



User Guide

 **Pro**
Model TIPS003

Manufactured under US Patent # xxxxxxxxxx, International Patents Pending

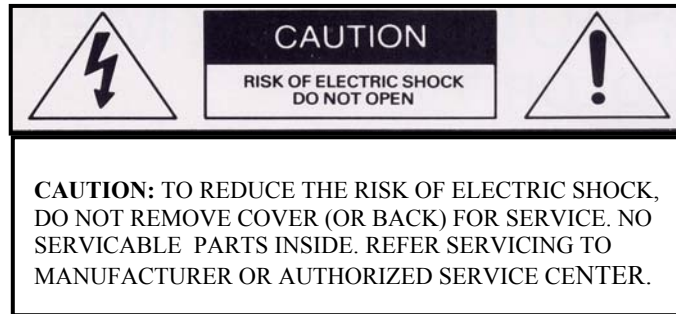
Table of Contents

IMPORTANT: In order to assure that you receive product support services, technical updates and information pertaining to upgrades, please take a few minutes to properly register your T.I.P.S. Tool. Please either complete the warranty registration card shipped with your tool or register online at www.tipstool.com.

	<u>Page</u>
Important Safety Information	X
Introduction	X
Operating Instructions	
T.I.P.S. Pro Tool Overview	X
Using the T.I.P.S. Tool	X
Low Battery Indication	X
Battery Replacement	X
Software Upgrades	X
Cleaning	X
Storage	X
Trouble Shooting	X
Customer Support	X
Specifications	X
Limited Warranty	X

IMPORTANT SAFETY INSTRUCTIONS

Do not discard. Retain for future reference



The exclamation point with an equilateral triangle is intended to alert the user to important operating and maintenance (servicing) instructions in the literature accompanying the appliance



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to uninsulated "dangerous voltage" within the product enclosure that may be of sufficient magnitude to constitute a risk of electric shock.



WARNING: This product emits magnetic and electromagnetic waves that may interfere with the safe operation of pacemakers. Individuals that have pacemakers should never use this product.



WARNING: Risk of Explosion. This equipment has internal arcing or sparking parts that should not be exposed to flammable vapors. This equipment should be used at least 460 mm (18 inches) above the floor.

FCC Notice: Id RN8TIPS001

This tool complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1) This tool may not cause harmful interference, and
- 2) This tool must accept any interference received, including interference that may cause undesired or improper operation.

This equipment is an intentional transmitter. Any changes or modifications not approved by the manufacturer could void the user's authority to operate the equipment.

Notice

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Patent Pending

CAUTION

READ THESE INSTRUCTIONS BEFORE USING

Your Tire Inflation Positioning Switch (T.I.P.S.) Tool has been designed to be durable, safe, and reliable when properly used. ***All T.I.P.S. Tools are intended to be used only by qualified and trained personnel in a Laboratory or a light industrial repair shop environment.***

This equipment is an intentional transmitter. Any changes of modifications not approved by the manufacturer could void the user's authority to operate the equipment.

Please read all instructions below before using. Always follow these safety instructions. If you have any question that pertains to the safe or reliable use of this tool, please call (800) 359-9855 between 9:00 am - 4:30 p.m. Eastern Time. If calling from outside the USA please call **01-586-726-5525** or email your question to support@g5electronics.com.

1. Read all instructions.

All warnings on the tool and in this manual should be adhered to. All operating and use instructions should be followed.

2. Retain Instructions

The safety and operating instructions should be retained for future use.

3. Heed Warnings

All warnings on the tool and in the operating instructions should be adhered to.

4. Follow Instructions

All operating and use instructions should be followed.

5. Cleaning

Clean with a soft dry cloth, or if necessary, a soft damp cloth. Do not use any harsh chemical solvents such as acetone, thinner, alcohol, etc as this may damage the plastic surface.

6. Water & Moisture

Do not use this tool where contact or immersion in water is a possibility. Never spill liquid of any kind onto tool.

7. Storage

Do not use or store the tool in an area where it exposed to direct sunlight or excessive moisture, i.e. outdoors, near wash systems, etc.

8. Use

To reduce the risk of fire, do not operate the tool in the vicinity of open containers or flammable liquids. Do not use where the potential for explosive gas or vapors exists. Keep the tool away from heat generating sources. Do not operate the tool with the battery cover removed.

9. Battery Replacement

Replace all six batteries promptly after receiving the low battery indication (RED ACTIVATION LED). Only size AA Alkaline type batteries should be used. Do not use rechargeable batteries. When disposing batteries please comply with all local, state, or country guidelines.

10. Servicing

Do not attempt to service this tool yourself, as opening or removing covers (with the exception of the battery cover) may expose you to dangerous voltage or other hazards. Refer all servicing to authorized service personnel. Do not use this tool if it appears damaged or is not operating properly.

Introduction

Tire Pressure Monitoring Systems, commonly known as TPM systems, will soon be installed on most of the automobiles manufactured in the world. Most of these systems use a “direct” approach which incorporates the use of wheel based transmitters or sensors (typically incorporated into the valve stem) which report tire pressure (in addition to the sensor ID) to the engine control module (ECM) or some specific controller module on the vehicle. In order to conserve battery life, these sensors are designed to transmit information to the vehicle after the vehicle has been in motion for a specified period of time.

For most of these vehicles, specifically those that use TPM position indicators on the instrument cluster or vehicle information console (VIC), each time that you rotate tires / wheels (or if a defective sensor is replaced) the TPM sensors must be retrained (reprogrammed) in order to properly inform the driver of the correct vehicle location for a low or high pressure tire. If the receivers are not reprogrammed, the system will continue to report the correct pressures, but they will be reported in the wrong position on the vehicle information console or instrument cluster.

In order to re-train the sensors, you must first make sure that the vehicle (ECM or VIC) is placed in "learn mode". Each manufacturer has its own procedure for putting the vehicle in learn mode. Please see the vehicle owner's manual for detailed instruction on how to accomplish this.

With the vehicle in learn mode, you will be able to re-train the TPM sensors. While each manufacturer may have their own protocol, typically you will work clockwise around the vehicle with the T.I.P.S. Tool starting with the left front tire, followed by right front, right rear, spare, and finally the left rear (Some vehicle manufacturers may require that the spare be programmed).

The T.I.P.S. (Tire Inflation Positioning Switch) Tool has been designed to activate both magnetic and frequency triggered tire sensors that have been installed at the factory by original equipment manufacturers.

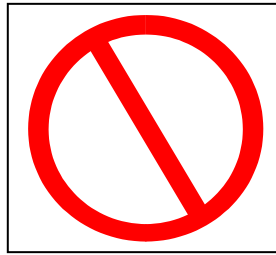
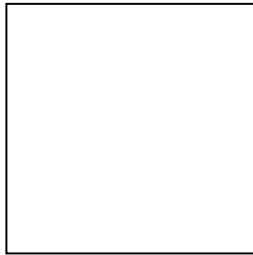
The T.I.P.S. Pro Tool provides the ability to activate both magnetic and electronically triggered TPM sensors that respond to 125 KHz frequency input. The T.I.P.S. tool provides both a visual and audible confirmation that the TPM sensor has been triggered and is transmitting. In addition to triggering “continuous wave” sensors, the T.I.P.S. Pro tool provides the additional benefit of being able to trigger TPM sensors that rely on a 125 KHz "modulated wave" input. The T.I.P.S. Pro is digital and incorporates software which means it can be updated making it a truly universal TPM sensor triggering tool.

Operating Instructions

T.I.P.S. Pro Model

The Pro model is designed to “trigger” all electronics and magnetically activated sensors. Within the electronically activated sensors, the T.I.P.S. tool will activate both “continuous wave” and “modulated wave” sensors that respond to 125 KHz signals. To initiate a frequency triggered TPM sensor, with the

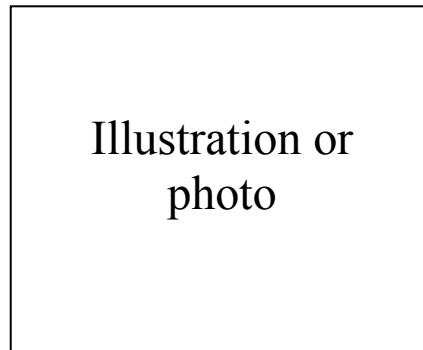
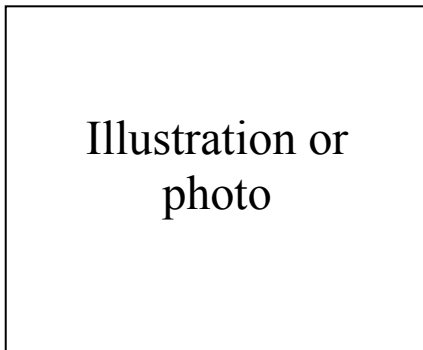
vehicle in "learn mode", place T.I.P.S so that the rounded end is positioned on the tire (NOT RIM) adjacent to the sensor. **(IMPORTANT: If the rounded end is positioned in line with the tire valve, the sensor will fail to trigger).**



Push the ACTIVATION Switch (SYMBOL) once the release and the T.I.P.S. ACTIVATION LED (GREEN in color) will light and will remain lighted until the sensor protocol is identified and triggered by the T.I.P.S. tool. If the “hunting” process is unable to identify and activate the sensor, or if the sensor is defective, the tool will “time out” and power down after a specified period of time i.e. 20 – 30 seconds.

When the TPM sensor is "triggered", it will transmit 315 MHz or 433.92 MHz frequency signals to the vehicle TPM control module. This TPM sensor transmission is verified with an oscillating audible tone and a blinking LED (AMBER in color) as shown below.

Note: With most vehicles, if the vehicle is in "learn mode" the vehicle will also confirm that the TPM sensor has communicated to the ECM with a series of horn beeps.



(Note to self: Emphasize Hunt Mode)

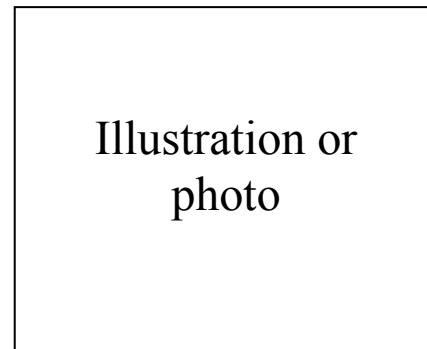
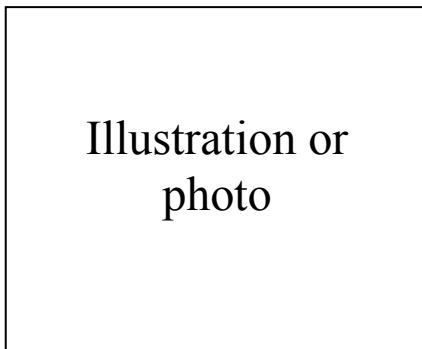
A second or two following the frequency response indication (315 or 433.92 MHz), some specific sequence of the four LED's will illuminate. The LED pattern provides information as to what model of sensor was triggered i.e. continuous wave, modulation type 1, modulation type 2, etc. Each one of the modulation types corresponds to a specific sensor brand Seimens2004, Seimens2005, Beru, Schraeder, etc. If the TPM sensor transmission is confirmed by T.I.P.S. the software will use this triggering protocol for the next TPM sensor and so on until the tool is unable to confirm TPM sensor transmission. If T.I.P.S. is unable to confirm a TPM sensor transmission, the system will then start "hunting" for the next electronic triggering protocol until the sensor is identified and triggered.

Once you become familiar with the various triggering protocols that are available, you may want to manually select the one you desire rather than relying on the hunting feature. To manually select a protocol, you may press the SELECTION Switch (SYMBOL). Each time you press the switch, a SELECTION LED (GREEN in color) or combination of LED's will illuminate. Each LED combination relates to a specific triggering protocol as shown below.



At the time of this User Guide was printed, the T.I.P.S. Tool contained the following types of electronic triggering protocols above. To obtain the most up to date list of triggering protocols, you may obtain this information at www.tipstool.com.

If the T.I.P.S. tool is unable to trigger a sensor, it is possible that the sensor is designed to be activated magnetically. To initiate a magnetically triggered TPM sensor, place T.I.P.S. so that the concave end is positioned around the tip of the tire stem as shown below. Without moving the T.I.P.S. Tool press the ACTIVATION Switch (SYMBOL) once and release and the T.I.P.S. ACTIVATION LED (GREEN in color) will light and will remain lighted until the sensor transmission is received and identified by the T.I.P.S. tool or until the tool will "time out" and power down after a specified period of time i.e. 20 – 30 seconds. If the TPM sensor is "triggered" by the magnet it will transmit signals over a 315 MHz or 433.92 MHz frequency band to the vehicle TPM control module. This TPM sensor transmission is verified with an oscillating audible tone and a blinking LED (AMBER in color) as shown below.



Again, while each vehicle manufacturer may have their own procedure, typically you will work clockwise around the vehicle with the T.I.P.S. Tool starting with the left front tire, followed by right front, right rear, spare, and finally the left rear (Some vehicle manufacturers do require that the spare be programmed).

Note: The T.I.P.S. Pro Model allows you to diagnose that the vehicle TPM sensors are working prior to performing any maintenance of the vehicle. This will reduce your liability associated with replacement of costly TPM sensors that may not have been working properly prior to tire rotation or replacement. Additionally, in the case where you are replacing a defective TPM sensor you can use the Pro model to verify that you are installing correct sensor (frequency) and you can confirm that it is working correctly prior to incurring labor costs.

Hint: If the wheel is made of steel, you will want to start with the electronic triggering method.

Using the T.I.P.S. Tool

We recommend a very simple yet effective four-step process as follows:

(Craig – insert the four-step process that is in the flyer we developed)

Low Battery Indication

T.I.P.S. tools incorporate a low battery detection circuit. During normal use, when you push the ACTIVATION Switch (SYMBOL) the T.I.P.S. ACTIVATION LED will light and will be GREEN in Color. In the "low battery" condition exists, the ACTIVATION LED will change to a RED color indicating replacement. Please replace the worn out batteries promptly to minimize the potential for damage to the T.I.P.S. Tool due to battery leakage and corrosion.

Battery Replacement

Remove the latched battery compartment cover located on the back side of the T.I.P.S Tool. Replace all six (6) batteries with fully charged AA Alkaline type batteries. Please make sure that the polarities, + and - are properly aligned within the battery cradle. When disposing the batteries, please comply with all local, state, or country guidelines.

Software Upgrades

The T.I.P.S. tool is upgradeable so that you can download the most up to date modulated wave protocols. In order to directly download the most up to date software, you will require a software subscription and a Programming Interface Module. For more information on this service, please contact SCI customer service at (800) 359-9855 or by email at info@spectrumcomposites.com. In order to determine if your T.I.P.S. tool incorporates the most up to date software, you can go to www.tipstool.com/service and click on the _____ link.

Cleaning

Your T.I.P.S. Tool has undergone extensive testing for resistance to chemicals typically found in the shop environment. In order to maximize the longevity of the tool, please do not use abrasive or caustic cleaning agents. Wherever possible, please use damp cloth to clean your T.I.P.S Tool.

Storage

Whenever possible, store your T.I.P.S. Tool in a tool chest or case at room temperature in an area which is free of excessive moisture and salt air. Please keep in mind that the tool incorporates a magnet that will attract and bond to ferrous metals, i.e. steel. While the performance of the T.I.P.S. Tool is not adversely affected by steel objects, you should keep the T.I.P.S. Tool away from devices that may be negatively affected by electromagnetic energy, i.e. computers, credit cards, etc. Also, storage of the tool by allowing it to magnetically hang from a tool cabinet is NOT recommended.

Trouble Shooting

The following trouble shooting chart assumes that you have tried to "trigger" the TPM sensor with both the magnetic and electronic systems associated with your T.I.P.S. Tool.

T.I.P.S. Pro Model

Important: In the description of the problem below, it is assumed that an attempt was made to trigger the sensor using the magnetic portion of the tool.

Description of the problem	And	Possible Problem	Solution(s)
The Sensor does not trigger (No audible sound from vehicle, no confirmation from LED, and no audible confirmation from tool)	ACTIVATION LED is Green until until powers down from "time-out" condition.	1 Tool is improperly positioned 2 Tool does not have the most up to date software 3 Faulty Sensor 4 Incorrect Modulated Sensor Triggering Protocol used. 5. Internal Electronic Problem	1 See instructions for proper tool positioning 2 See directions for upgrading tool 3 Replace Sensor 4 See directions for Pro Model i.e. selecting triggering protocols 5 Call for service
The Sensor does not trigger (No audible sound from vehicle, no confirmation from LED, and no audible confirmation from tool)	ACTIVATION LED is RED	1 Low Batteries	1 Change batteries
The Sensor does not trigger (No audible sound from vehicle, no confirmation from LED, and no audible confirmation from tool)	ACTIVATION LED does not illuminate	1. Batteries Completely Discharged 2 Batteries installed incorrectly 3 Internal Electronic Problem	1. Replace batteries 2. Check to assure proper polarity for batteries 3. Call for service

Customer Support

In order to obtain assistance with a question or problem concerning you T.I.P.S. tool or to arrange for warranty repairs, you can contact customer support from 9:00 a.m. - 4:30 p.m. (Eastern) Monday - Friday. Please use of the following means to contact us;

Toll Free: (800) 359-9855
Phone: (566) 726-5525
Fax: (586) 726-5954
Email: info@g5electronics.com

When you call and write please be prepared to provide the following information.

- Company Name & Address
- Your name and contact information
- T.I.P.S. Model number (found on back of tool)
- T.I.P.S. Serial number (found on back of tool)
- A detailed description of the problem
- Corrective measures attempted

Specifications

Battery Type: Six (6) Alkaline AA (Non rechargeable)

Battery Life: Approximately 2,500 activations

Case dimensions (Max. L,W,D): 10.25" x 2.50" x 1.75" (260mm x 64 mm x 45 mm)

Case Material: High Impact ABS

Batteries: Six (6) Alkaline AA (Non rechargeable)

Sensor Activation: Magnetic, 125 KHz continuous wave, 125 KHz modulated wave (Multiple formats)

Diagnostic Response: 315 MHz and 433.92 MHz.

Low Battery Indication: Activation LED changes to RED color

Weight: (With 6 AA Batteries)

Temperature: Operating: -20° C to +55° C;

Storage -40° C to +60° C

Altitude: Operating: Up to 2,000 m, Storage: Up to 10,000 m

* We continuously seek to acquire all manufacturers modulated wave formats. We are sometimes unable to obtain sensor formats / specification prior to release of a vehicle to the marketplace.