# Product Service Bulletin

## Important Information To Better Serve Your Customers

**This PSB Is Applicable To: U.S. and Canada**

**March 2, 2018**

**PSB #2018-02**

**TO: Goodyear Company Owned Stores, Independent Goodyear Dealers in the U.S. and Canada**

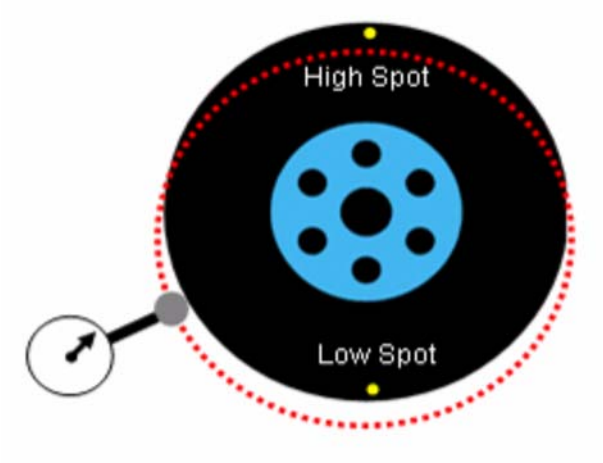
**Subject: Vibration Issue with Tesla Model S Vehicles**

If you encounter a consumer with a vibration issue on Tesla Model S vehicles, model years 2014 thru 2017, dismount and check all 4 tires to see if the tires contain foam. If the tires contain foam, check to see if the foam inside any tire has come loose. If so, replace the tire(s) with loose foam, and return for an adjustment with a return reason of "Loose Foam", then check the vehicle for vibration. If the foam is intact then follow the below process for match mounting.

**Why is it Necessary to Match Mount?**

When tires are mounted in a random position on the wheel and the wheel is bolted to the vehicle in a random position, the individual components may sometimes be aligned to cause excessive run-out. Excessive run-out may result in a vibration complaint. To minimize vibration complaints, you must:

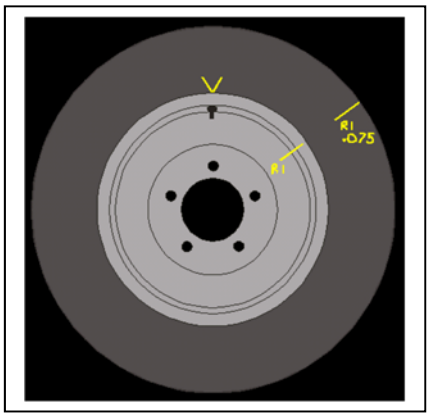
- Minimize tire/wheel assembly radial run-out.
- Accurately balance the tire / wheel assemblies.

| What is Radial Run-Out? | Run-Out Stand & Gauge: |
|---|---|
| Radial run-out is the deviation of the tire / wheel assembly from a perfect circle | In order to use this process, you will need a radial run-out gauge and stand. See Product Service Bulletin 2013-07 for details on ordering and using a run-out stand and gauge. |
|  |  |

**Simplified Match Mounting Process**

This is not a complete guide to match mounting or vibration diagnosis, but is a simple approach to use during replacement tire installation or when handling a vibration complaint.

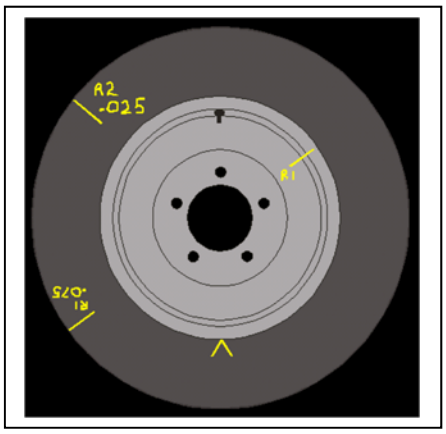
1. If you suspect a tire/wheel, assembly has too much run-out, measure the radial run-out on the balancer using a run-out gauge. Mark the high run-out point location and magnitude on the tire and mark the wheel location as shown. Mark the valve stem location with a "V". .040 (forty thousandths of an inch) to .050 (fifty thousandths of an inch) of run-out is enough to cause vibration in some vehicles.




   - Not OK
   - OK → Balance and install assembly

2. Confirm that bead seating is concentric and the assembly centering on the balancer is accurate. Rear coning assemblies on the balancer generally provides the best repeatability and is strongly recommended.

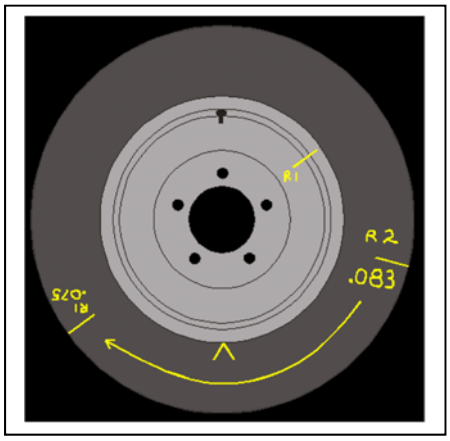
3. Rotate the tire 180 degrees on the wheel and re-measure run-out.




   - Not OK
   - OK → Balance and install assembly.

4. Mark the 2nd high run-out point location and magnitude on the tire as shown.

5.
   - If the second run-out is still excessive and falls within one hour of the original mark on the wheel, replace the wheel.
   - If the second run-out is still excessive and falls within one hour of the original mark on the tire, replace the tire.
   - If the second run-out is still excessive and doesn't stay with the rim or follow the tire, draw an arrow on the tire from measurement 2 to 1 as shown. Turn the tire 90 degrees in the direction of the arrow. This should make the run-out acceptable.




6. **Match Mount to Hub – Recommended Final Step for Sensitive Vehicles:** When match-mounting is complete, position the assembly run-out high point on the vehicle hub at 12 o'clock before tightening the lug nuts. This will use any hub-to-wheel clearance to help improve the on-vehicle run out. After installation, measure radial run-outs of the tire/wheel assemblies again while mounted on the vehicle. If any assembly measures outside the guidelines mark a stud location and a reference mark on the wheel. Remove the assembly and re-install it as close to 180 degrees away from the original location as possible, (again the high point at 12 o'clock) then re-measure to see if the run-out improved.

Note: Judging assemblies by eye as they rotate on a balancer is not an effective method for making decisions on tire or wheel replacement. However, it can be useful for deciding if run-out measurements should be made.

If you have any questions or need assistance with match mounting, please contact the National Field Manager Product Service for your area. You can locate the NFMPS in your area on Tire HQ under Product Service/National Field Managers Product Service.