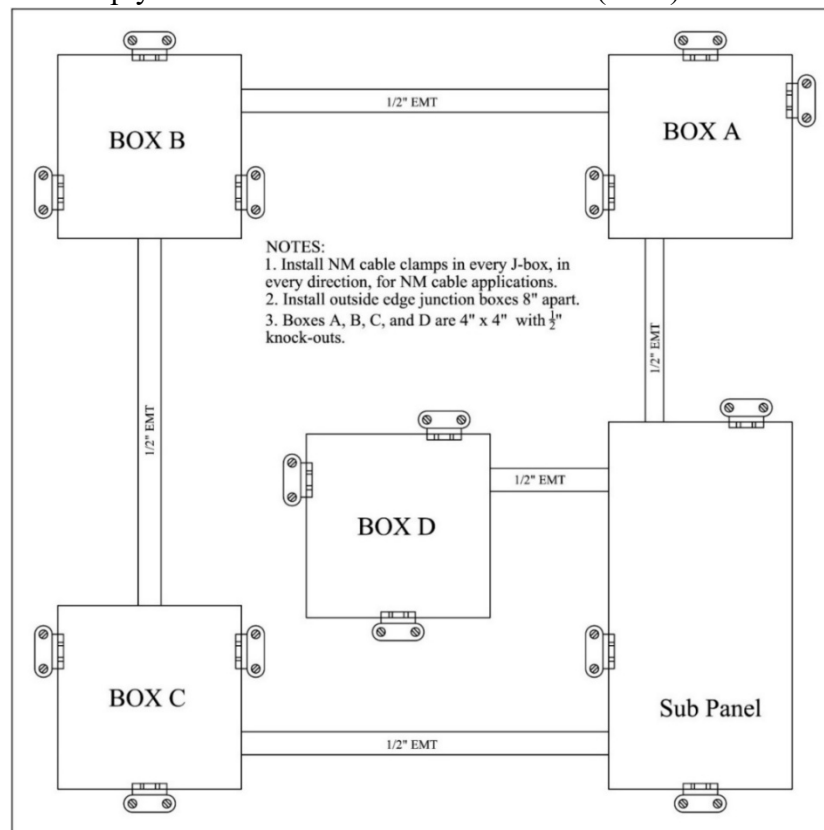


FFA State Finals: Ag. Mechanics Electrical Skills, 2026

Specifications:

1. Install a feeder to supply a subpanel using #10-3 NM-B cable with ground at the Sub Panel. The subpanel shall be treated as a separately supplied panel. Terminate feeder conductors with ungrounded conductors to the main lugs or breaker, the neutral to the isolated neutral bar, and the equipment grounding conductor to the grounding bar. Neutral and equipment grounding conductors must remain isolated.
2. Install one 120V branch circuit supplied by a single-pole 15-amp circuit breaker in the Sub Panel.
3. Construct the circuit using four boxes arranged in the following order: Sub Panel → Box A → Box B → Box C → Box D
4. Install the following devices: Box A - Switching device; Box B - Lampholder (Lighting Outlet 1); Box C - Lampholder (Lighting Outlet 2); Box D - Switching device
5. The lamp in Box B is controlled only by the switch in Box A; The lamp in Box C is controlled only by the switch in Box D. Both lamps operate independently and are supplied from the same branch circuit. Unswitched power shall be extended through Boxes A, B, and C as required to supply both switching locations.
6. Make the following wiring connections:
Sub Panel to Box A: #14-2 NM cable
Box A to Box B: #14 THHN/THWN conductors installed in EMT.
Box B to Box C: #14 THHN/THWN conductors installed in EMT.
Box C to Box D: #14-2 NM cable
7. Ensure all conduit runs include an equipment grounding conductor. Switching shall be installed in the ungrounded (hot) conductor only. Stranded conductors shall be spliced to solid pigtails at devices.
8. All wiring must comply with the National Electrical Code (NEC).



Contestant No.
Name

FFA Ag. Mechanics State Finals 2026
Electrical Wiring
Skills

Score

Score Sheet

Points Possible Points Earned

General

Safety and work habits	6	
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Sub Panel

Correct source cable	4	
Clamped down source cable	4	
Correct breaker connections	4	
Proper neutral & grounding connections	4	
No excess copper/pinched insulator	4	

Box A

6" free conductor	4	
Correct switch connections	4	
Proper neutral & grounding connections	4	
Correct input conductor? (size/type)	4	

Box B

6" free conductor	4	
Correct lamp connections	4	
Proper neutral & grounding connections	4	
Correct input conductor? (size/type)	4	

Box C

6" free conductor	4	
Correct lamp connections	4	
Proper neutral & grounding connections	4	
Correct input conductor? (size/type)	4	

Box D

6" free conductor	4	
Correct switch connections	4	
Proper neutral & grounding connections	4	
Correct input conductor? (size/type)	4	

Overall

Snug wire nuts	5	
Workmanship, wire color selection, loops, etc.	5	

Totals	100	
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