

Conducting

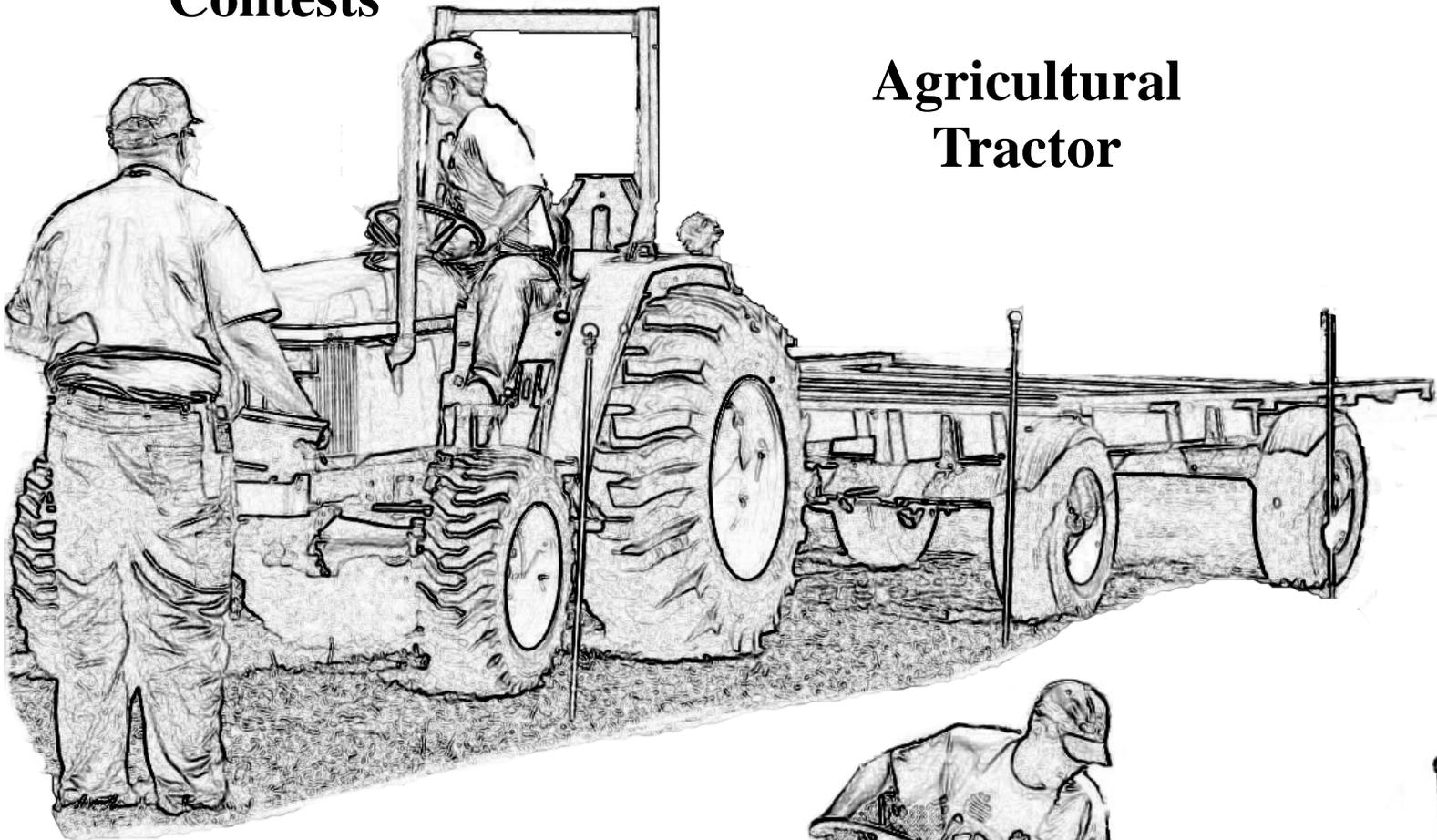
2003

4-H 84-W

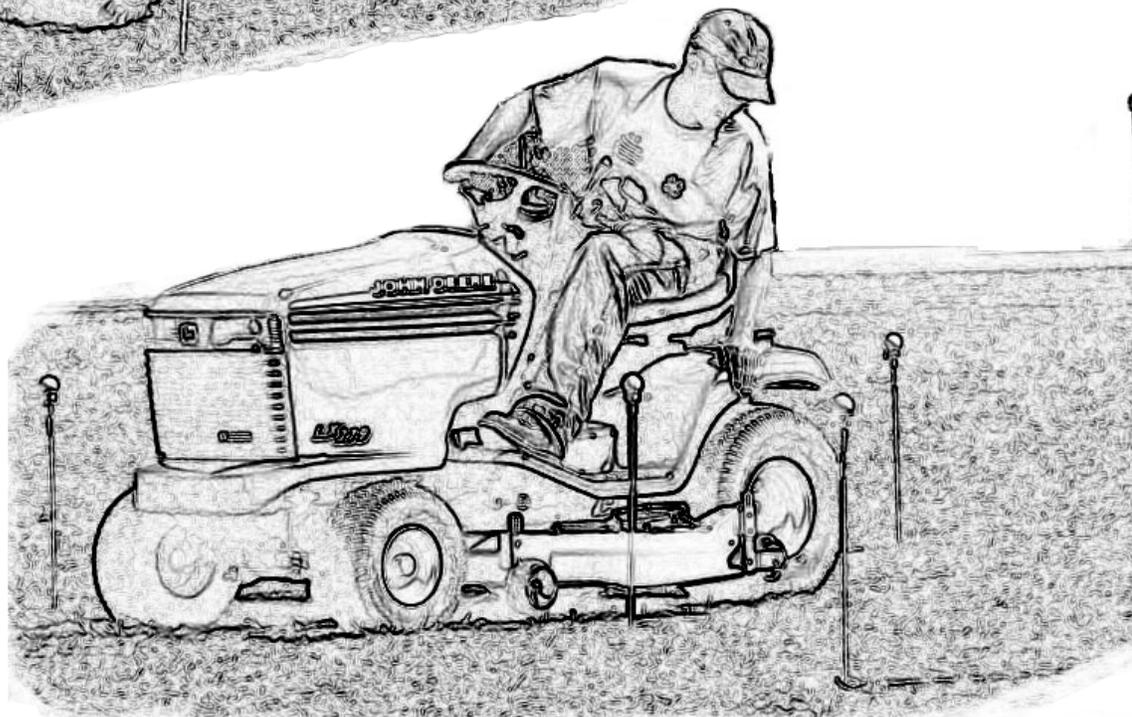
4-H Petroleum Power Operator's

Contests

**Agricultural
Tractor**



**Lawn
Tractor**



Changes to 4-H 84

Following is a summary of the changes made to 4-H 84 since its prior printing in 1992. This summary is provided to aide you in locating important rule changes.

Page 9	<p>Old: Had junior and senior divisions by age.</p> <p>Changed to: There are two divisions, Junior and Senior, in the contest.</p> <ul style="list-style-type: none"> •Junior Division contestants must be in either grades 3, 4, 5, 6, or 7 on January 1 of the contest year. •Senior Division contestants must be in grades 8, 9, 10, 11, or 12 on January 1 of the contest year.
Page 10	<p>Old: In both divisions, failure to complete the course in eight minutes results in the driver being waved off the course and given an "incomplete" score.</p> <p>Changed to: In both divisions, failure to complete the course in eight minutes results in the driver being assessed a penalty of 400 points.</p> <p>Removed: Any stake knocked over by the contestant (with any part of the tractor or wagon) is replaced and the contestant must attempt the obstacle until satisfactory completion or time expires.</p> <p>Added: No safety device will be altered.</p>
Page 11	<p>Added: Note: Pictures may be used in place of actual parts.</p>
Page 14	Some of the course squaring measurements was updated.
Page 15	<p>Added: Note: Pictures may be used in place of actual parts.</p>
Page 16	<p>Old: He/she stops and dismounts(The contestant hooks the wagon to the tractor's drawbar without assistance from an official judge.)</p> <p>Removed: (The contestant hooks the wagon to the tractor's drawbar without assistance from an official judge.)</p>
Page 18	Some of the course squaring measurements was updated.
Page 19	<p>Added:</p> <ol style="list-style-type: none"> 7. Picking up wagon tongue with hand in clevis. 5. Failure to complete course as prescribed. <p>Old:</p> <ol style="list-style-type: none"> 2. Exceeding eight (8) minutes incomplete. <p>Changed to:</p> <ol style="list-style-type: none"> 2. Exceeding eight (8) minutes 400 Points _____
Pages 21 & 22	Parts identification score sheets completely changed due to pictures of parts now being used
Page 24	<p>Old: Any time that both feet leave the tractor's platform at the same time and from the same point, the contestant is penalized for jumping off.</p> <p>Changed to: Any time that both feet leave the tractor's platform at the same time and from the same point (both feet in the air at the same time), the contestant is penalized for jumping off. Forward facing dismounting will also be penalized and counted as jumping off the tractor.</p>

Page 25	<p>Old: When unhooking the wagon the contestant places the tongue on the ground. Driving out from under it and letting it fall to the ground results in a 50-point penalty.</p> <p>Changed to: When unhooking the wagon the contestant places the tongue on the ground. Driving out from under it and letting it fall to the ground results in a 50-point penalty which is scored as “other” on the scorecard.</p> <p>Old: If the tractor contains a ROPS (Roll Over Protective Structure) the contestant is required to wear the seatbelt. Failure to fasten the seatbelt results in a 100-point penalty.</p> <p>Changed to: If the tractor contains a ROPS (Roll Over Protective Structure) the contestant is required to wear the seatbelt. Failure to fasten the seatbelt results in a 100-point penalty (scored as “other” on the scorecard).</p> <p>Added: Picking up the wagon’s tongue with hand in the clevis will result in a 50 point penalty (scored as “other” on the scorecard).</p>
Page 26	<p>Old: In both divisions, failure to complete the course in eight minutes results in the driver being waved off the course and given an “incomplete” score.</p> <p>Changed to: In both divisions, failure to complete the course in eight minutes results in the driver being assessed a penalty of 400 points.</p> <p>Removed: Any stake knocked over by the contestant with any part of the lawn and garden tractor is replaced and the contestant must attempt the obstacle until satisfactory completion or time expires.</p>
Page 27	<p>Added: Note: Safety devices will not be disabled for the contest.</p> <p>Old: It is strongly recommended that only one make and model of tractor be used on the driving course. Other sizes and makes of lawn and garden tractors may be used for the maintenance-safety and parts identification segments of the contest.</p> <p>Changed to: It is strongly recommended that only one make and model of tractor be used on the driving course. Other sizes and makes of lawn and garden tractors may be used for the maintenance-safety and parts identification (if real parts are used instead of pictures) segments of the contest.</p>
Page 28	<p>Added: Note: Pictures may be used in place of actual parts.</p> <p>Added: E. MAINTENANCE SAFETY CHECK</p> <ul style="list-style-type: none"> • A maximum of five (5) missing or loose parts will be identified by senior contestants. Junior contestants will identify a maximum of three (3) missing or loose parts. • Contestants will be told on contest day how many parts there are. • The loose or missing parts must be the same for all contestants. • The maintenance/safety check should be conducted in a secluded area out of sight of the other contestants. • Only one contestant at a time should be administered the maintenance/safety check. <p>Changed: Old sections E – I are now F – J.</p> <p>Old: An obstacle stick is placed, by one of the judges, at some point in Obstacle 2 or 3.</p> <p>Changed to: An obstacle stick is placed, by one of the judges, at some point in Obstacle 3.</p>

Page 30	<p>Added: Stop-stake --- The contestant will signal the judge when they are ready for the measurement to be taken</p>
Page 33	<p>Old: 4. Failure to observe loose or missing parts (25) _____</p> <p>Changed to: 4. Failure to observe loose or missing parts (each part) _____ x 25 _____</p> <p>Added: 4. Failure to mount/dismount on side opposite the discharge chute</p>
Page 34	<p>Removed: 4. Deliberately moving on</p> <p>Old: 2. Exceeding eight (8) minutes incomplete.</p> <p>Changed to: 2. Exceeding eight (8) minutes 400 Points _____</p>
Pages 36 & 37	Parts identification score sheets completely changed due to pictures of parts now being used

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I. INTRODUCTION

A. CONTEST OBJECTIVE

Agricultural and lawn and garden tractors are the most extensively used pieces of equipment on farm and home grounds today. Because of its extensive use the tractor is involved in more farm accidents than all other farm machines combined. Farm tractors are associated with approximately 50 percent of all farm-related deaths.

The 4-H Petroleum Power Operator's Contest provides the 4-H members with an opportunity to actually put into practice, before their peers and a panel of judges, their ability to safely and effectively operate an agricultural and/or lawn and garden tractor.

B. CONTEST GOALS

- Develop the skills, leadership, and citizenship of the 4-H members.
- Emphasize safety practices.
- Maintain and increase interest of 4-H members.
- Provide the members with an opportunity to demonstrate their skills and knowledge of agricultural tractor and/or lawn and garden tractor operation, maintenance, and safety.
- Stimulate the desire to complete the petroleum power program.
- Provide a premier event for the 4-H petroleum power program.
- Provide an opportunity to inform the public of the 4-H petroleum power program and what 4-H members are doing.
- Train 4-H members in the safe operation of lawn and garden tractors and equipment, and/or agricultural tractors and equipment. Agricultural tractor participants who demonstrate safe operation and meet requirements may obtain their "Certificate of Training." (All 4-H members in the agricultural tractor program should be issued a "Certificate of Training" upon meeting the requirements. Certificates and requirement details are available through the State 4-H Office and/or Extension Safety Specialist, Agricultural Engineering Department, Purdue University.)

II. SUGGESTED CALENDAR OF EVENTS

for both agricultural and lawn and garden tractor

October – November

- Hold planning meeting for the petroleum power program.
- Contact machinery dealers, lawn and garden shops, tire companies, or other locations to confirm dates for the tractor meetings.
- Contact resource people to help conduct the meetings.
- Order necessary publications and audio-visual materials. (Don't wait until the last minute to schedule films. See audio-visual catalogues available in the County Extension Offices or dealerships safety materials.)

December

- Send letters to 4-H agricultural tractor and lawn and garden tractor club members informing them of the time, dates, and locations of the upcoming meetings.
- Prepare an initial news release on the upcoming meetings, objectives of the program, and where enrollment information is obtained.

- Have last year's participants prepare posters for display in schools, farm equipment dealerships, lawn and garden shops, and other locations to encourage enrollment in the 4-H Petroleum Power Program.

January – April

- Conduct 4-H Petroleum Power Program meetings.

April

- Send thank-you notes to those who helped with the program (guest speakers, machinery dealers, lawn and garden shops, etc.).

May

- Schedule the county contests.
- Contact implement dealers and lawn and garden shops concerning tractors for use in the contests.
- Notify participants of the time and location of contests.

June – July

- Finalize details with implement dealers and lawn and garden shops concerning availability of tractors.
- Remind participants of the contests.
- Conduct county contests.
- Report results of contests to news media.

July – August

- Area contests

August

- State contests

III. THE CONTEST

A. PARTICIPATION

1. County

Every county should conduct a county contest prior to the area contest to determine their entries in the area contest.

Note: Every 4-H Petroleum Power member should be encouraged to participate in the county Petroleum Power Operator's Contest.

2. Area

Each area determines the number of participants eligible to participate from the county.

3. State

All areas may send three (3) contestants in each division (Junior and Senior) of the agricultural tractor and lawn and garden tractor events to the state contest.

B. PLANNING

1. County

- The county contest should be organized by the county tractor leader(s) and/or Extension educator.
- Holding the county contest during the county fair could create a considerable amount of spectator interest and public support of the program. If the area contest is scheduled prior to the county fair, it is necessary to hold the county petroleum power operator's contest as a separate event.

2. Area

- The area contest should be organized by the county Extension educator of the host county, in cooperation with the area 4-H tractor council.
- The area contest should rotate from county to county, giving each county the opportunity to host the contest.

3. State

- The state contest is organized by the State 4-H specialist and Indiana State 4-H Petroleum Power Council.
- The state contest is held at the Indiana State Fairgrounds during the Indiana State Fair.

C. ORGANIZER(S) RESPONSIBILITIES

- Select the date for the contest.
- Reserve the contest site. The contest site should be a plot of level ground. Be sure to check contest size requirements for each course to ensure adequate space.

Note: Care must be taken to provide for the safety and comfort of the spectators.

- Contact local dealers in an effort to obtain equipment for the contest. Sponsoring dealers should be contacted several weeks before the contest. The dealers should be given the size and specifications of the equipment desired. (See Section IV B, C, and D Junior and Senior Agricultural Tractor and Section VII B Lawn and Garden Tractor for required specifications.) It is a good idea to check again with the sponsoring dealers one week ahead of the contest to ensure that there are no problems and to provide final details on location and time of contest.
- Notify all participants and/or county extension offices of the time, date, and place for the contest.
- Obtain the equipment listed in Section D on page 7.

- In the county contest the organizing person should obtain the judges. There should be a minimum of two (2) judges per course.

Note: Parents of participating youth should not be judges of the division in which their child is a contestant. Prior contest participants make excellent judges. Dealers and personnel are another source of possible judges.

- In the area contest each county should be responsible for providing at least one judge.
- Publicize the contest and its results in the news media (newspaper, radio, etc.).

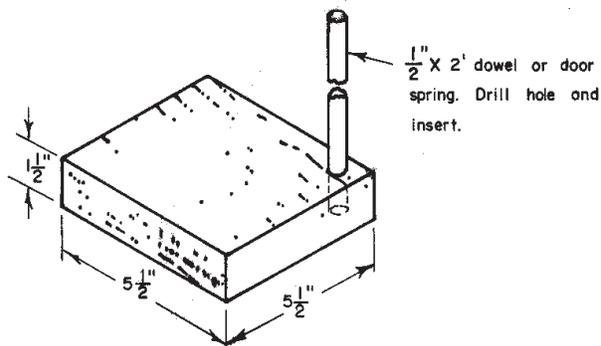
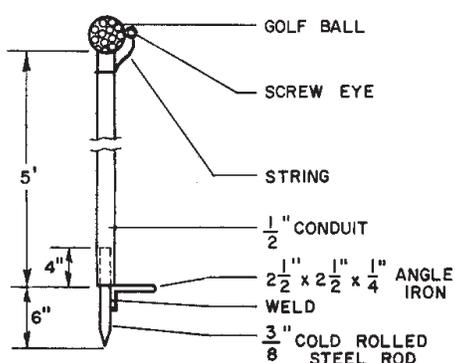
D. EQUIPMENT

- Stop watches (at least two for each course)
- Clipboards and pencils (one clipboard per judge plus enough pencils so the contestants may take the written examination)
- Two-wheeled trailer (for dimensions see Section IV, C, 1 on page 11)
- Four-wheeled wagon (for dimensions see Section IV, D, 1 on page 15)
- Agricultural tractors and lawn and garden tractors from local dealers (Specifications are listed on page 10 for agricultural tractor and page 27 for lawn and garden tractor.)
- Stakes to mark courses for lawn and garden tractor and agricultural tractor events
- Ball of twine or lime to mark between stakes
- Steel tapes and yardsticks or rulers
- Steel drawbar pins (Safety hitch pins should be used.)
- Official scorecards for each contestant (The agricultural tractor event uses scorecards 4-H 84a-c, and the lawn and garden tractor event uses scorecards 4-H 84d-g.)
- Written examinations (one copy per contestant) (Preparation of county exams is the responsibility of the petroleum power leader(s) and/or Extension educator. State provided quiz questions are available in the county extension office.)
- A copy of the “Clarification of the Scorecard” (Section VI, pages 23-25) for each judge (Should mail to the judges in advance along with a copy of the scorecard so they have a chance to look at it prior to the contest.)
- Sticky labels or masking tape to number and identify parts for identification
- Public address system (optional)
- Steel posts and rope to create barrier around the contest area (optional)
- Parts and/or parts pictures for each division

E. SUGGESTED STAKES AND BOUNDARY LINES

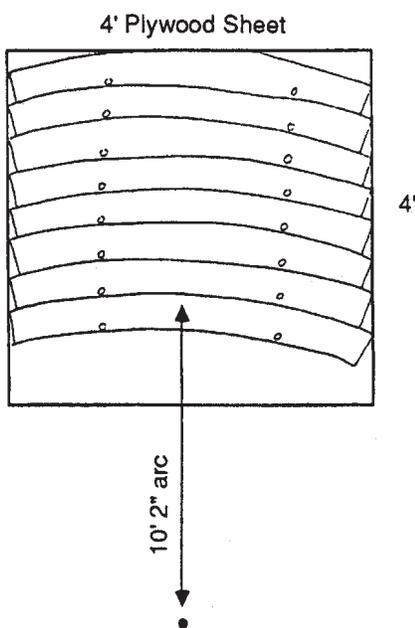
1. Lawn and Garden Tractor

Suggested Stakes



Suggested Boundary Lines for Obstacles 1, 3, and 4

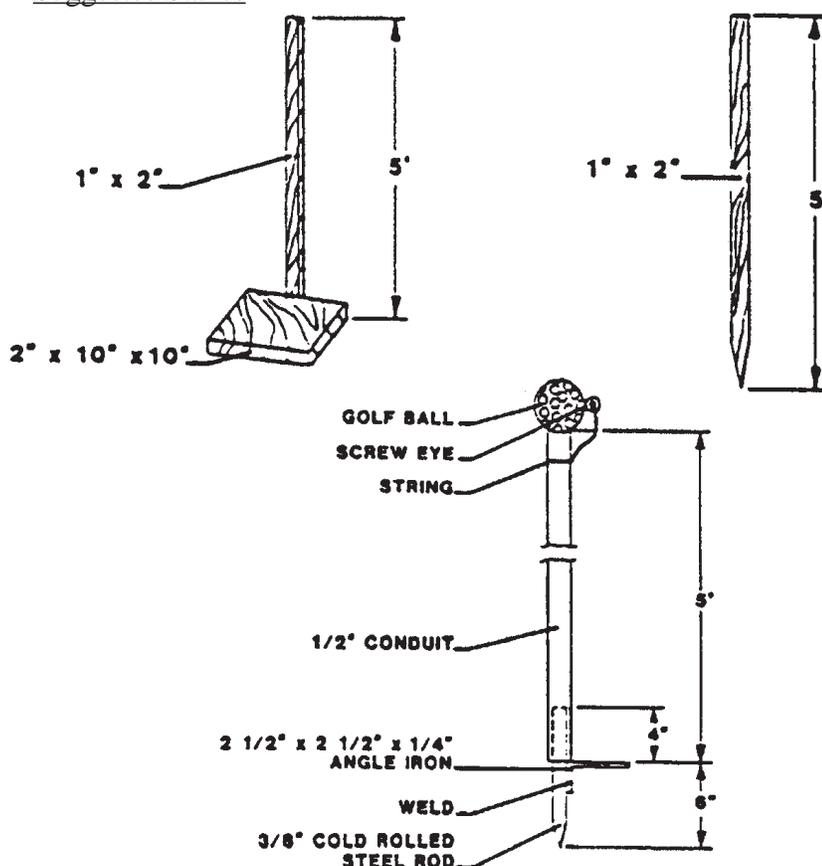
- Obstacle 1
 - 2 Ropes 40' long
 - 6 Metal key rings clamped or taped on each rope at 5' and 10'
- Obstacle 3
 - 2 Ropes 40' long
 - 5 Metal key rings clamped or taped on each rope at 10' spacing
- Obstacle 4
 - 1 Rope 30' long
 - 4 Metal key rings clamped or taped, one at each end and 12' back from each end



Suggested Obstacle 2 Materials

- Measuring rope 10' long with ring on each end
- Curb plywood 4' x 4' x 1/4" or 3/8".
Cut each piece 5" x 4'. Taper each end with arc. Drill a 1" hole one foot from each end for stake. Paint white. When dry, paint green line 2" from outside. Eight pieces are needed.
- Stakes 1/2 x 12" long

2. Agricultural Tractor

Suggested Stakes

IV. AGRICULTURAL TRACTOR OPERATORS CONTEST

A. GENERAL RULES

- There are two divisions, Junior and Senior, in the contest.
 - Junior Division contestants must be in either grades 3, 4, 5, 6, or 7 on January 1 of the contest year.
 - Senior Division contestants must be in grades 8, 9, 10, 11, or 12 on January 1 of the contest year.
- Contestants must be enrolled in the 4-H petroleum power program.
- Contestants participating in the area and/or state contest must have their project records completed before entering the contest.
- Contestants are judged on safety at all times while at the contest site: before, during, and after their contest operation. At the discretion of the judges, unsafe operation may disqualify a contestant.
- At the state contest, a separate course is provided for each division.
- The driving order should be determined by allowing the contestants to draw numbers.

- The penalty scoring system is to be used. Unanswered or incorrectly answered questions and violation of rules draws penalty points for the contestant. In each division, the contestant who completes the event with the lowest total score or number of penalty points is the contest winner.
- While at the contest, all participants are scored on safety, written quiz, parts identification, tractor operation on the course, and time.
- The driving event is timed and scored on the basis of *one penalty point for each second of operation*. However, penalty points for safety violations, hit stakes, etc. are severe enough that the importance of speed is minimized.
- In both divisions, failure to complete the course in eight minutes results in the driver being assessed a penalty of 400 points.

Note: Officials, prior to the contest, may waive the eight-minute time limit.

- In case of a tie score for an award, the tie is broken using the contestants' scores in the specific scoring categories: safety, written exam, parts identification, obstacle course score (tractor operation on course), and time on course. The order for breaking a tie is:
 1. safety
 2. written exam
 3. parts identification
 4. obstacle course score
 5. time

If comparing the contestants' scores in each of the above categories fails to break the tie, the contestants re-drive (safety, obstacle course score, and time is counted).

- Any rule or interpretation not covered here will be decided by the superintendent and assistants of the contest. Their decisions are final.

B. AGRICULTURAL TRACTORS

- No safety device will be altered.
- All tractors must have normal standard factory-installed equipment only. The use of steering "spinners" is *not* allowed. The contestant is not allowed to use his/her own tractor.
- The contestant is responsible for seeing that the tractor is suitable for driving in the contest and for its proper operation.
- If at all possible, ROPS (Roll-Over-Protective-Structure)-equipped tractors should be available for use in the contest. Contestants on ROPS-equipped tractors must wear the seatbelt.
- The tractor should contain a PTO and standard drawbar.
- Two wheel drive tractors with or without front-wheel assist may be used.

C. JUNIOR DIVISION

Junior contestants pull a two-wheel trailer through the course outlined on page 14.

1. Pulled Implement – Junior

- Because a large number of implements pulled behind tractors on the farm are of the two-wheel type, a two-wheel implement is used for the Junior Contest. If at all possible, this implement should be a two-wheel trailer.
- Recommended specifications for the two-wheel trailer are:
 1. width = 8'
 2. length = 10-12'
 3. tongue length = approximately 3-4' as measured from the tongue's tip to the edge of the trailer's bed
 4. The wheel location should be about center of the bed.

Note: A simple frame may be constructed on the two-wheel implement so that the implement meets the above specifications.

- The implement may be hooked only to the tractor's rear drawbar.

2. Written Examination

- Questions for the Junior Division written examination are taken from Supplement #1, "Questions and Answers for Junior Division Written Test."
- The written quiz consists of 25 multiple-choice questions.
- Each question is worth 20 points. A total of 500 penalty points is possible.
- Each contestant is given a maximum of 20 minutes to complete the exam.

3. Parts Identification

Note: Pictures may be used in place of actual parts.

- Twenty-five (25) items selected from the Junior Division Agricultural Tractor Parts Identification scorecard on page 21 are identified with a number.
- Contestants, using the Junior Division Agricultural Tractor Parts Identification scorecard (page 21), identify the tagged parts by writing the part's identification number next to the part's name on the scorecard.
- Each part incorrectly identified results in a 20-point penalty. A total of 500 penalty points are possible (only one penalty per tagged item).
- Each contestant is given a maximum of 20 minutes to complete the parts identification examination.

4. Time

- Time officially begins when the tractor starts to move, after the trailer has been hooked to the tractor.
- Time officially stops when the contestant, after backing the trailer into Obstacle “A” (shed), signals (throws one hand and arm into the air) the official judges that he/she has completed the course.

5. Contest Operating Procedure

- The diagram for the Junior Division Agricultural Tractor Obstacle Course (Section IV, C, 6 on page 14) is to be used at county, area, and state events. The general position of the obstacles does not have to be in the manner shown. For example, the contestant may be required to drive through Obstacle “C” (gate and lane) before Obstacle “B” (serpentine).

Note: Obstacle “C” (gate and lane) must be set-up so that a right hand turn is made when entering.

- The contest course should always be driven by a non-contestant on the *largest* tractor available before the contest starts to identify any problems in maneuvering the course.
- The contestant inspects and warms up the tractor in the designated area (in the presence of the safety judge). The contestant is expected to release the brakes, fasten and adjust the seatbelt, and check the PTO.
- The contestant drives the tractor to the shed, stops tractor in front of Obstacle “A” (shed), and leaves the engine running. Before dismounting, the brake(s) must be set, the PTO checked, and the transmission placed in neutral. (If the tractor has a “PARK” position on the transmission, it may be left in “PARK.”)
- The contestant dismounts so that he/she may check to see that the trailer is properly centered in the shed. (The official judges center the trailer if necessary.)
- The contestant mounts the tractor, fastens seatbelt, releases the brake(s), and backs the tractor into the shed.
- When the contestant has the tractor in front of the trailer he/she sets the brake(s), checks the PTO, places the transmission in neutral, and dismounts the tractor with the engine running. (If the tractor has a “PARK” position on the transmission, it may be placed in “PARK.”)
- The official judges hook the trailer to the tractor’s rear drawbar.
- After being signaled by the official judge, the contestant mounts the tractor, releases the brake(s), fastens the seatbelt, etc. Time starts when the tractor starts to move. The contestant drives through the obstacles as indicated on the diagram (Section IV, C, 6 on page 14) or as specified by the official judges.

Note: The contestant may pull through Obstacle “B” from either side just as long as he/she backs through the opposite way.

- The contestant backs the trailer into the shed until the rear of the trailer is within one foot of the center stake. Time stops when the contestant signals (throws one hand and arm into the air) the official judges that he/she is done. Next the contestant sets the brake(s) (transmission in neutral) or places the transmission in “PARK,” checks the PTO, and dismounts with the engine running.

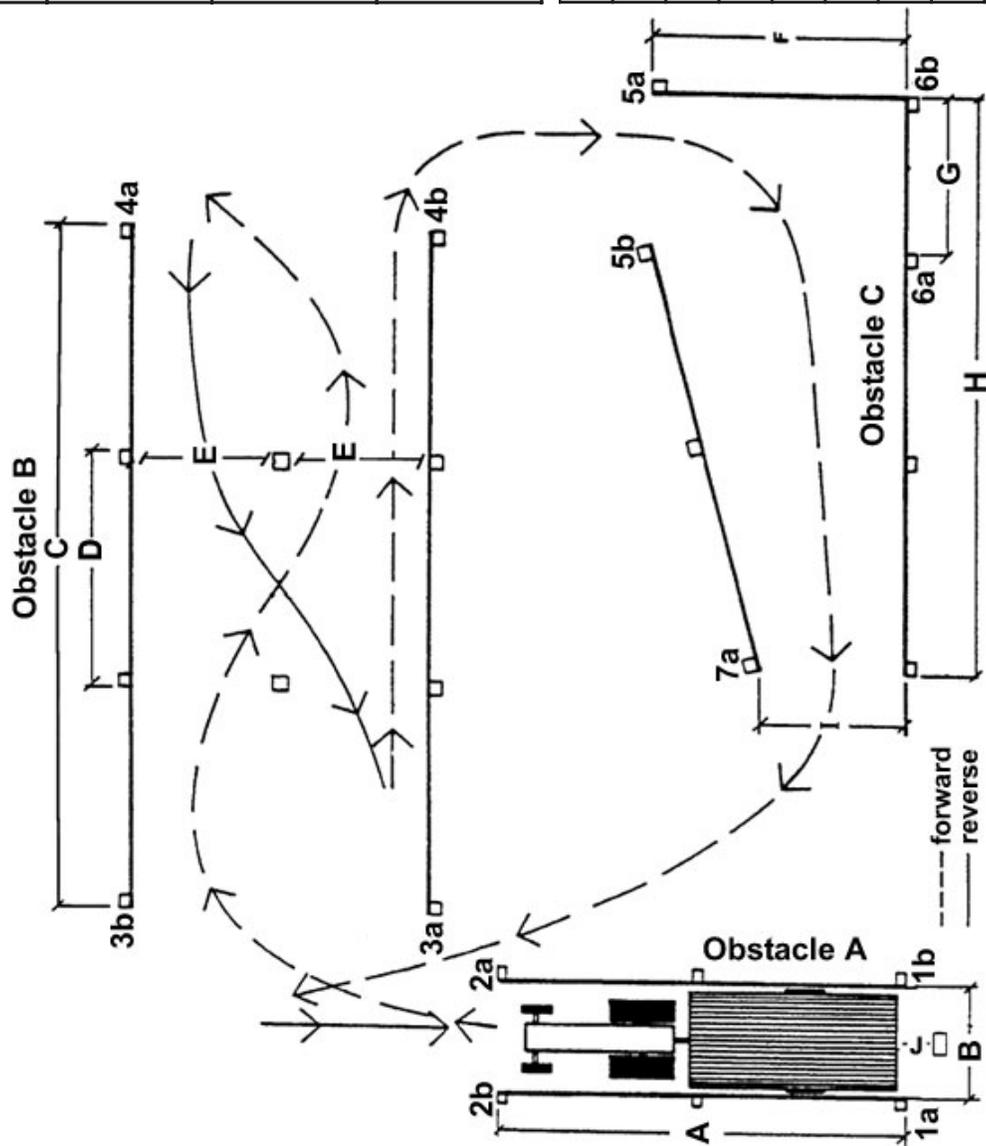
Note: The contestant is penalized if the trailer touches the rear center stake in the shed.

- The official judges unhook the trailer from the tractor’s drawbar.
- At the official’s signal the contestant mounts the tractor and drives it to the area designated.
- The contestant sets the brake(s) (transmission in neutral) or places the transmission in “PARK,” checks the PTO, shuts off the engine, and dismounts the tractor.

6. Junior Division Agricultural Tractor Obstacle Course

1a to 2a	If B = 8'4"	26'4"
or	If B = 8'5"	26'5"
1b to 2b	If B = 8'6"	26'5"
3a to 4a	If E = 13'	56'4"
or	If E = 13'6"	56'10"
3b to 4b	If E = 14'	57'4"
5a to 6a	If F & G = 13'	18'5"
	If F & G = 13'6"	19'1"
	If F & G = 14'	19'10"
6b to 7a	If I = 8'4"	42'10"
	If I = 8'5"	42'10"
	If I = 8'6"	42'10"

A		25'
B	4" - 6" wider than trailer	8'4" - 8'6"
C		50'
D	3' - 5' longer than trailer	17' - 19'
E		13' - 14'
F	5' - 6' wider than trailer	13' - 14'
G	Same as F	13' - 14'
H		42'
I	4" - 6" wider than trailer	8'4" - 8'6"
J	Distance from end of Obstacle A to stake	1'



D. SENIOR DIVISION

Senior contestants pull a four-wheel wagon with knuckle-type radius rods (auto type) steering.

1. Pulled Implement – Senior

- A four-wheel wagon should be used for the Senior Division.
- Recommended specifications:
 1. 8' by 14' bed
 2. knuckle-type radius rods (auto type) steering
 3. approximately 10' length between axles
 4. approximately 52" stub tongue (measured from front of bed to tip of tongue)

Note: A simple frame may be constructed on the 4-wheel wagon so that the wagon meets the above specifications.

- The wagon may be hooked only to the tractor's rear drawbar.

2. Written Examination

- Questions for the Senior Division written examination are taken from both Supplement #1 (Questions and Answers for Junior Division Written Test) and Supplement #2 (Questions and Answers for Senior Division Written Test).
- The written quiz consists of 25 multiple-choice questions.
- Each question is worth 20 points. A total of 500 penalty points are possible.
- Each contestant is given a maximum of 20 minutes to complete the exam.

3. Parts Identification

Note: Pictures may be used in place of actual parts.

- Twenty-five (25) items selected from the Senior Division Agricultural Tractor Parts Identification scorecard on page 22 are identified with a number.
- Contestants, using the Senior Division Agricultural Tractor Parts Identification scorecard (page 22), identify the tagged parts by writing the part's identification number next to the part's name on the scorecard.
- Each part incorrectly identified results in a 20-point penalty. A total of 500 penalty points are possible (only one penalty per tagged item).
- Each contestant is given a maximum of 20 minutes to complete the parts identification examination.

4. Time

- Time officially begins when the tractor starts to move after the contestant has hooked the wagon to the tractor.

- Time officially stops when the contestant, after pulling the wagon into Obstacle “A” (shed), signals (throws one hand and arm into the air) the official judges that he/she has completed the course.

5. Contest Operating Procedure

- The dimensions stated for the Senior Division course in Section IV, D, 6 on page 18 should be used for county, area, and state events. The Senior Division Agricultural Tractor Obstacle Course is driven in the manner indicated or as the official judges indicate.

Note: Obstacle “C” (gate and lane) must be set-up so that a right hand turn is made when entering. The contestant may be required to drive through Obstacle “C” (gate and lane) before Obstacle “B” (serpentine). The contest course should always be driven by a non-contestant on the *largest* tractor available before the contest starts to identify any problems in maneuvering the course.

- The contestant inspects and warms up the tractor in the designated area (in the presence of safety judge). The contestant is expected to release the brakes, adjust and fasten the seatbelt, and check the PTO.
- The contestant drives the tractor to the shed, stops the tractor in front of Obstacle “A” (shed), and leaves the engine running. Before dismounting, the transmission must be in neutral, the PTO checked, and the brake(s) set. (If the tractor is equipped with “PARK,” it should be left in “PARK.”)
- The contestant may dismount the tractor so that he/she may check the wagon to see that it is centered in the shed. (The official judges help the contestant center the wagon if so desired.)
- The contestant mounts the tractor, fastens seatbelt, releases the brake(s), and backs the tractor into the shed.
- The contestant stops and dismounts, with the engine running, transmission in neutral position, brake(s) set. (If the tractor is equipped with “PARK,” it should be left in “PARK.”) The contestant must check the PTO for disengagement prior to dismounting. It is not necessary to pin both brake pedals together. Using a DRAWBAR SAFETY HITCH PIN, hook the wagon to the tractor’s rear drawbar inserting the DRAWBAR SAFETY HITCH PIN from the top side of the wagon’s tongue to the bottom side of the wagon’s tongue such that the pin’s safety clip/device is on the bottom side of the wagon’s tongue.
- Time starts when the tractor starts to move after the wagon is hooked to the tractor.
- Contestant drives through the obstacle course as outlined by the official judges.

Note: The contestant may pull through Obstacle “B” from either side just as long as he/she backs through the opposite way.

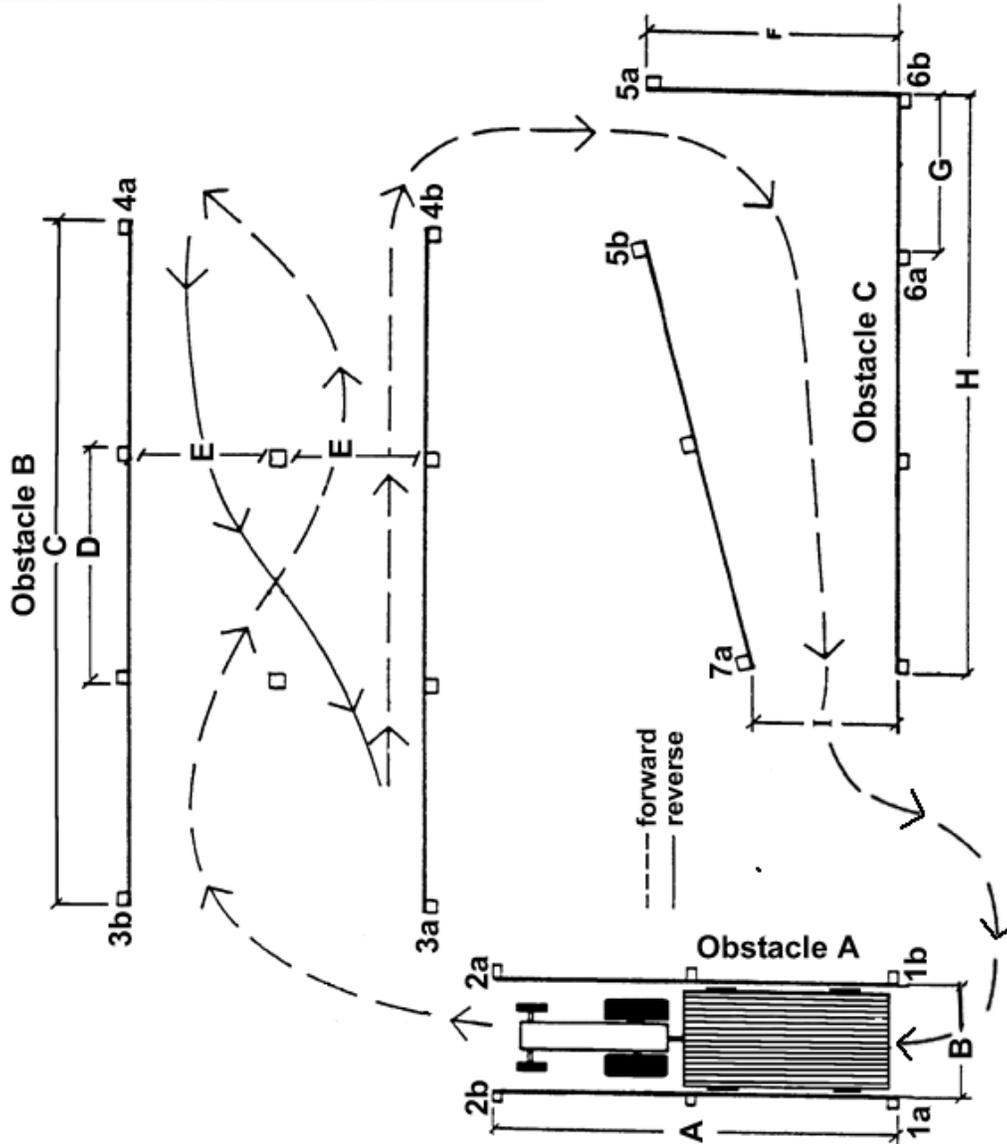
- On entering the shed (*note that the contestant does **not** back into the shed*) the back of the wagon must be stopped *inside* the shed within one foot of the rear of the shed.

- Time stops when the contestant signals (throws one hand and arm into the air) that he/she has completed the course. Next the contestant sets the brake(s) (transmission in neutral) or places transmission in “PARK,” checks the PTO, and dismounts with the engine running.
- The contestant unhitches the wagon, setting the wagon’s tongue on the ground.
- The contestant returns the tractor to area designated. After setting the brake(s) (placing the transmission in neutral) or leaving the transmission in “PARK,” checking the PTO for disengagement, he/she shuts off the tractor and dismounts.

6. Senior Division Agricultural Tractor Obstacle Course

1a to 2a	If B = 8'4"	26'4"
or	If B = 8'5"	26'5"
1b to 2b	If B = 8'6"	26'5"
3a to 4a	If E = 13'	56'4"
or	If E = 13'6"	56'10"
3b to 4b	If E = 14'	57'4"
5a to 6a	If F & G = 13'	18'5"
	If F & G = 13'6"	19'1"
	If F & G = 14'	19'10"
6b to 7a	If I = 8'4"	42'10"
	If I = 8'5"	42'10"
	If I = 8'6"	42'10"

A		25'
B	4" - 6" wider than trailer	8'4" - 8'6"
C		50'
D	3' - 5' longer than trailer	17' - 19'
E		13' - 14'
F	5' - 6' wider than trailer	13' - 14'
G	Same as F	13' - 14'
H		42'
I	4" - 6" wider than trailer	8'4" - 8'6"



4-H AGRICULTURAL TRACTOR OPERATOR'S CONTEST SCORECARD 4-H 84a

Junior Division _____ Senior Division _____

CONTESTANT NO. _____ NAME _____

COUNTY _____

	Number of Times Found		Points Added
Written Examination: Number of questions missed or omitted	_____	x 20	_____
Parts Examination: Number of parts incorrectly identified	_____	x 20	_____

Starting Safety:

- | | | | |
|--|-------|-------|-------|
| 1. Failure to check neutral position | _____ | x 100 | _____ |
| 2. Failure to disengage clutch while starting engine | _____ | x 50 | _____ |
| 3. Failure to check PTO for disengagement | _____ | x 50 | _____ |

Driving Safety:

- | | | | |
|--|---------------------------------|-------|-------|
| 1. Riding Clutch | _____ | x 50 | _____ |
| 2. Failure to engage clutch gently | _____ | x 50 | _____ |
| 3. Excessive gear grinding | _____ | x 50 | _____ |
| 4. Failure to ride on seat in a safe manner | _____ | x 100 | _____ |
| 5. Skidding or spinning wheels | _____ | x 100 | _____ |
| 6. Turning too short and fouling implement | _____ | x 100 | _____ |
| 7. Operation of tractor at unsafe speed | _____ | x 100 | _____ |
| 8. Moving tractor with brakes set | _____ | x 50 | _____ |
| 9. Inadequate precautions when officials or other contestants, etc. get in the way | _____ | x 100 | _____ |
| 10. Any turn which causes any wheel on the tractor to leave the ground | <i>Disqualifies contestants</i> | | |

Mounting and Dismounting Safety:

- | | | | |
|--|-------|-------|-------|
| 1. Failure to check neutral position of gearshift | _____ | x 100 | _____ |
| 2. Failure to set brake or set in hold position of transmission before dismounting | _____ | x 100 | _____ |
| 3. Jumping off or on tractor | _____ | x 100 | _____ |
| 4. Failure to bring tractor to complete stop before dismounting | _____ | x 100 | _____ |
| 5. Failure to check PTO (Dismounting only) | _____ | x 50 | _____ |

Other Safety:

- | | | | |
|---|-------|-------|-------|
| 1. Smoking | _____ | x 100 | _____ |
| 2. Extra riders | _____ | x 100 | _____ |
| 3. Loose fitting clothing | _____ | x 100 | _____ |
| 4. Awareness of operator | _____ | x 100 | _____ |
| 5. Failure to fasten seatbelt | _____ | x 100 | _____ |
| 6. Failure to adjust seatbelt | _____ | x 50 | _____ |
| 7. Picking up wagon tongue with hand in clevis | _____ | x 50 | _____ |
| 8. Other (list and explain - 50 or 100 point penalty) | _____ | x | _____ |

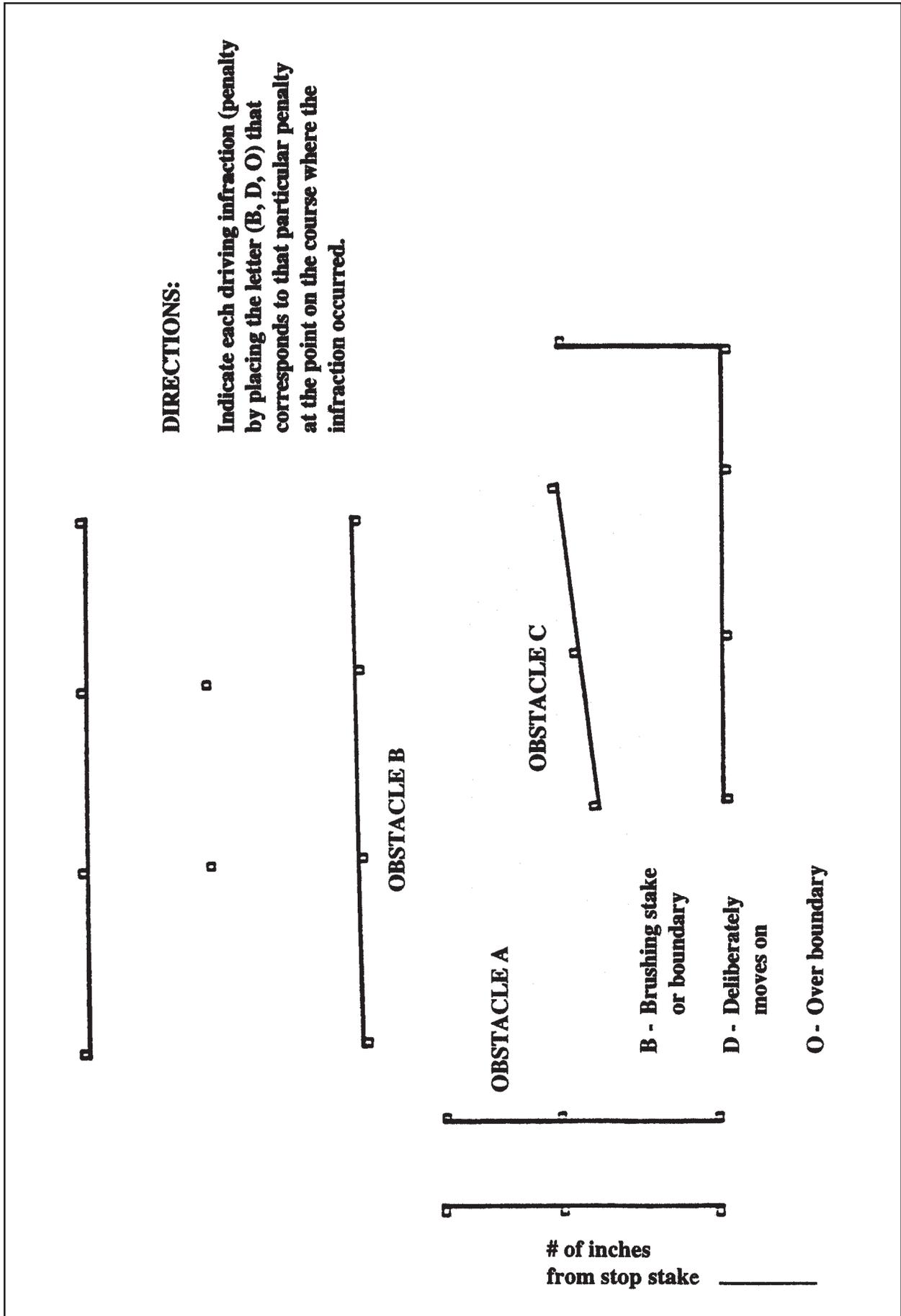
Obstacle Course:

- | | | | |
|--|---------------------------------|-------|-------|
| 1. Brushing stakes or boundary lines | _____ | x 50 | _____ |
| 2. Driving over a boundary line | _____ | x 100 | _____ |
| 3. Failure to stop within 1 ft. of rear wall or stop stake (inside obstacle "A") | _____ | x 50 | _____ |
| 4. Deliberately moving on | _____ | x 400 | _____ |
| 5. Failure to complete course as prescribed | <i>Disqualifies contestants</i> | | |

Time:

- | | | | | |
|--------------------------------|---------------|-----|-------|--|
| Minutes _____ | Seconds _____ | | | |
| 1. Total Seconds | _____ | x 1 | _____ | |
| 2. Exceeding eight (8) minutes | 400 Points | | _____ | |

TOTAL POINTS ADDED _____



Contestant Number _____

County _____

Contestant Name _____

Score _____

AGRICULTURAL TRACTOR PARTS IDENTIFICATION*Scoring Sheet*

Parts to be identified have numbers attached to them. Select the correct part name from this list. Write the corresponding number beside the part name. Each *tagged* part incorrectly identified results in a twenty (20) point penalty. A total of 500 penalty points are possible. (Only one penalty per tagged part.) Time limit = 20 minutes.

- | | |
|----------------------------------|---|
| _____ 12-Volt Battery | _____ Oil Dipstick |
| _____ 3 Pt. Hitch | _____ Oil Filler Cap |
| _____ 6 Point Socket | _____ Personal Safety Device(s) |
| _____ Air Cleaner Housing | _____ Phillips Screwdriver |
| _____ Air Filter Element | _____ R.O.P.S. (Roll-Over-
Protective-Structure) |
| _____ Alternator | _____ Radiator Cap |
| _____ Amber Light | _____ Rear Tractor Tires |
| _____ Anti-freeze/Coolant Tester | _____ Red Tail Light |
| _____ Ball Bearing | _____ Reflector |
| _____ Ball Joint/Rod End | _____ Roller Chain |
| _____ Brake Pedals | _____ Seat Belt |
| _____ Carburetor | _____ Slotted Screwdriver |
| _____ Combination Wrench | _____ SMV Sign |
| _____ Crowfoot Wrench | _____ Spark Plug |
| _____ Drain Plug | _____ Spark Plug Wire |
| _____ Drawbar | _____ Steering Wheel |
| _____ Fire Extinguisher | _____ Tire Tube |
| _____ Flashing Amber Light | _____ Torx Screwdriver |
| _____ Front Tractor Tires | _____ Universal Joint |
| _____ Fuel Fill Cap | _____ Valve Core |
| _____ Fuel Filter | _____ Valve Stem |
| _____ Fuse | _____ V-Belt Pulley |
| _____ Headlight | _____ Warning Label |
| _____ Hose Nozzle | _____ Wheel Hub |
| _____ Ignition Switch | _____ Wheel Lug Bolt |
| _____ Muffler | |

Senior Division _____

Contestant Number _____

County _____

Contestant Name _____

Score _____

AGRICULTURAL TRACTOR PARTS IDENTIFICATION

Scoring Sheet

Parts to be identified have numbers attached to them. Select the correct part name from this list. Write the corresponding number beside the part name. Each *tagged* part incorrectly identified results in a twenty (20) point penalty. A total of 500 penalty points are possible. (Only one penalty per tagged part.) Time limit = 20 minutes.

- | | | |
|----------------------------------|---|------------------------------|
| _____ 6-Volt Battery | _____ Fuel Pump | _____ Rear Tractor Tires |
| _____ 12-Volt Battery | _____ Fuse | _____ Red Tail Light |
| _____ 3 Pt. Hitch | _____ Gear | _____ Reflector |
| _____ 6 Point Socket | _____ Hazard Light Switch | _____ Rocker Arm |
| _____ Air Cleaner Housing | _____ Headlight | _____ Roller Chain |
| _____ Air Filter Element | _____ High-Low Light Switch | _____ Seat Belt |
| _____ Alternator | _____ Hose Nozzle | _____ Slotted Screwdriver |
| _____ Amber Light | _____ Hydraulic Dipstick | _____ SMV Sign |
| _____ Anti-freeze/Coolant Tester | _____ Hydraulic Hose | _____ Spark Plug |
| _____ Ball Bearing | _____ Hydraulic Oil Filter | _____ Spark Plug Wire |
| _____ Ball Joint/Rod End | _____ Idler Pulley | _____ Sprocket |
| _____ Battery Cable | _____ Ignition Switch | _____ Starter |
| _____ Brake Pedals | _____ Injection Pump | _____ Steering Wheel |
| _____ Camshaft | _____ Muffler | _____ Tapered Roller Bearing |
| _____ Carburetor | _____ Needle Bearing | _____ Throttle Lever |
| _____ Clutch Pedal | _____ Oil Dipstick | _____ Tire Tube |
| _____ Coil | _____ Oil Filler Cap | _____ Torx Screwdriver |
| _____ Combination Wrench | _____ P.T.O. | _____ Turbocharger |
| _____ Connecting Rod | _____ Park Brake Lever | _____ Universal Joint |
| _____ Crowfoot Wrench | _____ Personal Safety Device(s) | _____ Valve |
| _____ Distributor | _____ Phillips Screwdriver | _____ Valve Core |
| _____ Drain Plug | _____ Piston | _____ Valve Cover |
| _____ Drawbar | _____ Piston Rings | _____ Valve Spring |
| _____ Fire Extinguisher | _____ Push Rod | _____ Valve Stem |
| _____ Flashing Amber Light | _____ R.O.P.S. (Roll-Over-
Protective-Structure) | _____ V-Belt |
| _____ Flat Belt | _____ Radiator | _____ V-Belt Pulley |
| _____ Flywheel | _____ Radiator Cap | _____ Warning Label |
| _____ Front Tractor Tires | _____ Radiator Hose | _____ Water Pump |
| _____ Fuel Fill Cap | _____ Radiator Hose | _____ Wheel Hub |
| _____ Fuel Filter | _____ Range Selection Lever | _____ Wheel Lug Bolt |

VI. CLARIFICATION OF THE AGRICULTURAL TRACTOR SCORECARD

A. SAFETY

1. Grinding Gears

Penalty assessed if:

- The gears are ground when the engine is revved up. Avoid this penalty by shifting gears only when the engine is idling.
- The contestant continues to assert pressure on the gearshift lever after the gears have begun to grind. Avoid this penalty by releasing pressure on gearshift if gears start to grind.

2. Operating Tractor at an Unsafe Speed

Penalty assessed if:

- The front tire of tractor throws sod or dirt into the air. The contestants and judges should remember it is much easier to throw dirt on a bare surface.
- The contestant is momentarily thrown off the tractor seat.
- The contestant's speed is sufficient enough to cause any wheel (tractor or implement) to momentarily leave the ground.

3. Checking PTO

The contestant is required to check the PTO the first time that he/she gets onto the tractor and every time he/she dismounts the tractor thereafter. Glancing at the PTO is *not* considered sufficient. The contestant should actually *look at* and make sure the PTO is fully disengaged by *touching* the PTO lever. Touching the PTO lever allows the judge to recognize that the contestant has checked it. If the contestant is not sure of the disengaged position of the lever he/she should ask the judge.

4. Locking the Brakes

The brakes do *not* have to be locked together. Whether or not the brakes are locked together is left to the discretion of the contestant.

5. Setting Brakes

Every time the contestant dismounts the tractor the brake(s) should be set or if the tractor has a "PARK" position on the transmission, it should be left in "PARK."

A penalty is assessed if the contestant attempts to move the tractor with the brakes set. If the contestant disengages the clutch with the brake(s) set, this is considered an attempt to move the tractor.

6. Failure to Check Neutral Position of Gearshift

A penalty is assessed if the contestant is coming up out of the seat and the tractor is still in gear. The contestant is not penalized if he/she is still completely seated when he/she discovers that the tractor is still in gear.

7. Fouling Implement

Penalty assessed if:

- Rear tractor tire touches any part of the implement.
- The contestant turns so short that the wagon is cramped, causing the front wheels to slide.

8. Skidding or Spinning Wheels

The contestant is penalized if:

- He/she jams on the brakes in such a manner that causes one or both rear wheels of tractor to slide.

Exception: The contestant is not penalized if he/she jams on the brakes in an effort to avoid hitting an official, spectator, or anybody on the course.

- He/she applies enough pressure to one brake to cause one of the rear wheels to start to spin or slide.
- He/she spins or slides the tractor wheels when starting or stopping.

9. Jumping Off or On Tractor

Any time that both feet leave the tractor's platform at the same time and from the same point (both feet in the air at the same time), the contestant is penalized for jumping off. Forward facing dismounting will also be penalized and counted as jumping off the tractor.

10. Riding the Clutch

The contestant is penalized 50 points if he/she lets his/her foot rest on the clutch pedal while moving between obstacles.

No penalty results if the contestant places his/her foot on the clutch pedal while operating the tractor and/or implement within the boundaries of an obstacle.

11. Palming the Steering Wheel

The penalty is assessed every time the contestant does not have at least one hand on the steering wheel.

NO PENALTY is assessed simply because the contestant is using only the palm of his/her hand to steer the tractor.

12. Other Safety

Under the category "other" the judge should list and explain the safety violation. Any violation under this area results in a 50- or 100-point penalty. Some examples of violations that may be entered here are: (1) failure to use safety pin when provided, and (2) failure to place wagon tongue on ground when unhitching.

13. Other Safety Rules to Remind Contestants About

- If a safety hitch pin is provided, the contestant is required to fasten the safety device when hitching up.
- The contestant is *not* allowed to swing his/her foot and leg over the top of the steering wheel when dismounting.
- The contestant is judged on safety at all times, whether he/she is practicing on the tractor or actually driving the course.
- When unhooking the wagon the contestant places the tongue on the ground. Driving out from under it and letting it fall to the ground results in a 50-point penalty which is scored as “other” on the scorecard.
- If the tractor contains a ROPS (Roll Over Protective Structure) the contestant is required to wear the seatbelt. Failure to fasten the seatbelt results in a 100-point penalty (scored as “other” on the scorecard).
- The contestant must adjust the seatbelt the first time he/she mounts the tractor. Failure to do so results in a 50-point penalty (scored as “other” on the scorecard).
- Picking up the wagon’s tongue with hand in the clevis will result in a 50 point penalty (scored as “other” on the scorecard).

B. OBSTACLE COURSE

1. Touching and Brushing Stakes or Boundary Lines

Penalties under this area:

- Touching *but not going over* imaginary boundary lines and/or stake with tractor and/or implement. (See example A on page 26)
- Stake is touched but golf ball *does not* fall off.

2. Driving Over a Boundary Line or Stake

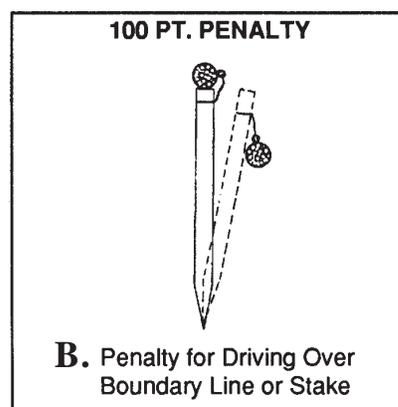
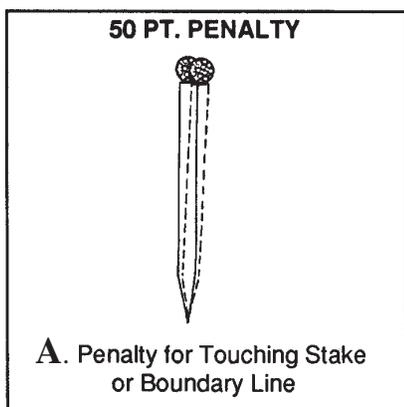
Penalty assessed if:

- Any part of the tractor and/or implement protrudes over the boundary line.
- A stake is knocked out of line such that no portion of the stake at the implement’s bed height is still within the boundary line. (See example B on page 26.)
- Golf ball falls off.

3. Deliberately Moving On

Penalty assessed if the contestant does not take action to avoid knocking a stake completely out of the boundary line.

Note: It makes no difference whether the contestant was aware or unaware of the infraction; he/she is still penalized.



VII. LAWN AND GARDEN TRACTOR OPERATORS CONTEST

A. GENERAL RULES

- There are two divisions, Junior and Senior, in the contest.

Junior Division contestants must be in either grades 3, 4, 5, 6, or 7 on January 1 of the contest year.

Senior Division contestants must be in grades 8, 9, 10, 11, or 12 on January 1 of the contest year.
- Contestants must be enrolled in the 4-H petroleum power or small engine program.
- Contestants participating in the area and/or state contest must have their project records completed before entering the contest.
- Contestants are judged on safety at all times while at the contest site: before, during, and after their contest operation. At the discretion of the judges, unsafe operation may disqualify a contestant.
- At the state contest a separate course is provided for each division.
- The driving order should be determined by allowing the contestants to draw numbers.
- The penalty scoring system is to be used. Unanswered or incorrectly answered questions and violations of rules draw penalty points for the contestant. In each division the contestant who completes the event with the lowest total score or number of penalty points is the contest winner.
- While at the contest, all participants are scored on safety, written quiz, parts identification, Lawn and Garden Tractor operation on the course, and time.
- The driving event is timed and scored on the basis of *one-penalty point for each second of operation*. However, penalty points for safety violations, hit stakes, etc. are severe enough that the importance of speed is minimized.
- In both divisions, failure to complete the course in eight minutes results in the driver being assessed a penalty of 400 points.

Note: Officials, prior to the contest, may waive the eight-minute time limit.

- In case of a tie score for an award, the tie is broken using the contestants' scores in the specific scoring categories: safety, written exam, parts identification, obstacle course score (lawn and garden tractor operation on course), and time on course. The order for breaking a tie is:

1. safety
2. written exam
3. parts identification
4. obstacle course score
5. time

If comparing the contestants' scores in each of the above categories fails to break the tie, the contestants re-drive. (Safety, obstacle course score, and time is counted.)

- Any rule or interpretation not covered here is decided by the superintendent and assistants of the contest. Their decisions are final.

B. LAWN AND GARDEN TRACTORS

Note: Safety devices will not be disabled for the contest.

- The lawn and garden tractor used in the contest should be from 12 to 18 horsepower in size.
- The lawn and garden tractor *must* contain a middle-mounted mower deck.
- The drive mechanism running the mower deck *must* be disconnected by a judge prior to the contest.
- It is strongly recommended that only one make and model of tractor be used on the driving course. Other sizes and makes of lawn and garden tractors may be used for the maintenance-safety and parts identification (if real parts are used instead of pictures) segments of the contest.
- The mower deck should extend out at least four (4) inches beyond the lawn and garden tractor's rear tire.
- The lawn and garden tractor should contain tractor-type front wheel steering.
- The lawn and garden tractor should contain a right-hand or rear discharge mower deck.

C. WRITTEN EXAMINATION

- Questions for the Junior and Senior Division written examinations are taken from Supplement #3, "Questions and Answers for Lawn and Garden Tractor Operators."
- The written exam contains 25 questions.
- Each question is worth 20 points. A total of 500 penalty points are possible.
- Each contestant is given a maximum of 20 minutes to complete the exam.

D. PARTS IDENTIFICATION

Note: Pictures may be used in place of actual parts.

- Twenty-five (25) items consisting of: lawn and garden tractor and equipment parts and supplies are tagged with a number.
- Contestants identify the tagged items by writing the part's identification number next to the part's name on the scorecard.

Junior Division contestants use the Junior Division Lawn and Garden Tractor Parts Identification scorecard on page 36.

Senior Division contestants use the Senior Division Lawn and Garden Tractor Parts Identification scorecard on page 37.

- Each part incorrectly identified results in a 20-point penalty. A total of 500 penalty points are possible. (Only one penalty per tagged part.)
- A time limit of 20 minutes is imposed.

E. MAINTENANCE SAFETY CHECK

- A maximum of five (5) missing or loose parts will be identified by senior contestants. Junior contestants will identify a maximum of three (3) missing or loose parts.
- Contestants will be told on contest day how many parts there are.
- The loose or missing parts must be the same for all contestants.
- The maintenance/safety check should be conducted in a secluded area out of sight of the other contestants.
- Only one contestant at a time should be administered the maintenance/safety check.

F. OBSTACLE STICK

The purpose of the obstacle stick is to emphasize that lawn and garden tractor operators must constantly be alert for foreign objects in their pathway.

- An obstacle stick is placed, by one of the judges, at some point in Obstacle 3.
- The obstacle stick should be placed after the contestant has started through Obstacle 1 but before he/she has proceeded more than halfway through Obstacle 1.
- The obstacle stick used should be similar to a 2" by 4" board 1 to 2 feet in length.
- The contestant is expected to stop within two (2) feet of the obstacle stick, set the brakes or place the transmission in "PARK," disengage the mower's blade, dismount the lawn and garden tractor, and remove the obstacle stick and hand it to a judge. Failure to stop within two (2) feet results in a penalty as outlined in the score sheet.
- Hitting or running over the obstacle stick results in a 50-point penalty

G. STOP-STAKE AND MEASUREMENT STAKE

- The stop-stake is a stake positioned distance “C” in front of Obstacle 4. (For dimension “C,” see the Lawn and Garden Tractor Obstacle Course Diagram.)
- The stop-stake should be 1 1/2 times distance “A” from the inside wall of Obstacle 3. (For dimension “A,” see the Lawn and Garden Tractor Obstacle Course Diagram.)
- The measurement stake is a stake located in the middle, rear of Obstacle 4.
- The stop-stake and measurement stake should be at least six (6) inches taller than the tractor’s front hood. (Suggestion: five (5) feet or taller)

H. TIME

- Start Time

Junior Division – Time officially begins when the lawn and garden tractor’s *front axle* crosses the “start line” (line that extends across the *front* of Obstacle 1).

Senior Division – Time officially begins when the lawn and garden tractor’s *rear axle* crosses the “start line” (line across the *rear* of Obstacle 1).

- Stop Time

Time officially stops when the contestant, after backing the lawn and garden tractor into Obstacle 4 (shed), signals (throws one hand and arm into the air) the official judges that he/she is done.

I. CONTEST OPERATING PROCEDURE

The diagrams for the Junior and Senior Division Obstacle Course (Section VII, J and K, pages 31 and 32) are to be used at the county, area, and state events. The courses should be driven in the manner indicated in the diagrams unless the official judges indicate otherwise.

Note: Obstacle 2 (semi-circle) should be set up such that the contestant is maneuvering the Lawn and Garden Tractor in a counter-clockwise direction (right to left) around the semi-circle.

- The contest course should always be driven by a non-contestant prior to the contest to identify any problems maneuvering the course.
- The contestant, with the safety judge present, performs a safety and maintenance check of the lawn and garden tractor.
- The contestant mounts the lawn and garden tractor and starts the engine.
- Start time

Junior Division – Time starts when the lawn and garden tractor’s *front axle* crosses the Junior Division course “start line” (line that extends across the *front* of Obstacle 1 – serpentine).

Senior Division – Time starts when the lawn and garden tractor’s *rear axle* crosses the Senior Division course “start line” (line across the *rear* of Obstacle 1 – serpentine).

- Junior Division – All contestants must enter Obstacle 1 on the left hand side. The contestant then drives through the obstacle course as outlined in the Obstacle Course Diagram on page 31. Failure to do so is scored as “Failure to follow instructions.”

Note: For Junior Division, the contestant’s entire tractor must extend beyond the imaginary line at the end of Obstacle 3 before he/she may back out of the obstacle. Failure to do so is scored as “Failure to follow instructions.”

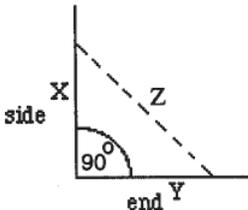
- Senior Division – The contestant is to start through Obstacle 1 backing to the left side of the stake, then go forward through the serpentine using the opposite side to the left of the stake. The contestant then finishes the obstacle course as outlined in the Obstacle Course Diagram on page 32. Failure to do so is scored as “Failure to follow instructions.”
- Scoring on Obstacle 2 “Semi-circle” is:
 - 10 points for every two-foot section of the semi-circle that the mower did not stay in the allowed 2 inches (maximum of 160 points).
 - If the mower is never within the allowed two inches, the contestant is penalized an additional 25 points for “Failure to follow instructions” (160 points + 25 points = 185 points).
- When the contestant comes upon the obstacle stick, he/she stops within two (2) feet of the stick, dismounts the lawn and garden tractor (engine left running, transmission in park, mower blade disengaged, etc.), and picks up the stick and hands it to an official judge.
- Stop-stake --- The contestant will signal the judge when they are ready for the measurement to be taken.
- When the contestant has the lawn and garden tractor positioned in Obstacle 4 (shed) to his/her satisfaction, the contestant signals (throws one hand and arm into the air) the official judge that he/she is done.
- The contestant dismounts the lawn and garden tractor (engine left running, transmission in park, check mower blade for disengagement, etc.).
- After the official judges have taken the measurements in Obstacle 4, the contestant mounts the lawn and garden tractor and returns it to the parking area.

J. JUNIOR DIVISION LAWN AND GARDEN TRACTOR OBSTACLE COURSE

A - Width of tractor plus 4-6 inches
 B - 2 times length of tractor
 C - Length of tractor plus 10 feet
 D - 1 1/2 A
Note: Dashed lines indicate backward travel

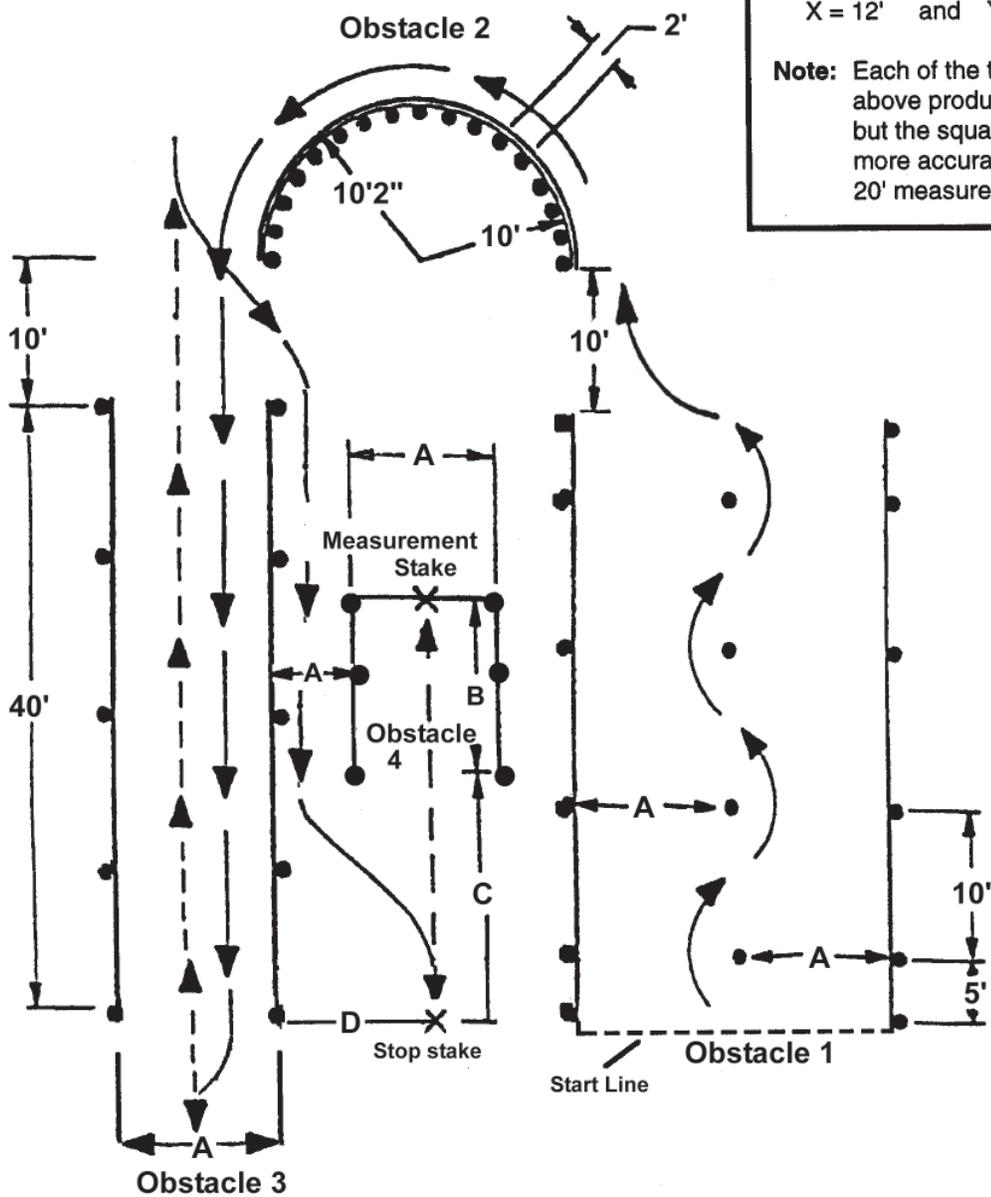
Squaring Obstacles 1, 3, and 4

To square a corner, measure along the side and end of the corner as indicated below.



If X = 3'	and Y = 4'	then Z = 5'
X = 6'	and Y = 8'	then Z = 10'
X = 12'	and Y = 16'	then Z = 20'

Note: Each of the three squaring values above produces a square corner, but the squareness of the corner is more accurate with the 12', 16', and 20' measurements.



4-H 84d

Contestant Name _____ Contestant Number _____
 Junior Division _____ County _____
 Senior Division _____ Score _____

LAWN AND GARDEN TRACTOR SAFETY INSPECTION
Scoring Sheet

	NUMBER OF TIMES	PENALTY POINTS
PRESTART CHECK (<i>Report each to safety judge</i>)		
1. Failure to check fuel level	(25)	_____
2. Failure to check oil level	(25)	_____
3. Failure to observe tire inflation	(25)	_____
4. Failure to observe loose or missing parts (each part)	_____ X 25	_____
5. Failure to check mower blade for disengagement	(25)	_____
STARTING SAFELY		
1. Failure to check neutral position	_____ X 25	_____
2. Failure to disengage clutch while starting engine	_____ X 50	_____
DRIVING SAFELY		
1. Failure to engage clutch gently	_____ X 25	_____
2. Failure to ride on seat	_____ X 100	_____
3. Skidding or spinning tractor wheels (scuffing of inside wheel on turning does not count as a skid) Skid of the front tractor wheel is not counted until the skid equals or is greater than the width of the tire.	_____ X 50	_____
DISMOUNTING SAFELY		
1. Failure to set brakes before dismounting transmission set in park or locked position counts as brakes locked)	_____ X 50	_____
2. Failure to bring tractor to complete stop before dismounting	_____ X 100	_____
3. Failure to check mower blade for disengagement before dismounting	_____ X 50	_____
4. Failure to mount/dismount on side opposite the discharge chute	_____ X 100	_____
OTHER SAFETY		
1. Smoking	_____ X 100	_____
2. Extra Riders	_____ X 100	_____
3. Other unsafe practices (_____)	_____ X 100	_____

Contestant Name _____ Contestant Number _____
 Junior Division _____ County _____
 Senior Division _____ Score _____

LAWN AND GARDEN TRACTOR OPERATION

	NUMBER OF TIMES		PENALTY POINTS
Written Examination: Number of questions missed or omitted	_____	x	20
Parts Examination: Number of parts incorrectly identified	_____	x	20
Safety Inspection: Total score from bottom of Safety Inspection scorecard			_____

GENERAL

1. Change of forward-backward direction to avoid hitting a marker or where not required. **Example:** If a contestant originally moving forward, backs-up (or vice-versa) to avoid hitting a marker and then continues through the course, one penalty is assessed. _____ x 10 _____
2. Riding the clutch: continuously _____ x 100 _____
 on occasion _____ x 10 _____
3. Grating of gears _____ x 10 _____
4. Engine stalled or raced (clutching at high rpm) _____ x 10 _____
5. Failure to follow instructions (_____) _____ x 25 _____
6. Hitting or driving over Obstacle Stick _____ (50) _____

BOUNDARY AND STAKE INFRACTIONS

1. Driving over a boundary line or stake _____ x 30 _____
2. Brushing stakes or boundary lines _____ x 20 _____
3. Touching the measurement stake in Obstacle 4 _____ x 50 _____
4. Hitting or touching "STOP" stake _____ x 50 _____

OBSTACLE 2 (SEMI-CIRCLE)

Contestants are penalized 10 points for every two-foot section of circle that the mower did not stay in the allowed 2 inches.

Number of two-foot sections that mower did not stay in the allowed 2 inches. (Maximum of 160 points) _____ x 10 _____

Note: If the mower is never within the allowed 2 inches, the contestant is penalized an additional 25 points for "Failure to follow instructions."

MEASUREMENTS

1. Failure to stop within 2 feet of obstacle stick (# of inches over 2 feet)
Note: Any fraction of an inch counts as a full inch. _____ x 2 _____
2. Inches the tractor's mower deck is off center in Obstacle 4.
Note: Any fraction counts as a full inch. _____ x 2 _____
3. Inches the tractor is over 2 inches from the rear of Obstacle 4.
Note: Any fraction counts as a full inch. _____ x 2 _____
4. Inches the tractor is over 2 inches from the stop-stake.
Note: Any fraction counts as a full inch. _____ x 2 _____

TIME

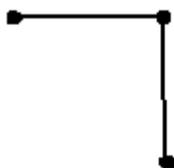
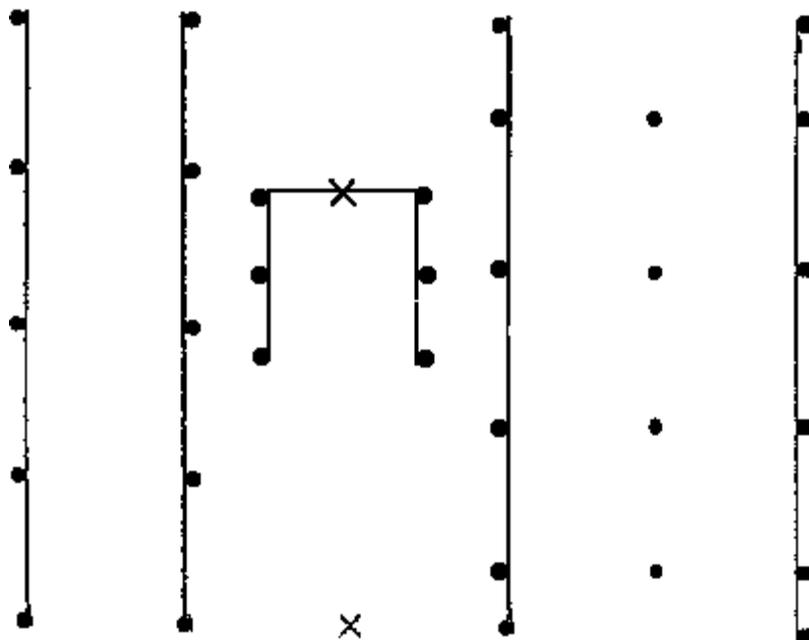
1. Minutes _____ Seconds _____ Total Seconds _____ x 1 _____
2. Exceeding eight (8) minutes 400 points _____

TOTAL LAWN AND GARDEN TRACTOR OPERATION PENALTY POINTS =
TOTAL SCORE = _____

Directions: Indicate each driving infraction (penalty) by placing the letter (B, O, S, C) that corresponds to that particular penalty at the point on the course where the infraction occurred.

- B = Brushing stake or boundary
- O = Over boundary
- S = Outside two-inch margin when moving around Obstacle 2.
- C = Change of Direction

Note: Maximum of one penalty per two-foot section.



Contestant Number _____

County _____

Contestant Name _____

Score _____

LAWN AND GARDEN TRACTOR PARTS IDENTIFICATION*Scoring Sheet*

Parts to be identified have numbers attached to them. Select the correct part name from this list. Write the corresponding number beside the part name. Each *tagged* part incorrectly identified results in a twenty (20) point penalty. A total of 500 penalty points are possible. (Only one penalty per tagged part.) Time limit = 20 minutes.

- | | |
|----------------------------------|---------------------------------|
| _____ 6 Point Socket | _____ Lawn Mower Wheel |
| _____ Air Filter Element | _____ Mower Deck |
| _____ Alternator | _____ Mower Height Adjuster |
| _____ Amber Light | _____ Muffler |
| _____ Anti-freeze/Coolant Tester | _____ Oil Dipstick |
| _____ Ball Bearing | _____ Oil Filler Cap |
| _____ Ball Joint/Rod End | _____ Personal Safety Device(s) |
| _____ Brake Pedal | _____ Phillips Screwdriver |
| _____ Combination Wrench | _____ Rear Tire |
| _____ Crowfoot Wrench | _____ Reflector |
| _____ Discharge Chute | _____ Roller Chain |
| _____ Drain Plug | _____ Rotary Mower Blade |
| _____ Edger Blade | _____ Slotted Screwdriver |
| _____ Fire Extinguisher | _____ Spark Plug |
| _____ Front Tire | _____ Spark Plug Wire |
| _____ Fuel Fill Cap | _____ Tail Light |
| _____ Fuel Filter | _____ Throttle Control Lever |
| _____ Fuel Tank | _____ Tire Tube |
| _____ Fuse | _____ Torx Screwdriver |
| _____ Grass Clippers | _____ Universal Joint |
| _____ Headlight | _____ Valve Core |
| _____ Hose Nozzle | _____ Valve Stem |
| _____ Hydraulic Control Levers | _____ V-Belt Pulley |
| _____ Ignition Switch | _____ Warning Label |
| _____ Kill Switch | _____ Wheel Lug Bolt |

Senior Division _____

Contestant Number _____

County _____

Contestant Name _____

Score _____

LAWN AND GARDEN TRACTOR PARTS IDENTIFICATION

Scoring Sheet

Parts to be identified have numbers attached to them. Select the correct part name from this list. Write the corresponding number beside the part name. Each *tagged* part incorrectly identified results in a twenty (20) point penalty. A total of 500 penalty points are possible. (Only one penalty per tagged part.) Time limit = 20 minutes.

- | | | |
|----------------------------------|-----------------------------------|------------------------------|
| _____ 6 Point Socket | _____ Front Axle | _____ Radiator Cap |
| _____ Air Box Cover | _____ Front Tire | _____ Rear Tire |
| _____ Air Cleaner Housing | _____ Fuel Fill Cap | _____ Reflector |
| _____ Air Filter Element | _____ Fuel Filter | _____ Roller Chain |
| _____ Air Filter Precleaner | _____ Fuel Pump | _____ Rotary Blade Adapter |
| _____ Alternator | _____ Fuel Tank | _____ Rotary Mower Blade |
| _____ Amber Light | _____ Fuse | _____ Sleeve Bearing |
| _____ Anti-freeze/Coolant Tester | _____ Gear | _____ Slotted Screwdriver |
| _____ Ball Bearing | _____ Grass Clippers | _____ Spark Plug |
| _____ Ball Joint/Rod End | _____ Headlight | _____ Spark Plug Wire |
| _____ Brake Pedal | _____ Hose Nozzle | _____ Sprocket |
| _____ Camshaft | _____ Hydraulic Control Lever(s) | _____ Starter |
| _____ Carburetor | _____ Hydraulic Hose | _____ Starter Solenoid |
| _____ Castor Gauge Wheel | _____ Idler Pulley | _____ Tail Light |
| _____ Choke Control Lever | _____ Ignition Switch | _____ Tapered Roller Bearing |
| _____ Coil | _____ Kill Switch | _____ Throttle Control Lever |
| _____ Combination Wrench | _____ Lawn Mower Wheel | _____ Tie Rod End |
| _____ Connecting Rod | _____ Lawn Sprinkler Head | _____ Tire Tube |
| _____ Crowfoot Wrench | _____ Mower Deck | _____ Torx Screwdriver |
| _____ Cruise Control Set Lever | _____ Mower Height Adjuster | _____ Transmission Filler |
| _____ Discharge Chute | _____ Muffler | _____ Universal Joint |
| _____ Distributor | _____ Needle Bearing | _____ Valve |
| _____ Drain Plug | _____ Oil Dipstick | _____ Valve Core |
| _____ Dump Valve Release | _____ Oil Filler Cap | _____ Valve Cover |
| _____ Edger Blade | _____ Parking Brake Control Lever | _____ Valve Spring |
| _____ Engine Oil Filter | _____ Personal Safety Device(s) | _____ Valve Stem |
| _____ Fire Extinguisher | _____ Phillips Screwdriver | _____ V-Belt |
| _____ Flat Belt | _____ Piston | _____ V-Belt Pulley |
| _____ Flywheel | _____ Piston Rings | _____ Warning Label |
| _____ Forward/Reverse Pedals | _____ PTO Control Lever | _____ Water Pump |
| | | _____ Wheel Lug Bolt |