OAEVT DISPATCH

Ohio Association of Emergency Vehicle Technicians

OAEVT JULY 2022 ISSUE 1 VOLUME 2

President Mike's Words

What's New

We are going to attempt to start writing a Monthly Newsletter. This will depend a lot on what you all submit and what you want to see. The OAEVT Dispatch, like OAEVT itself, is for you. So let us know what you'd like to see.

We hope this finds you and your family all healthy. We are now officially into the summer months of 2022 and finds us fast approaching yet another Maintenance Symposium at the Ohio Fire Academy, September 19 thru 23, 2022.

30TH ANNUAL
MAINTENANCE SYMPOSIUM
WITH ATLANTIC PIERCE
SPONSORED BARBECUE

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Welcome new OAEVT Members

EVTCC News

After much anticipation, our new database is ready to go live!

The first section is the **Dashboard**, you will be able to;

- Register for exams see any exams you are currently registered for and view current exams and levels.
- Confirmation letters and expiration letters can be printed from here as well Looking for a "launch" following final testing soon.

OAEVT Remains number three in North America for Certified Techs!
324 in 2021
78 in 2022
New in 2021 74
New in 2022 20
Total Certified EVT's 454

NE DIRECTOR AL Hasenfrantz

EVER CHASE YOUR TAIL TRYING TO SOLVE AN INTERMITTENT AIR ISSUE?

This was a recent one that I was exposed to on a 2017 Custom Pumper that would leak down the secondary air tank, sometimes overnight, sometimes in a few hours. After addressing all the usual suspects (drain valves, check valves, fittings, brake treadle valves) and correcting a few minor leaks, the issue persisted. With the help of some sharp-eared firefighter paramedic-engineers, the location was narrowed down to the left front area of the vehicle while the leak was occurring. (My ab8olity to hear hissing noises is unfortunately gone). Turns out the main harness-air line-data link bundle coming from the steering box area going vertical on the cab face, next to the radiator grille was damaged from contact near the top of the radiator in the cab down position. Soapy water did not catch it, as the pinhole was inside the corrugated loom that had migrated away from the leak. Manipulation of the bundle made it plenty evident though, and the repair was not a terrible one after the defect was located. Whether the bundle needed better support at assemble, or just sagged down after a few years of "GENTLE' fire department use is undetermined. The telltale sign found after the fact was the rubbed off paint area on top of the radiator corner. Some added wire tires and a little repackaging and she's back in business. Hope this helps in the battle of the air leakage every EVT faces, Good Luck and happy hunting APH

EXECUTIVE DIRECTOR Al Conkle

NFPA Updates (New NFPA 1910)

The current NFPA 1911 and NFPA 1071 Standard that you are using everyday for your professions are now close to changing. The final or second opportunity for persons to input their comments has now passed and the new NFPA Standard will be NFPA 1910. Your Ohio Emergency Vehicle Technicians (POAEVT) have been very busy working on this new standard which is a merger of several standards. There was allot of issues to overcome while attempting to merge several Standards into one document. The very last chance for something to change at this point is currently undergoing a vote to accept by the Pro Qual Committee. The Pro Qual Committee oversees the documents to ensure that they all conform the NFPA Language and Style. I was part of the last virtual Meeting a few weeks ago and gave a detailed report on the changes in our portion of the changes made to Professional Qualifications NFPA 1071 and how it affects the new Standard and any issues that I may see in the future. Per normal I used most of the time discussing how this change affects the EVT (in reality the board and Pro Qual folks really do not have a handle on what a EVT does). I will continue to update you on the changes in our new upcoming Standard which is anticipated to become effective January 2023!

July 12th 2022 the 1910 just passed the Professional Qualifications Standard Group for "Style and following NFPA Rule of Standards". This means that it now goes to the NFPA Main Annual Meeting and presented to the Board for final approval (at this point this is just a formality) So we will have a new Standard 1910 to follow and use as a guide to Inspect, Maintain, Test, and Qualifications for an EVT.

This was recently in *Firehouse* Thank You

Minimizing Over-the-Road Accidents

April 18, 2022

Michael Wilbur explains why apparatus committees should consider numerous technological advancements that make traveling to fires safer for firefighters.

Michael Wilbur

Enhanced breaking, smarter seat belts and roll cages have led the way in the efforts by fire departments, apparatus manufacturers and technology suppliers to make the trip to the incident scene safer for firefighters.

View Image Gallery

If you were alive in 1968, you might remember the phrase “You’ve Come a Long Way, Baby.” It was an advertising slogan for a brand of cigarettes. Having personally ridden the back step of fire apparatus in the 1970s and in the early 80s and having seen how far that the U.S. fire service has come since the NFPA required four-door enclosed cabs in 1991, that slogan surely fits today’s fire apparatus as it relates to vehicle and firefighter safety.

FDNY was an early leader in this safety effort, requiring four-door enclosed cabs after the riots in the late 60s, to prevent members from being struck by objects that were thrown by rioters, not to mention protection from gunfire. Some two decades later, the NFPA made it a requirement in *NFPA 1901: Standard for Automotive Fire Apparatus*.

Custom enclosed cabs today have roll cages as an integral part of their design to protect firefighters during rollover.

FDNY further strengthened its apparatus specifications by requiring a steel reinforced front bumper to prevent intrusion into the cab during apparatus accidents to protect personnel in the front of the cab.

Braking

Apparatus have gotten faster (higher horsepower engines) and heavier (increased axle capacity). Along with that came a need for enhanced braking. The 1991 revision of NFPA 1901 required that every apparatus that weighs more than 33,000 lbs. must be equipped with an auxiliary braking system.

FDNY, using technology in conjunction with Seagrave, Telma (drive shaft, gearbox and drive axle retarders) and anti-lock braking systems, sought to have skid-free braking, including via an auxiliary braking system. FDNY specified in the apparatus an electric driveline retarder that interfaces with the computer that controls the anti-lock braking system. Initially, when the apparatus operator let off of the accelerator pedal, four electromagnets grabbed hold of the drive shaft at the same time to bring the apparatus to an abrupt stop. Realizing that wasn't going to work, engineers who worked with FDNY set up the auxiliary braking system so that two electromagnets engage when the operator lets off of the accelerator pedal and the other two electromagnets engage once the operator depresses the top of the brake pedal before actuating the service brakes. There are no on/off switches for the auxiliary brake system; it always is on. The only way that the system shuts off is when the anti-lock brake computer senses wheel lockup, at which point the anti-lock brake computer shuts off the auxiliary braking system in milliseconds. Once the computer senses that the wheels again are spinning freely, the auxiliary braking system is restored in milliseconds.

A side curtain air bag in a fire apparatus deployed after a quarter rollover. None of the six seat-belted firefighters who were on board were injured.

A digital display on a vehicle data recorder (VDR) gives the operator and the officer a variety of safety information about the apparatus and the onboard personnel.

As the operator, you know that the auxiliary braking system is working based on a series of four amber lights that are on the dash that illuminate when each of the four electromagnetics activate as well as a self-diagnostic check at vehicle startup.

Seat belts

Early in 2003, the first of many safety enhancements in the fire apparatus industry that were to emerge in a relatively short amount of time was unveiled. It used air bags, pyrotechnic buckles and electronic sensing technology. The RollTek system was a joint venture between seat belt manufacturer IMMI and Pierce Manufacturing.

When an imminent rollover of the apparatus is sensed, advanced safety systems activate. This safety system activation includes buckle pretensioners and side air bags. When deployed, the system protects firefighters' head and neck.

In 2007, IMMI introduced frontal air bags, marketed as 4Front. Although similar to what you might find in an automobile, the system is more complex because of the heavy-duty construction and different variations of fire apparatus cabs. The 4Front system comprises a steering wheel air bag and an officer knee airbag. (A driver knee air bag is optional.) When a sensor determines a frontal crash, the frontal air bags deploy.

When purchasing an apparatus, RollTek, 4Front or both systems can be specified.

Steel reinforced front bumpers have become a popular option to protect the crew from cab intrusion.

In 2009, NFPA 1901 was revised to require the installation in fire apparatus of vehicle data recorders (VDRs), which also are known as the black box. High-end VDRs can capture vehicle speed, braking and auxiliary braking. Some have lateral G-force indicators to alert the driver via a series of lights on the dash of an impending rollover event. The VDR also can record time and date as to when a seat was occupied and whether and when a seat belt was engaged and buckled. Because weight sensors within the seats interface with the seat belt system, the seat belt must be buckled around the firefighter: no circumventing the operation of seat belt sensors by buckling the seat belt behind the firefighter, as is possible with other seat belt systems.

Unfortunately, under the revision to NFPA 1901 that's underway, the VDR requirement is dropped. A reference to VDR will be contained in the annex as a recommendation. The reason that was given was to reduce the cost of apparatus—and that "nobody used it anyway." Perhaps nobody used it because there never was an

explanation as to all that the VDR could do and that, in most cases, no training was offered or given. This prompts the question: How many expensive components are installed on apparatus today with little or no explanation or training?

To continue its leadership in cab safety, starting in 2010, FDNY conducted research on seat belts and their lack of use in FDNY apparatus. It was determined that firefighters weren't wearing seat belts—not because they didn't want to but because the seat belts that were installed in apparatus didn't work very well or, in some cases, not at all.

In 2010, IMMI and FDNY developed seat belts that account for the mass of bunker gear, to provide more retraction of the seat belt, so the belt won't get caught in the Nadar pin and fray.

In 2007, the National Institute for Occupational Safety and Health (NIOSH) authorized a series of anthropometric studies.

Anthropometrics is the science that defines physical measures of a person's size, form and functional capacities. Applied to occupational injury prevention, anthropometric measurements are used to study the interaction of workers with tasks, tools, machines, vehicles and PPE. This is done in particular to determine the degree of protection against dangerous exposures, whether they are chronic or acute.

NIOSH's series of studies were historical in nature: Firefighters never had occupational anthropometric studies conducted in their workplace. More than 1,000 firefighters from all over the United States were studied. Most of those individuals got full body scans. Some of the findings of the studies were applied to the seat belt project that was undertaken by FDNY and IMMI. For example, when firefighters are dressed in bunker gear, their body mass is increased by 30 percent.

The increased length of the stalk of the ReadyReach seat belt helps to accommodate the increased size of a firefighter in bunker gear.

Over an 18-month period, IMMI produced eight different prototype seat belts. Each of the prototypes were tried in a variety of FDNY apparatus. The result: the ReadyReach seat belt, which was named for the ease with which it's donned and doffed. An extender arm that's located adjacent to the top of the seat pushes the male end of the seat belt beyond the seat and the firefighter; the increased length of the seat belt stalk helps to accommodate the increased size of a firefighter who is in bunker gear. The seat belt can be donned in four seconds. Seat belt usage in FDNY increased dramatically.

Over the course of 18 months, more than 500 FDNY apparatus underwent retrofitting to have the new seat belt installed.

Improvements to Come

Over the course of my fire service career, the improvements in firefighter safety, in general, and fire apparatus, in particular, have been dramatic and have prevented firefighter injuries and deaths. What does the future hold for fire apparatus safety?

It would seem that the application of onboard electronics that's used to warn fire apparatus of the approach of other fire apparatus or other emergency vehicles at intersections is in the offing. Technology already exists to warn civilian vehicles via dashboard display of the approach of fire apparatus and other vehicles, to prevent intersection collisions.

With the continued dedication of fire apparatus manufacturers, with the development of new technology, and with the commitment of fire service leaders in the United States and Canada, safety improvements are evolving continually. This evolution will offer significant improvements to apparatus and firefighter safety for years to come.

The Bureau of Land Management (BLM) provides fire protection on federal lands in the wildland urban interface. The BLM recently bid a specification that requires the manufacturer that upfits the commercial chassis of an apparatus to build a roll cage within the cab.

Roll Cages in Fire Apparatus

Because of their high center of gravity, water weight in motion, speed and vehicle design, fire apparatus have a high propensity to roll over. Fire apparatus rollovers—and the lack of seat belt usage—have been a consistent source of line-of-duty deaths (LODDs) since LODDs first were recorded in 1977. Commercial fire apparatus cabs never have been built with the inherent roll cages that are built into custom apparatus cabs.

The Bureau of Land Management (BLM), which is an arm of the U.S. Department of the Interior, provides fire protection on federal lands in the wildland urban interface. The BLM recently bid a specification that requires the manufacturer that upfits the commercial chassis to build a roll cage within the cab of the commercial chassis. It certainly is hoped that the roll cage that's upfitted in the commercial chassis for the BLM becomes the new normal for commercial cabs and will be

replicated throughout the fire apparatus manufacturing sector.

Protection Against Cancer

The rate of and the variety of exotic cancers within the firefighting community is growing. Science confirmed that the soot that covers a firefighter's bunker gear and equipment is laced with carcinogens. As a result, the fire service is adopting a strategy of clean side and dirty (contaminated) side, whether in stations or on board apparatus, to combat the cancer scourge.

Among the latest phrases in the apparatus industry is the Clean Cab concept. The idea is to keep cancer-ladened soot that accumulates on bunker gear and firefighting equipment out of the cab. Although no one actually defined what constitutes a clean cab, some manufacturers created storage areas in compartments that are outside of the cab to store and transport contaminated gear, including SCBA.

Latest Comments

Posted by mvatterApr 18th, 2022 9:13AM Report

Perhaps the VDR requirement was dropped for a more insidious reason? The theory behind the VDR is likely the same as a flight data recorder (the aircraft black box), capturing the data of what is happening before the crash. Fr. Jones didn't slow down as they approached the intersection, Fr. Smith was doing 50 mph around a tight curve. Captain Gately didn't say a word about speeding. In other words, it would show the flaw in the driver/engineer training program and/or supervisor training.

Take a look at this new way to launch a rescue rope! I am sure it was B Shift, however the old familiar story was we did not do it? We don't know how that could have happened? I am wondering which one of the EVT Certification Tracks teaches rescue rope discharge? I am still waiting on what all needed to be disassembled to remove all that rope,

- APPARATUS
- APPARATUS TYPE
- AMBULANCE

Ambulance Chassis: Wait Times Soar, Costs Skyrocket

James Philips tells of the challenging marketplace that fire departments face when it comes to acquiring ambulances, whether new, remounted or used.

James Philips

It isn't a 9-1-1 emergency, but another quiet crisis is well under way—namely, the greatly curtailed ability for EMS providers to purchase replacement ambulances. An unprecedented storm of economic events has choked off the supply of new, remounted and used ambulances and has sent prices soaring.

Chassis

The problem starts with an ambulance prep package that's built—or not built—built by Ford, Freightliner, General Motors, International or RAM.

Furthermore, the global shortage of microchips has curtailed all automotive production sharply, and the production of the chassis that are used for ambulances has been hit particularly hard. Diesel, gasoline, 4x2, 4x4, all brands: The supply is remarkably short right now.

Ford's E-Series, Transit and F-Super Duty (F-450, F-550) chassis cabs are sold out for the 2022 model year, and many that are on order just won't be built.

Freightliner and International are sold out until the 2024 model year, mostly because of higher demand for commercial trucks for other segments.

"I've never had so little information on what will be built and when," Marc McEver of Olathe Ford, which has been a major supplier of ambulance chassis to EMS body builders for 30 years, tells *Firehouse Magazine*. Of the crisis, he adds "I don't think things will normalize for at least a year or more."

The lack of clear or definitive information on chassis supply is trickling down to frustrated buyers through ambulance manufacturers and their local dealers.

Dealers across the major ambulance brands are telling surprised fire and EMS agencies that lead times are 14–24 months for built-to-order Type I and Type III ambulances. This compares with historical norms of 3–6-month lead times for the same vehicles.

The new lengthy timelines are upending customary specification, budgeting, procurement and replacement cycles.

"These are extremely difficult times for buyers, dealers and the manufacturers," Bob Reilly, who is owner of North Eastern Rescue Vehicles, which is one of the largest ambulance dealers in the United States and offers five brands, says. "We're doing all we

can to support those agencies already waiting for delivery and also preparing those actively buying for the current timelines."

Reilly also notes that the situation is driving costly maintenance challenges to keeping older units viable. So is a national shortage of repair parts and qualified mechanics.

Help Wanted

Even if the flow of new chassis were to return to "normal," skilled labor shortages at many popular ambulance builders are evident from increased recruiting and advertising for new staff. This means that the industry's ambulance manufacturers, which are sitting on a record backlog of orders, won't be able to accelerate their production rate much even if material shortages ease.

Pricing

It's no secret that the United States is in a steep inflationary cycle. Nevertheless, sticker shock is a common reaction when agencies learn that their new ambulance—to the same specification as last year—jumped 25 percent–30 percent in cost. It's a never-before-seen stacking increase, one that's the result of material and labor increases being passed on by chassis manufacturers, ambulance builders, ambulance dealers and suppliers of key EMS equipment, including Ferno, Stryker, and other medical device and radio technology specialists.

Reflective striping and graphics, inspection trip travel and freight/delivery costs are up, too.

Ford and others also scaled back or eliminated incentives and rebates.

Remounts

All remounts require a new chassis and most of the material and labor that goes into a new unit. Because the cost of aluminum has increased so much, the value of a body for reuse toward a remount is on the rise.

A bit of a ray of hope: Ambulance remounters and dealers that remount in-house might have stock remounts finished and available or already in-process (with remounter-supplied bodies and/or earlier 2022 production slots ahead to remount an existing unit). This potentially can save both time and money versus waiting for a new unit.

That said, consider the fact that stock remounts often put what's available ahead of what's desired by EMS agencies. The configuration of the exterior and interior is set, which means that if going that route is possible for your organization, these units likely will be inconsistent with others that are in your existing fleet. That lends itself to both operational and maintenance concerns.

It's a local judgement call as to whether pursuing this option is worthwhile.

Some nonfactory remounters also have stock remounts (with bodies) and/or production slots ahead.

Inventory

A collision or blown engine can result in an urgent, unplanned ambulance replacement. Previously, quick delivery of a dealer demo vehicle or a factory stock unit filled this immediate void nicely, but today, next to nothing is available right away. Unsurprisingly, the shortage of new ambulances has slimmed the supply of used ambulances, too.

Used ambulance prices, like that of other used automobiles, are up as much as 60 percent for units that are in excellent condition.

The supply of any new or used ambulance for immediate delivery is so scarce that agencies that are seeking to buy are encouraged to gain full procurement authority and approval of funds in advance of finding the actual vehicle. This allows same-day buying power.

The current situation is similar to a tight real estate market in a given area, where folks are paying more than asking price for the home that they want and making same-day payments to lock it in.

Fiscal stability

Given the circumstances, there's significant financial pressure on dealers and manufacturers as a result of their delivery of many fewer units per month. This likely will continue for a year or more.

Most dealers and manufacturers are seeking advance deposits from buyers to lock in particular chassis or production slots.

Given the length of time from order date to delivery date, buyers should exercise good business practice, using binding documentation and elevated diligence to ensure that their funds are secure.

Waiting on answers

Uncertainty reigns across the ambulance chassis industry. It still is in everyone's best interests to build and deliver as quickly as possible, but people who are accustomed to furnishing answers just don't have them.

"It's frustrating to not be able to provide accurate information to our valued customers," Steve Apgar, who for decades has specialized in supplying new 4x4 ambulances in northwestern states, including Idaho, Montana, Oregon and Washington, says.

In sync with market conditions, Apgar's AmbulanceTrader.com used ambulance marketplace has seen a marked drop in units that are available for sale.

Although your ambulance dealer or manufacturer should provide more information as it becomes available, be sure to use multiple sources to verify what you're told. It's important to stay aware of these market conditions to make the most informed decisions for your next ambulance.

Pipeline Units

Some ambulance dealers ordered new stock inventory months ago that now is sitting in a long line awaiting chassis or production slots. True, these vehicles already are configured, but if your dealer has any, purchasing from this inventory could eliminate a wait of many months or even year. Be sure to ask whether any such vehicles are available.

Good and Welfare Issues:

Please Remember our Dan Mattis and Andy Hontert and any other EVT Brothers and Family members that we have lost.

Thoughts and Prayers go out to Pat Conkle and her recovery challenges.

Mark Rembis: As some of you may know there was a tornado touchdown in northern Clermont Co. this afternoon. Extensive damage to the village of Goshen and in nearby townships.

The Goshen Fire and Police stations suffered severe damage. Luckily, only 2 injuries reported at this time. They have a state of emergency in effect and at this time have ample resources on hand. There was also straight line wind damage from the storm as well, which moved eastward.

OAEVT History

News Letter Number 1 Volume 1 was first published May-June 1992. The name of the newsletter was "NewsLine" . The First NewsLine was 3 pages in length.

Congratulations to the newest EVT Masters! 2021 to June 2022

Jackson	Glenn	City Of Columbus	Ambulance Master
Johnson	Eric	City Of Columbus	Ambulance Master
Roehrer	Patrick	City Of Columbus	Fire Master
Ross	Kenneth	City Of Dayton	Fire Master
Roth	Anthony	City Of Mason	Fire Master
Voigt	Steve	Kirtland City	Fire Master

General Comment section:

This is my first experience with the Microsoft Word software newsletter application so please be patient with me. Trying to put in columns and pictures seems to mover everything around and makes it difficult to manage. I am sure with some time and experience I can get it all figured our and make it look better. Please send any stories or anything you would like to share with others to me for our next newsletter. Alconkle1@aol.com

This is YOUR newsletter so YOUR INPUT is helpful.