

## Routine Maintenance

### [[YELLOW BAR (DESCRIPTION OF SESSION)]]

Explorers will be introduced to the basics of automotive maintenance and understand the importance of routine inspections and replacement or repair of worn or damaged components.

### CATEGORY

- Auto Technology

### OBJECTIVES

By the end of this session, participants will be able to:

- List five major inspection points on a vehicle that require routine maintenance.
- Explain why failure to perform routine maintenance is costlier than early intervention.

### SUPPLIES

- Activity 1
  - Six pieces of paper or index cards for each Explorer or team to record answers
  - Pens or pencils for each Explorer or team
- Activity 2
  - Proper safety equipment for each participant (i.e., eye and ear protection, gloves)
  - Any needed parts or supplies to complete your selected job(s)

**ADVISOR NOTE:** Text in italics should be read aloud to participants. As you engage your post in activities each week, please include comments, discussions, and feedback to the group relating to **Character, Leadership, and Ethics**. These are important attributes that make a difference in the success of youth in the workplace and in life.

### ACTIVITY 1

#### How Much Will It Cost

Play **How Much Will It Cost**. This activity not only is an opening activity to get your Explorers engaged but also is intended as a lead-in to the main event.

The format of this activity is like that of a basic quiz game, with questions and answers. You may choose to have your Explorers play individually or create small teams.

Explain that you will read a question and then ask each player or team to write down their answer. They will have 30 seconds to respond. The player or team that comes the closest to the correct answer will receive a point. The player or team with the most points at the end of the game is the winner. Some, if not all of the answers, will evoke disagreement so be prepared to defend or resolve differences in answers. You may decide to award points to more than one player or team. (Note: The answers are based upon research conducted by AutoMD.com in January 2014.)

Changing your oil every 3,000 to 5,000 miles can prevent your engine from seizing up or wearing out prematurely. On average a year's worth of oil changes would cost \$120. What is the average cost of replacing an engine?	\$4,000
By rotating your tires every 7,500 miles, the tread will wear more evenly and extend the life of the tires. In many cases, tire rotation is free but can cost as much as \$50. What is the typical price range of a new set of tires?	\$350–\$700
Replacing an aging timing belt according to manufacturer's specifications can preempt a broken belt, which would result in severe engine damage. The average cost of replacing a timing belt is \$600. What is the average cost of repairing a damaged engine?	\$2,500
Brake disc pads and shoes eventually wear down. Checking your brakes annually allows you to spot wear and help you avoid costlier rotor or drum replacements. The average replacement cost of brake pads is \$150 to \$375. What is the average replacement cost of rotors or drums?	\$300–\$600
The positive crankcase ventilation, or PCV, system regulates crankcase pressure and ventilates blow-by gases, which helps prevent engine oil leaks and sludge buildup. Annual replacement of the PCV valve costs about \$25. What is the cost range of a new valve cover or engine seals?	\$100–\$1,000
Regularly changing the spark plugs and filters improves the odds of passing emissions tests and helps maintain a clean engine. The average annual cost of spark plug and filter replacement is about \$100. What is the average cost range of repairing a vehicle to meet compliance standards?	\$335–\$700

## ACTIVITY 2

### Main Event

Begin the main event by asking the following questions:

- *Were you surprised by the correct answers in the opening activity?*
- *Why do you think the average vehicle owner neglects regular vehicle maintenance?*
- *Why would it be important to share this kind of information with your customers?*

Try to guide the discussion toward the conclusion that regular maintenance not only is good for a steady business stream but also saves customers money in the long run, which will help build a good relationship that results in satisfied and loyal customers.

It is important that your Explorers have the opportunity to get their hands dirty and actually experience one or more of the maintenance jobs that were referenced in the opening game or which you feel are common in your shop.

Depending upon the size of your post, adult supervision, and the available tools and space in your shop, consider setting up a round-robin event where each Explorer can participate in one or more of the following:

- Change the engine oil and filter
- Replace windshield wiper blades
- Check and replace a hose or belt
- Rotate tires and check pressure
- Replace a spark plug
- Check and top off fluids
- Replace a fuel filter
- Replace air, cabin, or other filters
- Replace brake pads
- Clean battery terminals and/or replace a battery
- Other maintenance task

As each job is undertaken, explain the associated safety precautions, proper tool selection, and how this particular job contributes to the longevity and trouble-free operation of a vehicle. Discuss the consequences of neglecting regular attention to this part or system.

#### **ADVISOR NOTE**

Some sample questions are below. They are designed to help the participants apply what they have learned to their own interests. You are welcome to use these questions or develop your own questions that relate to your post or specific focus area.

#### **REFLECTION**

Focusing Questions

- *What did you learn about the importance of regular maintenance?*
- *Which maintenance task do you think is the most important one for vehicle owners to pay attention to?*

Analysis Questions

- *Why do you think owners neglect routine maintenance?*

- *How can an auto technician help customers understand the importance of regular service?*

#### Generalization Questions

- *What aspects of auto maintenance would you like to learn more about?*
- *What subjects in school do you believe would be relevant to the jobs that were performed or discussed today?*

#### **ADVISOR'S PARTING THOUGHT**

Share the following story:

*A man took his rather average car into his local repair shop after years of neglect and unattended maintenance. He explained to the technician that the car was running poorly and had become unreliable. A thorough inspection and diagnostic evaluation was performed and then a fairly expensive estimate was presented to the car's owner. The owner became very upset and exclaimed, "This is outrageous. This is almost as much as a full year of car payments." "Yes," replied the technician, "it is, but it would have cost only a fraction of that amount had you kept up on the needed preventative maintenance. Although I have to admit that I appreciate your neglect," he said, pointing to a nice luxury car on his lot. "You see that car over there? That's my car. It's because of people like you, who don't routinely take care of their modest automobiles, that I can afford to drive my nice luxury car."*

Close by sharing that part of being a good technician isn't just fixing problems but also helping customers understand how they can protect their investment and save money over the long term by performing routine maintenance.

#### **ADVISOR AND OFFICER REVIEW**

After the meeting, address the following:

- Identify what was successful about the meeting.
- Identify what needed improvement.
- Schedule an officer and Advisor planning meeting to prepare for the next post meeting or activity.