

Chapter 20

Vehicle Maintenance, Equipment, and Security

20-1 PREVENTIVE MAINTENANCE

A. Select the word or phrase that best completes each of the following sentences and write the letter in the space provided.

- _____ 1. Preventive maintenance on a vehicle would include:
a. changing the oil. b. putting air in the tires.
c. tightening a belt in the engine. d. All of the above.
- _____ 2. You should check tire pressure:
a. every time you stop for gas. b. when the tires are cold.
c. at least once a year. d. when you change the oil.
- _____ 3. Tires need more air:
a. in hot weather. b. in cold weather.
c. if they are badly worn. d. when they are new.
- _____ 4. If your tires do not have tread-wear indicators, you should replace them when the tread is worn to no less than:
a. $\frac{1}{8}$ inch (3 mm). b. $\frac{1}{4}$ inch (6 mm).
c. $\frac{1}{2}$ inch (13 mm). d. 1 inch (25 mm).
- _____ 5. Motor oil should be checked:
a. every six months. b. every 3,000 miles (4,800 km).
c. when you stop for gas. d. at least once a month.
- _____ 6. If you see bright, cherry red spots under your vehicle's engine, it may be leaking:
a. transmission fluid. b. motor oil.
c. power-steering fluid. d. coolant.
- _____ 7. Coolant/antifreeze should be added:
a. when the engine is off. b. when the engine is running.
c. every 3,000 miles (4,800 km). d. every six months.
- _____ 8. If your exhaust changes to a blue or smoky white color, you should:
a. change the oil. b. turn the engine off immediately.
c. have the thermostat checked. d. change the transmission fluid.
- _____ 9. Which of the following will *not* save you money on gasoline?
a. Driving at the speed limit b. Using high-octane fuel
c. Driving on the freeway instead of surface roads d. Idling the engine instead of turning it off
- _____ 10. To protect your vehicle's finish, you should wax it:
a. in direct sunlight. b. on a humid day.
c. at least six times a year. d. at least once a year.

B. What are the potential costs of *not* performing preventive maintenance on your vehicle?

C. In the space provided, describe the dangers of driving on tires that are underinflated, overinflated, and “bald.”

1. Underinflated: _____

2. Overinflated: _____

3. “Bald”: _____

D. How do you check the oil level in a vehicle’s engine?

E. What are the dangers of having a loose belt in the engine?

F. What are some of the signs that your brakes need to be serviced?

G. What are some of the signs that there is a problem with your vehicle’s steering system?

H. What can you do to protect your vehicle's interior?

I. Complete each of the following sentences by writing the correct word or phrase in the space provided.

1. For equal wear, tires should be _____ on a regular basis.
2. The _____ of any puddle on the pavement indicates the type of fluid leaking out.
3. If you drive in _____ weather, you should change the oil more frequently.
4. The quickest way to diagnose problems with your engine is from the _____ .
5. Most vehicles get optimum fuel economy when cruising at a steady speed of _____ .

J. CHECK IT OUT.

Compare the routine maintenance schedules of a new car with a much older car by examining the owner's manuals. What are some of the major differences in terms of how often fluids and parts have to be checked or replaced? In the space provided, write down what you discover.

Go to the library or use the Internet to look up the gas mileage on various passenger vehicles. Which vehicle has the lowest gas mileage? the highest? How does the mileage range offered in today's vehicles compare with those of a decade ago? In the space provided, write down what you discover.

20-2 SELECTING A MECHANIC

A. What should you do before having any repair work done on your vehicle?

B. What legal rights do you have as a consumer if you feel that you have been the victim of fraud by a mechanic?

C. Why is it important to keep accurate records of any repair work on your vehicle?

D. In the space provided, list the sequence of steps you should follow should you become involved in a dispute with a mechanic.

E. CHECK IT OUT.

Visit a local repair shop. Is the shop clean and orderly? Are the mechanics' credentials on display? Are they up to date? Are the mechanics and/or customer service representatives in the front office courteous and professional? Contact your local Better Business Bureau, the Attorney General's office, or local consumer groups to see if there have been any complaints registered against the facility. Does the shop have a Web site? In the space provided, write down what you discover.

20-3 VEHICLE EQUIPMENT AND ACCESSORIES

- A. Indicate the word or phrase in Column B that best matches each item in Column A by writing the correct letter in the space provided.

<i>Column A</i>	<i>Column B</i>
_____ 1. Winch	a. Help passengers get in and out
_____ 2. Tonneau	b. Protects pickup bed from scratches
_____ 3. Marker lights	c. "Molds" to pickup cargo
_____ 4. Brush guard	d. Reduces size of blind spots
_____ 5. Roll bar	e. Increases interior space of pickup
_____ 6. Reinforced bumper	f. Interior accessory
_____ 7. Fog lights	g. Protects hood and bumper
_____ 8. Bubble case	h. Provides extra protection in head-on or rear-end collision
_____ 9. Bungee cords	i. Attaches to top of car
_____ 10. Bedliner	j. Make vehicle more visible to other drivers
_____ 11. Spoiler	k. Keep water from entering passenger compartment
_____ 12. Vent guards	l. Use to pull other vehicle out of dangerous situation
_____ 13. Running boards	m. Covers the bed of a pickup
_____ 14. Nose "bra"	n. Adds structural support in event of rollover
_____ 15. Seat cover	o. Protects grille and lights during off-road driving
_____ 16. Spider netting lift gate	p. Improve your visibility in bad weather
_____ 17. Door guards	q. Stretchable ropes with hooks on the ends
_____ 18. Oversize rearview mirror	r. Makes vehicle more aerodynamic
_____ 19. Spotlights	s. Provide protection in tight parking situations
_____ 20. Camper shell	t. Can use to examine off-road object at night

B. Where can disabled drivers obtain financial help in adapting their vehicles?

C. In the space provided, list five types of adaptive equipment.

D. CHECK IT OUT.

Think of five accessories you would like to install on your own car. Use the Internet to find out how many types of each accessory are available and the range in prices. How much would it cost to customize your vehicle? In the space provided, write down what you discover.

Go to the library or use the Internet to find out what resources are available in your jurisdiction to assist disabled drivers. Which specific government agencies and private organizations can provide financial assistance? What programs are available to provide driver training for the disabled? In the space provided, write down what you discover.

20-4 VEHICLE SECURITY

A. Select the word or phrase that best completes each of the following sentences and write the letter in the space provided.

- _____ 1. About 40% of cars that are stolen have:
- a. some type of antitheft device.
 - b. the ignition key in them.
 - c. at least one unlocked door.
 - d. no form of antitheft protection.
- _____ 2. A completely unprotected car can be stolen in less than:
- a. 10 seconds.
 - b. 30 seconds.
 - c. 1 minute.
 - d. 10 minutes.
- _____ 3. To deter thieves, always _____ when parking.
- a. turn your wheels toward the curb
 - b. set the emergency brake
 - c. choose a well-lit area
 - d. All of the above
- _____ 4. _____ are antitheft devices that emit a sound, signal, or visual cue.
- a. Shut-off devices
 - b. Car alarms
 - c. Kill switches
 - d. Starter disablers
- _____ 5. Even if a thief “hot wires” your car, it will not start if you have installed a:
- a. fuel disabler.
 - b. car alarm.
 - c. tracking device.
 - d. smart key.

B. What types of vehicles are most often targeted by thieves and why?

C. What can you do to reduce the risk of your car being stolen?

D. Complete each of the following sentences by writing the correct word or phrase in the space provided.

1. Some vehicles are worth two to three times their value on the _____ when disassembled into parts.
2. Never leave your car running and _____ .
3. Many automobile insurers will offer you a discount on your _____ coverage if your vehicle is equipped with an antitheft device.
4. _____ keys are ignition keys that are computer-coded or radio-controlled to signal your vehicle to start.
5. _____ have proven to be very successful in recovering stolen vehicles quickly.

E. CHECK IT OUT.

Use the Internet to look up the latest annual national statistics on vehicle theft.

1. How many cars are stolen each year? _____
2. What five cities have the highest rate of vehicle theft? _____

3. Where does your city (or the nearest metropolitan area) fall in the national rankings? _____
4. What make and model vehicle is the most popular target of thieves? _____

CROSSWORD PUZZLE: VEHICLE MAINTENANCE, EQUIPMENT, AND SECURITY

Across

1. Color of coolant
5. Should never be exposed on tires
8. Avoid these kind of starts
10. Rating found on gasoline pump
12. Tires with little or no tread
14. Routine or day-to-day maintenance
15. Pickup accessory

Down

2. Switch tires to lengthen tread life
3. Lifeblood of your vehicle
4. Use to help dry a wet vehicle
6. Most effective type of car alarm
7. Get before authorizing repairs
9. Extra lights mounted on front of vehicle
11. Equipment that allows disabled to drive
13. Engine knocking

