

Compact Tractor



Beyond Ready



The 4-H Compact Tractor Project/ Contest is designed to help members become more knowledgeable about the maintenance, repair, and safe operation of compact tractors and the small engines that power them.

4-H Thrive

Positive Youth Development

Developing Competence

Adults create environments where youth can develop competence in their chosen project area.

Building Confidence

Youth build confidence as they learn to think for themselves, build mastery, and are recognized for their efforts.

Nurturing Caring

Adults nurture a caring environment where mutual trust between youth and adults is established. Caring relationships with adults are key to resilient youth.

Finding Connection

Youth build solid connections which are critical to their well-being.

Forming Character

Create a community where youth play an active role in developing their character.

Determining Contribution

Youth actively contribute to their clubs and communities.

**Mississippi State University
is an equal opportunity
institution.**

Starting Out Beginner

- Identify and properly use safety equipment
- Identify small engine parts
- Identify tools used in small engine maintenance and repair
- Start an engine
- Perform maintenance on spark plugs and air cleaners

Learning More Intermediate

- Describe engine cycles
- Identify specialty tools
- Perform maintenance on a carburetor
- Understand how engines transmit power
- Identify careers related to small engines

Exploring Depth Advanced

- Identify and use diagnostic tools
- Learn to tear down and assemble a small engine
- Select a replacement engine
- Develop a small engine business plan
- Safely operate a compact tractor

Activity Suggestions

- Research careers related to small engines (e.g. agriculture, manufacturing, sales).
- Visit farm equipment dealers.
- Tour Agricultural Engineering or Technology Programs.

Competitive Activities (Indicate Jr or Sr or Both)

Judging:

- Senior 4-H'ers: participate in compact tractor contest at 4-H Club Congress.

Visual Presentation:

- Youth who participate in the Compact Tractor project may submit their record book in the Engineering Category.

Expand your experiences!

Rubrics:

| Contest Components | Time Limit |
|--|------------|
| Written Examination <ul style="list-style-type: none"> Small engines Compact tractor operation and safety | 20 Minutes |
| Learn-to-Earn Identification (20 items, see potential items below) <ul style="list-style-type: none"> Small engine components Tools Compact tractor parts | 15 Minutes |
| Compact Tractor Safety Checks | N/A |
| Compact Tractor Driving (see course and rubric below) | 8 Minutes |

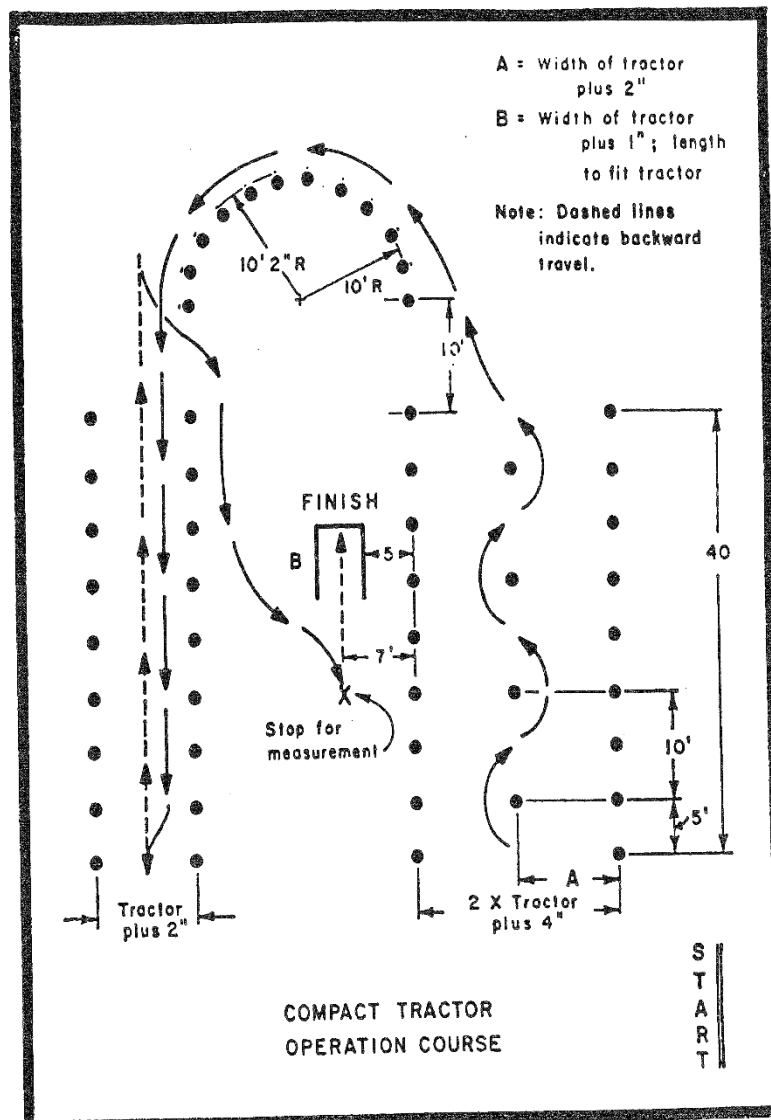
| | |
|--------------------------------|---|
| _____ air filter | _____ oil dipstick |
| _____ bearing | _____ oil plug |
| _____ belt, flat | _____ oil seal |
| _____ belt, serpentine | _____ oil slinger |
| _____ belt, v | _____ Philips screwdriver |
| _____ camshaft | _____ piston - 2 stroke |
| _____ carburetor assembly | _____ piston - 4 stroke |
| _____ carburetor bowl | _____ piston pin |
| _____ carburetor float | _____ piston rod |
| _____ clutch assembly | _____ piston wring compressor |
| _____ coil | _____ PPE (personal protective equipment) |
| _____ condenser | _____ primer bulb |
| _____ crankshaft | _____ pull start assembly |
| _____ engine cylinder- 2 cycle | _____ pulley puller |
| _____ engine cylinder- 4 cycle | _____ pulley, flat belt |
| _____ engine head | _____ pulley, v belt |
| _____ engine head gasket | _____ ratchet |
| _____ exhaust gasket | _____ rewind spring |
| _____ flywheel | _____ ring, compression |
| _____ flywheel key | _____ ring, oil |
| _____ fuel filter | _____ spark plug |
| _____ fuel pump | _____ spark plug wrench |
| _____ fuse | _____ torque wrench |
| _____ governor spring | _____ two cycle oil |
| _____ governor vane | _____ valve |
| _____ hydraulic hose | _____ valve lifter |
| _____ muffler | _____ valve spring |
| _____ needle | _____ venturi |

Resources

1. Crank It Up! (BU-08186)
<https://shop4-h.org/products/small-engines-curriculum-1-crank-it-up?variant=40738518990950>
2. Warm It Up! (BU-08187)
<https://shop4-h.org/products/small-engines-curriculum-2-warm-it-up?variant=40738518728806>
3. Tune It Up! (BU-08188)
<https://shop4-h.org/products/small-engines-curriculum-3-tune-it-up?variant=40738519875686>
4. Ready, Set...Mow! (4-H 544)
https://shop4-h.org/products/ready-set-mow?_pos=1&_sid=69bf5c449&_ss=r

Compact Tractor

| Scoring | # of occurrences | Penalty points |
|--|------------------|----------------|
| 1. Each stop or interruption in the continuous movement of the machine | _____ x 10 | _____ |
| 2. Each occurrence where the machine extends over the boundaries of the course | _____ x 10 | _____ |
| 3. Each occurrence of hitting a marker | _____ x 20 | _____ |
| 4. Each occurrence of running over a marker | _____ x 40 | _____ |
| 5. Each failure to follow directions | _____ x 10 | _____ |
| 6. Inches (to the nearest inch) from the stop stake over 1 inch as measured from the most forward part of the tractor | _____ x 2 | _____ |
| 7. Inches (to the nearest ½ inch) the tractor is off center in the shed (subtract the difference between the tractor and shed on each side). | _____ x 2 | _____ |



4-H COMPACT TRACTOR DRIVING PERMISSION FORM

_____(Name of 4-H Member) has
completed the 4-H compact tractor material and has my permission to participate in
the Compact Tractor Contest.

RELEASE

In being permitted to participate in this 4-H event and to be eligible for awards, I agree
to the following:

1. Both as to myself and my heirs and personal representatives, I release all 4-H
officials or leaders or dealers affiliated from any and all liabilities and right of action
that may arise from any damage or injury which I may receive while attending or
participating in said Contest.
2. I will be bound by all rules and regulations while participating in said Contest.

Contestant Signature _____ Date _____

Parent Signature _____ Date _____
(Parent or Guardian)

Agent
Signature _____ Date _____
(4-H Youth Agent)

County _____