Automotive Technology 6th Edition
Chapter 131 - Four-Wheel-Drive and All-Wheel-Drive
Chapter 131

Name_____

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

1) How does a viscous coupling work?

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2) Why do part-time four-wheel drive vehicles use locking front hubs?

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3) What is the difference between four-wheel drive and all-wheel drive?

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4) What are the elements of the planetary gear set used in many transfer cases?

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5) What is the difference between a mode shift and a range shift in a transfer case?

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1) A viscous coupling uses silicon fluid that stiffens to reduce the speed difference between the front and rear drive shafts.
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2) Locking hubs are required on part-time four-wheel-drive vehicles to lock the wheels to the front axle. Otherwise, the front wheels simply free wheel.
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3) Four-wheel-drive vehicles use a transfer case with a low range with or without a differential. An all-wheel-drive vehicle uses a center differential, but without a low range in the transfer case.
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4) The elements of a typical planetary gear set include a ring gear (annulus or internal gear), sun gear, and a planet carrier with planetary pinion gears attached.
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5) A mode shift is the selection of two wheel-drive or four-wheel drive, whereas a range shift selects low or high range in the transfer case.
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