Tractor Driving CDE


Purpose

The purpose of the Tractor Driving Career Development Event is for FFA Members to demonstrate their knowledge, skills, and proficiencies related to the safe operation, maintenance and driving skills of a tractor and skid steer loaders.

Eligibility

This event is held during the Delaware State Fair. It is open to all high school FFA chapters and FFA members in good standing. The two (2) FFA Members designated for this event must be certified by the respective local advisor. He/She must attend a mandatory practice event in order to be eligible to compete in the event. Members that have participated in a previous regional event in this area are ineligible.

Event Procedures

A. Only the (2) FFA Chapter Tractor/Equipment Operating participants that are certified by their respective local advisor and has attended the mandatory practice event is eligible to compete in this contest.

B. Waivers, including Delaware FFA Waiver and The Big E waiver must be presented at check-in in order to compete. FFA Members will not be allowed to compete without waivers due to the operation of large equipment for safety reasons.

C. Appropriate Dress: FFA T-shirt with sleeves (It must say FFA on the shirt), long pants, belt, and work shoes are required. It is recommended that long hair be pulled up and jewelry is taken off. Gloves are optional. Shirt should be tucked in for safety.

D. It is recommended that you bring the following:: At least two (2) pencils, Clipboard, and non-programmable calculator. All other equipment will be provided.

E. Each contestant must complete all events.

F. Participants will not be allowed to possess any personal electronic devices (i.e. cell phones, smart watches, air pods, etc) other than those approved by event officials. Participants who possess personal electronic devices without prior approval of the event officials will be disqualified from the event.

G. Excessive tractor brake steering will disqualify the contestant.

H. Contestants will be disqualified if they are observed not following safety standards, which may endanger themselves or the public.

I. Contestants will be disqualified if they do not wear their seatbelt while operating the equipment.

J. Contestants will be disqualified if they do not adhere to the designated path through the course.

K. Tractors and equipment will be provided for each event. All contestants will use the same tractor and piece of equipment provided at that event.

L. All persons other than the judges, the scorers and the contestants will be barred from the contest area during the contest.

M. The Chair(s) in charge of this contest will select judges and scorers.

N. In case any situation occurs that is not covered in the rules, the decision of the judges will be final.

Event Format

A. The contest will consist of five (5) parts, each of which will be scored separately: written test, tools/tractor parts ID, a two-wheeled manure spreader event, a tour-wheeled trailer event, tractor loader event or skid-loader event.

B. Written Test:

1. The written test will include up to fifty (50) questions centered on the skill, safe operation and operator maintenance of tractor.

2. A total of 30 minutes will be allotted for the members to complete the test. The written test will be administered in the bleachers at the arena, so clipboards should be provided by the student’s advisor.

3. Refer to SAFE OPERATION OF AGRICULTURAL EQUIPMENT (Student Manual from HOBAR PUBLICATIONS (800) 846-7027) for possible questions.

4. The test will include true-false, completion and/or multiple choice questions.

Example: 1. T  F
Example: 2. Check the ____ in air cleaners once daily.
Example: 3. All grease fittings should be
   A. Well cited
   B. Painted periodically
   C. greased on schedule

5. Each question answered incorrectly or left unanswered will be valued at ten (10) points.

(500 points possibly added to overall score)

C. Tools/Tractor Parts ID: 10 minutes allotted—administered outside the “ring”

1. Each contestant will be given 10 minutes to identify mechanic tools and tractor parts from a gas or diesel tractor. Up to 30 tools and parts will be identified. They may include a torque wrench, open-end wrench, flywheel, piston, starter, etc. Contestants will choose from a bank of answers.

2. The identification section will be administered outside of the show ring.


4. Each answer missed or left unanswered will be valued at ten (10) points.

(300 points possibly added to overall score)

D. Operating Skills Events:

1. The next 4 events (a two-wheeled manure spreader event, a four-wheeled trailer event, tractor loader event or skid-loader event) will test the skill and ability of the contestant to operate Skid-loaders, tractors, and equipment safely.

2. Each contestant will start off with a visual inspection of Skid-loader, tractor and equipment. Judges will expect a verbal response.

3. The contestant will follow the course outlined by the judge (see attached illustrations.)

4. Each event is given a total of 10 minutes to be completed. Time starts on a signal from the judge and stops when the contestant returns to original point.
5. The contestant will be allowed ten minutes for each event. The contestant will be notified at eight minutes that two minutes are left. If the contestant does not finish the event in ten (10) minutes, the judge will stop them and a **500-point** deduction will be added to their score.

6. Excessive tractor brake steering will disqualify the contestant.

7. Contestants may be disqualified if they are observed not following safety standards, which may endanger themselves or the public.

8. A 30-60 hp compact diesel tractors are typically used in these events. Manufacturers may include John Deere, CASE IH, NEW Holland, Kubota, Bobcat, Gehl and other tractors/Skid-Loader.

9. The Skid loader and Loader tractor event will be held every year.
   a. The Tractor Loader event will involve loading mulch or other similar material.
   b. The Skid-Steer event will use pallet forks to move loaded pallets around a course. One pallet will have four (4), five-gallon buckets of sand, while the other has one (1) five-gallon bucket of water!

**NOTE: CONTESTANTS WILL BE STOPPED BY THE JUDGE WAVING A RED FLAG IF IT IS FELT THAT THE CONTESTANT IS NOT IN FULL CONTROL OF THE SKID-LOADER OR TRACTOR AND SAFETY OF THE OPERATOR AND JUDGES ARE JEOPARDIZED! CONTESTANTS WILL RECEIVE A 500 POINT DEDUCTION!**

**Scoring**

The contestant with the **lowest** deductions will be the winner. In other words, low score wins. Refer to the scorecards in this section to see the possible deductions in each event.

**Tiebreakers**

Tie breakers will be as follows: 1) test score 2) parts I.D. score 3) four-wheeled event score 4) two-wheeled event score 5) loader tractor/skid loader event score.

**Awards**

Awards will be presented to individuals based upon their rankings at the State Fair FFA Awards Breakfast. The first place individual will represent Delaware at Big E.

Top three (3) individuals will be awarded a trophy sponsored by the local equipment dealers and a gold, silver and bronze pin to be placed on your official FFA jacket.

Top ten (10) individuals will be announced.

**References**

Possible websites for tools identification:
www.snap-on.com,
www.valu-bilt.com,
www.craftsman.com,
4-H Engineering

Possible websites/key word searches for tractors parts id:
John Deere,
Hoober, Inc.
CASE IH,
New Holland,
4-H Engineering

Website for safety instructions/review
www.bobcat.com

HOSTA Training— use as resource, sample test, etc.
Delaware FFA Career Development Event Handbook

Delaware FFA Safe Tractor/ Equipment Operating Career Development Event

Score Sheet Two Wheeled Manure Spreader Event

Contestant Name/Number: ___________________________  Chapter: __________________

BEFORE STARTING TRACTOR (verbal response)  

<table>
<thead>
<tr>
<th>Check</th>
<th>Deductions</th>
</tr>
</thead>
<tbody>
<tr>
<td>fuel and oil gauge</td>
<td>X 10</td>
</tr>
<tr>
<td>brakes - depress brake pedal with engine running, tractor in gear</td>
<td>X 10</td>
</tr>
<tr>
<td>tires - by sight only</td>
<td>X 10</td>
</tr>
<tr>
<td>hazards - dirt, grease, tools, improper attachments, etc</td>
<td>X 10</td>
</tr>
<tr>
<td>safety belts</td>
<td>X 10</td>
</tr>
<tr>
<td>ROPS</td>
<td>X 25</td>
</tr>
</tbody>
</table>

STARTING  

<table>
<thead>
<tr>
<th>Check</th>
<th>Deductions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission not in Neutral/ Park</td>
<td>X 25</td>
</tr>
<tr>
<td>Brakes not set</td>
<td>X 25</td>
</tr>
<tr>
<td>Clutch not disengaged</td>
<td>X 15</td>
</tr>
</tbody>
</table>

OBSTACLE COURSE  

<table>
<thead>
<tr>
<th>Check</th>
<th>Deductions</th>
</tr>
</thead>
<tbody>
<tr>
<td>tractor or manure spreader touches obstacles or lines</td>
<td>X 50</td>
</tr>
<tr>
<td>tractor or manure spreader knocks down obstacles or crosses lines</td>
<td>X 100</td>
</tr>
<tr>
<td>unnecessary change of direction (forward or backward)</td>
<td>X 50</td>
</tr>
</tbody>
</table>

BACKING MANURE SPREADER INTO THE ALLEY  

<table>
<thead>
<tr>
<th>Check</th>
<th>Deductions</th>
</tr>
</thead>
<tbody>
<tr>
<td>inches over three (3) inches from the back of the stall</td>
<td>X 10</td>
</tr>
<tr>
<td>inches off center in the front</td>
<td>X 10</td>
</tr>
<tr>
<td>inches off center in the rear</td>
<td>X 10</td>
</tr>
<tr>
<td>tractor or manure spreader knocks down obstacles or crosses lines</td>
<td>X 100</td>
</tr>
<tr>
<td>unnecessary change of direction (forward or backward)</td>
<td>X 50</td>
</tr>
</tbody>
</table>

JUDGES OBSERVE AT ALL TIMES DURING ABOVE OPERATIONS  

<table>
<thead>
<tr>
<th>Check</th>
<th>Deductions</th>
</tr>
</thead>
<tbody>
<tr>
<td>improper mount/dismount</td>
<td>X 50</td>
</tr>
<tr>
<td>use seat belt</td>
<td>X 25</td>
</tr>
<tr>
<td>set brakes when getting off/put in Park</td>
<td>X 50</td>
</tr>
<tr>
<td>sliding or spinning tires, brake steering</td>
<td>X 100</td>
</tr>
<tr>
<td>clutch engagement</td>
<td>X 25</td>
</tr>
<tr>
<td>clashing of gears when shifting</td>
<td>X 25</td>
</tr>
<tr>
<td>stalling of the engine</td>
<td>X 10</td>
</tr>
<tr>
<td>excessive engine speed</td>
<td>X 25</td>
</tr>
<tr>
<td>excessive tractor speed</td>
<td>X 50</td>
</tr>
<tr>
<td>tractor is moving</td>
<td>X 100</td>
</tr>
<tr>
<td>tractor with brakes on</td>
<td>X 25</td>
</tr>
<tr>
<td>put in gear or park when getting off with engine stopped</td>
<td>X 50</td>
</tr>
<tr>
<td>the clutch</td>
<td>X 25</td>
</tr>
<tr>
<td>unsafe conduct while on or around tractor</td>
<td>X 25</td>
</tr>
<tr>
<td>fouling equipment (touching spreader w/tractor wheel)</td>
<td>X 50</td>
</tr>
<tr>
<td>rubbing hard</td>
<td>X 75</td>
</tr>
</tbody>
</table>

Sub Total of Deductions _______________

If the contestant does not finish within the ten-minute time period, they will be given a 500-point deduction.

Time deduction - Convert minutes into seconds, add the remaining seconds. Divide the total seconds by 3.

To this add the subtotal for deductions to get the final score of the contestant.

<table>
<thead>
<tr>
<th>TIME</th>
<th>Deduction</th>
<th>+Sub Total</th>
<th>=TOTAL</th>
</tr>
</thead>
</table>

3
# Delaware FFA Safe Tractor/Equipment Operating Career Development Event

## Score Sheet Four-Wheel Trailer Event

**Contestant Name/Number:** ____________________________  
**Chapter:** ___________

### BEFORE STARTING TRACTOR (verbal response)

<table>
<thead>
<tr>
<th>Description</th>
<th>Deductions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check fuel and oil gauge</td>
<td>X 10</td>
</tr>
<tr>
<td>Check brakes - depress brake pedal with engine running, tractor in gear</td>
<td>X 10</td>
</tr>
<tr>
<td>Check tires - by sight only</td>
<td>X 10</td>
</tr>
<tr>
<td>Check hazards - dirt, grease, tools, improper attachments, etc</td>
<td>X 10</td>
</tr>
<tr>
<td>Check safety belts</td>
<td>X 10</td>
</tr>
<tr>
<td>Check ROPS</td>
<td>X 25</td>
</tr>
</tbody>
</table>

### STARTING

- Transmission not in Neutral/ Park
- Brakes not set
- Clutch not disengaged

### HITCHING TRACTOR TO FOUR WHEEL WAGON (NOT SCORED IN DE)

(Hitching taken out-not done at state level)

### TRAILER HANDLING

- For each time tractor or trailer touches obstacles or crosses lines
- For each time tractor or trailer knocks down obstacles or crosses lines
- For each unnecessary change of direction (forward or backward)
- For each time tractor fouls equipment (touching trailer tongue with tractor tire, sliding trailer wheels sideways)

### TRAILER PLACEMENT IN SHED

- For each inch off center at the front of trailer
- For each inch off center at the rear of trailer
- For each inch off from rear of stall over (3) inches

### PARKING TRACTOR AT FINISH LINE

- Failure to set brakes
- Failure to place transmission in gear or park
- Failure to reduce throttle

### JUDGES OBSERVE AT ALL TIMES DURING ABOVE OPERATIONS

- Improper mount/dismount
- Failure to use seat belt
- Failure to set brakes when getting off/put in Park
- Sliding or spinning tires, brake steering
- Rough clutch engagement
- Clashing of gears when shifting
- Stalling of the engine
- Excessive engine speed
- Excessive tractor speed
- Standing while tractor is moving
- Moving tractor with brakes on
- Failure to put in gear or park when getting off with engine stopped
- Riding the clutch
- Any unsafe conduct while on or around tractor
- Fouling equipment (touching spreader w/tractor wheel)
- Rubbing hard

**Sub Total of Deductions** ___________

If the contestant does not finish within the ten-minute time period, they will be given a **500-point deduction**.

**Time deduction** - Convert minutes into seconds, add the remaining seconds. Divide the total seconds by 3.

To this add the subtotal for deductions to get the final score of the contestant.

**TIME** _______  
**Deduction** _______  
**Sub Total** _______  
**TOTAL** _______
# Score Sheet Skid-Steer Event

**Contestant Name/Number:** ____________________________  
**Chapter:** __________

## BEFORE STARTING SKID LOADER (verbal response)  

<table>
<thead>
<tr>
<th>Deductions</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check fuel and oil gauge</td>
<td>X 10</td>
</tr>
<tr>
<td>Check brakes - depress brake pedal with engine running, tractor in gear</td>
<td>X 10</td>
</tr>
<tr>
<td>Check tires - by sight only</td>
<td>X 10</td>
</tr>
<tr>
<td>Check hazards - dirt, grease, tools, improper attachments, etc</td>
<td>X 10</td>
</tr>
<tr>
<td>Check safety belts/harness</td>
<td>X 10</td>
</tr>
</tbody>
</table>

## STARTING

<table>
<thead>
<tr>
<th>Deductions</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improper mount/dismount</td>
<td>X 50</td>
</tr>
<tr>
<td>Seat belts or safety harness not on</td>
<td>X 50</td>
</tr>
<tr>
<td>Throttle set too high</td>
<td>X 25</td>
</tr>
</tbody>
</table>

## LOADING

<table>
<thead>
<tr>
<th>Deductions</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>For touching line or obstacle (with skid-steer or forks)</td>
<td>X 50</td>
</tr>
<tr>
<td>For crossing or knocking down obstacles</td>
<td>X 100</td>
</tr>
<tr>
<td>For each unnecessary change of direction (forward or backwards)</td>
<td>X 50</td>
</tr>
<tr>
<td>Traveling with forks too high</td>
<td>X 50</td>
</tr>
<tr>
<td>Excessive speed going into pallets</td>
<td>X 50</td>
</tr>
<tr>
<td>Moving pallets (more than four (4) inches)</td>
<td>X 50</td>
</tr>
<tr>
<td>Improper use of forks while loading</td>
<td>X 50</td>
</tr>
</tbody>
</table>

## NAVIGATING COURSE

<table>
<thead>
<tr>
<th>Deductions</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excessive water loss from bucket (more then three (3) inches)</td>
<td>X 50</td>
</tr>
<tr>
<td>Tipping bucket of water off pallet</td>
<td>X 300</td>
</tr>
<tr>
<td>**** Operator must return to bucket station to get a new full bucket</td>
<td></td>
</tr>
<tr>
<td>Carrying load at unsafe height</td>
<td>X 50</td>
</tr>
<tr>
<td>Pallet #1 not squarely on pallet #2</td>
<td>X 25</td>
</tr>
<tr>
<td>Excessive speed over obstacle</td>
<td>X 50</td>
</tr>
<tr>
<td>Pallets not squarely on platform</td>
<td>X 25</td>
</tr>
<tr>
<td>Unsafe speed approaching platform</td>
<td>X 50</td>
</tr>
<tr>
<td>Excessive bucking on turns and going over obstacles</td>
<td>X 50</td>
</tr>
</tbody>
</table>

## PARKING SKID-LOADER AT FINISH LINE

<table>
<thead>
<tr>
<th>Deductions</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Failure to reduce throttle</td>
<td>X 10</td>
</tr>
<tr>
<td>Forks not completely down</td>
<td>X 50</td>
</tr>
</tbody>
</table>

## JUDGES OBSERVE AT ALL TIMES DURING ABOVE OPERATIONS

<table>
<thead>
<tr>
<th>Deductions</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Failure to operate skid loader safely</td>
<td>X 100</td>
</tr>
<tr>
<td>Excessive skid-steer speed</td>
<td>X 50</td>
</tr>
</tbody>
</table>

Sub Total of Deductions __________

If the contestant does not finish within the ten-minute time period, they will be given a **500-point deduction.**

Time deduction - Convert minutes into seconds, add the remaining seconds. Divide the total seconds by 3.

To add this subtotal for deductions to get the final score of the contestant.

<table>
<thead>
<tr>
<th>TIME</th>
<th>Deduction</th>
<th>Sub Total</th>
<th>TOTAL</th>
</tr>
</thead>
</table>
Delaware FFA Safe Tractor/ Equipment Operating Career Development Event

Score Sheet Tractor Loader Event

Contestant Name/Number:______________________________ Chapter:___________

BEFORE STARTING TRACTOR (verbal response)  

Check fuel and oil gauge  
Check brakes - depress brake pedal with engine running, tractor in gear  
Check tires - by sight only  
Check hazards - dirt, grease, tools, improper attachments, etc  
Check safety belts  
Check ROPS

Deductions

Check fuel and oil gauge X 10
Check brakes - depress brake pedal with engine running, tractor in gear X 10
Check tires - by sight only X 10
Check hazards - dirt, grease, tools, improper attachments, etc X 10
Check safety belts X 10
Check ROPS X 25

STARTING

Transmission not in Neutral/ Park  
Brakes not set  
Clutch not disengaged

Deductions

Transmission not in Neutral/ Park X 25
Brakes not set X 25
Clutch not disengaged X 15

LOADING

For touching line or obstacle (with tractor or loader)  
For crossing or knocking down obstacles  
For each unnecessary change of direction (forward or backwards)  
Traveling with loader too high  
Excessive speed going into pile  
Moving load barrier  
Improper use of bucket while loading  
Not a full bucket of material

Deductions

For touching line or obstacle (with tractor or loader) X 50
For crossing or knocking down obstacles X 100
For each unnecessary change of direction (forward or backwards) X 50
Traveling with loader too high X 50
Excessive speed going into pile X 50
Moving load barrier X 50
Improper use of bucket while loading X 50
Not a full bucket of material X 25

DUMPING LOAD

Carrying load at unsafe height  
Unsafe speed approaching dumping area  
Hitting or damaging dumping barrier  
Bucket not completely empty

Deductions

Carrying load at unsafe height X 100
Unsafe speed approaching dumping area X 50
Hitting or damaging dumping barrier X 100
Bucket not completely empty X 25

PARKING TRACTOR AT FINISH LINE

Failure to set brakes  
Failure to place transmission in gear or park  
Failure to reduce throttle  
Bucket not completely down

Deductions

Failure to set brakes X 50
Failure to place transmission in gear or park X 50
Failure to reduce throttle X 10
Bucket not completely down X 50

JUDGES OBSERVE AT ALL TIMES DURING ABOVE OPERATIONS

Failure to use seat belt  
Failure to set brakes when getting off/or put in Park  
Sliding or spinning tires, brake steering  
Rough clutch engagement  
Clashing of gears when shifting  
Stalling of the engine  
Excessive engine speed  
Excessive tractor speed  
Standing while tractor is moving  
Moving tractor with brakes on  
Failure to put in gear or park when getting off with engine stopped  
Riding the clutch  
Any unsafe conduct while on or around tractor

Deductions

Failure to use seat belt X 25
Failure to set brakes when getting off/or put in Park X 50
Sliding or spinning tires, brake steering X 100
Rough clutch engagement X 25
Clashing of gears when shifting X 25
Stalling of the engine X 10
Excessive engine speed X 25
Excessive tractor speed X 50
Standing while tractor is moving X 100
Moving tractor with brakes on X 25
Failure to put in gear or park when getting off with engine stopped X 50
Riding the clutch X 25
Any unsafe conduct while on or around tractor X 25

Sub Total of Deductions _________

— If the contestant does not finish within the ten-minute time period, they will be given a **500-point deduction**.

Time deduction - Convert minutes into seconds, add the remaining seconds. Divide the total seconds by 3.

To this add the subtotal for deductions to get the final score of the contestant.
COURSE LAYOUT - FOUR WHEEL TRAILER EVENT

Obstacle

Start

Finish

Tractor & Trailer

Tractor Only

30 Feet

Trailer Length +4'

Stall

Trailer Length +2'

Trailer Width +12'

Stall: Six (6) inch clearance on each side. Two (2) inch clearance on rear.
SKID-STEER EVENT

Forward ————
Reverse ----------------

4" berm

8/00'

place #1 pallet on #2

bucket w/ water

pallet #1

20.00'

7.00'

10.00'

skid loader w/ forks

Start/Finish

leave

leave on platform 3' high

pallet +6"

Delaware FFA Career Development Event Handbook
2017-2021
COURSE LAYOUT - TWO WHEEL MANURE SPREADER EVENT

START-FINISH LINE

1, 2, 3 AND 4 - GATES 10 FEET WIDE
BOARD ACROSS END OF STALL
AT BEATER HEIGHT
DOTTED LINES INDICATE
REVERSE MOVEMENT

3" CLEARANCE ON ALL
SIDES & THE END OF STALL

SPREADER + 6"
BACKING ALLEY

WIDTH AT OPENING
SPREADER + 12"

GATE OBSTACLE

GATE 2

GATE 3

GATE 4

GATE 1

STALL

50'

40'

17'

10'

568x23
TRACTOR LOADER EVENT

10' WIDE
6' TALL WALL

25'

DUMP MULCH OVER WALL

GET BUCKET OF MULCH (FULL)

9' WIDE

forward

reverse

START/FINISH I INF

TRACTOR W/ LOADER

20'

OBSTACLE

OBSTACLE

OBSTACLE

20'

10