



ArtiHD I Diagnostic Scan Tool User Manual

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1 Important note

Please read the user manual carefully, especially safety tips, before start use ArtiHD I product. For your safety and avoid damage to the product, please exclude any unsafety and corresponding security risks before start to use the product. Once ArtiHD I is transferred to the third party, please make sure the user manual and the information about the operation also be forwarded to the third party.

1.1 Agreement

Once you start use this product, that means the following regulations been accepted from your side :

Statement

- The scope of delivery been listed in packing list, which you will find in product carry case ;
- The functions, pictures in user manual just for reference, it is subject to ArtiHD I software.

This product can not been use in following case:

In a separate power supply network for the characteristics of the place, in most cases, by a high or medium voltage transformer feeder, dedicated power supply facilities for manufacturing or similar transmission factory, and have one or more of the following conditions:

- Frequent switching of large perceptual or capacitive loads;
- Strong current and corresponding magnetic field;
- There are industrial, scientific, or medical (ISM) equipment (e.g. welding machines).

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Disclaimer and Limitation of Liability

All information, specifications and illustrations in the manual are the latest information at the time of publication. TOPDON reserves the right to change without notice. The contents of the manual have been carefully reviewed, but do not guarantee the completeness and accuracy of their contents (including but not limited to product specifications, functions and illustrations).

TOPDON does not assume any direct, indirect, special, incidental damages or any indirect economic damage (including but not limited to loss of profits).

- Product configuration are subject to prevail in kind, please check the delivery list in carry case.
- The functions and pictures described in this manual are subject to actual software.

Attention : Please read this manual carefully, especially safety precautions, before operate or maintain this equipment.

Guarantee

Product will lose TOPDON responsibility and guarantee due to the use of unauthorized software and hardware which lead to the ArtiHD I change, even in this period uninstall or delete the hardware and software.

Product is not allowed to change without authorized, only allow the use of genuine accessories and spare parts for the company's products, otherwise all warranty invalid.

2 Safety Precautions

For the safety of yourself and others, and to avoid damage to equipment and vehicles, all users must read the safety precautions mentioned in this manual.

Before using the equipment, please refer to and follow the safety information provided by the vehicle or equipment manufacturer and the applicable procedures. Please follow the instructions in this manual.

Safety guidelines

Safety information is mainly used to prevent personal injury and equipment damage, all safety information that are marked with a specific indicator of the dangerous level.



Danger : Indicates an emergency hazard situation, such as unavoidable (avoidance), which would result in death or serious injury to the operator or bystander.



Warning : Indicates a potentially dangerous situation, such as unavoidable (avoidance), which would result in death or serious injury to the operator or bystander.

Safety instructions

The safety instructions described in the manual including all the situations which TOPDON anticipated. We can not know, predict, or suggest all possible hazards. Equipment installation person and users must ensure that the operations performed in any case do not cause harm to personal safety.



Danger : Please keep the area well ventilated or properly connect the engine and the building's exhaust system when engine is running. The CO produced by the engine can cause unresponsive, even serious personal injury or death.



Warning:

- ArtiHD I can only be connected to the specified grounding on the insurance outlet.
- Please use the power cable in scope or cable been tested.
- Keep your clothes, hair, hands, tools, equipment, etc. away from the running engine parts.
- Car exhaust emissions are harmful to the body, must be kept in a well ventilated place to use the equipment.
- Please take care when handling the ignition line, the distributor cover, the ignition line and the ignition plug. The voltage generated by these components when the engine is running is very dangerous.
- Please equip fire extinguishers for gasoline, chemicals, electrical fire.
- Please do not place the device on the vehicle power distribution, strong electromagnetic interference will find equipment damage.

- After the device been connected with vehicle, before starting the engine, be sure to pull the parking brake, and put the speed lever in neutral (manual gearbox), or parking (automatic transmission).
- Car battery liquid containing sulfuric acid, sulfuric acid on the skin corrosive, the operation should avoid the battery liquid and skin in direct contact, can not be splashed into the eyes.
- When the engine is running, avoid contact with high temperature parts such as water tanks and exhaust pipes.
- When the battery holder is energized, do not use it to hold the body.

Precautions for instrument use

- The instrument for precision electronic equipment, do not fall.
- The first time open device, the instrument may respond slowly, please be patient, do not frequently operate the instrument.
- The display may flash once when ignition, is a normal phenomenon.
- If the display flashes, the program is interrupted, please turn off the power, re-boot device.
- Ensure that the instrument and diagnostic port are well connected to avoid signal interruption affecting the test. If you can not connect properly, please unplug the connector once again, do not shake the joints in the process of use.
- When using cables and connectors, use screws to avoid disconnection and damage to the interface when moving. When connecting the connector, hold the front of the connector and avoid pulling the rear connection cable.
- Try to gently, placed in a safe place, to avoid the impact, disconnect the power when not use.
- Operation of the instrument need to have a certain basis for car testing and maintenance, the measured car electronic control system has a certain understanding.

Precautions of ECU diagnosis

When handling a vehicle equipped with ECU, the following should be noted:

- Can not place magnetic objects such as radio speakers near the ECU, because the magnetic properties of the loudspeakers can damage the circuits and components in the ECU.
- When the ignition on, must not disconnect the car inside the electrical device, due to the coil when the self-inductance, will produce a high instantaneous voltage, this voltage will cause damage to the sensor and ECU.
- When handling repair work near a computer or sensor, special care should be taken to avoid damage to the ECU and the sensor.
- Should be connected to the ECU wiring harness connector, otherwise it may damage the ECU internal integrated circuits and other electronic components.
- During the maintenance of digital control of the ECU or near the instrument, be sure to wear a metal belt, and one end of the car body, the other end wrapped around the wrist.
- When the welding operation on the car, the power should be cut off in advance of the ECU system.
- Do not use test lights to test electrical equipment related to the ECU to prevent damage to the ECU or sensor unless specified.
- Except the special instructions in the test procedure, the ECU and the sensor can not be tested with a pointer-type ohmmeter, but should be tested using a high-resistance digital meter.

3 Product Introduction

3.1 Product description

ArtiHD I is a completely Independent R&D product for Heavy Duty and Commercial vehicles, it is a professional diagnostic scan tool for Automotive Aftermarket.

ArtiHD I is fully optimized based on the OEM scanner, which enhances the comprehensive diagnostic capability of the diesel vehicle. Some of the functions are based on the advanced technology accumulated by the R & D team for many years, and are superior to other similar diagnostic products in the industry. The main diagnostic functions include reading the version information, reading/clearing the fault code, actual values, actuators, advanced function (special function, matching settings, functional test, diesel calibration) and so on. You do not have to rely on the original diagnostic apparatus, you can provide customers with more comprehensive and professional and efficient diagnostic services.

3.2 Product Hardware



3-2-1 Front view



3-2-2 Rear view



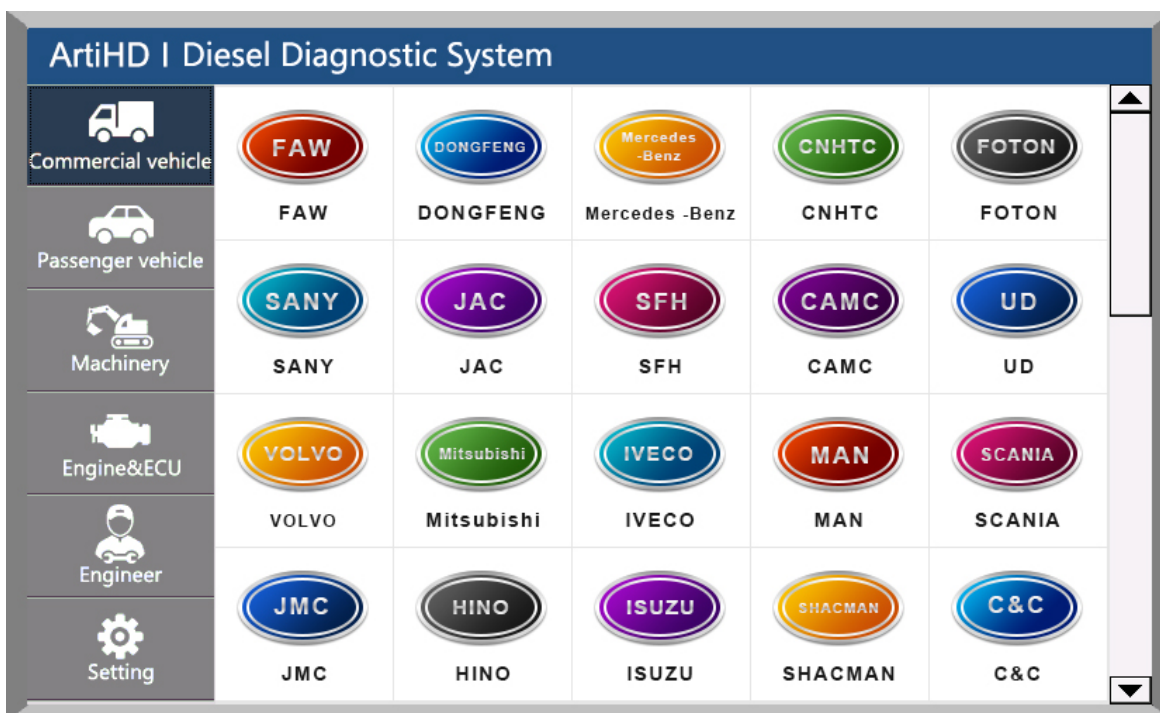
3-2-3 Top view

- ①Touch Screen : Display the operation buttons, test results and help information.
- ②Rubber sleeve: easy to hand, protect the product, to prevent loosening and wear.
- ③ Power Indicator
- ④SD card port
- ⑤USB port : Used to connect the printer for printing. diagnostic connectors to connect the car.
- ⑥Network connection port: Reserved.
- ⑦Diagnostic port: provides power, uses diagnostic lines and
- ⑧Power socket: power supply, connection with the car or the vehicle diagnostic port without power supply.

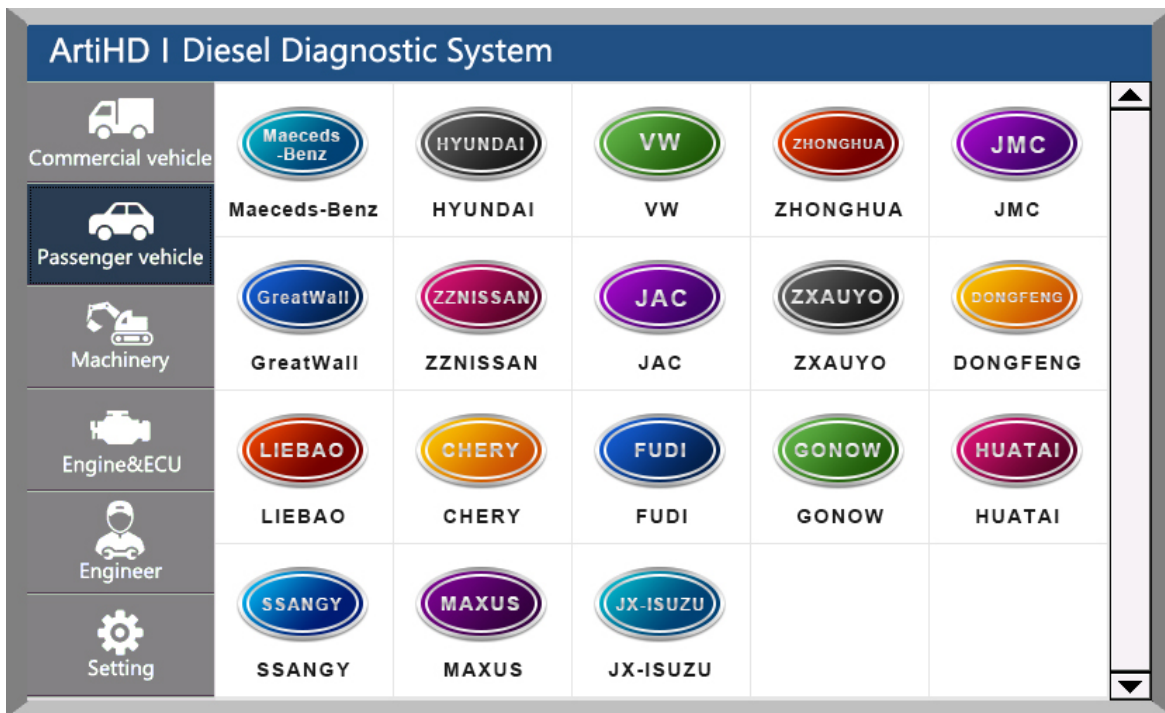
Notice :

- When the power is supplied through the diagnostic port, it is not necessary to connect the power supply through the main power port. When the vehicle diagnosis block itself is not powered, it can be connected to the power source through the power supply port.
- The SD card stores the operating system, application software, and data files of the device. (Unless the software upgrade, do not to remove the SD card).

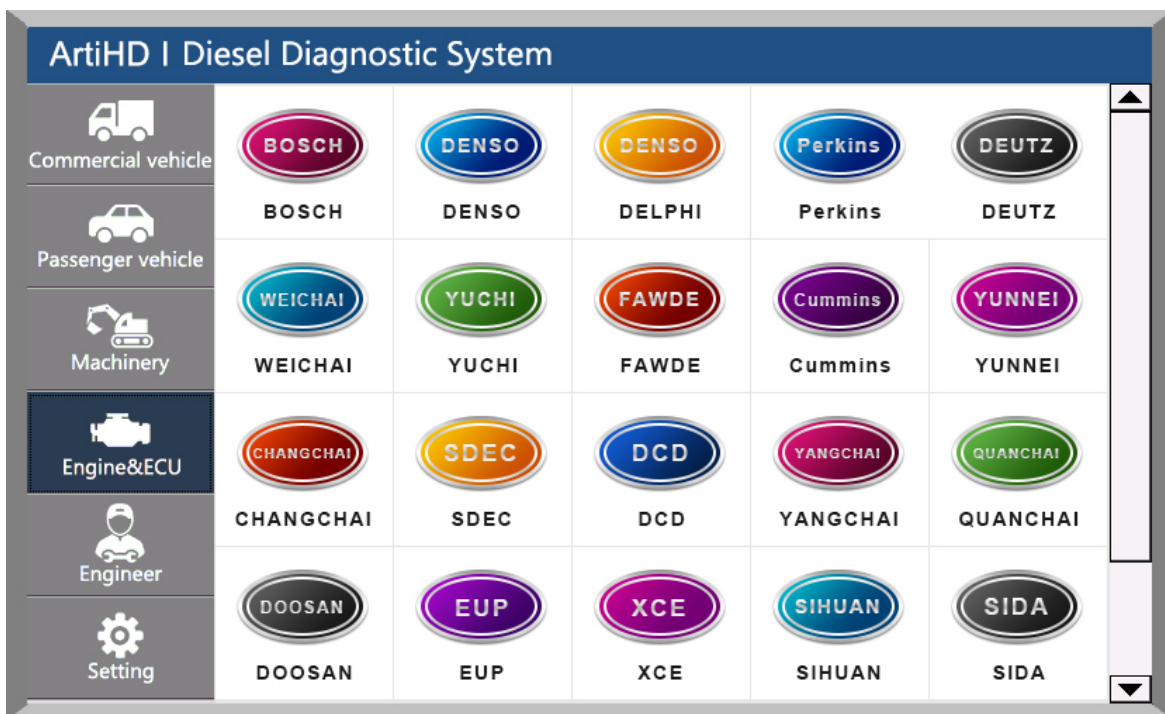
4Diagnostics



4-0-1 Commercial vehicle

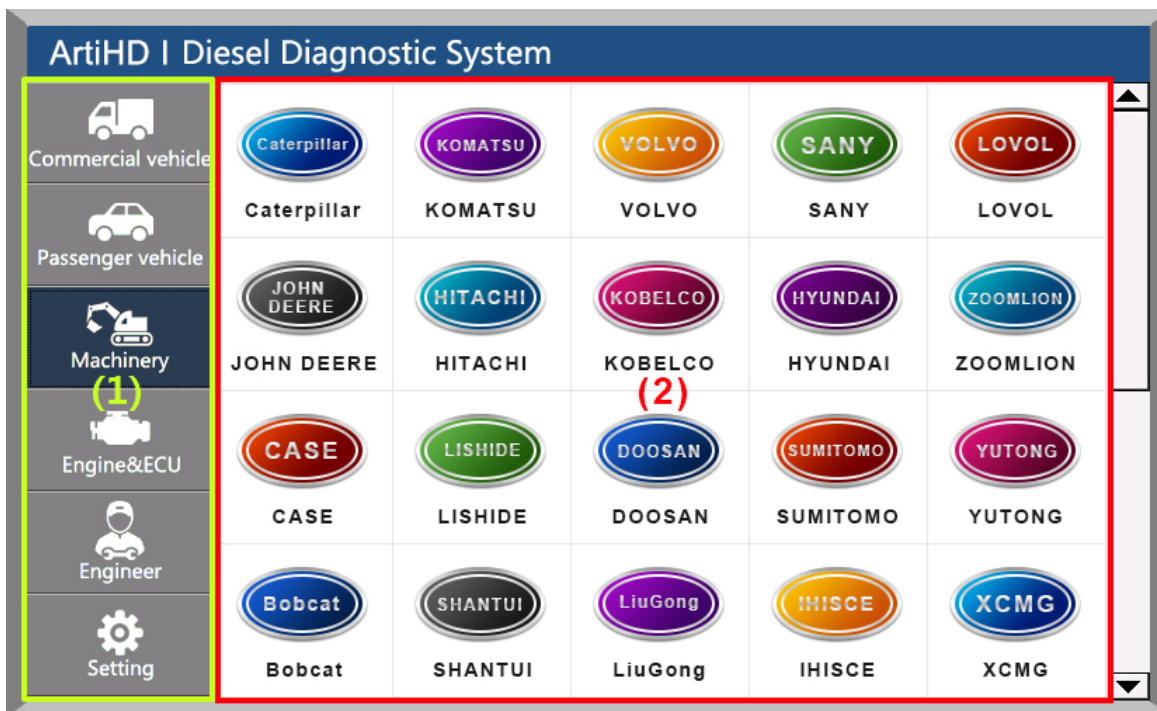


4-0-2 Passenger vehicle



4-0-3 Engine&ECU

Equipment through the OBD extension line and special diagnostic connector and vehicle diagnostic seat connection, the device automatically boot and enter the main interface of automotive diagnostics.



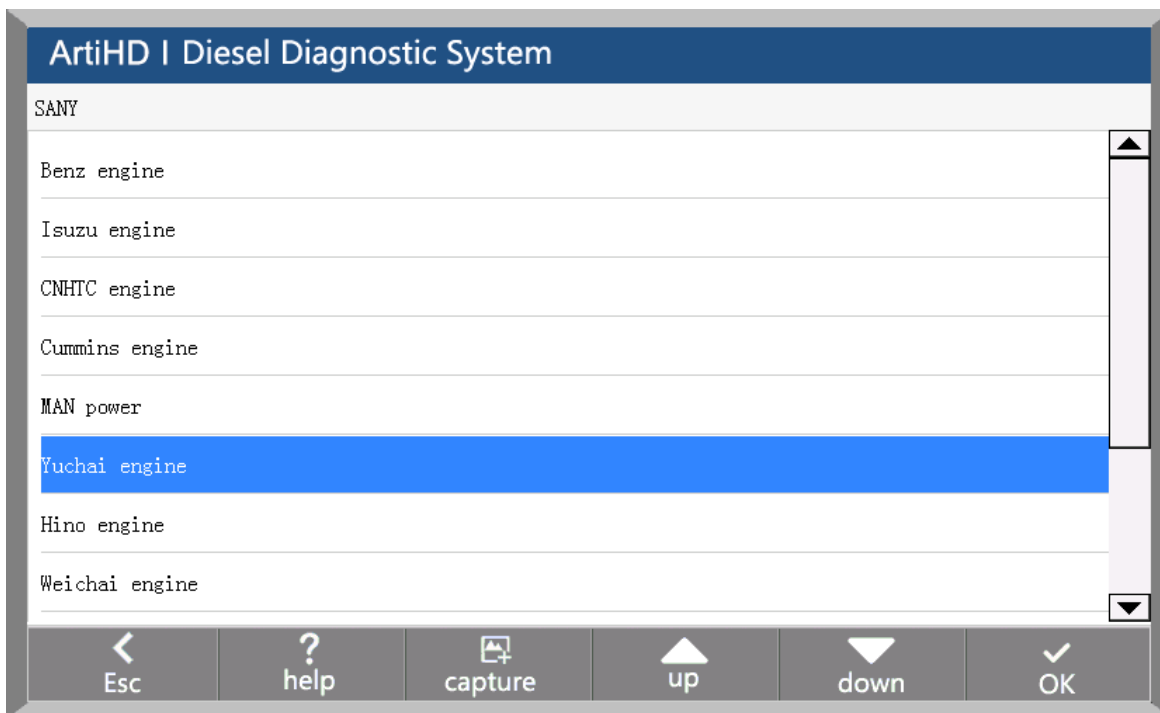
4-0-4 Home interface

(1) Menu display area, including: truck system, bus system, passenger vehicles, engineering machinery, expert and system settings.

(2) Model brand selection area: each model can be detected for all models brand.

4.1 Enter the diagnostic system

You can select the corresponding vehicle type by selecting the display area on the left side of the main interface, and then select the brand, system and system function in the right model selection area to enter the diagnosis operation. For example: After entering the main interface of the car diagnosis, you can: click on the "truck series" -> "SANY" -> "Yuchai engine", and then select the diagnostic function you want to test diagnostic tests.



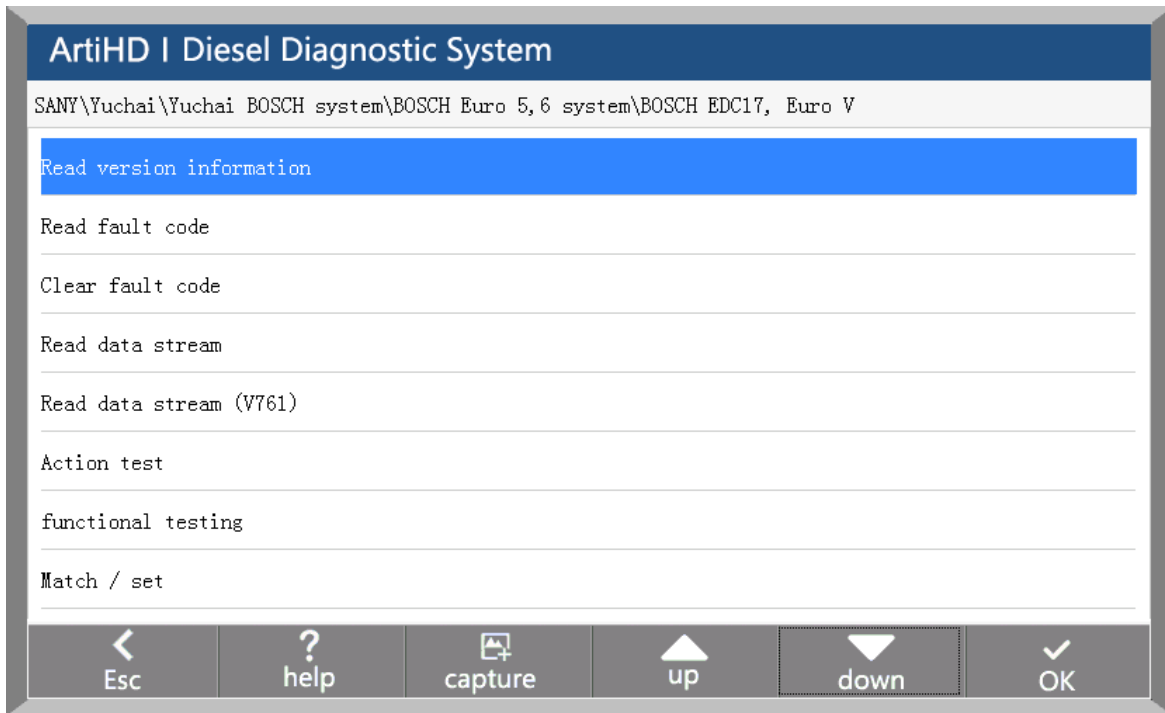
4-1-1 System selection interface

4.2 Start Diagnostic

After entering the system, the functions that can be implemented include :

- Identification
- Read Fault code
- Erase Fault code
- Actual Values
- Actuators
- Advance Functions : Adjustment/Settings、 Function Test、 Special function, calibration etc.

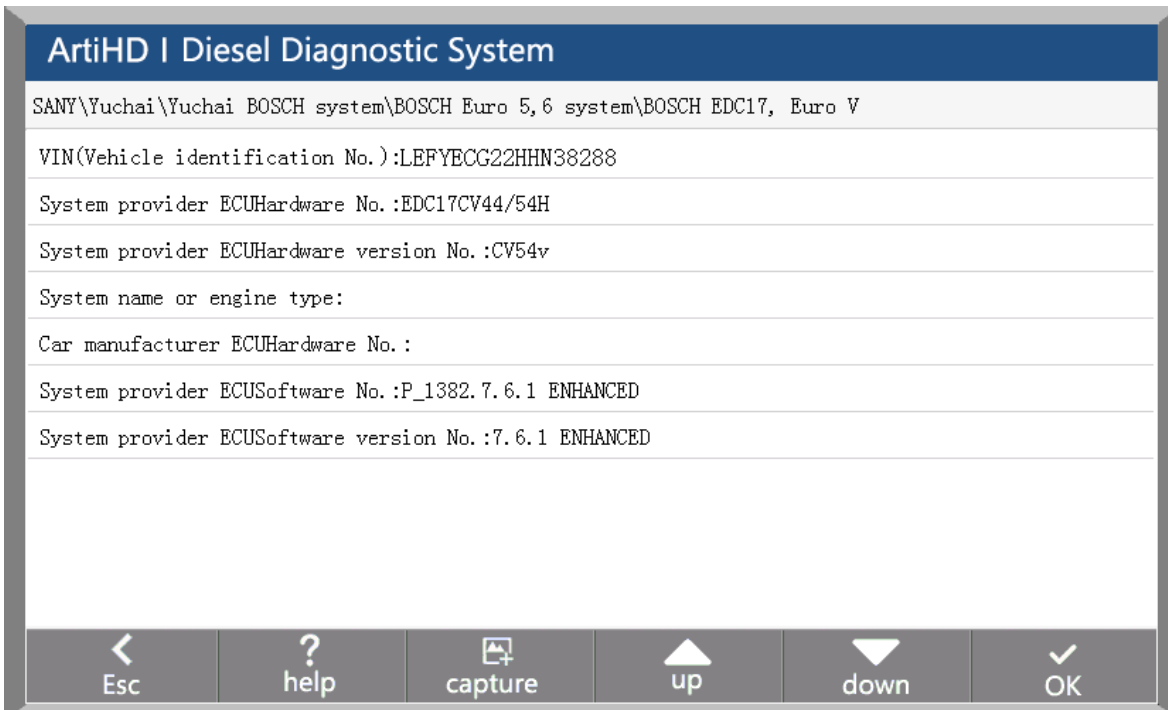
Specific functions will be different according to different models of the brand and the system, take Bosch engine in Foton engine system as an example:



4-2-1 System function interface

4.3 Identification

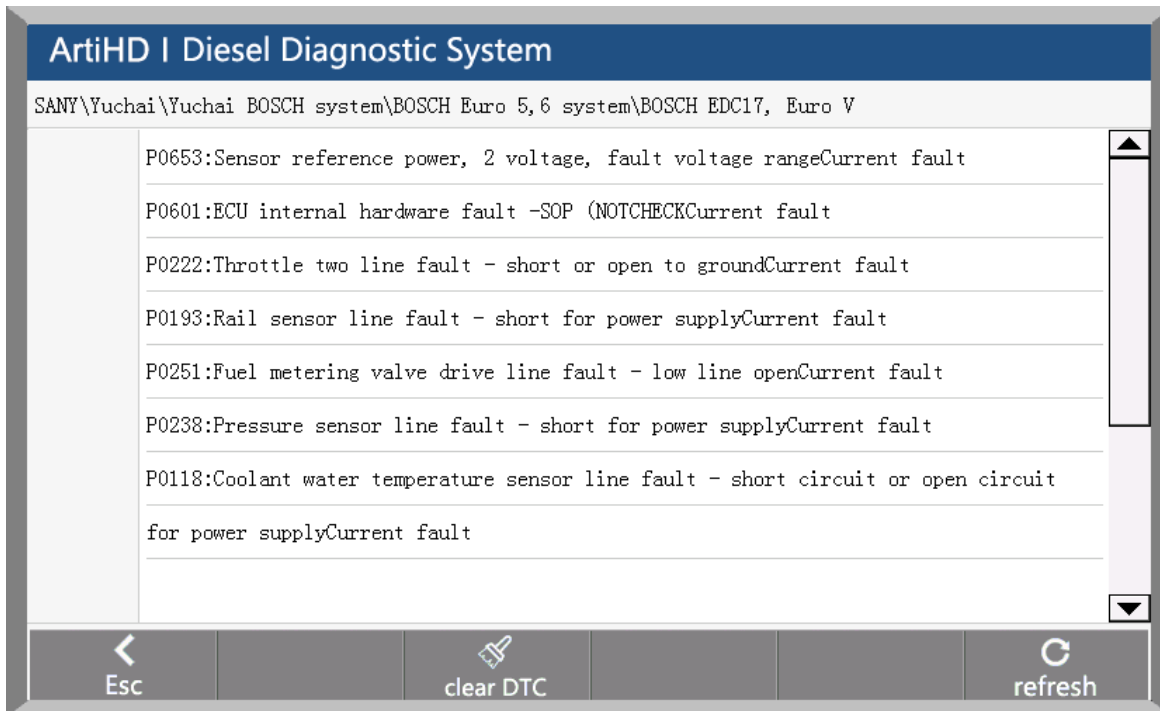
Identification is the vehicle and system information in ECU. When the vehicle control unit needs to be replaced, it is necessary to read the original control unit information and record it as a reference for purchasing a new control unit. When the new control unit is encoded, the original control unit information is required.



4-3-1 Identification

4.4 Read Fault code

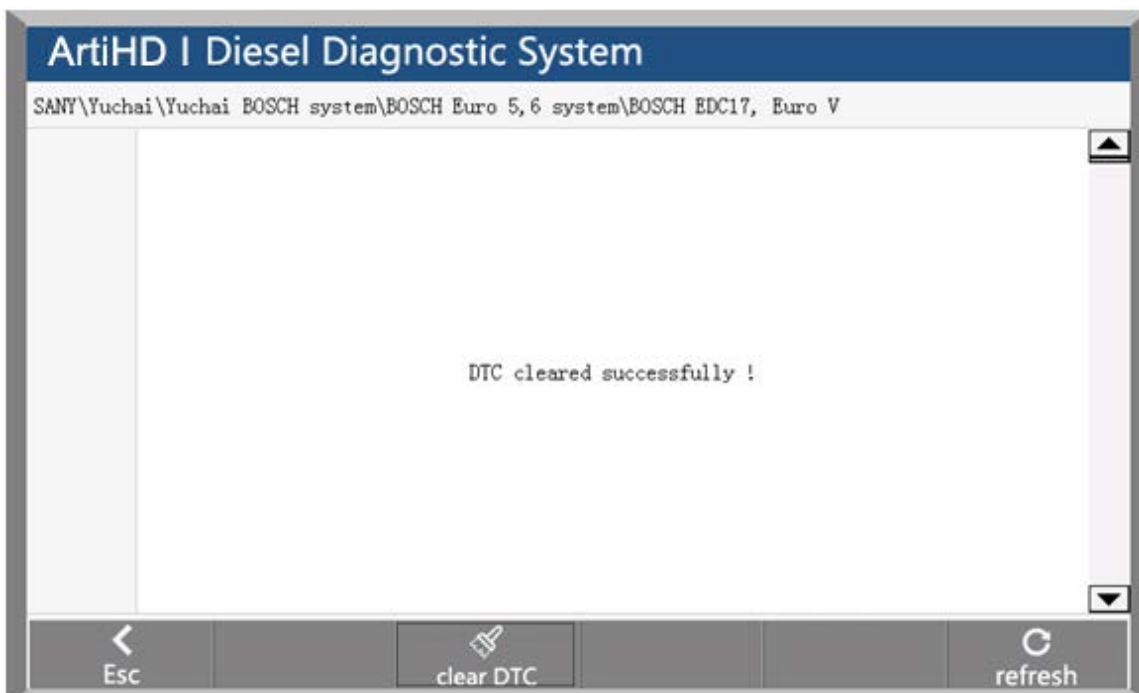
Read the fault code function can read ECU fault code to help maintenance personnel quickly found the cause of vehicle failure.



4-4-1 Read Fault code

4.5 Erase Fault code

Clear the fault code stored in the ECU.



4-5 Erase Fault code

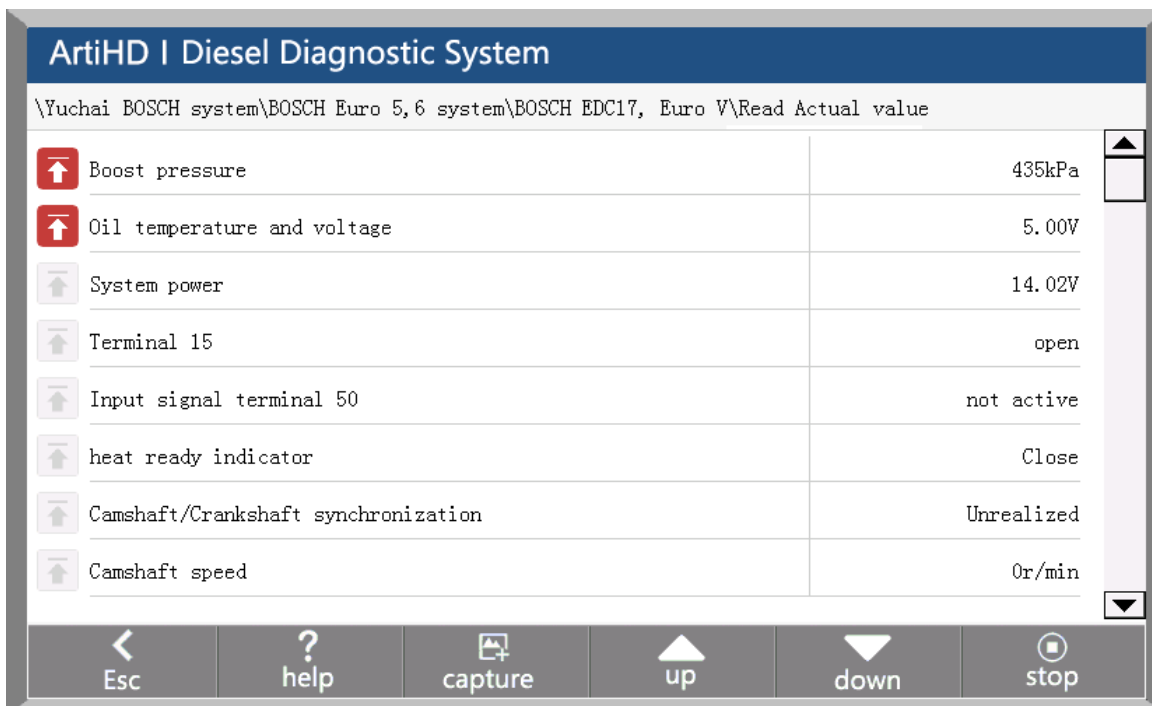
Note: General models, please follow the regular order, first read the fault code, and record (or print) and then clear the fault code, test, read the fault code again to verify, repair the vehicle, clear the fault code, test again to confirm the fault code. The current hard fault code can not be cleared, if the oxygen sensor, knock sensor, mixed gas correction, cylinder fire and the like type of technical code can be removed immediately, but in a certain period will appear. Must be completely troubleshooting after the fault code will not appear again.

4.6 Actual Values

You can determine whether the various parts of the vehicle are faulty through actual values.

Method of operation:

1. After entering the diagnostic function, click "Actual values", pop-up dialog box.
2. Click the "Select All" check box to select all actual values; you can also click the check box before each actual value to select the data stream you want to read.
3. Click the "Read actual values" button. The interface displays the name, result, and unit of the data stream.



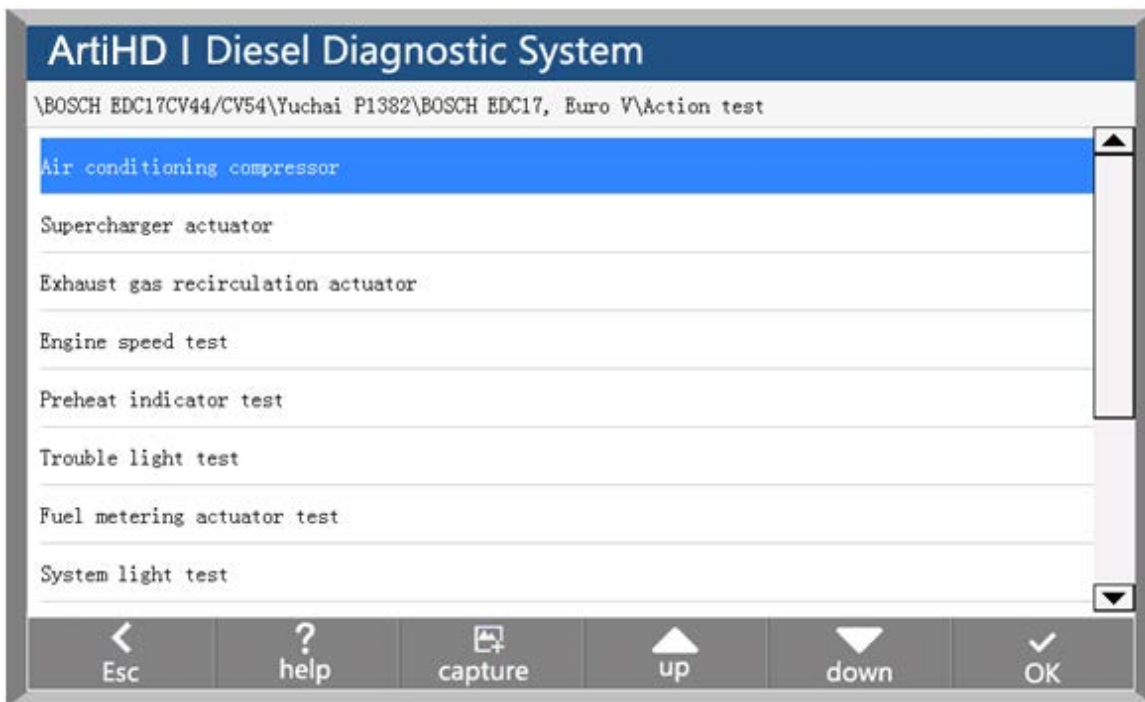
4-6 Actual values

4.7 Actuators

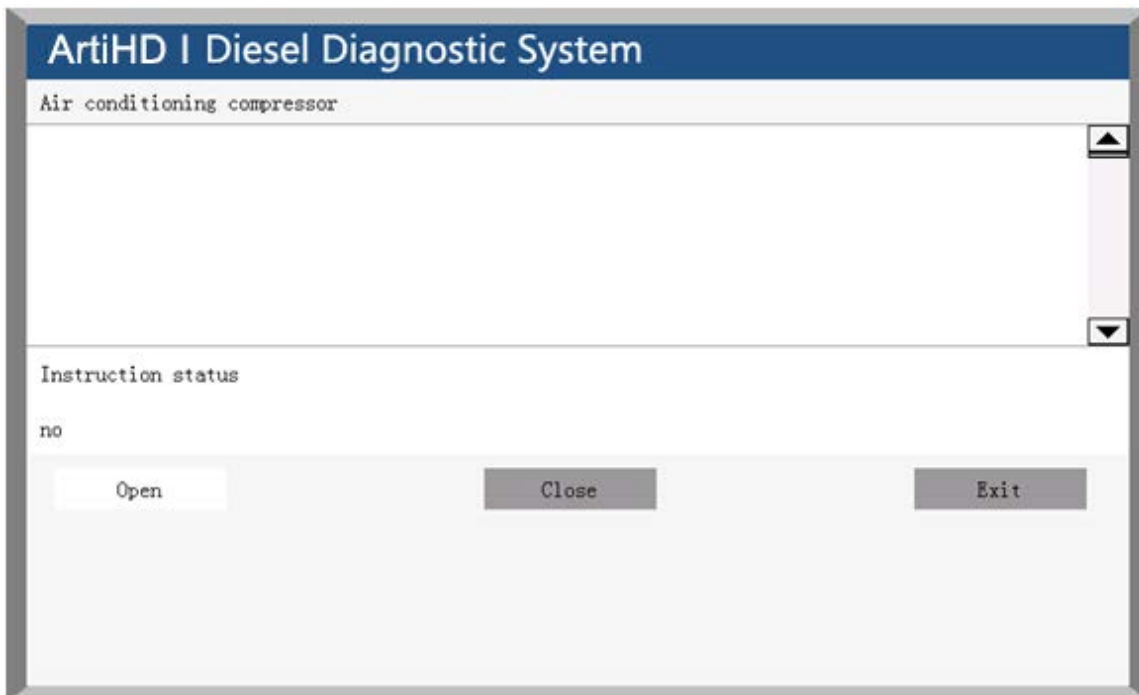
In order to test the electronic control system in the implementation of components can work properly.

Method of operation:

1. After entering the diagnostic function, select "Actuators", the interface will display all the action can be tested.
2. Click on an item to enter the action test interface. The actuators include three states: open, close, and exit.
3. Click "Open", the status of the action test is turned on.
4. Click "Close", the status of the action test is off.
5. Click "Exit" to exit this action test.



4-7-1 Actuator list

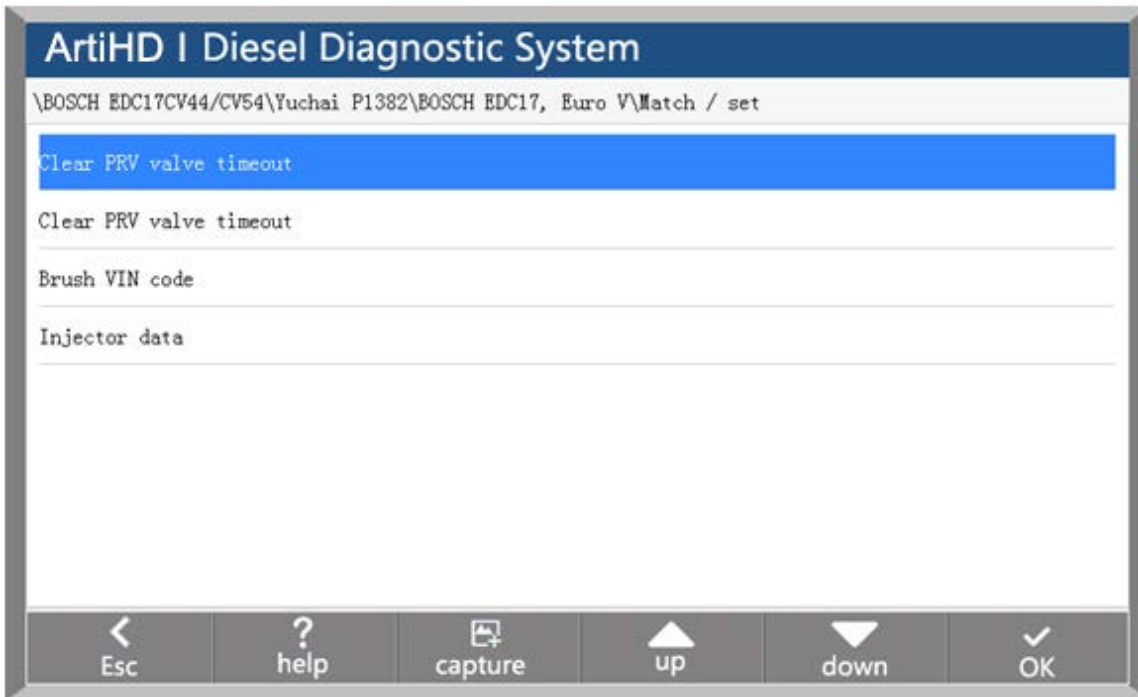


4-7-2 Actuator test

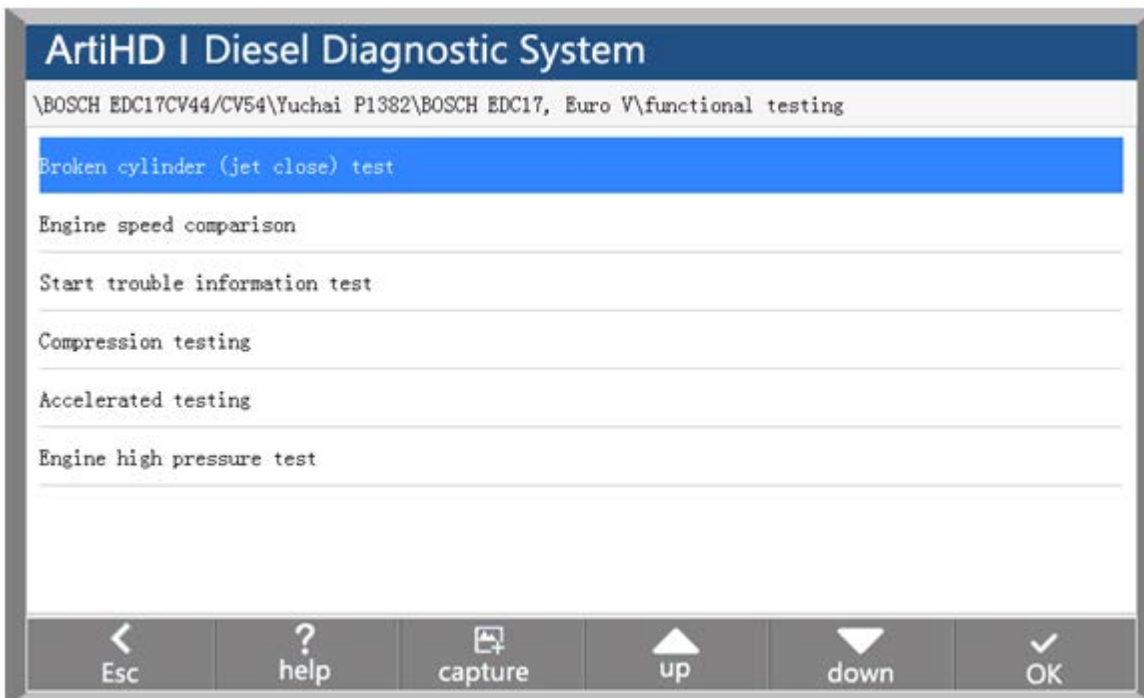
4.8 Advanced Function

Advance Functions : Adjustment/Settings、Function Test、Special function, calibration.

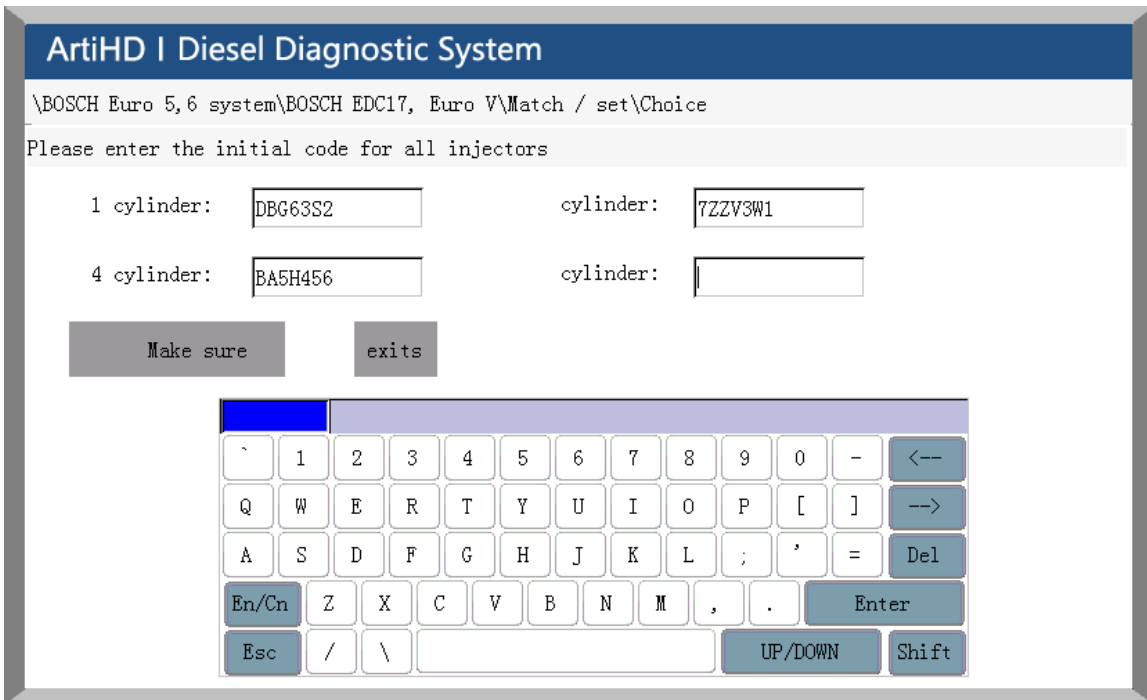
For example: diesel fuel injector code, idle speed adjustment, broken cylinder test, calibration and so on.



4-8-1 Advanced Function-Adjustment/Setting



4-8-2 Function test list



4-8-3 Special Function-Coding interface

5 Software upgrade

ArtiHD I use PC software to upgrade, log in the official website (www.topdon.com) download and install the ArtiHD I intelligent diagnostic device upgrade client software, the device SD card through the card reader plug in the computer USB interface to complete the device software upgrade.

Detailed upgrade steps, please log in the official website (www.topdon.com) view the product upgrade process.

6 Scope of delivery

6.1 Packing list

Material name	Order No.	Volume
Power extension cord	0301000001	1
Battery clip supply line	0301000002	1
Cigarette lighter supply line	0301000003	1
SD card	0301000004	1
SD card reader	0301000005	1
Test extension cord (with OBD connector)	0301000006	1
Power adapter kit	0301000007	1

ArtiHD I device	0201000001	1
ArtiHD I carry case	0301000008	1
OBD16PINCircular adaptor	0301000009	1
CUMMINS-9	0301000010	1
IVECO-38	0301000011	1
BENZ-14	0301000012	1
KOMATSU-12	0401000015	1
VOLVO-14	0401000016	1
VOLVO-8	0301000017	1
CAT-9	0301000020	1
Multi-function jumper adaptor	0301000022	1
ArtiHD I user manual	0301000023	1

6.2 Accessories

Accessories package : 0201000002

Material name	Order No.
CUMMINS-6	0401000002
MITSUBSHI-12+16	0401000003
DENSO-12	0401000004
WIT-3	0401000005
ISUZU-20	0401000006
HITACHI-6	0401000007
HITACHI-4	0401000008
MAN-37	0401000010
MAN-12	0401000011
RENAULT-12	0401000012

7 Technical parameters

CPU	ARM9
SD card	4GB , Maximum support32GB
Communication port	OBD , USB
Input voltage	7-32V
Power	<10W
Screen	7 inch 800 x 480 touch screen
Operating temperature	-10~45°C
Storage temperature	-15~50°C
Operation method	Touch

8 Maintenance and Warranty

8.1 Clean

Do not use a cleaning agent with a corrosive function or any rough cloth to clean the ArtiHD I device, only with a soft cloth and a mild detergent.

8.2 Maintenance

- Product should be stored in a flat, dry, the temperature suitable for less dust.
- Do not put it in direct sunlight or near the heating device.
- Do not put it near the stove or be susceptible to corrosion or water.
- Do not disassemble the host privately.
- If device not use for a long time, please run the ArtiHD I host regularly to avoid damp.

8.2.1 Touch screen maintenance

- When making touch screen corrections, do not click on the touch screen when the cross cursor is not displayed.
- Please do not put any foreign body on the touch screen, to avoid the pressure caused by the touch screen inaccurate and internal components damage.
- Please do not expose the touch screen to direct sunlight or ultraviolet light to extend its service life.
- Please do not place the product next to the electrical equipment that generates electromagnetic interference, so as not to affect the oscilloscope effect.
- The LCD screen surface will be attracted to dust due to static electricity, it is recommended to buy liquid crystal display special cleaning agents and cleaning cloth to clean your instrument screen, do not use other chemical cleaning agent or finger wipe touch screen.

8.2.2 SD card maintenance

- Do not unplug the SD card while the host is running. If necessary, unplug the SD card after device shutdown.
- Do not pull out SD card in the card reader during upgrade, otherwise it will lead to data loss. To properly unplug the SD card as follows: On the Windows desktop, open the "My Computer" window, right click on the "removable disk" in the pop-up menu bar select "pop" item, and then can pull out the SD card.

8.3 Warranty

This warranty applies only to users and distributors who purchase products through TOPDON Formal channels of cooperation.

Product acceptance

1. When purchasing the product, be sure to open the package check.
2. Please check the quantity carefully according to the packing list. If there is any shortage, error, damage and other unpredictable abnormality, please keep all the documents and notify us immediately. Or as a waiver of the right to claim.

Product warranty terms

Since the purchase of the product host and accessories within a year, products will be free warranty service. Warranty service is limited to the normal use of the case, due to the product itself, the quality of defects or manufacturing process defects caused by the failure. Such as improper use of human factors, improper operation, non-company technical personnel or non-authorized maintenance personnel repair, modification or demolition, cleaning caused by failure, due to transport accidents, drop, vibration, natural disasters, storage environment, Improper maintenance and other failures, not the scope of the warranty list. Warranty products must be certified by the company whether it is part of the warranty.

Product warranty procedures

If you need to repair the product, please send the product to your local dealer, and attach the form of maintenance equipment (the form can be downloaded from the company website), purchase voucher and warranty card, fill in the following information: company name, contact Person name, phone number, question description, purchase invoice. Effective purchase certificate is an important warranty service certificate, in order to protect your legitimate rights and interests, please be sure to purchase the dealer to obtain a formal invoice, the invoice should clearly state the product name, model, serial number and date of purchase, and Cover the official seal of the dealer. The invoice and warranty book together, will give you the maintenance and consultation to bring convenience.

Product after warranty

If product need to repair after warranty, we will be appropriate to receive maintenance costs, freight borne by the user.



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