



## Farm Mechanics Merit Badge Workbook

# SCOUTMASTER BUCKY

Scouts participating in a Scoutmaster Bucky merit badge opportunity, whether online or in person, should consider using the Farm Mechanics merit badge pamphlet for discovery and knowledge, along with the class preparation pages for clarifications, insights, and expectations.

<https://scoutmasterbucky.com/merit-badges/farm-mechanics/farm-mechanics-pamphlet.pdf>

<https://scoutmasterbucky.com/merit-badges/farm-mechanics/farm-mechanics-cpp.pdf>

**REQUIREMENT 1a:** Discuss with your counselor the safety equipment, tools, and clothing used while checking or repairing farm equipment. Use this equipment, tools, and/or clothing (when needed or called for) in meeting the requirements for this merit badge.

Consider using the [Farm Mechanics Merit Badge Pamphlet](#) for preparation information

**This requirement must be reviewed with your merit badge counselor.**

**BE PREPARED!**

Notes:



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**REQUIREMENT 1b:** Draw a plan showing a well-equipped farm shop. Point out the shop's mandatory safety devices and features.

Consider using the [Farm Mechanics Merit Badge Pamphlet](#) for preparation information

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**REQUIREMENT 1c:** Find all the universal warning and safety symbols on a piece of equipment and explain what they mean.

Be sure to bring the piece of equipment (or pictures) to share with your merit badge counselor

**This requirement must be reviewed with your merit badge counselor.**

**BE PREPARED!**

Notes:

**REQUIREMENT 1d:** Describe what a safety data sheet (SDS) is and tell why it is used.

Notes:

**REQUIREMENT 1d:** Obtain the SDS for any engine coolant, oil, grease, fuel, hydraulic or transmission fluid, or other flammable or hazardous materials you use in meeting the requirements for this merit badge.

Be sure to bring a copy of your selected SDS to share with your merit badge counselor

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**REQUIREMENT 2a:** Explain how power is produced or transferred in a diesel engine.

Notes:

**REQUIREMENT 2b:** Explain how power is produced or transferred in a hydraulic system.

Notes:

**REQUIREMENT 2c:** Explain how power is produced or transferred in a transmission or any other power system.

Notes:



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### DO TWO OF THE FOLLOWING (3A, 3B, 3C, or 3D) FOR REQUIREMENT 3

- |                        |   |
|------------------------|---|
| <b>REQUIREMENT 3a:</b> | Replace the handle of any tool found on the farm.                             |
| <b>REQUIREMENT 3b:</b> | Organize a tool rack or a storage system for nails, bolts, nuts, and washers. |
| <b>REQUIREMENT 3c:</b> | Using a hand file, properly dress the mushroomed head of a chisel or punch.   |
| <b>REQUIREMENT 3d:</b> | Using a hand file, correctly dress a screwdriver tip.                         |

The merit badge counselor will help facilitate this requirement as a part of the in-person class  
 Scouts having done preparation work ahead of time should bring their work to share with their counselor  
**This requirement must be reviewed with your merit badge counselor.**

**BE PREPARED!**

### DO ONE OF THE FOLLOWING (4A, 4B, or 4C) FOR REQUIREMENT 4

- |                        |  |
|------------------------|--|
| <b>REQUIREMENT 4a:</b> | On an engine-powered machine: Grease all fittings, change the oil and oil filter, clean the air filter, clean the radiator fins, and replace the fuel filters.   |
| <b>REQUIREMENT 4b:</b> | For any engine-powered machine, create a preoperational checklist; include checking the engine coolant, engine oil, hydraulic and/or transmission fluid, and battery voltage (using a voltmeter). Using your checklist, conduct a preoperational check of that machinery or equipment. |
| <b>REQUIREMENT 4c:</b> | Prepare any farm machine for winter storage.   |

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**REQUIREMENT 5:**

Visit an implement dealer. Interview the dealer technician or service manager for hints on good preventive maintenance. Ask why it is important, the costs, and what causes wear or damage. Report what you learn.

Implement Dealer Location (address):

Date of Visit:

Implement Dealer Representative and Title you met with:

Notes:



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**EXPLAIN EACH STEP IN ONE OF THE FOLLOWING MAINTENANCE PROCEDURES (6A, 6B, or 6C) FOR REQUIREMENT 6**

**REQUIREMENT 6a:** Tightening hydraulic fittings.

**REQUIREMENT 6b:** Checking the air filter.

**REQUIREMENT 6c:** Cleaning a work piece with a wire-brush wheel.

Selected Requirement Option:

☐

6A Tightening Hydraulic Fittings

☐

6B Checking the Air Filter

☐

6C Cleaning a work piece with a wire-brush wheel

Maintenance Procedure Steps:



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**REQUIREMENT 7:** Find out about three career opportunities in farm mechanics.

Career Opportunity #1:

Career Opportunity #2:

Career Opportunity #3:

**REQUIREMENT 7:** Pick one and find out the education, training, and experience required for this profession. Discuss this with your counselor.

Selected Career Opportunity:

Education Requirements:

Training Requirements:

Experience Requirements:

**REQUIREMENT 7:** Explain why this profession might interest you.

Notes: