

Name \_\_\_\_\_

**SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.**

1) What are the steps to perform a neutral run-up test?

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2) Why is the balance of a driveshaft on a rear-wheel-drive vehicle more important than the balance of a front-wheel-drive axle shaft.

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3) Explain how to check and balance a driveshaft on a rear-wheel-drive vehicle.

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4) How can you tell if the source of a vibration is at the front or the rear of a vehicle during a test-drive?

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5) What are two types of frequency-measuring instruments?

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## Answer Key

Testname: ASSA8\_SHORT21

1) With the transmission in Neutral or Park, slowly increase the engine RPM and with a tachometer, observe the RPM at which the vibration occurs.

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2) Driveshaft balance is more important than front drive axle shaft balance because a driveshaft rotates much faster. A typical driveshaft rotates about three times faster than the drive wheels due to the gear reduction in the differential. Drive axle shafts rotate at the same speed as the drive wheels.

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3) STEP 1 Raise the vehicle and mark the driveshaft with four equally spaced marks around its circumference. Label each mark with a 1, 2, 3, and 4.

STEP 2 Attach the strobe balancer sensor to the bottom of the differential housing as close to the companion flange as possible.

STEP 3 With the vehicle securely hoisted and the drive wheels off the ground, start the engine and put the transmission into gear to allow the drive wheels to rotate.

STEP 4 Hold the strobe light close to the marks on the driveshaft.

a. If the light does not flash, the driveshaft is balanced and no corrective action is necessary.

b. If the light does flash, observe what number mark is shown by the flashing light.

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4) If the vibration is felt or seen in the steering wheel, dash, or hood of the vehicle, the problem is most likely to be caused by defective or out-of-balance front wheels or tires. If the vibration is felt in the seat of the pants or seems to be all over the vehicle, the problem is most likely to be caused by defective or out-of-balance rear wheels or tires. In a rear-wheel-drive vehicle, the driveshaft (propeller shaft) and related components might also be the cause.

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5) Vibration can be measured using a reed tachometer or an electronic vibration analyzer (EVA).

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