STAR ONLINE PUBLICATION

Case Number: S2322000001

Release Date: May 2023

Symptom/Vehicle Issue: Hum Or Rumble Noise And Or Vibration 40 to 50 MPH.

Customer Complaint/Technician Observation: Customer may complain of a vibration or hum from the vehicle while driving highway speed 40-50 MPH.

Discussion: Verify the customers complaint with a test drive. Use the Mopar Scope with electronic vibration analyzer sensor (EVA), MTS 4100, or Sirometer to measure the frequency. Frequency is measured in Hertz (Hz). Place the sensor on a stationary component such as the seat frame to measure the Hz. Most of the vibration analyzers will help you with what frequency and its order (how many times per revolution). The Sirometer will require formulas to understand and prove out a vibration complaint, but it is still a useable tool.

Wheel and tire Hz at 40 to 50 mph will typically measure 4Hz to 7Hz in first order. Second order would be 8Hz to 14Hz. Does the EVA tool indicate a reading in these ranges?

NO>>> The Hz measurements are not near the range of wheel tire frequencies. Continue with diagnosis. Refer to published service information and STAR Online Publications.

Contact STAR Center, or your Technical Assistance Center Via TechConnect, eCONTACT or Service Library entry if no solution is found.

Yes>> The readings are in or close to the 4-7Hz first order or 8-14Hz 2nd order ranges.

1.Visually inspect the tire and wheels for damage. Replace any tire or wheel exhibiting physical damage. Then continue to next step.

2. If ok, remove the wheel assembly for balancing. Preferred balancing method is road force balancing. Tires with excessively high road force (measured in pounds of force) should be evaluated for replacement. A high reading would be 30 Lbs or more. Lower road force numbers the better and provide a smoother ride. Place the lowest road force number tires in the front and the highest away from the driver in the rear. Test drive again to verify the condition is improved or resolved. If the condition is improved but not resolved go to step 3.

3. If possible, as a diagnostic test, swap wheel tire assemblies with a known good vehicle equipped with the same tire. If the condition is now resolved, the customers tires may need replacement.

Contact STAR Center, or your Technical Assistance Center Via TechConnect, eCONTACT or Service Library entry if no solution is found.