

Tire With Wheel

ELIMINATING VIBRATIONS - DIAGNOSIS GROUP 44, NO. 91-01

Article Text (p. 2)

1991 Volkswagen Passat

For Volkswagen Technical Site

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Radial 0.8 mm (0.032 inch)
Lateral 1.2 mm (0.059 inch)
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- If runout figures are within limits, balance wheels/tires.
- If runout figures are outside limits, rotate tire on wheel.
- Deflate tire and push tire beads down into wheel bed.
- Rotate tire 120° on wheel.
- Inflate tire and remeasure radial runout.
- If maximum figure is still outside limits, rotate tire a further 120° on wheel and remeasure the radial runout.
- If outside limits, check lateral and radial runout of the wheels.

WHEEL RUNOUT CHECKING

- Dismount tire and mount wheel in balancing machine or on vehicle.
- Measure radial and lateral runout at points shown in Fig. 3.

WHEEL RUNOUT TABLE

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Steel Wheel

Alloy Wheel

Radial (H)	0.6 mm (0.024 inch)	0.5 mm (0.020 inch)
Lateral (S)	0.8 mm (0.032 inch)	0.5 mm (0.020 inch)

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NOTE: Peak readings, up or down, which are caused by small imperfections on the wheel surface, can be ignored.

- If maximum values are exceeded, replace wheel and recheck runout of wheel and tire assembly.
- Balance tire and wheel assembly.

WHEELS/TIRES, BALANCING

- Remove the existing balance weights before balancing.

CAUTION: Wheels MUST be mounted with same centering method as on vehicle (i.e., bolted to hub/arbor) and centered on a cylindrical and not conical surface.

* Maximum permissible residual imbalance is 5 grams.

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NOTE: For on-the-vehicle balancing of the driving wheels, the wheels must be driven by the engine so that the wheel speeds are synchronized .

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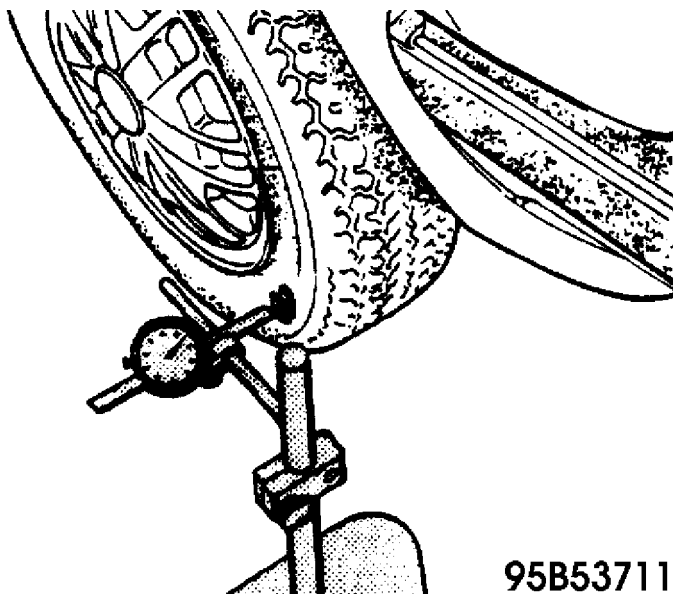
WHEELS INSTALLING

- Install wheels with point of maximum radial runout at top and tighten the lug bolts in this position.

NOTE: If the tire wear is approximately equal, the wheels with the lowest amount of radial runout and the smallest balance weights should be installed at the front.

- Repeat road test of vehicle.

If vibrations are still present, the radial and the lateral oscillations of one or more of the tires are too high. These oscillations cannot be measured with normal workshop equipment. For such cases the front tires, the rear tires or all four tires should be replaced.



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Fig. 1: Measuring Lateral Runout

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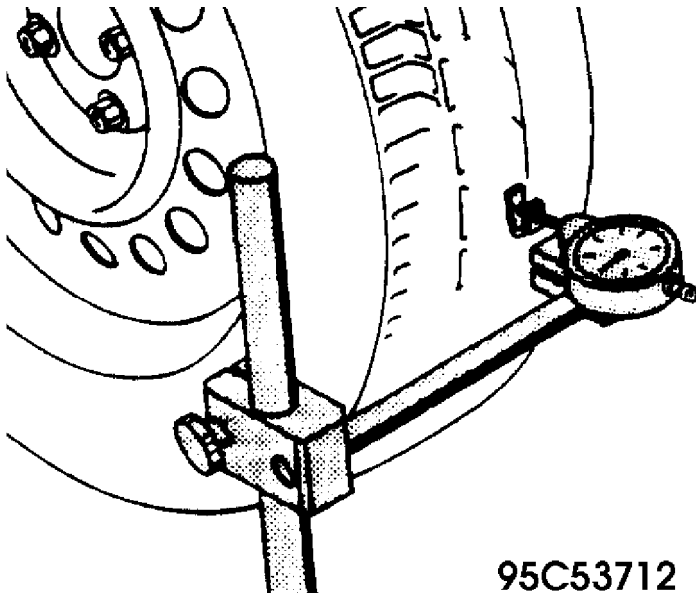
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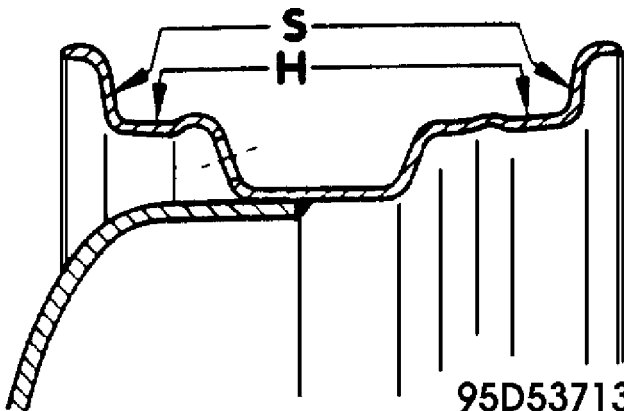
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Fig. 2: Measuring Radial Runout



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Fig. 3: Points To Measure Radial & Lateral Runout

END OF ARTICLE