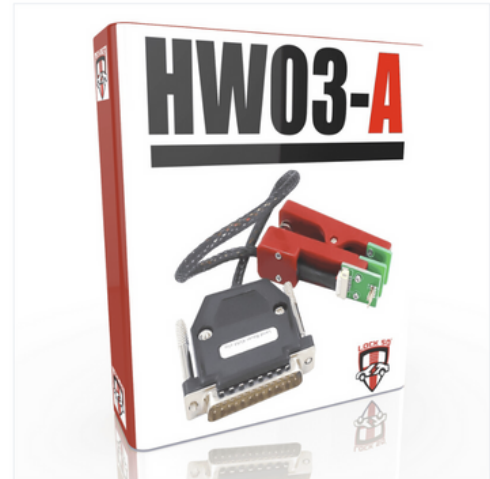


## 11. Alarm-Off Adapters

---

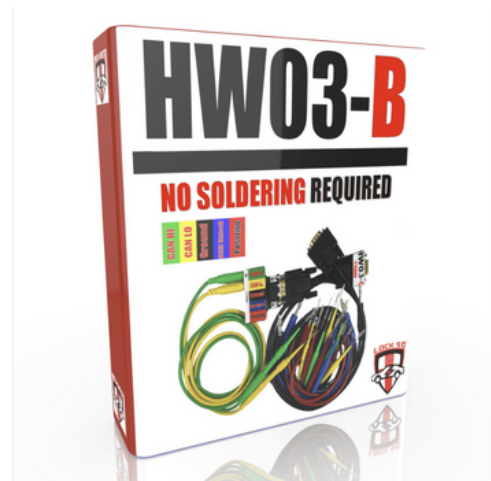
### HW03A SPC Adapter Clip

Read/Write Clip for Unlocked MCU.



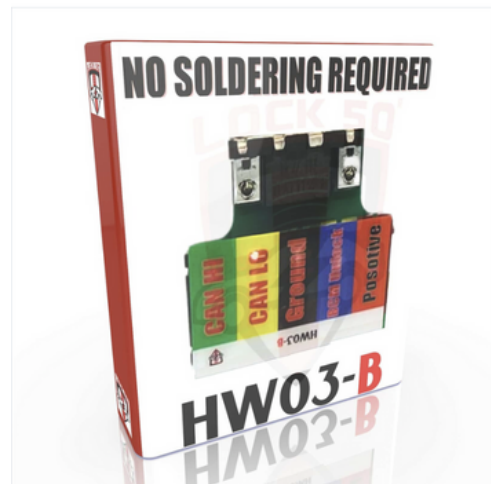
### HW03B CAN Wires Alarm-Off Adapter Kit

For 2010 to 2022 CAN Vehicles.



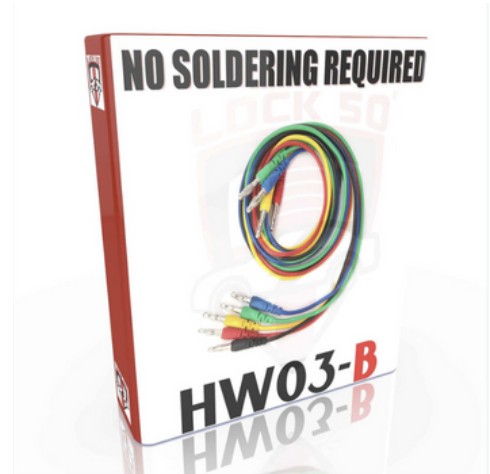
### HW03B CAN Wires Adapter

For 2010 to 2022 CAN Vehicles.



---

**HW03B CAN Wires Banana Cables**  
For 2010 to 2022 CAN Vehicles.



**HW03B CAN Wires Needles**  
For 2010 to 2022 CAN Vehicles.



**HW03B CAN Wires Y-Cable**  
For 2010 to 2022 CAN Vehicles.



---

**HW03C RFA Adapter Kit**  
For 2010 to 2025+ Vehicles.



**HW03C Key Duplicator Y-Cable**  
For 2010 to 2025+ Vehicles.



**HW03C-M1 RFA Adapter**  
For 2017 to 2025+ Vehicles.



---

**HW03C-M2 RFA Adapter**  
For 2010 to 2022 Vehicles.



**HW03C-F1 RFA Adapter**  
For 2017 to 2025+ Vehicles.



## 12. Control Modules

---

### 12.1 JLR RFA Modules

#### HW41 3 Plug **PEPS** RFA

JPLA-19H440-DE LR099141/T4K6115



#### HW45 3 Plug **PEPS** RFA

J9C3-19H440-DF J9C2798



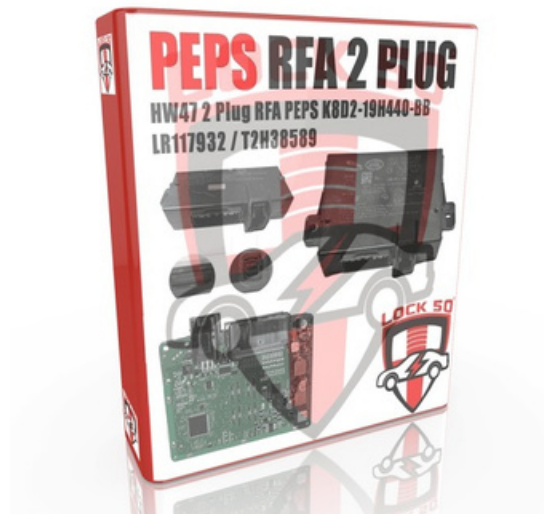
---

**HW47 2 Plug PEPS RFA**

K8D2-19H440-BB LR117932 / T2H38589

**HW48 2 Plug PEPS RFA**

K8D2-19H440-BC LR117932 / T2H38589





---

**HW49 1 Plug PEPS RFA**

M9R3-19H440-BD

**HW50 1 Plug Non-PEPS RFA**

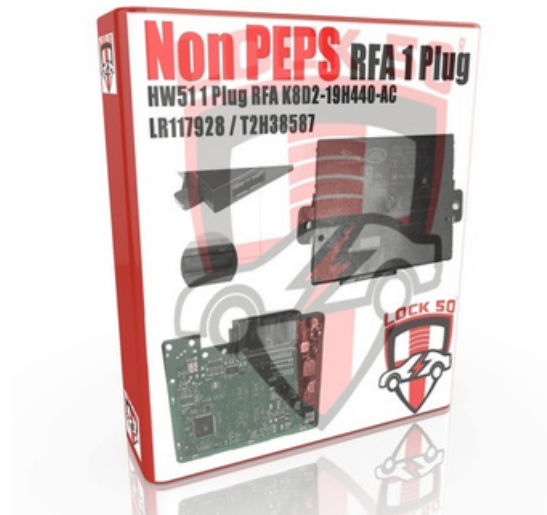
K8D2-19H440-AB J9C2796



---

### HW51 1 Plug **Non-PEPS** RFA

K8D2-19H440-AC LR117928 / T2H38587



### HW52 SPC560B60L3 Blank MCU

MCU chip for 2018+ Jaguar, Land Rover, and Range Rover KVM/RFA, IMMO box.

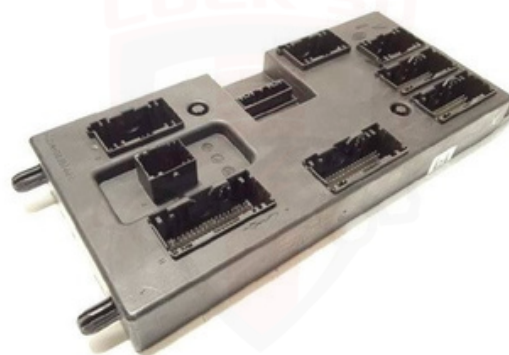


---

## 12.2 JLR BCM Modules

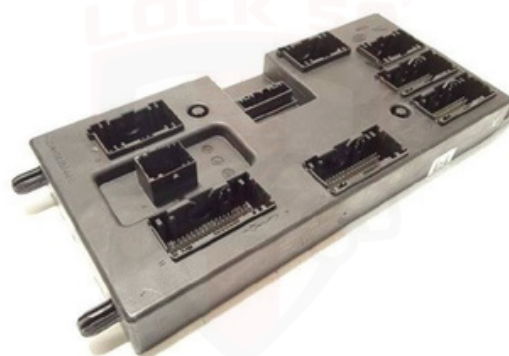
**JLR BCM 2021+**

M8E214F041CA



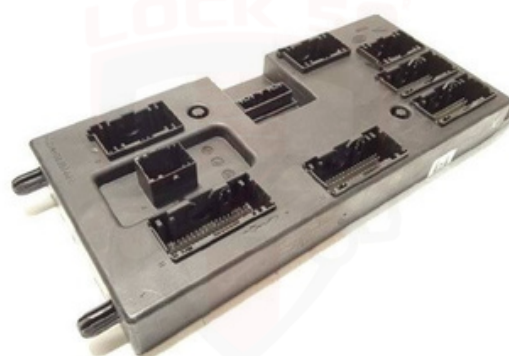
**JLR BCM 2021+**

M8E214F041DA



**JLR BCM 2022+**

R8E2-14F041-AB



---

## 12.3 JLR Telematics Control Units

### JLR Telematics Control Unit

L8B2-70718-AY TCU



### JLR Telematics Control Unit

L8B2-70718-AU1 TCU



## 13. JLR Diagnostics Software

---

### HW130 Symptom Driven Diagnostics

Supports 2006 to 2016 JLR vehicles.



### HW131 Pathfinder

Supports 2017 to 2021/2022 JLR vehicles



### HW132 TOPIx Vehicle Diagnostics

Supports JLR vehicles from 2017 to 2025+.



## 14. JLR Coding Software

---

### HW133 Seed Code Calculator

Works with SDD, Pathfinder, and Topix Cloud.



### HW134 CCF Editor

Works with SDD, Pathfinder, and Topix Cloud.





## 15. JLR DoIP VCI

---

### **HW90 Bosch DoIP VCI. Germany**

Official JLR DoIP VCI by Bosch, designed for use with SDD, Pathfinder, and Topix Cloud.



### **HW91 DA-DoIP VCI. UK**

Diagnostics Associates DA-Dongle (DoIP/CAN) supports 2006+ JLR Vehicles.



### **HW94 VNCI, JLR DoIP VCI. China**

VNCI JLR DoIP VCI designed for use with SDD, Pathfinder, and Topix Cloud.



## 16. Laptop Computers

---

### **HW82 CF-53 Panasonic Toughbook**

Compatible with all HW04 series tool-kits,  
JLR DoIP VCI's and JLR Diagnostics Software.



### **HW83 CF-53 Panasonic Toughbook**

Compatible with all HW04 series tool-kits,  
JLR DoIP VCI's and JLR Diagnostics Software.



### **HW84 CF-53 Panasonic Toughbook**

Compatible with all HW04 series tool-kits,  
JLR DoIP VCI's and JLR Diagnostics Software.



## 16. Laptop Computers

---

### **HW86 CF-20 Panasonic Toughbook Tablet**

Compatible with all HW04 series tool-kits,  
JLR DoIP VCI's and JLR Diagnostics Software.



### **HW87 FZ-G1 Panasonic Toughbook Tablet**

Compatible with all HW04 series tool-kits,  
JLR DoIP VCI's and JLR Diagnostics Software.



## 17. Pelican Cases

---

PC01 - Hard Case for HW04-A/B Tool-Kit



PC02 - Pelican Case for HW04-C Tool-Kit



## 18. HW04 Software License and Support Plan

Each HW04 device includes a software license and support plan service for the first 12 months. This enables you to use the software functions that require a license, and to receive regular software updates, whilst the support plan provides you with technical support from our team of experienced JLR specialists. For more information about Lock50® products and services, visit: [www.lock50.co.uk](http://www.lock50.co.uk) For technical support with your HW04 device, contact us at: [support@lock50.co.uk](mailto:support@lock50.co.uk)

License agreement for your HW04 device can be viewed at any time by navigating to the *device* icon on the menu toolbar.



**Note:** software updates for the JLR Key Tool application, and firmware updates for the HW04 device, run automatically upon initial launch of the JLR Key Tool application. This operation requires no user input.

## 19. Glossary of Terms, Abbreviations and Acronyms

Below are some commonly used terms, abbreviations and acronyms along with their descriptions.

TERM	DEFINTION
JLR	Jaguar and Land Rover
KWM/RFA	Remote Function Actuator Module
BCM	Body Control Module
GWM	Gateway Module
TCU	Telematic Control Unit
ECU	Engine Control Unit
IAU	Immobilizer Antenna Unit
IMMO	Immobiliser
RFR	Radio Frequency Receiver
CAN	Controller Area Network
DoIP	Data Over Internet Protocol
MCU	Micro Controller Unit
EEPROM	Electrically Erasable Programmable Read-Only Memory
D-Flash	Data Flash
SID	Security Identifier
UWB	Ultra Wide Band
PEPS	Passive-Entry, Passive-Start
VIN	Vehicle Identification Number
DTC	Diagnostic Trouble Codes
CCF	Car Configuration File
EVA-2	Advanced Electrical Vehicle Architecture





[www.lock50.co.uk](http://www.lock50.co.uk)