

JOURNEYMEN EVENTS

FMEA 11TH ANNUAL FLORIDA LINEMAN COMPETITION • APRIL 1-2, 2011 • OCALA, FL



TRANSFORMER CHANGE OUT

Mean Time: 12 Minutes

Drop Dead Time: 15 Minutes

Teams will be replacing a bad single phase 25KVA polemount transformer on a single phase tangent structure where the primary voltage will be 12KV. Primary and neutral conductor will be 1/O AAAC and secondary leads will be 1/O AL 3-wire insulated.

- Teams will provide their own tools for this event.
- Time will start when first climber starts to ascend and will stop when second climber descends and makes contact with the ground.
- Must use 2-2 blocks minimum with rated transformer gin and can be raised and lowered by all three team members. Capstans are not permitted.
- Cutout will be open with a broken fuse and must be replaced before closing in. Fuse must be replaced by the Groundman. Groundman may remove door from the cutout with an extendo but not while either Journeyman is ascending or descending the pole (fuses will be provided at the judge's tent).
- Topside jumper will be connected to the primary with an aluminum hotline clamp only and must be removed to install rated cover to both sides of the primary conductor and insulator.
- Both sides of the neutral must be covered with rated cover.
- All transformer connections must be disconnected and reconnected in the proper order due to possible backfeed. Secondary leads must be covered until reconnecting.
- Teams will energize transformer and check voltage before connecting hot leads to the service.
- All permanent connections must be wire brushed with brush in hand or in/on hotstick or shot gun.
- Transformer must come down under control and make contact with the ground before returning the transformer to its original position. The team do not have to disconnect transformer sling.

VERTICAL HURTMAN RESCUE

Mean Time: 4 minutes

Drop Dead Time: 8 minutes

Event Summary

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 on to 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 all of this body on the tarp provided, and he must hit the ground gently as if it were a real person. A 10x10 tarp will be provided and placed 5' from pole centered under switch.

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

Event Specifications

1. Time starts at judges 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.

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4. Extendo stick will be lying flat on tarp fully retracted.
5. All three team members must be used. 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 tarp.
7. Climber will stay on pole and help hang mannequin.
8. Team will close switch back after time stops. Any team member can close it back and work gloves can be used.
9. You must use the eye 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 5 foot circle while he has his gaffs on.
12. Rubber gloves or work gloves must be worn anytime you are working or handling tools and equipment.
13. You 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 4" 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. You may use any standard knot or hitch on the mannequin's legs that can be easily removed. (including placing the rope through the hook, but it must not come off)

Teams will provide their own:

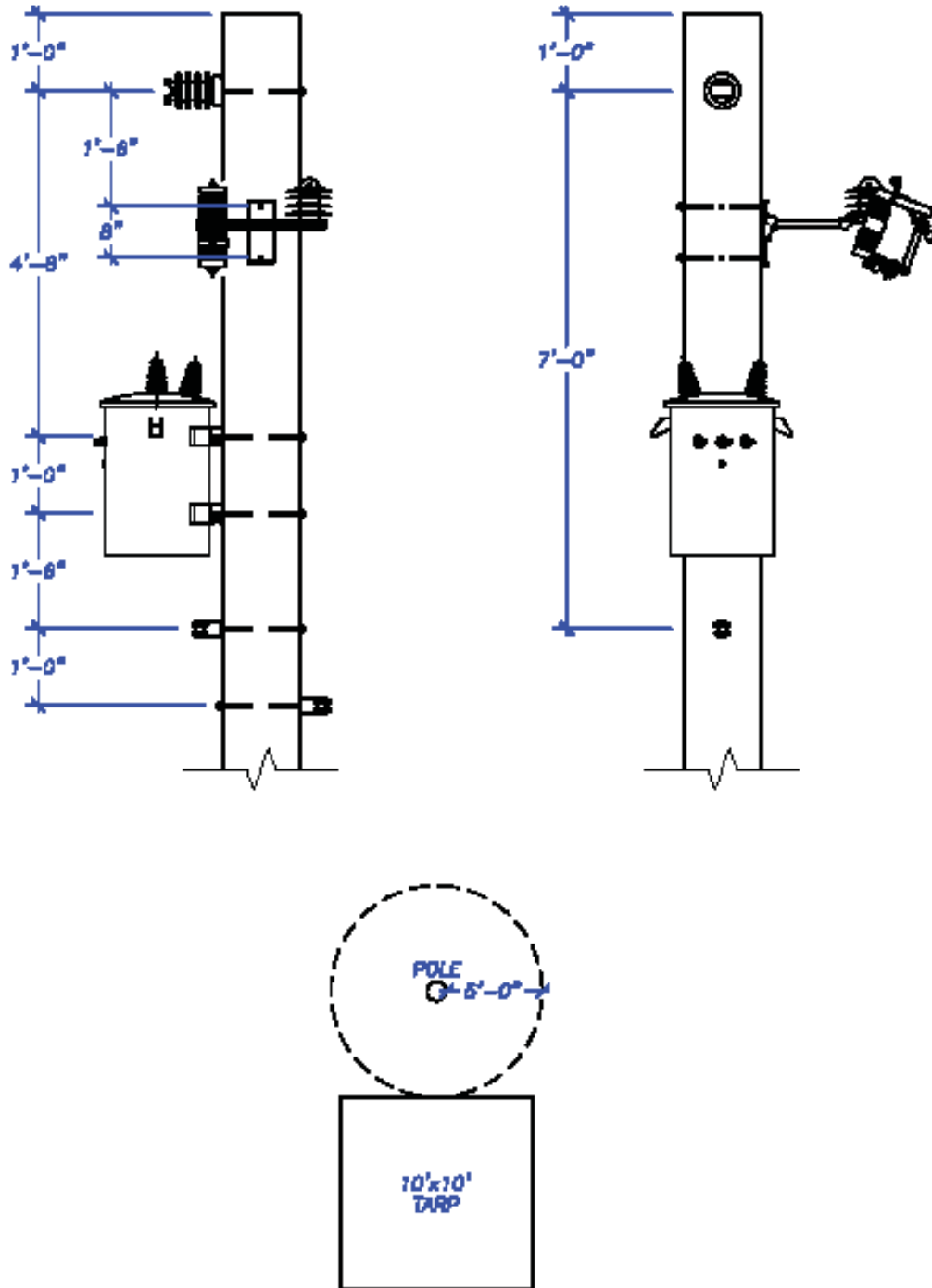
Extendo Stick

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Vertical Hurtman Rescue



CONDUCTOR RELOCATE

Mean time: 10 minutes

Drop Dead time: 15 minutes

Set up time: 5 minutes

Introduction:

This event is simulated energized at 12 KV. Team will relocate 1/0 aluminum primary with armor rods installed from insulator on one side of a 10 foot crossarm to the other insulator on the opposite end of the same 10 foot crossarm. This would simulate preparing to install new primary conductor on the same pole line.

The event:

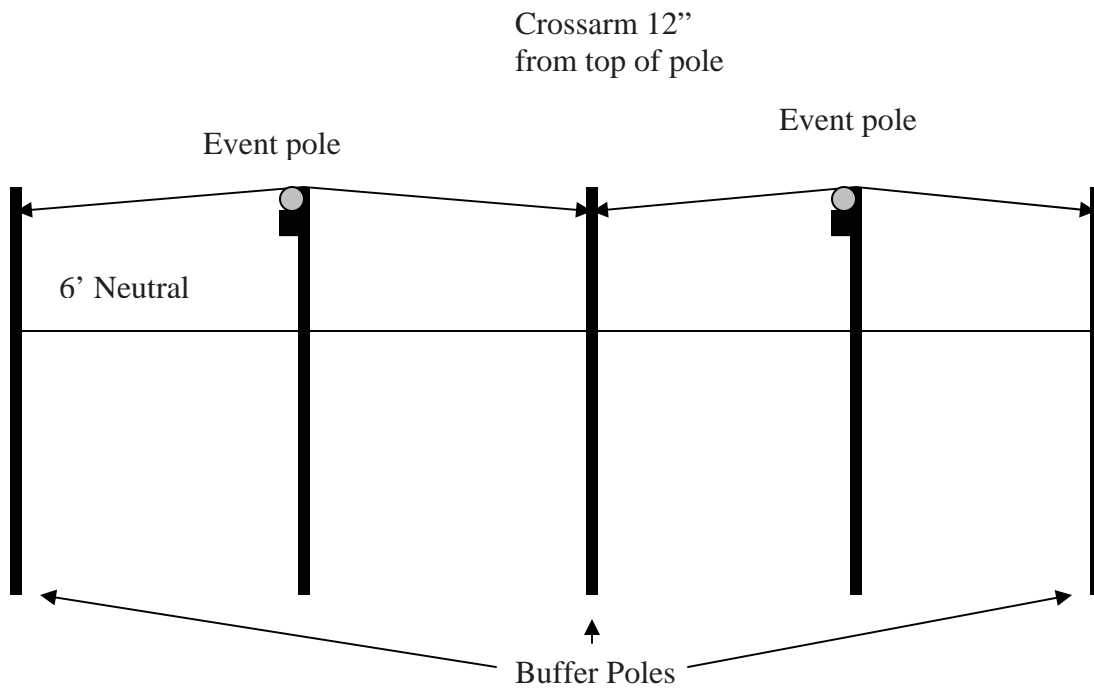
This will be a rubber glove 12 KV simulated energized event. All minimum clearances must be maintained on uncovered conductor or material. Two points of control will be maintained on the conductor at all times when not fully tied into the insulator. The tie used will be a double top tie (Lineman's and Cableman's hand book section 22, west coast tie and/or a 1-3-2-1-1-2 tie) #4 aluminum tie wire will be provided upon entering event. Teams will cut their own tie wire to desired length. Any and all techniques that meet safety requirements, industry standards and general competition rules are acceptable to complete this event.

Event Steps:

1. Teams will cut their own tie wire (#4Aluminum) when they enter the event area.
2. Teams will have 5 minute to set-up time all tools must be on team supplied tarp.
3. Time starts at judge's signal.
4. Tie must be completed per Lineman's and Cableman's hand book section 22.
5. A maximum of three inches of tie wire will be allowed to be folded over when tie is complete.
6. Time stops when both climbers have both feet on the ground.
7. All general rules apply.

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Side view of event

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CROSS ARM CHANGE OUT

Mean Time: 8 minutes

Drop Dead Time: 15 minutes

Event Summary

In this event the three phase conductors (1/0 AAAC) are considered dead and grounded. The existing 8 ft. light cross arm, wrap-lock ties, pierce pins 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, pins and insulators may be assembled before 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 on pierce pins and separated from insulators before event is considered complete.

Event Specifications

1. See General Rules and Additional General Rules
2. Teams will be allowed a 5- 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 may be made up before 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 pierce pin and porcelain insulator with 1/0 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. Screw driver may be used to install wrap lock ties, no knives or pliers.
9. The old rubber grommet may not fall to the ground, nor can the new one.
10. Time stops when both Linemen are back on the ground and handline is made up.

Teams will provide their own:

12 X 12 tarp max.	Climbing tools
Handline	Hand tools

APPRENTICE EVENTS

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CROSS ARM RELOCATION

Mean Time: 6 Minutes

Drop Dead Time: 9 Minutes

Event Summary

This is a de-energized event. The event consists of relocating a 8 ft light wood cross arm (with 36 inch braces and one 8 inch post type insulator) 90 degrees from the original position. The insulator will be in the outside hole of the cross arm. The time will stop when the apprentice has set one foot on the ground. The apprentice will have a five-minute set up time before starting the event. Apprentices are required to carry a hand line during event.

Event Specifications

1. Time starts at the judge's signal, after the five-minute set up time.
2. Hardhat, safety glasses and leather gloves are required (rubber gloves are not required).
3. Apprentice will climb a 40 ft pole, the cross arm will be removed and relocated 90 degrees. The holes in the pole are pre-drilled, the braces will remain attached to the cross arm.
4. The through bolt of the cross arm consists of 5/8 double-arming bolt with square washers and square nuts at each end of the bolt. The brace bolt will be a 5/8 machine bolt with a square washer and square nut tightening against the pole.
5. All bolts and materials shall be tighten using a wrench.
6. A hand line with a becky will be used when the weight of the cross arm is unsupported.
7. Time stops when the apprentice has one foot on the ground.
8. The mean time for this event is 6 minutes. The drop dead time is 9 minutes.
9. Point deductions will still be assessed for dropped tools or equipment.

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PULL SERVICE CABLE

Mean Time: 15 Minutes

Drop Dead Time: 20 Minutes

Provided:

Cable hanger

Connectors

1/0 service cable

Required:

Cable cutters

Straight Line (rope)

This will be a de-energized event. The apprentice is required to climb a 30ft pole and make up an overhead triplex service cable to the open secondaries. There will be a reel of cable at the base of the dead end pole running up through a traveler and back to the ground. Apprentice will pull off as much cable as needed to deadend on open secondary pole. Once apprentice has pulled enough cable out, the judge must be signaled to lock the reel. Two points will be deducted for excess of three feet of unused wire. Apprentice may use the rope of their choice (no hooks, blocks or splices) to catch off cable. Apprentice will use a rolling bend in place of a grip on the cable and snubbing hitches up the pole to secure cable until caught off with cable hanger. The cable hanger and connectors will be the standard issue for the Ocala Utility Services. Once connections have been made (neutral on top) the apprentice will signal the judge. Apprentice may then (at judge's signal) cut down the cable, remove cable hanger and connectors. Time will stop when the apprentice is on the ground, tools removed, scrap put away and rope made up.

- Apprentice will have 5 minutes to set-up.
- Time starts at the judge's signal.
- Apprentice will ascend pole with the rope on their belt.
- Class II or higher rubber gloves must be worn ground to ground.
- Service must be made up in proper sequence.
- Poles will be set no more than 50' apart.
- Knots are shown in the Lineman's and Cableman's Handbook.

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CONDUCTOR CLIP IN

Mean time: 11 minutes

Drop Dead Time: 16 minute

1. 5 minute prep time
 - a. Roll armor rods (1/0-11 pieces 25 inches in length)
 - b. Prepare tie wire (pre-cut/will be provided) # 4 alum
 - c. Hand-line prepared
 - i. Attach hand-line to pole or arm using a hand-line becky
 - ii. Hand-line must be carried in a break-away hook
 - iii. The hand-line cannot be in the contestants' hand, other than positioning, it must be attached to the body belt using a break-away hook
 - d. Nose bag loaded
 - e. Q&A for judge
2. Time starts when first hook strikes the pole or after 5 minute set-up time expires.
3. Climb to neutral position and hang hand-line: install armor rods (screwdriver only) and clip-in using #4 alum tie wire. Leave 6' traveler in position, door may remain open. Neutral will be on an up-set bolt.
4. R/m and attach hand-line to break-away hook. Climb to top of pole (working position) and secure hand-line, r/m phase from traveler, install armor rods (screwdriver only) and tie in using #4 tie wire
 - a. No deduction for conductor laying on the arm
 - b. There will be a deduction for conductor going below the arm
5. Move traveler to opposite end of the arm and secure in place (between arm brace and insulator), unclip phase, r/m armor rods (screwdriver only), place phase in traveler, close and lock the door. Place hand-line on break-away hook
6. Climb down pole to neutral position and secure hand-line, unclip neutral, r/m armor rods (screwdriver only) lay conductor in traveler close and lock door.
7. Send nose bag to the ground with the hand-line, r/m hand-line from pole and railroad hand-line block to the ground, release hand-line when the hand-line block reaches the ground.
 - a. Begin descent after the hand-line reaches on the ground.
8. Time stops when first foot reaches the ground.
9. TOOLS ONLY!
 - a. NO material is to be carried on the climber
 - b. ALL materials, new and used, must be in the nose bag
10. Event will be judge by standing FMEA FLC Rodeo rules

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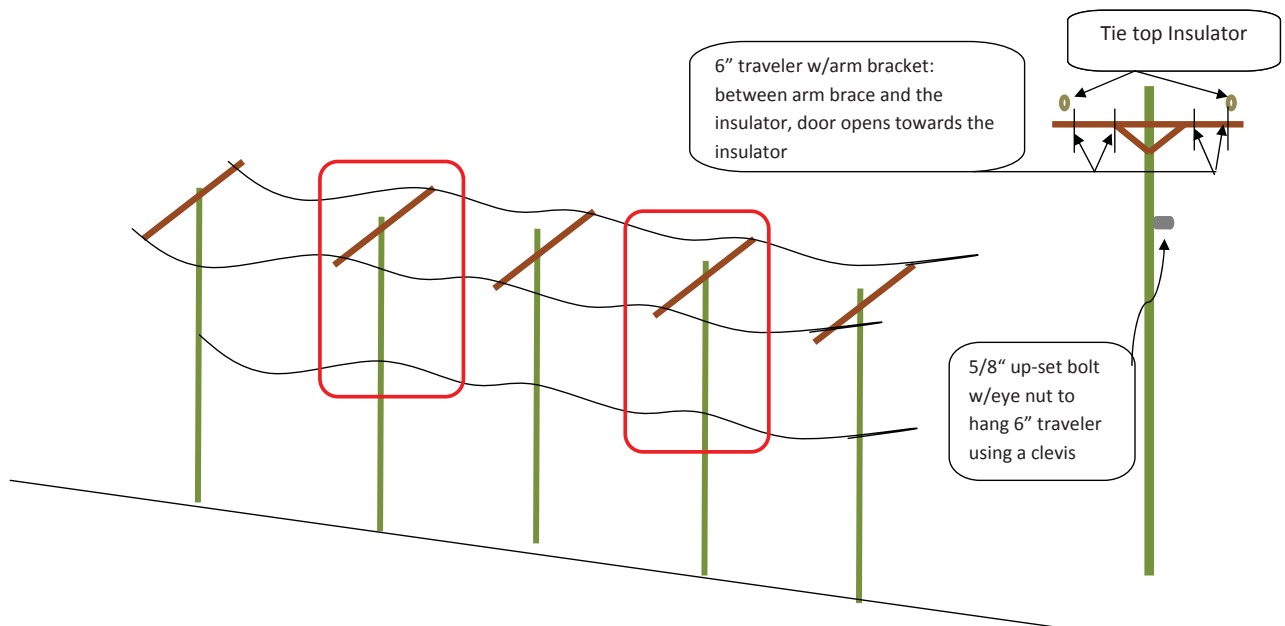


NOTES

- * After event is completed the apprentice must climb and make any correction so the station is ready for the next climber.
- * Tie in method: The Lineman's and Cableman's Handbook 11th Edition 22.22 Figure 22.39
- * Screwdriver minimum: 6" length X 5/16" shank w/factory tip
- * No addition blocks; apprentice will use travelers that are on the pole
- * Types of break-away hook for hand-line

<http://burlingtonsafety.thomasnet.com/item/all-categories/hooks/h7?&seo=110&plpver=10&bc=100%7C3001150>

Clip/Unclip non-rubber glove event



Box indicates working poles: end structures will be D.E.'s and the middle structure will be clipped-in.

- | | |
|--|---|
| 1 - 40' wood pole | 2 - 6" Sherman riley (1- w/arm bracket, 1 w/clevis) |
| 1 - 8' wood cross-arm w/32 inch wood braces | 2 - 1/0 armor rods (install & r/m w/screwdriver only) |
| 2 - 1/0 alum. phase | |
| 1 - 1/0 neutral on an up-set bolt w/5/8" eye nut | |