To Promote the Science and Improve the Methods of Aviation Fire Protection and Prevention

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Greetings fellow ARFF Working Group members and welcome to the January/February 2018 edition of ARFF News. As we flip the calendar to the New Year, we have the natural and annual resetting and refreshing of our lives. This is where many of us refocus and rededicate ourselves to things in our personal and professional lives that are important to us (or someone) and those that are in our networks. Hopefully, you have been able to sustain long term success in this area thus far in 2018 and working toward whatever goals you have set for yourselves.

One goal that I hope everyone has identified and working towards is the ever present of physical fitness and the importance of it to our jobs and the people that we have sworn to protect and, most importantly, our families. All firefighters and officers should recognize at whatever stage of your career you are in, the importance of being in great physical condition for those times when you are called on to push your body to the limit. It’s sad to me that we have tremendous amounts of data and science that demonstrate to us the importance of being in peak physical condition and we still continue to lose over half of firefighter deaths each year to cardiovascular related events. If you are not aware of this, I highly encourage you to visit the United States Fire Administration website and review the data that exists on annual firefighter deaths. In addition to this resource, there are a multitude of resources available via the internet to aid firefighters in getting in shape and eating properly. Surely, no one wants to talk about it, but it is important for us to be armed with the knowledge of firefighter deaths and injuries and to work towards reducing that number each and every day. This includes leading by example!

Getting back to organizational goal setting, I wanted to talk about this and the correlation that it can have with our respective organizations. Over the weekend, my wife and I went to the local theater to see the movie “The 1517 to Paris” which is the story of the three Americans who thwarted a terrorist attack aboard a train from Amsterdam to Paris in August of 2015. In the movie, Spencer Stone (who plays himself in the movie) makes a statement at the end of the movie “just do something.” As I relate this to our jobs and organizations, the question I ask is, what are you just doing? Under the adage of leaving it better than we found it, what are you doing to make your contribution to the organization you work for (or the ARFF Working Group) better? Do you understand your role and are there things that you can do to enhance the outputs that our organizations need to long term sustainability and customer service. While many of us do a lot with less in our organizations, is there something more than we can do?

I also wanted to take a minute to give a shout out to Atlanta Fire Rescue for the work they did during the power outage in January as well as the Northeast airports who encountered several major snowstorms with thousands of stranded travelers in their airports. Even if you weren’t affected by a snowstorm, you likely were impacted with diversions of aircraft to non-affected airports. I also would like to recognize the Port Authority of New York and New Jersey with their response to a water pipe break at JFK Airport in January. If you have had something occur at your airport we would love to hear about it and I would like to once again make a passionate please for contributions for this publication, ARFF News. A multitude of great things are taking place at your airports and we would love to hear about them (again, just do something!).

In closing, I appreciate all of the work that everyone does each day at your respective airports. What we do each day has an impact and we must constantly be mindful of why we are here—for our customers and strive each day to provide exemplary service to them when they call for us. We may not get an opportunity for a do-over! Thanks and have a great day!
The morning of October 30th 2014 started out just as any other work day at Wichita Dwight D. Eisenhower National Airport. On this particular day, Flight Safety International (FSI) personnel came in to work and started their days by firing up the flight simulators preparing to train pilots. On the other side of the street, a pilot arrives at an FBO, and prepares his aircraft for flight. Little did they know that their paths would very soon collide in a sad and unfortunate chain-of-events.

At approximately 0950 hrs, a Beechcraft King Air B200 with one crew member aboard departed Runway 1R. Shortly after takeoff, at approximately 150 to 200 feet AGL, the left engine failed. The aircraft veered left off centerline, passed over some hangars, then struck the Northeast corner of the FSI Cessna Pilot Learning Center building coming to rest on the far west side of the roof. The aircraft struck the part of the building that housed multiple flight simulators that were in use at the time of impact.

Airport Police and Fire (APF) received the notification that no one in our profession ever wants to hear, “Alert 3”. The Aircraft Rescue Fire Fighters responded and began to go to work as they have been trained to do. The initial response equipment included one (1) rapid intervention vehicle, one (1) Oshkosh Striker 1500, one (1) Oshkosh Striker 3000, and multiple law enforcement vehicles. APF quickly setup a Unified Command System (UCS) as mutual aid agencies arrived on scene. Through the UCS we were able to utilize the resources that were needed in an efficient manner. Within minutes following the accident, key personnel from FSI arrived at the Emergency Operation Center, and provided Incident Command (IC) information on the interior layout of the simulator bay, as well as how many individuals were inside. From that information, IC was able to create a list of potential victims.

APF initiated its mandatory employee callback procedures, and also activated their Incident Family Support Team (IFST) due to the amount of lives that were affected in this incident. The IFST is a group of local volunteers that prepares for a major emergency, accident or disaster. The IFST’s mission is to provide a safe and secure location, as well as support to the friends and family members of the victims. The IFST is a strictly volunteer group of Airport employees, Airport tenants, clergy members, and private citizens. At the time, the Wichita Airport Authority (WAA) had created identification badges that would be handed out to the arriving IFST members once they arrived on scene, however a lesson learned from this accident was that (non-WAA) team members experienced difficulty getting through city and county law enforcement blocking the roadways without having anything that identified them as being on this team. The WAA has since changed this procedure, and now has provided identification badges to all of the IFST members that they retain in their personal possession at all times. During this event the National Transportation Safety Board (NTSB) deployed their Family Assistance coordinator to the accident site. The airport IFST worked hand and hand with the NTSB on contacting and providing support to the family members and friends of the victims of this accident. Since the accident occurred, the organizer of the IFST for the airport was
invited to Washington D.C. to be a guest speaker at the request of the NTSB at a conference on family assistance in aviation accidents.

The hours and days to follow were challenging due to building structure instability. The WAA made a priority to do whatever they could to get the work that was needed done, and to support whomever needed support. Shortly after the NTSB arrived, the airport worked hard to provide everything that was requested, i.e. a building to place the aircraft engines for inspection, contacting a recovery company to recover evidence, as well as contacting a company to remove the outer wall to secure the unstable building.

Due to this incident, the airport was shut down to incoming flights for only three (3) hours. Wichita Dwight D. Eisenhower National Airport is an Index C airport, and provides ARFF services to its aeronautical operators, including two on-field manufacturers, two factory service centers, scheduled passenger airlines, scheduled cargo airlines, general aviation, and the military.

The Wichita Airport Authority learned through this accident that communications will likely be the first to go. Sedgwick County had just completed a massive upgrade to their radio system. During this time-frame, some of the responding units had the wrong frequency programmed in their radios. This was realized while in route to the accident. However, due to the UCS system that was set up they were able to communicate without hesitation between all arriving mutual aid agencies.

On that very sad and tragic day, four (4) individuals lost their lives. This included three (3) people inside one of the simulators, and the pilot of the accident aircraft. The sad and tragic irony of this event was that three (3) individuals that lost their lives inside of the simulator were in the process of either training or being trained to respond and react to just such an event.

About the author: Roger Xanders has worked for the City of Wichita for 26 years. Roger is currently the Chief of Airport Police and Fire at Dwight D. Eisenhower (ICT) for the last four years and has worked his way up through the ranks.

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Throttles, Bottles, and Batteries. Pressurized or not pressurized? What type of fuel, how much? Is there a way to extinguish an auxiliary power unit (APU) fire easily? How do we access different sections of the aircraft? Friendly doors, unfriendly doors, how do the over wing exits work? Is there a slide involved that will knock me off the ladder?

As a child my dad would point in the sky and say, “look at that 727”, or “that is a DC 3”. My love for aircraft, flying, and aircraft familiarization was born. My eyes are always looking at the sky trying to learn how to identify aircraft. One of the responsibilities my dad had as I was growing up was to respond to aircraft incidents at the two regional, and one international airport in our area. I was able to watch the airport crews deploy giant lift bags, stabilize the crashed aircraft, and remove them from the runway or taxiway.  

When I was assigned to the Airport fire station as a young paramedic I was able to continue my love of aircraft familiarization. At the airport, between fighting fires, responding to emergency calls, and training, we play the “name that plane game”. I enjoy learning what others look for: number of engines, location of engines, high wing, low wing, under wing engines, etc.

One of our airport partners has a facility that contains different access doors for aircraft in their fleet. These doors can be opened and closed in a safe training environment, we call this the “doors class”. Every chance I get, I go through the “doors class” to be reminded of the nuances associated with each make and model of aircraft and the lingo the flight attendants use.

Before the merger of Delta/Northwest, it was rare to see an Airbus at Salt Lake City International Airport. We were amazed at the flight controls in the flight deck and the differences from the more familiar Boeing aircraft. Looking for these differences helps identify the type of aircraft and recall details that can be impactful during an emergency response.

One of my most embarrassing moments was when we had a report of smoke in the cargo compartment of an EMB 175. The aircraft was on the runway, full of passengers, and we struggled to open the cargo door and assess the situation. More than once someone said to get out of the way so that they could show us how to open it. It came to the point where the First Officer opened his window and was shouting suggestions on how to open the cargo door. Needless to say we are now very confident in our skills on that aircraft and we made a training video so no one else would be as embarrassed as we felt that day.

There are many means to help improve familiarity of aircraft that you may see on a regular basis. There are books that describe the intricate details and differences of each aircraft and its variations. In a recent basic Aircraft Rescue Fire Fighter class one of the participants found on the internet, “The Big Book of Airplanes” and commented how there is a “big book” for whatever you need. There are many great books available to help recognize aircraft. A web search of “aircraft recognition guide” will provide several options. One that I have seen on tables in the observation decks at airport fire stations is “Jane’s Aircraft Recognition Guide”.

In addition to books, computer resources are great areas of information. Check for available apps that are compatible with your particular mobile device. Check the identifiers for each aircraft, each aircraft has an identifying tail number. Use the tail number to identify the aircraft, enter the tail number in a web search or go directly to an app or web page such as “Flight Aware”. You can obtain information regarding the type and specifications of the aircraft including the flight history of the aircraft.
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Search manufacturer sites directly. A web search for “Airport Compatibility” will reveal a list of large aircraft manufacturers and their sites that will provide information of crash charts for their aircraft. These sites contain valuable information directed towards the ARFF industry to educate, inform and prepare for possible emergency and known concerns regarding each manufacturer’s aircraft.

The information about aircraft is valuable as long as it stays current. Websites, apps and books all need to be updated as information changes. Aircraft Rescue Firefighters need to stay updated as well.

Knowing the information is just the precursor to being able to use it. “Knowledge is Power” and being familiar with the aircraft that comes into your airport gives you power. In an incident that occurred at Chicago O’Hare on October 28, 2016, as reported in ARFF News – Vol. 27 #6, crews responded to a 767 with a #2 engine fire. Crews responded and mitigated the fire on the outside of the aircraft and life safety was addressed by searching the aircraft. Overhaul was initiated, including the use of a thermal imaging camera, and a hot spot was noted on the flooring of the aircraft. Because these professionals knew the aircraft they had the option and power to address the suspected fire in the cargo holds. Access to the flight deck was made and the extinguishing systems were deployed. If this was an unfamiliar aircraft this procedure may not have been the first course of action and firefighters may have been put in harm’s way unnecessarily trying to make access directly to the cargo.

I have never met a flight crew, or maintenance crew that, if they had time, was not excited to show, and teach me everything they could about the features of their aircraft. I make a point to explore every new aircraft I see.

At the end of the day it is incumbent that each Aircraft Rescue Firefighter understand, and master their craft. Be safe and enjoy this awesome opportunity to become intimately familiar with aircraft, and their systems.

About the Authors:

Dave Brinton AMF, BS, ARFF Paramedic, has served in the fire service for the past 24 years, the past 20 as an adjunct and Lead Instructor at the Salt Lake City ARFF Training Center. Dave has traveled extensively, and trained people throughout the world.

Paul Harding, Captain/AMF, is the ARFF Training Officer and Manager of the Salt Lake City ARFF Training Center. Paul has been with the Salt Lake City Fire Department since 1995 and has been involved with ARFF in various capacities since 2009 as a paramedic, instructor and officer.
endless medical calls, some ripping fires, extrications, and handling some dicey haz-
mat scenes; an opportunity to bid the Red 1 ARFF Captain spot at the Salt Lake City
International Airport fell on my plate.

Piece o’ cake, I thought. I’d been
through it all as a structural firefighter. In
fact, I took the ARFF Specialty Course 18
years earlier and even worked as an aircraft
rescue firefighter briefly and thought it was
very interesting.

Now, I had heard the rumors of life at
the airport stations so I figured, I’d watch
airplanes take off, sleep in a bit, and
impress my Facebook friends by battling
simulated airplane fires at our ARFF
Training Center. But, my dream of an easy
transition turned out to be an intense chal-
lenge with a myriad of new responsibilities
and duties that are not easily learned and
applied in a fortnight. While I wasn’t bat-
tling bedbugs or pulling people from burn-
ing buildings, the airport’s massive influx of
travelers, cargo, and jet planes; the omnis-
cient control tower and security force; and
the labyrinth-like infrastructure presented
a whole new learning opportunity to reignite
(pun intended) my 46-year-old brain cells.

This article will touch on the roles and
responsibilities that the ARFF specialty
presents for those transitioning from a
structural firefighter role to an ARFF posi-
tion. In this series I will discuss how I uti-
lized my experience as a front line structur-
al firefighter and applied it in my role as an
Aircraft Rescue Firefighter.

On the bright side, the transition to an
Aircraft Rescue Firefighter position had an
air of familiarity and routine. Apparatus and
equipment checks start off the day along
with the traditional coffee and morning
paper. The usual firehouse banter and
camaraderie develops through time with
the added influence of the unique roles and
responsibilities we all fulfill as emergency
responders at the airport. My familiarity with the fire
house routine was one of the few things that I clung to as
I found that I was now dealing with a whole new ball game.

That game includes some specific rules and practices
that are critical in enabling you to do your job profession-
ally and responsibly. The first and most apparent differ-
eence is that we are operating in a tightly controlled envi-
ronment. Security has been at the forefront of airport
operations for decades and we are held to a high standard
of accountability of understanding the rules and operating
procedures as it relates to our job. It begins with paperwork and a background check that is followed by an intensive education of procedures regarding the Secure Identification Display Areas (SIDA) of the airport. Cameras are everywhere and one must understand and navigate through the many secured doors that have specific protocol for entry and exit to each portion of the airport. One of the first training priorities were provided by the Airport Badging Office enabling us to access the movement areas on the secure side of the airport. We were required to do a total of 10 hours of driving on the movement areas to demonstrate our ability to navigate the airfield, 5 hours of daytime and 5 hours of nighttime driving with supervision were required. Accompanied with some incredibly, horribly, arduously, long presentations made for what seemed like a long process to get certified. When you have a quiz at the end of every presentation with the threat of having to start “all over” you somehow find the will power to pay attention to the details.

Understanding of the signage and access features along the runways and taxiways becomes critical. One stupid mistake and we could be the cause for airplane delays and, in a worst case scenario, put lives at risk. To have a runway or taxiway incursion is serious business. Waiting at the hold short line trying to get air time from ground control, while responding to a medical emergency can be incredibly frustrating speaking from experience. What are my options? Contact OPS, go through the tower, and find a solution. Just like as a structural firefighter that is what we are paid to do, find solutions. On the streets of Salt Lake City, the fire engine was top dog with the right of way through intersections, along streets and freeways, drivers typically pulled over. But a 75-ton Boeing 737 barreling down the runway at 130 knots can’t and doesn’t stop for some 12-ton emergency vehicle that took the wrong turn, mass prevails. Requesting permission and communicating to the tower and control centers are essential to ensuring not only our safety but the overall safety of airport employees and travelers.

I don’t ever want to find myself again like I did my first week at 0300; alarms blaring; when I couldn’t get through a secured area inside the terminal due to my lack of knowledge and the fact that the master key I was relying on did not work. The solution was as simple as knowing alternate routes to the fire panel. I felt frustrated and almost a little helpless as I called over the radio to have maintenance get me access. I was pretty disappointed when maintenance showed up and their massive ring of 100 plus keys didn’t work either. My firefighters investigating the smoke detectors were probably thinking, what the heck is taking him so long? Understanding what potential obstacles we may encounter and how to overcome them is paramount to being able to function professionally. Some of those obstacles are our level of familiarity with occupancies, aircraft, and other airport facilities and services.

One benefits of working at the airport is most people have two specific reasons to be there: travel and work. sounds simple, right? People move from the mass transit stop or parking garage to the terminal, to the gate, and on to the aircraft. Airplanes and equipment move from hangars to terminal, to the tarmac. Service vehicles travel across the tarmac to baggage claim, fuel farms and glycol plants. Movement continues in rain, sleet, sun and snow...at all hours...every single day...with thousands of time-crunched, busy, often jet-lagged people at the center of it all. Wait a minute...this sounds a lot like a city, with all the hazards I encountered while working as a structural firefighter! Well, maybe not the risk of bedbugs, but you never know. They travel, too.

Wow! This is an eye-opening experience, one I am excited to share as I navigate my way through my transition from structural firefighter to aircraft rescue firefighter. In the next article I’ll write about some of the challenges represented from the communications and Incident Command side in regards to how there are many similarities that allow us to use our previous experiences but also talk about some differences that we need to be accustomed to in order to do an effective and professional job.

About the Author:  Captain Michael Harp has been with the Salt Lake City Fire Department since 1997. He has served in a variety of roles within the fire department including Firefighter, Engineer, Media Technician and Public Information Officer (PIO). Mike recently accepted the position as ARFF Captain at the Salt Lake City ARFF Training Center and looks forward to assisting in the continued growth of the training center. Captain Harp served with Utah Task Force 1 for ten years and was deployed to New York following the September 11th attacks.
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Saturday, September 23, 2017, at 0815 hours, Airport Truck 10 established command and staged for an Alert 2. The nature of emergency was a CRJ 700 with landing gear issues. While mutual aid fire companies assembled, the aircraft worked through their procedures for inflight emergencies.

Mutual aid fire companies were staged off airport and responded to Gate “U”. In staging, mutual aid partners from Chemung County were Big Flats FD, Horseheads FD, Tompkins Corners FD, Town & Country FD, and Erway Ambulance. Each department had their vehicles as assigned for an alert 2. Once an alert 3 was initiated, additional resources were dispatched, Elmira Heights FD, East Corning FD, South Corning FD, CTran Buses, AMR Ambulance, & Bath VA with MASH buses. Chemung County Fire Control advised all Airport Operations to move to Channel 2.

At 0820 hours, after performing emergency landing preparation procedures, the CRJ 700 attempted to land with their landing gear caution indicator lit. After landing Runway 28, the gear collapsed, causing a post-crash fire and many casualties. Airport Truck 10 proceeded to the crash site via Taxiway Alpha, and discharged agent to make a rescue path for victims of the crash. Incident Command called for Big Flats FD Engine and manpower to proceed to Airport Truck 10’s position, for water supply and overhaul operations.

At 0825 hours, Airport Truck 12, and Airport Truck 11 responded to the crash site.

At 0830 hours, Airport 103 arrived on scene. After being briefed, Incident Command was transferred from Airport Truck 10, to 103 operating in Ops 1. Airport 103 advised Fire Control that we had a Mass Casualty Incident. Airport 103 advised Fire Control to dispatch the Alert 3, second alarm assignment. Airport 103 requested a fill site set up on the Main Apron, and tankers to resupply Airport Truck 10. After deeming the site fire-safe, Incident Command requested all manpower from Engines and Rescues respond to the crash site for Primary Triage. Erway Ambulance Services, AMR Ambulances, a Bath VA MASH bus, and a county transit bus were requested to the Bravo Apron for secondary triage and transport.

This was my first time being Incident Commander for our Triennial Exercise. It was my goal, and a request of our Authority Having Jurisdiction, to have our “players” act as they would under real world circumstances. I wanted that sense of urgency, and one way to get that is to use a prop with live fire.

Upon deciding that I wanted to have a vehicle as a live fire prop, I inquired with Horseheads Pick-A-Part about the process for having a vehicle donated. The process was so simple, that I inquired with airport management, a State Fire Instructor that is one of our Deputy Coordinators, and our AHJ – the Chemung County Emergency Management Office. Our AHJ liked the idea.

Upon approval, I worked with Deputy Coordinator Robert Emmick, as I needed someone with more knowledge regarding NFPA 1403, Standard on Live Fire Training Evolutions. It was determined that we would be required to have 2 separate supplies of water, an attack team and a backup team. Also, the vehicle would have to be prepared to the standard, including removing the gas tank, all fluids, airbags, drill the shocks, etc.

To comply with NFPA 1403, I was required as Incident Commander to be staged at the vehicle. Necessary at the vehicle as well was a Safety Officer, an Instructor-in-charge, and two EMT’s with equipment.

We needed to have Airport Truck 12 already standing by at the vehicle fire, with two firefighters, an officer and a charged handline. As per the narrative, Airport Truck 10 responded to the crash site, and discharged agent (water). While extinguishing about 80% of the fire, Airport Truck 10 requested Big Flats FD Engine crew perform overhaul operations. Crew from BFFD 331, consisting of two firefighters and an officer, deployed a handline from Airport Truck 10, and extinguished the remaining fire.
Once the Incident Commander deemed the car fire safe, the incident transitioned to a rescue and triage operation, to meet our other objectives. We utilized our Airport Emergency Plan, HSEEP, FAA, and NFPA to complete our exercise.

The drill was an overall success with an immediate hotwash conducted following the exercise with all players, actors and evaluator’s involved included. We hope to make some changes once a report is written and will continue to train and to make the emergency response safer for ELM customers.

About the Authors:

Andrew Stamp is a Firefighter with the Horseheads Fire Department and works full-time for Airport Operations. Experience includes being a volunteer firefighter, a year in Iraq as a firefighter and apparatus driver/operator, and eight and a half years at the airport, with about 13 years in the fire service. Stamp’s training includes National Certified Firefighter I & II, National Certified Fire Service Instructor I. Stamp has earned designation as an Airport Master Firefighter.

Ryan Wheeler is a Deputy Chief of the Horseheads Fire Department and works full-time for Airport Operations. Wheeler has been in the fire service for 20 years and has served at Deputy Chief for 3 years. Two of Wheeler’s 20 years, were completed in Iraq, serving as a Lieutenant at multiple FOB Fire Stations. Wheeler’s training includes: National Certified Firefighter II & ARFF, National Certified Fire Officer II, NYS CFR, and National Certified Instructor III. Wheeler has earned designation as an Airport Master Firefighter.
Presently, I am in training on the B-787. There are a number of features on this aircraft that are unique improvements. A few of these are worth mentioning, elaborating on their function, and discussing their significance as they relate to ARFF crews.

The B-787 uses electrical systems more than any other transport category aircraft I have seen before. Most systems are powered by the engine driven generators with two generators on each engine including two generators on the tail mounted APU.

The aircraft brakes are electrically powered eliminating the problem of hydraulic leaks on hot brakes. This electrical brake system is much cleaner, as well as more compact.

The brakes have temperature sensors on them that can be read on the flight deck with temperature readings that go from 1.0 to 8.0 (MAX).

Any reading below 5.0 is considered normal. Above 5.0 is in the caution zone and over 7.0 is in the fuze plug melt zone. Pilots are not able to convert these numbers 1.0 to 8.0 to conventional temperature readings. As a result, ARFF crews working with the B-787 should be familiar with the 1.0 to 8.0 scale.

Like other aircraft, there are three independent hydraulic systems which chiefly power the flight controls and landing gear. Notably, the B-787 hydraulics run at 5000 PSI as compared to most other systems which only run at 3000 PSI. Operating at a higher pressure allows the components to be smaller, lighter and more efficient.

There is a box located on the nose gear that allows exterior operation of the APU fire bottle. This is also the location of the intercom connection allowing direct wire communications between ground personnel and the flight deck.

The B-787 is a long-range aircraft with crew rest areas above the cabin in the forward and aft section of the aircraft. The forward crew rest area is designated for the pilots, and the seats or seat in that rest area is rated for occupancy during take-off and landing. Most of the time, the rest area will not be occupied during these times, but it is approved for it, and at times it will happen.

In addition, the B-787-8 and B-787-9 have four cabin doors that all operate identically. Opening the cabin doors from the outside will automatically disarm the escape slide. As a cabin door is opened, a panel in the upper section of the door will open to help relieve cabin pressure, if
there is any. In just about all operations, the cabin on ALL aircraft will be depressurized on the ground. The flight deck has an emergency escape hatch in the ceiling. The escape hatch hinges inward to the flight deck. If the pilots use the escape hatch, they will come down on inertia reels, which are mounted in the flight deck. Keep in mind, the flight deck windows do NOT open.

Clearly, the B-787 aircraft has distinguishing advancements. I am looking forward to flying this aircraft and not meeting you while I’m flying.

Boeing’s “Airplane Rescue and Firefighting Information” for the 787 can be found at:


About the Author: John McLoughlin, standing on the left above with his father, has been a commercial pilot for over 30 years. He is currently a B-767 Captain with a B-787 type rating for a major U.S airline. He also holds a position on the Airline Pilots Association (APA) Union Safety Committee. Both John and his father, Jack, also served as volunteer firefighters.
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On December 13, 2016, the Village of Horseheads Fire Department hosted training (You as a Firefighter and Cancer) by retired Lieutenant Mahlon Irish Jr. Lt. Irish was diagnosed with prostate cancer 2 years and 3 months after he retired from City of Ithaca Fire Department. It was one of the best classes I have taken in my 20 years in the fire service. My only complaint was that even though all departments in Chemung County were invited, we only had one other firefighter from a neighboring department attend the class. It was a two-part class: the first hour was about how we can contract cancer and what we can do to help prevent it, while the second part was a no-holds barred discussion on what he had done since being diagnosed. He wasn’t afraid to hold back, almost a “scared straight” in a sense for firefighters. Every firefighter should be mandated to take Mahlon’s class; he recently presented this topic to the Spring Recruit Class of 2017 at the NYS Academy of Fire Science at Montour Falls, NY.

As many of you are aware, firefighter cancer has been the hot topic recently; you can’t go online without reading an article on the latest information, hearing about a line of duty death or a retiree’s death that was related to cancer, or learning about legislation that has been passed covering a presumptive health care bill. Hopefully New York State will start covering volunteers the same way they cover career firefighters.

Based on previous studies of firefighters, the cancers of primary concern were cancers of the lung, brain, stomach, esophagus, intestines, rectum, kidney, bladder, prostate, testes, as well as leukemia, multiple myeloma and non-Hodgkin lymphoma.

So what can we do to help stop cancer in its tracks? It could be as simple as spending around $100.00 on a simple Firefighter Cancer Decontamination Kit that includes: a five gallon pail with lid, a short garden hose with a nozzle with a light spray setting (we chose a 15-foot section for easy storage), Dawn Dish detergent, spray bottle, scrub brush, 42-gallon size minimum 3 mil garbage bags, Decontamination Wipes, and 2 ½ “ or 1 ½ “ to garden hose adapter.

After each fire we simply just need to clean or decontaminate ourselves from the harmful toxins that could be brought back into the firetruck, firehouse, personal vehicle and, worse yet, your home with family and friends. Hose off your gear to get rid of the loose particles, spray with light soap, scrub, and rinse again. Once complete, take off your gear and place in a contractor style garbage bag to prevent bringing in into the firetruck and stop chemicals/toxins from soaking into cloth seats, or the heating and air ducts. After taking off your PPE, take the baby wipe style decontamination wipes and wipe down your head, neck, jaw, throat, underarms, and hands. There are several manufacturers out there; see which ones work best for you or your department. Some come individually packaged others come as large as 40 wipes to a pack. Change your clothes after returning to the station or leaving the fire ground. Shower after the fire. (Some departments are even installing saunas; just think of how many times you have smelled smoke days after a fire). Ensure the gear is thoroughly cleaned; hopefully your department owns a gear extractor or has a means of washing your gear. Always remem-
ber to separate the liner from the outer shell. Do not transport or take contaminated clothing home or store in a vehicle. Keep all gear out of living and sleeping areas.

You may also want to look at your trucks; it could be costly to convert cloth seats to vinyl. You may want to look at covers for them. When spec’ing out a new truck it may be smart to think vinyl compared to cloth seating.

After Lt. Irish’s training, provided: December and January passed . . . . .and we decided to do something about it. We got some quotes to get decontamination wipes for the trucks and station. We decided we should hold a fundraiser to raise money to purchase these Decon Kits not only for us, but for the entire county. With the fire department membership’s initial approval, we went to the County Fire Advisory Board. We decided to do the fundraiser and provide 1 kit for each department in Chemung County, 3 for the City of Elmira, and 1 for the County Training Facility.

It started out slow. We reached out to several local businesses and were successful. The only disappointment is that top household names such as Dawn and Glad would not provide us with their products as a donation. Simple Green, however, donated a sample bottle of concentrate for each kit. We would also like to thank our supporters, Horseheads American Legion, Horseheads Elk’s Club, Simmons- Rockwell, Walmart and the Chemung County Deputy Sheriffs Association that donated monetarily. Also, our local fire distributor LaFrance Fire Equipment donated 1 ½” to garden hose adapters, Rescue Wipes & Enspire Fire donated wipes for each kit and Lowes donated a few buckets and sold the majority of the items at a discounted rate. Lastly a local graphic designer, JHdesign-Jeremy Hogan, created the label with a simple inventory list for each bucket.

It’s now time to hand out the buckets. How do we handle that? We can’t just hand out the buckets and say “here you go, now go decontaminate yourself!” Lt. Irish was kind enough to make the trek back down from Homer and put on a short training session on how to properly use the buckets. Hopefully each department not only buys into the program and uses them but replenishes the products once used, i.e. Dawn Dish Soap, Simple green, Garbage bags, and decon wipes. Hopefully they may even put together one or two more kits for their truck and station.
Let’s starting thinking proactively! Let’s help ourselves, because if you or I don’t, who is going to protect us? If you’re not getting an annual physical, start now. Start getting PSA and DRE (digital rectal exam) as EARLY as age 40! Females need to start getting mammograms, breast exam, and gynecological exams. Wear ALL your gear, ALL the time, have a spare hood. Look into the thicker ones that blocks exposure to hazardous particulates. They are costly but think of it as life insurance policy. Remember to Decontaminate ASAP: start at the scene and continue at the station with a shower and cleaning the apparatus. Maintain your health and exercise regularly. Keep pushing for legislation to make sure we are covered!

In closing I dedicate this article to Mahlon. I am happy to share, with his permission, that his cancer is in remission. Maybe in his free time he can develop a Train the Trainer Program and share his wealth of knowledge with many more. I hope to see the green garden hose out at the end of your next fire!

About the Author: Ryan Wheeler is a Deputy Chief of the Horseheads Fire Department and works full-time for the Elmira Corning Regional Airport. Wheeler has been in the fire service for 20 years and has served as Deputy Chief for 3 years. Wheeler’s training includes: National Certified Firefighter I & II, National Certified Fire Officer II, NYS CFR, and National Certified Instructor III.
Why is it the majority of the most recent ARFF truck rollovers have happened during training exercises? Is it because we, as ARFF truck operators, let our guard down during training by driving faster than we should be? Not wearing our seat belts like we should be? Are we taking risks that we shouldn’t be? When the “big one” happens at our airport and its game on, are we going to perform like we did during practice drills? Will the result of our efforts be completed safely or haphazardly?

A few weeks ago we had our triennial MCI drill here at Salt Lake City International Airport. I was driving our newest ARFF truck which is about six years old. While responding from the station to the exercise site I experienced an issue where I was not able to get my truck to slow down due to the speed I was going when I began to brake which resulted in me being unable to make the final turn in to the exercise area due to overheated brakes. If I would have tried to make the turn instead of passing the entrance to the site and backing up, I would have possibly been involved in a rollover accident myself.

While conducting research and gathering information for a presentation I previously worked on regarding ARFF truck rollover prevention I came across a couple of real ARFF truck rollover accidents that were discussed. In a document published in August 1999 titled “Aircraft Rescue and Fire Fighting (ARFF) Vehicle Stability Study,” by Captain William Wekenborg of the Dallas Fort Worth International Airport. Captain William Wekenborg drew some very important conclusions; this study and analysis of accidents states, “The typical ARFF vehicle rollover accident occurs in a non-emergency situation, on dry pavement, while being operated by experienced firefighters with a minimum of four years of experience as a driver-operator who have completed a basic driver operator training program.” The first accident happened when an Oshkosh T-3000 left the station on an actual declared emergency response run, the driver exited the station, accelerated and traveled approximately 85 feet straight out of the firehouse. The vehicle then made close to a 90-degree right-hand turn onto a roadway at which point the vehicle drove straight for approximately 75 to 85 feet. The vehicle is then described as making another almost 90-degree left-hand turn onto a roadway where it then rolled over. The last turn had a measured radius of 86 feet. It is estimated that the vehicle was traveling more than 17 mph when it
made this final left-hand turn. The combination of these left and right turns and running over the taxiway light caused the instability situation, which resulted in the rollover, and substantial damage to the vehicle. Therefore, the vehicle did not arrive at the scene, which in itself, created another emergency.

During my research I came across another accident that was reported as a low-speed rollover that occurred with an Oshkosh T-3000. In this particular accident, the driver was performing a routine airport visitation tour of the airfield. The driver reported that he made a slow left-hand turn, under 20 mph while turning the wheel and applying the brakes at the same time. The driver reported the vehicle pitched over into a rollover situation before he realized that he had a vehicle problem.

In both of the aforementioned accidents, as well as many of the more recent rollover accidents, the vehicles were not reported to be traveling at a high rate of speed. In several interviews, the drivers reported that the vehicles were going below 25 mph. The vehicles were in the radius of a moderate turn when the brakes were applied. Shortly after the brakes were applied the vehicle proceeded to roll around the rear axles. In each case, the drivers said there was no warning preceding the event. In fact, the back end appeared to snap or pitch into the rollover and occurred before they realized that they had a problem. Even though these two accidents happened with older ARFF trucks, the same accident can happen with a new ARFF truck.

An experiment with 28 individuals, with various driving experience, was conducted. During the experiment the view of the speedometer was blocked. The drivers were asked to drive the vehicle at 20 miles per hour. When the drivers indicated they had accelerated to 20 miles per hour, the cover was removed from the speedometer. The speeds at which the vehicles were traveling ranged from 28 to 42 mph, with the average speed being 29.3 mph. This study indicates that drivers have trouble determining the speed at which the vehicles were traveling.

Inertia is the resistance of any physical object to change in its state of motion, including changes to its speed and direction. It is the tendency of objects to keep moving in a straight line at constant velocity.

Bottom line, a fully loaded ARFF truck is heavy and will want to keep going in a straight direction instead of turning. The faster the truck is going the harder it's going to be to steer that truck into a turn.

Here are 16 sweet things to keep in mind that will help you stay safe when you are driving an ARFF truck:

1. Know the characteristics of the ARFF Truck
2. Anticipate stops
3. Allow the engine to act as brake
4. Down shift if necessary
5. Be consistent, smooth and controlled
6. Understand height and weight restrictions
7. High center of gravity, six feet above ground
8. Mass of water in motion = 25,000 + pounds
9. Partially empty water or foam tanks increase vehicle instability due to sloshing
10. Reduced braking ability due to weight
11. All wheel independent suspension will cause apparatus to dip in direction of turn
12. Do not brake while turning except at very low speeds, under 10 MPH
13. Take turns slowly, do not attempt to estimate your speed, check the speedometer before making the turn
14. Remember mass in motion will continue to move in the same direction
15. When responding to emergencies, accelerate while straight, brake and downshift before going into a turn or curve
16. When downshifting maintain engine speed in power range of 1600 to 2100 RPM

My hope is that if you get anything out of this article, it should be that NO ONE should overlook the importance of driver's training to operate an ARFF crash truck. It is critical that those of us operating any ARFF vehicle be familiar with the capabilities of our vehicle, receive proper training and that we practice frequently.
NFPA 414 contains advisory information about characteristics of specialized suspensions and tires that are the most appropriate for the physical characteristics of the airport, and safety precautions regarding overloading ARFF vehicles. During some down time at your station make it a priority to read up on NFPA 414 Standard for Aircraft Rescue and Fire Fighting Vehicles, and NFPA 1002 Chapter 9 Aircraft Rescue and Fire Fighting Apparatus. There is an abundance of valuable information to be gathered out of these two references.

As ARFF truck operators we must do our part to keep US safe. Check your tire pressures and crawl under your rig to check your suspension springs and brake lines for wear and tear. If the ARFF truck you drive is more than 10 years old I would suggest doing these checks bimonthly.

In closing remember the majority of all ARFF truck rollovers are caused by driving too fast so let’s slow it down and no matter what, make sure to buckle up.

About the Author: Algernon “Al” Hoskins, ARFF, AMF, served as an Air Force Firefighter for 24 years prior to joining the Salt Lake City Fire Department in 2000. In addition to his position as an aircraft rescue firefighter at Salt Lake City International Airport, Al is also a Lead Instructor at the Salt Lake City ARFF Training Center where he has been educating ARFF personnel from around the world since 2006.
In the last Dinosaur Watch column I asked a few questions regarding basic water hydraulics for operating on the fireground. Yeah, yeah..."Why I gotta know this s**t when all I gotta do is go to airplane crashes and hit a button and the truck does everything else for me?" There are those that still think within this box as airport firefighters (notice I didn’t say aircraft). Our primary responsibility of course, is aircraft emergencies. But what are you gonna do if a call comes in for a fire at an FBO or for that matter any other type of emergency that may occur on an airport...sit on your flippin’ hands and say, “Hey, that’s someone else’s problem. I’m an AIRCRAFT firefighter.”

So it stands to reason that if we are going to respond to the variety of calls that might happen on an airport, shouldn’t we have at least a fundamental understanding of how things work within the context of these other emergencies. I’m not necessarily saying everyone has to have an engineering degree...all I’m trying to get across is that you are on the pointy end of the stick for every emergency event that happens at the airport. Your defense better not be ignorance!

Now on to the answers. And as I indicated in the previous column, you can verify my answers in the NFPA’s “Fire Protection Handbook” (from here forward referred to as the Handbook) and maybe read a little beyond within it to learn more about how water works on the fireground.

1. With all of the technical advances in fire extinguishing agents, why do we insist on using water?
   - This is probably the simplest answer of all...it’s cheap, abundant and effective.

2. What is friction loss?
   - Friction loss is the kinetic energy lost as water travels through a pipe of hose. The firefighter operating a pump needs to know what energy needs to be added to the stream of water to overcome the loss due to friction so the energy at the end of the hose (nozzle) is adequate for the intended purpose.

3. What if the tactical challenge involves the terminal at the airport that is multi-story...even the ATCT?
   - Well, it’s an added loss of energy within the hose or pipe due to the rise in elevation (overcoming gravity) as would be the case if the fire were to be in the cab of the ATCT. So...the combination of Friction Loss and the loss due to the rise in elevation together must be overcome to achieve an adequate delivery at the nozzle.

The inverse is also true. Suppose you needed to supply a nozzle in the basement of the terminal and you were also upslope from the basement’s lowest level. There would be a commensurate increase (instead of loss) of pressure due to gravity.

Rule of thumb: + or – 5 psi for every story gain or loss in elevation

4. Can you roughly estimate what the pressure will be at a hydrant within the system at its furthest point?
   - Yes. That’s the extreme short answer. Given the example provided in the original question, what’s needed for the variables is the height of the water tower, the diameter(s) of the water main(s) and distance to the furthest point. One note though: there was a typo in the original example and it should have been 6” (inches), not 6’ (feet) for the main diameter...my bad.

The complicating factors are typically the sizes of the water mains may vary in diameter; the system may be either a dead-end or looped system and/or the system as a whole changes elevation which in aggregate present a completely different challenge.

5. Can you define these three terms—Static, Residual and Flow Pressure?
   - Static pressure is the stored energy with the water at rest
   - Residual pressure is the energy remaining after water begins to flow
   - Flow pressure is the energy contained in the stream

So...in testing a hydrant system a good demonstration of this is to attach a cap with a pressure gauge onto a hydrant and turn it on with all of the caps in place. This will provide you with the Static Pressure for the system. The water is at rest.

Leave the cap with the pressure gauge attached and open the other outlet and you’ll see a substantial drop in pressure at the cap gauge. This is the Residual Pressure for that hydrant. To check the Residual Pressure for the system you would leave the cap gauge in place but go upstream, uncap and flow that hydrant to see the Residual Pressure at the hydrant the cap gauge is on.

Flow Pressure is the energy contained in the actual stream. To measure this you’ll need a device described in the answer to question ten. This device would be inserted into the center of the stream as it’s flowing giving you a pressure reading. Flow meters are in effect this same device mounted in a fixed position in the piping of a pumper leading to a gauge on the pump panel.

You can find an easy and good calculator for determining hydrant flows (in an EXCEL format so you can save it for records) at:
www.taud.org/Resources/Downloads/.../Water/Fire%20Hydrant%20Calculator.xls

6. Is the pressure showing on your gauge at the pump panel (or cab, if that’s all you’ve got to work with) the same at the nozzle?
   - NO! I’ve explained why that cannot be possible due to the energy losses from friction and elevation. Also,
Friction Loss can be accrued at every hose coupling, wye, Siamese, nozzle and curve of the hose so in a perfect world you’d need to know (usually from the manufacturer) what the Friction Loss is for each device would be.

Practically speaking, on the fire ground you would likely calculate an estimated degree of Friction Loss and elevation loss for the length of hose that’s been advanced, add a certain amount for the devices that are in line of the hose and increase your pump pressure accordingly in order to get the pressure appropriate for the nozzle(s) in action.

The formula is easy:
EP = Engine Pressure
NP = Nozzle Pressure
FL = Friction Loss
Elev = Elevation Loss or Gain
App = Appliance Friction Loss

Engine Pressure = Nozzle Pressure (NP) required + Friction Loss (FL) for the length and size of hose in action + Any elevation (Elev) loss or gain + the Friction Loss for the Appliance (App) being used.

Why do some nozzles require different pressures to operate more efficiently than other nozzles (hint: straight tip vs. fog nozzle)?
- Fog nozzles are engineered to deliver a specific amount of water (gpm) at a specific pressure (psi) typically that pressure is 100 psi. So in calculating what the pump pressure needs to be you would calculate as in the above method and then add 100 psi to arrive at the pump pressure.

Straight stream nozzles (smooth bore or stacked tips) are a different beast in that the size of the nozzle orifice dictates the pressure required to achieve a satisfactory stream. So in essence a smooth bore nozzle may require an actual lower pump pressure than a fog nozzle to achieve the desired steam. The Handbook provides good information on what is and isn’t a good straight stream that is interesting reading if you’re so inclined.

I’m limiting the discussion here to these two types of nozzles for simplicity. Automatic nozzles present a different set of circumstances but allow for more flexibility in water delivery. Once again refer to either the Handbook or to the nozzle manufacture’s operating specifications.

Absent a flow meter, can you accurately convert a pressure reading to a gallons-per-minute (gpm) equivalent?
- Yes. When conducting and recording fire hydrant flow rates, it’s best to use either the formula below (after researching the coefficient number for your hydrants) or use a relative universal standard such as that found in the Handbook charts. From a practical perspective for fireground activity you may not need to utilize this information unless you are using straight tip nozzles on hoses or monitors.

If you really want to get technical and practice your math skills:

Theoretical Discharge through Circular Orifices Formula
Computes a flow-rate in GPM (Q) given a psi and coefficient of the flow device.

\[ Q = 29.84 \times \frac{?P \times D^2 \times C}{?} \]
Q = flow-rate in GPM
P = velocity pressure in psi (required at the discharge point)
D = orifice diameter in inches (water main, hose size or straight tip nozzle)
C = coefficient of flow device (in effect, a value of the FL of a device if in use)

Example:
Q = 29.84 x ?60 (psi) x 12 x .9
(est. coefficient of straight bore nozzle)
Q = (29.84 x 7.745) x (1 x .9)
Q = 231.11 x .9
Q = 207.99
GPM = Approx. 208

Note: This formula is for open-ended discharges, not for fog nozzle that have a specific gallonage flow associated with them.

9. When we speak of a dead-end water system vs. a looped system, what is meant and which system is superior?

   - A dead-end water main system is basically exactly what it says. It’s a pipe that goes straight from a water source (like a tower) straight to an end point with few if any distributing lines.

   A looped system simply means that the water mains travel a rather circuitous route that intersects with one another at points throughout is area (let’s say like a typical suburban residential area).

   In terms of superiority the looped system wins hands down since any hydrant for example that is opened can be fed from multiple directions (e.g., greater residual pressures) rather than from one direction where an open hydrant in effects steals from every downstream hydrant’s capabilities (e.g., lower residual pressures).

10. What is the device called that is inserted into the stream of water to measure pressure i.e., flow?
    - This device is called a PITOT Tube. The same device that aircraft have to determine airspeed. In a firefighting application in its simplest form, it is nothing more than a wedge shaped pipe with a small hole at the end with a pressure gauge attached. The wedge portion is inserted into the stream so the small hole is as close to the center of the stream as possible which will result in a pressure reading...which pressure reading is it?

As a final coda on this extended version of the Dinosaur Watch, keep in mind that what’s been discussed and explained here is only a very, VERY small slice of all that is important to know about moving water around on the fireground. As a firefighter, even at an airport, it’s your responsibility nay, your obligation, to understand how to get water to move in an efficient and effective manner in order to 1) put out the fire 2) protect victims and your brothers and sisters and 3) keeping your equipment from being over worked for no good reason.

"In the heat of the battle you don't remember very much. You don't think very fast. You act by instinct, which is really training. So you've got to be trained for battle so that you will react exactly the way you did in training". Admiral Arleigh Burke, USN

About the Author: Paul Totton has been in and around the ARFF community for . . . way too long! He's got a big mouth and doesn't mind opening it, even if it's only to switch feet.

ARFFWG Conference Update

The 2018 conference schedule slate is finalized. In the next year, we have an exciting slate of conferences and events for the membership to attend and enhance your skill sets. Details of these conferences are on our website but on deck is the joint educational opportunity with the American Association of Airport Executives in our Annual Leadership Conference, February 26th, through March 1st in Orlando, Florida. The agenda is dynamite with some excellent speakers and sessions on tap. We also have two sectional conferences planned in May with our friends at the FAA Technical Center as well as an opportunity in Toronto, Canada with our Canadian friends and director Robert Comeau. To follow all of that up, our 29th Annual Conference will be held in Memphis, Tennessee in September. In a few weeks, the call for papers will be out requesting presentations for the Annual-- please consider submitting a proposal for a presentation if you have something that our group can learn and benefit from. All of these conferences can be found on our website at www.arffwg.org.
United State Marine Corps ARFF Award Winners

During the 2017 ARFF Working Group Conference in Louisville, KY, the United States Marine Corps presented its annual awards to deserving members and bases. This presentation has become an annual staple at the ARFF Working Group Conference.

USMC Award recipients for 2016 presented at the 2017 ARFFWG Conference:

(from left to right)
USMC Presenters: Master Gunnery Sergeant Vanover and Chief Warrant Officer Tarker
Small Department of the Year: Iwakuni, Japan received by Gunnery Sergeant, Todd Holmes
Fire Instructor of the Year: Gunnery Sergeant Kurtis A. Snider, MARCORDET Goodfellow AFB
Military Fire Officer of the Year: Gunnery Sergeant Favio Rivera, MCAS Iwakuni ARFF
Military Firefighter of the Year: Sergeant Eric Cox, MCAS Iwakuni ARFF Federal Resources Presenter: Mr. Mike Morehouse

NFPA® 407 - Standard for Aircraft Fuel Servicing

2017 Edition
Reference: 5.1.10, 6.1.10.1, 6.1.10.2, 8.1.10.1 and 8.1.10.2
TIA 17-1

(SC 17-12-20 / TIA Log #1339)

Pursuant to Section 5 of the NFPA Regulations Governing the Development of NFPA Standards, the National Fire Protection Association has issued the following Tentative Interim Amendment to NFPA 407, Standard for Aircraft Fuel Servicing, 2017 edition. The TIA was processed by the Technical Committee on Aircraft Fuel Servicing, and was issued by the Standards Council on December 6, 2017, with an effective date of December 26, 2017.

A Tentative Interim Amendment is tentative because it has not been processed through the entire standards-making procedures. It is interim because it is effective only between editions of the standard. A TIA automatically becomes a public input of the proponent for the next edition of the standard; as such, it is then subject to all of the procedures of the standards-making process.

1. Revise 5.1.10 to read as follows:
5.1.10 Fire Protection. At least one fire extinguisher, with a minimum rating of 8040-B:C, and a minimum capacity of 9.0 kg (20 lb) of dry chemical agent shall be provided at each fueling vehicle loading position or rack.

2. Revise 6.1.10.1 and 6.1.10.2 to read as follows:
6.1.10 Fire Protection.
6.1.10.1 Each aircraft fuel servicing tank vehicle shall have two listed fire extinguishers, each having a rating of at least 8040-B:C and a minimum capacity of 9.0 kg (20 lb) of dry chemical agent, with one extinguisher mounted on each side of the vehicle.
6.1.10.2 One listed fire extinguisher having a rating of at least 8040-B:C and a minimum capacity of 9.0 kg (20 lb) of dry chemical agent shall be installed on each hydrant fuel servicing vehicle or cart.

3. Revise 8.1.10.1 and 8.1.10.2 to read as follows:
8.1.10 Fire Protection.
8.1.10.1 Each facility shall have a minimum of one fire extinguisher with a rating of at least 8040-B:C and a minimum capacity of 9.0 kg (20 lb) of dry chemical agent located at the dispenser.
8.1.10.2 At least one fire extinguisher with a rating of at least 8040-B:C and a minimum capacity of 9.0 kg (20 lb) of dry chemical agent shall be provided at each emergency fuel shutoff control.

Issue Date: December 6, 2017
Effective Date: December 26, 2017
E-ONE is proud to introduce E-ONE’s new TITAN® 4×4 Aircraft Rescue and Firefighting (ARFF) vehicle, as the first configuration in a completely new line of ARFF products. The new TITAN® series has a striking aggressive stance with innovative styling features and offers industry leading performance in several key measurable categories such as acceleration, braking, dynamic stability and pumping performance.

The E-ONE TITAN® 4×4 provides:

- **POWER** with an available industry leading 770 HP engine, providing 2,215 foot pounds of torque for greater acceleration
- **CONTROL** with a variable rate coil spring v-link suspension and 17 inch disc brakes as standard, coupled with dual calipers on each front wheel end.
- **STORAGE** with an unmatched total of 360 cubic feet including a full transverse compartment
- **KNOCKDOWN** with 3,000 gallon per minute pump, electronic foam proportioning with patented ECOLOGIC® calibration system and multiple high flow turret configurations including the low attack high flow RHINO® bumper turret
- **PAYLOAD** capacity with 1,585 gallons of water, 225 gallons of foam and 500 pounds of auxiliary agent
- **SERVICEABILITY** with a redesigned rear body providing ground level maintenance access from either side of the vehicle as well as from the spacious top deck
- **OPTIONS** with the TITAN® 4×4 EXT, an industry leading 54-foot high reach extendable turret (HRET)

With a core focus on safety, performance, functional design and the ultimate goal of delivering product that allows our customers a more advanced way to respond, the TITAN® provides more than ever before.

Matt Reda, E-ONE’s Global Product Manager, states “We are confident that the new TITAN® offers technologies and functionality that, moving forward, will raise the expectations of buyers across the globe in the ARFF market sector.”

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I am an only child from the small town of Union Star, Missouri which is about an hour northeast of Kansas City, MO. I enlisted in the Marine Corps in 1999 and went to Bootcamp after High School/Vocational School and one semester of college. I departed on February 14, 2000 and may look to retire in August of 2020. My parents were sad but supportive and proud. Much of my success is credited to them. They provided a great example for me to follow and taught me how to care for others and seek my goals. Another portion of my success is credited to my paternal grandparents, that helped take care of me when my mother was ill.

I completed my firefighting training at Goodfellow Air Force Base, and was assigned to Marine Corps Air Station (MCAS) Cherry Point in Havelock, NC. My next assignment would take me to Marine Corps Base Hawaii where I stayed for six and a half years. Then I was assigned to Cherry Point again. While I was there I was selected to the rank of Gunny Sergeant and for Warrant Officer. I then attended The Basic School (TBS) and went to Pensacola, FL for Expeditionary Airfield training. Upon completion of that school and gaining an additional Military Occupational Specialty, I was stationed in Yuma, AZ. I am currently stationed at MCAS New River in Jacksonville, NC where I am a Chief Warrant Officer 3 and serve as the ARFF Officer in Charge/Fire Chief.

I met my husband Joe, in September of 2005 at the Enlisted Club on Kaneohe Bay, HI. We went home to MO that Christmas and met each other’s families. He proposed on a Sunday and we got married the next day, January 16, 2006. The rest
and followed through the years with a lot of training and education. I joined the Fire Academy of the Royal Netherlands Air Force (RNLAF) after completing my initial training in 1982 at the Fire Academy of the RNLAF. After completing my military and initial firefighting training, I was assigned to the Firefighting Section of Ypenburg AB in 1984. After this first assignment I served at Eindhoven AB and Gilze-Rijen AB and followed all the ranks and corresponding positions as a NCO. During my initial training at the fire academy, I became infected with the firefighting virus that has never been cured. I joined the Fire Service in my hometown, Tilburg, as a volunteer firefighter and followed through the years with a lot of training and education. Through the years, I have held several billets and collateral duties. My certifications include: Fire Officer III, Fire Instructor II, Fire Inspector I, ARFF Firefighter, Hazardous Materials Technician & IC, NIMS 300 and 400. I have completed my Associates in Supervisory Leadership and will complete my Bachelors in Management/Finance December 2018, as well as seek more certifications when available. I recently became a member of the National Society of Leadership and Success and made the Dean’s List. I look forward to the day I am not going to school full time and working full time in order to enjoy some good, quality family time!

I enjoy corny jokes and sayings. One of them I used in a signature line as a young Sergeant was: “Leadership is like a P-19 pump, it only works if it is engaged.”

I am so grateful to be a part of the ARFF WG and it is an honor and privilege to be the Director for Section 14.

-Semper Fidelis!

My name is Rob Venmans and I recently joined the Board of Directors of the ARFFWG, representing Section 11 (Europe, Middle East, Africa, Atlantic Islands). I will take the opportunity to introduce myself to the ARFFWG population.

I was born and raised in Tilburg, a town in the South of the Netherlands, close to the Belgium border. After my one year older brother Hans, I was born on the 19th of June in 1962. Two years later my sister Marion was born and made the family complete. That was what we thought for a long time, but when I was 11 years old, the family was blessed with the bird of another sister, Els. After my school period, I was called in 1981 for my military conscription. I served for 14 months in the security branch of the Royal Netherlands Air Force (RNLAF) at Volkel AB. During this period, my interest in the Air Force grew, and I had the opportunity to stay as a Non Commissioned Officer (NCO) in the Fire Service. Without any knowledge or experience in that business, I started the initial training in 1982 at the Fire Academy of the RNLAF. After completing my military and initial firefighting training, I was assigned to the Firefighting Section of Ypenburg AB in 1984. After this first assignment I served at Eindhoven AB and Gilze-Rijen AB and followed all the ranks and corresponding positions as a NCO. During my initial training at the fire academy, I became infected with the firefighting virus that has never been cured. I joined the Fire Service in my hometown, Tilburg, as a volunteer firefighter and followed through the years with a lot of training and education up until Fire Officer. In 2000 I graduated from the Military Academy and became the Fire Chief of the RNLAF Pilot Training Airbase in Woensdrecht. Because I moved away from Tilburg to Kapelle, a small town in the South West of the Netherlands, I had to stop as a volunteer fire fighter. After this first position as an Air Force Officer in Woensdrecht, I was promoted to the rank of Major and served for five years as Staff Officer Fire Service at the headquarters of the Royal Netherlands Air Force. After this assignment I started in 2009 as the Head of the RNLAF Fire Academy. From 2013 until 2016, I worked as Section Head Disaster Emergency & Fire Prevention at the NATO HQ Joint Force Command Brunssum. For six months in 2006, I was stationed in Podgorica, Montenegro and acted as a Monitor for the EU Monitoring Mission (EUMM) before, during and after the referendum for the independence of Montenegro.

I am currently working as Senior Advisor Fire Service and Security as well as Inspector Aerodromes at the Netherlands Military Aviation Authority. In that position I am also a member of the NATO Crash Fire Fighting and Rescue Panel and am acting on the Board of Civil and Military Airport Fire Chiefs in the Netherlands.

I married my wife, Carolien, in 1986. We have three children, Bernice (28), Nick and Nicole (twins, 26). Within the last few years, we have also become the proud grandparents of Noa, Luke and Mads. During my days off, I like to spend time with the children. You can also find me every Saturday on a soccer field where I am an assistant referee with the local soccer team. They play in the third league of the amateur soccer association in the South West region of the Netherlands.

I am pretty sure that I can tell you many other stories of my 55 years of life experience, but I am happy to share them with you when we meet each other in the near future during one of the upcoming events that the ARFFWG organizes.
The U.S. Army Fort Rucker Fire Department in Alabama recently received their new E-One Titan Force ARFF 4x4. The Titan Force has an all wheel drive chassis with pump and roll, an extruded aluminum roll cage designed cab, and a Cummins QSX 15 engine rated at 665 Hp. It has a Hale Model RSD 1500 GPM water pump, ATP 3 percent foam system, an Akron Model 3353 roof turret 375/750 GPM, and an Akron Firefox 300 GPM bumper turret. Capacities are a 1585 gallon water tank with integral 205 gallon foam cell and a 500 lb. dry chemical system. The Titan Force has a dual agent booster reel, a Federal Signal LED lighting package, and comes with a standard 1 year warranty, lifetime frame warranty, 10 year/100,000 mile structural warranty, 10 year stainless steel plumbing warranty, and a 10 year limited paint and perforation warranty.

The Tucson International Airport (TUC) serves more than 3.2 million airline passengers each year. TUC recently took delivery of this Oshkosh Striker 6 x 6 ARFF vehicle. The Striker 6 x 6 features a Duetz V-8 engine, TAK-4 all-wheel independent suspension, and is able to accelerate to 50 mph in 35 seconds. The vehicle also features the Oshkosh Snozzle high reach extendable turret, a 3000-gallon water tank, and a 420-gallon foam tank.

The Hammond Fire Department just received their new Rosenbauer Panther 6x6 recently that is powered by a 760 HP Detroit Diesel engine, a Twin Disc power shift transmission, Rosenbauer R600 pump system with a Rosenbauer “RVMA” foam system with selectable rate foam percentages of 1, 3 or 6% with the push of a button from inside the cab or at the pump operators panel. The firefighting capacities include 3000 gallons of water, 400 gallons of foam and 500lbs. dry chemical system. This vehicle has a full structural firefighting panel along with 2 ½” discharge outlets and pre-connected hand lines.

Other features include a Rosenbauer 7300 bumper and roof turret, both plumbed with dry chemical.
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