Subject
OPTIMISATION OF WHEEL AND TIRE ASSEMBLIES TO REDUCE STEERING WHEEL SHIMMY

Model: All	
Year: All	**VIN All**

Section: 100-04	**Noise, Vibration and Harshness**

Summary

X100-28: This Technical Bulletin has been issued due to customer complaints of steering wheel shimmy on vehicles with non-directional tires. This is caused by Radial Force Variations (RFV) in wheel and tire assemblies and the position of the effected wheels to the vehicle.

Action

To eliminate steering wheel shimmy on non-directional tires and nullify the effect of RFV of the wheel and tire assemblies, follow the workshop procedure below obtaining/using a Hunter 9700 balancing machine.

Workshop Procedure

1   Raise vehicle on ramp.
2   Examine all four-fitted wheel and tire assemblies ensuring they are free from damage.
3   Lower vehicle on ramp.
4   Drive vehicle for approximately 15 miles at speeds over 50mph (on suitable roads only) to remove temporary flat spots.
5   On return to work area immediately raise vehicle 'twin-post' ramp (wheel free) to minimize risk of flat spots.
6   Remove all four road wheel and tire assemblies for optimization (see Workshop Manual, JTIS CD ROM section: 204-04).
7   Displace and remove road wheel center caps.
8   Optimize wheel and tire assemblies using Hunter 9700 balancing machine (see user manual GSP 9700 Vibration Control System).

Note: Original production balance weights on wheel and tire assemblies should not be disturbed. Wheel and tires with original production balance weights should only be optimized.

Note: Non-production fitted wheel and tire balance weights should be removed prior to optimization. Wheel and tires with non-production balance weights removed should be balanced during optimization.

9   Measure radial force variation of each wheel and tire assembly in turn.
10   Record magnitude value high spot of each assembly, and mark on outer tire wall at that point.
11   Refit wheel and tire assemblies to vehicle in the following sequence and finger tighten securing nuts only:

- Lowest magnitude of force variation: Fit to left-hand front of vehicle.
- Next lowest magnitude of force variation: Fit to right-hand front of vehicle.
- Next lowest magnitude of force variation: Fit to left-hand rear of vehicle.
- Greatest magnitude of force variation: Fit to right-hand rear of vehicle.

12   Rotate each wheel until previously marked point of force is lowermost.

13   Lower vehicle on ramp until light load is applied to wheels and tires.

14   Tighten securing nuts of all four-road wheels (see Workshop Manual, JTIS CD ROM section: 204-04).

15   Lower vehicle on ramp.

Warranty Information

Description	SRO	Labor Time Allowance	Warranty Code
Wheel and tire optimization using Hunter GSP9700 Balancer.	74 91 09	1.8 Hours	GV-BZ-D9