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Let's Not Forget

I recently had the opportunity to attend the TRAA Leadership Conference in Washington, D.C. It was great to see the emphasis on driver safety and training, and I highly recommend that everyone in the industry obtain a copy of the safety video and make it a required viewing for all of your drivers. As we focus on keeping the names of our brothers and sisters off of the Wall of the Fallen, let's not forget those who have already perished.

I recently made a phone call to an old friend who lost a driver some years back to ask if he had heard about the Wall. I forwarded him the information and he proceeded to contact the driver's widow. He called me back to tell me that she and her daughter were planning to attend the unveiling of the names on the Wall in September. I believe that most of the people in this great industry are proud of the service they provide to the motoring public. Although it can't extinguish the pain of the loss of a loved one, I believe the family feels a sense of belonging with an industry that remembers and honors their own.

If you know of someone who gave their life in service of this industry, I would encourage you to download the inclusion form from www.wallofthefallen.com, or call the museum 423-267-3132 for a form or additional information. Please join us on September 15th in Chattanooga for the unveiling of the names on the Wall. Let's not forget them.



Randy Olson, Editor On Call 24/7
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On The Cover

Larry Curry, Miller Industries District Manager, operates the controls on a self-loader for the TRAA safety video. Miller Industries provided people and resources to assist TRAA's Education Committee in producing the video and has always been a strong promoter of state and national association efforts to provide training and safety information to the industry.

All of us at Miller Industries congratulate TRAA on this successful effort. Please order your copy of the video (see the article on pages 10 – 11) and share it with all of your drivers.

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Inside View

2006 MEMORIES AND MILESTONES

Each year as we approach the Florida Show, it is always a pleasure to look back and celebrate the last year's achievements, or adjust past performance to further excel in the coming year. This past year was a fantastic year for our company. Thanks to customers, distributors, employees and suppliers, Miller Industries was able not only to introduce new products and construct a new plant, but also to deliver more units than any other year since the inception of our company. What an accomplishment!

Yet, as I look back at our corporate milestones in 2006, I realize they were minor compared to the historic unveiling of the Wall of the Fallen. The Wall of the Fallen will have a positive impact on the industry for years to come. As an industry, we should all take pride in this fantastic memorial that honors those who have lost their lives providing service to the motoring public.

However, I believe the significance of this monument is not just in its memorial value. My hope is that the Wall of the Fallen becomes a springboard that enhances safety in the minds of every tow operator. TRAA recently released a new Safety Video that we were proud to help produce. Hopefully, the impression of the memorial, accompanied by this video and more industry projects like it, will inspire towers to take the actions necessary to insure that they do not become a statistic, and to allow them to return home safely after every day on the job.



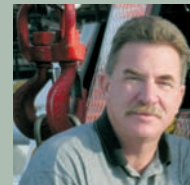
By Jeff Badgley
President and Co-CEO

To those of you in the industry who worked to accomplish the construction of the The Wall of the Fallen, thank you. Your contribution to the history of our industry and the honor you bring to our fallen peers and their families no doubt brings each of you great satisfaction. And an even greater satisfaction can be felt knowing that this wonderful tribute will also serve as a constant reminder that a safety FIRST mentality saves lives.



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“*The Wall of the Fallen will have a positive impact on the industry for years to come. As an industry, we should all take pride in this fantastic memorial that honors those who have lost their lives providing service to the motoring public.*”

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Big Is Beautiful: Past, Present & Future

A STRONG COMMITMENT TO RESEARCH AND DEVELOPMENT KEEPS THOSE HEAVY-DUTYS IMPROVING.

By John Hawkins III, Vice President of Sales, Heavy-Duty Products

Over the past year, we have stepped into a well-defined industry trend: a national focus on Traffic Incident Management. By this I mean the need for better equipment to clear motorways efficiently without impeding traffic flow. Because of its versatility and capacity, the rotator has stepped forward as the current answer to this demand.

Some of you may recall in 1988 when Century and Challenger produced the first units designed specifically to tow as well as recover. That's nearly two decades of you telling us what you want-

ed these machines to do and where we needed to better their performance levels. Each time we found ourselves back at the drawing board and in the test pit, checking the finite element theories and challenging ourselves to improve our products to meet your needs.

Miller Industries invests a lot of research and development time and money when creating a new product, and maybe even more when increasing and improving an existing product's capabilities and versatility. We take R & D seriously: For example, we are able to manufacture a 60-ton rotator that weighs the same as a competitor's 40-ton rotator, while weighing an entire 10 tons less

than another competitor's comparable 60-ton rotator. This does not happen by chance. We have to know and understand every working component in the entire platform while building in structural integrity and leaving out unnecessary weight. That's tough, but a challenge we enjoy rising to.

We recently released engineering data gathered during the testing of side loads on our 1075S. Contrary to what some in the industry have thought, when lifting from the same distance from the pick point of your load to the center of the boom rotation, there was virtually NO difference in performance between 0 and 60 degrees. We measured performance

as the amount of weight we could lift before the outriggers began to leave the ground. It basically comes down to the distance from the weight to the center of the boom rotation being a constant distance. Performance doesn't vary with boom angle. If you think about it, it is similar to safe towing calculations on a tow truck. Cranking the boom higher does not throw more weight to the front axle if the distance from the fulcrum (center-line of your rear axle) to your lift point does not change. The direction of the chassis, positioning of the outriggers, leveling of the unit, cribbing that is used and rigging all play a critical role in your rotator's performance. Size gives you the freedom to choose your rigging application.

A good operator, especially with a rotator, can make a unit perform above the levels of geometric design. Be careful here because that is NOT to say beyond capacity, BUT beyond simple geometric design. Another simple fact is every recovery is different, and you rarely are afforded the opportunity to choose the conditions of your recovery. This is why it is key to learn the "tricks" that make the "the platform" perform to your needs. With a rotator, the outriggers are the most critical part of the unit. Cribbing of the outriggers can improve recovery capabilities 25% to 30%. We often refer to this as "cheating Mother Nature." Our engineers, however, like to say that we are working with science rather than against it.

Our engineering staff has made a career out of working with science and technology to develop better products. Miller Industries' engineers are the best, most imitated in the industry. Our team is a combination of experienced, knowledgeable wrecker engineers coupled with a group of the brightest, newly-educated engineers we can find.

Besides looking at ways to improve performance of the towing and recovery unit, we regularly monitor changes in the loads that you commonly face, knowing that forks and lifting attachments are a critical and integral piece of the total package. As trucks have become more technical, computers and electronic systems make roadside repairs impractical in most cases. With many trucks on the road having increasingly heavier front



After completing simulations, the 1075S is rigged in the test pit for actual side pulls to verify the tip chart data.



Engineers prepare the new 25K wheel-lift for testing utilizing strain gauges and a load cell.

axle weights, we felt it essential to test and develop a new 25,000-lb. tire lift. The new tire lift (part #124002808) is virtually the same weight as our current tire lift system that has been reliable for years, but boasts twice the lift capacity.

The same testing and engineering that has let us increase capacities and remove weight in our recovery booms and underlifts was applied to our new 25K tire lift. There's an old saying that you are only as good as your weakest link. So after extensive testing and finite element analysis (a fancy term for computer prediction), our engineers determined that we needed to introduce a new crossbar to accommodate the 25,000-lb. lift so that's now underway. As I stated

earlier, we design, test and build a TOTAL package to meet your needs.

At Miller Industries, we strive to separate ourselves from the pack. We like our spot at the top and for that reason, we will continue to grow with our customers. I believe that we offer the professional towing operator the best complete package in the industry, and judging by the current resale value of our rotators, I would have to say that most of you tend to agree with me. In the future you can expect nothing but exciting innovations, durable equipment, great customer care and our continued commitment to excellence from Century, Vulcan, Holmes and Challenger's series of heavy-duty towing and recovery equipment.

24/7

Survivor Fund

SURVIVOR FUND REACHES \$325,000!

Just one year ago, at the Baltimore Tow Show, Miller Industries, along with several of its suppliers, kicked-off the Survivor Fund with a check presentation for over \$50,000 to the International Towing & Recovery Hall of Fame and Museum (I.T.R.H.F.M.). Over the past year, the fund has grown to over \$325,000 due to the generosity of towing operators and suppliers. This overwhelming show of support for our fallen brothers and sisters is a great testament to the camaraderie we see in this industry every day.

On January 1, 2007, the fund began making distributions to the families of men and women who lost their lives in the line of service. Miller Industries has been overwhelmed with pride as their distributors, employees, suppliers and many other individuals and tow companies have joined forces to support this great cause. With an ambitious but much deserved goal of \$500,000, the Survivor Fund welcomes your contributions. If you have lost a family member in the line of service, or would like to make a donation to the Survivor Fund, please visit their web site www.thesurvivorfund.com. 24/7



Owners and management of West End Service, Inc. in Ellicott City, Maryland: Kevin Bloom, John Klein Sr., John Klein Jr., Mark Klein and Arminta Bloom show their commitment to the industry by presenting Randy Olson, Survivor Fund Committee Member and Vice President of Marketing for Miller Industries, with a \$5,000 contribution.



Representing Ford Motor Company, Rachel Pergl and Christina Valo draw the winning ticket for a NEW 2007 Ford XLT pickup truck at the American Towman Show in Baltimore. The drawing was made possible through the generous support of Ford Motor Company, and was a successful fund raising event for the Survivor Fund. Jeffery Godwin (left) holds the winning ticket as Randy Olson announces the lucky winner's name, with I.T.R.H.F.M. Executive Committee onlookers George Connolly and Jerry Bullock (center).

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Safety First: The Making of a Video

By Angela Roper

As I sit on the tarmac, awaiting take off, I am listening to the many safety regulations we are given each and every time we board an airplane. I think to myself, how many of us actually discuss important safety procedures in our towing businesses every time our employees start a shift.

Although we hear this same speech each time we board a plane, the airlines still make us listen to it. It is a proven fact that uniformity promotes awareness, just as repetitive speech makes us remember things on a cognitive level.

As a member of the Towing and Recovery Association of America's (TRAA) Education Foundation, I, along with fellow committee members Marci Gratziana, Ruth Landau and Peter Fuerst, undertook the project of producing a "Roadside Safety Video" for the purposes of educating and training towing company owners and drivers. As sometimes happens, we learned a lot ourselves.

We have all been hearing the term Incident Management more frequently. The term itself has actually been around for a long time, but because of increased traffic congestion on our busy roads, it's becoming much more important. Incident Management's goal is to clear the roadways more efficiently and effectively, which reduces the number of secondary incidents on the highways. The question arises, "How do we, the towing industry, protect ourselves and our drivers while accomplishing this goal?" We work dangerous recoveries, in extreme weather, fatigued, for long hours alongside every interstate and public road imaginable. Under these conditions, we still manage to do our jobs efficiently and effectively, but at what human cost?

The unveiling of the Wall of the Fallen in Chattanooga, Tennessee, has hit home to us on just how many lives our industry loses on roadways every year. The leadership of TRAA, your national association, felt it was time to address



Kipp Felice, Assistant Marketing Director for Miller Industries, adjusts the camera for filming one of the scenes for the TRAA safety video.

the growing concern of roadside safety. Thus the Roadside Safety Video was born.

The committee's goals for the video were to:

- Keep it short and to the point.
- Make it easy to understand and easy for owners to use as a training tool.
- Make it very effective.

Many people helped make this video possible. It began several years ago as the idea and vision of Bill Giorgis, then TRAA President. As it gained momentum and grew a life of its own, several towing companies, manufacturers and motor clubs funded the project to make it a reality.

But a special thanks goes to Miller Industries for providing video equipment, production assistance and support staff. Without their support, we'd still be visualizing what our video would be, not celebrating its release.

The Roadside Safety Video actually debuted at the 2007 TRAA Leadership Conference in Washington, D.C. Copies are \$15 each and can be ordered by visiting TRAA's website at www.towserver.org or calling the TRAA office at 800-728-0136.

Please, promote safety and awareness in your business every day, and remember to support "Move Over Laws" in your state. By joining your state and national associations, we can make a difference together! **24/7**



Larry Curry, of Miller Industries, operates a self-loader during filming of the TRAA safety video. Curry's reflective vest and gloves do their job during the evening filming.



Marci Gratziana positions flares on the road to assist in controlling traffic flow.



Larry Curry, Miller Industries District Manager, and members of the Tri-Community Fire Department and Chattanooga Police Department discuss the next scenario with Angela Roper. The dramatic visual difference between Angela's light-colored coat and the reflective safety gear worn by the emergency responders shows how critical the proper clothing can be on the roadside.



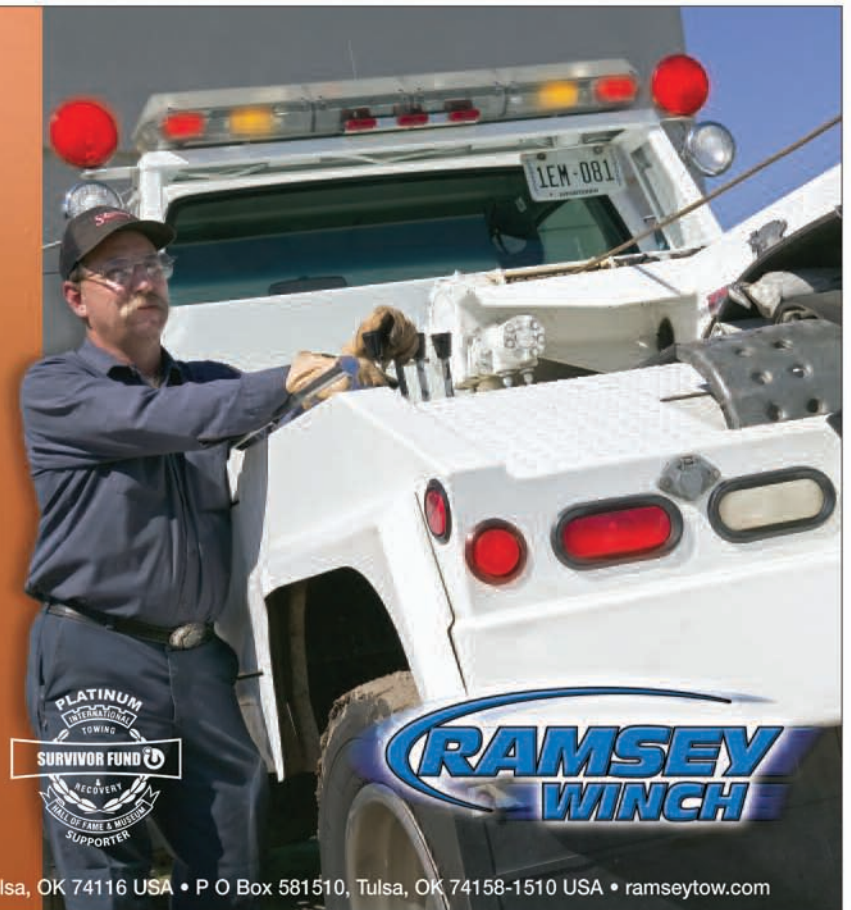
Flares and safety cones are positioned to funnel traffic away from the emergency vehicles at the scene.

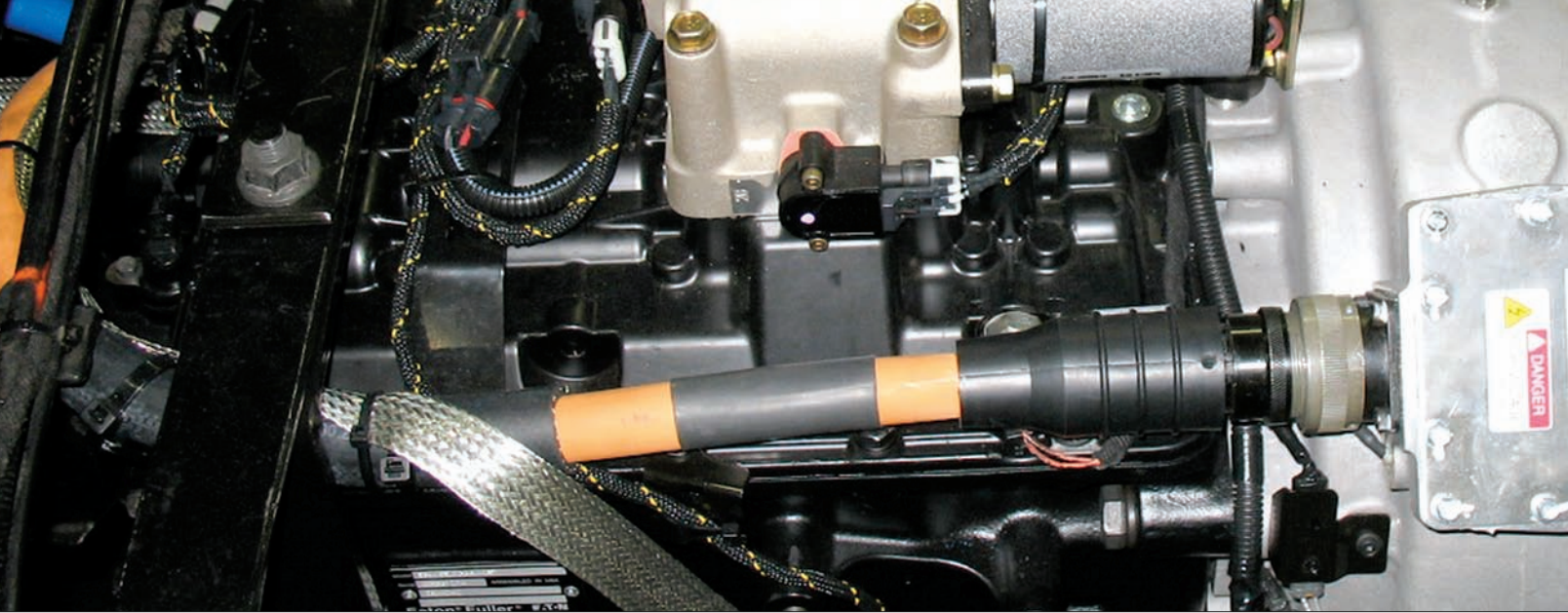
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The motor/generator (always located between the engine flywheel and transmission) uses and produces three-phase AC up to 500 volts. The high voltage cables connecting it to the system should be identified by orange markings. DO NOT cut into the cables and do not work on the vehicle unless one of the shutdown procedures has been followed and the vehicle has sat for five minutes.

Heading Into a Hybrid World

By Randy Olson, Vice President of Marketing

Rising fuel costs and increased pressures for lower emissions are spurring manufacturers to increase production of both cars and trucks powered by hybrid systems. Eaton has been developing hybrid systems since the early seventies, and built their first fully functional hybrid vehicle in 2000.

Several OEM chassis manufacturers currently use Eaton hybrid systems as package delivery and municipal utility vehicles. Although these vehicles are only in limited use, Eaton expects to see these numbers grow so it's important to know how to identify and handle these vehicles. This is not meant to be a complete training on the Eaton Hybrid System, but rather a list of safety "Dos & Don'ts".

Hybrid Safety Tips

Hybrid high voltage components include a motor/generator that produces up to 500 volts. This motor is always located between the engine flywheel and transmission. Also be aware of an inverter, power electronic carrier (or PEC) and a DC/DC converter. These components will be mounted in varied locations depending on the chassis manufacturer.

In case of an emergency there are three procedures to shut down the system. With all three procedures it is important to remember that the power in a hybrid system is maintained for up to five minutes in the high voltage electrical system **AFTER** disabling the vehicle.

Option 1 (preferred):

Turn the ignition key to the off position.

Option 2:

Disconnect the low voltage 12-volt batteries.

Option 3:

Push in the service switch on the PEC, and shut-down the engine.

In all three cases, the high voltage batteries are still "live" but isolated in the PEC. If you must handle high voltage wiring in case of accident or extrication always be sure to:

1. Chock the wheels.
2. Follow the emergency shut-down procedures. (Remember: After disabling the vehicle, power is maintained up to five minutes in the high voltage electrical system.)
3. If you must handle the high voltage wiring components, wear Class 0 high voltage rubber insulated gloves.
4. Make sure you will NOT cut or puncture high voltage components.

Other situations may arise that will require emergency attention. For instance, a fire would require that you wear a self-contained breathing apparatus (SCBA). In the event of a spill, respiratory protection, rubber gloves and safety glasses would be needed.

Jumping procedures for vehicles equipped with Eaton hybrid systems are identical to non-hybrid vehicles using standard 12-volt battery systems. Towing is also the same as for non-hybrid vehicles. The drive wheels should be elevated off the ground or the drive shaft should be removed if being towed on the drive-wheels.

To recap you should remember to:

- Always assume the vehicle is “live” when approaching a hybrid.
- Always perform one of the three emergency shut-down procedures and allow the vehicle to sit for at least five minutes prior to attempting to work on the vehicle.
- Never cut the orange high voltage cables (when possible).
- Never cut into or open the inverter, PEC or DC/DC converter when possible.
- Again, this is not a complete guide to hybrid vehicles. You can request a copy of Eaton’s material safety data sheets by contacting CHEMTREC in North America at 1-800-424-9300. You need the following company information when contacting CHEMTREC:

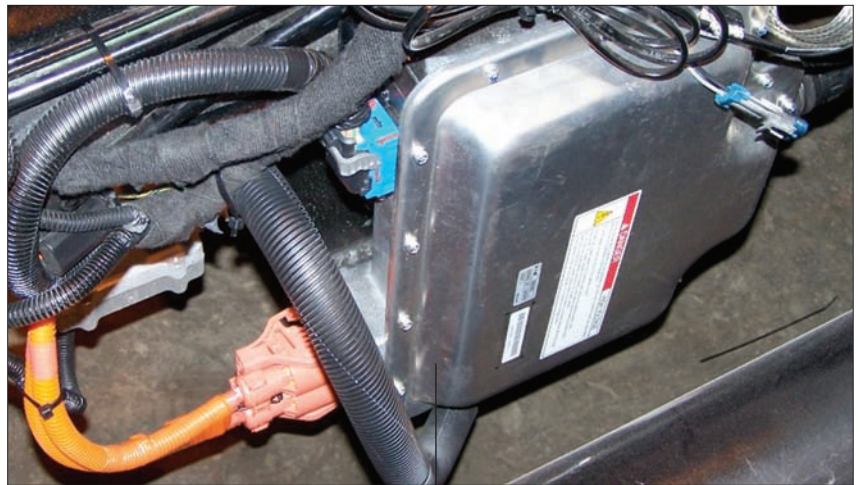
Company Name: Eaton Corporation

Company Code: C371.

This is a prime example of why cross training with fire and rescue departments for emergencies is so important. Safety information should be shared. **24/7**

Identifying Eaton Hybrid Vehicles

- The outside of the vehicle will contain the word “Hybrid” on a decal or nameplate
- The shift label on the dash states “Eaton Hybrid”
- The presence of bright orange cables



The inverter's function is to change high-voltage DC to AC and vice versa during motor boost and regenerative braking modes of the vehicle. The location of the inverter will vary but it is connected to the other components with an orange high-voltage cable.



The Power Electronics Carrier (PEC) stores on average 340 volts in two sealed Lithium batteries. A service switch on the PEC can be pushed to shut down the engine but remember, the power is still maintained up to five minutes in the rest of the high voltage system after shut down. After that time, the PEC will be isolated but the high-voltage batteries inside are still live. Special care is needed in case of a fire or spill. Self-contained breathing apparatus (SCBA), safety glasses and rubber gloves rated for class 0 are necessary for your safety.



The Miller Race Recovery Team prepares to hook-up to another casualty during the evening Craftsman Truck Race at Daytona.

Gentlemen: Start Your Engines and Your Towing and Recovery Trucks

Daytona kicked-off yet another NASCAR season, and what an exciting start to the season it turned out to be. Fourteen Miller Race Recovery vehicles were on hand and staffed by teams of experienced towing professionals from across the country to handle this year's very busy Daytona 500 race. Team members not only volunteered their services to keep the race moving smoothly, they also helped portray a positive image of the towing industry to the many race fans

in Daytona and millions of television viewers worldwide.

Over 200 towers and guests shared Miller Industries' first-class Daytona race events, enjoying the race from the Miller Race Compound in Corner 3 after a delicious barbecue dinner. Miller guests also indulged in other perks like participating in the pre-race parade lap, garage tours, and visiting the pits to see their favorite car and driver.

Miller Industries provides equipment

for a variety of race events such as Craftsman Truck Series, Busch Grand National, ARCA, IRL and NASCAR Nextel Cup. These events are held at premier racetracks across the country including Daytona International, Talladega Super Speedway, Darlington, Richmond International Raceway, Kansas Speedway, California Speedway, Michigan International Speedway, Homestead Miami Speedway and Chicagoland Speedway. The program is coordinated by Miller Industries full-time Race Director Ken Burdine, who has over 23 years experience with tracks and racing and spends 36 weeks a year traveling with our recovery equipment. Ken is inspired by the camaraderie, hard work and professionalism shown by the towers who participate in the program. In addition to handling the logistics required by Miller Industries' extensive race program, Ken also works with Miller Industries distributors, coordinating customer credentials. Each year he creates special off-track activities in the compound to make sure every guest's experience is a memorable one.

This year's first NASCAR event in Daytona proved a great success. **24/7**



Miller guests were treated to a lap around the super speedway in the race recovery vehicles prior to the start.

One of the recovery crews proudly watches as our nation's colors pass by on the Daytona 500 Flag Truck.



Two of the Recovery Teams stand by ready to roll as Miller guests enjoy the race from the stands at Miller's Race Compound.



To help spread awareness for the Wall of the Fallen, and to raise money for the Survivor Fund, Ruth Landau of Fryer's Towing and Miller Industries' Vince Tiano sold Survivor Fund wrist bands in the compound before the start of the 500.



One of the Race Recovery Team members directs a driver backing into the garage as another Busch Series driver's day ends due to an incident on the track.



It takes a team of dedicated, trained professionals to expedite the clearing of a casualty off the track in a safe but quick manner to keep the race moving smoothly.

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** Always remember to use safety straps, safety chains and tow lights prior to towing.*



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CENTERING YOUR ATTENTION

*By Tom Luciano, District Sales Manager
and Training Specialist*

During a recent Minnesota Professional Tower's Association (MPTA) training school sponsored by Miller Industries, the following photos were taken of a demonstration on recovery rolling techniques. A goal of this demonstration was to show the application of levers as well as the utilization of equipment for multi-purposes. No matter how much toolbox space you have on a unit there is never enough room to carry everything on our wish list, let alone pay for what it would cost to do so. A 1/2-inch or 5/8-inch alloy chain bridle is one of those items that is a must in many recoveries, but it's hard to handle – and where do you store it? The following article will educate you on how to perform a successful recovery by using what you already have available on the truck. We will look at a standard recovery roll, as well as the reverse roll of a downed cement mixer. No matter which method you choose, remember to always lift with the winch, not the recovery boom.



This mixer was loaded with hardened concrete and is complete with its engine, transmission and rears. It weighed about 56,000 lbs. The first photo shows the use of a First Class Lever, which when used correctly pulls the casualty toward you. Notice that there aren't two separate winch lines, but one three-part line. This is much safer than two individual single-part winch lines. One three-part line decreases line tension and tip load on your boom. With more wire rope off the winch you are at a greater gear reduction of the winch that provides more power.

More importantly, notice the use of the trailer king pin plate, which is standard equipment on heavy-duty Vulcan units and is available as an option for Century heavy-duty equipment (Part #9401902). There are many variations on the market, but what separates Miller's king pin from others is the single, large opening (opposite the keyhole end for the king pin) that supports a large shackle.



Another advantage the trailer king pin plate affords is the ability to adjust the length so you can position the attaching point low for reverse rolls, or high on the drum when pulling it towards you. You should always remember that reverse rolling changes the type of leverage to a Second Class Lever. This method is preferable because it takes less effort for the recovery unit to upright the mixer.



This attachment not only serves as a trailer towing plate, but also works wonderfully when making a bridle whenever chains or strap bridles are needed. It allows the larger screw pin shackles to be used when winching or lifting heavy loads, promoting a safe working environment.

When uprighting or stabilizing a mixer, do not use a single strap or chain on each end of the drum. Both ends of mixer barrels are tapered and the strap or chain can slide off. This can cause a shock load or a side-load on your recovery unit, and could possibly overturn your truck. As you well know we cannot always get our truck/unit in a position square to the casualty because of varying conditions. With the use of the Miller trailer king pin plate we can now allow for necessary adjustments in positioning for a centered pull, and eliminate the strap or chain sliding off the ends of the mixer drum. Each leg of the bridle can be lengthened or shortened to allow for correct centering on the casualty.

See Centering Your Attention On Page 20

Notice we have attached screw pin shackles to the trailer plate (which eliminates chain binding and chain link fracturing). This set-up gives us the ability to place a snatch block and the winch line hook in the top keyhole end of the plate. Another advantage is that your second winch line is free; this will give you the option to use a catch line. If an operator chooses to use endless loop straps, the straps can easily replace the chains and be positioned in the screw shackles. At Miller Industries we offer complete endless strap kits (Part #124002697) and screw pin shackle kits (Part #124002706) which are designed to complement any true recovery professional's arsenal of accessories.

You may wonder why chains were used and not straps. As a loaded drum is uprighted, even though winch lines are tight, gravity takes over and the drum will spin. This is because the heavy concrete will rotate to the bottom, or the low side, regardless of line tension. Welded seams on the mixer drum can catch the flat nylon straps as it turns and cut them quickly. However, round endless loops tend to roll off the welds and not get caught. As a professional, you must also realize before attempting the uprighting of any mixer that you should always chain and bind the drum to the chassis at the roller ring area. The mixer drum sits on two rollers which allow it to turn freely while traveling down the roadway. Therefore, gravity holds it into position when in normal traveling use.



Avoid making the legs of the bridle too long, because if they come too far around the drum you may not have enough room to finish the recovery job. You can't get far enough away so the snatch block ends up into the boom sheave before the casualty is uprighted. To compensate for this situation you can shorten the bridle and position a hardwood block under the snatch block. This stops the abrasion and binding of the snatch block, the winch lines, and the hook in the initial lift, and as the mixer lifts the block will slide out of the way. On the new plastic mixer drums it is OK to use chains and not straps. They will not break or crack the drums. Due to the slick sides of the plastic drums, I strongly advise you use the bridle technique and not single individual winch lines.

As always, remember that this is not the only way to handle this type of recovery, but I hope this information will assist you in "working smarter, not harder." **24/7**



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Industrial Carriers For Hire

By Fred Grueber, Midwest District Manager

As towers look for ways to increase revenue, many have found that rental yards can be a great opportunity to expand their business. The number of equipment rental operations has soared over the past years, partly as a result of increases in both residential and commercial construction. Many contractors find it more economical to rent or lease the equipment for a project rather than purchase it. Some equipment rental yards own delivery equipment, but find at peak times they need additional help. Other rental yards find it a better business decision to contract delivery.

For example, an industrial equipment rental company may get an order to haul multiple pieces of equipment to a large build site for a contractor. Using just one or two carriers would take far too long to be cost effective for the rental company or the contractor. A local towing company with a carrier provides the needed delivery assistance. With the right equipment, a towing company's revenue stream is not limited to moving disabled vehicles. And even better, most of this work is done

during normal business hours and is not as time sensitive as other types of towing and recovery work.

Plan Ahead

Maybe now is the time to step back, evaluate your fleet and see what business you could go after. For smaller jobs hauling lawn equipment and other lightweight pieces, the perfect unit would be a Miller 10 or 15 series carrier (10,000 and 15,000 lbs. capacity) with a steel deck. Tighter

cross member spacing on a Miller carrier (standard 8" spacing and optional 6" spacing) prevents a "wash boarding," which you may be familiar with in some of our competitor's carriers. Wash boarding is when the floor bows in between the cross members so you get dips all the way down the bed, resembling an old-fashioned washboard.

While the 10 and 15 series carriers work well in tight residential areas for hauling a variety of small lawn and garden or con-



struction equipment, most operators find a 20 series (20,000-lb. deck) to be the most versatile. These carriers are great for concentrated weights like mini excavators and stationary bucket lifts. The optional apitong floor is very popular in industrial carrier applications. The wood floor increases traction and provides more secure tie-down when hauling track or hard rubber tire-equipped equipment. Miller's industrial spec carriers are recommended with tandem axle chassis and deck lengths range from 24 to 30 feet. Miller's 20 series carriers come with a wheel-lift, making it possible to tow with the same flexible carrier. If you plan to use a 20 series carrier primarily for hauling equipment, a hydraulic dock stabilizer allows for loading dock height accessibility (comes standard on Miller 30 series carriers).

After some of the recent and especially destructive hurricanes over the past few years, Kauff's Towing in West Palm Beach, Florida, used their Miller industrial spec 20 series carriers to haul portable toilets, showers, 7,000 lb. generators and water pumps for FEMA. Kauff's CEO



Geoff Russell says he is very glad that he has exceptional industrial carriers, insurance and permits to add heavy hauling to his list of capabilities.

An industrial carrier is also useful for clearing incidents on highways. The situation may require a small loader or forklift to off-load a trailer. Your carrier can move the equipment to the scene and it can be used to haul cargo or wreckage from the scene.

Miller's long list of customization options for carriers designed with equipment hauling in mind make the addition of one of these carriers necessary for all forward-thinking professional towers. For more information on Miller Industries complete line of carriers from 10,000- to 30,000-lb. deck capacities, or to design an industrial carrier for your fleet, call your local Miller Industries distributor or visit www.millerind.com. **24/7**

WE'RE HEADED YOUR WAY

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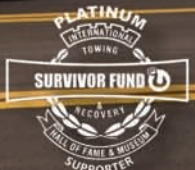
Industries Distributor to find out why Peterbilt is the number one choice of professional towers for their heavy duty chassis needs.



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New Products

Dodge Rolls Out New Ram

Recently Dodge introduced the new Ram Series cab and chassis that has been engineered to be more compatible with the installation of towing and recovery equipment.

This Dodge Ram will be offered in a model 4500 with a GVW of up to 16,500 lbs. as well as a 5500 with a GVW of up to 19,500 lbs. Both of these models will be available in a regular or quad cab version.

The standard cab is available in a 60", 84", 108" and 120" CA. The quad cab is available in 60" or 84" CA. Dodge is powering the new Ram with a 6.7 liter high-output Cummins turbo diesel engine with a standard 6-speed manual overdrive transmission or optional 6-speed automatic, both of which are PTO capable.

To preview the new Dodge Ram mounted with a Century Aluminum 10 Series Carrier body, stop by the Miller Industries booth at the Florida Tow Show, May 11 – 13 in Orlando, Florida.



Bold Moves

Ford unveiled their new 2008 Ford Super Duty F-450 at the Baltimore Tow Show, equipped with Century's new 301 Express, aluminum modular body.

Features of the 2008 Ford include:

- An all new 6.4 liter Power Stroke® diesel engine that delivers 350 hp at 3000 RPMs, and 650 lb. foot of torque starting at 2000 RPMs. The new engine is not only more powerful, but it also runs quieter and cleaner.
- A state-of-the-art interior provides quiet comfort and improved ergonomics. Features include: an instrument cluster (with a full complement of gauges), a new climate control system, ergo-friendly center-stack switches and new sound options that are MP3 capable.
- A redesigned chassis and suspension that includes revised rear leaf spring suspension for superior handling and ride, along with better balance and control.
- A new exterior design featuring a larger, bolder grille (for improved cooling), side vents to dissipate engine compartment heat and new stacked head lamps.



For more information on the new Ford F-450 Super Duty or to test drive one mounted with your choice of the finest towing and recovery equipment, visit or call your local Miller Industries distributor.

Aluminum Option

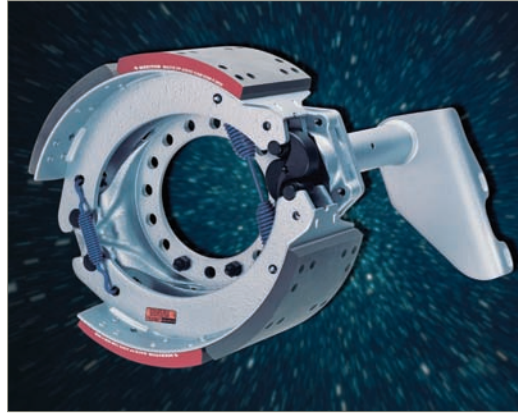
Miller Industries has introduced a newly designed aluminum body option for their popular Century Express and Century Midnight Express, and the Vulcan 807 and Intruder. These modular-body designed self-loaders feature adjustable body sides for several different chassis widths, eliminating the need to use fender flares that protrude and are easily knocked off. The aluminum sides can be painted to match any chassis, while the deck remains a shiny aluminum tread plate. In addition, the redesigned rear body slope provides excellent rear visibility when hooking or unhooking from a vehicle. Left and right locking tool compartments are standard on the 60" CA units, and a 24" aluminum tunnel box can be added for 84" CA applications. For more information contact your local Century or Vulcan distributor or visit www.millerind.com.

24/7



Air Brakes 101

WHAT YOU NEED TO KNOW ABOUT AIR BRAKES.



By Dayton E. Shepard

How Air Brakes Work

Air brakes efficiently and safely stop large, heavy vehicles. However, like any component system they must be properly used and properly maintained. Today most air brakes are dual brake systems. These two systems work together with one set of controls. One system operates the brakes on the rear axle(s) while the other system operates the brakes on the front axle, and sometimes the intermediate axle if on a tandem axle truck.

The service brake system applies and releases the brakes during normal operation. The parking and emergency brake system applies the brakes in the event the parking brake is engaged by pulling the knob located on the dash, or if the system loses enough air pressure.

An air compressor pumps air into storage tanks. The air compressor is normally engine driven through gears or by a belt drive. An air governor controls the air pressure in the tanks. The normal "cut-in" pressure is about 100 PSI (pounds per square inch). The compressor comes on when tank pressure drops below the "cut-in" pressure, and stops building pressure at about 125 PSI.

Compressed air is stored in one or more air tanks. Enough compressed air is stored in the tank for several braking applications. So even if the compressor fails, the truck can be brought to a smooth safe stop. A safety relief valve is installed in the first tank the air is pumped into. The safety relief valve is normally set at 150 PSI. Its purpose is to protect the brake system, particularly the brake lines, in the event the air governor fails and attempts to pump too much pressure into the tank.



The brake pedal actuates a *treadle valve*. As the driver applies more force to the brake pedal, the treadle valve increases the air pressure through the brake lines and a series of valves to the brakes, or the brake chambers. Brake chambers are located near the brake drum. The brake chamber is just what it implies, a chamber. In the chamber there is a diaphragm attached to a push rod. A spring on the opposing side of the diaphragm holds it (and the push rod) in a disengaged position until air is pumped into the chamber. As air is pumped into the chamber, the diaphragm expands, moving the push rod that rotates the slack adjuster. The slack adjuster rotates the brake cam, which spreads the brake shoes. This pushes the shoes against the brake drum, creating friction that slows (and consequently stops) the drum from rotating. Thus stopping the vehicle. Got that?

As brake shoes wear from use it is **EXTREMELY IMPORTANT** to keep the brakes adjusted. Normally, correcting the travel of the push rod by adjusting the slack adjuster will adjust the brake system. In some situations the push rod length must be adjusted.

Each truck with air brakes has a set of emergency and parking brake chambers

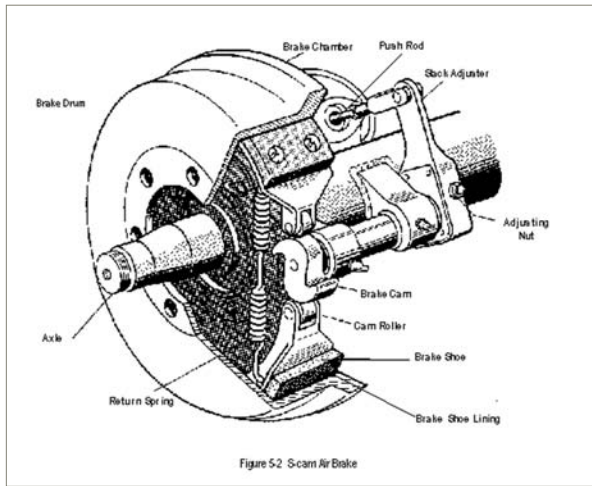
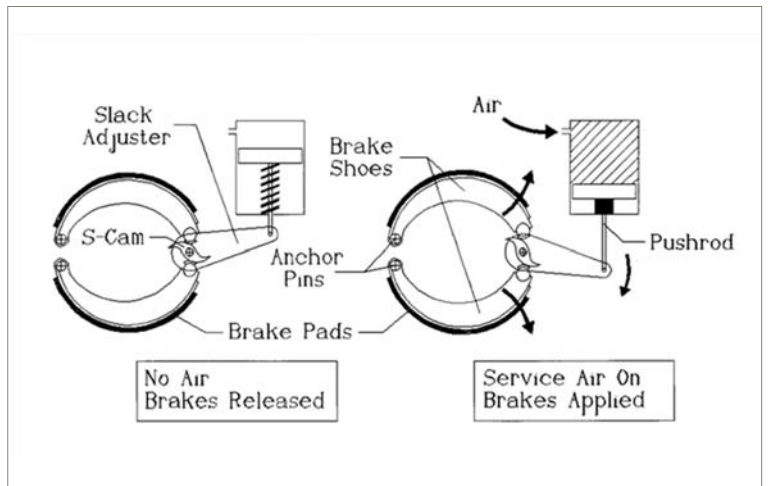


Figure 52 S-Cam Air Brake



often referred to as “piggy-back chambers” or “spring brakes.” These dual chambers, and the springs within them, act as offsets to keep the brakes applied in the absence of air pressure. When the parking brake chambers are charged with air, by releasing the emergency and parking brake valve on the dash, one side of these dual chambers releases the brakes. The other side is then free to act as a regular brake chamber during normal braking.

When air pressure is lost, the springs in the emergency and parking brake chambers automatically apply. Without air pressure in the system the brakes can only be released mechanically. This process is referred to as “caging the parking brakes.” Removing the dust cap from the back of the parking brake chamber and screwing the cage bolt up by hand accomplishes this task.

Most tandem axle trucks come with parking brake chambers on only one rear axle. However, all truck manufacturers offer options to put additional parking brake chambers on additional axles. Miller offers a unique *Winch Brake Package* on selected Kenworth and Peterbilt models. This feature places parking brake chambers on all axles, including the front axle, which provides the operator additional braking power when in a winching situation.

What the Driver Should Know

Always remember the brakes must be in proper adjustment to work correctly. Neither the service brakes nor the park-

ing brakes will work if they are not properly adjusted. Have them checked regularly by a certified technician.

Before you start driving complete a pre-trip inspection. Walk around your vehicle listening for any hissing air that may indicate an air leak. If you have a manual drain valve on your truck, now is a good time to pull that chain and eject the moisture from the air tank.

Check your gauges. Your air brake truck is equipped with a supply pressure gauge. This gauge is connected to the air tank. In a dual brake system there may be two gauges, or one gauge with two indicator needles. This gauge(s) will indicate the PSI pressure in the air tank.



The application gauge shows how much air pressure you are applying to the brakes. If the pressure continues to drop while maintaining steady pressure on the brake pedal, one of a few problems may be occurring: the brakes may be beginning to fade from overheating, they are out of adjustment, you have an air leak, or a mechanical problem. If this happens it is time to have your brake system checked.

The *low air pressure warning signal* will illuminate and (on most trucks) a buzzer will sound if the system pressure falls below 60 PSI. If one or both of these warning signals comes on, you may have a serious air pressure problem. If you continue to lose air pressure, the emergency and parking brake will activate, bringing your truck to a stop. It's best to safely pull off the road prior to losing all air pressure. Remember, without air pressure, the only way to move the truck is to “cage” the emergency and parking brake chambers. However, doing so will leave no working brakes on the truck so the vehicle must be hooked to a wrecker or stabilized in some way (chocked).

The *yellow, diamond-shaped push-pull knob* operates the parking brake. You pull the knob to apply the parking brakes, and push to release. Never push on the brake pedal when the parking brakes are applied. You can damage the system on some trucks. Your truck may be equipped with a *red, hexagonal push-pull knob* (the Trailer Air Supply). This charges the trailer air

See Brakes On Page 28

brake system once the hoses are connected.

If you operate a truck that has a **Gross Vehicle Weight Rating (GVWR) of 26,001 lbs. or more**, you are required to have a Commercial Driver License (CDL) with an Air Brake Endorsement. This means you've been tested and approved to operate a truck of this size with air brakes.

If you operate a truck with a **GVWR of 26,000 lbs. or less** you are not required to have a CDL, and therefore do not need an Air Brake Endorsement.

However, if your vehicle has a **Gross Combination Weight Rating (GCWR) that exceeds 26,000 lbs.** – this is the vehicle's GVW plus load weight – then you do need a CDL. You will also need an Air Brake Endorsement if your truck is equipped with air brakes. Clear?

My lawyer wanted me to tell you to be sure to check with your local police to determine the driver licensing regulations in your specific state. In other words, if you get in trouble, don't blame me!

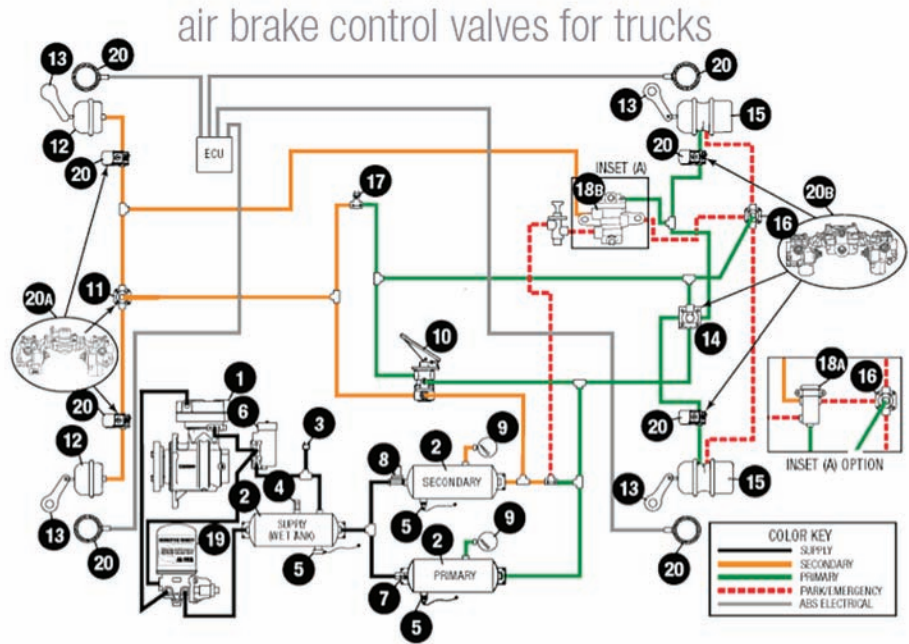
If your truck is equipped with an Anti-Lock Braking System (ABS), as most trucks are now, repeatedly stabbing the brakes is NOT the thing to do. Apply steady pressure to the brake pedal and let the ABS do its job.

If the ABS light illuminates it means there is a malfunction with an ABS component. When that happens your ABS is disabled. The brakes will work just fine like a vehicle without ABS, but it IS time to get the system checked.

Other Important Things to Know

The Federal Government **requires** technicians who work on air brakes to be trained and certified regardless of the vehicle's GVWR. Most truck dealers, parts suppliers and brake component manufacturers regularly hold training and certification classes. You'll find these classes usually take one day and are reasonably priced.

Regardless of the GVWR, if you are



allowing untrained and uncertified mechanics to work on your air brakes you are taking a huge liability risk. Don't do it! Either have your mechanics trained and certified, or take your trucks to professional mechanics who ARE certified.

When writing or reviewing truck specifications, **always** require an air dryer on your brake system. As the air compressor works, water condenses and ends up in the air tank. If you are in a warm climate you'll be surprised how much water can accumulate in a short period. If you are in a colder climate you sure don't want water in a system that may freeze and cause your air brake system to malfunction or even worse, FAIL.

Brakes are one of a few components on your truck that can literally be a life or death issue. We've only scratched the surface on air brakes, but I hope you understand that they are a safe and reliable system. Although they cost more up front, they are very durable and usually provide lower maintenance costs when compared to hydraulic brakes.

We haven't nearly discussed everything there is to know about air brakes, but your Miller sales professional can put you in touch with an expert who can answer any questions in detail to provide you with the correct brake solutions for your next chassis.

Until next time, Happy Trucking! **24/7**



Dayton Shepard is Vice President of Operations at International Truck Sales of Richmond in Richmond, Virginia.

All in a Day's Work

QUIRING MOTORS VANCOUVER, BRITISH COLUMBIA

Aldergrove, a small town east of Vancouver, is where Elmer and Ann Quiring purchased an ESSO Service Station that included one tow truck. Along with the area, Quiring Motors Ltd. has grown rapidly over the past 40 years. Elmer and Ann's son Bob and his wife Pam now proudly run the business with their two children Tami and Allan.

Their eight-unit fleet is made up of Holmes, Century and Vulcan products. The newest addition to their fleet, a Vulcan V-100 with an SP850 XP, has quickly become a cornerstone to their recovery business. Allan prides himself on his recovery expertise and he knew that his knowledge, backed by the brute strength of four winches, the holding power of front hydraulic stiff legs and rear jacks that could handle the toughest jobs, would be very profitable to his company. One thing is certain: recovering logging and construction equipment out of some of the toughest terrain in the area will keep his V-100/SP850 XP very busy for years to come.



SCOTTY'S CARRIAGE WORKS CAMERON, MO

Started in 1949 by Malcom Scott, Scotty's Carriage Works has flourished under their philosophy of offering quality towing with experienced knowledgeable operators at fair prices. In 1995, Malcom retired leaving the business in the capable hands of his son Mike. Mike added a Challenger 9909 70-ton rotator to the fleet for recovery, which he found invaluable when he was called by a local power company to lift a 20,000 - pound transformer. Scotty's now works for three power companies loading transformers that weigh from 20,000 - 66,000 pounds, doing a job in minutes that used to take hours. "Malcom Scott's motto was 'there is no substitute for experience' and that same philosophy applies to our equipment purchases," said Mike Scott. "That's why we choose Miller products." **24/7**



Miller ROCKS

the HARD ROCK CAFE

Baltimore, MD • November 17, 2006



Towing professionals from around the world once again packed the Hard Rock Cafe in Baltimore Friday night for the number one attended event at the American Towman Show 2006. "Miller Rocks" was the place to be for fun, laughter and camaraderie with fellow towers and Miller Industries factory representatives.



The large crowd was entertained by the great sounds of The Kevin Kline Band throughout the evening. Miller Industries' Director of Export & Government Sales, Tom Griffin, sat in with the band for several numbers, showing off his talent on drums.



"Miller Rocks" guests at the Hard Rock Cafe proudly display their T-shirts, one of the most coveted souvenirs of the tow show season.



As the evening wound down, guests flocked outside the Hard Rock Cafe to exchange their tickets for "Miller Rocks" T-Shirts. Miller Executives Allison Houghton, Sandy Frantom and Randy Olson passed out T-shirts from atop the Century Race Recovery unit parked out front.

24/7



BALTIMORE, MD • NOVEMBER 17, 2006



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