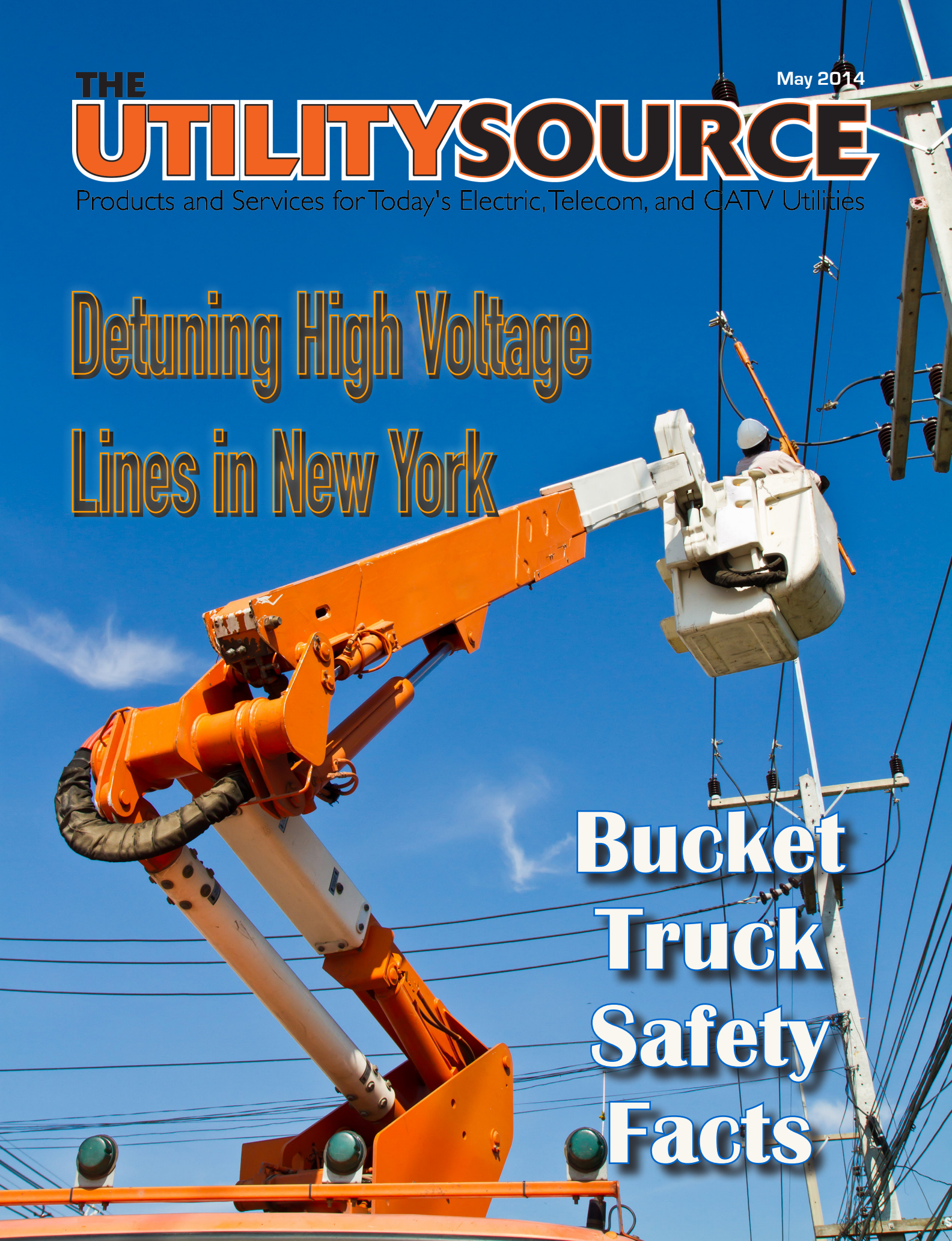
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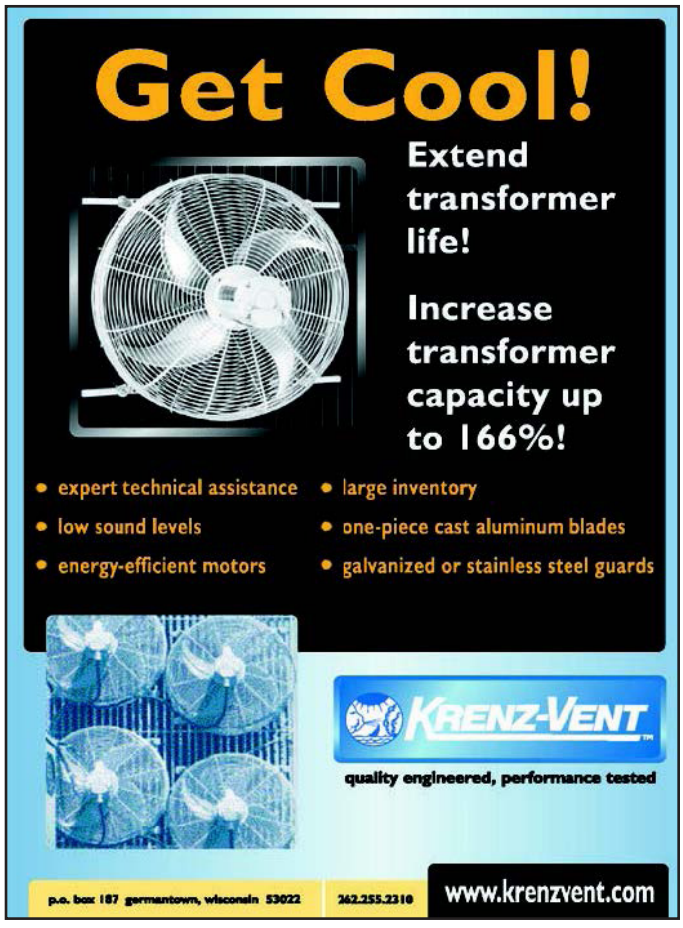
Building New Factory and Offices in Lyon County

Diversified Technologies, Inc., parent company of Dur-A-Lift, Inc. and Sudenga Industries, Inc. of George Iowa has committed to building a new 26,000 square foot facility to be used for manufacturing and office space for its Dur-A-Lift division. Dur-A-Lift, Inc. is a manufacturer of truck and van mounted aerial lifts for the fleet, contractor and rental markets. The new facility will be located on Diversified' s 28 acre campus outside of George, in Lyon County.

"Dur-A-Lift has grown in terms of market share, product line and necessary production capacity." said Larry Kruse, president of Diversified Technologies, Inc. "To support this growth, we've been placing increasing pressure on the manufacturing capacity of Dur-A-Lift's largest supplier, sister company Sudenga Industries. This new facility will allow us to continue Dur-A-Lift's growth pace, while relieving pressure from an equally busy Sudenga division."

Diversified considered locating its new Dur-A-Lift facility in a number of locations inside and outside the county. Lyle Hollander, vice president of Diversified Technologies said, "We've been a part of the community of George since 1888. But anytime you consider growth, you have to consider every possible scenario. Working with Steve Simons from Lyon County Economic Development, we decided that our home here in George has everything we need to continue growing." Dur-A-Lift expects to add jobs in the county as the result of the expansion.

The company will break ground in late April. The facility is expected to be partially up and running sometime in late summer and complete by mid-December.





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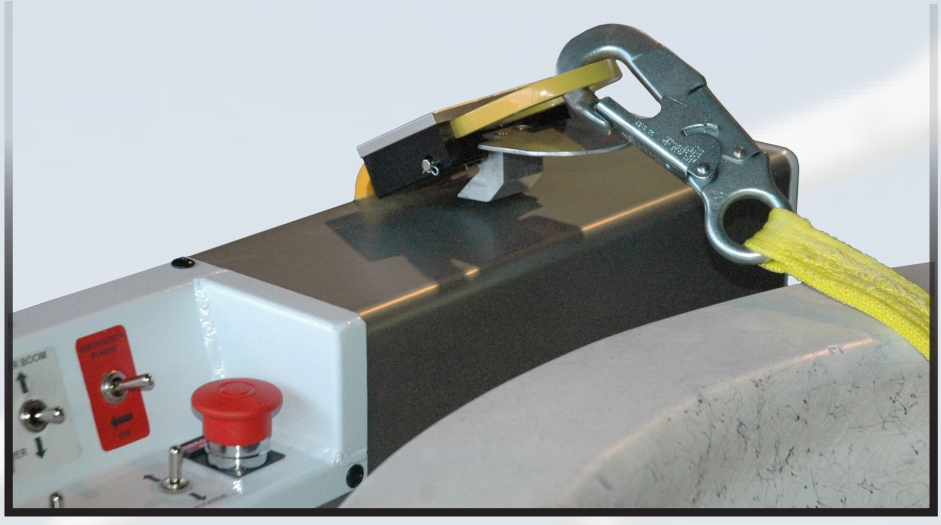
Vert-Alert™ is an integrated warning system that alerts operators of aerial lifts to attach their safety harness lanyard prior to elevating the lift.

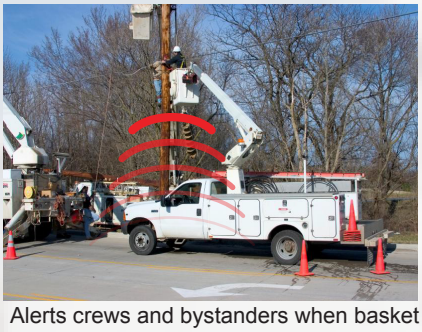
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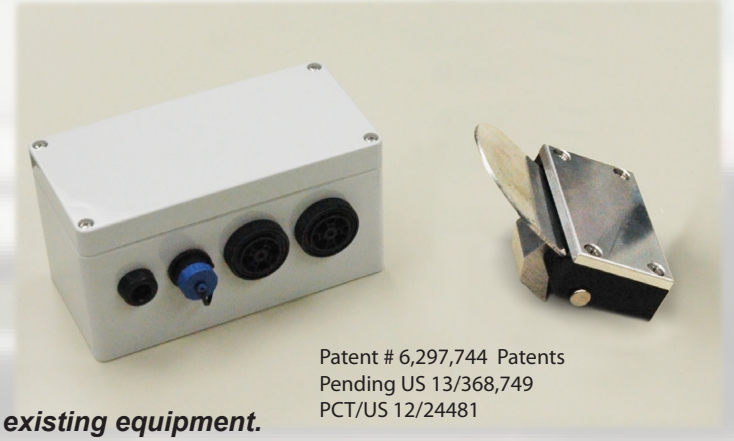




Alerts crews and bystanders when basket is descending with an audible statement, "Warning, aerial lift descending!".

Vert-Alert™ capabilities

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- Descent alert
- Data logging



Patent # 6,297,744 Patents Pending US 13/368,749 PCT/US 12/24481

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Increase Vehicle & Asset Lifespans with GPS Tracking Software



If you don't have a maintenance solution in place, it can be challenging to manage the upkeep for your fleet's vehicles and assets. Luckily, there are solutions to make it a simple process - you can choose to go with maintenance focused software or a fleet tracking software with a maintenance module included. When deciding which option to go with, consider what will be most beneficial for your fleet overall. When choosing a GPS fleet tracking solution that includes a maintenance module, you can monitor maintenance along with having insight into all fleet activity from one interface.

Simplify Maintenance

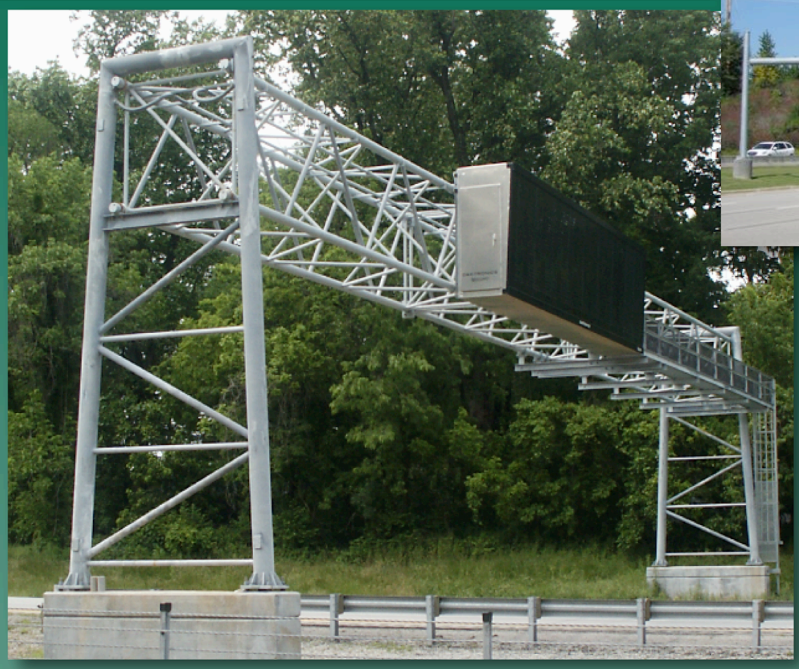
By automating maintenance with a GPS tracking solution, eliminate the pencil-pushing involved with traditional maintenance logging. Create a simple way for fleet managers to stay on top of maintenance that eliminates the unnecessary effort. By viewing service reports and receiving scheduled maintenance reminders, you will prevent vehicle downtime, service more customers, and stay on top of fleet utilization to extend the lifespan of vehicles and assets.

Some GPS tracking providers offer a maintenance mod-



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ule that allows you to customize your platform to fit the needs of your fleet. Display maintenance reminders on the software's dashboard interface or send reminders straight to your team. Maintenance reminders can be customized for any vehicle or preventative maintenance type, like an oil change or tire rotation, even send a reminder to renew registration tags or schedule an emissions test.

Organize your maintenance expenses by accessing service logs to view the cost of maintenance for each vehicle in your fleet. By monitoring the costs associated with services, understand what you need to budget for maintenance across the fleet. Knowing the cost involved with maintenance will help your team plan a maintenance schedule in the future.

Keep your fleet up and running by tracking maintenance in the simplest way possible. Automating the process with reminders makes managing maintenance simple, helps your fleet stay at work longer and gives you the tools to prepare a maintenance budget.

Keep Your Fleet in Top Condition

The best way to keep your vehicles and assets in top condition is to cut down on run time and mileage. Reduce fleet wear and tear by eliminating unauthorized usage, improving dispatch and monitoring idle time.

Prevent drivers from using company vehicles for personal errands or any unauthorized usage with automated alerts. Be notified if vehicles or assets are moving during off hours with proactive messages sent to you, drivers, and supervisors by text message or email.

Effectively dispatch and monitor route efficiency to reduce miles driven and increase vehicle and asset lifespans. When dispatching your fleet through a GPS fleet tracking solution, you have access to real-time locations to ensure you send the closest and best vehicle to each jobsite. With the ability to look at route efficiency, you can coach your drivers to take more optimal routes. This will allow you to serve more customers per day, reduce mileage, and also reduce fuel costs if you find that drivers are taking longer routes than needed.

Unnecessary idle time is widely regarded as one of the biggest problems for fleets. Although this is a sizable issue facing fleet managers, it is easily combatted by setting automated alerts for vehicles that exceed an acceptable timeframe. You are probably not even aware how much fuel is wasted from unnecessary idling on a daily basis. Reducing idle time will cut fuel costs and keep your vehicles and assets in top condition.

Monitor Driver Behavior

By monitoring driver behavior, extend the lifespan of vehicles and assets, reduce fleet risk, and gain community support be ensuring public safety. Your fleet will need less maintenance if your drivers practice safe driving habits. With fleet tracking reports and alerts, reduce speeding, harsh breaking, and rapid acceleration. Monitoring these issues will ensure fleet and public safety by reducing the number of accidents you have on a yearly basis, which will also lower the costs of insurance premiums.

GPS fleet tracking software that includes a maintenance module will extend the lifespan of your fleet, produce an efficient way to stay on top of fleet maintenance, and improve driver behavior. Industry leading GPS fleet tracking software simplifies fleet management, cuts costs, and improves overall fleet efficiency.

About the Author: Jenny Malcolm is the Marketing Administrator for GPS Insight. She graduated from Arizona State University with a Bachelor's of Communication and is responsible for external marketing communication for all business segments that GPS Insight targets.

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Detuning High Voltage Lines in New York

By Patrick Stox

The path was cleared for a new electricity transmission line in New York that that could not be energized until interference problems with a Rensselaer, N.Y., AM radio station were resolved to the satisfaction of the New York Public Utility Commission.

After extensive onsite and computer analysis, engineers determined that 8 of 33 tall power towers on this line in the proximate area of station WGDJ-AM would disrupt the stations licensed coverage pattern and require installation of detuning systems.

The transmission towers carry a 345 kV electrical power line from a 635-megawatt natural gas fired power plant constructed in Rensselaer by Empire Generation Co. LLC. The distribution system has 70 towers in all, the last of which were erected last summer. The question was how many of them near East Greenbush, N.Y., would cause signal interference with broadcasts of the AM station. The interference would have created a violation of FCC rules governing the integrity of broadcast signals.

Transmission towers often are a height that makes for efficient radiation of medium wave AM signals. The broadcast AM signal is intercepted from the environment by the power tower and "reradiated". This reradiated AM signal interferes with the designed coverage and interference of the AM broadcast antenna system. The Federal Communications Commission licenses AM station antenna systems to very tight tolerances, and only a few percent reradiated powerline signal can seriously impact the licensed pattern performance.

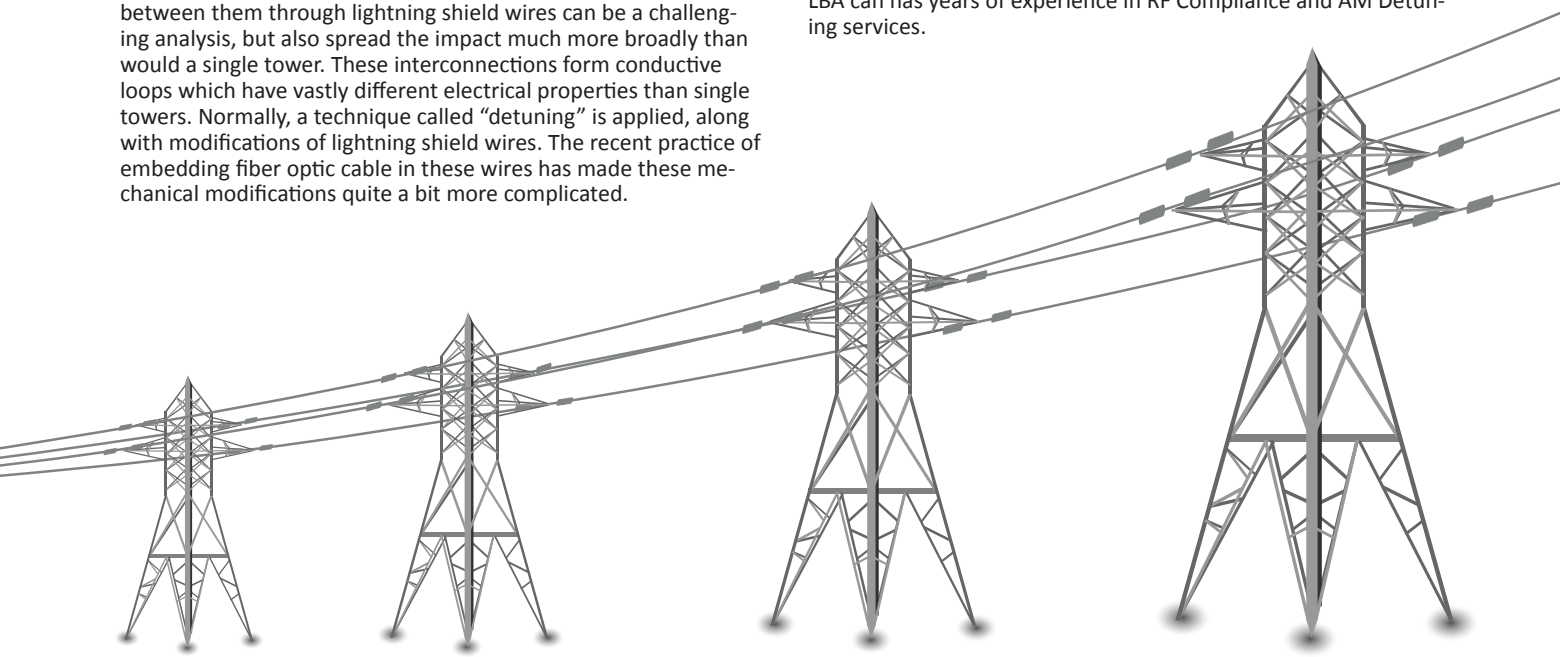
The proper evaluation and remediation of power line reradiation can be complex. The multiple transmission towers and the coupling between them through lightning shield wires can be a challenging analysis, but also spread the impact much more broadly than would a single tower. These interconnections form conductive loops which have vastly different electrical properties than single towers. Normally, a technique called "detuning" is applied, along with modifications of lightning shield wires. The recent practice of embedding fiber optic cable in these wires has made these mechanical modifications quite a bit more complicated.

To evaluate and resolve the New York problem, an engineering firm was called in by CH2M Hill, an international consulting engineering firm based in Colorado. The eight disruptive transmission structures were subsequently identified through field measurements and software modeling. Their negative impacts were remediated by an AM protection detuning process, allowing the project to proceed. The offending structures were detuned using custom-engineered hardware along with modifications to the new power line. Modifications were carefully designed for safety and usability in conjunction with CH2M Hill and the owners, and implemented by LG Constructors. Necessarily, all detuning hardware was constructed, installed, and documented to rigorous utility standards.

The process has been employed hundreds of times to detune cellular industry towers with AM radio interference problems of their own. While technological applications vary in each case, they are rooted in the same family of engineered solutions. This was an important design consideration, as renting transmission tower space to wireless carriers is an important revenue source for utilities. In the event the detuned towers were to be rented to a carrier to support their antennas, the AM dutuning documentation would also support the carrier's FCC AM protection requirements.

Interactions between high voltage transmission systems and AM stations are expected to grow in future years. Thousands of miles of powerlines are planned to support the smart grid, wind turbine, and photovoltaic power generation. Many of these will pass near AM broadcast antennas. It is vitally important for utility planners to have proposed routes reviewed by an RF engineer early in that process. If lines can't be rerouted, then detuning can be incorporated in the design process, at great savings over construction stage delays or modifications.

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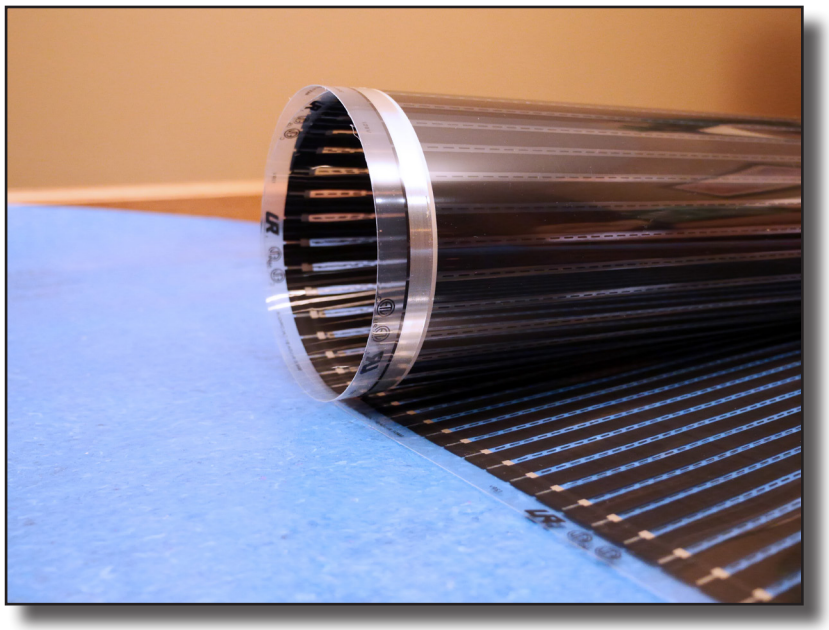
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Electric radiant floor heating systems are increasingly popular as a way to provide either primary or comfortable supplemental heat to most any room in a home. Whether used in additions, renovations, or new construction, electric radiant floor heating systems are simpler for contractors to install and easier for homeowners to manage than ever before. Heating elements, delivered as wire, film, or embedded in a mat, are installed prior to the installation of a finished floor.



While installation can be handled by any trained work crew, *a* licensed electrician is required to do the final hookup to the power source. Rather than just coming to the table for a small piece of the pie, why not get in on the action from the get-go and contract for the entire installation, working in concert with a flooring contractor who will put in the finished floor.

There are two common types of systems for residential and light commercial radiant floor heating – hydronic, which is water-based and has many components, and electric, which has few components and no moving parts and is easier to install.

Electric radiant heat options

Depending upon the particular product, electric radiant heat systems are suitable for installation under floating wood and laminate flooring, glue-down wood floors and luxury vinyl tile, as well as under ceramic and porcelain tile, and some stone flooring. Electric radiant heat is particularly popular under ceramic tile, which can be very cool under bare feet and conducts heat very well, enabling toasty toes fairly quickly.

Easy-to-install electric radiant heat systems feature three major components – the heating panels, which may be a film or mat containing the heating elements, a floor temperature sensor typically installed in the floor, and a GFCI thermostat to control the system, installed on the wall. Each room or area is controlled by its own thermostat, enabling homeowners to tightly control energy expenditure. Both line voltage and low voltage systems are widely available.

Electric radiant floor heating systems are well suited to provide supplemental heating in small spaces such as kitchens, bathrooms, and entryways, or larger spaces such as rec rooms, dens, and home theaters, as well as in rooms not sufficiently heated by the existing central heating system. Unlike previous generations of electric radiant floor heating systems designed to be primary heat sources, where heat loss calculations and worry about the possibility of underspecifying an installation were important considerations, today's systems designed to provide gentle supplemental heat do not carry those concerns.

Electric radiant floor heating systems are available that feature a very low profile, an advantage that enables an installation to only minimally raises the height of the floor.

What to look for

Some systems may be engineered specifically for a particular type of floor – e.g. floating wood, laminate or tile – and therefore they optimize performance of the finished floor and preserve the finished floor's warranty.

For example, MP Global Products' **Perfectly Warm Radiant Heat Film** is a gentle electric radiant heat system designed specifically for dry installation under floating wood and laminate floors. It also works well with floating tile systems. A low profile, line voltage system, it features gradual supplemental warmth from low wattage resistance heating of ultra-thin, flexible radiant heat film. Installed easily over a subfloor or over an acoustic/insulating underlayment as part of the overall floor assembly, Perfectly Warmth Radiant Heat Film uses just 6 watts per square foot to gently raise the temperature of the floor, conforming to the warranty requirements of many floating floors. The system, which sports an impressive 99% efficiency, includes temperature limiting properties so the film does not overheat.

Lightweight and just 0.16" thick, Perfectly Warm Radiant Heat Film is easily to install without any mess, mortar, or glue. Made in the USA, the system is available in four rollout panel sizes (1.5' x 5' and 1.5' x 10', 3' x 5', 3' x 10'). The panels are UL listed and EMC certified for safety and can be installed over acoustic/insulating underlayment as part of the overall floor assembly, for maximized benefits.

MP Global Products also manufactures a fiber underlayment that incorporates radiant heat capability for use under traditional ceramic and porcelain tile flooring as well as under glued down wood and engineered wood floors. The underlayment, made from minimum 77% recycled materials, combines a generous array of acoustic and insulating properties with electric

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wires in the insulated pad that can provide gentle supplemental heat to the room. The wires, installed during the manufacturing process, are optimally spaced for even distribution of the gentle heat. The underlayment would be a welcome addition to kitchens, bathrooms, and playrooms, especially in homes where children often play on or close to the floor.

Talking points: advantages of radiant floor heating compared to forced air, hydronic (water), or electric baseboard systems

- Does not negatively impact the aesthetics of a room and does not interfere with placement of furniture, window treatments, or doorways
- Silent system, no whooshes of water or steam going through pipes, no expansion creaks
- No drafts
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- Because the generated warmth is at the level of objects which are typically close to occupant level, it is well suited as efficient heating in high ceiling spaces or lofts
- More energy efficient than forced air and baseboard hydronic radiator systems, keeping homeowner energy costs down
- No required maintenance – no mechanical heaters to heat the water, no pumps to move the water, no potentially leaky pipes

Duane Reimer is the Technical Director of Marketing of MP Global Products L.L.C., Norfolk, NE, an innovator and leader in the manufacture of Made-in-America fiber acoustic floor underlayments. For more information on Perfectly Warm Radiant Heat Film, please visit www.quietwalk.com or call 888-379-9695.

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Important Insulated Bucket Truck Safety Facts!



By Christopher M. Hunter

Bucket trucks are very versatile pieces of equipment that have become important utility vehicles on the modern construction and/or utility job-site. The bucket that is attached to the boom is the mechanism that enables a worker to perform many aerial tasks. Along with its usefulness, there are many hazards associated with the entire boom apparatus. Electrocution is one of those hazards and has become the primary cause of injuries and even fatalities.

Insulation Facts

Owning an insulated bucket truck does not necessarily make the operator immune from electrocution. Just like any other piece of equipment, these vehicles' parts contain metal which is a strong conductor of electricity. Even with an insulated boom, there are parts that do not provide any insulation. For example, these vehicles may have a band of arrows to indicate the point at which the insulated part of the upper boom ends.

In addition, covers and guards that are installed do not fully guarantee protection from electrocution in cases of power line contact, so it is better to take extra precautions and not rely solely on the insulation that is part of the vehicle.

Bucket Truck Safety

It is highly recommended operators know and practice safety standards for such tasks; they should be aware of the risks of working near live power lines. The following are recommended safety procedures for bucket truck operators to perform prior to beginning any aerial work.

- **Check for No Ground Path**- Be sure to check that the equipment is free from any ground paths, especially with the insulated bucket of the truck. Always remember not to rely completely on the insulated protection provided with the vehicle.

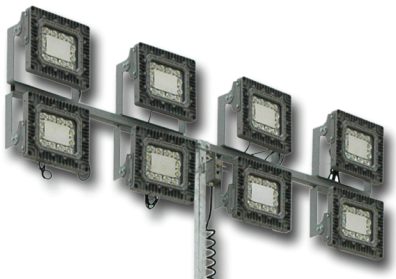
- **Tool Job Ratings**- Check all electrical tools and equip-

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ment to make sure that they have the correct job ratings.

- **Check Insulation Barriers**- Make sure that all insulation barriers and other equipment subject to wear-and-tear are checked routinely. Never use any tools or equipment that are dirty, wet or with deteriorated insulation.

- **De-energize Power Lines**- For aerial tasks that will be performed near power lines, ask the utility company to de-energize the lines or install additional protective insulation for the duration of the task.

When the work has begun, following are some important things to remember:

- **Do Not Touch Any Line**- Operators should treat all wires and utility cables as if they are energized and should not attempt to touch them.

- **Keep Safe Clearance**- Make sure that there is adequate clearance between the equipment and the bucket of the truck and all electrical wires. It is recommended to keep at least ten feet away.

- **Wear Protective Gear Always**- All operators should wear approved protective gear when performing jobs that are electrical in nature, for example, putting up decorative lights.

- **Don't Use Tools Near Lines**- If the operator needs to use a tool that extends away from the bucket, be sure that the truck is positioned further than the length of the tool from any electrical wires.

For all operators, safety should be the first concern. All workers should be familiar with the equipment and be well-informed about the work site where the jobs will be performed. A comprehensive bucket truck training and certification program is very important to preserve life and property; it should be the goal of every operator to complete a training and certification program. Should any uncertainties arise during operations, it is better to seek help from professionals and thereby prevent injury or loss of life. Insulated bucket truck safety facts are the most important thing a worker can learn before operating this heavy-duty equipment!

Insulated Bucket Trucks Make Aerial Work Safer

In construction or utility work, safety is of the utmost importance. This is especially true regarding any kind of electrical work, since the risk of electrocution is high if proper safety precautions are not observed. There are numerous injuries and deaths every year related to utility work, many of which are caused by electrocution while working on power lines. Yet there are many protective measures that can be taken to lessen such risks, including the use of special safety equipment such as insulated buckets on any lifting trucks.

Necessary Precaution

Insulated safety equipment for aerial lift trucks is an essential component for crews working on or near live electrical wires. It is composed of three fiberglass-lined parts that work together to prevent shock in case of accidental contact with active wires. In order for a unit to be considered protected, its safety equipment must be approved by ANSI and OSHA standards. Together, these specific parts protect a worker from any current in case the bucket or boom touches a live electric wire.

Insulated Components

The components that should be insulated in a typical boom truck are the bucket liner as well as both the upper and lower boom. The liner sits inside the aerial lift and a worker stands inside the liner, protected in the event that live current touches the bucket in any fashion. Upper boom protec-



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tion prevents any current from passing through the upper part of the boom from the end to the elbow. Lower boom insulation keeps current from passing through the rest of the crane and into the truck chassis. In order to have proper protection, all three components must be used simultaneously or current can still pass through the vehicle and affect either a worker in the bucket or other works on the ground who may be touching the vehicle during operation.

Training

Certain other equally important items should be considered when operating an insulated bucket truck to ensure proper safety. All drivers must be certified to operate this unique truck above and beyond any other type of license that is required. Such certification is important because those who operate such vehicles obviously work around or with live current and safety training for such specific jobs is much more extensive.

Inspection

Insulated vehicles need to have regular inspections and testing of a truck's protective features to be sure that they are working properly at all times. If a unit does not pass an inspection, repairs must be done before being allowed to perform any tasks. Wear and tear, along with unrealized damage can affect the protective properties of this vehicle over time; the only way to establish that it is still working properly is to periodically test and repair the vehicle on a regular basis.

While insulated bucket trucks may cost more than a standard version, it is with good reason. Every worker that goes up in one of these aerial platforms to work - whether on phone or electric lines - puts their lives in the hands of all provided safety training and equipment. The additional cost is minuscule in comparison to the protection from harm provided by insulated gear, so no company should ever cut corners on this part of the vehicle. By using the right accessories and keeping them in good condition, a business can more easily maintain high safety records and avoid devastating accidents. Hopefully, this article has enlightened readers to the way that insulation helps maintain safety with this powerful lifting truck!

Christopher M. Hunter is an expert in commercial specialty trucks. Click here to find out more about Altec Bucket Trucks.



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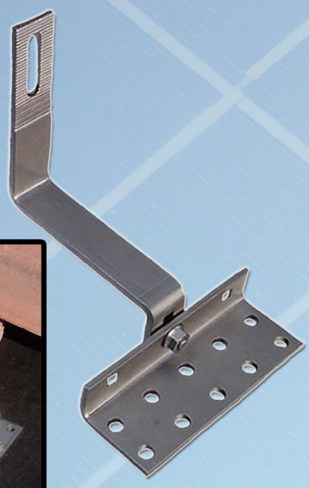


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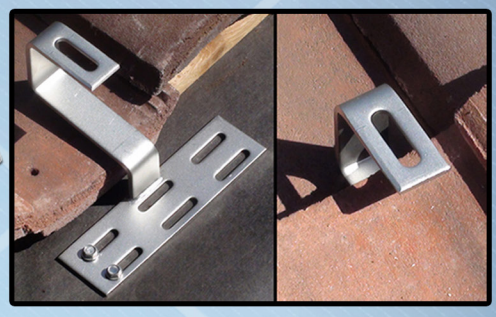
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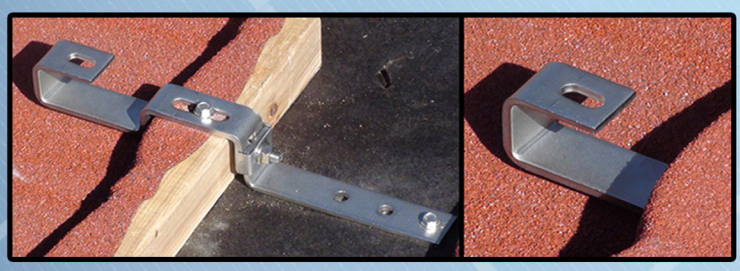
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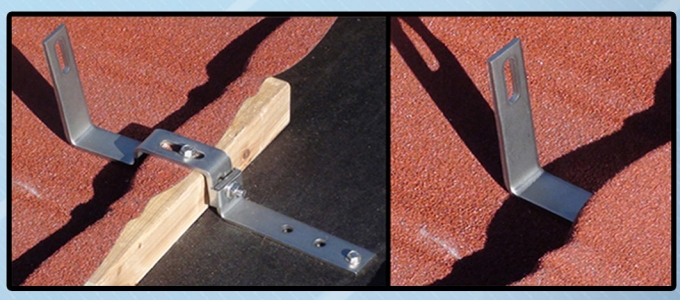
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