Automotive Maintenance
Merit Badge Workshop

This workshop is designed to safely instruct and assist participants in the successful completion of the various on-vehicle tasks and demonstrations necessary for the Boy Scout Automotive Maintenance Merit Badge.

Merit Badge Requirements: Can be found at http://meritbadge.org/wiki/index.php/Automotive_Maintenance#Requirement_resources

Required Workshop Materials: Pen/pencil, and a printed copy of the Automotive Maintenance Merit Badge Workbook (pages 1-12). Copies of the Workbook can be downloaded at http://meritbadge.org/wiki/images/2/22/Automotive_Maintenance.pdf and partially completed prior to the workshop. Scouts should identify and complete sections of the workbook that do not require vehicle demonstrations of maintenance tasks. Completed workbooks may be submitted at the end of the workshop to satisfy all requirements of the merit badge.

NOTE: Printed copies of the Automotive Merit Badge Workbook will be made available at the workshop if needed. Partially completed workbooks may be taken home for completion, but only partial credit will be given until all written sections are completed and submitted.

NOTE: A car or truck owner's manual could be helpful to complete some of the tasks and requirements. It can be any vehicle, such as the family car or truck owner manual.

Required Dress: Long pants, closed toe shoes (no sandals or flip-flops), safety glasses (safety glasses will be provided if needed). Prescription glasses are acceptable eye protection. Clothes may get dirty.

Classroom Instruction:

1. **General Maintenance Overview and Safety**
   a. Importance of vehicle maintenance & safety
   b. Purpose of warning lights & gauges
   c. General maintenance procedures
   d. Procedure demonstrations
   e. Shop safety & precautions

2. **On-Vehicle Tasks and Procedures**
   a. Fluid level checks
   b. Oil & filter change
   c. Tire pressures
   d. Changing a flat tire
   e. Dead batteries & “Jumpstarting”
Classroom Instruction (continued):

3. Conclusion, Completion, and Submission of Written Materials
   a. Question & Answer Session
   b. Automotive Career Opportunities
   c. Summary

Laboratory Instruction - Prepared vehicles, equipment, and service information will be supplied from the SIU Automotive Department vehicle training fleet. Participants will be able to do and complete the following “on-vehicle” Automotive Maintenance Merit Badge task requirements.

4. General Maintenance, Safety, and Registration
   d. Demonstrate how to check the following:
      1. Brake Fluid
      2. Engine Oil
      3. Coolant
      4. Power steering fluid
      5. Windshield washer fluid
      6. Transmission fluid
      7. Battery fluid (if possible) and condition of the battery terminals
   e. Locate the fuse boxes; determine the size of fuses. Demonstrate the proper replacement of burned-out fuses.
   f. Demonstrate how to check the condition and tension of belts and hoses.
   g. Check the lighting in the vehicle, including instrument, warning, and exterior bulbs.
   h. Locate and check the air filter.

4. Tires
   b. Demonstrate how to check pressure and properly inflate a tire. Check the spare tire and make sure it is ready for use.

8. Ignition and electrical systems.
   d. Demonstrate how to safely connect jumper cables to your car battery.

10. Brake System
   c. Demonstrate how to check the condition of a vehicle's brake system. After checking make recommendations for repairs (if necessary).

11. Do TWO of the following:
   c. Locate the manufacturer’s jack Use the jack to demonstrate how to engage the jack correctly on the vehicle, then change a tire correctly.
   d. Perform an oil filter and oil change on a vehicle. Explain how to properly dispose of the used oil and filter.