February 2014

# THE UTILITYSOURCE

Products and Services for Today's Electric, Telecom, and CATV Utilities



## Motor Fleet Maintenance

pg 8

## When Everything's On The Line...

**Custom synthetic winch line distributors offer unprecedented benefits**

# Specialized Customer-Driven Solutions.



Dur-A-Lift, Inc. manufactures telescoping and articulating aerial personnel and material handling lifts for many needs. Dur-A-Lift's experience, quality & dependability shows in every product that leaves the factory. We pride ourselves on unsurpassed service both during, and after the sale.

At Dur-A-Lift we base our success on our customer's successes. By fostering mutually beneficial relationships with our customers on a personal level, we gain the ability to truly understand their needs. Call us today and let us put our experience, quality, dependability & service to work for you!

Experience, Quality, Dependability & Service...

DUR-A-LIFT®

Like us on Facebook

www.facebook.com/pages/Dur-A-Lift-Inc/282794071750558

PO Box 31, George, IA 51237 · Toll-Free: 1-877-4-DURALIFT · www.dur-a-lift.com

No Blasting License Required

# Boulder Buster™









## The better solution in rock breaking.

The Boulder Buster™ is a compact, cost effective and portable piece of equipment which is extremely useful in the splitting and breaking of rocks, boulders, as well as the demolition of concrete structures. The sheer convienience of operation and low operating cost make the Boulder Buster™ the first choice in standby rock breaking equipment.

### *Advantages*

- Safe and simple to operate
- Energy efficient
- No damage to structures and equipment
- Very low concussion
- Insignificant toxic gasses
- Low velocity fly rock and very little scatter
- No blasting license
- Light-weight and compact
- Cost effective

### *Applications*

- Secondary breaking in mines and quarries
- Civil construction
- Demolition
- Site clearing
- Swimming pool excavation
- Trench digging
- Farming operations
- Dimensional stone dressing and sizing

Black Rock Trading
1-604-618-5780
info@boulderbuster.ca

Watch a 5 min video on
www.boulderbuster.ca

## TUS CONTENTS



### Feature STORY


8 Motor Fleet Maintenance

16 The Benefits of Annual Infrared Scanning for Electrical Equipment

20 Periodic Infrared Inspection Best Practices - Route Based Surveys

26 When Everything's On The Line...


### In Every ISSUE


4 Letter From the Editor

6 Best of the Web

30 Product Focus



THE UTILITYSOURCE

Products and Services for Today's Electric, Telecom, and CATV Utilities

**GROUP PUBLISHER**
Jim Barnhill
205-733-1343
jim@handfmedia.net

**EDITOR/ DIGITAL DIRECTOR**
Danny Thompson
danny@handfmedia.net

**CREATIVE DIRECTOR**
Jacklyn Greenhill
jacklyn@handfmedia.net

**ADMINISTRATIVE COORDINATOR**
Annie McGilvray
annie@handfmedia.net

**FACILITATOR/ LEAD COORDINATOR**
Steven Hobson
steven@tipsmag.net

**CEO**
Christy Hobson

**PRESIDENT**
Glen Hobson

H&F Media

**Executive and Advertising Offices**
**951 1st Ave. W.**
**Alabaster, AL 35007**
**phone: 205-624-3354 fax: 205-624-3354**
**www.theutilitysource.net**
**glen@tipsmag.net**

***The Utility Source***™ is published twelve times a year on a monthly basis by H&F Media Group, Inc., 951 1st Ave. W. Alabaster, AL 35007 USA. ***The Utility Source***™ is distributed free to qualified subscribers. Non-qualified subscription rates are $57.00 per year in the U.S. and Canada and $84.00 per year for foreign subscribers (surface mail). U.S. Postage paid at Birmingham, Alabama and additional mailing offices.

***The Utility Source***™ is distributed to to qualified owners and managers in the industrial industry. Publisher is not liable for all content (including editorial and illustrations provided by advertisers) of advertisements published and does not accept responsibility for any claims made against the publisher. It is the advertiser's or agency's responsibility to obtain appropriate releases on any item or individuals pictured in an advertisement. Reproduction of this magazine in whole or in part is prohibited without prior written permission from the publisher.

**POSTMASTER:** Send address changes to
H&F Media Group, Inc., P.O. Box 1568
Pelham, Al 35124
**PRINTED IN THE USA**

Toll Free 1-800-525-8460 • Tel 303-936-7432 • Fax 303-934-5581 • sales@pelsue.com • www.pelsue.com

# Keep your lift operators safe.

**With multiple operations during the day, lift operators may forget to re-attach their safety harness lanyard to the boom anchorage. Now there is an easy solution from one of the leading design and manufacturing companies in America.**

PELSUE®

TRADITION+INNOVATION

*introduces*

NEW

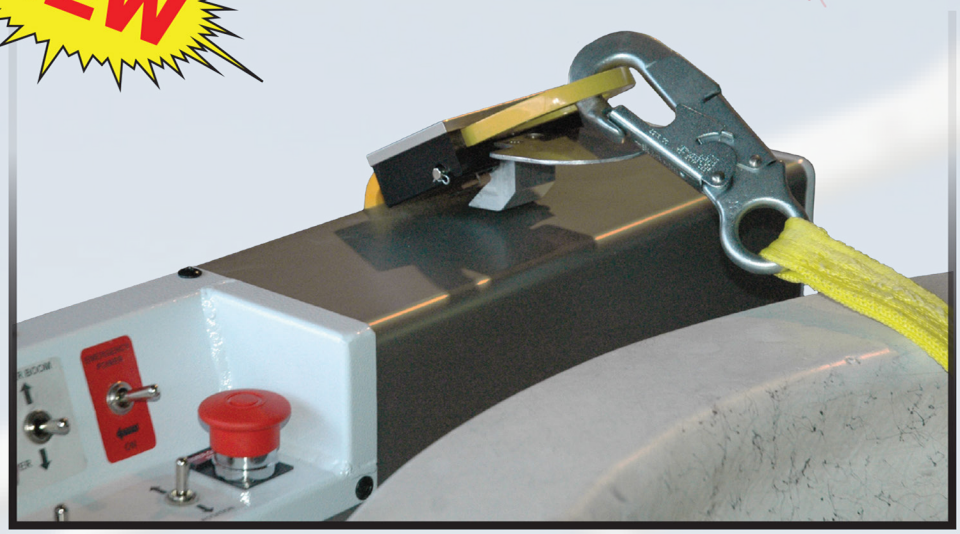
## VERT-ALERT™

LANYARD ATTACHMENT WARNING SYSTEM

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



Alerts your lift operator with an audible statement "Warning, fall protection not connected!".

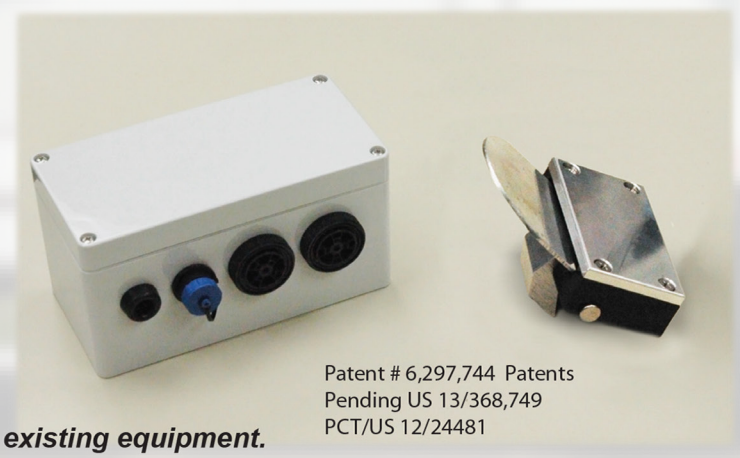




Alerts crews and bystanders when basket is descending with an audible statement, "Warning, aerial lift descending!".

**Vert-Alert™ capabilities**

- **Optional** interrupt feature that prevents lift from ascending if safety lanyard is not properly attached.
- Descent alert
- Data logging



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

1963 - 2013 PELSUE 50 years TRADITION + INNOVATION

***Easily installed on new and existing equipment.***



# The Season of The Winter Warriors

This winter seems to have been one of the most spectacular in recent memory. According to meteorologists, the Jet Stream slowed causing a more pronounced peak-and-trough wave that pulled cold artic air deep into the continental U.S.. This caused several cold weather events that were more severe, more frequent and more prolonged than usual.

Dallas, TX saw eight inches of snow. Parts of Florida and the Gulf Coast saw up to six. Temperatures dropped so rapidly in Atlanta, Georgia and here in Birmingham, Alabama, that snow fell, melted on the warmer road, then re-froze, encasing surface streets and interstates in ice within thirty minutes from the first flakes falling. You probably saw the results on the news.

Power went out in places, but not for long. Because, while everyone else is hunkering down against the cold, line crews and other utility teams get to work. I've been in a bucket truck, but only on a nice, mild autumn day. The thought of doing it in high winds and whiteout conditions, handling live lines encased in ice, is a daunting one for this editor.

99.9% of the time, a lineman's work is invisible. And that's a good thing, because that means customers go their whole day watching TV, surfing the internet, taking hot showers in an air-conditioned home, unaware of ongoing maintenance and upgrades. The other 0.1% of the time—those times the customer notices—the customer is simply hoping for the lights and heat to come back on. There is seldom a thought given to the men and women out in the biting cold working to fix it.

But that's what this industry does. Fix it.

So, in this particularly unforgiving season, to all of the winter warriors who have been putting in extra hours in harsh conditions so that no one else has to suffer them, know that some of us DO notice your work and are grateful for those who do it.

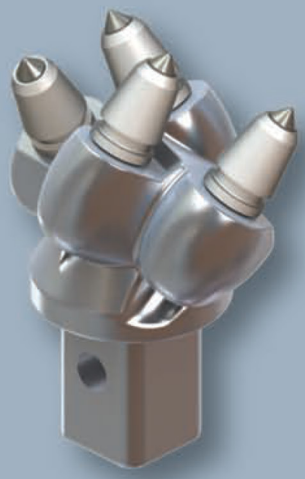
Thank you for all you do.

**Danny Thompson, EDITOR**

# Jeffrey Machine

Serving the Utility Industry with Quality Products and Service for 35 Years.

- Rock and Dirt Augers
- Core Barrels
- Rock and Dirt Pilot Bits
- Kelly Extension Bars and Adapters
- Anchor Drive Tools and Accessories
- Hard Surfacing Capabilities
- Replacement Parts

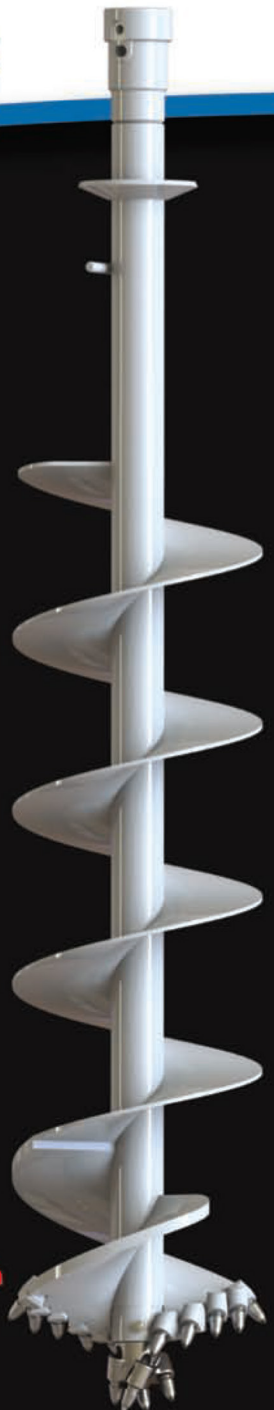







www.JeffreyMachine.com





Visit www.JeffreyMachine.com to see our catalog and complete selection of custom built tools.

**Visit us at: www.jeffreymachine.com**

Birmingham, Alabama
(205) 841-8600

## Best of the WEB

Just some of the things we came across while surfing the web.



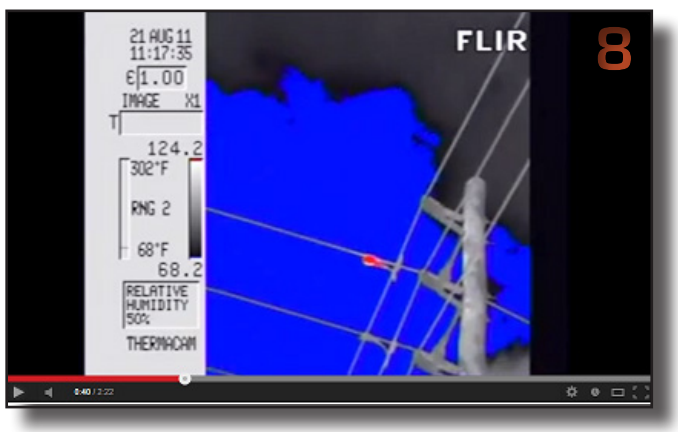

1. Security Lighting: Creating Peace of Mind http://ow.ly/t4MOL
   1000bulbs.com
2. Programmable vs. "smart" thermostats http://ow.ly/t4MwJ
   fplblog.com
3. Suburbs offset Low Carbon Footprint of major U.S. Cities http://ow.ly/t4Md2
   http://en.openei.org/
4. Cold weather forcing utilities to take desperate measures http://ow.ly/t4M35
   smartgridnews.com
5. Changes in Humidity Are Used to Generate Electricity http://ow.ly/t4Mkf
   cleantechies.com
6. Electric power's five biggest challenges: Part Three – Multi-customer microgrids http://ow.ly/t4LSr
   smartgridnews.com
7. Steel Yard Offers Youth Metalworking for Spring Break http://ow.ly/tmhJ4
   golocalprov.com
8. Hot Spot Found on Power Line During Infrared Inspection http://bit.ly/1c7Cvss
   YouTube









# INTRODUCING



## HIOKI'S PW3360 POWER DEMAND ANALYZER

- No computer required in the field
- Recording capability of up to one year
- Battery Life - 8 Hours
- Remote Monitoring Capability
- View real time data on TFT Color LCD Display

starting at **$1495**




# HOT OFF THE PRODUCTION LINE

- Built-in Quick Set function guides you in making the right connections (including set-up storage)
- Screen indicates a failure of proper connection and provides instructions for corrective action.
- HTTP function allows real time monitoring and measurement display using a standard web browser.
- Lightweight, 4 x 7 inch 19.4 oz unit allows logging in limited space.
- Harmonic capability compliant with IEC 61000-4-7:2002
- Power Logger Viewer Software for PC

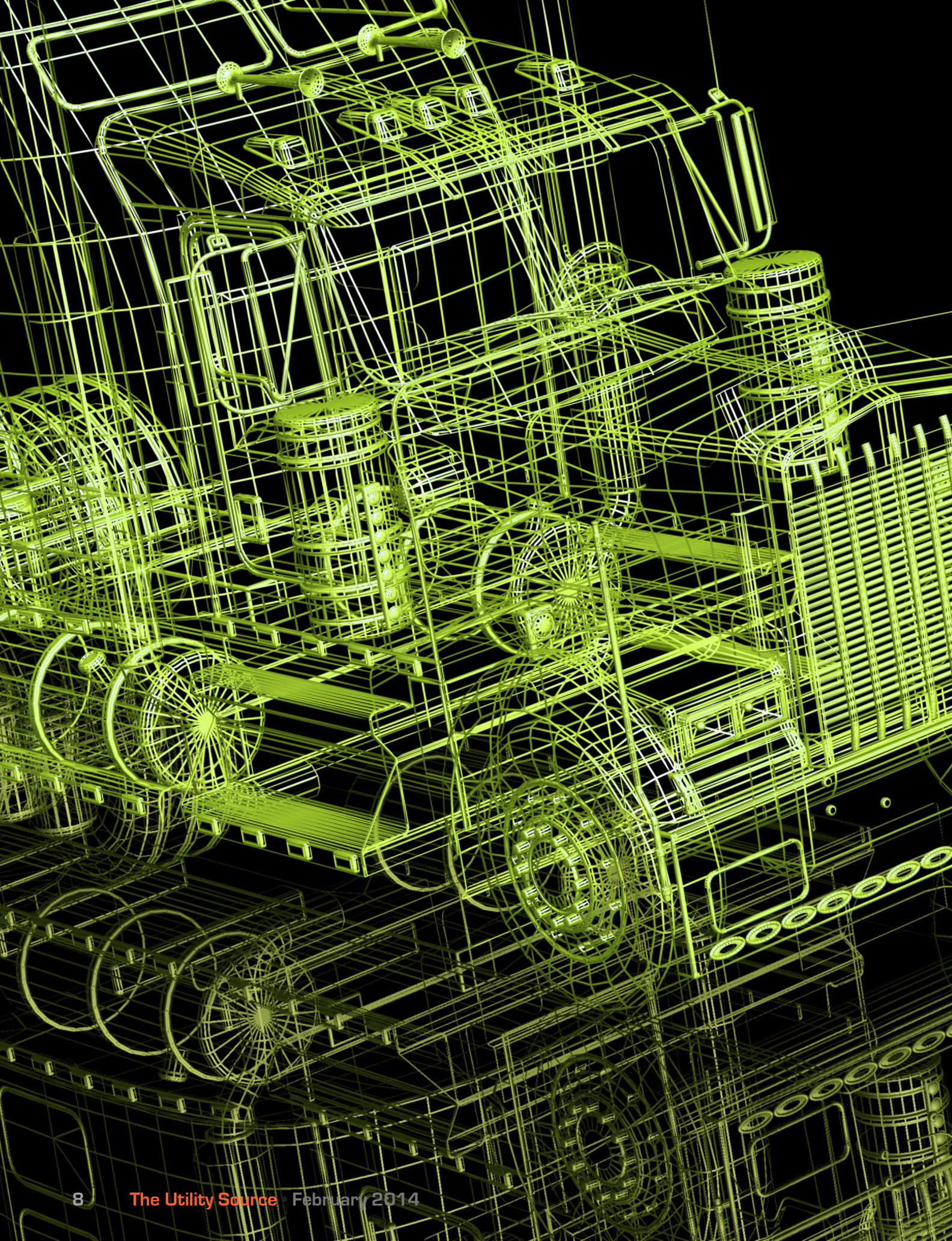
**Producing High Quality Products For over 78 Years**

HIOKI


6 CORPORATE DRIVE•CRANBURY, NJ
PHONE: 609.409-9109
FAX: 609.409-9108
www.hiokiusa.com

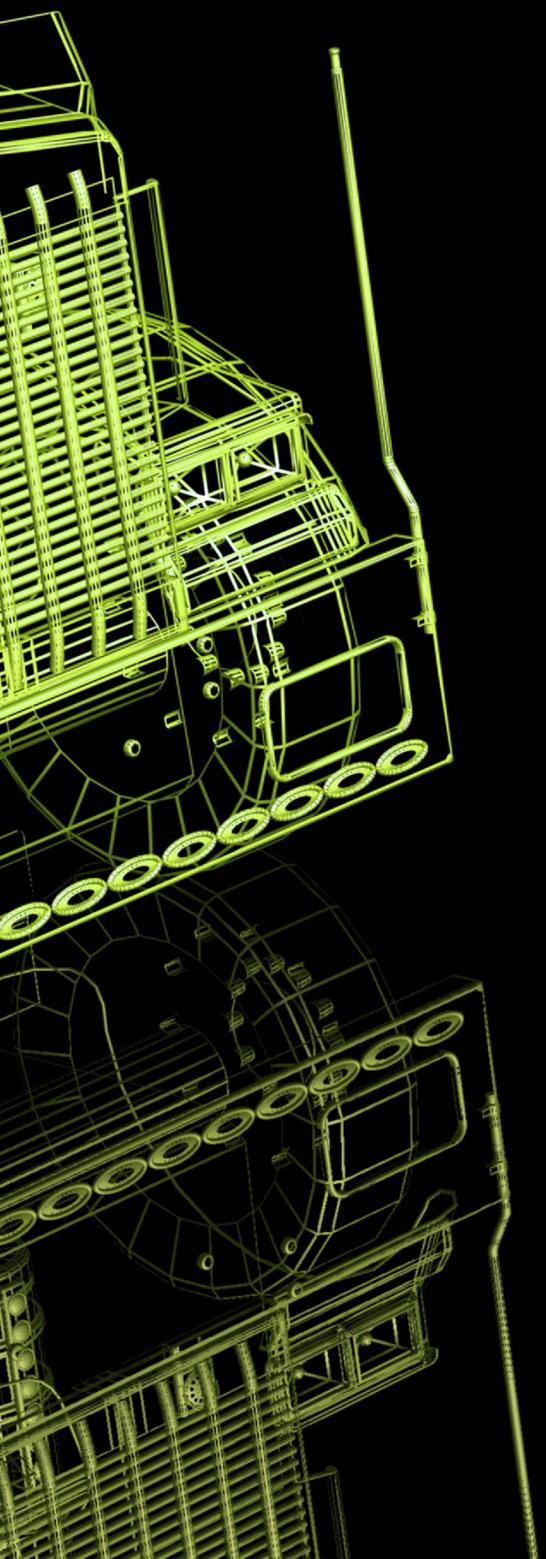



**ISO 9001**
**ISO 14001**
FOR A CLEAN ENVIRONMENT
"we're doing our part"



# Motor Fleet Maintenance

*By Ramon Elias Rodriguez*



## 10 Tips to Improve Your Motor Performance

Managing a motor fleet and obtaining the optimum usage of it is the aim of every fleet manager - knowing how to keep track of the vehicles you have and what you need to do with them.

The first thing you need to manage is the motor maintenance plan. If you succeed to implement the right plan then you will maintain the highest number of vehicles on road while the least number will stop for maintenance and this will increase the efficiency of your fleet.

Automotive fleet maintenance is divided into two parts, the regular maintenance and the unusual maintenance. If the regular motor maintenance is carried out on time then this will decrease the number of times of unintended motor maintenance.

If you want to improve your motor performance then it is better to use the highest quality spare parts that can serve a longer time before it needs to be replaced once more. More replacement means more pit stops. Decrease the number of automotive fleet maintenance stops and increase the improvement.

Always make sure that every vehicle of the fleet is having its optimum maintenance. Small cars need different maintenance interval from large cars. Make sure that every car has its own automotive maintenance schedule. That will extend the life span of every vehicle in your fleet.

The best way to improve the performance of your fleet is to use a computer software program specialized in motor fleet maintenance schedules. This is very important with large fleets that consist of different vehicle types. The fleet maintenance program will help you never miss a maintenance date and this means that you will get the most out of every vehicle of your fleet.

Always ensure regular motor fleet maintenance in order to get the most out of your fleet.

### *5 Steps to Create a Maintenance Policy*

When you manage an auto fleet, you need to have a clear vehicle maintenance policy for those working with these cars. A policy will regulate everything related to the vehicles and will keep everything running smoothly without interference of anyone. Here you can find out more about the basic steps of creating a automobile maintenance policy for a car fleet.

#1 Start with counting all the motorized vehicles under your command in order to find out do you need to own a maintenance shop or not. If you have a reasonable number of cars then it would be more economical to have a mechanic shop of your own as this will save you a lot. If you only have a few vehicles then it is better to make a contract with several mechanic shops to fix and maintain your vehicles.

#2 Your automobile maintenance policy should state clearly which part of the maintenance you (the company) pay for and which one does the driver pay for (if any). This will help clarify everything for those working with you.

#3 The maintenance policy should clear where they should get the spare parts from. Locating a specific place to buy the spare parts will guarantee that all your cars will enjoy the same level of maintenance and the same quality of spare parts.

#4 It is very important to state in your vehicle maintenance policy whom to call in case of accident or emergency. This will keep everything done with no complications and will help get the jobs done with no delay.

#5 Finally, your policy should have alternative solutions in cases or emergency. For example, if you find that the mechanic shop is closed for any reason, where can you fix your car that you need urgently?

All these points should be covered in your policy.

### *5 Tips to Track Maintenance the Right Way*

If you are responsible for a motor fleet management then you need to know how to keep track of everything related to your fleet. There are some vehicle maintenance tracking tips that you need to apply in order to carry it out in the right way. When you consider these tips, you are making sure that your vehicle fleet is performing well.

#1 make sure to implement the right vehicle maintenance tracking software program to your fleet. This will help you perform the needed maintenance in the designated times for every vehicle. This will save you a lot of time that you need to manage



KH INDUSTRIES™

# NightRay® 2 SPOTLIGHT SYSTEM
## WITH NEW *TWINRAY™* CONTROLLER

***THE POWER IS IN YOUR HANDS, INDEPENDENTLY CONTROL TWO NIGHTRAY SPOTLIGHTS WITH ONE CONTROLLER***




CONTROLS ONE OR TWO NIGHTRAY SPOTLIGHTS

TOGGLE BETWEEN LIGHTS TO CUSTOMIZE A BEAM PATTERN TO MATCH YOUR JOBSITE

MULTI DIRECTIONAL LIGHTING AT ANY ANGLE

EASY GLOVED-HAND CONTROL

RUGGED, WEATHER-TIGHT DESIGN

CLEAR WIRELESS COMMUNICATION

**NIGHTRAY 2 LIVE DEMO AT:**

The Demo Expo ICUEE
INTERNATIONAL CONSTRUCTION & UTILITY EQUIPMENT EXPOSITION

**BOOTH 2110**

THE TWINRAY IS PART OF THE NIGHTRAY 2 SPOTLIGHT SYSTEM AND COMES WITH ALL NEW SINGLE OR DUAL NIGHTRAY SPOTLIGHTS.

***5 YEAR LIMITED WARRANTY***

**CONTACT KH INDUSTRIES FOR MORE INFORMATION**

**WWW.NIGHTRAY.COM • 716-312-0088**

MADE IN THE USA

your fleet maintenance manually and through paper work.

#2 make sure that every vehicle in your fleet has a unique serial number so you can easily identify it most vehicle maintenance tracking programs have the ability to implement the serial number of the cars. The unique number helps you to find everything about the car or the vehicle.

#3 the first aim of vehicle maintenance tracking system is to minimize the time spent for maintenance. This means that you also need to make sure of the renewal times of the driver license of the vehicle because a car with no driver means unused car.

#4 vehicle maintenance tracking system is a computer software program so; make sure that you always have the latest version of your tracking program. When you have the latest update for your software program then you are making sure that you get the best service for your maintenance system.

#5 finally, make sure that you are dealing with high quality spare part dealers in order to get the best quality for your vehicles. Purchasing the highest quality spare parts will improve the maintenance interval and will reflect on the efficiency of the vehicle tracking system.

Ramon Elias Rodriguez is an author and management expert helping companies deal with asset management and fleet management issues.





# DEFY EXPECTATIONS

## Be A Job Site Super Hero!

New from VMAC:

The *Ultimate* "Utility Belt"...

# The RAPTAIR Multifunction



**Includes:**

- Compressed Air
- AC Generator
- Welder
- Battery Charger
- Booster
- Hydraulic Capability
- Auto Shutdown

**All in one Compact Powerful package!**

VMAC

VEHICLE MOUNTED AIR COMPRESSORS

**COMPACT. POWERFUL.**

vmacair.com/ncp

1-866-369-3729

VMACAir

Visit our Channel YouTube

user/vmacair

# CUT COST DRAMATICALLY

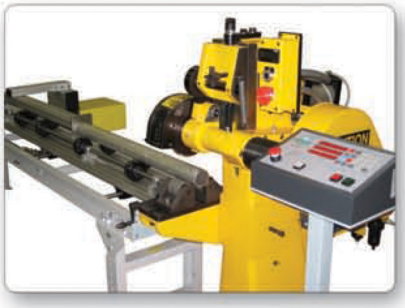


Continental
A DIVISION OF
HIGH-SPEED ROTARY
PIPE & TUBE CUT-OFF MACHINES
KIENE DIESEL ACCESSORIES, INC.



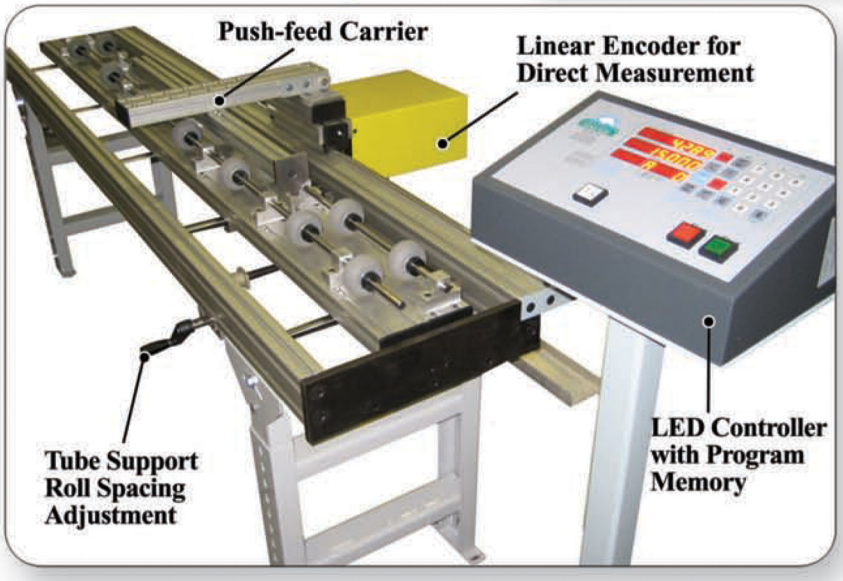
- **Eliminate scrap loss**
- **Deliver up to 900 cuts per hour**
- **Handle variety of pipe and tube diameters and lengths**
- **Air or hand operated machines to choose from**

Unique rotary cutting method eliminates waste. Machine set-up is easy and fast. Cut-off blades deliver thousands of cuts between sharpening. The easiest and most economical way to cut pipe and tube. And, ***Continental*** high-speed rotary cut-off machines are backed by over 90 years of proven reliability.



## Introducing the Kentucky Gauge PDS Series Programmable Feeders

**for Continental Pipe & Tube Cutoff Machines. Improve the quality and productivity of your cutting operations plus, free the operator for other tasks!**




## These PDS Series features will improve your pipe and tube cutting operation:

- **Provides fast, consistent cuts**
- **Frees operator for other tasks**
- **Easy to set-up, easy to program**
- **Fast changeover to different tube diameters**

ASK US TO QUOTE ON A FEEDER FOR YOUR EXISTING MACHINE, OR QUOTE A COMPLETE FEEDER/CUTOFF MACHINE SYSTEM...

COME SEE US AT BOOTH S3545

Continental
A DIVISION OF
HIGH-SPEED ROTARY
PIPE & TUBE CUT-OFF MACHINES
KIENE DIESEL ACCESSORIES, INC.


***CONTINENTAL*** **Pipe & Tube Cut-Off Machines**
A Division of Kiene Diesel Accessories, Inc. • 325 South Fairbanks Street • Addison, Illinois 60101
800-264-5950 • Local 630-543-7170 • Fax 630-543-5953 | info@continentalcutoff.com • www.continentalcutoff.com

# CARNIE CAP™

## CUTTING EDGE IMPALEMENT PROTECTION

**National OSHA Compliant**
**CAL-OSHA Approved**



**CARNIE CAP** is the most effective way to cap exposed rebar keeping your workers safe and on the job.

- ✓ **WORKS IN HORIZONTAL, VERTICAL & INCLINE APPLICATIONS**
- ✓ **SAFELY DISTRIBUTES WEIGHT ACROSS ENTIRE SYSTEM**
- ✓ **ASSEMBLE WITH 2x4 OR 2x6 LUMBER ALREADY ON-SITE**
- ✓ **NO MORE CAPPING EVERY REBAR!**



**ORDER TODAY!**
**(888) 743-7725**
**www.carniecap.com**

MADE IN THE USA

Patent # 5826398, 6073415

# The Benefits of Annual Infrared Scanning for Electrical Equipment




*By Jimmy Drago*

Infrared scanning can reveal a variety of electrical problems before they become critical. Four electrical equipment issues that are routinely revealed by annual scans are: early stage equipment failure, overloaded equipment, load imbalance, loose connections, and hot spots. When problems are detected, the customer, the infrared scanning provider, or a repair service can correct them. In many cases, the scanning provider also offers equipment repair and replacement services, an arrangement that saves the customer money.

*The Benefits of Infrared Scanning*

Most facilities have their distribution equipment scanned once a year, which is sufficient to reveal problems that develop gradually. By using scans to identify equipment problems, companies receive the following benefits, among others:

*Quick Identification of Problems*

When facilities realize they have an electrical problem but can't pinpoint what it is, they spend valuable time and money examining an issue that a scan could solve within minutes. Instead of conducting inspections and equipment tests that may or may not reveal the problem, a facility can use infrared scanning to discover and resolve the problem on the same day.

*Improvement of Maintenance Quality*

Without the aid of scans, facilities perform power transfer switch maintenance, switchgear maintenance, and other types of maintenance using three basic methods: visual examinations, electrical tests, and routine cleaning. While necessary in their own right, none of these procedures are as adept at identifying and preventing equipment problems as infrared scanning.

*Prevention of Expensive Replacements and Repairs*

If left undetected, problems in electrical equipment can damage it to the point where expensive repairs or replacements are needed. The point of electrical maintenance is to prevent these things from happening. Annual infrared scanning is the top preventative maintenance measure for electrical equipment.

*Reduced Equipment Downtime*

Problem equipment is often de-energized and inspected by hand. Then it remains de-energized while repairs are made. For facilities that can't afford extended equipment downtime, a scan can identify problems while equipment runs at full load, keeping downtime limited to the repair process. In fact, scans should only be conducted when equipment is under full load.

*Prevention of Equipment Failure*

For most facilities, the failure of electrical equipment is an expensive prospect. In addition to requiring repairs or replacements, it can also require the use of emergency generators, or leave a facility without power when no generator is present. By identifying problems early, annual infrared scanning can help prevent equipment failure.

*Prevention of Injuries*

If left unaddressed, electrical equipment problems could lead to dangerous events such as arc flashes, which can seriously injure or kill electrical workers. When these tragedies occur, the financial consequences can be serious. Consider the fallout that could result from a single arc flash incident: workers comp claims, OSHA (Occupational Safety & Health Administration) fines, lost equipment, fire damage, damaged reputation, and lawsuits for pain and suffering. Scans play a vital role in preventing these things.

To learn more about the scan process, interested parties should contact a commercial electrical services provider that has a proven track record in electrical distribution equipment maintenance, repairs, and replacement.

# RAM® VEHICLE MOUNTING SYSTEMS

FROM $175.00

Powered Dock For The GETAC B300



Tablet Mounts



Printer Mounts



Universal Laptop Tray



Tough-Box™ Console Mounts

## Why Choose RAM Vehicle Mounts over other mounting systems?

- Shock and vibration protection
- Low cost
- Military endorsed
- Available in metal or composite
- Large selection of no-drill™ vehicle bases
- Ease of installation and use
- Proven ball and socket designs
- First patented molded dock for laptops in vehicle applications
- Patented ergonomic designed docks for safety
- State of the art form and function
- Unmatched quality
- Made in USA
- Lifetime warranty

RAM MOUNTS MADE IN USA Your Best Connection Patented & Pats. Pend.

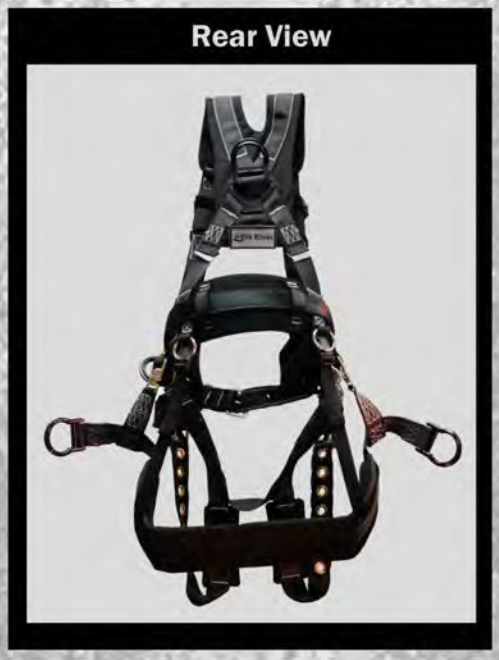
**JUST RAM IT!®**

Sold Through Dealers, Re-Seller Programs Available

1-800-497-7479
WWW.RAM-MOUNT.COM

# Elk River, Inc.®
## Personal Fall Protection

**Don't Learn Safety by Accident!**




## WindEagle LE Harness
62451





## Peregrine w/ Removable Seat
67632

**www.elkriver.com**

## Peregrine w/ Removable Seat Product Features:

-Made in America
-Comfort Features: Large thick breathable back and shoulder pads, wide padded waist belt, padded leg straps, and padded 4" seat
-Lightweight, yet strong Aluminuim connecting hardware
-Removable and Repaceable tool belt with tongue buckles adjustment
-Adjustable and Detachable seat for comfort during prolonged work at height
-Six D-Rings: Two Fall Arrest- Sternal & Dorsal, Two Positioning - One at each hip, And Two Suspension- One at each thigh
-70 Degree Fall Assrest D-ring at shoulder for ease of connection
-5 Point Adjustable: One at each shoulder, waist belt and leg straps with tungue buckles
-Tool Rings for extra gear transporting capability
-Dual Rear Fall Indicators
-Dual Lanyard Parks for proper storage of unused twin leg energy absorber connector

## WindEagle LE Product Features:

-Made in America
-Lightweight
-Dual Rear Fall Indicators
-Comfort Features: Comfort Shoulder Pads, 6" Wide Soft Back Pad, Comfort Leg Straps
-Dual Lanyard Parks for proper storage of unused twin leg energy absorber connector
-Large comfort D-Ring slider at back
-Removable and Replaceable tool belt
-Four steel D-Rings: Fall arrest connections: Dorsal & Sternal. Positioning Connections" Two (one at each hip).

# Those who know protection.. know Elk River, Inc

Elk River, Inc.'s uncompromising quality contributes to your company's commitment to safety and productivity through comfortable working equipment. The Platinum Series features lightweight hardware for less fatigue, breathable padding and easy pull down adjusters. We also offer a complete line of readily available products at competitive price points such as the Eagle Series. These harnesses will have your workers motivated to use fall protection equipment through world-class design and construction creating comfort for all day wear. Elk River, Inc. Personal Fall Protection, "where technology meets traditional values". We are your number one source for fall arrest systems, products and accessories.

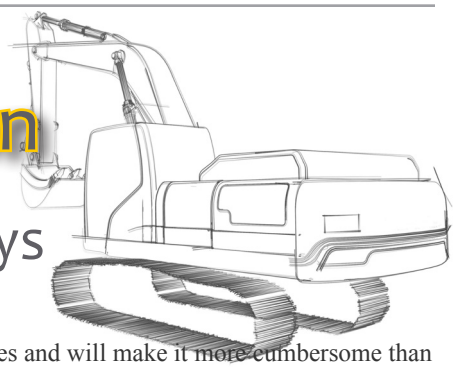



Please feel free to call with questions or comments and we will help you in every way that we can.

**800.633.3954**

# Periodic Infrared Inspection

## Best Practices - Route Based Surveys



*By Josh L. White*

Beginning in the late 1960's, thermal imaging was limited to power line and substation inspection of overheating electrical connections. Those systems were bulky vehicle-mounted systems that cost perhaps as much as $500,000 in today's dollars. While these systems offered for the first time an easy and intuitive method of identifying connection problems, these systems could not measure temperature or digitally record images for later analysis and reporting. The worldwide market in 1970 for infrared cameras was less than 50 units. Today the market for infrared cameras used for maintenance inspections is projected to exceed 18,000 cameras. Thermography along with vibration monitoring, oil analysis, laser sighting-based rotating machinery shaft alignment and ultrasonic testing have become the toolset used by maintenance departments at an ever increasing number of capital intensive facilities.

By adopting a route-based thermography approach along with an in-camera database and intuitive data logger PdM users can save time, get more consistent results and dramatically improve their thermography program return on investment (ROI).

Today's operations manager is under tremendous pressure to increase asset availability, decrease costs, deal with employee skill levels and turn over, safety regulations, ISO quality compliance and an ever increasing competitive environment. A new class of thermography data collectors is now available designed to create and follow user-created routes, capture in-the-field incident details and automate report generation and run database synchronization. By adopting a route-based thermography approach along with an in-camera database and intuitive data logger, PdM users can save time, get more consistent results and dramatically improve their thermography program return on investment (ROI).

*CMMS Isn't Route-based Maintenance*

The dilemma is that the CMMS provider does not think in terms of route-based activities at all. Their systems are driven by work orders. If each inspection is given a work order number, you can do the inspections in a route documented with more than 250 work orders. First of all, this is impractical for the person doing the inspections, and secondly, it will require a lot of time for someone to close all the work orders. Another way route-based activities are performed in a work order-driven CMMS is to give each route a work order number and describe each inspection in a sub-work order. This still creates complications and administrative time. A third example of how some plants try to document and administer route-based activities is to give each route a work order number and have the route documented in a spreadsheet. Again, the dilemma is that this method will not support effective routes and will make it more cumbersome than necessary to change the content of inspections, transfer tasks to operators, change frequencies, merge mechanical and electrical inspections, and so forth. All of these activities are frequently done if you have a good system implemented. The solution is, therefore, to have a standalone system for route-based activities. Even in a time when it seems like all activities must be integrated into one company-wide system that covers everything, the best solutions can still be standalone systems. There are very few things-if any at all-in a route-based system that need to be tied with other activities. Therefore, you can very well buy a standalone system for this activity. A single-user system that can do this well is not expensive.

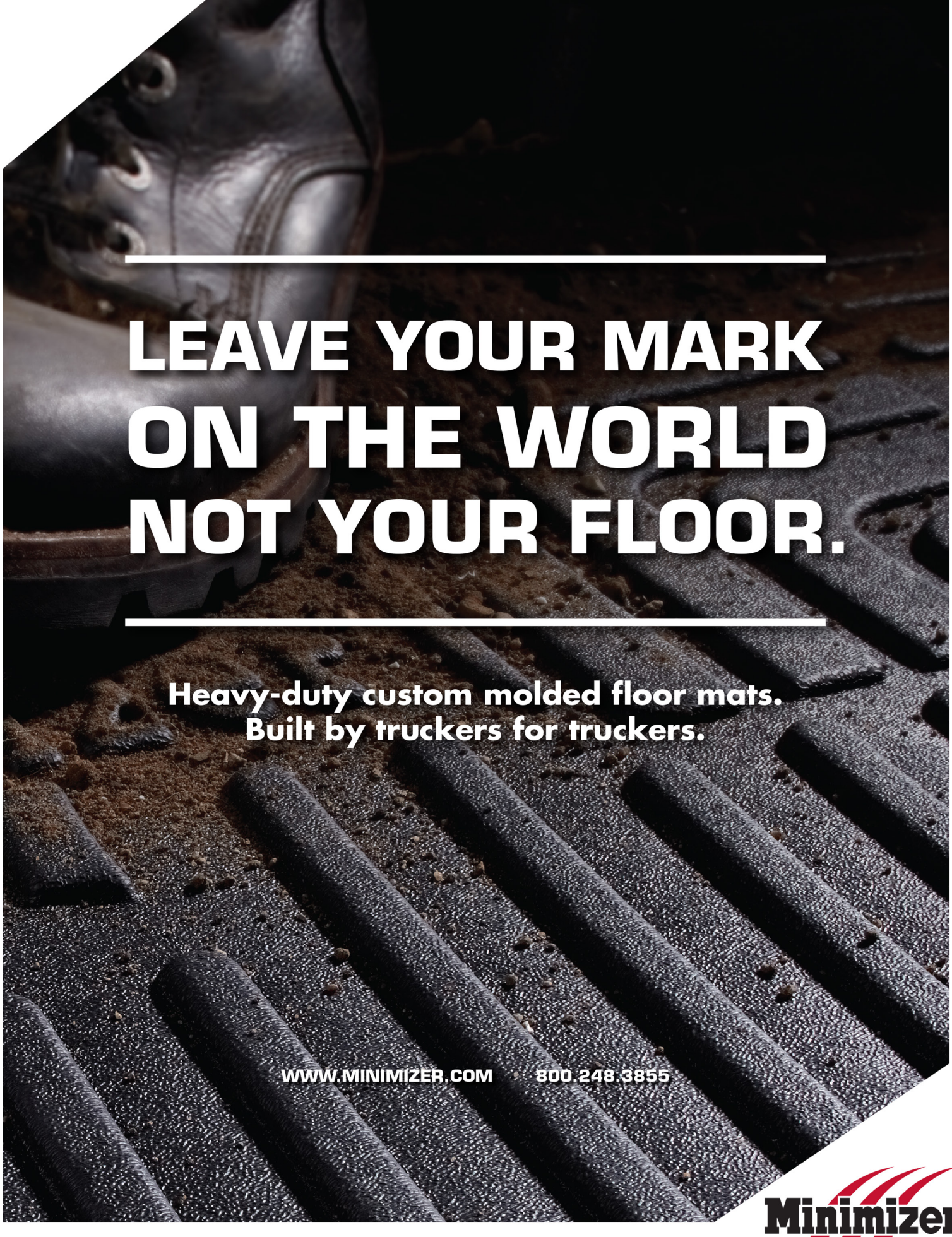
*Pen-based Computers Simplify Field Data Collection*

Pen tablet computers allow the technician to collect infrared inspection data, perform temperature analysis, diagnose the problem, evaluate their urgency, suggest corrective actions and capture a visible reference image. Powerful handheld, pen-based computers are now integrated into infrared cameras that provide a field technician performing on-site inspection and maintenance all the computer power needed to do the job swiftly and efficiently-whether it is integrating their operations with the computerized maintenance management system or testing, diagnosing, and repairing equipment on the spot.

The pen tablet is the most widely used device to be deployed in field applications because of the versatility of its interface, its touch screen for data input and significant memory capability.

*Handheld Pen Computers*

For industry and the military, the problems with using laptops in the plant or the field are being solved by handheld pen-based computers-a pen tablet or a personal digital assistant (PDA). To date, the pen tablet-almost as powerful as a laptop but smaller and lighter-has become the most widely used device to be deployed in field applications because of the versatility of its interface, its touchscreen for data input and significant memory capability. The HotShot HD infrared camera by Electrophysics incorporates a tablet PC processor running on the Microsoft Windows CE operating system. The touchscreen features direct-function icons large enough for finger actuation and additional data-type features like file naming using a stylus. More reliable data is obtained. Error-prone, handwritten records are replaced by reliable data, automatically gathered, stored, and consistently available throughout the enterprise. Record keeping costs are reduced. Less paperwork lowers administra-




Minimizer

FAMILY OWNED | SINCE 1984

tive overhead because data is processed more efficiently and disseminated widely without producing redundant copies-or even any printed record at all. Decision making is faster and more cost-effective. By integrating real-time field reports with the computerized maintenance management system (CMMS), managers at all levels share complete, up-to-the-minute information, and can react quickly to changing field conditions or emergencies. Condition monitoring tests involving a number of parameters-vibration, heat, oil quality, pressure-can be compared quickly to confirm impending problems before they become catastrophic.

*Data Collection*

Maintenance starts with knowing what is going on-how equipment is operating, what increased stresses are being applied, how conditions have changed. Data must be collected, either by a remote monitoring system or by workers on-site. In the latter case, the handheld computer makes data collection faster, more accurate, and more flexible.

*Route-based Infrared Inspection*

Many PdM technicians are familiar with, or are users of, route-based vibration data collectors. Many of today's vibration instrument vendors provide software tools on both a PC platform and their portable vibration data collectors to organize and create route instructions that are uploaded into portable systems that assist the user through a series of inspection points. For example, Electrophysics' HotShot HD is the first infrared camera of its kind to integrate route logic and all the necessary interfaces to create routes and capture all the inspection details within its pen-based computer with in-camera data logger. The camera features two route programming modes.

*Mode 1: Learn a Route*

At most facilities it is advantageous to create a route file by simply walking along and entering each point according to the natural flow of how equipment is laid out and to optimize any support labor or the need to comply with safety regulations such as personnel protective equipment (PPE) policies. At each point the operator captures a reference image and enters location and equipment detail. At the conclusion of the walk/learn route creation the route log file is uploaded into the PC database application for editing and to add any additional information desired.

*Mode 2: Create Route File in PC and Upload to Camera*

In this mode the user populates the thermography asset database with data exported from a CMMS system or with new data records and creates a route by selecting files in order of intended inspection sequence. A route log file will be created and once uploaded to the camera will pull all relevant data sets into the camera. On-screen prompts will direct the user from point to point. An additional feature enables the user to add a point not on the current route and then synchronize the updated route log file if the new inspection point is intended to be included on a recurring basis.




# SAFETY IS ENGINEERED INTO EVERY TOOL WE MAKE.




Experience, adaptability, quality and vision are the foundation of the Cementex brand of double-insulated tools and safety related products. Our continued use of American tools, fabrics and labor paired with these fundamentals not only set us apart from the imitators but have also established us as the trusted safety tool specialists.

**Visit us at: www.cementexusa.com**

**Cementex** *THE SAFETY TOOL SPECIALISTS*

650 JACKSONVILLE ROAD • P.O. BOX 1533 • BURLINGTON, NJ 08016 USA • TOLL FREE: 800-654-1292
IN NJ 609-387-1040 • FAX: 609-386-8885 • E-mail: tools@cementexusa.com • www.cementexusa.com

**PROVIDING COMPLETE ELECTRICAL SAFETY SOLUTIONS**

*Route Prompts Guide Data Collection*

Once a route is created and uploaded to the camera, the camera presents prompts to help guide the user from point to point. It is possible to add descriptive information that gives the inspection some level of instruction about the point.

*Return on Investment*

In order to fully appreciate the impact of a comprehensive software suite (asset database, route management and report generation) we have constructed an analysis of costs of a thermography program and the potential improvements that can be realized with highly integrated in camera and PC host software. For this analysis we will make the following assumptions:

1. The cost of camera and software is $20,000[1]
2. The burdened hourly salary of an infrared technician is $60 an hour or about $125,000 per year.
3. The technician uses the infrared camera 50% of the hours worked.
4. The thermography program documents 20 incidents per week or about 1000 per year.
5. The camera is a capitalized asset and is depreciated over 5 years

Yearly savings of nearly $14,000 can be realized

The ROI on productivity tools is very high since they are integrated into systems available for less than $20,000.

1 - The monthly costs for the camera, based on a 5-year or 60-month depreciation schedule, are about $350 per month. The costs for the infrared camera operator will be $1200 per week or $62,400 per year.

*Conclusions*

The largest cost in a thermography inspection program is the camera operator/technician. By focusing on incorporating advanced features including route management and in camera data logging operators can dramatically improve their programs efficiency and cost while improving work quality and ease operator training demands. Ongoing developments to integrate infrared inspection data into CMMS and asset performance software systems will result in the next step in convergence on the plant floor and continue the development of new and innovative solutions designed to improve overall facility operation and capital equipment availability.






ENGINEERED TRACK SYSTEMS

GRIFFIN™
BY RIGID LIFELINES®

# Totally Portable Fall Protection



Wheeled or Skid-Mounted systems available.

- Excellent for temporary applications, indoors or outdoors
- Fully assembled system can be lifted with large forklift or, with the proper options, rolled or towed

**NEW!** Griffin™ Portable Monorails from Rigid Lifelines® provide rigid track fall protection with coverage up to 30° off plumb. 1 or 2-person systems.




*See a video of the Griffin™ Monorail in action: http://grfn.co/tifall13*

## Use for:

- Trucks – Loading, Securing & Tarping
- Maintaining Large Vehicles & Equipment
- Aircraft
- Railcars

RIGID LIFELINES®

**866-990-1008**
http://grfn.co/tifall13

©2013. All rights reserved.



# When Everything's On The Line...

## Custom synthetic winch line distributors offer unprecedented benefits

*By Bill Putnam*



Motivated by gains in safety and efficiency, utility companies are increasingly opting to upgrade the winch lines on their trucks to modern, high-performance synthetics. But with such a wide array of fibers and constructions to choose from, the process is not always as simple as just replacing wire with rope. With several leading fibers sold under various brand names, available in dozens of constructions, the combinations can seem endless. It's easy for a fleet manager to become overwhelmed when weighing the benefits of Spectra™ versus Vectran™ fiber; choosing between core-dependent and balanced-double braids; and trying to figure out how easy a product will be to splice in the field.

Fortunately, application-specific synthetic rope manufacturers (and their certified distributors) are equipped to help fleet managers navigate the options and confidently select a safer, more efficient synthetic rope.

**Here's a breakdown of the tasks they'll guide you through:**

*Determine the right synthetic fiber for your workload, budget, and climate.*

Manufacturers can employ modern braiding techniques with a wide variety of different fibers. In an electric utility setting, the environmental conditions the rope will be subjected to (temperature and precipitation) and the purpose of the winch (weight, volume, and frequency of lifts) heavily influence which fiber should be used. Most winches used for utility work need to be reliable in harsh weather, so high-tenacity polyester jacketing is commonly used. For the weight-bearing core, polyester is a popular choice, as are high-modulus polyethylene (HMPE) fibers such as Spectra™ and liquid crystal polymer (LCP) fibers such as Vectran™. In certain situations, 12-strand HMPE ropes can also work well.

*Choose the construction most conducive to your environment.*

As with fiber choice, the weather you'll be working in is a primary driver when it comes to rope construction (single-braid, double braid, etc.). Rain, freezing temperatures, sand, wind, heat, and sun exposure should all be considered.

In environments where abrasion is less likely to occur, a 12-strand single-braid rope might be a worthy option, though any 12-strand rope should still have a protective coating to prevent premature wear. Example: Yale Cordage's Ultrex™.

In environments where the rope is likely to come in contact with plenty of sand, dirt, salt, sunlight, and other abrasive forces, a popular alternative to the 12-strand is a balanced double-braided polyester rope, wherein the polyester core is protected by a high-tenacity polyester sleeve. Even if the sleeve experiences surface abrasion or UV damage, the independent core will still retain strength. Because of polyester's durability and tenacity in harsh weather, some New England utilities have standardized entire fleets with winch lines of this construction. Example: Yale Cordage's Double Esterlon™.

For ropes used in all conditions and for heavier lifts, core-dependent double braids provide the next level of strength. A core of HMPE, one of the strongest fibers available, protected by a high-tenacity polyester sleeve provides ultimate strength and optimum protection. HMPE is also lighter and stronger than polyester, offering excellent maneuverability and sheave cycling capabilities for high-stakes tasks. This construction is particularly ideal for major construction projects, and for fleets that need to be prepared to respond to hurricanes, tornadoes, earthquakes, or other events requiring workhorse equipment. Example: Yale Cordage's Maxibraid Plus™.

*Align the strength of your ropes with the capacity of your trucks.*

To comply with current standards the breaking strength you choose for a synthetic winch line must be five or more times the rated working load or lifting capacity of the truck to which it is attached. This information is listed on a plate affixed to the crane on the truck. Making a correct match is essential to preventing accidental overloads out in the field. But since acceptable working load to breaking strength ratios can vary, particularly with newer rope constructions, this is an area where it can be very helpful for a manufacturer to weigh in.

*Analyze your work practices to determine energy absorption needs.*

A rope of any breaking strength can be compromised if used to absorb a dynamic load beyond its energy absorption capability. A rope's energy absorption capability is not related just to its breaking strength; rather, it is ascertained by studying a stress strain curve of load versus elongation. Rope manufacturers understand the metrics involved, and can help you determine which fiber and construction will offer the energy absorption characteristics you need for the loads you typically handle, as well as how much rope you will need to deploy to avoid shock loads.

*Understand the splicing requirements of your lines.*

If you're switching from a standard wire winch line, or even a basic 12-strand synthetic rope, to a newer fiber or construction, you may need to change your splicing protocols. Whereas the splicing techniques for the older rope styles may have been fairly straightforward, many newer constructions require proprietary techniques that differ from traditional methods. Many rope manufacturers and distributors offer splicing, tracking, training, and technical support for their proprietary products.

**Custom-fit ropes keep you efficient. These five maintenance tips will keep you safe:**

- Inspect ropes daily – Inspect the working eye and the area adjacent to it for any movement. The rope should have a Whiplock® or lock stitching at the eye to prevent movement. If the locks are not intact, or you notice the eye becoming larger or smaller in service, replace the rope.
- Use slings – Never choke back on the winch line by securing it around the load and attaching the rope back to itself with a hook or shackle. This will wear out the rope, and may create visible damage for the first four to eight feet above the eye. If you notice such damage, either replace the rope or end-for-end it, placing the new end on the drum.
- Invest in a certified splicer – A certified splicer who is trained on your rope will ensure you get a proper splice every time, with the added benefit of each splice being tagged and recorded for you under the rope's serial number. This data enables even the largest companies to effectively track the condition of their ropes and replace them on time.
- Consider proactive replacement – A line's life expectancy can be shortened when a loaded rope jumps over a wrap of the winding spool, when the operator uses a winch line instead of pole jacks to pull pole butts, or by other shock-loading incidents. Because it's difficult to definitively know how much damage each incident causes, many users proactively retire their lines immediately after any shock loading occurs. Another common practice is to end-for-end all ropes every 12 months and retire every two years. This practice, however, is not a substitute for proper inspection before every use. Damage to a rope's strength can be determined both by the rope's service history and by visual inspection.
- Dispose of retired lines properly –It is important to properly dispose of a retired rope before it reaches the hands of a user who could overestimate its strength. All too often, used commercial lines get recycled for personal use – thrown in the back of a pickup truck as a tow line, or boat line, or to haul a moose out of the woods. To prevent resultant accidents, retired lines should be cut into short lengths and either recycled or repurposed for non-critical uses.



Bill Putnam is the president of Yale Cordage, a Maine company which designs application-specific industrial rope products incorporating the newest and best synthetic fibers available, anywhere in the world.

# Producers of the most complete line of trench shoring & shielding equipment in the world!



Aluminum Trench Shields



Steel Trench Shields



Slide Rail Systems



Port-A-Bridges



MD Sheeting and Bracing



Hydraulic Shoring

GME®

TRENCH PROTECTION SPECIALIST

A DIVISION OF:

TRINITY SHORING PRODUCTS, INC.

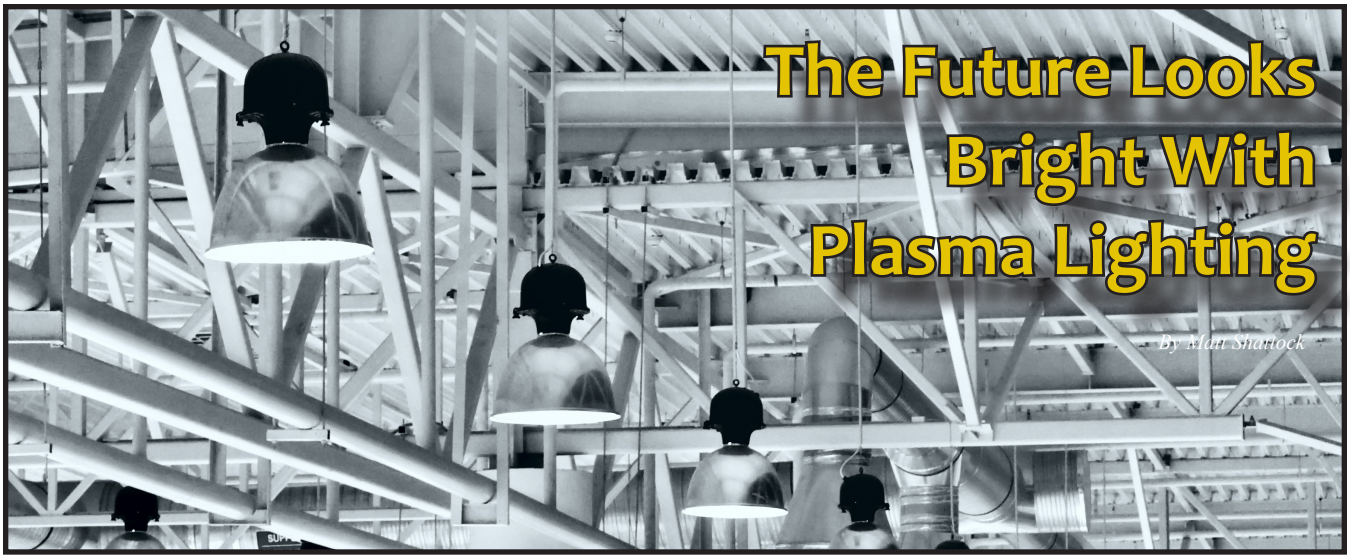
A TRINITY MINING & CONSTRUCTION EQUIPMENT, INC. COMPANY

**Contact us at:**

**800-248-2054**

**or**

**www.gme-shields.com**



# The Future Looks Bright With Plasma Lighting

By Matt Sharlock

There haven't been any major innovations within the lighting industry for some time but now things are about to change with the arrival of a revolutionary new technology known as Plasma which is set to "light" the way for a brighter, greener future!

The Plasma Lighting System is a new concept in lighting innovation that introduces plasma emission characteristics and uses microwave for the first time in the world.

Through the distinctive "no-electrode" technology, it gives customers the opportunity to experience an incredible quality of light!

The Plasma Lighting System (PLS) provides a convenient and comfortable light environment and excellent colour rendering capability by emitting light that's as near to natural sunlight as possible.

It is undoubtedly the best light source for the human eye and ensures better sight and reduces eye fatigue due to its uniform luminance.

Due to the fact there is no mercury present, the PLS is an environmentally friendly product that helps to promote a healthy life. it's the world's first 100% eco-friendly high voltage light source!

It is also extremely economical and saves on energy and maintenance costs thanks to its long lifetime.

The lifetime is also greatly maximised because the PLS uses no electrode which means it can maintain its initial lumen output even after an extended period of use. It is also modular in design so if a part does happen to fail, it can simply be changed without having to replace the whole unit

The Plasma Lighting System comes in 3 different models, one of which is a 700w indoor lamp and the other two of which are a 1000w & a 1800w outdoor flood lights. These 3 versions can be used for warehouse and factory lighting, flood lighting and facade lighting and also sports and stadium lighting.

700W Indoor Lamp

- The 700W Indoor Lamp is adaptable to various indoor environments including public facilities and industrial workplaces such as offices and factories, indoor gymnasiums, shopping malls, meeting halls and cafeterias.
- It provides high luminous efficiency and color rendering capacity.

1KW Flood Lamp

- The 1KW Flood Lamp can be used for a variety of purposes, including lighting up landscapes, flag poles, sports events and signboards.
- It provides remarkable energy efficiency and high color rendering capacity.

1.8KW High Power Flood Lamp

- The 1.8KW High Power Flood Lamp can be used for a variety of purposes, including lighting up landscapes, high mast flag poles, sports stadiums and signboards.
- It provides remarkable energy efficiency and high color rendering capacity.

Many companies worldwide have already decided to opt for this ground breaking technology and in the future it may well be possible to produce a scaled down version for use within everyday households.

For a more natural, more environmentally friendly light source look no further than the Plasma Lighting System.

Through our offices in the UK & Portugal, ACL International supply the very latest energy saving solutions with our main focus being on lighting.

ACL International have teamed up with some of the top lighting stores in the United Kingdom, Mainland Europe, the USA and Canada to enable you to buy your energy saving lighting online.




Towmaster's Hydraulic Tail trailer has quality features built to stringent Towmaster specs. It features a T1 steel flange outer frame design with the axles attached to a sub-frame and junior I-Beam crossmembers to tie it all together. This trailer includes a hydraulic operated two-piece tail with a low load angle for loading low ground clearance type equipment. An optional hydraulic deck ramp allows equipment to be loaded onto the 8-foot top deck. A hydraulic winch can be installed to pull equipment onto the deck.

The hydraulic operated fold-under tail design features a diamond plate metal approach with wood ramp to aid in traction. Stake pockets and telescoping parking stands are standard equipment.

Driver's side controls make it easy to operate the functions. All lights on the trailer are long-lasting LEDs and the trailer is finished with two-component corrosion-resistant polyurethane primer and top coat.

More information can be found at www.towmaster.com or call Towmaster at 800-462-4517.

---




| Company | Pg. | Website |
|---|---|---|
| 4D Excavator | 10 | www.4dexcavator.com |
| Al Asher | 32 | www.alasher.com |
| Black Rock Trading | 1 | www.boulderbuster.ca |
| Brown Bronto | 24 | www.brownbronto.com |
| Carnie Cap | 15 | www.carniecap.com |
| Cementex USA | 23 | www.cementex.com |
| Continental Pipe | 14 | www.continentalcutoff.com |
| Dur-A-Lift, Inc. | IFC | www.dur-a-lift.com |
| Efficiency Production | 22 | www.usatrenchboxbuilder.com |
| Elk River | 18,19 | www.elkriver.com |
| GME Shoring | 29 | www.gme-shields.com |
| Hioki USA | 7 | www.hiokiusa.com |
| K & H Industries | 11 | www.nightray.com |
| Minimizer | 21 | www.minimizer.com |
| Onspot | 24 | www.onspot.com |
| Pelsue | 3 | www.pelsue.com |
| Pengo | BC | www.pengoattachments.com |
| Ram Mount | 17 | www.ram-mount.com |
| Reconyx | IBC | www.reconyx.com |
| Rigid Life Lines | 25 | www.rigidlifelines.com |
| Roose Mfg. | 32 | www.roosemfg.com |
| Towmaster | 31 | www.towmaster.com |
| Vmac | 13 | www.vmac.com |
| Yale Cordage | 12 | www.yalecordage.com |







# YOU CAN'T BE EVERYWHERE AT ONCE, WE CAN.

RECONYX High Definition motion activated security cameras do not require separate lines for power or communication. Extremely easy to deploy and hide, (5.5" x 4.5") our cameras provide near instant notification of an intrusion by transmitting images via the cellular network directly to your cell phone or computer.

General Surveillance and License Plate Capture models available. Visit our website for more information.

RECONYX Security Series Cameras,

**See What You've Been Missing...**




PHONE 866-493-6064

RECONYX™

SEE WHAT YOU'VE BEEN MISSING...

WWW.RECONYX.COM

# NO DRILL RIG?
# NO PROBLEM!




## PENGO's All New Excavator Augers & Revolution Series Drives Team Up for the ULTIMATE DRILLING Combination!

**With this combo you can turn your excavator into a drill rig for a fraction of the cost!**

**5' Lead Sections for Rock or Dirt plus 5', 10' or 20' Flight Sections for use with DV-30 or DV-40 Revolution Drive Units**

Scan to Download More Info
On the DV30 and Excvator System

Scan to Download More Info
On the DV40 and Excvator System

CONEXPO-CON/AGG 2014

**See On Display**
**Booth N12203**

PENGO®

## Turning Challenges Into Solutions!

### One Phone Call and PENGO Will Provide You With ALL of Your Drilling Solutions!

- Single, Two and Variable Speed Drives for Drilling & Anchor Installation from Skid Steer to 150T Excavator and 5k to 200K
- Mounting Attachments for Skid Steers, Mini Excavators, Backhoes and Excavators;
- Torque Monitor and Inclinometer for Drilling and Helical Piles
- Augers for Rock and Dirt Drilling from 5" Diameter to 12' Diameter, up to 30' Depth
- Hub Sizes 2 1/2" Hex up to 130MM Square

www.pengoattachments.com

To Locate a Dealer Near You Call 800.599.0211