



DIVERGENT
ALLIANCE

Divergent Alliance Company Overview

Company: Divergent Alliance LLC
Date: 3/8/2021
Team: Matt Moeller, President
John Masterson, Vice President
Mark Moeller, Director of Safety
ISN # 06180311

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Veteran Owned

Diverse Supplier

Divergent Alliance was founded in 2017 as a certified Veteran's Business Enterprise partnering with utilities and contractors to build, certify, and restore protective grounds as well as supply line tools, equipment and safety gear to help meet the ever-changing needs of the workforce.

Divergent Alliance is the only signatory IBEW distributor in the country that provides these services.

Because of our field experience, we believe it is important to have skilled personnel building and performing maintenance activities on such critical lifesaving equipment.

Our key customers include ComEd, Meade, Michels, Henkels, Intren, Aldridge and M. J. Electric.



Management Team

Member Overview

Matt Moeller President

Matt is a Veteran of the United States Air Force. He started his utility career as an entry level groundman and progressed to earn a journeyman lineman certificate. While travelling the country performing work on both the electrical transmission and distribution systems, he was recruited by Commonwealth Edison as an Overhead Electrician Specialist. After becoming proficient in field operations, he was promoted to full-time Upgrade First Line Supervisor of operations and Chief Steward of IBEW Local 15.

Matt was responsible for introducing progressive hands-on field training of foreign installed equipment to the entire regional operating department without impacting normal duties. One of his proudest accomplishments at ComEd was working with the Control Center planners to reduce the number of switching evolutions for various network center upgrades throughout the territory. This reduction in evolutions resulted in minimizing hazardous exposure to field personnel.



Highlights

- 101 Club Member
- Safety Committee
- Network Centers
- Distribution Automation
- Outage Restoration
- Switching
- Lockout Tag Out

Management Team

Member Overview

John Masterson Vice President

John started his utility career as a distribution system dispatcher at Commonwealth Edison and eventually progressed to the level of Senior Operator. After spending time as a Senior Operator, he was asked to join the training department to teach entry level and advanced level System Operators. He was able to successfully help implement a company-wide training program which focused on cross departmental training for system operators, linemen, crew leaders, overhead specialists, and first line supervisors. During John's time at the Control Center, he pursued a Masters Degree from the University of Chicago which allowed him to make a career move to Exelon Crisis Management, where he focused on operational, reputational, financial, and regulatory risks for the Fortune 100 company. While in Crisis Management, John successfully designed and implemented procedures for Incident Response with primary focuses on workplace violence, cyber security, natural disasters, and terrorism. John also designed a loss of communications procedure and his team successfully implemented it across the Executive Leadership of Exelon, ComEd, BGE, PECO, and PHI.



Highlights

- Mobile Technology Lab Lead
- Operations Control Center Trainer
- Lockout Tag Out
- Distribution Automation
- Event Free Performance
- Outage Restoration
- OMS / DMS / SCADA
- ARCOS
- Asset Suite

Management Team

Member Overview

Mark Moeller Director of Safety

Mark proudly retired from Commonwealth Edison after gaining nearly 36 years of electrical experience. Starting as an entry level station operator at Waukegan Station 16, Mark advanced his career through many roles. He finally found his home in the underground department, where he carried the role as safety rep and Chief Steward of Local 15. He earned the respect of his peers and superiors with his work ethic and knowledge of conventional underground, but also his ability to maintain and store all area and feeder maps on the system, which is where he earned his well-deserved nickname, “The Librarian”. Following Mark’s promotion to Lead underground crew leader, he was responsible for day to day operations within the underground department. One of Mark’s most noble accomplishments was serving on the UG Reorg Committee, which made ComEd’s UG department one of the most efficient and safest in the country. Mark is responsible for Divergent Alliance’s safety and training programs.



Highlights

- Safety (CUSP Certified)
- Lockout Tag Out
- Underground Distribution
- Work Planning
- Training

Core Business



Grounds & Jumpers



Utility Products



Infrastructure





WHAT ARE PROTECTIVE GROUNDS?



www.DivergentAlliance.com/personal-protective-grounding-equipment

The Importance of Protective Grounds

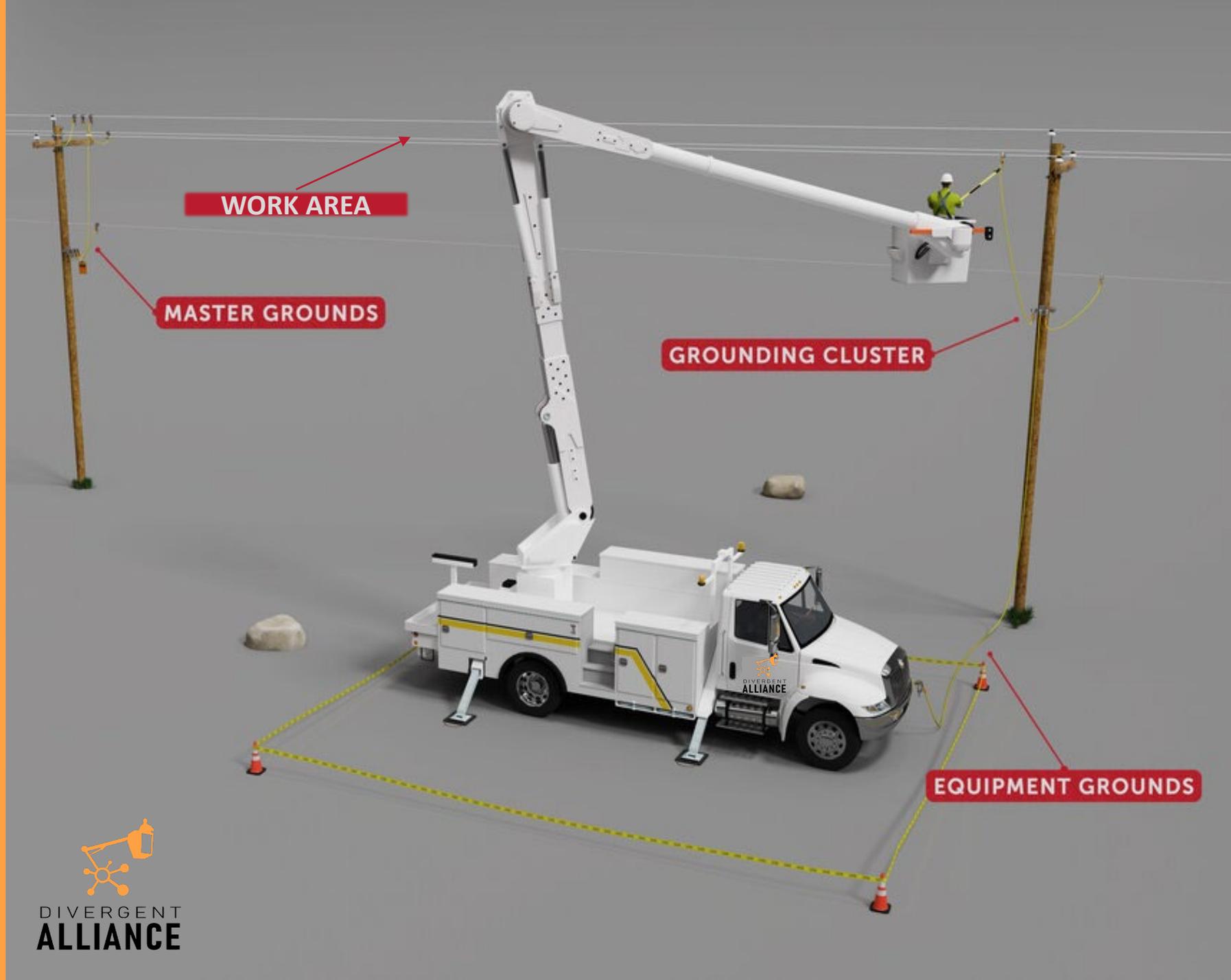
12/7/2020 - Protective Grounds are used whenever utility line workers perform tasks on electrical power systems to protect them from hazardous voltages that can be created by line re-energizing, lightening, or induced voltage. Protective Grounds keep line workers safe from electric shock.

How Do Grounds Protect Line Workers?

Protective Grounds are not installed until the powerlines have been tested to ensure there is no power running through them.

If the powerlines become re-energized, the current will flow through the protective grounds and not the powerline needing repairs.

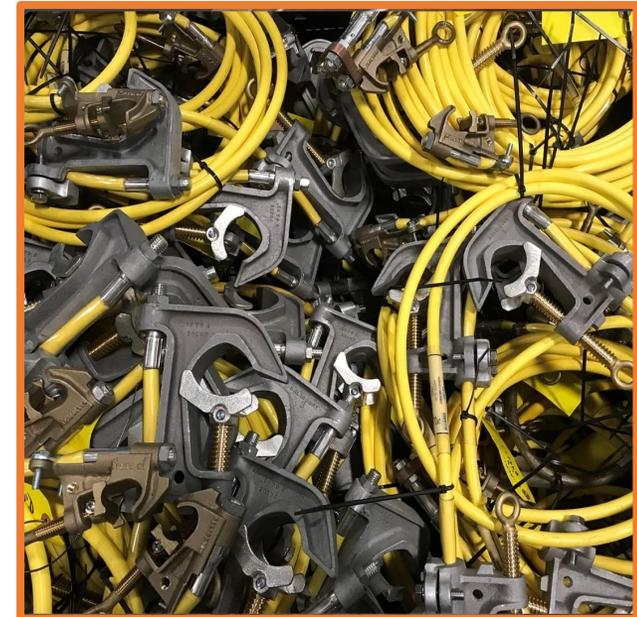
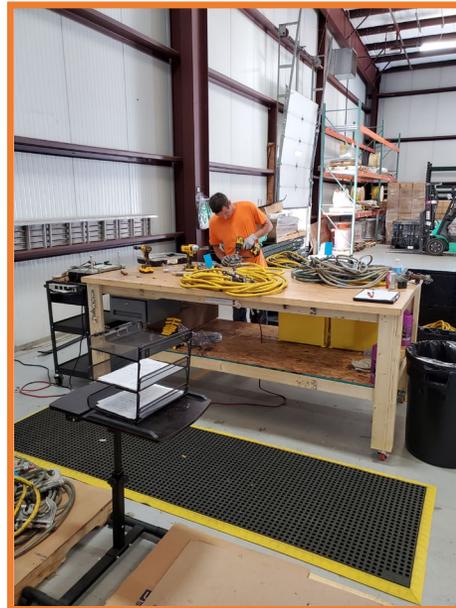
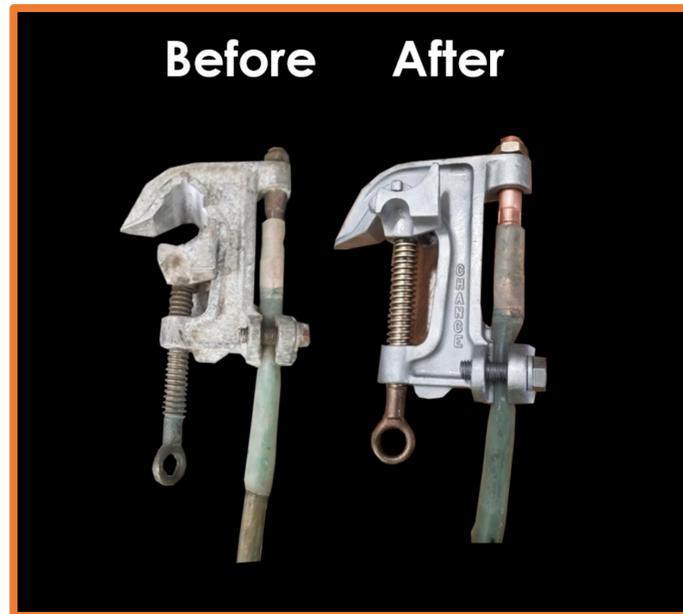
Once a grounded zone of protection has been established, the line workers can work safely without the risk of electric shock.



ComEd “Safety Best Practice” Portable Ground Testing

Multi-Year Contract Awarded in Mid-2020

Divergent Alliance is responsible for servicing more than 10,000 portable grounds on the ComEd system. Our certification process ensures field personnel’s confidence that their protective grounds are fully functional and providing the protection that is needed.



ComEd[®]

An Exelon Company

Services



Service	Description
Custom Ground & Jumper Builds	Build many variations of new Ground or Jumper assemblies
Testing & Repairs	Ground and Jumpers are tested and repaired per ASTM standards
Restoration vs Replacement	Save money by restoring parts instead of replacing entire assemblies

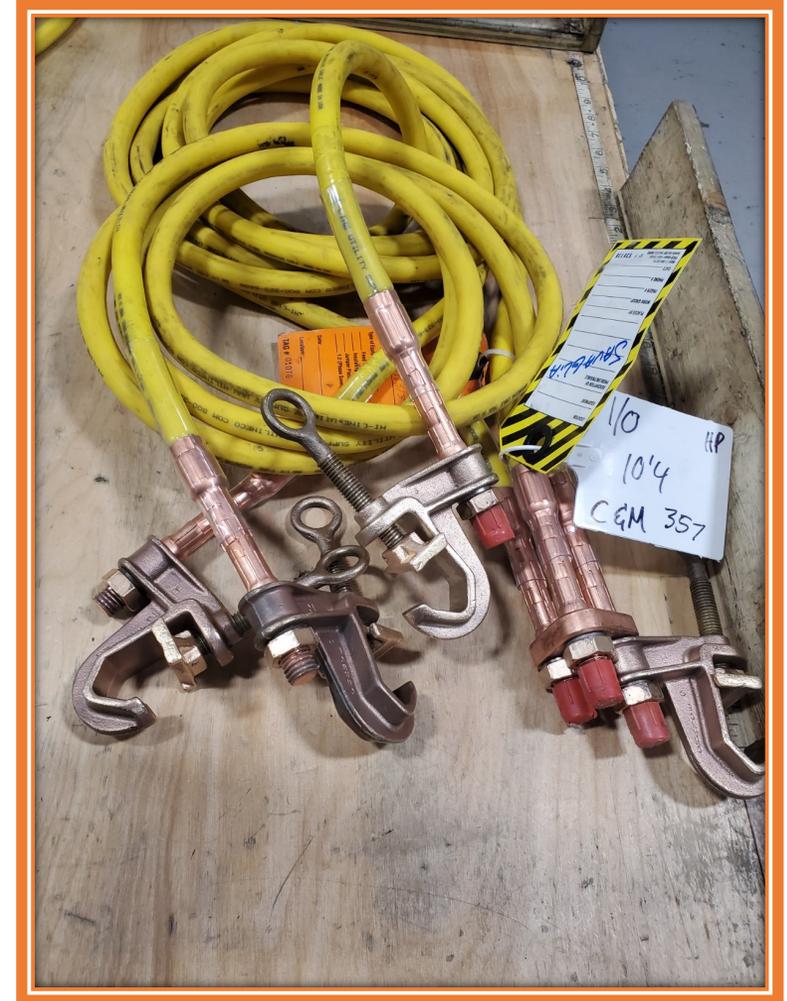




Restore vs Replace



This cluster ground assembly was being used to protect linemen for years. ASTM states for this ground to offer adequate protection, it needs to test below 1.4 ohms of resistance. This ground tested at **86.3 ohms**, meaning, it offered little to no protection at all. After our team's unique restoration process, we were able to achieve passing results of **0.89 ohms**. Not one component was replaced from the image on the left, and we were able to restore the integrity and reliability of protection this ground is supposed to offer and saved our customer hundreds of dollars by restoring it instead of replacing parts.



Findings

Why do ground cables fail ASTM testing requirements?

There are many contributing factors to ground cables not performing when tested to the ASTM requirements. Some of these factors can be identified upon visual inspection, while others are identified when components are disassembled after failed testing. The most common contributors of test failure include:

- Oxidation of ferrules and lugs
- Contamination of conductor beneath insulation
- Broken or missing components
- Connections not torqued to specifications
- Corrosion around connection points
- Unidentifiable cable sizing



Findings

Oxidation of Ferrules and Lugs

During disassembly of many of the older elbow grounds, there is oxidation build up underneath the elbow at the connection points. This leads to failed testing readings because proper electrical connections cannot be made between components.



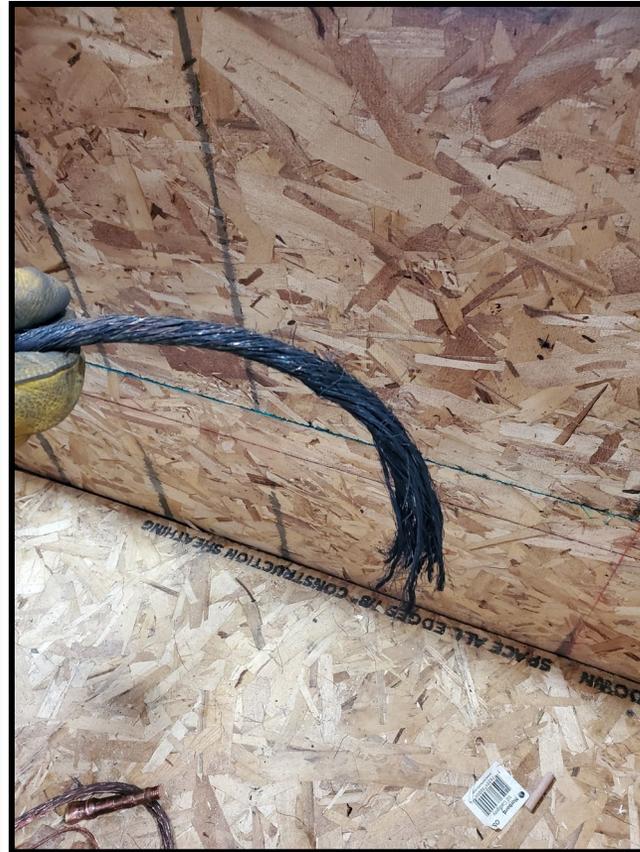
Solution

- Ground cable is disassembled
- Oxidation will be removed if possible
- If oxidation cannot be removed, this end of the cable is cut off so new components can be added
- Ground cable is thoroughly cleaned and re-assembled
- Ground cable is tested again

Findings

Contamination of Conductor Beneath Insulation

Ground cable conductors should appear bright and shiny when the insulation is removed. Once the insulation was removed from the conductor below, it was found to be covered with soot. This soot build up is more prevalent among older assemblies originally built with welding cable instead of grounding cable.



Solution

- A replacement ground will be built to spec.
- New Ground cable will be tested

Findings

Broken or Missing Components

Missing clamp jaws are a contributor to high failure rates. When a clamp jaw is missing, there is a risk of the clamp inadvertently falling off the circuit it is attached to. The reduced surface area from a missing jaw also creates a poor electrical connection for the ground cable to be effective.



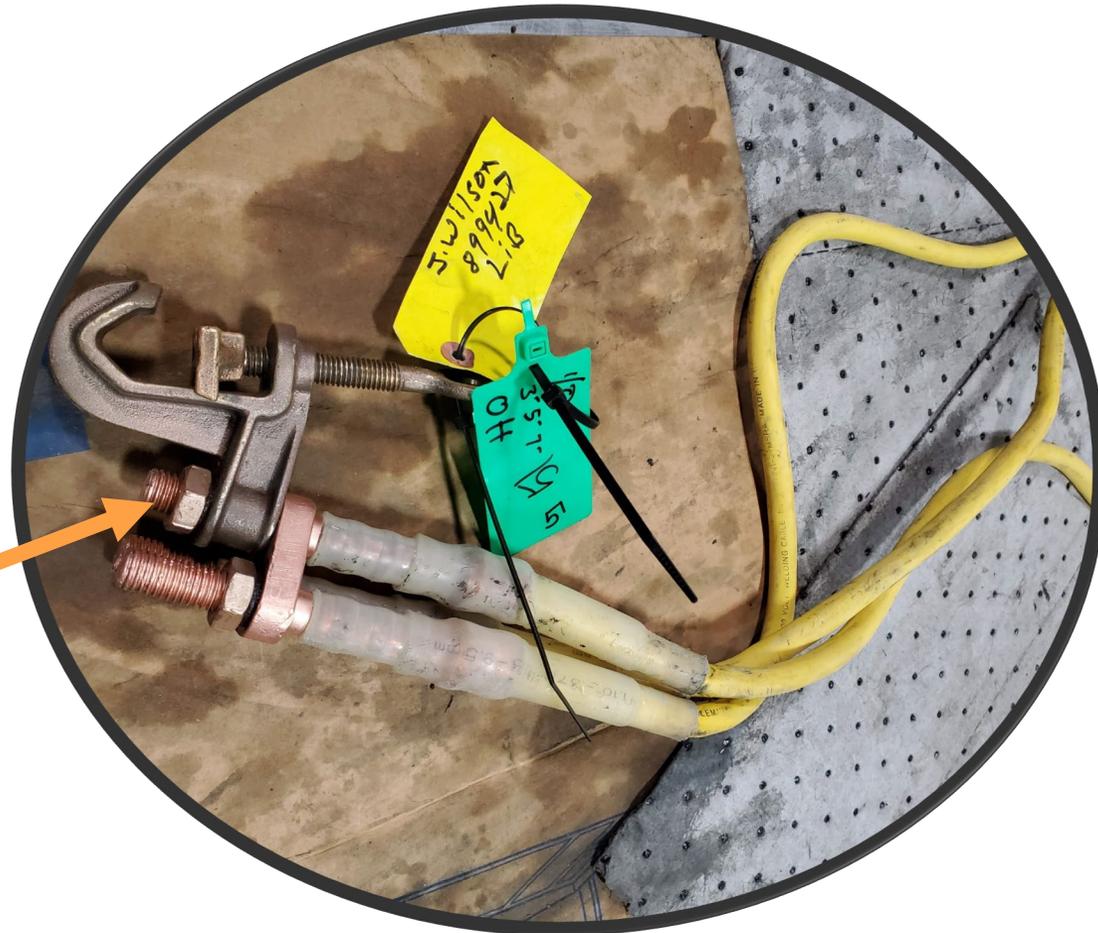
Solution

- Ground clamp is removed
- Ferrule will be replaced if needed
- New ground clamp is added
- Connections are torqued to specifications
- Ground cable is tested again

Findings

Connections Not Torqued to Specifications

Many of the ground cables being serviced were manufactured within the last two years. A considerable amount of these grounds have failed resistance testing due to connections not being tightly secured and torqued to specifications.



Copper nut
not torqued,
and threads
not brazed

Solution

- Ground connections are torqued to specifications
- Threads of ferrule are brazed to keep connections from becoming loose
- Ground cable is tested again



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Findings

Corrosion Around Connection Points

The highest contributor to failure rate of ground cables is the oxidation and corrosion between the contact point of ferrules and conductors.



Solution

- Ground cable is disassembled
- Conductor is cut to removed the ferrule
- New ferrule is added and pressed with a Finn-Power 8-Point Press, which presses the ferrules symmetrically.
- This press method minimizes the air gap that traditional presses leave, which contributes to higher failure rates.

Findings

Unidentifiable Cable Sizing

There are many irregularities that lead to ground cables not being able to pass visual inspections. The images below are examples of unidentifiable cable.



Problems

- One manufacturer's outer diameter for 1/0 is equivalent to another manufacturer's 4/0.
- 1/0 is mistaken for #2 AWG cable.
- #2 AWG is mistaken for 1/0, 2/0 and in some cases 4/0 depending on the manufacturer.
- Assemblies cannot be certified without correct sizing charts.
- Field workers cannot identify which size cable they are using.



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Data Reports Provided



Divergent Alliance has built proprietary software that provides over 50 valuable data points for each ground or jumper assembly that comes through our testing facility. Our data points enable better decision-making in the following areas:

- Equipment Safety
- Failure Rates
- Reliable Manufacturers
- Component Reliability
- Root Cause Analysis
- Safety Investigations



Customer Batch Summary

Customer	Location	BatchNum	Received	Completed
██████	Libertyville	██████-20-0002	8/12/2020	8/28/2020

# of Customer Items:	200	Clean/Test Service Cluster Count:	25	Repair Service Count:	75
# of New Assemblies:	16	Clean/Test Service Non-Cluster Count:	174	Failure Rate:	37.5%
# of Service Orders:	216	Clean/Test Service Total Count:	199		

Kits and New Assemblies by Type



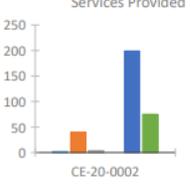
Kit Type	Count	New Assembly Count	% of Total
Single Ground	8	16	100.0%
Cluster Ground	0	0	0.0%
Elbow Single Ground	0	0	0.0%
Elbow Cluster Ground	0	0	0.0%
Mechanical Jumper	0	0	0.0%
Total # of Kits	8	16	

Initial Service Failure Status



Item Type	Total	Failures	Failure Rate
Single Ground	174	59	33.9%
Cluster Ground	24	14	58.3%
Elbow Single Ground	1	1	100.0%
Elbow Cluster Ground	1	1	100.0%
Mechanical Jumper	0	0	0.0%
Total	200	75	37.5%

Services Provided



Item Type	Total	Vapor Blast	Recrimp	Reuse Clamp	UnID'd Cable	Clean/Test	Repair
Single Ground	264	2	29	1	0	173	59
Cluster Ground	51	0	11	2	0	24	14
Elbow Single Ground	2	0	0	0	0	1	1
Elbow Cluster Ground	3	0	0	1	0	1	1
Mechanical Jumper	0	0	0	0	0	0	0
Total Services	320	2	40	4	0	199	75
% of Services	1%	13%	1%	0%	62%	23%	
% of Service Orders	200	1%	20%	2%	0%	100%	38%

Clamps/Elbows/Jumper Heads	21067-L
Clamps/Elbows/Jumper Heads	2910
Ferrules	2023

Service Order Summary

Department	Batch Number	Batch Completed
OH	██████-20-0007	

Salisbury	Cable 1 Length: 6 FT
CEG1-10Y-06-E15	Cable 2 Length: N/A
1/0	Cable 3 Length: N/A
15KV	Cable 4 Length: N/A

SO Completed: 10/9/2020 Technician: EF

(Blank when there are no Failed test results for this Service Order)

Item Type	Value (max)	Test Result	Difference	% Over Tolerance Value (max)
689	1.621	0.6521	67.30%	

Ferrules Reuse Salvaged Clamp Unidentified Cable

(Test results after repair, or if initial testing resulted in no failures)

Item Type	Value (max)	Test Result	Difference	Test Status
689	0.706	-0.2629	Passed	

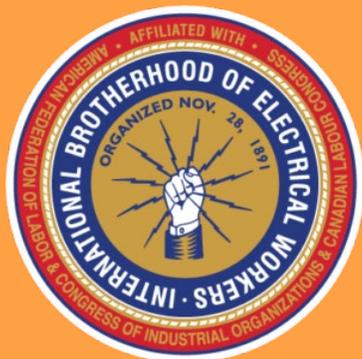
(Blank when no parts are associated to this Service Order)

Part Name	Qty
KIT 3 SETS 1/0 6FT SINGLE ELBOW 15KV w/2	1
1/0 YELLOW - Ground	6
GROUND CLAMP, C, LOCTITE	1
ELBOW 1/0 CONN 15KV	1
UNSHRD CU 1/0 PAIR	0.5

Utility Products

Divergent Alliance is the only International Brotherhood of Electrical Workers (IBEW) Distributor in the United States.

We have strategically partnered with some of the most reputable names in the industry and if there is a brand you don't see, we can still source it. Our sales and customer service team have a strong track record of going above and beyond to meet the needs of your task at hand.




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LINE CARD


KLEIN
TOOLS


BUCK
TOOLS

 Cembre

 CONDUX

 DIRTEEZE

 CHAMPION
FIBERGLASS

 ESTEX
SINCE 1900

 GREENLEE

 HASTINGS
A WORLDWIDE SUPPLIER OF
Hot Line Tools & Equipment

 CHANCE

 Huskie
TOOLS
A SPARTACO COMPANY

 MADI
INNOVATIVE LINEMAN TOOLS

 JAMESON
A SPARTACO COMPANY

 PetroChoice
LUBRICATION SOLUTIONS

 PYRAMEX
Perform At Your Peak

 SALISBURY
by Honeywell

 slingco

 UAT

 UTILITY
SOLUTIONS
Lineman driven. Field proven.

 ASK POWER
Your best connector option.

 WL
PLASTICS

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 MCR
SAFETY

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Customer Satisfaction



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Divergent Alliance - Electrical Utility Supplier & Lineman Tools

511 Eichler Dr, West Dundee, IL

 Write a review

5.0  66 reviews 

Sort by: Most relevant ▾

All

team 19

needs 10

professional 10

business 8

+6

"As a result of the special attention, the project was able to continue on schedule and under budget. Thanks again guys!"

-Jim



"They are reliable, quick and professional. Outstanding group!"

-Matt



"This team understands the needs of the customer and are passionate at what they do."

-Cristy



"Customer Service, Professionalism, and Quality are what makes Divergent Alliance one of the best in the business."

-Brian



"Very responsive, great pricing and overall fantastic customer experience here!!"

-Ian



Infrastructure

Divergent Alliance has the capability to meet your needs when it comes to infrastructure needs in transportation, telecommunications, electrical and utility spaces.

We have strategically partnered with some of the most reputable names in the infrastructure and telecommunications space to help project owners as they build success and savings in their industries.

Our support team has a strong track record of being available every step of the way to ensure the success of your project.





Strategic Partner

Spend \$1000 with us and receive the Contractor Crate. The Contractor Crate includes 40 items valued over \$300.

*Wood crate not included.



Metal Card Program

This card is a benefit for all your employees to receive the lowest pricing on Klein Tools anywhere. It can be used for personal or business purchases.

Hard Hat Heroes

Klein Tools is proud to sponsor the Divergent Alliance Hard Hat Hero chosen every month.



CONTRACTOR CRATE

2021 Promotion

CONTRACTOR EXCLUSIVE
 Kit Includes
40 ITEMS

MP#000037	QTY
Hard Hat, Clear E. Cap, White (80713)	1
PAK Coating Towel, Blue (20100)	5
PAK Coating Towel, Gray (20100)	5
12Size (S) Leather Insole	1
Fabric Face Mask	10
5-pack 5.5" X 8.5" Scratch Pad	1
5-Sharp® Color Permanent Marker Set in fabric 2 ppkt/1 Pkct	1
12-Size® Chic 88® Pvc Packages in Polybag	1



Official Dealer

Divergent Alliance is proud to be a Husqvarna dealer because Husqvarna understands the challenges that linemen and arborists face. Divergent Alliance is committed to solving these challenges with innovative technology and ever-changing products to make the job of linemen and arborists safer and more efficient.

MADSAW



THE FIRST AND ONLY DIELECTRIC GAS-POWERED POLE SAW

Homeless Veterans



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Midwest Shelter for Homeless Veterans

Every purchase through the product fulfillment division at Divergent Alliance serves more than just an operational need, it gives life back. We donate a portion of our profits to the heroes that risked their lives for our safety and freedom. These contributions aid in shelters, clothes, food, and basics such as toothpaste, toilet paper or cleaning supplies. Our contributions also aid in the set up of career programs to help our veterans get their lives back.



Hearts For Hope



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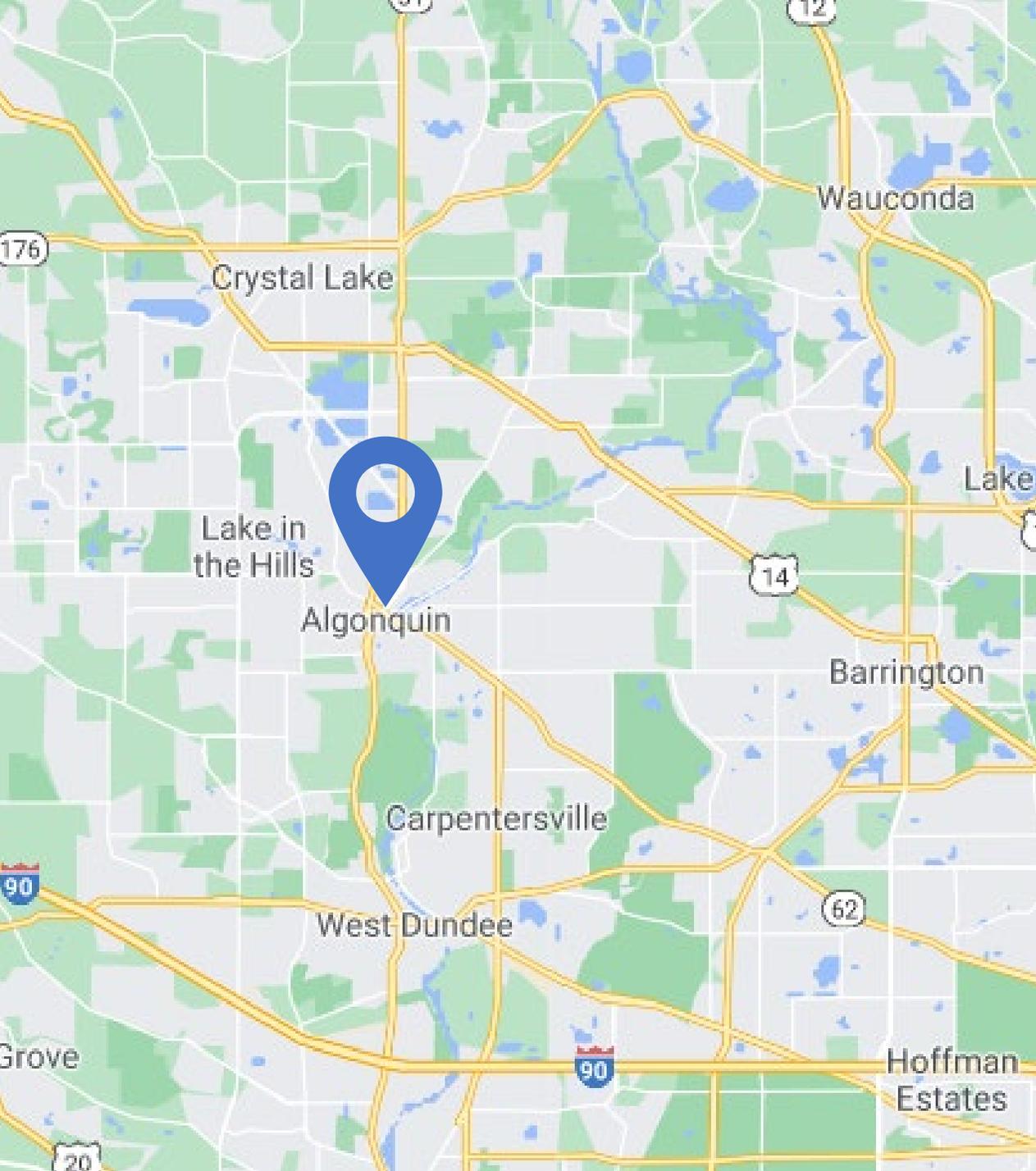


HEARTS-FOR-HOPE.COM



Helping the Homeless

Divergent Alliance has recently engaged in a partnership with Hearts for Hope. Each quarter, our team will meet to assemble care packages that are hand delivered to well known homeless areas throughout Chicagoland. These care packages include necessities such as toothbrushes, toothpaste, deodorant, socks, and seasonal specific items. This quarter, Divergent Alliance has donated 500 winter hats along with masks and has assisted in the assembly and delivery of these care packages.



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