



November 17th, 2023

Advisors,

We are excited to announce that Chanute FFA will be hosting The Chanute Blue Comet Clash Ag Mechanics Invitational on **Wednesday, January 31st** at the Chanute High School Ag Building (1501 W. 36th St. Chanute, KS 66720, located directly south of the main building).

Check in will start at 8:15 and end at 8:45. We will kick off the contest at 9:00 AM. Kansas FFA state CDE guidelines will be followed as closely as possible; minor changes may be required due to space/time/resource constraints. Scantrons will be provided at the contest.

Registration will be ran through Judging Card. The cost for registration is \$40/team with a limit of four students per team. There will **not** be A and B team divisions. A school may have up to two teams. If space is still available as we get closer to the contest date, we may allow schools to bring more than two teams at that point. Please register as soon as possible - registration will close Friday, 1/19/24.

Registration Link: <https://www.judgingcard.com/Registration/Info.aspx?ID=18315>

Lunch will not be provided onsite, but Chanute has numerous options available, including the following fast food establishments - Arby's, McDonalds, Taco Johns, Sonic, Subway, and Pizza Hut - as well as a number of local establishments.

Awards will be given to the top ten individuals. The top three teams will receive a plaque. Contest rules are included on the following page. One award will be given to the High Individual from each of the four contest areas as well (Small Gas Engines, Residential Wiring, Welding, High Test Score).

Please feel free to reach out with any questions you may have!

Thanks,

Zachary Callaghan & Caitlyn LaHaye
Agriculture Teachers and FFA Advisors
Chanute High School



Contest Rules and Information

Required materials Per Student:

- Safety glasses: Must be worn at all times
- Closed-toed shoes or boots
- Long pants
- Long shirt or welding jacket
- Clipboard
- Tape measure
- Pencils
- Soapstone
- Calculator, non-programmable
- Welding gloves
- Welding helmet
- Square
- Chipping hammer
- Wire brush
- Welpers/MIG Pliers

General Information:

- Students will have **30 minutes** to complete each rotation
- Universal Form C will be used for the contest - These are included in your registration
- The contest will consist of the following parts:
 - 1). Small Gas Engines and Outdoor Power Equipment
 - 2). Residential Wiring
 - 3). Welding and Weld Blueprint Reading
 - 4). Written Exam

Small Gas Engines and Outdoor Power Equipment (100 POINTS)

May consist of the following:

- Small Engine Part ID (ID List Included on following page)
- Micrometer Reading
 - Examples may include reading stationary micrometers and/or measuring parts and using a repair manual to determine if they are out of specification.
- Small Engine Troubleshooting
 - Students may be given a scenario and must determine the cause of an engines failure

Residential Wiring (100 POINTS)

May consist of the following:

- Identify errors within a residential wiring board
- Wire a wiring board
 - Components could include switches, light fixtures, and outlets
 - Single Pole or 3-Way switch may be required
 - Necessary tools will be provided



Welding (100 POINTS)

May consist of the following:

- Welding Process: GMAW
- Demonstrate skills to produce a product in specs with a CAD drawing. The drawing will include welding symbols. Students should know welding symbols for success.
- Welds will be evaluated for weld quality, accuracy in accordance with the welding blueprint, and squareness.

Written Examination (100 POINTS)

May consists of the following:

- 50 questions (problem solving or multiple choice)
 - Question Break Down
 - 10 Questions over Small Gas Engines
 - 10 Questions over Residential Wiring
 - 10 Questions over Welding
 - 10 Questions over General Shop Safety
 - 10 Questions over Shop Math/Bill of Materials
- Students will need a non-programmable calculator •
- Unit conversions provided

Tie Breakers:

Teams - Team ties will be broken on the total written exam score of all four members

Individuals - Individual ties will be broken on individual written exam score, then on weld score

RESOURCES:

- Agricultural Mechanics Fundamentals and Applications, 7th Edition
- How to Read Shop Drawings, Lincoln Electric
- Small Engines 4th Edition: R. Bruce Radcliff: American Technical Publishers



Small Gas Engines Parts ID List

001	Alternator	028	Gasket, sump
002	Camshaft	029	Gasket, sump
003	Carburetor	030	Intake valve
004	Clutch	031	Key, flywheel
005	Compression Spring	032	Key, woodruff
006	Crankcase	033	Magneto
007	Crankshaft	034	Mechanical Governor
008	Crankshaft, journal	035	Muffler
009	Crankshaft, mag side	036	Oil sensor
010	Crankshaft, PTO side	037	O-Ring
011	Cylinder	038	Piston ring, compression
012	Drain Plug	039	Piston ring, oil
013	Electronic Fuel Injector	040	Piston ring, wiper
014	Exhaust Valve	041	Piston rod
015	Filter, air	042	Piston, head
016	Filter, fuel	043	Pushrod
017	Filter, Oil	044	Spark Plug
018	Flywheel	045	Starter
019	Fuel Line	046	Starter solenoid
020	Fuel Line compression unions	047	Switch, ignition
021	Fuel Tank	048	Switch, pedal
022	Fuel shut-off valve	049	Switch, RMO
023	Fuel solenoid	050	Switch, seat
024	Fuse	051	Timing gear
025	Gasket, carburetor	052	Valve rockers
026	Gasket, exhaust	053	Starter
027	Gasket, head		