



ADJUSTABLE ANGLE TPMS SENSOR MANUAL MOUNTING GUIDELINES HONDA design

SCOPE AND SUMMARY:

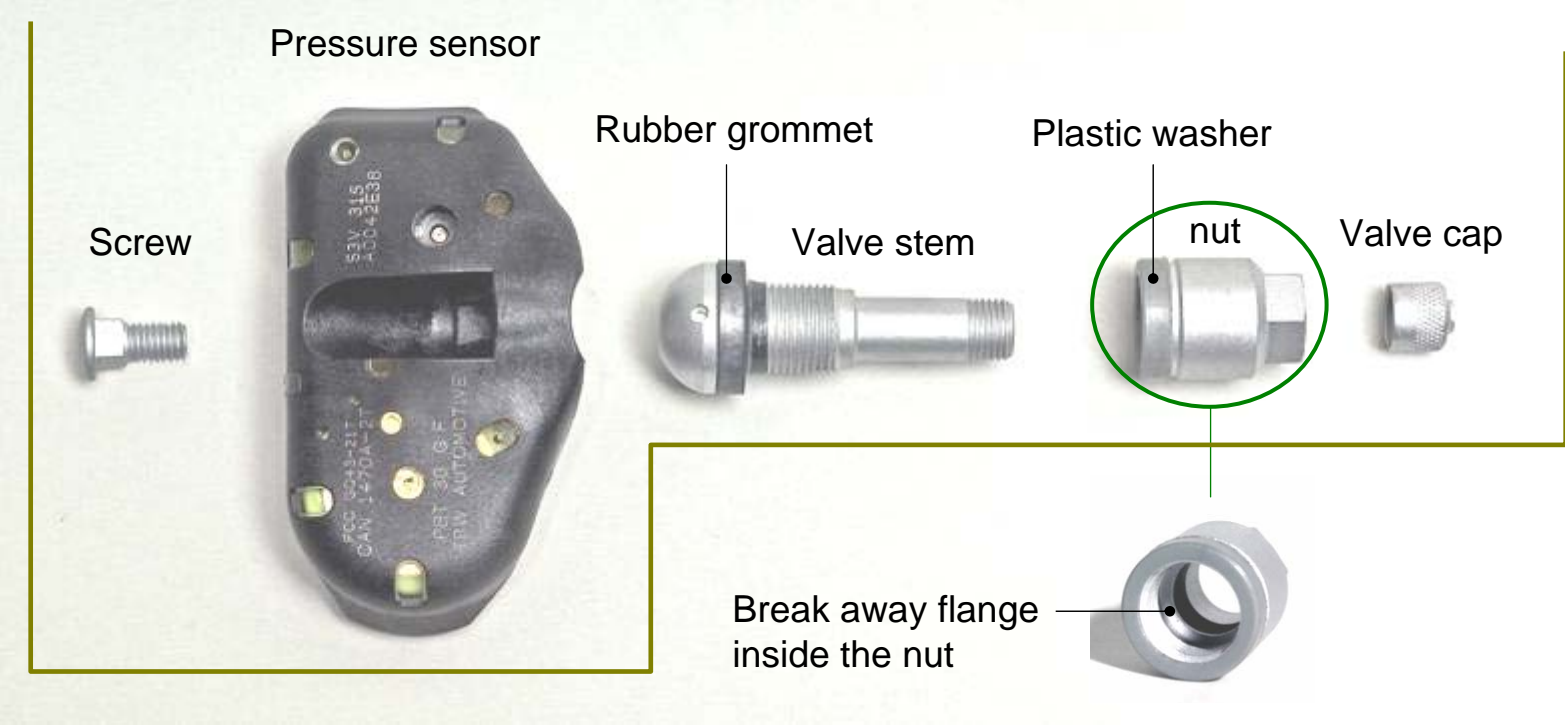
This document outlines the guidelines for the manual mounting on the rim of EnTire/TRW adjustable angle TPM sensors. This document does not cover any other TPM sensors.

- Sensor & valve components
- Step 1 Insert and check screw
- Step 2 Assemble valve and sensor
- Step 3 Start fitting the valve unit on the rim
- Step 4 Break the flange inside the nut
- Step 5 Tighten the nut
- Step 6 Check the assembly sensor – valve – rim

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Sensor & valve components



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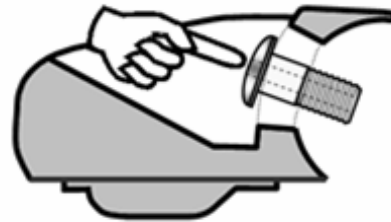
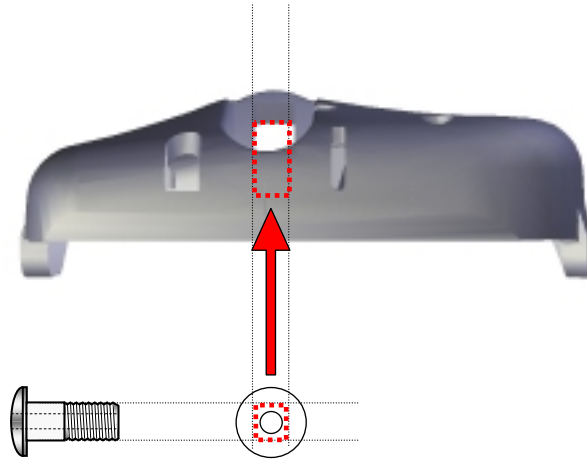
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Step 1 : Insert and check screw

The square part of the screw is designed to fit into the slot of the sensor housing.

Installed in the slot, the screw will not be allowed to turn making the use of a tool unnecessary.

Insert the screw into the slotted hole of the sensor. Check that the flats of the square on the screw fit inside the edges of the hole.



YES



Fitted in the slot

NO

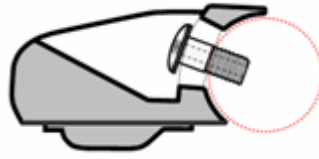


Not properly fitted

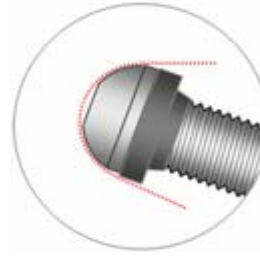
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Step 2 : Assemble valve and sensor

The sensor housing has a hemispherical metallic insert while the valve stem presents a corresponding hemispherical shaped head. This will make the valve stem fit precisely and smoothly into the sensor at an adjustable angle.



Sensor housing



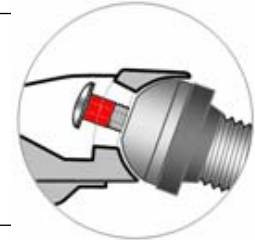
Valve stem head



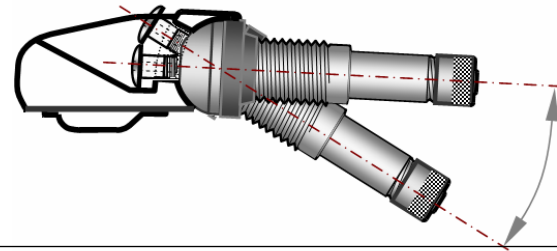
While holding the screw in the slotted hole with a finger, assemble the valve to the screw, and turn the valve 3 to 4 full rotations.



Check that the square part of the screw is well seated in the sensor's slotted hole.



Check that the valve stem is still loose. It must be free to move up and down the full length of the slot as shown in this drawing.



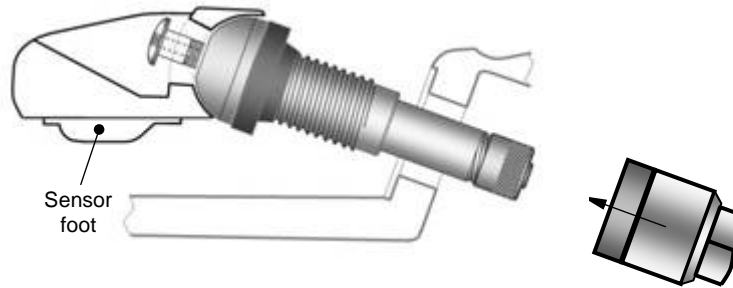
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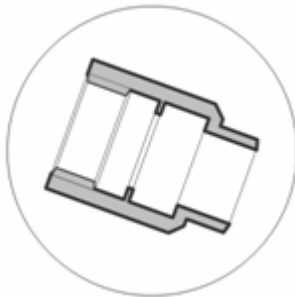
Step 3 : Start fitting the valve unit on the rim

Slide the loosely assembled valve unit through the valve hole of the rim. Hold the sensor's feet against the rim and the rubber grommet against the sealing surface. Insert the nut over the valve stem. Start tightening the nut using a deep 11 mm socket.



More about the nut :

On this cross section of the nut we can see a flange. The role of this break away flange is to tighten the valve on the sensor.



The tightening of the nut will bring the break-away flange in contact with the valve stem's shoulder.



Turning the nut will now turn the valve stem too.



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Step 4 : Break the flange inside the nut !



The head of the screw will soon have tight contact with the sensor housing.



Continue to tighten the nut using the torque wrench until the thin flange breaks at approximately 2.2 Nm (20 lbf.in). The operator will feel an initial resistance before the break.



At this point the attachment of the valve stem to the sensor is finished and configured to the rim. Proceed to step 5 to tighten the nut.



Note : Speed tightening must be > 15RPM to break the flange properly. (Each quarter turn must take less than one second)

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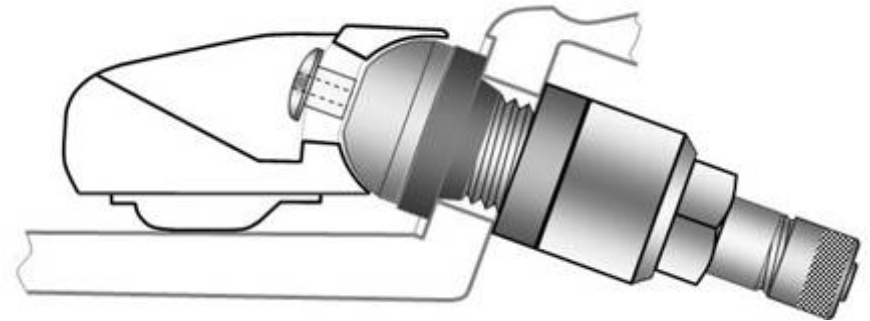


Step 5 : Tighten the nut

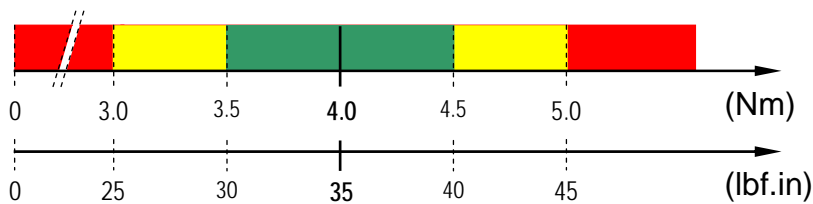
Continue to tighten the nut until the recommended 4.0 Nm (35 lbf.in) is reached.

A recommended 4.0 Nm (35 lbf.in) torque setting allows the final torque to be between 3.5 to 4.5 Nm (30 to 40 lbf.in) if a +/- 12 % tolerance torque wrench is used. Note: it is recommended to use a class B tool or a class C tool.

Below, the standard recommended torque range is given by the ETRTO, TRA... for a rubber corner joint valve.



Nut manual tightening Torque



- Dispersion with +/- 12% tolerance (example)
- Standards recommended range
- Out of range

Important :

Tighten slowly with quarter turn steps until the final torque is reached.

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Step 6 : Check the assembly sensor- valve- rim



Check that the valve is firmly attached to the rim and that the sensor is firmly attached to the valve.

Final positioning of the sensor feet is dependent on the wheel dimensions and may not be uniform. Possibilities are neither foot, one foot or both feet may contact the wheel drop center.

WARNING : Risk of damage during the tire mounting / dismounting if the sensor is not firmly attached to the valve.