Think safety think Steelmate

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STEELMATE®
Automotive

TP-04

TPMS+Parking assist system

TPMS

Parking assist system

Manual

Contents

User's Manual

Important notice

This system includes parking assist system and TPMS two functions in one unit.

Parking assist systems provide assistance when reversing and parking. TPMS (tire pressure monitoring system) is designed to monitor the tire irregularities for driver. Abnormal tire pressure should be corrected ASAP.

TPMS is a wireless RF product. Therefore, it may not receive signals due to the poor environment, RF interference, low sensor battery or a damaged sensor.

It is the driver's responsibility to react promptly to alerts react promptly and driving skills, such as slowing down, use of mirrors etc. is always essential. Its distributors do not guarantee or assume liability for collisions or damages while reversing your vehicle.

1. This unit is for vehicles with 12V DC only.
2. Unit should be installed by a professional auto technician.
3. Route wiring harness away from heat sources and electrical components.
4. It is strongly recommended to check the position of the sensors before the actual drilling of the holes.
5. Perform test after finishing the installation.

Disclaimer

The parking assist system is designed as a driver assistance device, and should not be used as a substitute for safe parking practices. The area into which the vehicle is to be reversed must be constantly visually monitored while parking.

The TPMS function can help you to avoid tire accidents due to tire failure, to reduce the fuel consumption and to extend the tire life, with the help of parking assist system, you can reverse and park safer and easier.

About the product

This product creatively combines TPMS and parking assist system into one monitor, it usually works as a TPMS, and automatically becomes a parking sensor while reversing, It saves space and installation time, and it's more convenient for the driver.

The TPMS is a wireless RF sensing device designed to measure and display the tire pressure and temperature.

Once installed in your vehicle, theTPMS will warn you of an abnormal tire situation immediately with an audible and visual alert. The light weight sensors are equipped with a long life battery (As used in a pacemaker), which are able to last for more than 6 years.

While reversing, the LCD monitor will show you the parking sensor view and digital distances from the obstacle. The kit is a 4 sensor parking assist system wich has user changeable voice/beep alert and is compatible with two-bar or spare wheel.

Key features

- TPMS Sensor with long battery life (6 yrs or 100, 000Km)
- Wireless data transmitting and anti-interference
- Audible voice/beep and visual alert
- Displays pressure in Psi, Bar or Kgf/cm^2
- Blue dynamic LCD display
- Previous tire status preserving
- Intelligent detection, match for cars with tow-bar or spare wheel
- Less than 0.08s response time
- Self-test function
- Detachable sensor with insulated cable and waterproof connectors
- Anti-false alert technology
- All weather design -40°C~ +80°C/-40°F~+176°F

Technical specification

1. TPMS Sensor:

Working frequency:	433.92 MHz
Working voltage:	2.0 ~ 3.6V
Working temperature:	-40°C ~ +125°C
Humidity:	0% ~ 100%
Temperature reading:	±1°C
Pressure reading:	±0.1Bar
Sensor battery life	6 years

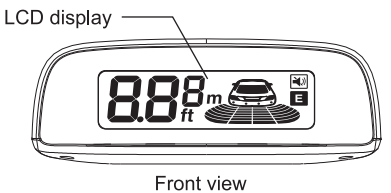
2. Display:

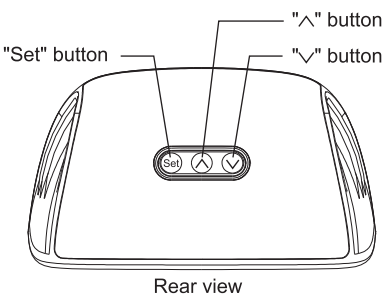
Working frequency:	433.92 MHz
Working voltage:	12±3V
Working temperature:	-20°C ~ +70°C
Operating current:	<250mA
Detection range:	0.10m~2.50m
Display range:	0.30m~2.50m
Beep volume:	70~90dB

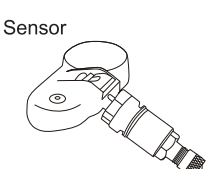
3. Air pressure unit

1 Bar = 14.5 Psi = 100K Pa = 1.02 Kgf/cm^2

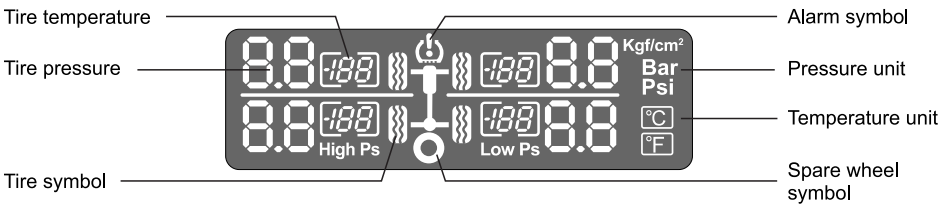
Brief look at product



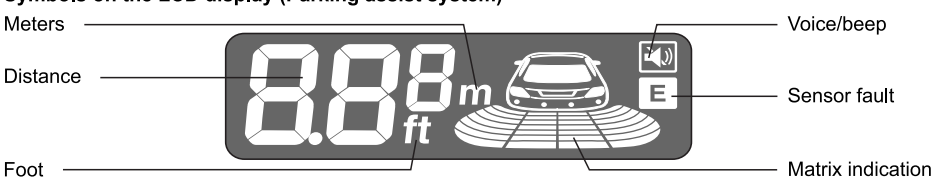




Symbols on the LCD display (TPMS)



Symbols on the LCD display (Parking assist system)



TPMS function
Alarm setting
Factory default:
Pressure unit: Bar
High Ps: 3.2 Bar
Low Ps: 1.8 Bar
High Temp: 68°C

If you change the pressure unit, the default tire pressure values will be changed automatically.

Restore factory default setting

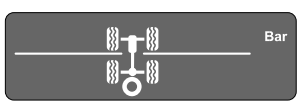
Pressing buttons "SET", "∧", "∨" together on the display will restore factory setting.

TPMS function

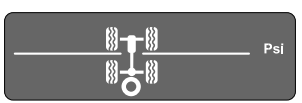
Steps to change the setting

1. In standby mode, press and hold the "SET" button for 3 seconds, then release it until a long "Beep" heard.
2. Press the "SET" button to choose a parameter:
   "Pressure units" → "High Ps" → "Low Ps" → "High Temp" → "Temp units";
3. Press the"∧" or "∨" button to select the pressure unit, temperature unit or adjust the values.
4. Press "SET" button to confirm and enter the next parameter setting.
5. After all adjustments are completed, press and hold the "SET" button for 3 seconds until two beeps heard to save the setting and exit.

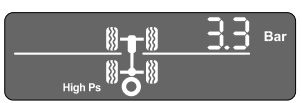
Setting the pressure unit in Bar or Psi or Kg/cm²



Press the "SET" button for 3 seconds. A "Beep" is heard and the "Bar" icons show.



Press the "∧" or "∨" button to select Psi or Kgf/cm² or Bar.



Press the "SET" button once to confirm the setting and enter the "High Ps" setting mode.

Setting High Ps

Press the "SET" button once to confirm the setting and enter the "High Ps" setting mode.

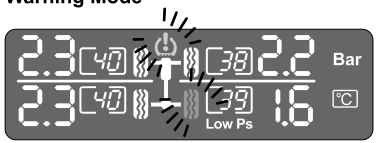
Press the "∧" or "∨" button to adjust High Ps.

Press the "SET" button once to confirm the setting and enter the "Low Ps" setting mode.

Press the "SET" button once to confirm the setting and enter the "Low Ps" setting mode

Low Ps, High Temp and temperature unit can be set in the same way.

Warning Mode



When tire temperature exceeds default high value, corresponding tire symbol "🌡",tire temperature and warning symbol "⏻" will flash on the display with continual beep warning. Press any button to cancel beep warning, but warning symbol will still flash, and beep once every minute.

When a sensor battery is low the corresponding tire symbol "🌡", warning symbol "⏻" will flash on the display. The system will beep 5 times and repeat twice, then stop.

Note:

If the signal from a damaged sensor is not received by the dispaly for 25 minutes, corresponding tire information will disappear, and beep 5 times to warn driver.

Sensor programming

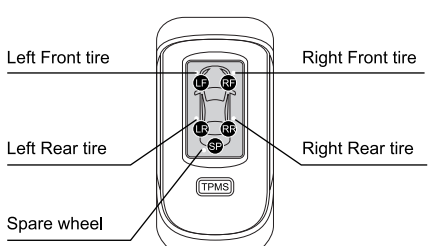
The sensors in this unit have been individually pre-set for each tire in the factory. Once the labeled sensors are installed in the corresponding tires, there will be no need to program the sensors.

Each time a wheel position is changed, the sensor in the tire must be programmed to the display.There are two methods to program sensors of TPMS:

Method 1: Program the sensors with TPMS sensor partner

TPMS sensors partner is a device which can program TPMS sensors without deflating tires.

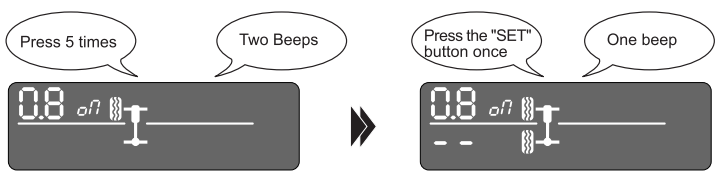
1. Switch on the TPMS sensor partner.
2. Place the TPMS sensor partner close to the tire valve (ie, the left front tire) and press the corresponding button (ie, LF) once, the LED light turn on for 4 seconds to confirm the tire location is recognized.
3. Repeat step 2 for other sensors.
4. When all sensors are recognized, the corresponding LED lights will illuminate, take the TPMS sensor partner close to the display.
5. Turn on the display and enter the programming mode (Press the "SET" button for 5 times)
6. Press the TPMS button on in the TPMS sensor partner once, the display will beep once to confirm the programming is successful.



TPMS sensor partner

Method 2: Program the sensors by deflating each tire

- In any mode, press the "SET" button 5 times on in the display, release it after one "Beep" heard. The "- -" and "" icons will flash.
- Press the "∧" or "∨" button to select a corresponding tire location on the display.
- Deflate the corresponding car tire until a signal is received on the display. The tire pressure "x Bar", "" will be displayed and will flash.
- Press the "SET" button once, an audible beep indicates that the program is successful.
- Repeat the above procedure for other sensors.
- When all sensors are reset, press and hold the "SET" button for 3 seconds to save and exit.



Deflate the LF tire until the signal is received. The "0.8" , "" and "" are flashing

Icon "" and"" turn solid. LF tire is programmed

Program the other sensors in the same way.

Note: Please inflate the tire if the tire pressure is low.

Parking assist system function

The parking assist system will turn on automatically when the ignition is on and reverse gear is selected.

Voice and volume adjustment

Ignition on, do not start the engine and select reverse gear. Press "set", "∧" or "∨" button to adjust voice or volume.

(Default volume setting: the 7th stage volume with voice.)

1st stage volume

Press "SET" button to turn on/off voice

Turn on Voice is , turn off voice is

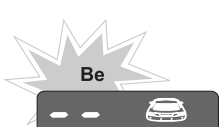
It will return to the normal interface after 2 seconds of any button being released on the display.

Note: The system will get a warning in the highest volume automatically whatever stage of volume is chosen when the distance of an obstacle is less than 0.3m/0.98ft. And the system will return to the chosen volume if distance is more than 0.3m/0.98ft

Self-test function

Once reverse gear is selected, the system will perform its self-test procedure.

1. All sensors are working



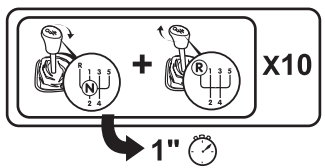
Beep once

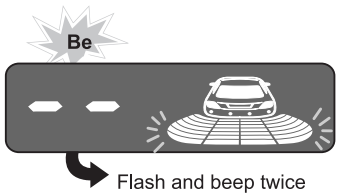
2. Damaged sensor is detected

Damaged sensor locations

- Beep three times.
- Other sensors continue to work normally.
- The location of the damaged sensor is shown on the display. The damaged sensor number (E1- E4) is shown on the display.

Learning function for cars with tow-bar or spare wheel



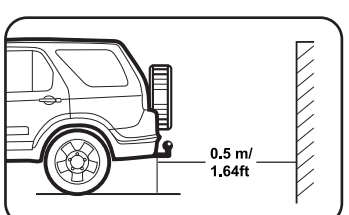


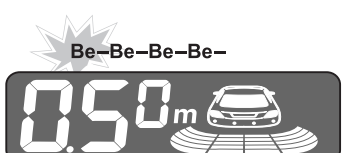
Ignition on, shift the gear from "N" to "R" and shift back in 1 second for 10 times. At the 10th time stay at "R" position for 6 seconds to achieve the learning function.

Ignition on, shift the gear from "N" to "R" and shift back in 1 second for 12 times. At the 12th time stay at "R" position for 8 seconds to clean the learning function.

Note: If you forget the shift-times, please stay at "R" position for 2 seconds to clean the memory and next time will be first time.

The display will flash and beep twice, this indicates that the learning function is successful and the system will not warn for tow-bar or spare wheel.

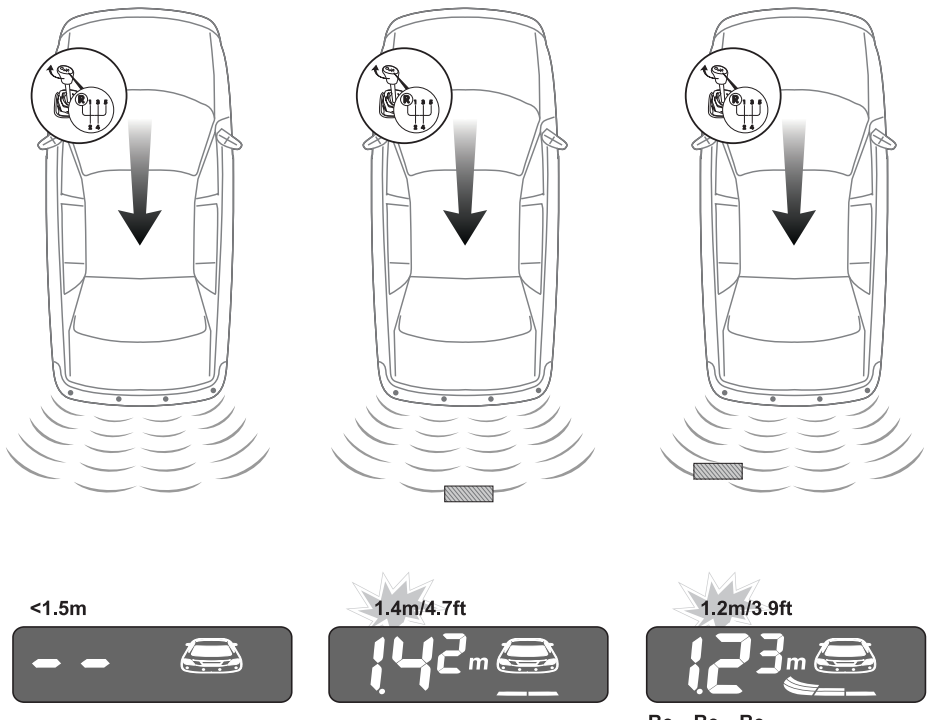


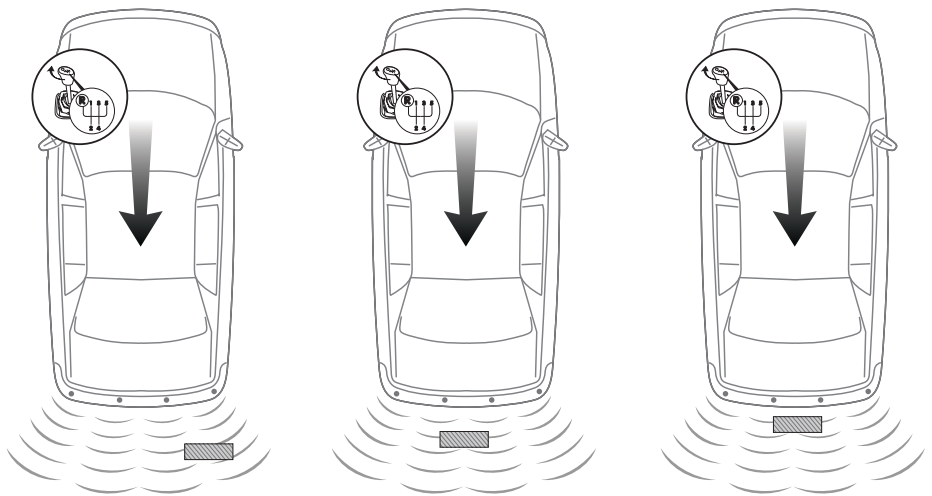


When the learning function is activated, the system will ignore the tow-bar or spare wheel and only detect other objects behind the vehicle.

Note: If the vehicle does not have tow-bar or spare wheel, you do not need to use this function.

How the system works





Trouble shooting

1. After the installation, there is no tire information on the display?

1). The sensors are not programmed to the display, please reprogramm the sensors.

2). The display is not turned on.

2. When Ignition is turned on, there is tire information on the display but the tire symbol is flashing slowly.

1). The display shows the previous tire information. Once the new tire information is received, the tire symbol will stop flashing.

3.There is no tire information for a specific tire.

1). There is a problem with the sensor.

2). The sensor is not programmed to the display.

Warranty terms

The unit is warranted for a limited period of time from the date of purchase. In the unlikely event of a defect arising in this product when used in accordance with the manufacturer's instructions, the parts would be repaired or replaced free of charge.

a) You are required to show the warranty card when making any claims.
b) The model and the unit's serial number must be the same as the information on the warranty card.

This warranty is non-transferable and is automatically void if:

a) The original purchaser has not completed the warranty card.
b) The unit's serial number is defaced, missing or altered.
c) The unit has been modified or used in a manner contrary to its intended purpose.
d) The unit has been damaged by accident, unreasonable use, neglect, improper installation or service.

The warranty does not cover:

a) Damage caused by incorrect or poor installation problems which may be caused by anomalies in the vehicle's electrical system or originating from the environment in which the system is operated.

b) Damage to the system caused by accident or improper use in any manner whatsoever not the fault, including but not limited to damage by water or as a result of excess voltage applied to the system or if misused or repaired or altered in any way other than or it's authorized agent.

c) False information that is displayed on the dashboard caused by a car with CAN Bus system.

Warranty card

User:

Tel:

Vehicle Reg No.:

Product Model No.:

Serial No.:

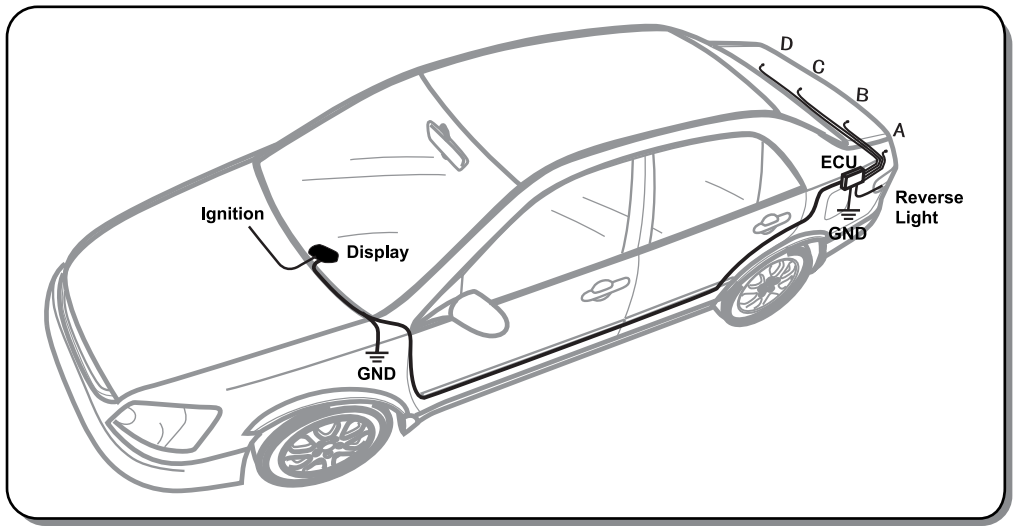
Date of Installation:

Name of the Retailer:

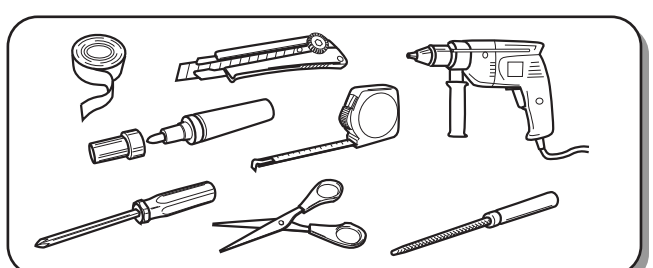
Signed by Retailer:

Installation Manual

Brief installation diagram

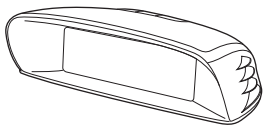


Installation tools

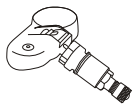


30' ~ 60'

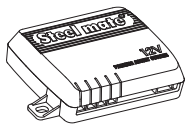
Packing list



Display

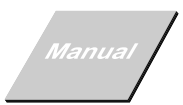


TPMS sensor



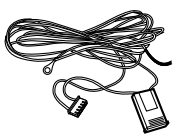
ECU

Parking sensor



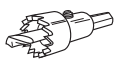
Manual

Sensor cable



Power wire

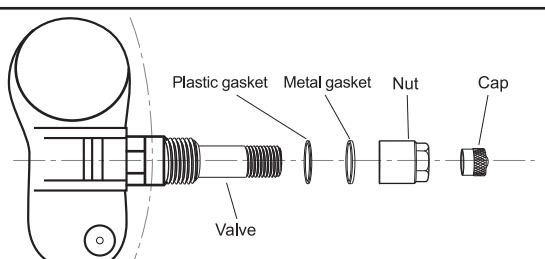
Cable tie



Drill

※ The actual sensor may vary from the image shown above

About the TPMS sensor

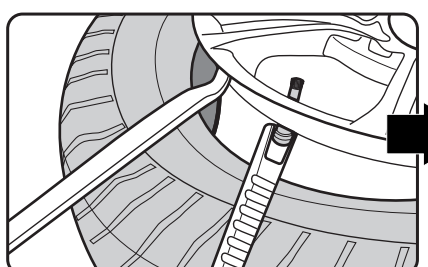


Installation of TPMS sensors

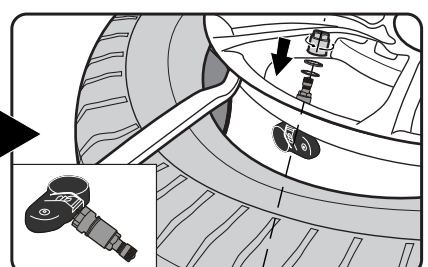
The sensors should be installed by a certified installer.
All sensors have been pre-labeled for convenience, please install the sensors according to the labels.

1. LF tire = Left Front tire
2. LR tire = Left Rear tire
3. RF tire = Right Front tire
4. RR tire = Right Rear tire

When all sensors are installed to the tires according to the sensor labels, the sensors do not need to programming to the display.

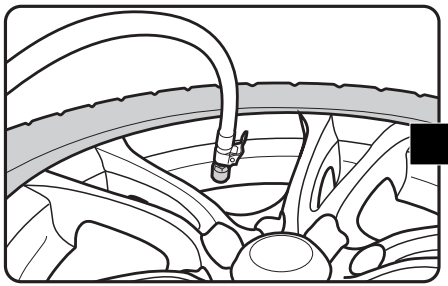


Remove the wheels from the vehicle.

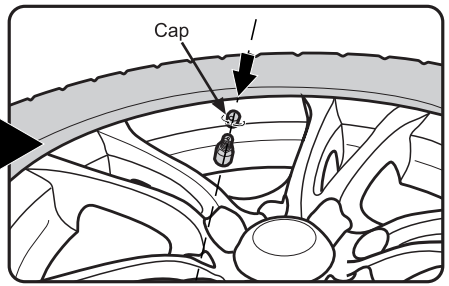


Install the sensor:
Remove the original valve from the wheel and replace with the TPMS sensors. On each sensor, there is a sticker showing which tire the sensor should be installed in. Hand tighten the sensor (over tightening can cause leaks or may break the sensor).

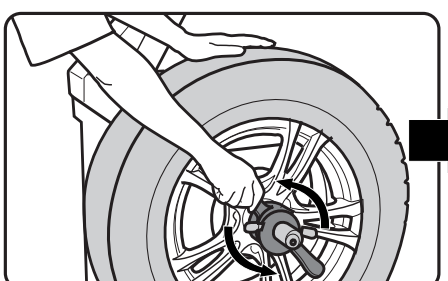
※ The factory recommended torque range for TPMS valve is: 2.3~2.9 N-M or 23.45~29.57 kgf/cm^2

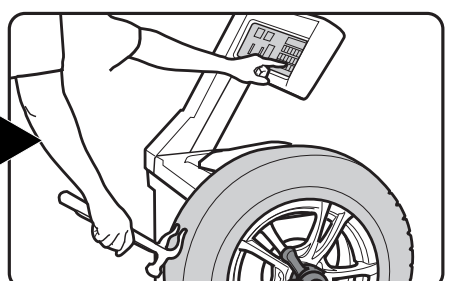


Inflate the tire



Put on the cap

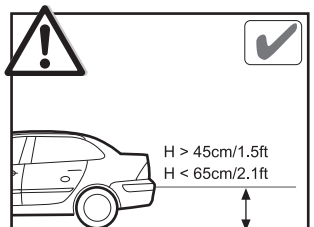


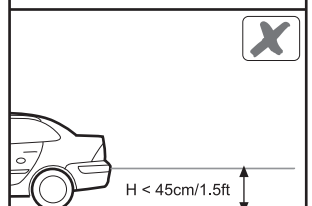


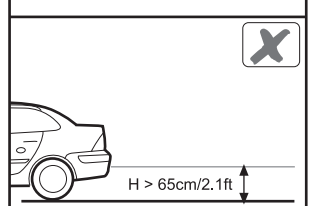
Balance the wheels:
The wheels need to be blanced after TPMS sensors are installed.

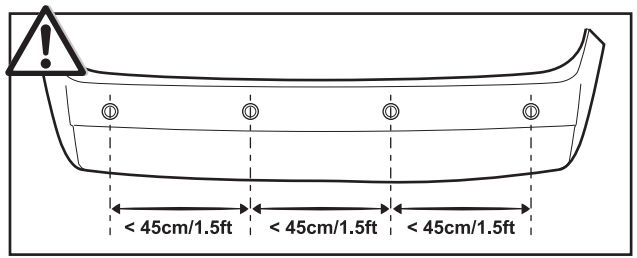
After installation, turn on engine and perform a test.

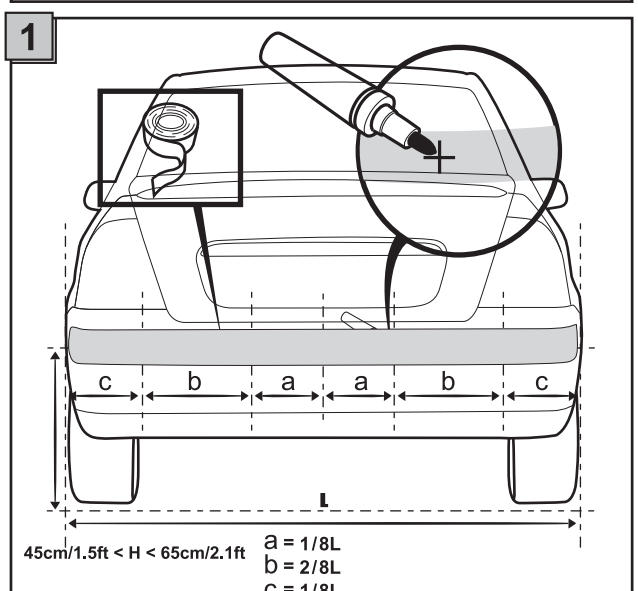
Parking sensor installation











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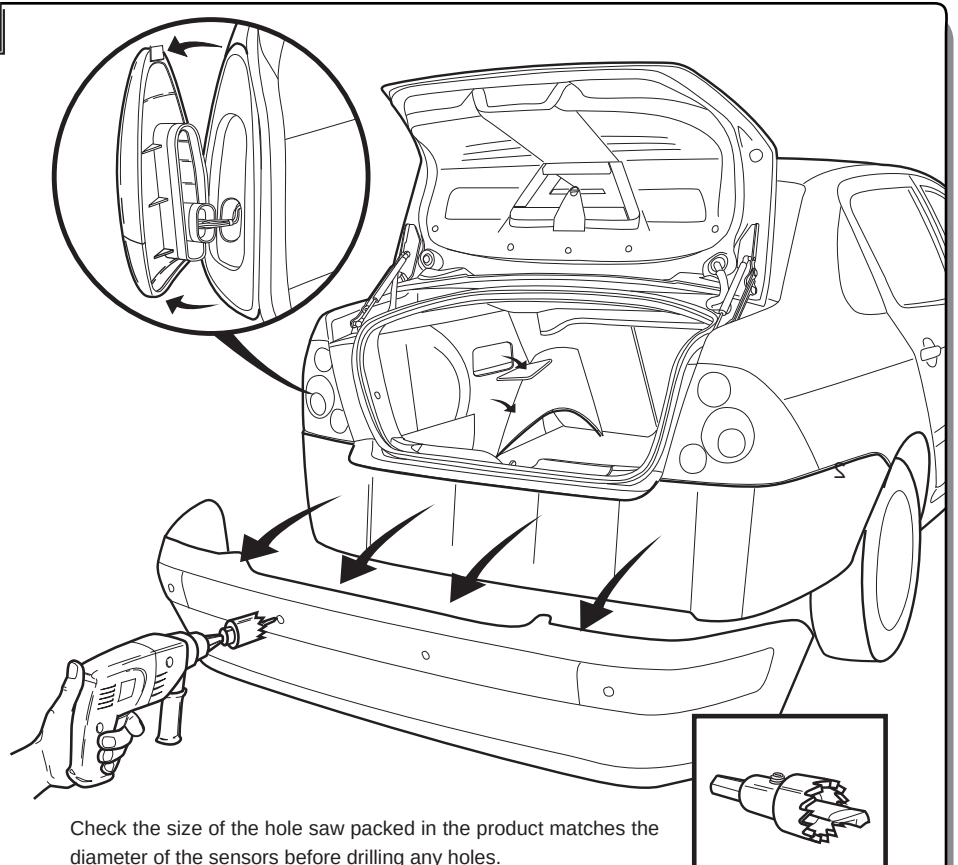
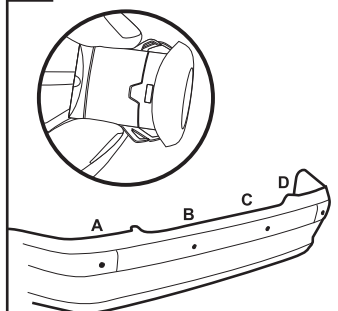


Check the size of the hole saw packed in the product matches the diameter of the sensors before drilling any holes.

3



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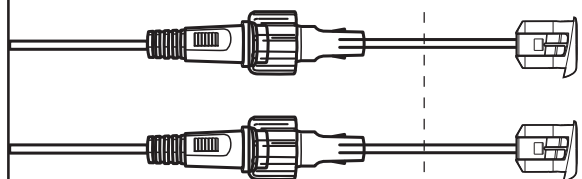
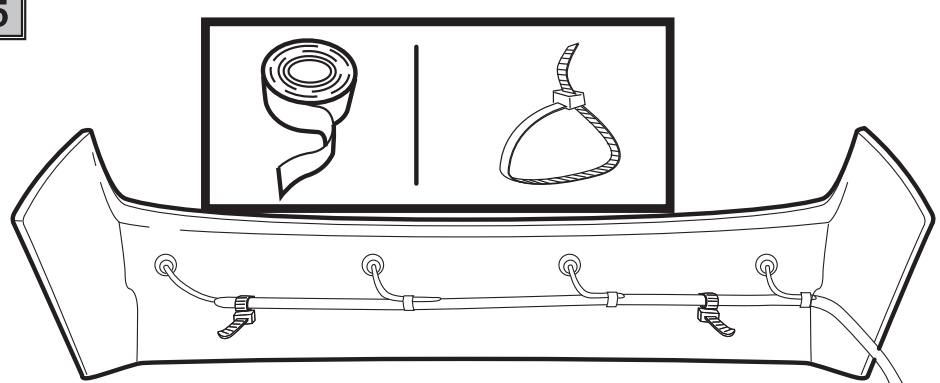
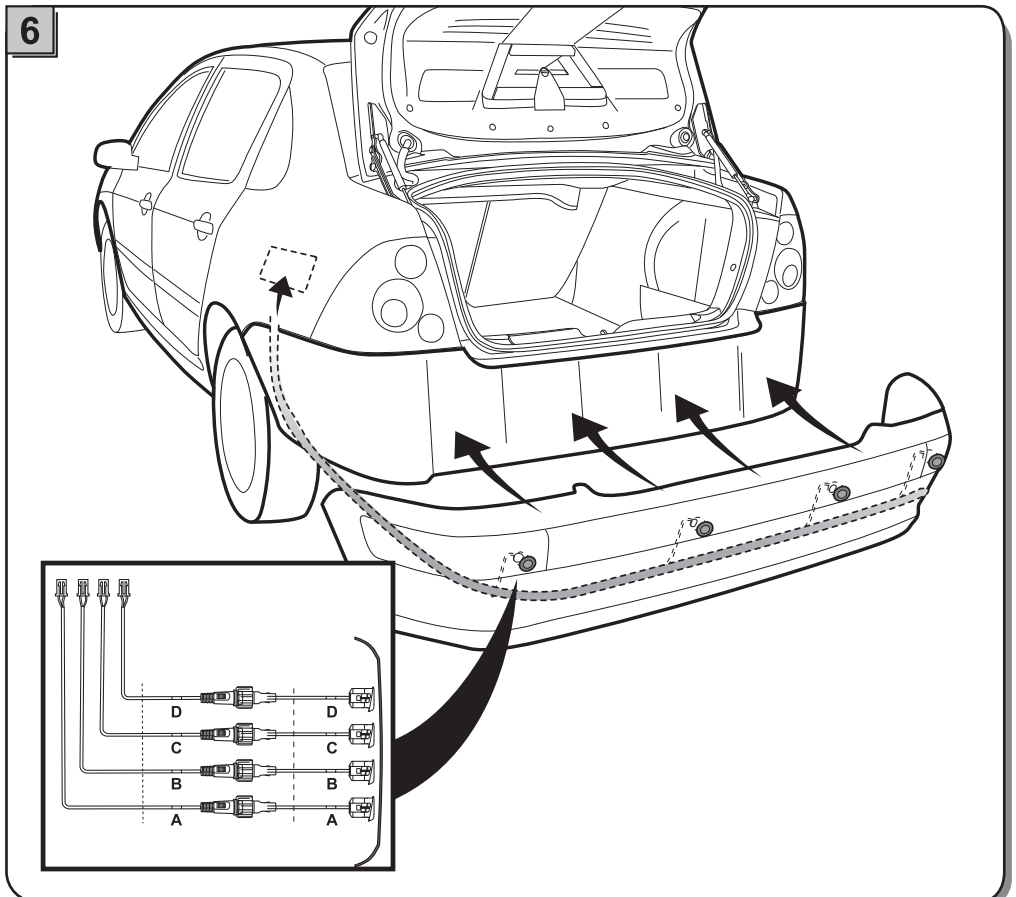
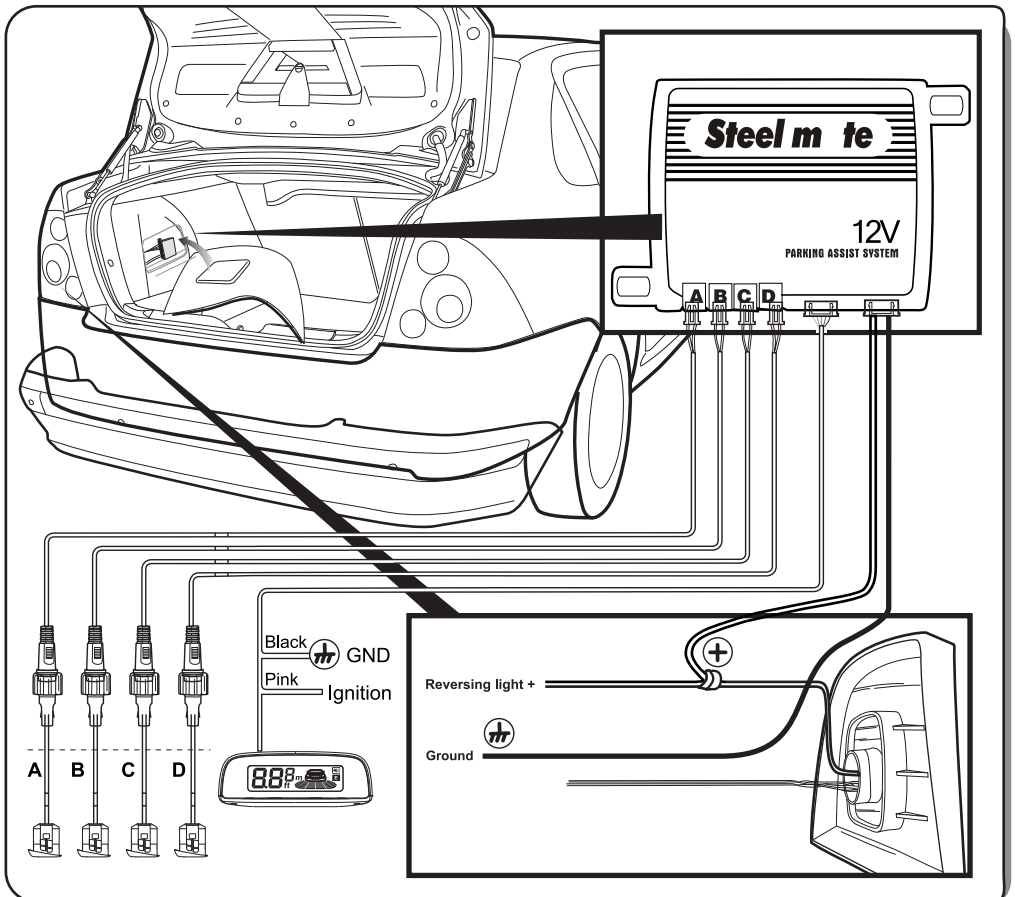


5

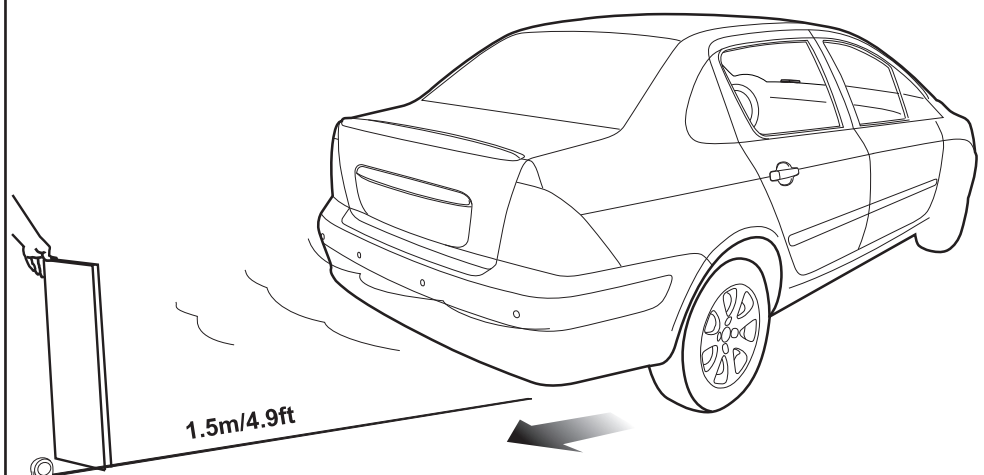




ECU installation



Function test after installation



Function test is performed by holding a wooden board (0.3mx1m) standing at the back of the car, and reverse the car slowly to test each function respectively as shown in this manual.

Wiring diagram