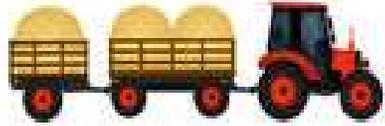




**WEST VIRGINIA STATE FFA**  
**TRACTOR OPERATING AND MAINTENANCE CONTEST**  
**High School Division**



Scanton	Universal Form C #705C-1	
<b>Committee:</b> Chair: Seth Neal Eastern – Cody Dent Central – Nick Cox Northcentral – Gene Hovatter Northeast – Chris VanDyne Northwest – John Smith, Kari Brown, Wendy Knopp Southeast – Shelby Adkins Southwest – Tim Kidwell		

*Annual meetings will be held after the State Contest is held. Any questions, comments, or concerns can be addressed at this meeting.*

**EVENT PURPOSE AND OBJECTIVE:**

Encourage youth to:

1. Develop leadership character and good citizenship
2. Develop skills and attitudes necessary to safely operate tractors and other equipment.
3. Practice basic and routine tractor care, repair, and maintenance.
4. Demonstrate their knowledge and skill in the areas of lawn care, business management, and tractor operation

**EVENT RULES AND REGULATIONS:**

1. Any student which is enrolled in agricultural education and is an FFA member is eligible to participate. This includes 9-12 grade students. Three students from each region may participate in the state event. State winners who have competed in the tractor operations’ contest in previous years are not eligible to compete.
2. Appropriate Dress-Comfortable shirt and pants, and work shoes/Boots.
3. **Any contestant who does not report on time (without prior arrangement) shall be disqualified!**
4. Only members with previous tractor driving experience will be allowed in the contest.
5. **Each contestant must complete all events.**

**Use of Technology in WV CDE and LDE events**

1. The use of all electronic devices are prohibited once the career development events starts. If an event requires the use of calculators, the event coordinator will provide exact specifications on the type(s) of devices (including functions) that will be permitted.
2. If a contestant is observed using an electronic device during a contest (**student has his/her Scantron in hand**), the group leader will record the student’s name, school and contestant number and give it to the contest coordinator and/or the results tabulator. This individual will be **disqualified** from the contest.

**EVENT FORMAT**

1. The contest will consist of **Four** Events, each of which will be scored separately.
  - I. Written Test
  - II. Tools/Tractor Parts ID
  - III. Two-Wheeled Manure Spreader event
  - IV. Four-Wheeled Wagon event.
2. Tractors and equipment will be provided for each event. All contestants will use the same tractor and piece of equipment for each event.
3. All persons other than the judges, the scorers and the contestants will be barred from the contest area during the contest.
4. The Superintendents in charge of this contest will select judges and scorers.
5. In case any situation occurs that is not covered in the rules, the decision of the judges will be final.
6. Meet at the Craft House – **Thursday** at 8 am. Contestants will have time to FAMILIARIZE themselves with the tractors before the contest begins.
7. **The contestant with the lowest deductions will be the winner.**



**WEST VIRGINIA STATE FFA**  
**TRACTOR OPERATING AND MAINTENANCE CONTEST**  
**High School Division**



**EVENT I – Test**

1. The written test will include fifty (50) questions centered on the skill, safe operation and operator maintenance of tractors, skid loaders and equipment.
2. Refer to “SAFE OPERATION OF AGRICULTURAL EQUIPMENT” (Student Manual from HOBAR PUBLICATIONS- (800-846-7027) FOR POSSIBLE QUESTIONS.
3. The test will include true-false, completion and/or multiple-choice questions.
  - a. See Test Bank for example Test Questions
    - i. [www.wvffa.net/Programs](http://www.wvffa.net/Programs)
- 4) Each question answered incorrectly or left unanswered will be valued at ten (10) points.

**EVENT II – Tools/ Tractor Parts ID**

- 1) Each contestant will identify mechanic tools and tractor parts from a gas or diesel tractor. A total of 30 tools and parts will be identified. They may include a torque wrench, open-end wrench, flywheel, piston, or starter etc. Contestants will choose from a bank of answers.
- 2) Refer to [www.snap-on.com](http://www.snap-on.com), [www.valu-bilt.com](http://www.valu-bilt.com) or [www.craftsman.com](http://www.craftsman.com).
- 3) Items used for identification will come from the Tractor Parts Identification sheet in this packet
- 4) Each correct answer missed or left unanswered will be valued at ten (10) points.

**EVENT III – IV OPERATING SKILLS EVENTS**

The next 2 events will test the skill and ability of the contestant to operate tractors and equipment safely.

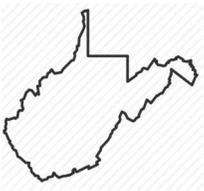
**EVENT III – Two-Wheel Manure Spreader Event**

**EVENT IV – 4 Wheel Wagon Event**

- 1) Each contestant will start off with a visual inspection of tractors and equipment. **Judges will expect a verbal response.**
- 2) The contestant will follow the course outlined by the judge (see attached illustrations.)
- 3) Time starts on a signal from the judge and stops when the contestant returns to original point.
- 4) The contestant will be allowed a maximum of ten minutes for each event. Less time used equals less deductions. The contestant will be notified at eight minutes that two minutes are left. If the contestant does not finish the event in ten minutes, the judge will stop the contestant and an additional 500-point deduction will be added to their score.
- 5) Excessive tractor brake steering will disqualify the contestant from that event.
- 6) **Contestants may be disqualified if they are observed not following safety standards, which may endanger themselves, the judges or the public.**
- 7) **See scorecard for deductions.**
- 8) Pinning of the 4-wheel wagon will be done by the operator.

**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 TRACTOR AND SAFETY OF THE OPERATOR AND JUDGES ARE JEOPARDIZED! CONTESTANTS WILL RECEIVE AN ADDITIONAL 500 POINT DEDUCTION!**

Note- We hope to use John Deere or Kubota Tractors. A local dealer supplies John Deere tractors. Check out [www.johndeere.com](http://www.johndeere.com) or [www.kubotausa.com](http://www.kubotausa.com) for tractor sizes and descriptions. We usually have 30-60 hp tractors to use.



**WEST VIRGINIA STATE FFA**  
**TRACTOR OPERATING AND MAINTENANCE CONTEST**  
**High School Division**



**Score Sheet - Two Wheeled Manure Spreader Event**

Contestant \_\_\_\_\_ Chapter \_\_\_\_\_

**TRACTOR SAFETY RESPONSE (verbal response to Judges)**

**Deductions**

**After walk-around and starting tractor**

- 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 \_\_\_\_\_ x 25
- Brakes not set \_\_\_\_\_ x 25
- Clutch not disengaged \_\_\_\_\_ x 15

**OBSTACAL COURSE**

- For each time tractor or manure spreader touches obstacles or lines \_\_\_\_\_ x 50
- For each time tractor or manure spreader knocks down obstacles or crosses lines \_\_\_\_\_ x 100
- For each unnecessary change of direction (forward or backward) \_\_\_\_\_ x 50
- Fouling equipment (touching spreader w/ tractor wheel) \_\_\_\_\_ x 50
- Going out the wrong gate \_\_\_\_\_ x 200

**BACKING MANURE SPREADER INTO ALLEY AND SHED**

- For each time tractor or manure spreader touches obstacles or lines \_\_\_\_\_ x 50
- For each time tractor or manure spreader knocks down obstacles or crosses lines \_\_\_\_\_ x 100
- For each unnecessary change of direction (forward or backward) \_\_\_\_\_ x 50
- Fouling equipment (touching spreader w/ tractor wheel) \_\_\_\_\_ x 50
- Number of inches over (3) inches from back of stall \_\_\_\_\_ x 10
- Number of inches off center in the front \_\_\_\_\_ x 10
- Number of inches off center in rear \_\_\_\_\_ x 10

**PARKING TRAILER AT FINISH LINE**

- Failure to set brakes \_\_\_\_\_ x 50
- Failure to place transmission in gear or park when engine is stopped \_\_\_\_\_ x 50
- Failure to reduce throttle \_\_\_\_\_ x 10
- Improper mount/ dismount \_\_\_\_\_ x 50

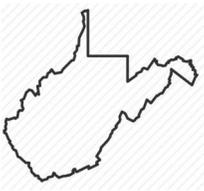
**JUDGES OBSERVE AT ALL TIMES DURING ABOVE OPERATIONS**

- Failure to use seat belt \_\_\_\_\_ x 25
- Sliding or spinning tires, brake steering \_\_\_\_\_ x 100
- Rough clutch engagement \_\_\_\_\_ x 25
- Clashing of gears when shifting \_\_\_\_\_ x 25
- Excessive engine speed \_\_\_\_\_ x 25
- Excessive tractor speed \_\_\_\_\_ x 50
- Standing while tractor is moving \_\_\_\_\_ x 100
- Moving tractor with brakes on \_\_\_\_\_ x 25
- Riding the clutch \_\_\_\_\_ x 25
- Any unsafe conduct while on or around the tractor \_\_\_\_\_ x 25
- Rubbing hard (prolong contact with tractor tire) \_\_\_\_\_ x 75

**Subtotal of Deductions** \_\_\_\_\_

If the contestant does not finish within the ten-minute time period, they will be given an additional 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 \_\_\_\_\_



**WEST VIRGINIA STATE FFA**  
**TRACTOR OPERATING AND MAINTENANCE CONTEST**  
**High School Division**



**Score Sheet – Four Wheel Wagon Event Score Sheet**

Contestant \_\_\_\_\_ Chapter \_\_\_\_\_

**TRACTOR SAFETY RESPONSE (verbal response to Judges) Deductions**

**After walk-around and starting tractor**

- 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 \_\_\_\_\_ x 25
- Brakes not set \_\_\_\_\_ x 25
- Clutch not disengaged \_\_\_\_\_ x 15

**HITCHING TRACTOR TO FOUR WHEEL WAGON**

- Failure to put transmission in neutral or park \_\_\_\_\_ x 50
- Failure to set brakes \_\_\_\_\_ x 50
- For each inch over one (1) the wagon is moved \_\_\_\_\_ x 25

**WAGON HANDLING**

- For each time tractor or Wagon touches obstacles or lines \_\_\_\_\_ x 50
- For each time tractor or Wagon knocks down obstacles or crosses lines \_\_\_\_\_ x 100
- For each unnecessary change of direction (forward or backwards) \_\_\_\_\_ x 50
- Fouling equipment (touching trailer tongue with tractor tire, sliding trailer wheels sideways) \_\_\_\_\_ x 50

**WAGON PLACEMENT IN SHED**

- Fouling equipment (touching trailer tongue with tractor tire, sliding trailer wheels sideways) \_\_\_\_\_ x 50
- Number of inches over (3) inches from back of stall \_\_\_\_\_ x 10
- Number of inches off center in the front \_\_\_\_\_ x 10
- Number of inches off center in rear \_\_\_\_\_ x 10
- Failure to put wagon into Shed/Barn \_\_\_\_\_ x 300
- Failure to place wagon in shed to **Minimum Limit** \_\_\_\_\_ x 500

\*\*\*\*\* *If student does not attempt the backing of the wagon, MAKE SURE the measurements are taken and added to score.* \*\*\*\*\*

**PARKING TRACTOR AT FINISH LINE**

- Failure to set brakes \_\_\_\_\_ x 50
- Failure to place transmission in gear or park getting off with engine stopped \_\_\_\_\_ x 50
- Failure to reduce throttle \_\_\_\_\_ x 10
- Failure to return tractor to start/finish line \_\_\_\_\_ x 50
- Improper mount/ dismount \_\_\_\_\_ x 50

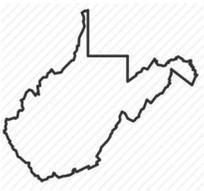
**JUDGES OBSERVE AT ALL TIMES DURING ABOVE OPERATIONS**

- Failure to use seat belt \_\_\_\_\_ x 25
- Sliding or spinning tires, brake steering \_\_\_\_\_ x 100
- Rough clutch engagement \_\_\_\_\_ x 25
- Clashing of gears when shifting \_\_\_\_\_ x 25
- Excessive engine speed \_\_\_\_\_ x 25
- Excessive tractor speed \_\_\_\_\_ x 50
- Standing while tractor is moving \_\_\_\_\_ x 100
- Moving tractor with brakes on \_\_\_\_\_ x 25
- Riding the clutch \_\_\_\_\_ x 25
- Any unsafe conduct while on or around the tractor \_\_\_\_\_ x 25
- Rubbing hard (prolong contact with tractor tire) \_\_\_\_\_ x 75

Subtotal of Deductions \_\_\_\_\_

If the contestant does not finish within the ten-minute time period, they will be given an additional 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.

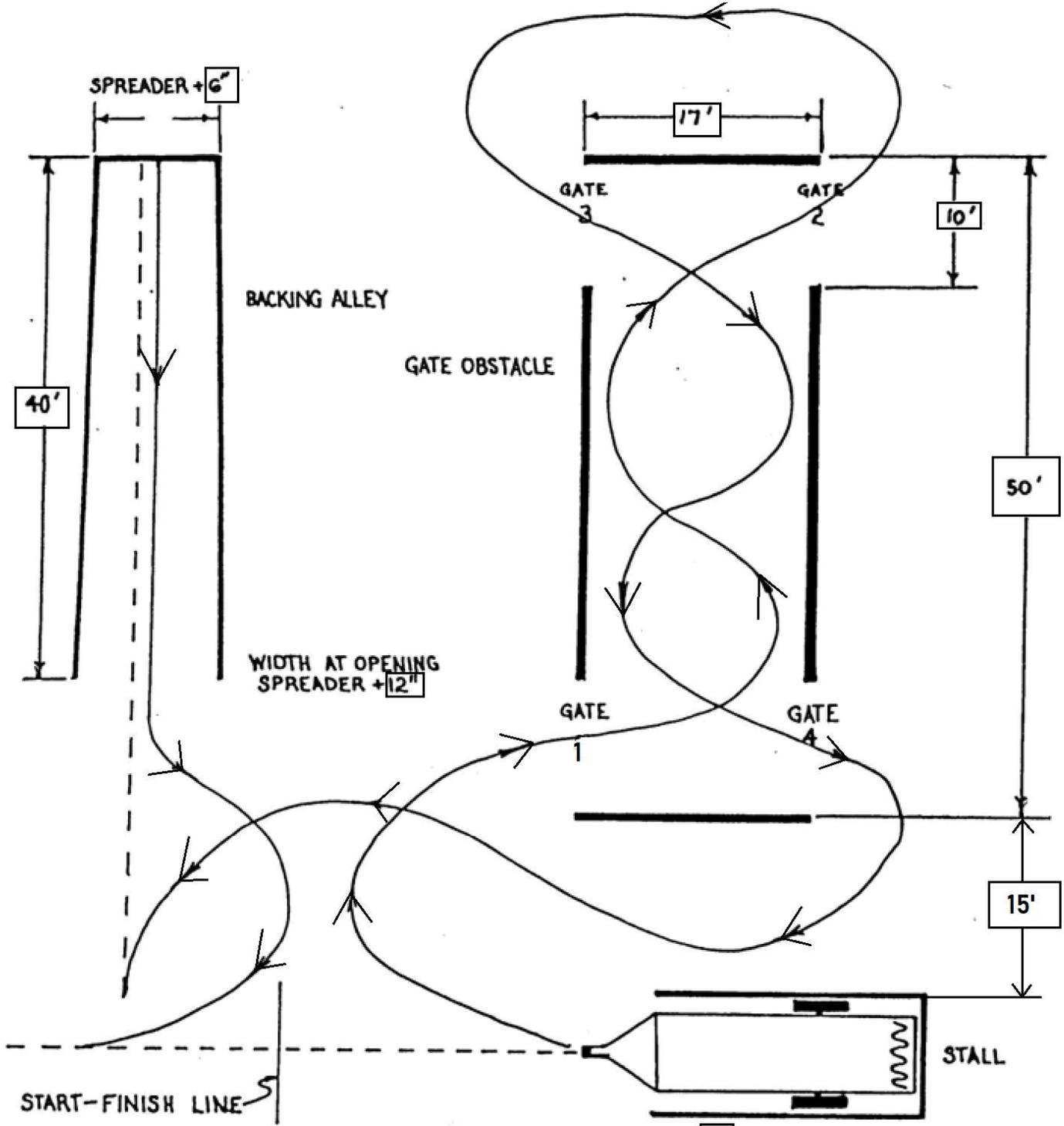
TIME \_\_\_\_\_ Deduction \_\_\_\_\_ +Sub Total \_\_\_\_\_ = TOTAL \_\_\_\_\_



WEST VIRGINIA STATE FFA  
 TRACTOR OPERATING AND MAINTENANCE CONTEST  
 High School Division

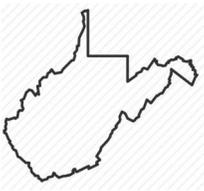


Course Layout - Two Wheel Manure Spreader Event



Gates 1,2,3, and 4 are 10' wide  
 Board or Rope across end of stall  
 at beater height  
 Dotted Lines indicate  
 Reverse movement

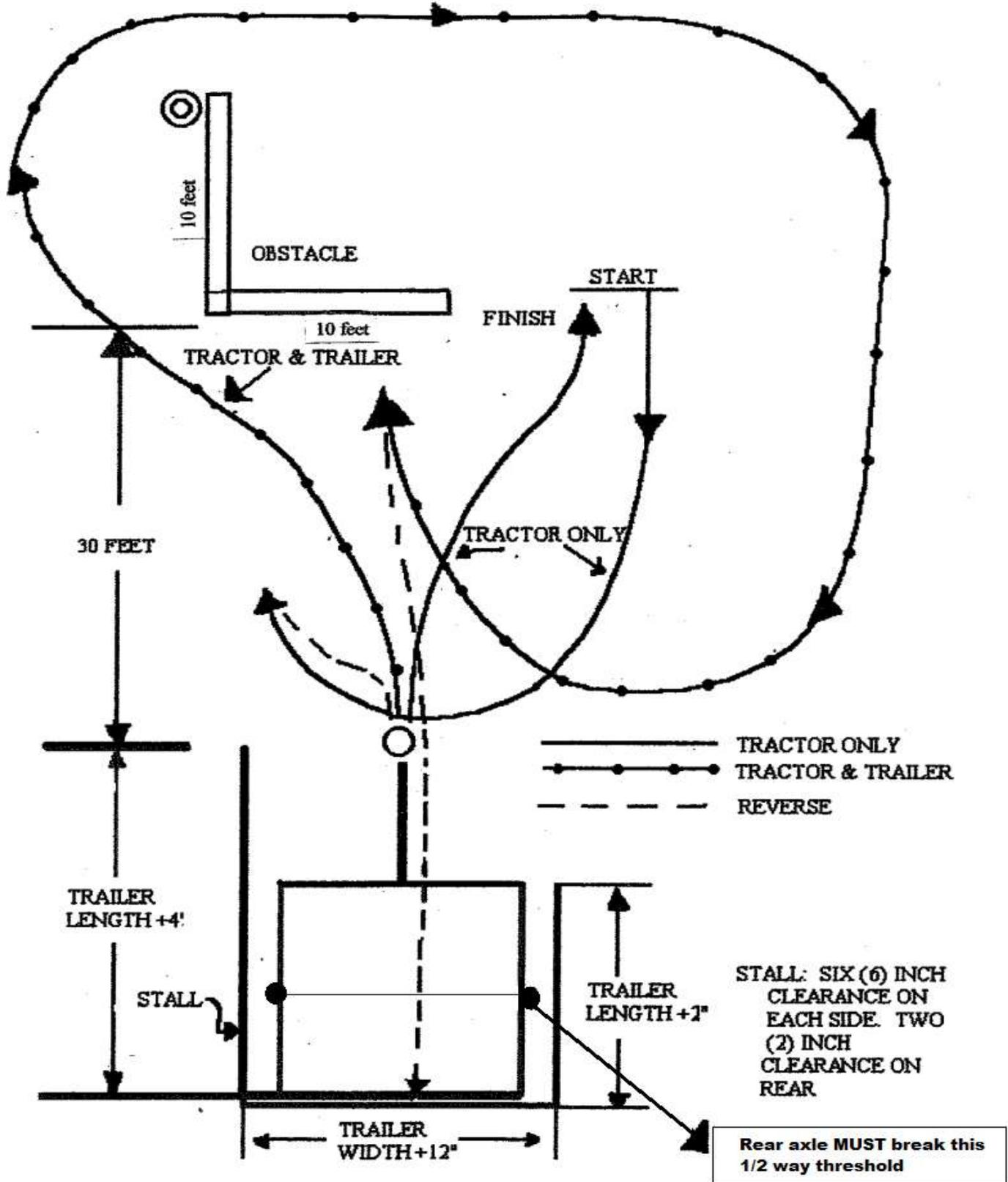
3" CLEARANCE ON ALL  
 SIDES & THE END OF STALL

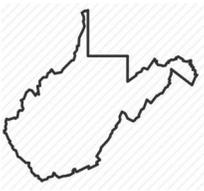


WEST VIRGINIA STATE FFA  
 TRACTOR OPERATING AND MAINTENANCE CONTEST  
 High School Division



COURSE LAYOUT - FOUR WHEEL TRAILER EVENT





**WEST VIRGINIA STATE FFA**  
**TRACTOR OPERATING AND MAINTENANCE CONTEST**  
**High School Division**



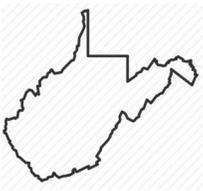
**Large Tractor Parts Identification Sheet**

NAME: \_\_\_\_\_ CHAPTER: \_\_\_\_\_

Penalty Points: Incorrect \_\_\_\_\_ x 20 = \_\_\_\_\_

Instructions: Bubble the number tag number on the line left of the most correct name for the part on your scantron.

- |  |   |
|--|---|
| <b>001</b> Air Intake, Engine            | <b>036</b> Oil Drain Plug, Crankcase          |
| <b>002</b> Alternator                    | <b>037</b> Oil Filter Cap, Crankcase          |
| <b>003</b> Ammeter/Indicator Light       | <b>038</b> Oil Filter, Crankcase              |
| <b>004</b> Axle Carrier, Rear            | <b>039</b> Oil Pan, Crankcase                 |
| <b>005</b> Battery                       | <b>040</b> Oil Pressure Gauge/Indicator Light |
| <b>006</b> Bearing, Ball                 | <b>041</b> Oil Pump Screen                    |
| <b>007</b> Bearing, Crankshaft           | <b>042</b> Parking Brake Control              |
| <b>008</b> Bearing, Roller               | <b>043</b> Piston                             |
| <b>009</b> Brake Pedal                   | <b>044</b> Piston Rings                       |
| <b>010</b> Camshaft                      | <b>045</b> Piston Wrist Pin                   |
| <b>011</b> Clutch Pedal                  | <b>046</b> PTO Shield                         |
| <b>012</b> Clutch Plate                  | <b>047</b> Radiator                           |
| <b>013</b> Clutch Pressure Plate         | <b>048</b> Radiator Cap                       |
| <b>014</b> Connecting Rod                | <b>049</b> Seal, Grease/Oil                   |
| <b>015</b> Crankshaft                    | <b>050</b> Starter                            |
| <b>016</b> Diesel Fuel Tank              | <b>051</b> Steering Tie Rod                   |
| <b>017</b> Dipstick, Crankcase Oil Level | <b>052</b> Tachometer                         |
| <b>018</b> Draw Bar                      | <b>053</b> Temperature Gauge/Coolant Light    |
| <b>019</b> Engine Stop Control           | <b>054</b> Thermostat                         |
| <b>020</b> Exhaust Manifold              | <b>055</b> Throttle                           |
| <b>021</b> Fan                           | <b>056</b> Throttle Rod                       |
| <b>022</b> Fan Belt                      | <b>057</b> Tire Valve Stern                   |
| <b>023</b> Flywheel, Engine              | <b>058</b> Valve, Engine                      |
| <b>024</b> Fuel Tank Cap                 | <b>060</b> Valve Cover, Engine                |
| <b>025</b> Fuel Filter                   | <b>061</b> Valve Cover, Gasket                |
| <b>026</b> Fuel Injector Pump            | <b>062</b> Valve Push Rod                     |
| <b>027</b> Fuel Pump                     | <b>063</b> Valve Rocker Arm                   |
| <b>028</b> Fuel Tank                     | <b>064</b> Valve Spring                       |
| <b>029</b> Governor                      | <b>065</b> Warning Light, Rear                |
| <b>030</b> Head Gasket, Engine           | <b>066</b> Water Hose                         |
| <b>031</b> Hydraulic Hose                | <b>067</b> Water Pump                         |
| <b>032</b> Hydraulic Reservoir           | <b>068</b> Weights, Carrier                   |
| <b>033</b> Hydraulic Valve Control       | <b>069</b> Weights, Front                     |
| <b>034</b> Intake Manifold               | <b>070</b> Weights, Wheel                     |
| <b>035</b> Muffler                       |   |



# WEST VIRGINIA STATE FFA TRACTOR OPERATING AND MAINTENANCE CONTEST High School Division



**Universal Form C #705C-1**

Incorrect Marks Correct Mark



Team Name / Additional Info

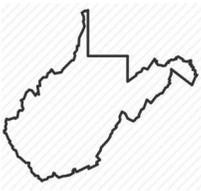
This sheet is for demonstration and practice only. You must use a real scan sheet for actual competition.

Team #	State	Last Name	First Name	Placing Classes						
				Mark one answer in each column!						
				1	2	3	4	5	6	
0				1234						1234
1	A	A	A	1243						1243
2	B	B	B	1324						1324
3	C	C	C	1342						1342
4	D	D	D	1423						1423
5	E	E	E	1432						1432
6	F	F	F	2134						2134
7	G	G	G	2143						2143
8	H	H	H	2314						2314
9	I	I	I	2341						2341
0	J	J	J	2413						2413
1	K	K	K	2431						2431
2	L	L	L	3124						3124
3	M	M	M	3142						3142
4	N	N	N	3214						3214
5	O	O	O	3241						3241
6	P	P	P	3412						3412
7	Q	Q	Q	3421						3421
8	R	R	R	4123						4123
9	S	S	S	4132						4132
0	T	T	T	4213						4213
1	U	U	U	4231						4231
2	V	V	V	4312						4312
3	W	W	W	4321						4321
4	X	X	X							
5	Y	Y	Y							
6	Z	Z	Z							

**Code**

0
1
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9

Keep/Cull 1	Keep/Cull 2	Keep/Cull 3	Keep/Cull 4	Exam 1		Exam 2		Exam 3	
#	#	#	#	1	2	1	2	1	2
1	1	1	1	A	26	A	1	A	1
2	2	2	2	B	27	B	2	B	2
3	3	3	3	C	28	C	3	C	3
4	4	4	4	D	29	D	4	D	4
5	5	5	5	E	30	E	5	E	5
6	6	6	6	A	31	A	6	A	6
7	7	7	7	B	32	B	7	B	7
8	8	8	8	C	33	C	8	C	8
				D	34	D	9	D	9
				E	35	E	10	E	10
				A	36	A	11	A	11
				B	37	B	12	B	12
				C	38	C	13	C	13
				D	39	D	14	D	14
				E	40	E	15	E	15
				A	41	A	16	A	16
				B	42	B	17	B	17
				C	43	C	18	C	18
				D	44	D	19	D	19
				E	45	E	20	E	20
				A	46	A	21	A	21
				B	47	B	22	B	22
				C	48	C	23	C	23
				D	49	D	24	D	24
				E	50	E	25	E	25



WEST VIRGINIA STATE FFA  
TRACTOR OPERATING AND MAINTENANCE CONTEST  
High School Division



**Identification**

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60