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// SERVICE // MATERIAL PROCESSING // SURFACE PROTECTION // AUTOMOTIVE

REMA TIP TOP

TPMS Tyre Pressure Monitoring Systems



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TPMS General information

A tyre pressure monitoring system constantly monitors the pressure and temperature of a vehicle's tyres. If the tyre pressure drops or is below the recommended minimum pressure, the driver is alerted either by an audible signal and/or warning symbol lighting up on the dash, depending on vehicle model. The TPMS system helps to prevent accidents, improve fuel economy and decrease carbon emissions.

Overview of TPMS Tyre Pressure Monitoring and the Law in Europe

Commission Directive 2010/48EC confirmed that since November 2012 all NEW type M1 vehicles will be required by law to have a pressure based TPMS (Tyre Pressure Monitoring System) installed.

From November 2014 all type M1 vehicles sold in Europe are required by law to have a TPMS system installed. (Category M1: Vehicles designed and constructed for the carriage of passengers and comprising no more than eight seats in addition to the driver's seat).

TPMS is part of the European National Car test, for all newly registered cars from January 1st 2012.

TPMS and the MOT Test

TPMS is now being tested as part of the MOT road worthiness test. At present, any vehicle manufactured before 2012 that has been fitted with a TPMS will receive an 'advisory' on their test if a fault is detected or the TPMS dashboard light is illuminated. This will be recorded on the MOT test certificate. However, as of 2012, MOT legislation underwent review and an illuminated TPMS Malfunction Indicator Lamp (MIL) will now result in an immediate MOT failure on vehicles fitted with TPMS on or after 1st January 2012*.

Direct or Indirect TPMS - What's the difference?

Indirect TPMS

Indirect TPMS's measure the rotational speeds diagonally of each tyre using the ABS speed sensors.

An under-inflated tyre will rotate slower than the correctly inflated one, giving a tyre pressure warning.



Direct TPMS

Each wheel of the vehicle has a sensor fixed to it to monitor the changes in pressure from the tyre.

If low pressure or a leak is detected (Generally 25% less than operating pressure) the driver is alerted by the in-car system.



Direct or Indirect TPMS - The PROs and CONS

Indirect TPMS - PROs

The system works from the ABS or Speed Sensors already installed in the vehicle. It is low cost.

There is no chance of sensors needing to be replaced or being damaged in any tyre related work.

Indirect TPMS - CONS

It is not accurate.

The system needs to be re-set when tyres are replaced, inflated or positions changed.

It is possible to TRICK the system. For example, four underinflated or flat tyres will not set off a warning as they are still rotating at the same speeds

A puncture after parking is not identified.

Direct TPMS - PROs

Direct TPMS monitors tyre pressure to 1.5 kpa.(Kilopascals) (1 bar = 1000 Kpa) It is very accurate.

Sensors send their signal approximately every 30 seconds whilst driving. Low pressure will be identified very quickly.

Tyre sensors can identify leaking air.

At start up a tyre with low pressure is immediately identified.

Direct TPMS - CONS

More expensive solution

Requires Maintenance

Requires additional diagnostic equipment to reset and service

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Direct TPMS - Best Practice in the Tyre Bay

Sensors need to be serviced each time a tyre is replaced to maximise their service life.

We service the sensor:

- To create a good airtight seal –Rubber Grommet
- To ensure corrosion on the valve body is minimised
- To replace metal fatigued parts –Outer Collar
- To replace the valve core to ensure that the valve is internally airtight - Nickle plated.

TPMS Inspection

The inspection process is important. It determines that TPMS exists and that it is functioning correctly. You can use this process to engage the customer. The condition of the TPMS system should always be recorded.



So what do you need to get up and running?

DETECTION AND TESTING

Before beginning any service activity to the Tyre/Wheel Assembly, determine the presence of sensors, and that the sensor is functioning correctly in all four wheels.



PROFILER

OR



ATEQ

CONSUMABLES AND TOOLS SERVICE LEVEL

VALVE SERVICE GOOD

Basic Valve Service Preventative Maintenance during punctures etc.



VALVE REPLACEMENT BETTER

Valve replacement when fitting new tyres- Recommended good practice



SENSOR/SERVICE REPLACEMENT BEST

Full service of the TPMS system including replacement of the Valves and sensors



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TPMS Diagnostic and programming devices

PROFILER TPM II

REMA TIP TOP's specialised product line of TPMS diagnostic and programming devices meets all the needs of a demanding and rapidly developing market.

Solutions tailored to any application can be created through the combination of USB programming devices, PROFILER TPM II and PROFILER TPM II Plus.

The PROFILER TPM II stores tests that have been carried out and programming data. This data can be sent to a PC by USB cable or wireless communication (Bluetooth) in order to print out reports.

Thanks to the twelve-month free update service, the PROFILER TPM II is also well equipped to cater to future needs!



The PROFILER TPM II tool features broad functionality. After switching on, it is ready to select a vehicle within just four seconds, and the first measurement can be started after merely 20 seconds! In addition to sensor ID, the PROFILER TPM II also reads out data on pressure, temperature and battery status from the sensor fitted to the wheel, by radio frequency. Its comprehensive diagnostic database from model years 1996-2014 contains all conventional vehicle models of the European market. Moreover, universal sensors for about 400 vehicles can be programmed!

In addition to diagnostic and programming data, the technical specs for each vehicle include a host of additional information, such as replacement sensor type, tightening torques for sensor installation as well as rotation and teach-in procedures.

COMPATIBLE WITH:

T-PRO



SCHRADER



HUF



VDO

ALLIGATOR



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PROFILER TPM II

Ref. No. 559 0800



- Special design to meet the demands of professional tyre services
- Quick and easy to use
- Extensive databases for TPMS diagnostics and programming of universal sensors
- Programming of universal sensors of: Alligator sens.it, Schrader EZ-sensor and Huf IntelliSens systems
- Activates the TPMS sensors in the wheel and receives data from the sensors by radio (pressure, temperature, sensor ID, battery)
- Database containing tightening torques, spare parts numbers, service kits and technical data
- Wireless communication with PC via Bluetooth
- Printing of reports
- Clear vision on display even in direct sunlight
- Protection: IP54 – shockproof, non-removable case
- Languages: German, English, French, Dutch, Italian, Japanese, Polish, Portuguese, Russian, Swedish, Spanish, Czech, Turkish and Hungarian
- Supported frequencies: 315 MHz, 433 /343 MHz, 868 MHz
- Includes 12-month software updates for all databases
- With OBD kit 559 0840 upgradable to PROFILER TPM II Plus

PROFILER TPM II Plus

Ref. No. 559 0810

Additional features of the Plus version:

- OBD kit included
- Data readings (pressure, temperature, sensor ID, battery state) via OBD
- Simple teach-in of new sensors at the press of a button
- Sensor/ECU programming via OBD (sensor IDs, pressure thresholds, summer / winter, etc.)
- Fault code deletion via OBD

Ref. No.	Description	Image
559 0800	PROFILER TPM II - including suitcase Incl: Bluetooth, SD card, 12 months of Up-date Service (License Subscription-Profiler TPM II), Universal Sensor programming function (Sens.it, EZ sensor, IntelliSens & REDI).	
559 0810	PROFILER TPM II Plus - including suitcase Incl: Bluetooth, SD card, 12 months of Up-date Service (License Subscription-Profiler TPM II Plus), Universal Sensor programming function (Sens.it, EZ sensor, IntelliSens & REDI), EOBD programming function, EOBD cable.	
559 0840	OBD-Kit for PROFILER TPM II Upgrade from TPM to TPM II Plus Incl: EOBD cable, EOBD database for TPM II, 12 months of Up-date Service (License Subscription-Profiler TPM II Plus)	

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TPMS Diagnostic and programming devices

ATEQ VT56

On top of the US manufactured vehicles, the ATEQ's VT56 reprograms Asian or European vehicles (including Toyota, Honda, Nissan, Hyundai, Kia, Mitsubishi, etc) which do not feature a TPMS self reprogramming software.

ATEQ's VT56 kit includes an universal OBD connector which connects to the vehicle ECU via CANbus and K-line.

Technicians only need to select the make of the vehicle and press the START button. It is that easy and fast to accurately activate and decode TPMS sensors and display their data or any faults they may have.



The VT56 is a fully updateable, universal TPMS tool. Designed to activate all TPMS sensors and store the sensor data. Using the OBDII connector this data can be transferred to the vehicle to reset the ECU when a sensor is replaced or wheel positions are changed. All popular programmable sensors can be programmed with the VT56.

Specification:

Equipment required to carry the test	ATEQ TPMS Box ; Air Supply + Pressure gauge ; ATEQ VT56 TPMS sensor decoder to read the pressure value of the sensor from within the box.
TPMS Sensor compatibility	All currently known TPMS sensors on the market
New Sensors compatibility	As long as they fit inside the box, they are compatible
Maximum test pressure(approx.)	5 Bars (73 PSI)
Connectors	Standard pneumatic dual connection on the back. One to connect air supply and an optional one to check the calibration of the gauge you are using.
Warranty	1 year
Weight	682 g (24.057 ounces)
Dimensions H x W x D mm (inches)	200 (6.74") X 120 (4.72") X 85 (3.5")

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ATEQ VT56 OBII KIT

Ref. No. 559 0420

VT56 OBII kit includes:
 VT56 diagnostic tool
 OBDII interface connector
 OBDII to VT56 ethernet cable
 USB PC cable
 Power adaptor
 Update software
 Quickstart user manual

ATEQ hard kit carry case

Optional wireless printing with dock integrated printer
 VT56 features:
 High resolution 4.3" color display
 OBDII location
 Sensors on one screen
 Integrated help
 Icon driven intuitive learning
 Part number lookup
 OBDII for ECU reset
 Dated history file



Programs all popular programmable sensors
 Key fob tester
 RF signal tester
 Help screens
 WIFI connection to PC
 WIFI updates
 Barcode scanner for vehicle identification
 Docking cradle with thermal printer
 Update via USB, WIFI & SD card
 DTC read & reset

Ref. No.	Description	Image
559 0420	VT56 OBII kit	
559 0410	ATEQ VT56 Docking Station + Printer	

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T-Pro

The T-Pro™ is a single sensor that can be configured to function as a drop in replacement for a huge number of OE sensors. Precision engineered using the highest quality materials, the T-Pro uses the market leading Freescale™ chip and super long lasting Maxell battery.

Ref. No.	Name	Content	Image
562 8517	T-Pro™ Configurable TPMS Sensor - Clamp-in Powered by the market leading Freescale™ chip Configurable in just 8 seconds Advanced Maxell battery - 5 year life span Just one sensor replaces huge number of OE sensors	1 Sensor	
562 8524	T-Pro™ Configurable TPMS Sensor - Snap-in Powered by the market leading Freescale™ chip Configurable in just 8 seconds Advanced Maxell battery - 5 year life span Just one sensor replaces huge number of OE sensors	1 Sensor	
562 8545	T-Pro™ Clamp-in Valve	10 Valves	
562 8522	T-Pro™ Snap-in Valve	10 Valves	

Huf IntelliSens

The Huf IntelliSens universal sensor is a configurable sensor. This means that the required information is already stored on the sensor and only needs to be activated using the PROFILER TPM II. The configurable sensor concept saves valuable time. Huf IntelliSens sensors always come with a metal valve. Angle adjustability from 0° to 40° ensures maximum compatibility with the widest variety of rims.

Ref. No.	Name	Content	Image
561 0392	Huf IntelliSens Sensor UVS01C4 incl. clamp-in valve For the European market Adjustable angle: 0-40° Frequency range: 434 MHz	1 Sensor	
561 0378	Huf IntelliSens Sensor UVS02C4 incl. clamp-in valve For the European market Adjustable angle: 0-40° Frequency range: 434 MHz	1 Sensor	

OEM replacement sensors


The REMA TIP TOP product portfolio also includes OEM replacement sensors from Huf, VDO and Schrader. The range offered covers the market needs for conventional vehicle brands and is constantly being updated and expanded. The global sales network of REMA TIP TOP AG guarantees just-in-time availability at all times.

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Universal TPMS programming devices

Ref. No. 562 3880

This pad can be used to program sens.it sensors with the vehicle-specific data stored in the online database. A simple USB cable connects the programming tool to a PC.

Ref. No.	Description	Image
562 3880	sens.it – TPMS Programming PAD – REMA TIP TOP	

Universal sensors

The range of programmable universal sensors offered by REMA TIP TOP exclusively includes premium products such as Alligator sens.it, Schrader EZ-sensor and Huf IntelliSens.

Programmable sensors are set to become a key component of tyre pressure monitoring systems in the future.



Economic reasons such as reduction of inventory, less tied-up capital and universal applicability will likely make the universal programmable sensor the most important sensor in the workshop of the future.

The systems carried by REMA TIP TOP guarantee optimum coverage of the European vehicle market. These all-in solutions are therefore ideal for both small and large tyre shop chains.

Alligator sens.it

The programmable sens.it TPMS sensor provides a complete solution for the replacement of OE TPMS sensors. A large variety of original TPMS sensors can be replaced using just this one sensor type, offering significant cost savings for workshops in the form of inventory reduction and time savings during installation. The sensor is programmed using the PROFILER TPM II or an USB programming device.

sens.it Sensors

Ref. No.	Description	Content	Image
561 0000	sens.it TPMS Sensor - Clamp-in For the European market Adjustable angle: 12-40° Frequency range: 433 MHz Weight: 18 g	1 Sensor	
561 0007	sens.it TPMS Sensor - Snap-in For the European market Frequency range: 433 MHz Weight: 16 g	1 Sensor	

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sens.it Valve kits

Clamp-In valve kit consisting of high-quality aluminium alloy with anodised coating:

- Maximum speed: > 210 km/h

Snap-In valve:



- Maximum speed: 210 km/h max.

Ref. No.	Description	Color	Content	Image
562 3838	sens.it TPMS clamp-in valve kit 43 LMS	Standard silver anodised	1 Kit	
562 3859	sens.it TPMS clamp-in valve kit 43 LMS	Black anodised	1 Kit	
562 3852	sens.it TPMS clamp-in valve kit 43 LMS	Titanium grey anodised	1 Kit	
562 3845	sens.it TPMS clamp-in valve kit 43 LMS	Chrome	1 Kit	
562 3887	sens.it TPMS Snap-in valve	black	12 pieces	

In addition, the sens.-it sensors are also available in a 315 MHz version for US American vehicles.

Schrader EZ-Sensor

The Schrader EZ-sensor can be programmed to directly replace faulty or broken sensors. Once programmed, the EZ-sensor sends the signal of the original sensor. EZ-sensors are always supplied with a metal or rubber valve. They are programmed with the PROFILER TPM II.

Ref. No.	Description	Content	Image
561 0896	EZ-Sensor with metal valve For the European market Frequency range: 434 MHz Weight: 40 g	1 Sensor	
561 0819	EZ-Sensor with rubber valve For the European market Frequency range: 434 MHz Weight: 33 g	1 Sensor	

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TPMS Starter Kits - Service Kits

Besides universal and OEM replacement sensors, REMA TIP TOP also offers all of the service kits required for servicing TPMS valves and TPMS sensors when tyres are changed, thus meeting the specifications of the sensor manufacturers. According to the manufacturers, TPMS valves have to be serviced and wear parts such as seals and fixtures have to be replaced whenever tyres are changed.



561 1043 - **STARTER KIT** - SCAN QR code for contents
Please refer to the inside of box for part numbers



561 1050 - **STARTER KIT LITE** - SCAN QR code for contents
Please refer to the inside of box for part numbers



562 8412



562 8447

RE-ORDER INDIVIDUAL KITS
USING PART NO INSIDE BOX
REFILL - QTY 10



562 8461



562 8468

TPMS Tool Kits

When installing and servicing TPMS sensors and valves it is imperative to observe the torque tightening and fitting instructions of the manufacturers. Considering the different torques, attachment designs and fitting details, a kit of special TPMS hand tools is a must.

Ref. No.	Description	Image
562 8538	Premium TPMS Tool Kit Calibrated Torque Tool 12mm, 11mm & 7mm Sockets T20, T15 & T10 TorxBits T6 TorxDriver Torque Valve Core Remover Grommet Removal Tool	
562 8566	Premium TPMS Tool Kit - 15 piece Torque wrench 6.3 mm (1/4 „) 2-10 Nm, 0.5 Nm division, fine scale 0.1 Nm to attach the metal valve on the rim/Torque screwdriver 1.4 Nm with 4 mm hexagonal socket incl. Blade for confirming the RDC sensor on the valve/Valve sealing tool for safe assembly and disassembly of rubber gaskets on TPMS valves/ Torque limiter 0.25 Nm/Torque limiter 0.45 Nm/ Punches for counterering /Adapter from six to square/ Socket 11 mm long/Socket 12 mm long, Screw Turning Inserts T10, T15, T20/Screwdriver Bit T10, T15, T20	



Your local contact



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