



Georgia FFA Association

Lawnmower Operations CDE

Senior Division

I. OVERVIEW

The Lawnmower Operations & Maintenance contest is an individual event, with three parts.

1. The contestant will answer questions on a written exam dealing with lawnmower operations, maintenance, and safety.
2. The contestant will have to determine the problem and the best solution to the problem in ten problem solving questions.
3. The contestant will have a practical driving test where he/she will exhibit his/her skills in driving a commercial Zero Turning Radius (ZTR) lawnmower through a designed course.

II. PURPOSE

The Lawnmower Operations & Maintenance contest is designed to develop skills in operating commercial lawnmowers and various pieces of machinery safely, as well as maintaining the commercial lawnmower in a safe and productive matter.

III. ELIGIBILITY

This event is open to students in grades 9-12 who are agricultural education students and are paid members of a chartered FFA chapter. Each student's name must appear on the chapter's FFA roster at least 10 days prior to competition above the chapter level. ***Chapters are limited to one contestant per chapter.***

Each participant must complete and provide the CDE superintendent with an Agricultural & Machinery Operations CDE waiver signed by the student, agricultural education teacher, and a parent/guardian in order to be eligible to participate in the CDE on the day of the event.

IV. SPECIAL NEEDS REQUEST

To report any special needs or request special services for a student to compete in a Career Development Event or FFA Award area (Area or State level), it is the responsibility of the FFA advisor to provide a detailed and specific request and explanation in writing. Requests should include written documentation from the school system verifying the IEP and need being requested. Written requests must be submitted to the CDE Superintendent prior to registering for the CDE/event (at least 3 weeks prior to the date of competition).

V. RULES

The following rules will govern the driving:

1. Time begins when the lawnmower crosses the start/finish line.
2. No one will be allowed in the career development event area except the contestant and officials.
3. Safety violations will be noted by the judges. Three safety violations will disqualify the contestant at the discretion of the judges.
4. Time ends when contestant switches the mower off after returning to the shed.
5. Course layout will be printed in the bulletin.
6. A lawnmower of a like model will be available for practice and acclimation.
7. The top two individuals from each area will advance to state competition.



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VI. EVENT FORMAT

The contest will consist of three parts:

Part I – Written Exam – 20 Points. Contestants will *have 30 minutes to* answer twenty multiple-choice questions on lawnmower servicing, safe operation, care, maintenance, and repair.

Part II – Problem Solving – 20 Points. Contestants will *have 30 minutes to* answer ten multiple-choice problem-solving activities relating to lawnmower servicing, safe operation, care, maintenance, and repair.

Part III – Lawnmower Driving – 60 Points. The following lawnmower operations will be tested:

- a. Explaining pre-warm up procedure.
- b. Driving the lawnmower out of the shed area.
- c. Driving the lawnmower through a course lined with stakes not more than two feet apart with 6” clearance on each side.
- d. Returning the lawnmower to the “shed” in the reverse position, the wheels of the mower must be centered in the “shed.” Width of the shed will be the same as the alley width.
- e. Checking/setting mowing height (height to be determined by the judge).
- f. Contestants will have a maximum of 2 ½ minutes to navigate the course without penalty. Time will be stopped after six (6) minutes and the contestant will be scored as a Zero (0) for incomplete.

VII. SCORING

Part I – Written Exam – 20 Points (Each correct answer counting 1 point).

Part II – Problem Solving – 20 Points (Each correct answer counting 2 points).

Part III – Lawnmower Driving – 60 Points (Refer to the driving score card that is attached).

*Pre-Warm Up:

1. Failure to check:

- | | |
|--------------------------------|-----------|
| a. Engine oil level_____ | 40 points |
| b. Air filter_____ | 30 points |
| c. Hydraulic fluid_____ | 30 points |
| d. Engine cooling system_____ | 30 points |
| e. Cutting blades_____ | 30 points |
| f. Air in tires_____ | 20 points |
| g. Belt tension and wear_____ | 10 points |
| h. Fuel level_____ | 10 points |
| i. Wheel lugs_____ | 10 points |
| j. Battery_____ | 10 points |
| k. Belt shields_____ | 4 points |
| l. ROPS_____ | 4 points |
| m. Brake lock_____ | 4 points |
| n. Seat belt_____ | 4 points |
| o. Safety starting switch_____ | 4 points |



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2. Driving Lawnmower
 - a. Efficient completion of skill – One point deducted for each second over 150 seconds (2-1/2 minutes).
 - b. Attempting to start lawnmower with motion control levers engaged – number of times X 10.
 - c. Mower deck height set and discharge chute lowered when mowing – number of times X 60.
 - d. Deck height & discharge chute raised before entering shed – number of times X 60.
 - e. Pull-ups & backups to improve position in shed or lane – number of times X 10
 - f. Markers scraped – number of times X 20.
 - g. Markers moved or upset – number of times X 40.
 - h. Operating mower in the proper direction – number of times X 30.
Contestant must correctly follow the course and also “mow” the designated mowing area by pulling into, backing to reposition the mower, and then pulling into the area a second time to finish “mowing”. (Contestant should make at least two passes to complete the mowing of this area. Blades will NOT be engaged.)
 - i. Number of inches lawnmower wheels off center in the “shed” – number of times X 20.
 - j. Stalling engine – number of times X 20
3. Safety measures when driving lawnmower
 - a. Excess speed when turning and driving – number of times X 40.
 - b. Mounting/dismounting lawnmower improperly - number of times X 20.
 - c. Failure to safely dismount and remove obstacle - X 40.
 - d. Failure to shut down mower in the proper sequence – x 60
 - e. Failure to kill or shut engine off when dismounting – 100.
 - f. Failure to applying parking brake when dismounting or lowering/raising discharge chute - 100.
 - g. Releasing brake before starting - 20.
 - h. Mower Deck (Blades) Engaged – 100.
 - i. Failure to use hearing protection – 20.
 - j. Failure to use eye protection – 20.
 - k. Used seat belt –100. (Seat belt should only be used when lawnmower equipped with roll-over protective structure – “ROPS”)

VIII. TIE BREAKERS

In the event of a tie in the overall contest, the contestant with the highest driving score will be declared the winner. Second tie breaker will be the contestant with the highest problem solving score, while third tie breaker will be the contestant with the highest written exam score.

IX. COURSE LAYOUT

1. The operation portion of this contest shall take place on a relatively level area that shall not exceed an area that measures 50' X 75'. The boundaries of this area will be marked. Any contestant that crosses the boundaries of this area during the operation portion of this competition will be disqualified.



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2. The mower will be stationed in a “shed” outside of the course/alley area the boundaries of which will be clearly identified by cans, cones or other similar objects. The shed width will be not less than the mower deck - discharge chute + 12” (discharge chute must be in the up position). A start/finish line will be clearly identified on the shed boundaries and the student’s time will begin when the front wheels of the mower cross the line. Students will pull the mower straight out of the shed to begin the course and will back the mower into the shed after completion of the driving course. The discharge chute must be raised before entering the shed. The front wheels must cross the start finish line. The rear wheels of the mower should be centered in the shed. The student’s time will end when the contestant switches the mower off upon completion of the course.
3. The “alley” will consist of two 90 degree angles that form a “step” shape. (Imagine a line that runs east for 20’, turns south for 15’, and then continues east for 15’). All measurements for the “alley” will be based on this marked line. The width and all openings for the “alley” will be determined based upon the diagonal width of the mower (diagonal width measured from the center of the inside front wheel to the outside center of the opposite rear wheel) or the width of the mower deck + discharge chute + 12” whichever is widest, for competition.
4. An object (hammer, shoe, toy, etc.) will be placed in the alley. The contestant will need to stop the mower, turn off the engine, dismount the mower and remove the object from the alley. Then the contestant is to resume driving the through the alley.
5. An 8’ x 8’ area will be designated as an area that the contestant has to pull into and back-up for repositioning of the mower and pull into again and then back-up and resume driving through the alley.
6. Two five-gallon buckets, two barrels, or two automobile tires will be placed in the course so that the contestant will have to circle each, as if they were mowing around trees, before returning the mower to the shed. These objects will be set apart determined by the diagonal width measured from the center of the inside front wheel to the outside center of the opposite rear wheel + 12 inches or the deck width + discharge chute + 12” whichever is greatest. Markers from the buckets, barrels, or tires will be set at the same width apart.
7. A marker is considered scraped when it has been touched or moved by any part of the mower. An “upset” will be considered as moving a marker from its station.
8. The course will be navigated with the mowing deck set at a cutting height to be determined by the judge and with the discharge chute lowered. The mower PTO will **NOT** be engaged.

X. REFERENCES

Lawnmower Operators Manuals (the following list is only examples not intended to be comprehensive)

<http://www.troybilt.com/wcsstore/pics/TroyBilt/769-03502.pdf>

<http://www.troybilt.com/wcsstore/pics/TroyBilt/769-03537.pdf>

<http://www.troybilt.com/wcsstore/pics/TroyBilt/769-03532.pdf>

<https://www.managemyhome.com/mmh/user-profile/CreateUserProfileDisplay.action?>



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Sears Craftsman Manuals

http://www.usa.husqvarna.com/support_manual_search.aspx

<http://www.snapper.com/manuals/#>

http://manuals.deere.com/cceomview/OMM157372_H7/Output/Index.html

<http://www.exmark.com/Manuals.htm>

http://www.usa.husqvarna.com/support_manual_search.aspx/landscapers.aspx

<http://www.snapper.com/manuals/#> Select Z Rider

http://manuals.deere.com/cceomview/OMM157372_H7/Output/Index.html

<http://www.dixiechopper.com/support.php>

Lawn Equipment Operators Manuals

Lawnmower Dealer Brochures

Small Engines by R. Bruce Radcliff (Authorized by Briggs & Stratton), Current Edition, , American Technical Publishers. ISBN 978-0-8269-0012-8

***Turfgrass Science and Management* by Robert Emmons, Current Edition, Delmar Publishers.**

http://www.delmarlearning.com/Browse_CatalogDetail_Print.aspx?xxID=27423&isbn=1418013307

AAVIM: Related Machine Publications

Engine Manufacturer's Service and Repair Manuals

Suggested Classroom Videos:

Lawn Equipment Videos

http://www.deere.com/en_US/homeowners/safety/video.html?tm=ho&link=cnav

<http://www.dixiechopper.com/support.php>



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NAME OF CHAPTER	CONTESTANT	NO. TIMES OFF		TOTAL POINTS
PRE-WARM UP				
Failure to Check:				
A. Engine oil level			X 40	
B. Air filter			X 30	
C. Hydraulic fluid			X 30	
D. Engine cooling system			X 30	
E. Cutting Blades			X 30	
F. Air in tires			X 20	
G. Belt tension and wear			X 10	
H. Fuel level			X 10	
I. Wheel lugs			X 10	
J. Battery			X 10	
K. Belt shields			X 4	
L. ROPS – roll over protective structure			X 4	
M. Brake Lock			X 4	
N. Seat Belt			X 4	
O. Safety Starting Switch			X 4	
DRIVING LAWNMOWER				
1. Efficient completion of skill - No. seconds over 150			X 1	
2. Attempting to start lawnmower with motion control levers engaged			X 10	
3. Deck height set at mowing height & discharge chute lowered			X 60	
4. Deck height & discharge chute raised before entering shed			X 60	
5. Pull-ups & backups to improve position in shed or lane (No. times)			X 10	
6. Markers scraped (Number)			X 20	
7. Markers moved or upset (Number)			X 40	
8. Operating mower in the proper direction			X 30	
9. Number of inches wheels off center in shed			X 20	
10. Stalling engine			X 20	
SAFETY				
1. Excess speed when turning & driving (No. times)			X 40	
2. Mounting lawnmower/Dismounting lawnmower improperly			X 20	
3. Failure to safely dismount and remove obstacle			X 40	
4. Failure to shut down mower in the proper sequence			X 60	
5. Failure to kill engine when dismounting			X 100	
6. Failure to apply parking brake when dismounting or lowering/raising discharge chute			X 100	
7. Failure to unlock parking brake before putting mower in motion			X 20	
8. Mower Deck (Blades) Engaged			X 100	
9. Failure to use hearing protection			X 20	
10. Failure to use eye protection			X 20	
11. Used seat belt (No. of failures) (Seat belt should only be used when tractor is equipped with rollover protective structure - ROPS)			X 100	
TOTAL PENALTY PTS.				
60- NUMBER OF PENALTY POINTS X 60 = DRIVING SCORE				
1000				



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**GEORGIA FFA ASSOCIATION – CAREER DEVELOPMENT EVENT
AUTHORIZATION, WAIVER & RELEASE OF LIABILITY
TO BE SIGNED BY STUDENT AND GUARDIAN
THIS DOCUMENT AFFECTS LEGAL RIGHTS – READ IT CAREFULLY**

Student (Please Print Name)

Career Development Event (CDE) (Please Print)

For purposes hereof, "Student" and "CDE" shall have the meaning set forth above.

Please Check Section Applicable on Date of Signature

STUDENT UNDER AGE 18: I represent and warrant that I am the parent or legal guardian of the Student, who is under the age of eighteen (18) (the "Minor") as of the date hereof, and I, for myself and on the Minor's behalf, knowingly agree to the terms set forth herein.

STUDENT OVER AGE 18: I, the Student, represent and warrant I am over the age of eighteen (18) as of the date hereof, and I knowingly agree to the terms set forth herein.

1. **Permitted Activities.** I acknowledge that Georgia FFA Association (the "FFA") only permits Student's participation in this CDE in a manner consistent with the rules established by the FFA for the CDE. (collectively, the "**Permitted Activities**"). I acknowledge and hereby agree that Student has read the rules, or is otherwise familiar with the rules, established by the FFA for the CDE, has had an opportunity to request clarification from appropriate advisors or officials regarding any rules that are unclear to the Student, and has received sufficient training to participate in the CDE in manner consistent with the rules established by the FFA for the CDE. It is agreed and understood that Student's participation in the CDE is voluntary.

2. **WAIVER AND RELEASE.** I HEREBY EXPRESSLY WAIVE AND RELEASE ANY AND ALL CLAIMS, KNOWN OR UNKNOWN, AGAINST THE FFA, THE OWNER OF ANY REAL PROPERTY OR PERSONAL PROPERTY USED FOR PURPOSES OR IN FURTHERANCE OF THE CDE, ANY PERSON PRESENT AT THE CDE, INCLUDING WITHOUT LIMITATION ADVISORS, ORGANIZERS, JUDGES, COORDINATORS, SPECTATORS, VOLUNTEERS, DONORS, AND CO-PARTICIPANTS, AND THEIR RESPECTIVE OFFICERS, DIRECTORS, EMPLOYEES, EMPLOYERS, AGENTS, AFFILIATES, SHAREHOLDERS, SUCCESSORS AND ASSIGNS (COLLECTIVELY, "**RELEASEES**"), RELATED TO BODILY INJURY TO OR DISABILITY OR DEATH OF THE STUDENT OR DAMAGE TO ANY OF THE STUDENT'S PROPERTY ARISING OUT OF THE STUDENT'S PARTICIPATION IN OR PRESENCE AT THE CDE.

3. **ASSUMPTION OF RISKS.** I HEREBY KNOWINGLY AND VOLUNTARILY ACCEPT AND ASSUME ANY AND ALL RISKS, FORESEEABLE OR UNFORESEEABLE, KNOWN OR UNKNOWN, OF INJURY TO OR DISABILITY OR DEATH OF THE STUDENT OR DAMAGE TO ANY OF THE STUDENT'S PROPERTY, WHETHER CAUSED BY THE NEGLIGENCE OR WRONGFUL CONDUCT OF THE FFA, THE STUDENT'S ADVISOR OR OTHER MENTOR OR COACH RELATED TO THE STUDENT'S INVOLVEMENT IN THE CDE, THE ORGANIZERS, COORDINATORS, OR JUDGES OF THE CDE, CO-PARTICIPANTS, SPECTATORS, VOLUNTEERS, OR THIRD PARTIES ATTENDING THE CDE, THE OWNER OF ANY REAL OR PERSONAL PROPERTY USED FOR THE CDE, AND THEIR RESPECTIVE EMPLOYEES, EMPLOYERS, AFFILIATES, OR AGENTS. I ACCEPT PERSONAL RESPONSIBILITY FOR ANY LIABILITY, INJURY, LOSS, OR DAMAGE IN ANY WAY CONNECTED WITH THE STUDENT'S PARTICIPATION IN THE CDE. I acknowledge that the Permitted Activities involve the risk of serious bodily injury, death, and/or property damage due to the inherent risks of the Permitted Activities, which could include but are not limited to: (a) possible equipment malfunction or misuse; (b) hazards related to traversing and driving across mostly undeveloped land, including without limitation holes, uneven dirt, fence

Ver. August 2018

Lawnmower Operations CDE – Senior Division (2018-2021)

Georgia FFA

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wire, and wild or poisonous animals or insects, (c) slipping or falling, including from elevated locations or while mounting or dismounting equipment; (d) colliding with motorized vehicles, persons, or stationary objects, (e) burns, cuts, and bruises, and (f) the Student's negligence or the negligence of other persons, including without limitation organizers, judges, and co-participants, related to the CDE. If the CDE involves interactions with animals, I understand the inherent risks of such animal activities also may include: (g) the propensity of animals to behave in ways that may result in injury, harm, or death; (h) the unpredictability of an animal's reaction to sounds, sudden movement, and unfamiliar objects, persons, or other animals; (i) collisions with other animals or objects; and (j) a Student's or third person's failure to maintain control over the animal.

4. Consent to Medical Treatment. I authorize FFA and the organizers of the CDE to provide to me, through medical personnel of their choice, customary medical assistance, transportation, and emergency medical services. This consent does not impose a duty upon FFA to provide such assistance, transportation, or services.

5. Publicity Release. I authorize FFA to use my name, photo, materials produced for the CDE or presentation in CDE for FFA materials including but not limited to, educational resources, press releases, web based publicity and other publicity materials.

6. Severability. Each term and provision of the instrument shall be valid and enforced separately to the fullest extent permitted by law. The unenforceability of any one term hereof shall not impact the enforceability of any other term.

7. Applicable Law. This instrument shall be governed, construed, and enforced in accordance with the law of the State of Georgia.

8. Additional Terms. This Authorization, Release, and Waiver shall be applicable for each occasion the Student participates in any CDE organized by the FFA and the terms hereof shall survive indefinitely; provided; however, FFA retains the right as a condition precedent to participating in any CDE to require Participant to deliver an additional Authorization, Waiver, and Release. A signed copy hereof received or maintained electronically shall have the same legal effect as an original.

THIS IS A WAIVER AND RELEASE OF LIABILITY. I HAVE READ THIS AUTHORIZATION, WAIVER, AND RELEASE OF LIABILITY. I UNDERSTAND THAT I HAVE GIVEN UP SUBSTANTIAL RIGHTS BY SIGNING IT. I AM SIGNING THIS AUTHORIZATION, WAIVER, RELEASE OF LIABILITY VOLUNTARILY. I UNDERSTAND AND AGREE TO ALL OF THE TERMS OF THIS RELEASE.

Student's Signature: _____ Date: _____

IF THE STUDENT PARTICIPATING IN THE CDE IS NOT YET 18 YEARS OLD, BOTH PARENTS OR THE LEGAL GUARDIAN(S) MUST SIGN:

In exchange for my/our child or ward being allowed to participate in the CDE, and as the parent(s) or legal guardian(s) of the above-named Student, I/we verify that I/we fully understand, agree to, and accept all provisions of this Authorization, Waiver, Release of Liability. I represent I have full authority to sign this Authorization, Waiver, Release of Liability on behalf of the Student. I knowingly and willingly grant the Minor (if applicable) permission to engage in the Permitted Activities.

Guardian:
Printed Name _____ Signature _____ Date _____

Guardian:
Printed Name _____ Signature _____ Date _____

Insurance Company: _____ Policy Number: _____

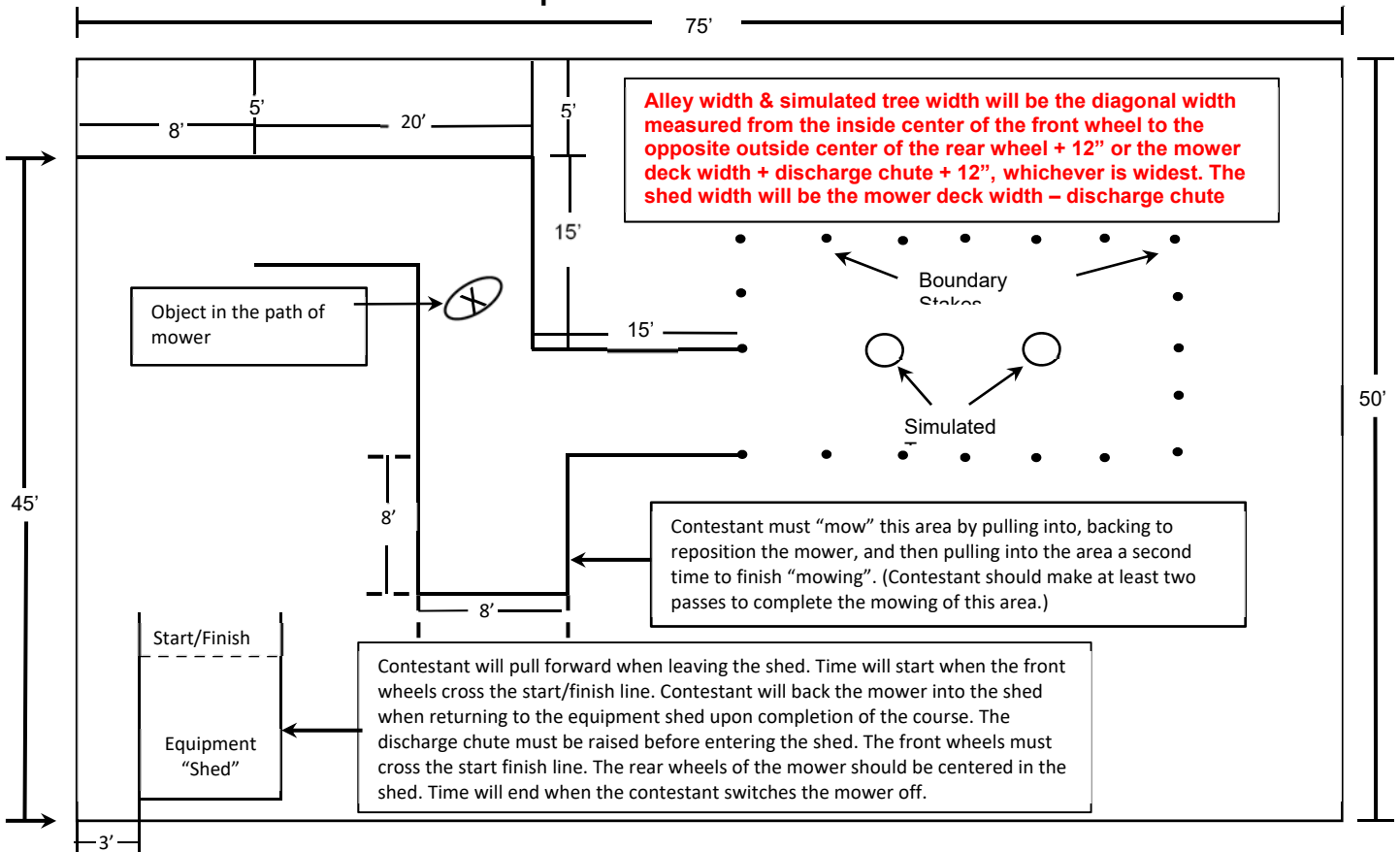
Guardian Contact Number: _____ Minor's Date of Birth: _____

Ver. August 2018



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