



M-1180-A TPMS Sensors and Activation tool kit INSTALLATION INSTRUCTIONS

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Please visit www.fordracingparts.com for the most current instruction information

**!!! PLEASE READ ALL OF THE FOLLOWING INSTRUCTIONS CAREFULLY PRIOR TO INSTALLATION.
AT ANY TIME YOU DO NOT UNDERSTAND THE INSTRUCTIONS, PLEASE CALL THE FORD RACING
TECHLINE AT 1-800-367-3788 !!!**

WARNING: VALVE STEMS ARE NOT DESIGNED FOR SPEEDS OVER 155MPH!

TPMS SENSOR INSTALLATION:

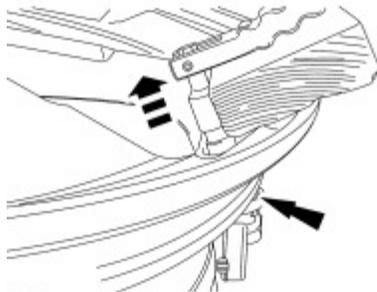
NOTICE: Damage to the Tire Pressure Monitoring System (TPMS) sensor may result if the tire mounting is not carried out as instructed.

STEP 1: **NOTICE:** To prevent Tire Pressure Monitoring System (TPMS) sensor and valve stem damage, The valve stem must be installed onto the TPMS sensor and then installed into the wheel as an assembly.

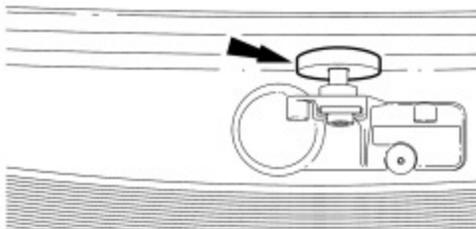
STEP 2: **NOTICE:** It is important to pull the valve stem and Tire Pressure Monitoring System (TPMS) Sensor assembly through the wheel rim hole in a direction parallel to the valve stem hole axis. If the assembly is pulled through at an angle, damage to the valve stem and sensor assembly may occur.

NOTICE: Use care not to damage the wheel surface when installing the valve stem and Tire Pressure Monitoring System (TPMS) sensor assembly.

Lubricate the valve stem with soapy water and install the valve stem and TPMS sensor assembly into the wheel using a block of wood and a suitable valve stem installer.



STEP 3: Make sure the valve stem rubber is fully seated against the wheel.



Factory Ford shop manuals are available from Helm Publications, 1-800-782-4356

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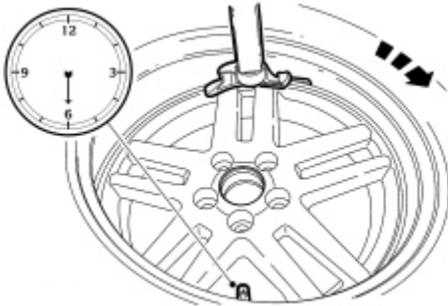
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STEP 4: **NOTE:** *Lubricate the tire beads using a suitable fast-drying, corrosion-inhibiting tire bead lubricant.*

NOTE: *Do not mount the tire at this time.*

Position the wheel on the turntable of the tire machine, then lubricate and position the bottom bead of the tire on the wheel.

STEP 5: Position the wheel to align the valve stem with the machine arm, at the 6 o'clock position, and mount the bottom bead of the tire.



STEP 6: Reposition the wheel to align the valve stem with the machine arm at the 6 o'clock position, and mount the top bead of the tire.

STEP 7: **NOTE:** *Use only the Digital Tire Pressure Gauge any time tire pressures are measured to make sure that accurate values are obtained.*

Inflate the tire to the pressure specified on the Vehicle Certification (VC) label located on the driver door or door pillar.

- Proceed to Step 8 if the tire beads do not seat at the specified inflation pressure.

STEP 8: **⚠ WARNING:** **If there is a need to exceed the maximum pressure indicated on the sidewall of the tire in order to seat the beads, follow all steps listed below. Failure to follow these steps may result in serious personal injury.**

The following steps should only be carried out if the tire beads cannot be seated by inflating the tire up to the maximum inflation pressure listed on the tire sidewall.

1. Relubricate the tire bead and wheel bead seat area.
2. Install a remote valve and pressure gauge.
3. Wear eye and ear protection and stand at a minimum of 3.65 m (12 ft) away from the wheel and tire assembly.
4. Inflate the tire using the remote valve and tire gauge until the beads have seated or until the pressure gauge is 138 kPa (20 psi) more than maximum inflation pressure on tire sidewall. If beads have not seated, deflate the tire and proceed to the next step.
5. Place the wheel and tire assembly in an OSHA-approved tire safety cage.

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- Inflate the tire using the remote valve and pressure gauge until the beads have seated or until the pressure gauge is 276 kPa (40 psi) more than maximum inflation pressure on the tire sidewall. **Do not exceed 276 kPa (40 psi) above the maximum pressure on tire sidewall. Install a new tire if the beads do not seat at this pressure.**

TIRE PRESSURE MONITORING SYSTEM (TPMS) SENSOR TRAINING:

NOTE: *If the vehicle has been stationary for more than 30 minutes, the sensors will go into a "sleep mode" to conserve battery power. It will be necessary to wake them up so they will transmit the latest tire pressure information to the BCM.*

NOTE: *The Tire Pressure Monitoring System (TPMS) Training procedure must be done on a single vehicle, in an area without radio frequency noise and at least 1 m (3 ft) away from other vehicles equipped with a Tire Pressure Monitoring System (TPMS).*

Radio frequency noise is generated by electrical motors and appliance operation, cellular telephones, remote transmitters, power inverters and portable entertainment equipment.

NOTE: *If a sensor does not respond to the Tire Pressure Monitor Activation Tool, move the vehicle to rotate the wheels at least one-fourth of a turn and attempt to activate the same sensor again. If the sensor still does not respond, attempt to activate the same sensor again using the customer activation tool (if available). If the sensor still fails to train, attempt to train the sensor with the vehicle doors open.*

NOTE: *The BCM has a 2-minute time limit between sensor responses. If the BCM does not recognize any 1 of the 4 tire pressure sensors during this time limit, the horn will sound twice and the message center (if equipped) will display **TIRE NOT TRAINED REPEAT** and the entire procedure must be repeated.*

NOTE: *For vehicles with different front and rear tire pressures the tire pressure sensors must be trained following a tire rotation. Failure to train the sensors will cause the TPMS indicator to illuminate. For vehicles with the same tire pressure for front and rear tires, tire rotation will not affect the system.*

STEP 1: Turn the ignition switch to the OFF position, then press and release the brake pedal.

STEP 2: Cycle the ignition switch from the OFF position to the RUN position 3 times, ending in the RUN position.

STEP 3: Press and release the brake pedal.

STEP 4: Turn the ignition switch to the OFF position.

STEP 5: Turn the ignition switch from the OFF position to the RUN position 3 times, ending in the RUN position.

- The horn will sound once and the TPMS indicator will flash if the training mode has been entered successfully. If equipped, the message center will display **TRAIN LF TIRE**.

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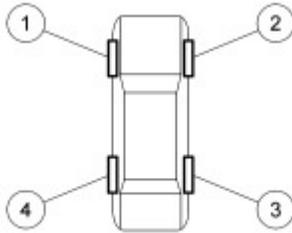
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STEP 6: **NOTE:** *It may take up to 6 seconds to activate a tire pressure sensor. During this time, the Tire Pressure Monitor Activation Tool must remain in place at the valve stem.*

Place the Tire Pressure Monitor Activation Tool on the LF tire sidewall at the valve stem. Press and release the test button on the Tire Pressure Monitor Activation Tool. The horn will sound briefly to indicate that the tire pressure sensor has been recognized by the BCM.

STEP 7: Within 2 minutes of the horn sounding, place the Tire Pressure Monitor Activation Tool on the RF tire sidewall at the valve stem and press and release the test button to train the RF tire pressure sensor.



STEP 8: **NOTE:** *Do not wait more than 2 minutes between training each sensor or the BCM will time out and the entire procedure must be repeated.*

Repeat Step 7 for the RR and LR tires.

The procedure is completed after the last tire has been trained. When the training procedure is complete, the message center (if equipped) will display TIRE TRAINING COMPLETE.

For vehicles not equipped with a message center, successful completion of the training procedure will be verified by turning the ignition switch to the OFF position without the horn sounding. If the horn sounds twice when the switch is turned to the OFF position, the training procedure was not successful.

STEP 9: Using the scan tool, locate the updated TPMS sensor identifiers trained to the BCM and document them on the applicable warranty claim.

STEP 10: **NOTE:** *This step is required to clear DTC C2780, cause the BCM to exit the manufacturing mode and to make sure there are no other concerns with a newly programmed BCM.*

If the sensors are being trained due to the installation of a new BCM, clear any DTCs and carry out the BCM On-Demand Self Test.

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WHEEL INSTALLATION:

STEP 1:  **WARNING:** When a wheel is installed, always remove any corrosion, dirt or foreign material present on the mounting surface of the wheel and the mounting surface of the wheel hub, brake drum or brake disc. Make sure that any fasteners that attach the rotor to the hub are secured so they do not interfere with the mounting surfaces of the wheel. Failure to follow these instructions when installing wheels may result in the wheel nuts loosening and the wheel coming off while the vehicle is in motion, which could result in loss of control, leading to serious injury or death to vehicle occupant(s).

NOTICE: Make sure to apply a thin coat of anti-seize lubrication only to the interface between the wheel pilot bore and the hub pilot. Do not allow the anti-seize to make contact with the wheel-to-brake disc/drum mounting surface, wheel studs, wheel nuts, brake pads or brake disc friction surfaces or damage to components may occur.

Clean the wheel mounting surfaces and apply a thin coat of anti-seize to the wheel hub pilot surface (wheel only).

STEP 2: Install the wheel and tire assembly.

STEP 3:  **WARNING:** Retighten wheel nuts within 160 km (100 mi) after a wheel is reinstalled. Wheels can loosen after initial tightening. Failure to follow this instruction may result in serious injury to vehicle occupant(s).

NOTICE: Failure to tighten the wheel nuts in a star/cross pattern can result in high brake disc runout, which will speed up the development of brake roughness, shudder and vibration.

NOTE: *The wheel nut torque specification is for clean, dry wheel stud and wheel nut threads.*

Install the 5 wheel nuts by hand.

- Tighten the wheel nuts in a star/cross pattern to 135 Nm (100 lb-ft).

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