

This month's *Working Fire...*

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Volume 00-6: June 2000
Approx. Program Length: 55:02

FIRELINE

Propane Gas Leak Pittsfield, MA

Approx. length: 8:44

A stuck safety relief valve allowed propane gas to escape from a 600-gallon tank adjacent to a shopping center which was cordoned off. Fortunately, there was a stiff wind which helped reduce concentration and dissipate the gas. However, responders and the gas company agreed to set up a flame burner and burn off the ambient fumes until the tank's level was minimal. The basics of propane are covered as are other possible solutions to such an emergency. For more information, contact Deputy Chief Art Catalano, Pittsfield Fire Department, 74 Columbus Avenue, Pittsfield, MA 01201 or call him at 413-448-9764.

Auto Parts Store Fire Tomball, TX

Approx. length: 9:25

The structure was nearly three-quarters involved when responders arrived. An initial aggressive fire attack nearly got ahead of the blaze but the danger of a roof collapse and exploding containers forced firefighters to withdraw. A defensive strategy was adopted with the help of mutual aid. Hazardous materials was an issue but environmental authorities suggested that the building be allowed to burn rather than incur additional contaminated runoff. The strategy switched to containment. For more information, contact Chief Bruce Preckwinkle, Tomball Volunteer Fire Department, Market/Walnut Streets, Tomball, TX 77375 or call 281-351-7101.

HANDS-ON

Tool Talk

Approx. length: 11:45

The City of Portland, Oregon Fire Bureau provides another training segment on tool basics. This month we present a detailed description and usage guidelines for hydraulic extrication tools and a pressure ventilation fan. A hard-core, fact-based refresher on important firefighting tools. For more information, contact Fred Williams, Firefighter, Portland Fire Bureau, 55 Southwest Ash, Portland, OR 97204 or call him at 503-823-3755.

Company Officer Command Area

Approx. length: 8:03

The Rock Hill (MO) Fire Department presents a unique idea for utilizing personnel on the way to the fire. The company officer switches seats with one of the firefighters: the firefighter assists the driver with the lights and siren as a "focused response team"; meanwhile, the company officer sits in the rear "company officer command area" with a laptop computer and

This month's *Working Fire*...

HANDS-ON (cont.)

preplanning printouts, giving him time to prepare for the incident at the destination ahead. The complete history of this radical departure is given as well as some strong reasons why it's a good idea — not the least of which is safety, as the Focused Response Team is only concerned with arriving safely, not worrying about the incident. For more information, contact Chief John Kriska, Rock Hill Fire Department, 9620 Manchester Road, St. Louis, MO 63119 or call him at 314-962-6254.

FIRE MEDICS

EMS Bikes

Approx. length: 9:48

Some things have changed since *Working Fire* featured a segment on paramedic response on bicycles a few years ago. For one thing, ten-speed bicycles have given way to a more rugged mountain bike style which is incredibly well-suited to the demands of such service. The mobility of bikes allows paramedics to access areas no vehicle could reach, at a speed faster than foot, often through crowds. The segment gives a safety check, equipment review, and information about the training program that should go with such a mobile treatment service. For more information, contact J. D. Hebert, Paramedic, County Ambulance Service, 175 Wahconah St., Pittsfield, MA 01201 or call him at 413-499-2528.

EVOLUTIONS 2000

Kramer vs. Kramer Company Officer Command Area

Approx. length: 2:00

Working Fire and Professor/Chief Bill Kramer present our Continuing Education segment that's worth one credit from the University of Cincinnati. Examining the Hands-On segment presenting the Company Officer Command Area this month, Bill debates whether or not it's a good idea to put a firefighter in the front seat, risking safe arrival of the apparatus, just to allow the company officer to plan for the incident ahead. For more information, contact Professor Bill Kramer at the Open Learning Fire Service Program, College of Applied Science, 2220 Victory Parkway, ML #103, Cincinnati, Ohio 45206 or call 513-556-6583.

This month's *Working Fire*...

From the Departments Involved...

DISCUSSION QUESTIONS FOR THIS MONTH'S INCIDENTS

The departments involved in this month's incidents pose some discussion questions that you can use as discussion-starters in your own department's training sessions. Let's kick it around!

Propane Gas Leak/Pittsfield, MA

Deputy Chief Art Catalano/Pittsfield Fire Department

1. Are your response crews trained in the characteristics of propane and other flammable gases/liquids that are readily found in your jurisdiction?
2. Do you have a good working relationship with your local utilities, in the event of an emergency? Do you ever train with them or bring them into your preplanning?
3. This may be a sensitive one: is your command management willing to take advice and recommendations from civilians outside the fire service regarding emergency strategies and procedures?

Auto Parts Store Fire/Tomball, Texas

Chief Bruce Preckwinkle/Tomball Volunteer Fire Department

1. Are you aware of the commercial structures in your jurisdiction, particularly the ones which may endanger firefighters because of their construction or contents?
2. Does your department follow a practice of multiple size-ups during an incident, even during an interior attack? Do you realize that a tenable interior position might become untenable in just the next ten feet? Are you accustomed to spotting the changes?
2. Does your fire department have an opportunity to review prospective building plans for new construction in your jurisdiction and demand changes in designs that might endanger firefighters during an emergency?

Enhanced Training

Tool Talk: Extrication Tools and Ventilation Fans

Objectives

After watching this program, the student shall learn:

1. specific facts about and usage of hydraulic extrication tools
2. specific facts about and usage of pressure ventilation fans.

Standards & Regulations

This training is consistent with NFPA 1500 and appropriate OSHA regulations.

Training Outline

I. HYDRAULIC EXTRICATION TOOLS

A. Overview

1. Power Unit
 - a. Honda gas engine
2. Pressure distribution manifold, used to run:
 - a. spreaders
 - b. cutters
 - c. rams
 - d. accessory attachments

B. Power Unit

1. 5 hp., 8.2 cubic-inch Honda gas engine
 - a. unleaded or white gas
 - b. 30-weight oil
2. Keep in Ready-to-Run Mode
 - a. Put throttle control in "choke" position
 - b. Power switch is set to "dump."
 - c. Gasoline shutoff cock is "off."
 - i) This keeps gas from dribbling into the crankcase and contaminating the oil.
 - ii) When ready to run, switch to "on."
3. Hydraulic Fluid Reservoir
 - a. When operating at "no load," produces 800 psi.
 - b. Under full operating power, produces 5,000 psi.

Tool Talk: Extrication Tools and Ventilation Fans

C. JL32A Spreader Unit

1. Spreads to a maximum of 32".
2. Exerts 12,000 lbs. pressure at the tip
3. A JL32B version can exert up to 18,000 lbs. pressure at the tip.

D. Cutter Unit

1. Weighs 36 lbs.
2. Spreads to 7.25"
3. Exerts 25,000 lbs. closing force at the tip; 70,000 lbs. at the cutting notch.

E. Hydraulic Rams

1. Three basic sizes
 - a. Small: weighs 21 lbs. - 14" closed to 22" extended
 - b. Medium: weighs 28 lbs. - 22" closed to 36" extended
 - c. Large: weighs 41 lbs. - 34" closed to 39" extended.
2. All exert a 15,000 lb. opening force
 - a. Medium and Large exert a 6,000 lb. closing force
 - b. Small ram not used for closing
3. Ram tips
 - a. Can accept accessories such as hooks and spikes

F. Safety

1. Always operate wearing full personal protective equipment.
 - a. Keep face shield down
 - b. Wear ear protection
2. Secure purchase points
3. Keep fingers clear of all operating ends

G. Care and Maintenance

1. Power unit, after each use:
 - a. Keep topped off with unleaded or white gas.
 - b. Keep topped off with 30-weight oil.
 - c. Keep in ready-to-run position.
2. Inspect tools periodically
 - a. Make sure pressure lines are clean and have no kinks, cuts, or frayed parts.

Tool Talk: Extrication Tools and Ventilation Fans

II. UNIFIER GAS-POWERED VENTILATION FAN

A. Use

1. For mechanical ventilation of buildings to clear smoke, heat, and fire gases.
2. Can move 20,000 cubic feet of air per minute.

B. Power Unit

1. Powered by 5.5 hp., 8.2 cubic inch, overhead valve Honda gas engine, weighing 66 lbs.
 - a. Operates on unleaded or white gasoline
 - b. Carries just under a gallon of gas, yielding 60 - 90 minutes of operation
 - c. 30-weight oil in the crankcase with a .63 quart capacity.
2. Two-stage air filter
 - a. Oil-impregnated foam sock
 - b. Paper element covered by the sock
3. Motor housed in a stainless-steel framework
 - a. Square-section tubular steel
 - b. Extremely strong welding
 - c. Rubber feet to prevent the unit from "walking" during operation.

C. To Change Fan Position

1. Loosen locking handle
2. Tilt as much as 10 degrees down or 20 degrees up from horizontal
3. Pull locking handle back to secure fan position

D. Fan Shroud

1. Open shroud design
 - a. Vinyl-covered, 3/16" steel wire shroud
 - b. 20" laminated hard rock maple blade
 - c. Blade is urethane-coated and has 3M helicopter tape on the leading edges of blades.
2. waterproof and shatterproof
3. less vibration-prone than a cast aluminum blade

E. Controls

1. Keep in ready-to-run position
 - a. choke set
 - b. throttle in mid-range position
 - c. fuel shutoff in "off" position to keep gas from dribbling down into the crankcase and contaminating the oil

Answers to the questions on Page 8:

1. False 2. True 3. True
4. c. 5. a.

Tool Talk: Extrication Tools and Ventilation Fans

2. Electric cutoff switch
 - a. Always keep in "on," ready-to-run position.
3. Low-oil pressure sensor
 - a. will shut down automatically
 - b. Always make sure it's topped off with gas and oil before operation.

F. Use

1. Used for forced mechanical ventilation
2. Always coordinate its use with interior attack teams and ventilation crews.

G. Mechanical Ventilation

1. Three things to control
 - a. Entrance opening
 - b. Path of air flow
 - c. Exit opening (between $\frac{3}{4}$ and $1 \frac{3}{4}$ the size of the entrance opening)
2. Position the fans so the cone of air it's creating will fill the entrance opening:
 - a. Start 3' - 6' from opening.
 - b. Check with an ungloved hand around the edge of the cone of air that the fan is filling it.
 - c. If not, slide the unit back and adjust the fan angle.
 - d. Typically, for a doorway, it will be tilted back; for a basement opening, it will be tilted forward.

H. Care and Maintenance

1. After every use, inspect thoroughly:
 - a. Make sure there are no loose parts
2. The shroud should be tight.
 - c. Clean the blade, if necessary.
3. Inspect the condition of the air filter
 - a. The filter and sock can be blown out for cleaning.
 - b. The paper filter should be replaced every 100 hours or every six months.
4. Top off with fuel and oil
5. Make sure everything is in the ready-to-run position.

Tool Talk: Extrication Tools and Ventilation Fans: Quiz

Date _____

Chief/T.O. _____

Firefighter (print) _____

Education Credits/
Hours/Units _____

Signature _____

Select the best answer:

1. True or False Small gasoline engines can run on any kind of gas.
2. True or False A cone of air can be disregarded when running a Hurst tool.
3. True or False More pressure is developed at the cutting notch than at the tip.

4. Regarding hydraulic extrication tools, which fact is incorrect?
 - a. The gasoline shutoff cock is left in the "off" position between uses.
 - b. Spreaders can expand to a maximum of 32".
 - c. Rams come in at least four sizes
 - d. A hydraulic tool has a pressure distribution manifold
 - e. It's not uncommon for a tool to develop up to 70,000 lbs. of closing force.

5. Regarding the ventilation fan, which fact is incorrect?
 - a. A fan can operate for well over two hours on a tank of gas
 - b. It has a tubular steel framework
 - c. Sometimes the fan has to be unlocked and tilted
 - d. The operator must check the cone of air.
 - e. Replace the filter after every 100 hours of use.

(See answers at the top of page 7)

Enhanced Training

Company Officer Command Area

Objectives

After watching this program, the student shall:

1. understand the concept of the Company Officer Command Area.
2. learn more about the utilization of personnel resources.

Standards & Regulations

This training is consistent with NFPA 1500 and appropriate OSHA regulations.

Training Outline

I. COMPANY OFFICER COMMAND AREA

Developed from the traditional area of preplanning your jurisdiction.

A. Original Plan

1. Binders with preplan information were reviewed by the company officer in the front seat.
2. This became unwieldy.

B. Revised Plan

1. Computerized all preplans developed from daily inspections of structures in the jurisdiction.
2. Put a laptop computer on the apparatus.
3. However, the laptop and dispatcher printouts still weren't being utilized.

C. Final Plan

1. This coincided with the "spec-ing" of a new apparatus.
2. The redesigned fire apparatus provided space in the rear seat for the newly-created Company Officer Command Area.
3. This area includes a pull-out desk with laptop computer.

Answers to the questions on Page 11:

1. False
2. True
3. False
4. d.
5. e.

Company Officer Command Area

4. This meant relocating the firefighter who normally sat in back to the front-right seat. The firefighter and driver combine to form a Focused Response Team to concentrate on the apparatus arriving safely.
5. Firefighters had already had training as company officers on responses which eased the transition to those duties.

D. Advantages

1. The first is a safety issue. The Focused Response Team (driver and firefighter in front) only pay attention to operating the vehicle and arriving safely, operating lights, sirens, and radios.
2. The company officer sits in a prepared work area and has the time to concentrate on the incident at hand so the crew can hit the ground running with an action plan formulated by the company officer.
3. The system offers a better allocation of resources and skill levels in both areas.

Company Officer Command Area: Quiz

Date _____

Chief/T.O. _____

Firefighter (print) _____

Education Credits/
Hours/Units _____

Signature _____

Select the best answer:

1. True or False: Rear seats are used for offering citizens joyrides.
2. True or False: Allocating resources to a department's best advantage is always a healthy goal.
3. True or False: Departments all across the country employ this idea.
4. A Focused Response Team is:
 - a. a squad that rescues fallen fighters.
 - b. not always your best choice for responders.
 - c. a firefighter and a paramedic.
 - d. the driver and firefighter in the right front seat
 - e. not used anymore.
5. The Company Officer Command Area concept can:
 - a. match skill levels with responsibilities
 - b. save a more experienced person for higher-level management duties.
 - c. maintain levels of safety on the apparatus.
 - d. put appropriately trained firefighters in the front seat to help the driver concentrate on arriving safely.
 - e. All of the above.

(See answers at the top of page 10)

Evolutions 2000

University of Cincinnati Continuing Education Program

Company Officer Command Areas

If you're enrolled in the **Open Learning Fire Service Program** at the **University of Cincinnati**, here's your opportunity this month to earn one college credit hour for watching *Working Fire*.

VOLUME 00-6

Kramer vs. Kramer: Company Officer Command Area

Complete written responses to the following three essay questions:

1. List the advantages of having a fire company officer separated from the front seat to initiate pre-incident planning during an emergency response?
2. What disadvantages or drawbacks could there be?
3. Why would you recommend, or not recommend, this operational procedure for your organization?

Send your responses to:

**Mr. Bill Kramer
University of Cincinnati
College of Applied Science
2220 Victory Parkway, ML #103
Cincinnati, OH 45206**

ENROLLMENT INFORMATION:

For more information on enrolling in the Open Learning program to gain college credit, call *Working Fire* at 800-516-3473 for a brochure or, to register directly, call the University of Cincinnati at 513-556-6583. Associates and Bachelors programs are available. Call to have your transcripts evaluated.