2013 FLORIDA LINEMAN COMPETITION

Journeyman Team Events

CROSS ARM CHANGE-OUT

Mean Time: 8 minutes
Drop Dead: 10 minutes

Event Summary

The three phase conductors (#2 AAAC) are considered dead and grounded. The existing eight-foot light cross arm and insulators must be replaced. A complete set of all necessary hardware will be available on the ground at each event pole. New cross arm and insulators will be assembled after time starts. Lineman will replace existing cross arm with new equipment and send old cross arm down to the ground, re-secure conductors with new wrap-lock ties. All insulators must be removed from arm with nut/square washer back stud bolts and separated from insulators before event is considered complete.

Event Specifics

1. See General Rules and additional General Rules.
2. Teams will be allowed a five-minute setup time before starting the event. All tools must be laid out on a competitor-supplied tarp in the designated work area.
3. Time starts at the judge's signal.
4. The new cross arm will be made up after the event starts.
5. Linemen may assist the ground man with rigging the new cross arm but will not be allowed to wear climbing tools while assisting.
6. Conductors can be floated.
7. Conductors are secured on a 25kv porcelain insulator with #2 AAAC wrap lock ties. (Screwdriver may be used to remove wrap lock ties, no knives or pliers.)
8. After new cross arm is installed, conductors must be re-secured with wrap-lock ties. (Screwdriver may be used to install wrap lock ties, no knives or pliers.)
9. The old rubber grommet may fall to the ground; the new one must be installed.
10. Time stops when both Linemen are back on the ground.

CUTOUT REPLACEMENT

Mean time: 8 minutes
Drop Dead: 10 minutes

Event Summary

This event consists of the team replacing a 100A cutout on a single phase DDE pole. The team must replace the cutout without interruption of service.

Event Specifics

1. See General Rules and additional General Rules.
2. Teams will be allowed a five-minute setup time before starting the event. All tools must be laid out on a competitor-supplied tarp in the designated work area.
3. Time starts at the judge's signal.
4. The new cutout and jumpers will be made up after the event starts.
5. Linemen may assist the ground man with rigging the new cutout but must have gaff guards on their climbing tools while assisting.
6. Both sides of the primary and neutral must be covered with rated cover.
7. Minimum approach distance must be maintained at all times.
8. All connections must be wire brushed.
9. Time stops when both linemen are back on the ground.

POST INSULATOR CHANGE

Mean time: 12 minutes
Drop Dead: 15 minutes

Event Summary:
Teams will change out the insulator on the post top insulator bracket. Hot sticks must be used to perform this 12kv event (teams need to bring their own hot stick tools). The conductor is tied in with a single "hot" tie and, when complete, the loops will be on top.

Event Specifics:
1. Teams will use blocks or the hand line to raise and lower the conductor once it is secured in the hot sticks.
2. Two positive points of control, other than a Lineman's strength, must be used to control the phase during this event.
3. Teams will be allowed a five-minute setup time before starting the event.
4. Time starts at the judge's signal.
5. Climbers must wear Class II or higher rated rubber gloves ground-to-ground .
6. Neutral and clevis must be covered with rated cover before ascending the pole.
7. NESC 2002 minimum approach distance must be maintained and primary must be covered with rated cover.
8. Time stops after both linemen are on the ground.

SUSPENSION BELL CHANGE (Angle Replacement)

Mean time: 10 minutes
Drop Dead: 12 minutes

Event Summary
This event will consist of changing out a polymer bell on a single phase suspension angle structure (A-3).

Event Specifics
1. Two web hoists will be used to gain slack in primary wire (NO slack blocks).
2. Collar ropes or slings must be used around the pole
3. Hoist must remain isolated from pole using an approved insulated link
4. Climbers must maintain M.A.D. at all times and have positive control of primary at all times.
5. Hoist cannot come in contact with any part of the uncovered body while attached to the primary (including strap).
6. All pins shall be facing same direction as removed

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VERTICAL HURTMAN RESCUE

Mean time: 4 minutes/Drop Dead: 8 minutes

This team event will be run one time with all three team members participating to rescue the hurtman. Teams have 5 minutes to set up and ask questions. The switch (cutout) feeding the transformer must be opened before the climber can step onto the pole. It will be opened from the ground using an extendo stick and rubber gloves. The stick must be off the ground and the body anytime it is touching anything energized. The climber must wear rubber gloves ground-to-ground. Lineman will split handline and loop bottom part of handline around mannequin's legs, then take the top part and wrap around the pole a minimum of one-and-a-half wraps, take the rope under mannequin's arms and tie three half-hitches (the splice cannot be part of the knot). The mannequin can then be lowered to the ground while the third member of the team uses the bottom part of handline tied to the mannequin's legs to pull mannequin onto the tarp. You must attempt to keep the mannequin off of the pole and hardware. There will be NO gigs for incidental contact of the mannequin on the pole, neutral or service provided the tagman is making an honest attempt. The mannequin must land with entire body on the tarp provided, and must hit the ground gently as if it where a real person. A 10-foot by 10-foot tarp will be provided and placed five feet from pole, centered under switch.

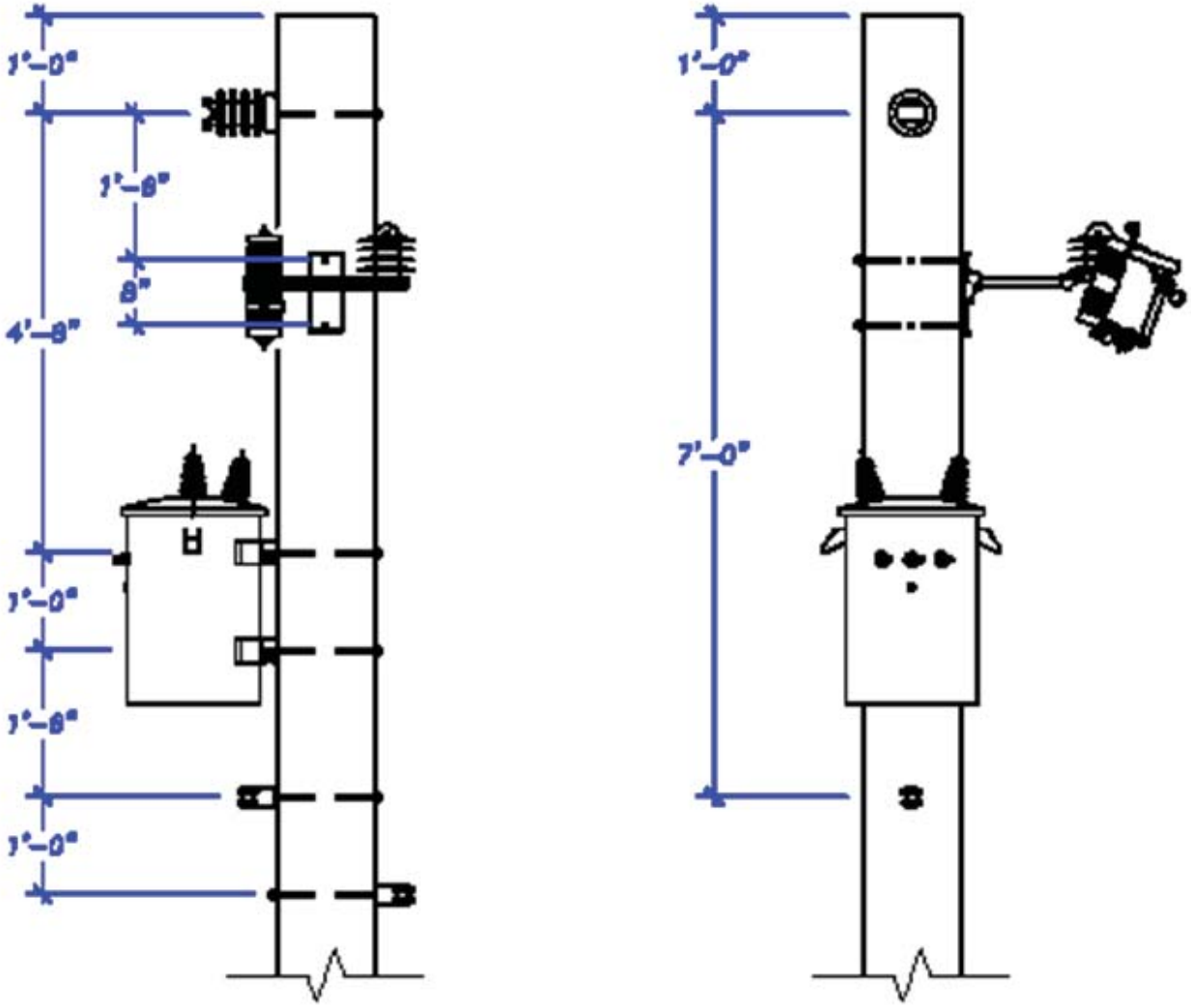
* An instructional video for this event will be posted on www.publicpower.com under the Competition section.

Event Specifications

1. Time starts at judge's signal with all team members at least an arm's length from pole and extendo stick.
2. All rubber gloves will be in glove bag, cuffs down, with no fingers protruding.
3. Lineman's belt and hooks will be on the ground opposite the switch side of the pole.
4. Extendo stick will be lying flat on tarp fully retracted.
5. All three team members must participate. One must climb, one must open switch, and one must tag the mannequin.
6. Time will stop when mannequin is on the tarp with slack on the handline, and extendo stick is fully retracted and back on the tarp.
7. Climber will stay on the pole to help hang the mannequin.
8. Team will close switch back after time stops. Any team member can close it back and work gloves can be used.
9. The eye must be used to open and close switch.
10. When time starts, extendo stick will be lying flat on tarp and must be back on tarp, fully retracted, before time will stop.
11. Climber must stay in five-foot circle while gaffs are on.
12. Rubber gloves or work gloves must be worn at all time while working or handling tools and equipment.
13. A team member must cut the Bashlin 57-A insert. There will be a 10-point deduction for cutting the belt in the wrong place.
14. The blade of the climber's knife must not be exposed while climbing.
15. Judges will use a four-inch PVC conduit between the rope and the mannequin to evaluate the rope knot. The eye splice cannot be in any part of the knot.
16. Any easily removable standard knot or hitch may be used on the mannequin's legs (including placing the rope through the hook, but it must not come off).

Teams will provide their own:

Extendo Stick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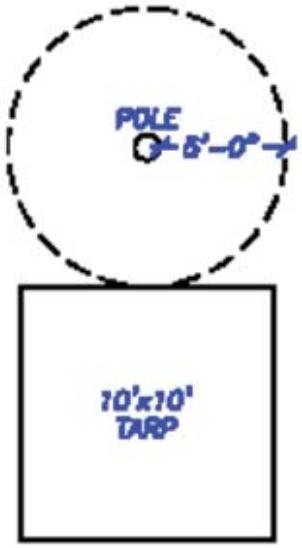

POLE
5'-0"
10'x10'
TARP

Apprentice Events

CHANGE OUT LAMP & PHOTOCELL

Mean Time: 3 minutes
Drop Dead: 5 minutes

Event Summary:
This event will test the Apprentice's climbing skills, dexterity and speed. The Apprentice will climb a 30' wood pole and change out a lamp and photocell on a cutoff-style street light with a four-foot streetlight arm (see attached photo).

Personal protective equipment, including hard hats, work gloves and safety glasses, are required for this event.

Event Specifics:
1. See General Rules and Additional General Rules.
2. Apprentice will be allowed a five-minute setup time before starting the event.
3. Time starts at the judge's signal.
4. The Apprentice will be equipped with a handline connected to a tool or nose bag containing a lamp a nd photocell.
5. Once the Apprentice has ascended the pole, he/she will pull the bag up the pole with the handline and tie it off to secure the bag .
6. The Apprentice will then will proceed to remove the photocell and lamp (in that order).
7. The Apprentice will take the new lamp from the bag and install it into the head,then install photocell (completing the task).
8. The Apprentice must then lower the tool or nose bag to the ground and descend the pole.
9. Once on the ground the Apprentice must make up handline and call "time."

Apprentices will provide their own:
Climbing tools
Handline
Nose bag

CROSS ARM BRACE CHANGE

Mean time: 8 minutes
Drop Dead: 10 minutes

Event Summary:
This is a de-energized event. The event consists of replacing one of the two cross arm braces. The cross arm must maintain the horizontal position while replacing the brace. The brace will be removed, sent to the ground on a handline hook and back up the pole on the handline hook (the brace will be simulated as new once the brace touches the ground). Once the brace has been replaced, the time will stop when the Apprentice has one foot on the ground. The pole will be 40 feet tall with a 10-foot cross arm with no insulators or conductors.

Event Specifics:
1. Apprentice will have a five-minute set up time before starting the event.
2. Time starts at the judge's signal.
3. Hardhat, safety glasses and leather gloves are required (rubber gloves are not required).
4. Apprentice will carry the handline on the belt when climbing the pole. It is acceptable to hang the handline on the cross arm. The Apprentice will operate the handline to lower and raise materials.
5. The Apprentice may choose which brace to replace and must tell the judge before climbing the pole.
6. The brace will be removed and lowered on the handline hook. Once the brace touches the ground, it will be simulated as new and may be sent back up on the handline hook. (If the brace should come off the hook at ground level, the judge will put it back on the handline hook. No points will be deducted but time will continue.)
7. Once the brace has been replaced, all hardware will be secured using a wrench (not finger tight).
8. The handline may be sent to the ground once the tasks are completed and the Apprentice is ready to climb down the pole.
9. Time stops when Apprentice has one foot on the ground.

ROPE TOSS (Throw Line)

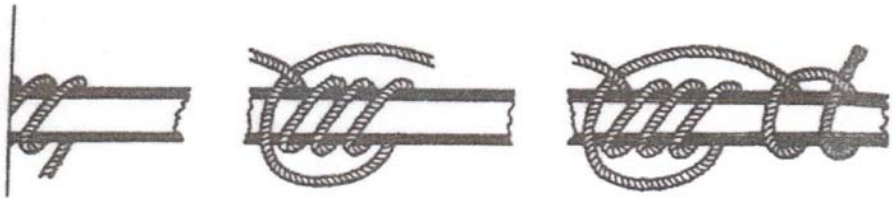
Mean time: 3 minutes/Drop Dead: 5 minutes

Event Summary:

This is a non-pole climbing, non-rubber glove event. In this event the Apprentice will demonstrate a common utility practice of pulling rope, cable or conductors over trees or other objects with the aid of a throw line. A throw line is a small diameter, generally a 3/8 inch poly rope which is coiled, wrapped and thrown over a cross arm, trees or other objects to pull back a larger rope, cable and/or conductor. Throughout this event, the conductor must be pulled back over the cross arm and tightly secured using common utility industry knots.

Event Specifics:

1. See General Rules.
2. The Apprentice will be allowed a five-minute set up time.
3. Time starts at the judge's signal.
4. A 3/8-inch throw line rope shall be provided and ready for use at the event site.
5. The throw line shall be uncoiled and lying on the ground at the feet of the Apprentice prior to their event time starting.
6. Upon instruction to begin, the Apprentice will make a small hand coil in the end of the throw line no greater than 18 inches in length, then take a minimum of two wraps around the hand coil to provide end-weight for throwing. Note: the number of loops in the hand coil and the number of wraps around the hand coil shall be left to the discretion of the Apprentice.
7. Any weights, objects, tools or other material attached to the throw line are unacceptable and will result in deductions.
8. The Apprentice at his/her discretion may toss the throw line from either side of the pole.
9. The throw line MUST be thrown over either side of the cross arm to continue the event. Additional throws are acceptable if needed, however, the Drop Dead time will apply if reached.
10. Upon successful tossing of the throw line over the cross arm, the Apprentice shall tie the throw line to the provided conductor using a "Rolling Bend" knot.
    *Reference 9th edition Lineman's Handbook section 43.26

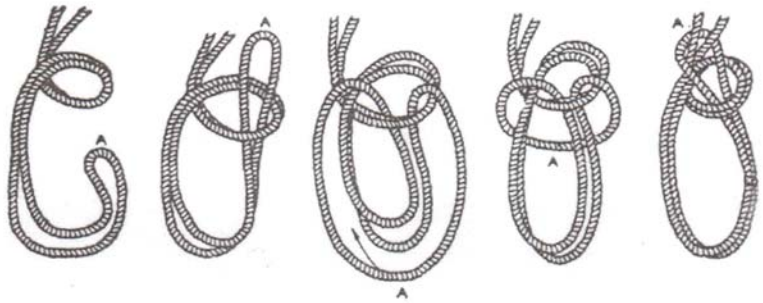


Rolling Bend Knot

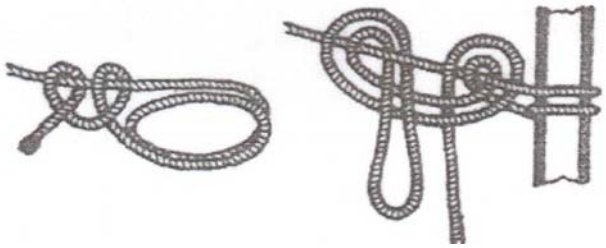
The Rolling Bend Knot is used to attach rope to conductor or secondary service cables.

ROPE TOSS (Throw Line)

11. Upon tying the Rolling Bend knot to the conductor, the Apprentice will pull the conductor taut over the cross arm and secure the rope to a provided anchor using a “Bowline On A Bight” knot and two “SnubbingHitches.”
    *Reference 9th edition Lineman’s Handbook section 43.18



Bowline On A Bight
The “Bowline on a Bight” knot is used to place a loop in a line away from the end of the rope. The knot is used to gain mechanical tension similar to using rope blocks to pull tension.



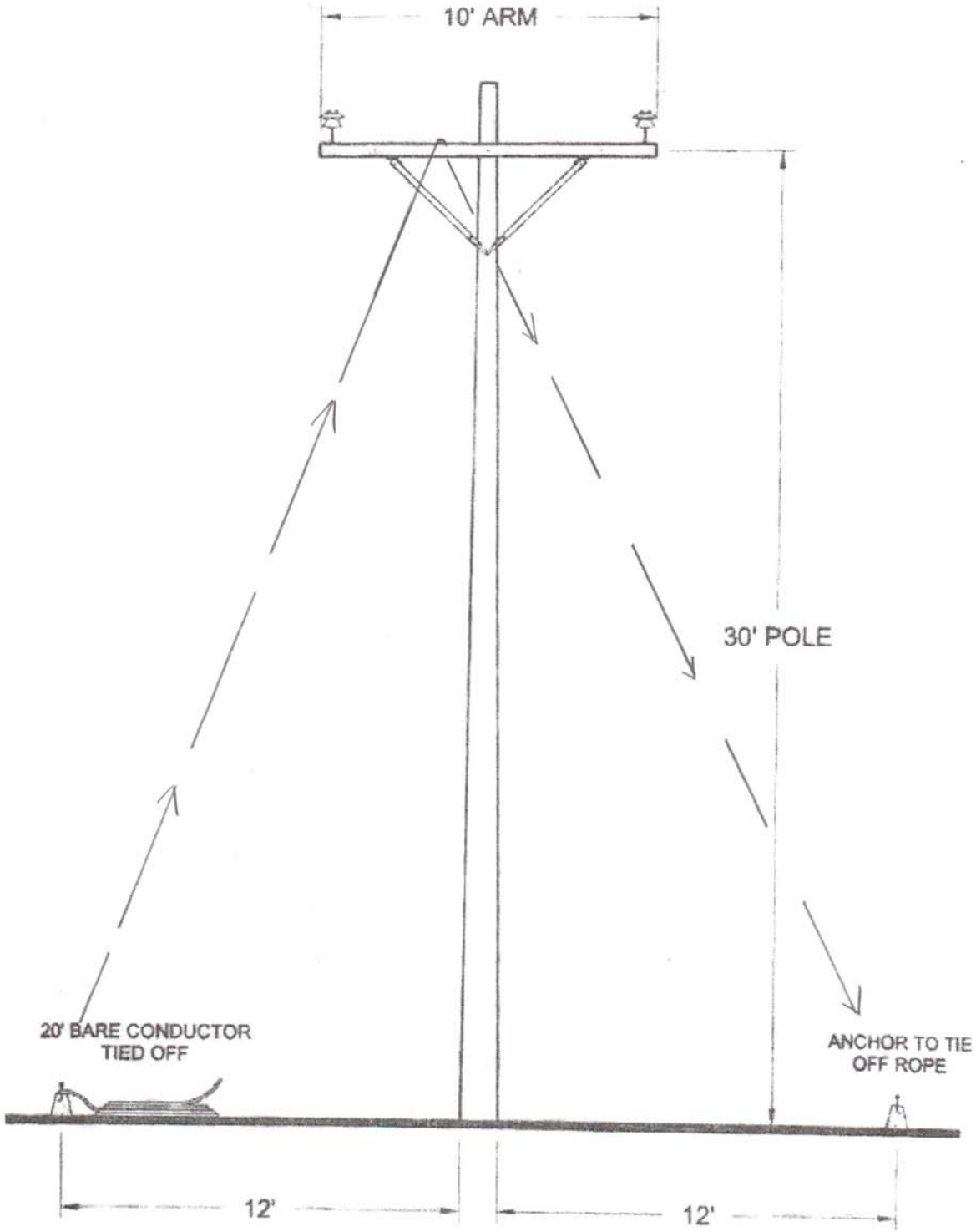
Snubbing Hitches
Snubbing Hitches are knots used to secure or anchor a rope.
*Reference 9th edition Lineman’s Handbook section 43.24

12. Only the pre-described knots shall be used to compete in this event.
13. The conductor shall be pulled taut and all knots will be correctly tied as outlined in section 43 of the 9th edition Lineman’s Handbook.
14. Time will stop when the Apprentice raises his/her hands after the last snubbing hitch is tied.

**Event illustration on next page

Apprentices will provide their own:
Work Gloves
P.P.E

ROPE TOSS (Throw Line)



SINGLE PHASE TIE-IN

Mean time: 8 minutes
Drop Dead: 10 minutes

Event Summary:
In this event the Apprentice must tie in (per Lineman's Handbook) the single phase 1/0 AAAC primary and neutral. Travelers will remain on the pole.

Event Specifics:
1. See General Rules.
2. Apprentice will be allowed a five-minute setup time before starting the event.
3. Hardhat, safety glasses, and rubber gloves are required.
4. Time starts at the judge's signal.
5. The Apprentice will have to provide own handline.
6. Install line guards on neutral.
7. Put neutral in clevis and tie in with a #4 aluminum cold tie.
8. Install line guards on primary.
9. Put primary on pole top insulator and tie in with a #4 aluminum cold tie.
10. Time will stop after the last tie is complete.
11. Judging will continue until the Apprentice has removed the line guards and tie wires, installed conductors back in the travelers and safely climbed to the ground.

Apprentices must provide their own:
Handline
Nose bag
Climbing tools

VERTICAL HURTMAN RESCUE

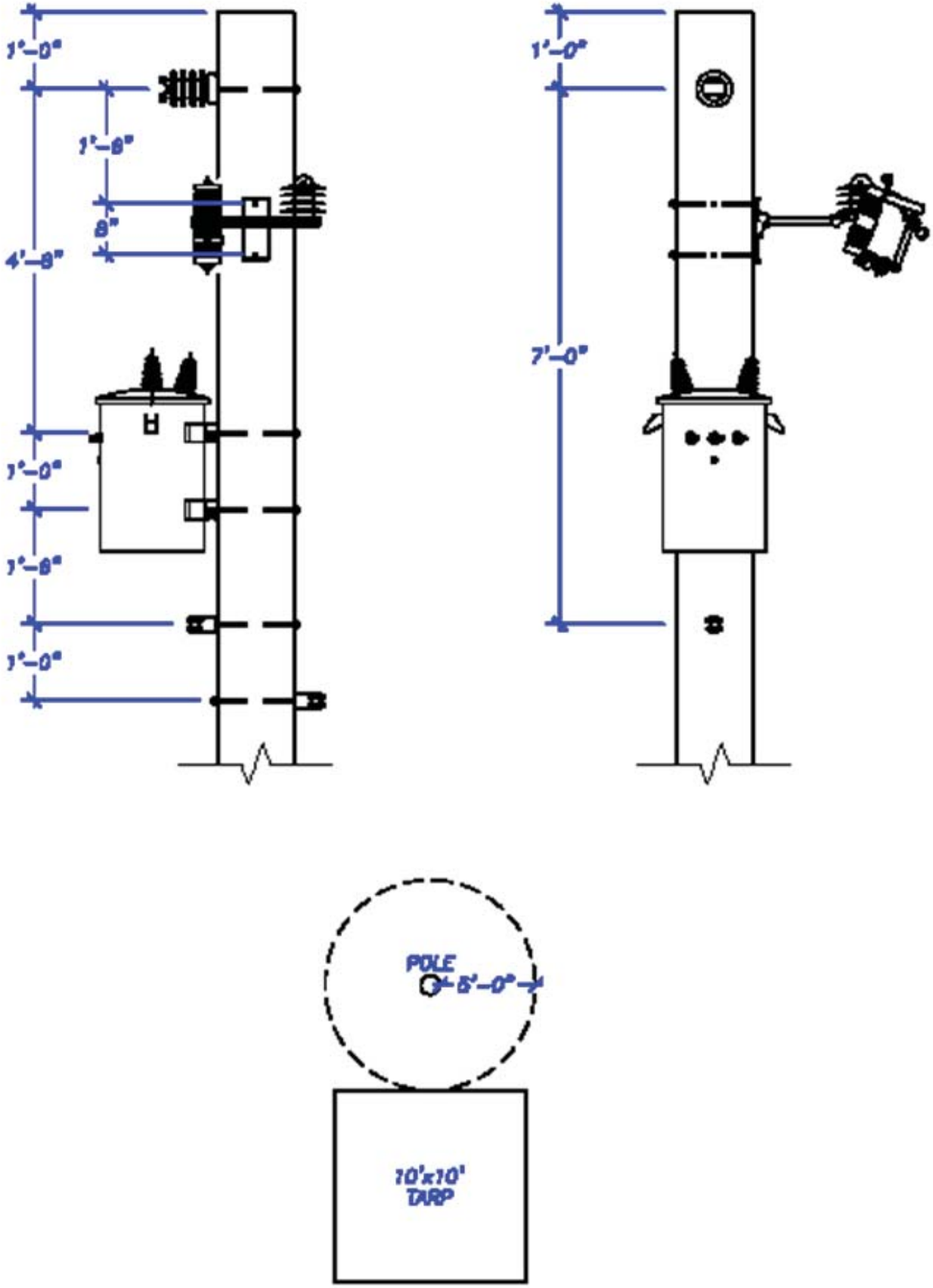
Mean time: 5 minutes
Drop Dead: 9 minutes

Event Summary:
The Apprentice must open the switch (cutout) before stepping onto the pole. The switch will be opened from the ground using an extendo stick and rubber gloves. The stick must be off the ground and body anytime the stick is touching anything energized. The Apprentice must wear rubber gloves ground-to-ground. Apprentice will split handline and loop bottom part of handline around mannequin's legs, then wrap top around the pole a minimum of one-and-a-half wraps before taking rope under mannequin's arms and tying three half hitches (the splice cannot be in the knot). The mannequin can then be lowered to the ground while the groundman (will be provided) uses the bottom part of rope tied to the mannequin's legs to pull the mannequin away from the pole and hardware. An attempt must be made to keep the mannequin off of the pole and other hardware. However the mannequin can touch the pole, service, or the neutral on the way down and there will be no deductions. There will be no deduction for anything that the groundman does. The mannequin must hit the ground gently as if it where a real person.

*Video will be posted on www.publicpower.com under the Competition section on how to do this event.

Event Specifics:
1. See General Rules.
2. Apprentice will be allowed a five-minute setup time before starting the event.
3. Hardhat, safety glasses, and rubber gloves are required.
4. Time starts at the judge's signal
5. The Apprentice will provide own handline.
6. Install line guards on neutral.
7. Put neutral in clevis and tie in with a #4 aluminum cold tie.
8. Install line guards on primary.
9. Put primary on pole top insulator and tie in with a #4 aluminum cold tie.
10. Time will stop after the last tie is complete.
11. Judging will continue until the Apprentice has removed the line guards and tie wires, installed conductors back in the travelers and safely climbed to the ground.

Apprentices must provide their own:
Handline
Nose bag
Climbing tools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7'-0"
POLE
5'-0"
10'x10'
TARP