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SUMMARY

Review of the Manual

This document is **review 02** of the **TMD MK3 DIAG technical manual**.

INTRODUCTION

Dear Customer,

We would like to thank you for choosing a TEXA product for your workshop.

We are certain that you will get the greatest satisfaction from it and receive a great deal of help in your work.

Please read through the instructions in this manual carefully and keep it for future reference.

Reading and understanding the following manual will help you to avoid damage or personal injury caused by improper use of the product.

TEXA S.p.A reserves the right to make any changes deemed necessary to improve the manual for any technical or marketing requirement; the company may do so at any time without prior notice.

This product is intended to be used exclusively by technicians specialised in the Automotive industry. Reading and understanding the information in this manual cannot replace adequate specialised training in this field.

The sole purpose of the manual is to illustrate the functioning of the product sold. It is not intended to offer technical training of any kind and technicians will therefore carry out any interventions under their own responsibility and will be accountable for any damage or personal injury caused by negligence, carelessness, or inexperience, regardless of the fact that a TEXA S.p.A. tool has been used following the information contained in this manual.

Any additions to this manual, useful in describing the new versions of the program and the new functions associated to it, may be sent to you through our TEXA technical bulletin service.

This manual is to be considered an essential part of the product to which it refers. If it is resold, the original buyer is therefore required to forward the manual to the new owner.

Reproduction, partial or whole, of this manual in any form without written authorisation by the manufacturer is strictly forbidden.

The original manual was written in Italian, every other language is a translation of the original manual.

1 ABOUT THE MANUAL

This manual is divided into the following chapters:

1. **Legend of the symbols used in the manual:** *it gives indications regarding the symbols used in this document.*
2. **Glossary:** *it clears the meaning of some terms used in this document.*
3. **General safety rules:** *they give important indications for the safety of the user during workshop operations.*
4. **Specific safety rules:** *they give important indications for the safety of the user, the vehicle and of the device this document refers to.*
5. **Operation of the radio devices:** *it gives important information regarding the radio devices that are equipped on the device this document refers to.*
6. **Regulatory information:** *it gives indications regarding the laws that are applied to the device this document refers to.*
7. **TMD MK3 DIAG:** *it gives a brief overview of the device this document refers to.*
8. **Description:** *it describes the main features of the device this document refers to.*
9. **Power supply:** *it explains how the device this document refers to is powered.*
10. **Location of the diagnostic socket:** *it explains how to find the diagnostic socket needed to connect the device this document refers to.*
11. **Installation and configuration:** *it explains how to install and configure the device this document refers to.*
12. **Use:** *it explains how to use the device this document refers to.*
13. **Maintenance:** *it explains how to take care of the device this document refers to.*
14. **Blink codes:** *it explains how to read the flashing of the LEDs of the device this document refers to.*
15. **Troubleshooting:** *it gives some situations / problems that can occur while using the device this document refers to, along with a possible cause and a possible solution.*
16. **Technical features:** *it gives the main technical features of the device this document refers to.*
17. **Environmental information:** *it gives the information related to the disposal of the device this document refers to.*
18. **Legal Notices:** *they give information related to the manufacturer and to the warranty that covers the device this document refers to.*

2 LEGEND OF THE SYMBOLS USED

The symbols used in the manual are described in this chapter.

	Asphyxiation Risk
	Explosion Risk
	High Voltage Hazard
	Fire / Burn risk
	Poisoning Hazard
	Corrosive Substances Risk
	Noise Hazard
	Moving Parts Risk
	Crushing Risk
	General Risk
	Important information

3 GLOSSARY

This chapter provides the meaning of the technical terms used in the manual:

- **Diagnosis/diagnostic socket:** *female connector installed in the vehicle that allows connecting to the vehicle's control unit.*
- **OBD socket:** *diagnostic socket specific for the OBD protocol.*
- **Diagnosis/diagnostic connector:** *male connector installed in the diagnostic tool or as end part of a cable that connects to the diagnostic tool.*
- **OBD connector:** *diagnostic connector specific for the OBD protocol.*
- **Diagnosis/diagnostic cable:** *cable that allows connecting the diagnostic cable to the diagnostic socket.*
- **OBD cable:** *diagnostic cable specific for the OBD protocol.*
- **Display unit:** *device equipped with a screen (PC, PAD etc.) in which a specific software is installed, allowing you to communicate with a tool, configure it, process and view the data it collected. This definition also includes devices that are equipped with internal modules for the acquisition and processing of data and that do not require / are not able to connect to "external" tools.*
- **Peripheral device:** *with respect to the display unit, any tool or device that the display unit is able to interface with.*
- **Device connector:** *USB connector to connect to the device.*
- **Host connector:** *USB connector to connect to the display unit.*

4 GENERAL SAFETY REGULATIONS

4.1 Glossary

- **Operator:** *qualified individual, in charge of using the device/tool.*
- **Machine/device/tool:** *the product purchased.*
- **Workplace:** *the place where the operator must carry out her/his work.*

4.2 Operator Safety Regulations

4.2.1 General Safety Regulations

- *The operator must be completely clear-headed and sober when using the device; taking drugs or alcohol before or when operating the device is strictly forbidden.*
- *The operator must not smoke during device operation.*
- *The operator must carefully read all the information and instructions in the technical documents provided with the device.*
- *The operator must follow all the instructions provided in the technical documents.*
- *The operator must always watch over the device during the various operating phases.*
- *The operator must make sure she/he is working in environment which is suitable for the operations that must be carried out.*
- *The operator must report any faults or potentially hazardous situation in connection with the workplace or the device.*
- *The operator must carefully follow the safety regulations required for the workplace in which she/he is working and required by the operations she/he has been asked to carry out.*

4.2.2 Risk of Asphyxiation

	Exhaust gas from internal combustion engines, whether they may be petrol or diesel, are hazardous to your health and can cause serious harm to your body.

Safety Precautions:

- *The workplace must be equipped with an adeguate ventilation and air extraction system and must be in compliance with standards according to current national laws.*
- *Always activate the air extraction system when working in closed environments.*

4.2.3 Risk of Impact and Crushing

	The vehicles which are undergoing A/C system recharging operations and the devices, must be properly blocked using the specific mechanical brakes/blocks, while being service.

Safety Precautions:

- *Always make sure that the vehicle is in neutral gear (or that it is set in parking position in case of a vehicle equipped with automatic transmission).*
- *Always activate the hand brake or parking brake on the vehicle.*
- *Always block the wheels on the vehicle with the specific mechanical blocks.*
- *Make sure the device is stable, on a flat surface and the wheels are locked with the specific brakes.*

4.2.4 Hazards Caused by Moving Parts

	Vehicle engines include parts that move, both while running and not running (eg: the cooling fan is controlled by a thermal switch in connection with the coolant temperature and become activated even when the vehicle is off), that can injure the operator.

Safety Precautions:

- *Keep hands away from moving parts.*
- *Disconnect the engine cooling fan each time the engine you are working on is still hot. This will avoid the fan from becoming activated unexpectedly even when the engine is off.*
- *Do not wear ties, loose clothes, wrist jewellery or watches when working on a vehicle.*
- *Keep connection cables, probes and similar devices away from the moving parts of the engine.*

4.2.5 Risk of Burning or Scalding

	The parts that are exposed to high temperatures in engines that are moving or have just stopped could burn the operator. Remember that catalytic mufflers reach very high temperatures, able to cause serious burns or even start fires. Acid in the vehicle batteries is another potential hazard.

Safety Precautions:

- *Protect your face, hands, and feet by using suitable protection.*
- *Avoid contact with hot surfaces, such as spark plugs, exhaust pipes, radiators and connections within the cooling system.*
- *Make sure there are no oil stains, rags, paper or other inflammable material near the muffler.*
- *Avoid splashing electrolyte on skin, eyes and clothes, as it is a corrosive and highly toxic compound.*

4.2.6 Fire and Explosion Hazard

The following are potential fires and/or explosion hazards:

- *The types of fuel used by the vehicle and the vapours released by these fuels.*
- *The refrigerants used by the A/C system.*
- *The acid in the vehicle batteries.*

Safety Precautions:

- *Let the engine cool.*
- *Do NOT smoke near the vehicle.*
- *Do NOT expose the vehicle to open flames.*
- *Make sure that the electrical connections are all well insulated.*
- *Collect any fuel that might have spilled.*
- *Collect any refrigerant that might have spilled.*
- *Make sure you are always working in an environment equipped with a good ventilation and air extraction system.*
- *Always activate the air extraction system when working in closed environments.*
- *Cover the openings of the batteries with a wet cloth in order to stifle the explosive gases before proceeding in testing or recharging.*
- *Avoid causing sparks when connecting cables to the battery.*

4.2.7 Noise Hazard

Loud noises that may occur within the workplace, especially during service operations may damage the operator's hearing.

Safety Precautions:

- *Protect your ears with suitable protective ear wear.*

4.2.8 High Voltage Hazard

The voltage supply from the mains that powers the devices in the workplace and the voltage within the vehicle starter system is a potential shock hazard to the operator.

Safety Precautions:

- *Make sure the electrical system in the workplace is compliant to current national standards.*
- *Make sure the device being used is connected to ground.*
- *Cut off the power supply voltage before connecting or disconnecting cables.*
- *Do NOT touch the high voltage cables when the engine is on.*
- *Operate in conditions of insulation from ground.*

- *Work with dry hands only.*
- *Keep conductive liquids away from the engine while working.*
- *Never leave tools on the battery in order to avoid accidental contacts.*

4.2.9 Poisoning Hazard

	The hoses used to extract the refrigerants can release toxic gases, dangerous to the operator if exposed to temperatures higher than 250 °C or in case of a fire.

Safety Precautions:

- *Contact a doctor immediately should you inhale these gases.*
- *Use neoprene or PVC gloves when eliminating combustion deposits.*

4.3 *General User and Maintenance Warnings*

When using the device or carrying out scheduled maintenance (eg. fuse replacement) on the device, carefully follow the information provided below.

- *Do not remove or damage the labels/tags and the warnings on the device; do NOT in any case make them illegible.*
- *Do not remove, or block, any safety devices the device is equipped with.*
- *Only use original spare parts or spare parts approved by the manufacturer.*
- *Contact your retailer for any non-scheduled maintenance.*
- *Periodically check the electrical connections of the device, making sure they are in good condition and replacing any damaged cables.*
- *Check parts that are subject to wear periodically and replace if necessary.*
- *Do not open or disassemble the device.*

5 SPECIFIC SAFETY RULES FOR USING TMD MK3 DIAG

The technology used in the design and production inspections of **TMD MK3 DIAG** diagnostic tools means that they are reliable, simple and safe to use.

Personnel in charge of using diagnostic tools are required to follow the general safety regulations, to use **TMD MK3 DIAG** devices for their intended use only, and to carry out maintenance correctly as described in this manual.

5.1 Glossary

Operator: qualified individual in charge of using the diagnostic tool.

Tool/device: any **TMD MK3 DIAG** device.

5.2 General Rules

- *The operator must have basic knowledge of mechanics, automotive engineering, car repair and of the potential dangers that may arise during self-diagnosis operations.*
- *The operator must carefully read and understand the information and the instructions in the technical documents provided with the device.*

5.3 Operator Safety

	Some self-diagnosis operations allow you to activate/deactivate certain actuators and safety systems on the vehicle.

Safety Measures:

- *In order to avoid injuring people and/or damaging the device or the electronic systems of the vehicle connected to the device, do not allow unqualified personnel to use the device.*
- *Follow the instructions supplied by the software thoroughly.*

5.4 Device Safety

	The device was designed to be used in specific environmental conditions. Using the device in environments with temperatures and humidity that differ from those specified, may impair its efficiency.

Safety Measures:

- *Always place the device in a dry area.*
- *Do not expose or use the device close to heat sources.*
- *Place the tool making sure it can be properly ventilated.*
- *Do not use corrosive chemicals, solvents or harsh detergents to clean the device.*

	The tool was designed to be mechanically tough and suitable for use in a workshop. Careless use and excessive mechanical strain may impair its efficiency.

Safety Measures:

- *Do not drop, shake or knock the device.*
- *Do not carry out any type of intervention that may damage the device.*
- *Do not open or disassemble the device.*
- *Make sure not to damage the diagnostic connectors when connecting and disconnecting the device.*

	The device was manufactured to be electrically safe and to work with specific supply voltage levels. Failure to comply with the specifications related to the power supply may impair the device's efficiency.

Safety Measures:

- *Do not wet the device with water or other liquids.*

- *If not otherwise specified, use the tool on vehicles with a 12 V DC power supply and chassis connected to the negative pole.*
- *Do not use external batteries to supply the tool unless explicitly requested to do so by the software.*

	The electromagnetic compatibility tests carried out on the device guarantee that it can be adapted to the technologies normally used on vehicles (ex.: engine control, ABS, airbag, etc.). Nevertheless, if malfunctions occur, contact the vehicle's dealer.

6 OPERATION OF THE RADIO DEVICES

Wireless connection with Bluetooth® technology

The wireless connection with Bluetooth technology is a technology that supplies a standard and reliable method to exchange information between different devices, using radio waves. Products such as cellular phones, portable devices, computers, printers, cameras, pocket PCs etc. use this type of technology.

The Bluetooth interface searches for compatible electronic devices according to the radio signal they generate and establishes a connection between them. The tools operate a selection suggesting only compatible / enabled devices. This does not exclude the presence of other sources of communication or interference.

THE EFFICIENCY AND THE QUALITY OF THE BLUETOOTH COMMUNICATION MAY BE INFLUENCED BY THE PRESENCE OF RADIO DISTURBANCE SOURCES. THE COMMUNICATION PROTOCOL HAS BEEN DEVELOPED TO MANAGE THESE TYPES OF ERRORS; HOWEVER, IN THESE CASES COMMUNICATION MAY BECOME DIFFICULT AND CONNECTION MAY REQUIRE SEVERAL ATTEMPTS.

SHOULD THE WIRELESS CONNECTION ENCOUNTER SERIOUS PROBLEMS THAT MAY COMPROMISE A REGULAR COMMUNICATION, THE SOURCE OF THE ENVIRONMENTAL ELECTROMAGNETIC INTERFERENCE MUST BE IDENTIFIED AND ITS INTENSITY REDUCED.

Position the product in order to guarantee the correct operation of its radio devices. In particular, do not cover it with any shielding or metal materials in general.

7 NORMATIVE INFORMATION

Declaration of Conformity

CE	Texa S.p.A. hereby declares that this **TMD MK3 DIAG** device complies with the essential requirements and with all further provisions defined by the R&TTE 1999/5/EC and RoHS 2011/65/EU directives.

A complete copy of the Declaration of Conformity can be found at

Texa S.p.A., Via 1 Maggio 9, 31050 Monastier di Treviso (TV), Italy

8 TMD MK3 DIAG

TMD MK3 DIAG is a small device capable of acquiring data while driving via the vehicle OBD socket on which it is installed.

Connecting the **TMD MK3 DIAG** and disconnecting it from the vehicle is quick and easy.

Because of its small size, the device takes up little space and does not interfere with driving.

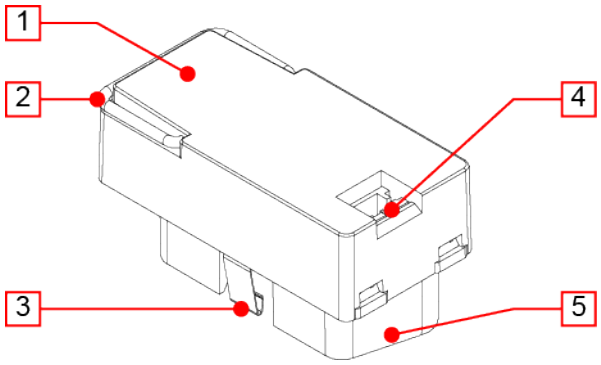
TMD MK3 DIAG acts as a gateway between vehicle diagnosis resources and external devices capable of using this diagnosis data.

To do so it communicates with a tracking device via Bluetooth and transmits the acquired data.

Using the **TMD MK3 DIAG** with a remote diagnosis device of the TMD series allows you to combine diagnosis functions with GPS tracking functions.

9 DESCRIPTION

This chapter describes the general features of the device.



1. **Status LEDs:** *they give indications regarding the status of the device.**
   - **Green:** *indicates the status of the device without Bluetooth communication.*
   - **Red:** *indicates the presence of errors.*
2. **Extraction hook:** *it allows you to remove the device easily.*
3. **Retention hook:** *it secures the device to the vehicle's diagnostic socket.*
4. **Connector for assistance activities:** *it allows you to carry out assistance activities on the device.*
5. **OBD connector:** *it allows the connection between the device and the vehicle's diagnostic socket and, through the latter, to the control unit.*

(*) For more information consult the chapter **Blink Codes**.

NOTE:

The Bluetooth antenna is integrated within the device and is not accessible from outside.

10 POWER SUPPLY

The device is designed to be used ONLY on vehicles with **12 V** power supply and chassis connected to the negative pole.

The device draws its power supply directly from the battery of the vehicle it is connected to through the OBD socket.

 **Do not supply the device using external batteries or through sources that differ from those specified in this manual.**

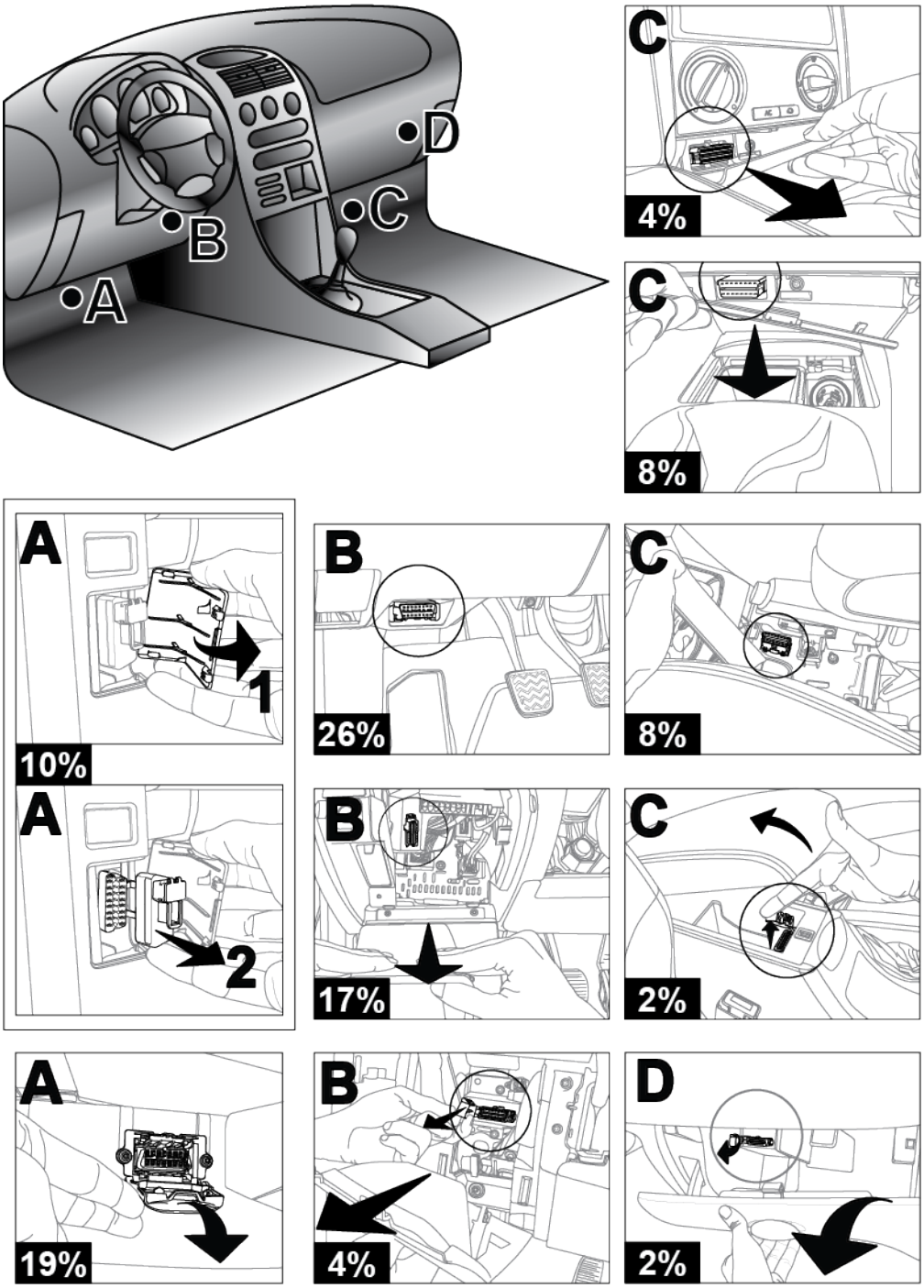
The vehicle's OBD socket is always powered, even when the engine and instrument panel are off.

The absorption never affects the battery's charge, however you should disconnect the device from the vehicle's OBD socket if the vehicle is not used for a long period of time.

11 LOCATION OF THE DIAGNOSTIC SOCKET

The images below indicate where the diagnostic socket may be located.

The percentages indicated in each image refer to how often each location is used by the manufacturer.



We always recommend you check the location of the OBD socket in the vehicle's user manual.

In case of doubts or for further information, contact the Technical Assistance or your Service Partner / Retailer.

12 INSTALLATION

The following chapters illustrate how to install the device.

The installation must be performed by qualified personnel only.

12.1 Precautions

Make sure that all wirings and cables in general and the hydraulic pipes of both fuel and safety pneumatic devices do not suffer from any damage during installation.

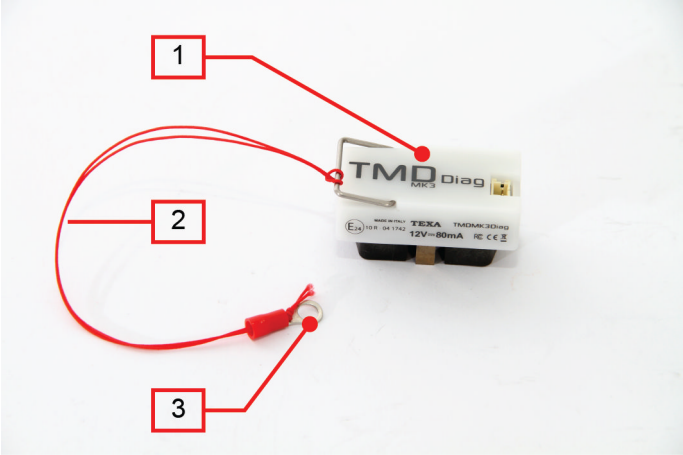
Make sure that the installation does not affect the operation of the vehicle's controls, such as brakes, steering wheel and, in general, all safety devices.

During the installation, make sure the various components around the OBD diagnostic socket do not damage the device.

Make sure that the position of the device does not interfere with driving.

12.2 Installation

The device is equipped with a string that allows it to be fastened securely and prevents it from getting lost.



1. *Device*
2. *String*
3. *Terminal*

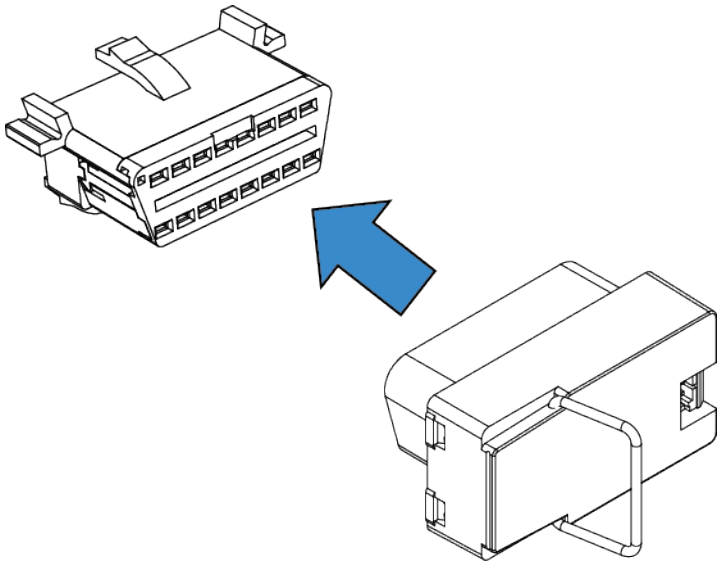
A screwdriver may be needed to loosen the screws that fasten the panels that cover the OBD socket.

Make sure the vehicle is off (instrument panel off) when connecting and disconnecting the device from the OBD socket.

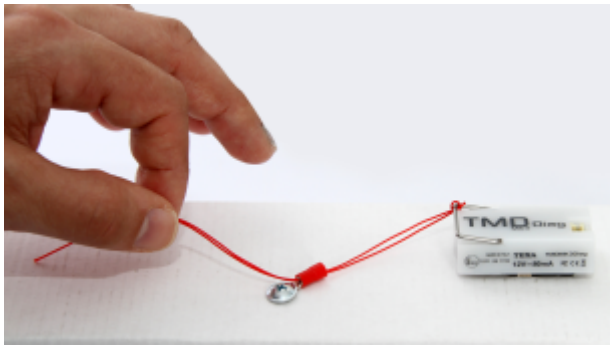
Proceed as follows:

1. Turn off the vehicle (ignition key off).
2. Locate the OBD socket.
3. Carefully remove any panels cover the OBD socket.
4. Connect the device to the OBD socket.

Make sure that the various components around the diagnostic socket do not damage the device during installation.

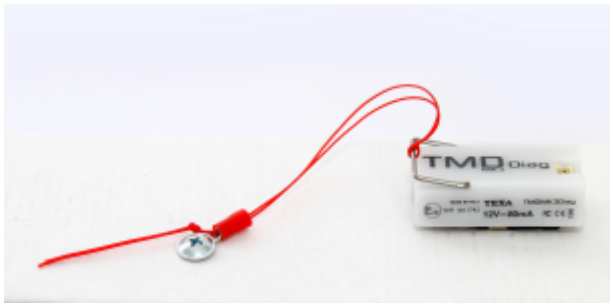


5. Check to see if there is a screw anywhere near the OBD socket with a small enough diameter to allow it to pass through the cable eyelet.
6. If there is no screw that serves this purpose, find a place where you can make a hole with the self-drilling screw.
7. Fasten the eyelet terminal with the screw.
8. Pull the string and shorten it as much as possible, leaving it only long enough so that you will be able to remove the device from the OBD socket in the future.

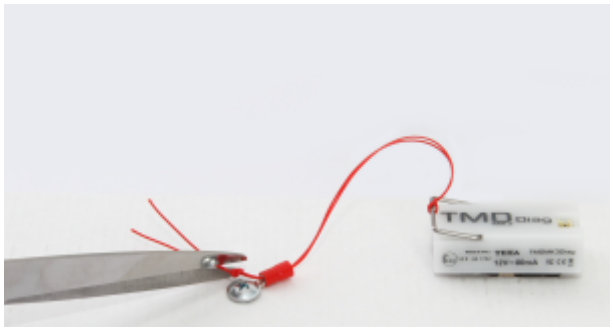


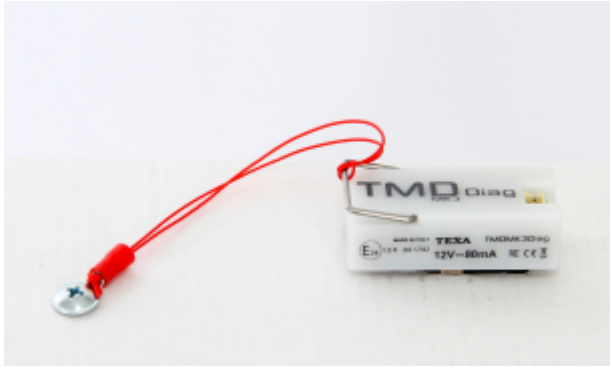
Choose the length of the string carefully, based on the position of the OBD socket. Make sure it does not interfere with the use of the clutch, brake or accelerator or other devices within the vehicle required for safety reasons or a normal operation of the vehicle itself, as specified by the car manufacturer.

9. Tie the string just before the eyelet terminal.



10. Cut the extra string after the knot.





11. Make sure the device is securely connected to the diagnostic socket to avoid it from accidentally disconnecting during use.

12. Turn on the vehicle (instrument panel on).

13. Wait for the LED to flash.

Make sure that the position of the device does not interfere with driving.

14. Reposition and fasten the panels removed during the installation.

In some cases the device may remain in sight.

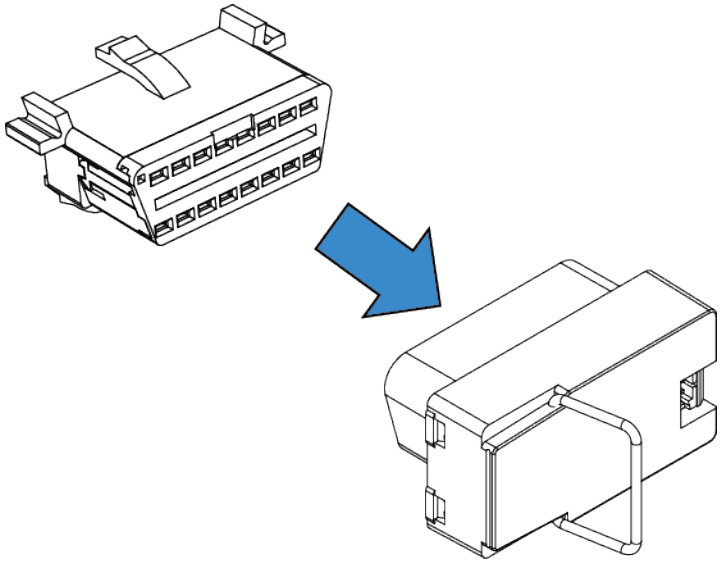
Do not be distracted by the device and check the status of the device while driving.

NOTE: Device removal

You might have to disconnect the device form the OBD socket during vehicle maintenance operations in order to allow the connection of diagnostic devices.

Proceed as follows:

1. Turn off the vehicle (ignition key off).
2. Carefully remove any panels cover the OBD socket.
3. Lift the extraction hook,
4. Carefully pull out the device until it disconnects completely from the diagnostic socket.



Do not use screwdrivers or other tools to lever and disconnect the device.

13 USE

It is no longer required to act directly on the device after the installation and configuration.

The device activates as soon as the vehicle's instrument panel is switched on.

 **While driving, do not get distracted to check the status of the device or to interact with it directly or indirectly.**

In case of doubts or for further information, contact the Technical Assistance or your Service Partner / Retailer.

14 MAINTENANCE

This product does not require maintenance operations.

Follow the indications in this manual carefully in order to guarantee an extended use of the device.

In case of doubts or for further information, contact the Technical Assistance or your Service Partner / Retailer.

15 BLINK CODES

The bi-colour LED (green/red) on the device flashes to indicate the various states of the device itself, both while it is connecting to the display unit and when it is connecting to the vehicle.

The **BLINK CODE** of the LED is indicated in the table below.

LED		DURATION	STATUS
GREEN	RED		
1 flash every 5 seconds	Off	Undefined	Device connected to the PC
Off	Off	Undefined	Device ready to start the trip
On	Off	5 min.	Beginning of trip acknowledged, waiting for commands.
3 flashes every 2 seconds	Off	Undefined	Device connected to the vehicle, data acquisition in progress
Off	Quick flashing	60 seconds	Device connected to the vehicle Device NOT activated or NOT configured or generic error

NOTE:

Start of trip: engine is turned on.

16 TROUBLESHOOTING

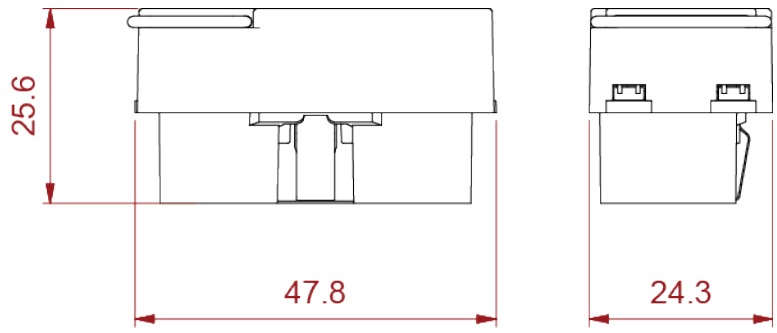
Below there are some situations / problems that can occur while using the device, along with a possible cause and a possible solution.

Situation / Problem	Possible Cause	Possible Solution
The engine is on, but the green LED is not turning on.	The device is not properly connected and appears as switched off.	Carefully disconnect and reconnect the device to the diagnostic socket making sure it is inserted securely.
	The vehicle's diagnostic socket is damaged.	Contact an authorised workshop.
The red LED flashes rapidly.	Device NOT activated or NOT configured or generic error	Contact Technical Assistance.

17 TECHNICAL CHARACTERISTICS

Manufacturer:	TEXA S.p.A.
Model:	TMD MK3 DIAG
Microcontroller Core	ARM CORTEX M4 168 MHz
Memory	• *Total Flash: 256 MByte NAND FLASH* • *Total RAM: 8 MByte SDRAM*
Operating status warnings	• *1 green LED* • *1 red LED*
Vehicle interface	Standard OBD socket
Processing unit interface	Bluetooth Classic (2.1) and 4.0 Low Energy (Smart Ready)
EOBD compatibility	Complete electrical and mechanical compatibility as defines by the ISO 15031-03 OBD plug standard
Supported protocols	Complete compatibility as defined by the standards: • *K, L (with 60 mA current protection) ISO9141-2, ISO14230* • *CAN HS ISO11898-2* • *CAN LS ISO11898-3*
Power Supply	Supports 12 V vehicles

Consumption	• *vehicle ON:*
	  • *absorption with TMD MK3 DIAG only = 80 mA*
	  • *maximum absorption (with TMD MK3 EDR connected to the J3 connector) = 450 mA*
	• *vehicle OFF: 3 mA*

Operating temperature	- 20 °C ÷ 60 °C
Storage temperature	- 30 °C ÷ 70 °C
Dimensions	
Weight	20 g

Directives	R&TTE 1999/05/EC RoHS 2011/65/EU
Product standards	EN 301 489-1V1.9.2:2011 EN 301 489-17V1.6.1:2013 EN 300 328-2V1.8.1:2012 EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + AC: 2011 + A2:2013 ISO 7637-1:2002 ISO 7637-2:2011
Regulations	ECE / ONU R10

18 ENVIRONMENTAL INFORMATION

 **For information regarding the disposal of this product please see the pamphlet supplied.**

19 LEGAL NOTICES

TEXA S.p.A.

Via 1 Maggio, 9 - 31050 Monastier di Treviso - ITALY

Cod. Fisc. - No. of Companies' Register of Treviso - Part. IVA: 02413550266

Single member company and subject to management and co-ordination of Opera Holding S.r.l.

Share capital of 1.000.000 € i.v. - R.E.A. N. 208102

Legal Representative Bruno Vianello

Phone +39 0422.791.311

Fax +39 0422.791.300

www.texa.com

For information regarding the legal notices, please refer to **International Warranty Booklet** provided with the product in your possession.