



Knuckle Buster



Newsletter of the Wisconsin Association of Emergency Vehicle Technicians

February 2010

Spring Seminar Plans Finalized

The 43rd Annual Spring Seminar will be held May 19-20, 2010 at the Fox Valley Fire Training Center in Neenah. Classes will be Waterous Pumps, Interstate Basic Electrical, A/C and HVAC systems sponsored by Badger Truck Refrigeration and Red Dot Corporation. **The Interstate class requires a manual and pre-registration. The manuals normally sell for \$39.95, but we were able to get them for \$30 for our attendees.** We have a change of hotels for the rooms and dinner. Due to space limitations we were not able to secure the same hotel as last year. This year we will be at the Holiday Inn – Neenah Riverwalk. Rooms are \$70 single and double. Call 920-725-8441 to reserve your room. Make sure to tell them you are with the WAEVT. For maps and directions to the hotel go to www.hineenah.com. **Rooms will only be held for our group until April 21.**

Elections to be held at Annual Meeting

Elections for three positions on the Executive Board will be held at the Annual Dinner Meeting. The positions up for election are Vice President, currently held by Mike Meyer; Executive Secretary, currently held by Mark Evel; and Treasurer, currently held by Dave Kamps. Mike and Mark have expressed interest in remaining on the Executive Board. Dave is unable to continue as Treasurer and we need someone to fill the position. Please consider filling this important role. For more information on the duties, contact Dave Kamps or Jon Coutts.

Association 45th Anniversary

In 2012 the Wisconsin Association of Emergency Vehicle Technicians will celebrate its 45th anniversary. The Association was started in 1967 as the Wisconsin Fire Equipment Mechanics Association to provide training to the people in Wisconsin and surrounding states. We are looking for people to help with working on a celebration of this milestone. We are also looking for former Presidents and board members. Please contact Jon Coutts with any information or to assist with organizing the event.

EVTA Bulletin Board

We now have our logo on the banner at the top of the site, and a password protected page for association new and business. If you haven't visited the website, it is a very valuable source of information and sharing. You do need to register to post to the site, but there is no cost. Visit the site at www.evta.info. We have several members that utilize the site.

Website News

We are continuing to update the website. We will continue to post seminar information and registration forms, will also be posting information on upcoming events and training. We are hoping to add a page with association history. If you would like to have something posted or would like to help with the website, contact Jon Coutts or John Roberts

E-Mail Addresses

We would like to utilize e-mail for sending information and newsletters to help keep costs down. If you receive the newsletter by US Mail and have an e-mail address please send it to Jon Coutts at jdcoutts@sbcglobal.net. If you know the e-mail address of another member of the association, or someone who you think would be interested in receiving our information, please forward the address to Jon at jdcoutts@sbcglobal.net.

EVT Bulletin Boards

EMERGENCY VEHICLE TECHNICIAN ASSOCIATION

www.evta.info/forums/

EMERGENCY VEHICLE LIGHTING AND WARNING SYSTEMS

www.emergencyvehicles.org

Training Opportunities

WAEVT Spring Seminar May 19-20, 2010 FVTC Fire Training Center Neenah, WI

WAEVT Fall Seminar September 16, 2010 FVTC Fire Training Center Neenah, WI

Hale Pump Schools <http://www.haleproducts.com/Main/Content,30,10.aspx>

Pierce Factory Training <http://www.piercemfg.com/company/training.cfm>

EVT Certification Commission <http://www.evcc.org/>

Fox Valley Tech EVTCC Classes <http://www.peopleware.net/index.cfm?siteID=365&eventDisp=EVTC>

Fire Chief Magazine In Service Maintenance Section <http://firechief.com/in-service/shopcal>

Understanding Vehicle Weight Ratings

(Reprinted with permission from Fire Chief InService Newsletter July 18, 2007)

Chris Cavette

Some departments experience apparatus problems because they don't understand how vehicle weight ratings are determined or because they think they are exempt from weight restrictions. The results often are poor performance, broken components or even accidents.

A basic understanding of weight ratings can help avoid many problems when departments specify new apparatus, as well as after they put the apparatus in service. Here are some basic ratings and what they mean.

Gross axle weight rating. The GAWR is the amount of weight a particular axle is designed to support. It is determined by the lowest weight rating of the frame, axle, suspension, steering (for the front axle), hubs, brakes, wheels and tires. The GAWR is usually stamped on a plate inside the cab door frame.

Gross axle weight. The GAW is the actual weight on a particular axle. It is determined by weighing the front or rear axle of a fully loaded vehicle. The GAW must be less than the GAWR to be safe.

Gross vehicle weight rating. The GVWR is the sum of the front axle and rear axle GAWR minus any allowances for frames and other factors. It is the total weight a vehicle is designed to support. The GVWR also is usually stamped on a plate inside the cab door frame or elsewhere on the vehicle.

Gross vehicle weight. The GVW is the actual weight of a vehicle. It is determined by summing the actual weights on each axle of a fully loaded vehicle or by weighing the entire vehicle at one time. The GVW must be less than the GVWR to be safe.

Gross combination weight rating and gross combination weight. Tractor-trailer vehicles, such as tillered aerials and some rescue, hazmat and tanker configurations, use CCWR and GCW instead of GVWR and GVW. The methods of determination are similar.

Side-to-side distribution. Weights must be distributed evenly on both sides of a vehicle to be safe. Putting too much weight on one side can overload the components on that side, even if the total weight is within limits. NFPA 1901 sets standards for variations in side-to-side weight distribution.

Front-to-rear distribution. Vehicle manufacturers define how the total vehicle weight must be distributed between the front and rear axles. NFPA 1901 sets additional standards. Under loading axles can cause as many problems as overloading them.

Fully loaded vehicle. A fully loaded vehicle includes the weights of the chassis and body, plus the weights of all the hose, equipment, tools, supplies, personnel, water, foam and fuel. All tanks must be full. All equipment and hose must be carried in its specified place to give accurate weights.

Where departments go wrong

Looks pretty simple, doesn't it? Everything has a weight rating, and the actual weights can't exceed those ratings. Despite this fairly straight-forward approach, it's easy for departments to go wrong. Here are some examples.

Ignoring weight restrictions because they don't apply to fire departments. This oft-used excuse is wrong. NFPA standards include several weight restrictions and are usually accepted by courts. Chassis and apparatus manufacturers also specify weight restrictions. Even if vehicle laws don't apply, the laws of physics do. Overloaded vehicles, or those with poor weight distributions, are potentially subject to poor handling, poor braking, component failures and accidents.

Carrying too much equipment. Many departments don't take the time to weigh all their equipment. Instead, they rely on the miscellaneous equipment allowance specified in the NFPA standards. Sometimes that isn't sufficient — especially when equipment is installed or added after the apparatus is delivered. Annex C of NFPA 1901 and the FAMA Weight/Cube Calculator can help departments make more accurate weight allowances for equipment.

Selecting replacement components based on fit or finish, rather than weight ratings. Departments need to be careful when replacing components such as tires and wheels to ensure that the new components have equal or greater weight (load) ratings than the old ones. Rated tire loads depend on the design, size, inflation pressure, brand and other factors. Rated wheel loads depend on the material, design, offset and brand. Compare the ratings before you buy.

Looking at the whole, rather than the parts. Some departments simply check the overall weight of a vehicle, rather than checking the weight on each axle separately. Individual axle weights and the front-to-rear and side-to-side weight distributions also are important and need to be checked.

Modifying older vehicles. Many smaller departments use older commercial trucks and surplus military vehicles to build fire apparatus. They feel if a truck was good enough for one service, it's good enough for another. That may be right, or it may be wrong. Departments that build their own apparatus need to consider many factors — weight is one of them.

NFPA weighs in

The new NFPA 1911, Inspection, Maintenance, Testing, and Retirement of In-Service Automotive Fire Apparatus, 2007 Edition, requires that all frontline and reserve fire apparatus, regardless of their year of manufacture, must be weighed once a year. It defines how the apparatus is to be loaded and requires that each axle be weighed separately and then the entire apparatus be weighed as a whole. If the weight on any axle, or on the vehicle as a whole, exceeds the corresponding GAWR or GVWR/GCWR, then equipment must be removed or re-arranged until the weights are below the rated values. If that cannot be done, the vehicle must be taken out of service immediately.

What was once just a good idea is now a requirement. Departments that continue to run overweight or poorly balanced vehicles will not only incur potential problems, they may also incur potential liabilities.

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