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Colven TIRE PRESSURE MONITORING SYSTEM

(VS-63W038-CV-T) User Manual

2017.11.27 Ver 04

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1. Important Information

1.1 Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in an installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

1.2 Product Caution

1.2.1 Do not operate a TPMS monitor while driving. The company is exempt from all consequences because of driver’s careless and improper operation.

1.2.2 The system adopts the wireless transmission of signals. In some special circumstances, interference or erroneous methods of operation or installation method errors may cause weaker signal or its inability to receive signals. If the insulation adhesive sticker of the windshield contains metal material, it will be likely to affect reception conditions. If the tire pressure and temperature readings on the TPMS monitor are displayed as “---”, this condition represents the

receiver cannot receive signals emitted by the sensors. Drive the vehicle away from the current location (nearby there may be signal interference) or drive the vehicle to a tire shop to check.

1.2.3 If the battery status of the TPMS sensors inside the tire is low, shows “LOW” and “  ”on the TPMS monitor (because abnormal conditions continue to occur, the battery may make the TPMS sensors continuously emit signals to warn the driver, so that battery life is shorter than the normal life), Please go as soon as possible to the specified service stations to confirm whether the TPMS sensors need to be replaced.

1.2.4 Temporary resealing or re-inflation products containing internal sealants or propellants in any tire assembly may adversely affect the operation of the sensor/transmitter. The product manufacturer does not assume any liability as to the customer’s use of internal sealants or propellants with the tire sensors used with this TPMS.

1.2.5 Do not leave the sensors in contact with chemicals, it may cause the sensors to fail.

1.2.6 The TPMS needs to be installed by qualified technicians in accordance with the installation manual in order for the TPMS warranty to be valid. If the TPMS sensor is improperly installed or disassembled causing damage to the sensors, the warranty will not cover this type of damage.

2. Product Parts List

No.	Item	Quantity
1	Sensor	4
2	Valve Package (valve and screw)	4
3	TPMS Monitor (with adhesive pad)	1
4	TPMS Receiver	1
5	Power Cable	1
6	Cable Tie	5
7	Velcro	1
8	User Manual	1

3. Specifications

Applied vehicle type: four-wheel passenger car, pick-up truck

TPMS Monitor Specification

Item	Specification
Operating Voltage	DC 3.3V ⎓
Operating Current	35 mA (max)
Operating Frequency	433.92 MHz

Operating Temperature	-20°C~70°C
Storage Temperature	-30°C~80°C
Monitored Tire Pressure Range	0~115 ±1.5 psi
Monitored Tire Temperature Range	-40°C~125°C±3℃
Size	50 x 40 x 10.5 mm
Weight	20 g

TPMS Receiver Specification

Item	Specification
Input Voltage	DC 12~24V ⎓
Operating Current	60 mA
Operating Frequency	433.92 MHz
Operating Temperature	-20°C~70°C
Storage Temperature	-30°C~85°C
Size	88 x 63 x 22 mm
Weight (with valve)	92 g

TPMS Sensor Specification

Item	Specification
Operating Voltage	3V DC ⎓
Operating Frequency	433.92 MHz
Operating Temperature	-30°C~105°C
Storage Temperature	-40°C~125°C
Tire Pressure Monitoring Range	0~115 ±1.5 psi
Tire Temperature Monitoring Range	-40°C~125°C±3℃
Weight	30 g

4. Sensor Installation

4.1 Installation Location

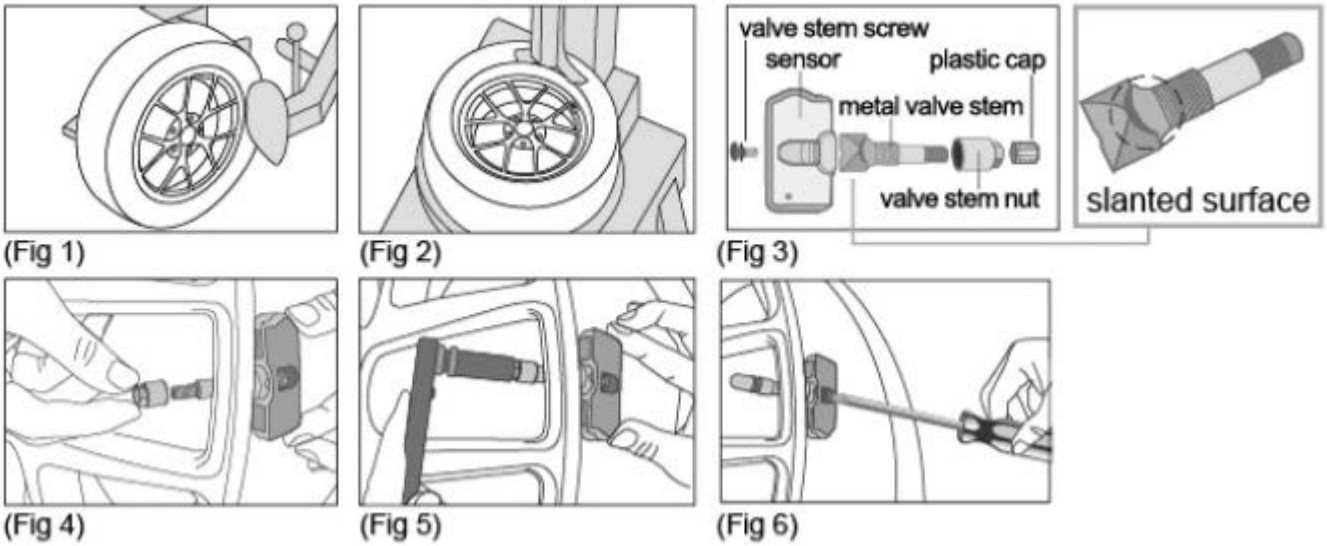
<IMPORTANT>

There is a wheel orientation mark on the surface of the sensor (see Fig 1), please install the sensors on the corresponding wheels (see Fig 2), it could skip the procedure of "9.1 ID Learning Setting" during the first installation and save time.

Fig. 1

Fig. 2

4.2 Sensor Assembly Process



(Fig 1) & (Fig 2) Deflate and remove the tire from the wheel using a tire mounting machine.

(Fig 3) Disassemble the valve unit by removing the plastic cap and valve stem nut from the metal valve stem.

(Fig 4) Insert the metal valve stem through the rim hole and face the slanted surface of the metal valve stem toward the inner surface of the rim. Then place the sensor over the head of the metal valve stem so that the sensor body is facing toward the inner surface of the rim and is parallel to the rim.

(Fig 5) Holding the sensor in place, secure the valve stem nut on the metal valve stem and tighten to 4

N-m torque. Once secured, affix the plastic cap to the metal valve stem.
(Fig 6) Fasten the sensor to the metal valve stem using the valve stem screw. Tighten the valve stem screw to 2 N-m torque.

Now remount the tire back onto the wheel, being careful not to damage the tire pressure sensor during mounting of the tire. Lastly, balance the wheel as you would normally, adding weights if necessary to achieve rotational balance.

4.3 Installation Completed

5. Receiver Installation

Fig 5.1

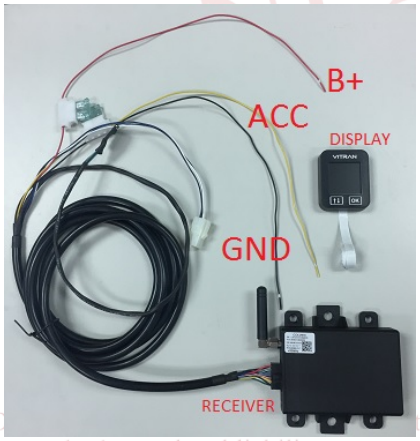


Fig 5.2

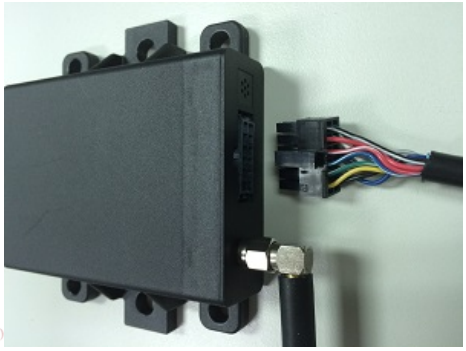


Fig 5.3

1. Remove the plastic cover chassis below the air vent hole on the driver side, the vehicle fuse box is located inside. (Fig 5.1)
2. Take the power cable, connect B+ (Red wire), ACC (Yellow wire), and GND (Black wire) to the fuse box respectively. (Fig 5.2)
3. Make the cable inside the scuff plate and hide it below the carpet. (Fig 5.1)
4. Connect the cable connector to the receiver. (Fig 5.3)
5. Place the receiver under the driver's seat, the antenna should face to the right side (co-driver seat), make sure that antenna is not bent or damaged during the installation, and there is no power cable or

other metal object close to the antenna for best signal receiving condition. (Fig 5.4)

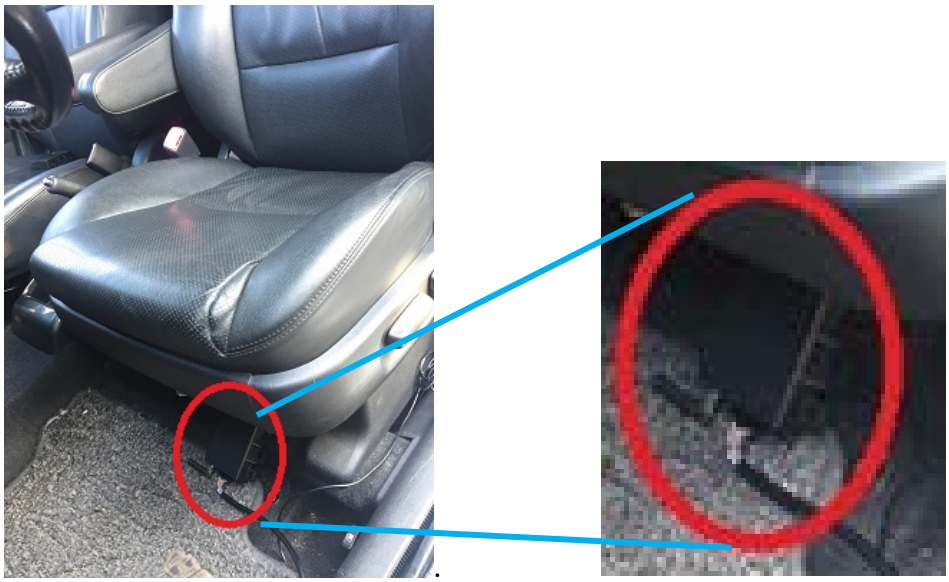


Fig 5.4

6. Monitor Display Installation

Fig 6.1

1. Make a slot hole on the area of air vent hole on the driver side, or insert the display flexcable through the gap between cover chassis. (Fig 6.1)

2. Take the open end of the flexcable, hold blue-sticker side down and connect it to the power cable connector, then lock the latch of the connector. (Fig 6.2)

3. Peel off the 3M adhesive on the backside of the monitor display, paste it onto the dashboard surface.

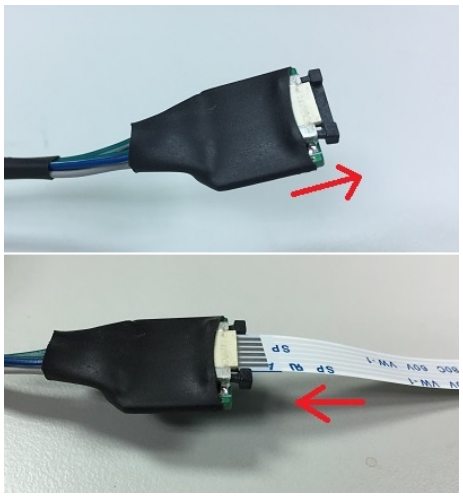
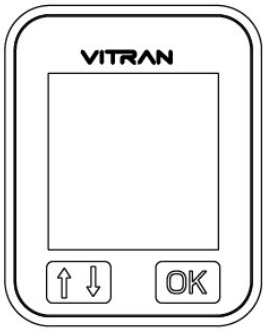


Fig 6.2

7 Driving Mode



When the TPMS monitor is turned on, the display shows VITRAN for two seconds then in Driving Mode. It shows four "---"(see figure above) as four wheels before the vehicle moves to get the tire data.
It shows the tire pressure status in Driving Mode all the time, if driver wants to check the tire temperature, please hold OK for 3 seconds, the display will switch to temperature status for 10 seconds then back to pressure status.

7.1 Default Value

Pressure unit	Default high tire pressure value	Default low tire pressure value
psi	50psi	25psi
Bar	3.7Bar	1.7Bar

Temperature unit	Default high tire temperature value
℃	60 ℃
°F	140°F

7.2 Alarm Volume Adjustment

In Driving Mode, press OK to adjust the alarm volume.

When press OK , it sounds the "beep" and the top right area of the screen displays the default value "3". Press OK again to increase the value to "4", which is the loudest alarm sound. Press OK continuously to get the value from 1 to 4 as different alarm volume. The system records the last value as the new alarm tone level. If the driver wants alarm to be off, press OK to mute the alarm tone. Press again to dismiss the mute function, the alarm will sound again.

Note: The alarm will sound again if the system is rebooted, or another alarm occurs in the same wheel, or another alarm occurs in the other wheels.

7.3 Screen Brightness Adjustment

In Driving Mode, press ↑↓ to adjust the screen brightness.

When press ↑↓ , the top right area of the screen displays the default value "3" as current brightness level. Press ↑↓ again to increase the value to "4" which is the brightest backlight. Press ↑↓ continuously to get the value from 1 to 4 as different brightness. The system records the last number as the new screen brightness. When the alarm occurs, the screen will be in the brightest level.

8. Settings Mode

In Driving Mode, press ↑↓ for 3 seconds for the Settings Mode.

In Settings Mode, press ↑↓ for 3 seconds, the system will NOT SAVE the settings and back to the Driving Mode. While press OK for 3 seconds, it will SAVE the settings and back to the Driving Mode.

In Settings Mode, press ↑↓, the following functions are presented sequentially,

1. Tire pressure unit setting
2. Tire temperature unit setting
3. Low tire pressure value setting
4. High tire pressure value setting
5. High tire temperature value setting

8.1 Tire Pressure Unit Setting

Press OK to select “psi” or “Bar”, then press ↑↓ for next function setting.

8.2. Tire Temperature Unit Setting

Press OK to select ℃ or ℉, , then press ↑↓ for next function setting.

8.3. Low Tire Pressure Value Setting

8.3.1 The screen will display the low tire pressure value of the front axle, as the above picture.

8.3.2 Each time to press OK, 1 psi value is added (0.1 Bar added).

8.3.3 The last pressed value will be recorded as the new low tire pressure value.

8.3.4 Press ↑↓ again, do the same setting procedure for the rear axle.

8.4. High Tire Pressure Value Setting

8.4.1 The screen will display the high tire pressure value of the front axle, as the above picture.

8.4.2 Each time to press OK, 1 degree value is added.

8.4.3 The last pressed value will be recorded as the new high tire pressure value.

8.4.4 Press ↑↓ again, do the same setting procedure for the rear axle.

8.5. High Tire Temperature Value Setting

8.5.1 The screen will display the high tire temperature value of the front axle, as the above picture.

8.5.2 Each time to press OK, 1 degree value is added.

8.5.3 The last pressed value will be recorded as the new high tire temperature value.

8.5.4 Press ↑↓ again, do the same setting procedure for the rear axle.

Note:

1. **Each time to hold the "OK" for 3 seconds, the system will save all the settings value successfully with "Beep Beep Beep" sounds, then back to Driving Mode. If data saving process fails, It will sound a long "Beep".**
2. **If each setting is not completed within 120 seconds, it will be back to Driving Mode**

9. Advanced Settings Mode

In Driving Mode, hold both OK and ↑↓ at the same time for 3 seconds, it switches to the Advanced Settings Mode, as picture below.

Then, press ↑↓ for the "9.1 ID Learning Setting", or press OK for the "9.2 Tire Rotation Setting".

9.1 ID Learning Setting

9.1.1 Press ⇅ for sensor ID Learning Setting, the display shows picture above.

9.1.2 Press ⇅ again, the left-front wheel “1” on the screen blinks.

9.1.3 Each tire will have 120 seconds to complete the tire sensor ID learning after the blinking starts. The receiver will emit a long beep and go back to the ID learning mode if it doesn’t receive any signal by tire deflation within 120 seconds.

9.1.4 Deflate the corresponding tire, keep pressing valve core for 25 to 30 seconds to have enough air pressure drop, the receiver will beep when receiving the signal, the “1” stops blinking and it means this sensor ID is learned and paired.

9.1.5 Press ⇅ for the next tire sensor ID learning.

9.1.6 After all sensor ID learnings are completed, press “OK” for 3 seconds, the receiver emits "beep beep beep" as all tire sensor IDs are recorded successfully. If the setting is not completed, the receiver emits a long “beep" as a message then the screen goes back to Driving Mode.

Note:

Trigger all sensors again after finishing the sensor ID learning, to see if the tire data is shown at correct wheel location on the monitor display.

9.2 Tire Rotation Setting

9.2.1 Press OK in Tire Rotation Setting, the first type of tire rotation model is displayed as picture above.

9.2.2 Press ↑↓ to select target tire rotation model among three common ones described as table below, press OK for 3 seconds to record this setting after choosing, the repeater emits "beep beep beep" then screen goes back to the Driving Mode.

Rotation Model			
Description	Front and rear wheels are parallel-rotated	Front and rear wheels are cross-rotated	Left and right wheels are parallel-rotated

Note:

If there is no proper tire rotation model for setting, please follow 9.1 ID Learning Setting to record sensor IDs of new wheel location.

10. Alarm Symbol

When the alarm occurs, a warning symbol will be displayed and a continuous audio beep will be emitted. Below table is the description for different warning symbols and alarm tones.

Symbol	Description	Tire value	Alarm tones
	High/Low tire pressure alarm - Tire pressure ≧ Setting value of high tire pressure. Tire pressure ≦ Setting value of low tire pressure.	Blinking	Rapid
	High tire temperature alarm -Tire temperature ≧ Setting value of high tire temperature.	Blinking	Rapid
	Sensor low battery power alarm	“LOW”, Blinking	Slow
	Abnormal TPMS system alarm - sensor damage or no signal receiving over 10 minutes during driving	“---“, Blinking	Slow

Note:

Climate change could be a factor for tire pressure change, please go to a service shop to do pressure adjustments, to avoid the occurrence of false alarms. Be sure to maintain proper tire pressure in your vehicle tires for the safest and most cost effective performance.

11. Troubleshooting

Issue	Probable Causes	Solution
ID learn failed (long beep in rapid deflation learning setting)	1. Wireless signal interference. 2. Tire air pressure is not deflated enough.	1. Move receiver to another area. 2. Keep deflating the tires for 20~30 seconds.
Pressure anomaly warning (TPMS alarm symbol with short beeps)	1. Low tire pressure	1. Please go to the service shop to inflate the tires to prevent an erroneous alarm.

No signal received (screen shows the pressure and the temperature as “---“)	1. Signal interference. 2. Vehicle has stopped or moves too slowly 3. Sensor is damaged or low battery power 4. Antenna is not well-connected with the repeater, or touched by metal object.	1. Move the vehicle away from the current area 2. Keep driving for a few minutes, make tires rotate to capture signals. 3. Go to service shop to install a new sensor on your wheel. 4. Check and make the antenna well secured with the repeater. Move the metal object away from the antenna.

In the event of any questions and inquiries about warranty, you may contact your local dealer or Colven directly.

Thank you for your support by purchasing Colven tire pressure monitoring system products. We wish you a safe drive!