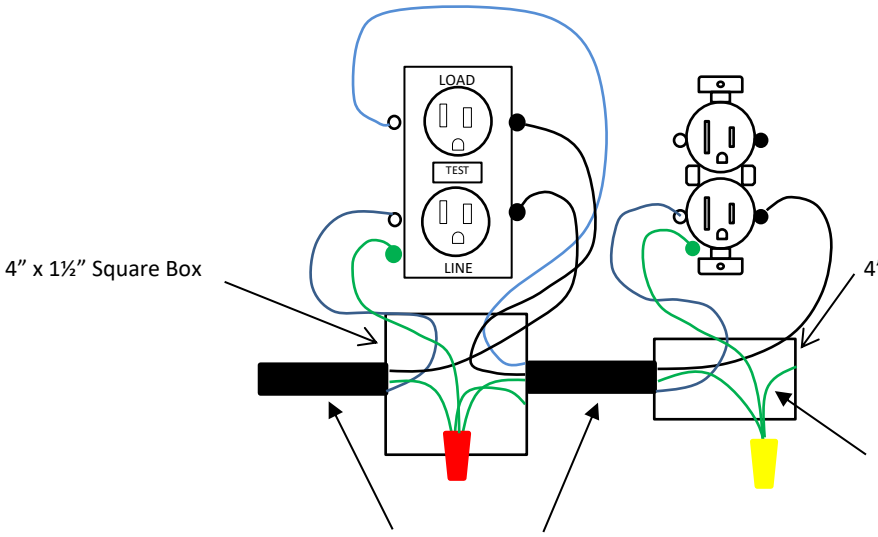
National FFA Organization
Agricultural Mechanics Career Development Event
2018

Electrical Skill Key



Student will select from 14/2, & 12/2, conductor and install.

Students may choose between bare copper grounding jumpers and grounding clips or 12 AWG insulated grounding jumpers' w/screw to bond the device boxes. Either may receive credit if installed properly. Bare copper w/grounding clip depicted in the picture.

Questions Key:

1. 9.8 amperes
2. 12.25 amperes: 9.8 amperes x 1.25 = 12.25
3. 13.75 amperes: 12.25 amps + 1.5 amps (180 VA ÷ 120 V = 1.5 amps) = 13.75 amperes
4. B – 12 AWG & 20 ampere over current protection – Total load = 13.75 amps. 15 amps x .80 = 12 amps. 20 amps x .80 = 16 amps. Use 20 amp breaker and 12 AWG conductor.

Evaluation Score Sheet (For contest officials only)					
Item		Points Possible	# of opportunities	Points each	Points Earned
1.	Workability of wiring problem	4	1	All or none	
2.	Correct wire used between the boxes	4	2	All or none	
3.	Grounding (bond) wire properly used	2	2	1	
4.	Wire hooks & Back-wire connections made & used properly (Hook correct direction, full contact under terminal, no bare copper exposed beyond back of the device)	8	8	1	
5.	Splicing conductors (size, tight, no exposed wire)	2	2	1	
6.	Identified terminals correctly used	6	1	1	
7.	Questions	4	4	Varies	
8.	Safety & work habits	- 2pts./violation			
		Total Pts. Possible = 30		Total Earned	