



National Emergency Vehicle Training Academy

May 17 – 21, 2010

Advanced Technology Center • Daytona Beach, Florida

National EVT Training Academy Classes – Schedule and Instructors – TBA

Monday – Thursday – May 17-20, 2010

EVTCC Review

101 – F3 / Fire Pumps & Accessories

Class prepares the technician to understand the general design, performance and testing standards for pumper apparatus, per NFPA 1901 and 1911. The technician will understand the hydraulic principles of water movement in pumping operations, learn the terms that relate to the basic hydraulic principles used in the fire service, understand the mechanical principles of pumps, pump controls and accessories, the operation of a fire pump and related accessories during pumping operations, understand the periodic preventive maintenance required for fire pumps, pump controls and pump accessories, understand the procedures necessary to overhaul a fire pump and the procedures of performing a pump service test.

Reference Materials

Note: This exam may contain some "accepted practice" type questions not found in the reference material listed.

- ***Pumping Apparatus DRIVER/OPERATOR Handbook***, 2nd edition, Oklahoma State University, Stillwater, OK. (800) 654-4055 or www.ifsta.org
- **Chapters 3, 6, 9, 10, 11, 12, 15, 16, glossary, & appendix a-e NFPA reference listed below** - National Fire Protection Association, Quincy, MA, (800) 344-3555 or www.nfpa.org
- NFPA 1901, ***Standard for Automotive Fire Apparatus***
- NFPA 1911, ***Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Automotive Fire Apparatus***
- Any fire pump manufacturer's repair manual (such as Hale, Waterous, etc.)

Wayne Fister, CONAM Engineering

EVTCC Review

103 - F5 Aerial Fire Apparatus

Class will prepare the technician to take the EVT F5 exam or the RF5 Recertification Exam. Course objectives are to define the terms and phrases commonly used with aerial fire apparatus, operations and/or testing; identify the design requirements for aerial fire apparatus stated in NFPA 1901; understand the testing, inspection, and documentation requirements of all aerial fire apparatus (NFPA 1914); understand and identify hydraulic systems of an aerial apparatus; understand and identify electrical systems of an aerial apparatus; describe activities considered to be accepted practices in service and repair of aerial apparatus; and understand the principles of operating aerial apparatus.

Reference Materials

Note: This exam may contain some "accepted practice" type questions not found in the reference material listed.

- NFPA 1901, ***Standard for Automotive Fire Apparatus***, National Fire Protection Association, Quincy, MA, (800) 344-3555 or www.nfpa.org
- NFPA 1911, ***Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Automotive Fire Apparatus***, 2007
- ***Introduction to Hydraulic Technology Student Workbook*** - \$20.00



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Can be ordered online from www.eatonhydraulics.com , click on training, training products, training manuals.

- Any hydraulic reference material with symbols, such as, **Fluid Power Designer Lightning Reference Handbook**, 8th edition [\[Click Here\]](#)

Steve Dean, American LaFrance

105 - Hale Pump Class

This class covers the care, operation and maintenance of the Hale mid ship pump. An apparatus will be available; the pump will be removed and rebuilt then tested for certification. Also covers, in depth, the maintenance requirements of the pump. Hale Products For the rebuild class.

Minimum 10 technicians

Ric Tull, Hale Products

Monday – Wednesday – May 17-19, 2010

EVTCC Review

121 - F8 Hydraulic Systems

Course covers hydraulic theory, use and maintenance for hydraulic fluids, understanding hydraulic systems components and their functions understand and identify hydraulic circuits and troubleshooting.

Reference Material

Note: Exam may contain “accepted practice” type questions not found in the reference material listed.

- **Mobile Hydraulics Manual** – To order online [\[Click Here\]](#)
- **Fluid Power Designer Lightning Reference Handbook**, 8th edition – To order online [\[Click Here\]](#)

Darryl Beatrice, E-One, Inc.

EVTCC Review

123 - M-1 Management-Level I – Supervisor

Course will review materials needed for supervisor level in a shop setting. It will cover management principles as stated in The Career Equipment Fleet Manager, as well as cover the requirements of Fire Apparatus as stated by NFPA.

Reference Material

Note: This exam may contain “accepted practice” type questions not found in reference material.

- **The Career Equipment Fleet Manager**, Association of Equipment Management Professionals. (Reference that you are taking an EVT exam to be eligible for member price of \$195.00 from 970-384-0510 or www.AEMP.org)

NFPA Reference Listed Below

[National Fire Protection Association](#) (800) 344-3555

- NFPA 1901, **Standard for Automotive Fire Apparatus**
- NFPA 1911, **Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Automotive Fire Apparatus**, 2007 edition
- **KKK-A-1822F Federal Specification for the Star-of-Life Ambulance** [\[Click Here\]](#) to download at no charge.
- To order OSHA Publications online [\[Click Here\]](#): #3084 **Chemical Hazard Communication**, #3186 **Model Plans and Programs for the OSHA Bloodborne Pathogens and Hazard Communications Standard**

Chris Koop, Miami Dade Fire Rescue; Dick Guerra, City of Tampa Fire Rescue

Monday – Tuesday May 17-18, 2010

EVTCC Review



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133 – F6 – Allison Automatic Transmissions

Reference Materials

Note: This exam may contain "accepted practice" type questions not found in the reference material.

[National Fire Protection Association](#) (800) 344-3555

- NFPA 1911, *Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Automotive Fire Apparatus*, 2007 edition

Allison Publications – [Click Here](#) to download the mechanics tips booklet and operator's manuals listed below at no charge. The new EVS (Emergency Vehicle Series) lineup will include the 3000EVS and 4000EVS close ratio models and the 3500EVS and 4500EVS wide ratio models

Mechanics Tips Booklets:

HT 700, # MT1366EN

HT 700 Electronic, #MT1958EN

MT4007EN - 1000/2000 4th edition

MT4015EN - 3000/4000 4th edition 3004EN 3190EN

Operators Manuals:

OM3656EN, 3000/4000 EVS

MT/MTB 648/HT/HTB 741 # OM1957EN

1000/2000 EVS OM 3761EN SA3360EN

Preventive Maintenance Manuals

AT/MT/HT # PM2572EN

Miscellaneous Manuals

MD/HD Product Lines Principles of

Operation # PO2454EN

Troubleshooting Manuals

Drive line Troubleshooting #TS2714EN

WT Troubleshooting # TS2470EN

WTEC III Troubleshooting #TS2973EN

On-Highway Troubleshooting #TS1838EN

In-Chassis Maintenance: 1000/2000 GN4008EN

Optional Service Manuals *(not required)*

MT 600 #SM1317EN

HT 700 # SM1270EN

HT 700 Electronic #SM2004EN

CEC 1 Electronic Controls #TS2712EN

MD Products, # SM2148EN

HD Products, # SM2457EN

1000/2000 TS3977EN

3000/4000 TS3989EN

At www.allisontransmission.com, *addition info to find at site Technician Tips. Fluid & filter information Service tool information Downloadable technical publications Warranty information, Transmission identification Shift Selector operation. Note: Allison "DOC" for PC-service tool has a digital full version of all series electronic troubleshooting manuals imbedded in the computer program. Course will cover Operation Principle subjects; 1) Model Number Breakdown 2) External Identification 3) Clutch Pack Identification 4) Clutch Apply Sequence 5) Torque Converter Components & Operation Theory 6) Shift Selector Operation 7) PTO Installation & Operation 8) Split Shaft PTO Operation; Preventive Maintenance subjects; 1) Oil Types to be used in Allison Transmissions 2) Internal Filter Change



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Procedures 3) Oil & Filter Change Intervals 4) Dipstick Calibration 5) External Linkage Adjustment 6) Installation and Driveline Checks; Troubleshooting Procedures Subjects: 1) External Pressure point Identification 2) Impact of Aerated Oil 3) Transmission Stall Test 4) Impact of Modulator Adjustments on Shift Points 5) Diagnosing Shift Point Complaints 6) Indications of Major Internal Failures; Electronic Controls Subjects: 1) Models with Electronic Controls 2) Electronic Control Components 3) Theory of Electronic Control Systems 4) Electronic control System Components Adjustments 5) Power & Ground Requirements for Electronic Control Systems 6) Reading and Clearing Trouble Codes in Electronic Control Systems; Output Retarders Subjects: 1) Components of the Output Retarders 2) Operation of the Output Retarders 3) Retarder Control System Requirements; Reference Materials: 1) Location of Modulator Linkage Adjustment Information 2) Location for Troubleshooting Information 3) Location for Modulator Linkage Adjustment Information 4) Location for Shift Point Data 5) Location for Removal and Installation Information 6) Location for Electronic Control System Description & Troubleshooting Information.

Tim Rollins, Florida Detroit Diesel Allison

Monday – May 17, 2010

139 - Ferrara Aerial Maintenance Program

Program will cover - Recommended intervals for: Checking hydraulic system. Typical hydraulic line locations Types of fittings. Types of hose. Replacing hydraulic fluid: a. Using the correct fluid. Replacing hydraulic filter: a. Where to obtain the correct filter. Inspecting slide pads: a. How to remove and replace pads b. Type of lubricant c. Proper application d. Cleaning base rails and slide pads e. Inspecting base rails. Lubricating grease zerks: a. Type of lubricant b. Zerk locations – aerial ladder c. Zerk locations – platform. Lubricating aerial waterway: a. Type of lubricant b. Proper application c. Inspecting waterway and seals. Lubricating outriggers: a. Type of lubricant. Torque turntable bolts: Where to access, Correct amount of torque: a. Inspect rotation gear b. Inspect hydraulic pumps c. Primary pump d. Emergency pump. Inspecting aerial cables: a. Type of lubricant b. Lubricating cables. Inspect aerial lift cylinders, pins. Inspect aerial extension cylinders. How to work on hydraulic valves. How to work on electric over hydraulic valve controls. How to service outriggers: a. Hydraulic cylinders b. Jack pads. How to service swivel: a. Location of swivel, service access for Electric, Hydraulic and Water. How to service monitor: a. 6 monitor functions for Aerial ladder and Aerial platform, electric and manual. Electrical: a. PTO and master switches in cab b. Lower control station c. Turntable control station including Positional waterway controls. Method of wiring aerial ladder a. 12V b. Intercom c. 110V d. Platform controls. Locating, adjusting and troubleshooting interlocks: a. Cab/body collision b. Rotation c. Bed zone d. Aerial stow e. Retract safety.

Repeat on Tuesday if demand requires

Larry Freeman, Ferrara Fire Apparatus

EVTCC Review

141 – F4A – Advanced Electrical Systems

Class will teach the technician to understand the concepts, terms, and phrases related to: 1) A/C Line Voltage 2) System Knowledge 3) Sources 4) Accessories 5) Low Voltage Systems 6) Multiplex Systems 7) Operations.

Reference Material

Note: Exam may contain “accepted practice” type questions not found in the reference material listed.

National Fire Protection Association (800) 344-3555 – To order on line [\[Click Here\]](#)

- *NFPA 1901, Standard for Automotive Fire Apparatus*, Chapters 1-25 & appendix
- *NFPA 1936, Standard for Powered Rescue Tool Systems, 2005 Edition*



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- **Getting Started in Electronics**
To Order: Forrest Mims, \$17.95 plus shipping. To order online, to to www.w5yi.org or call (800) 669-9594
- **Auto Electricity & Electronics**, James Duffy
To Order: Goodheart-Wilcox (708) 687-5000 or can be ordered from www.amazon.com
- **Guide to Hydraulic Power Generation**, Russell Scott Dixon
Call the EVT office at 847-426-4075 to request a copy to be emailed to you for no charge for limited time, compliments of Scott Dixon
- **Class One ES-Key/USM Network Multiplexing Manual**, page 1 thru 11
To download at no charge [\[Click Here\]](#)
- **V-MUX 6-Step Troubleshooting Guide**
To download at no charge [\[Click Here\]](#)

Kenny Stevens, EVTs, Inc.

EVTCC Review

143 - F-7 Foam Systems

Class will review the principles of foam, systems and operations, mechanical components, maintenance and testing of foam systems.

Reference Material

Note: Exam may contain "accepted practice" type questions not found in the reference material listed.

- **NFPA 1901, Standard for Automotive Fire Apparatus** - Chapters 21, 22 and appropriate annex
- **NFPA 1911, Standard for Inspections, Maintenance, Testing and Retirement of In-Service Automotive Fire Apparatus** - Chapters 11, 12, 18 and appropriate annex
- **IFSTA Principals of Foam Firefighting 2 edition** - Chapters 2, 3, 4, glossary and appendix
- **IFSTA Pumping Apparatus, Driver/Operator Handbook, 2 edition** - Chapters 15, 16, glossary and appendix. Contact IFSTA at 800-654-4055
- **Fire pump manufacturer's operations manual Hale CAFS Pro System User Operation Training Manual**. To download [\[Click Here\]](#), then downloads, manuals, CAFS ProManual.
- **Hale FoamLogix Rotary Gear Manual** - Page I-19
www.haleproducts.com/Downloads/hale/product_manuals/FoamLogix%20Manual.pdf
- **Waterous "Eclipse" CAFS System Operation and Maintenance Form F1031 Section 2412**
To download go to; www.waterousco.com/servicemanual/Eclipse/SEC2412.PDF
- **Waterous 200P PTO Driven Compressor Kit Installation and Operations Instructions**
To download go to: www.waterousco.com/servicemanual/foam/200-p.pdf

Manufacturer's web sites go to www.waterousco.com or www.wsdarley.com or www.foammpro.com

Dominic Colletti, Hale Products

Tuesday – Thursday - May 18-20, 2010

EVTCC Review

201 - F4 Apparatus Electrical

Class on basic electricity including electrical theory, battery theory, wire and cables, alternators and cranking motors, advanced electricity, the application of the above theories plus troubleshooting of entire systems. The class covers the basic design and performance requirements of the fire electrical systems, components of electrical systems and preventive maintenance and troubleshooting activities.

Reference Materials

Note: This exam also contains many hands-on type questions you may not find in any reference material



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listed.

- NFPA 1911, *Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Automotive Fire Apparatus, 2007 edition* - Chapters 6, 8, 13, 17, 22 - (800) 344-3555 or www.nfpa.org
- *Any heavy truck electrical manual* - Suggestions for electrical reference material are listed. *Heavy Duty ProClinic Manual*, by Interstate Battery (Call Jeff Barron at 469-221-4655 for local interstate dealer ordering info) OR *Auto Electricity & Electronics*, by James Duffy, Goodheart-Wilcox (708-687-5000) or order from www.Amazon.com.
- *Any emergency apparatus service and operator manual (OEM)*

E2 Ambulance Electrical Systems

Class on basic electricity including electrical theory, battery theory, wire and cables, alternators and cranking motors, advanced electricity, the application of the above theories plus troubleshooting of entire systems. The class covers the basic design and performance requirements of the ambulance electrical systems, components of electrical systems and preventive maintenance and troubleshooting activities. The technician will understand the use of diagnostic equipment, batteries, the construction and operation of starting systems, charging systems and components, and the accepted practices used to diagnose and repair electrical systems.

Reference Materials

Note: This exam may contain some "accepted practice" type questions not found in the reference material listed.

- *KKK-A-1822F Federal Specification for the Star-of-Life Ambulance*
Download for no charge at <http://www.ntea.com/WorkArea/showcontent.aspx?id=1352>
- *Ford Ambulance QVM Guide*
Download www.fleet.ford.com/truckbbas/non-html/gpg/2004/ambulanceguidelines04.pdf
- *Any good automotive or electrical repair manual* – Suggested reference materials *Auto Electricity & Electronics* by James Duffy, Goodheart-Wilcox 1-708-687-5000 or the book can be ordered from www.Amazon.com for \$52 OR *Heavy Duty ProClinic Manual* by Interstate Battery-Call Jeff Barron at 469-221-4655 for your local interstate dealer ordering information.

Kenny Stevens, EVTS, Inc.

Tuesday – May 18, 2010

211- CAFS Foam Proportioning and CAFS Hardware

This seminar is intended to inform the fire department mechanic on issues surrounding maintenance, troubleshooting and repair of foam proportioning and compressed air foam systems. This seminar is a must for all mechanics since foam agents are being used more frequently than ever before. Five tips for preventing problematic conditions caused by apparatus operator human factors will be discussed.

Dominic Colletti, Hale Products

213- Ferrara Chassis

Recommended PM intervals for all major and minor components

Cummins Engine: OEM recommended fluid and filter intervals; Engine mount inspection;

Belt adjustments; Accessory mounting bracket inspection. Allison Transmission: OEM recommended

fluid and filter intervals. Drive Axle: Lubricant; Breather & Magnetic fill plug; Air Compressor:

Mounting bolts; Filter. Air System: Low air warning system; Air dryer; Hoses/connections; Pressure

control valve. Cooling System: Coolant concentration; Hoses; Hose clamps; Radiator; Shroud; Fan;

Coolant filter; Cooling fins; Anti-freeze change (inspect at oil changes). Steering System: Power steering

pump; Steering gear; Miter box ; Power steering reservoir; Drag link; K-pin; Tie rod; Steering stop



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screws; Performance. **Brakes:** Foot operated brake valve; Performance; Park control valve; Auto slack adjusters; S-Cam components. **Tires & Wheels:** Wheels; Wheel nuts; Wheel bearings; Tires; Performance. **Driveline:** Universal joints, slip yoke and splines; Driveline; Bearing cap screws. **Suspension:** Spring pins; Spring shackles; F&R spring; U-bolts; Shock absorbers; Springs; Clamps and hangers. **Air Intake:** Filter element. **Exhaust System:** Flange bolts; Flange gaskets; Pipe condition; Clamps. **Fuel System:** Fuel/water separator; Filter; Tank. **Electrical System:** Battery; Battery hold downs; Wiring; Terminals; Alternator; Electrical distribution panel. **Routine cab maintenance:** Door adjustment; Pivot bushings inspection; Lift cylinder inspection; Cab latch adjustment; Cab mount bracket inspection; Latch inspection; Step inspection. **8 Hours**

Larry Freeman, Ferrara Fire Apparatus

215 – Horton Emergency Vehicles

This class will cover Multiplex basics; Wiring diagrams and pinsheets - how to use them with a multiplex electrical system; Alternators and chassis power; Using the Intelliplex electrical system (operator information); Intelliplex pieces and parts; Troubleshooting the Intelliplex electrical system.

Kevin Handlin, Horton Emergency Vehicles

Wednesday – Thursday – May 19-20, 2010

EVTCC Review

301 - F2 - Design & Performance Standards and Preventive Maintenance of Fire Apparatus

Class prepares the technician to understand the design and performance standards for fire apparatus per NFPA 1901 Standards for Automotive Fire Apparatus, and the general principles of preventive maintenance and servicing. The technician will learn the terms and phrases commonly used in connection with the fire apparatus, apparatus operations and/or testing of apparatus.

Reference Material

Note: Exam may contain "accepted practice" type questions not found in the reference material listed below.

- ***Pumping Apparatus DRIVER/OPERATOR Handbook***, International Fire Service Training Association (IFSTA) Chapters 3,4,6,10,11,16, Glossary & Appendix A
To order, call (800) 654-4055 or www.ifsta.org
- ***NFPA 1901, Standard for Automotive Fire Apparatus*** - Chapters 1-25 & appendix
- ***NFPA 1911, Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Automotive Fire Apparatus***, 2007 edition, National Fire Protection Association, Quincy, MA (800) 344-3555 or order online at www.nfpa.org

Rob Burley, Fire-Tech Repair Services

303 - Allison Transmissions

Troubleshooting and Maintenance of the Allison Transmission – class will cover Troubleshooting Procedures such as: Understanding basic troubleshooting procedures; Identify problems that can be corrected in the chassis; Identify problems that cannot be corrected in the chassis; Diagnostics Key Points; Drive Lines; Shift complaints PTO Installation; Stall Test; Clutch Pressures; Checks and Adjustments; and Diagnostic Reference Material. Maintenance Procedures will cover: External Identification; Fluid Checks; Dip Stick Identification; Fluid and Filter Change Procedures; Leak Inspection and Road Test.

Tim Rollins, Florida Detroit Diesel Allison

305 - Sutphen Aerial Ladders and Platforms



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General Maintenance and Troubleshooting – course to cover Aerial Tower Setup; Electric Cable Maintenance; Rotation Gear Box Overview; Bucket / Yoke Inspection; OEM Controls for Ladders and Platforms; Interlock Boxes, Basic for Detroit, Cummins, Caterpillar; Ladder Cable Maintenance; Ladder Slide Blocks; Leveling System Overview; Waterway Maintenance; Hydraulic Swivel; Jack Interlock System; PQ Controls Overview; Overview of Smart Boom System; Hydraulic Cylinder Overview.

16 Hours, 8 Hours - Classroom, 8 Hours - Hands on

Allen Shaw & John Taylor, South Florida Emergency Equipment.

307 - Advanced Pump Testing

Classroom session will cover the requirements of annual service testing as covered by NFPA 1911. Troubleshooting while testing and some basic maintenance. Cover NFPA 1901 and the differences between the tests done at the manufacturer's facility after a unit is produced and the annual test. Student having a copy of NFPA 1911 will be helpful. Second session will be actual pump test with hands on for each student.

Steve Wunderle, Florida Apparatus Services

309 – Ambulance A/C Heating & Air Vent System

Hands on

Bill Grafton of Hosesline, Inc.

325 - Power Brake – Brake School

I. Air Brake Fundamentals, Troubleshooting and maintenance – Air generation and supply systems; Brake foot valves; Primary and secondary circuits; Relays and limiting valves; Parking and emergency brakes; Trailer systems; ABS fundamentals II. Foundation Brakes - Brake chambers; Slack adjusters, hardware and adjustments basics; Brake drums; Brake rotors; Friction – brake shoes & brake pads. III. Transition to Diamond treated drums and rotors - Explanation of the technology; new way of thinking with regard to braking; Installation and maintenance. IV. Questions and Answers

Dixon Davies, Power Brake

Wednesday – May 19, 2010

EVTCC Review

319 - E3 Ambulance A/C Heating & Air Vent System

Class covers the basic design, requirements and components of heating, a/c and ventilation systems. The technician will understand the definition or terms commonly used when dealing with ambulances, specifications and design of systems, heating and air conditioning theory, operations systems components and controls, troubleshooting, repair and service and safety and environmental concerns. Section 609 of the United States Clean Air Act requires all service technicians to be certified in proper refrigerant recovery and recycling. A review and the test will be held with this class. The exam fee is \$20 and is not included with the academy registration

Reference Materials

Note: This exam may contain some "accepted practice" type questions not found in the reference material listed.

- **Motor Age T7 Heating & A/C Self-Study Guide**, call 800-240-1968 order online www.PassTheASE.com
- **Motor Age A7 Heating & A/C Self-Study Guide**, call 800-240-1968 order online www.PassTheASE.com
- **Ambulance Performance Standards**, AMD 001009, NTEA, AMD Division, 37400 Hills Tech Dr.,



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Farmington Hills, MI 48331-3414 248-489-7090. Available for no charge at

<http://www.ntea.com/WorkArea/showcontent.aspx?id=1346>

- **KKK-A-1822F Federal Specification for the Star-of-Life Ambulance**, download for no charge at <http://www.ntea.com/WorkArea/showcontent.aspx?id=1352>

John Hopp, City of Winter Gardens

EVTCC Review

321 - E1 Design & Performance Standards of Ambulances

Course covers the general design and performance standards for ambulances as described in KKK-A-1822d Federal Specifications for the Star of Life Ambulance and general principles of preventive maintenance and servicing. The technician will understand the definition or terms commonly used when dealing with ambulances, the general requirements related to ambulances, safety/FMVSS/OSHA, and maintenance and troubleshooting. It will go over the systems for systems that are unique to ambulances as well as common chassis components.

Reference Materials

Note: This exam may contain some "accepted practice" type questions not found in the reference material listed.

- **Ambulance Performance Standards**, AMD 001-015, NTEA, AMD Division, 37400 Hills Tech Dr., Farmington Hills, MI 48331-3414 248- 489-7090. Available for no charge at <http://www.ntea.com/WorkArea/showcontent.aspx?id=1346>
- **KKK-A-1822F Federal Specification for the Star-of-Life Ambulance**, download for no charge at <http://www.ntea.com/WorkArea/showcontent.aspx?id=1352>

OSHA Publications: Online order form for OSHA Publications

<http://www.osha.gov/pls/publications/publication.html> or call 202-693-1999

- **#3084 Chemical Hazard Communication**
- **#3088 How to Plan for Workplace Emergencies and Evacuations**
- **#3186 Model Plans and Programs for the OSHA Bloodborne Pathogens and Hazard Communications Standard**
- **Any general truck repair maintenance manual and any Material Safety Data Sheet**

E4 Ambulance Cab, Chassis and Body

The technician will understand the definition or terms commonly used when dealing with ambulances, the general requirements related to ambulances, safety/FMVSS/OSHA, and maintenance and troubleshooting. It will go over the systems for systems that are unique to ambulances as well as common chassis components

Reference Materials

Note: This exam may contain some "accepted practice" type questions not found in the reference material listed

- **Ambulance Performance Standards**, AMD 001-015, NTEA, AMD Division, 37400 Hills Tech Dr., Farmington Hills, MI 48331-3414 248-489-7090. Available for no charge at <http://www.ntea.com/WorkArea/showcontent.aspx?id=1346>
- **KKK-A-1822F Federal Specification for the Star-of-Life Ambulance**, download for no charge at <http://www.ntea.com/WorkArea/showcontent.aspx?id=1352>
- **OSHA Publications #3186 Model Plans and Programs for the OSHA Bloodborne Pathogens and Hazard Communications Standard**

Online order form for OSHA Publications-

<http://www.osha.gov/pls/publications/publication.html> or call 202-693-1999



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- **NFPA 1911, Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Automotive Fire Apparatus**, National Fire Protection Association, Quincy, MA. To order call (800) 344-3555 or www.nfpa.org
- **Ford Ambulance QVM Guide**, www.fleet.ford.com/truckbbas/non-html/qpg/2004/ambulancguidelines04.pdf
- General shop manuals, such as: **Ford 1-ton chassis, Freightliner Medium Duty, International/Navistar Medium Duty**
- Any Material Safety Data Sheet
- Any service manual for OBD-2, Class 1 Diagnostic Service Codes

Bob Ivey, MedTec, Ten-8 Fire Equipment

323 - Kussmaul Electronics Co., Inc.

Battery Chargers, Electronics & Auto Eject Seminar

Course will cover A. New Products and novel applications_ advances in Load Management; Load Management warning systems, Logic and control; door open indicators and alarms; auto drain for longer lived Auto Pumps; other Auto Pump Life extension techniques. B. Battery charges – selection and sizing; how do they work, hands-on troubleshooting, failure modes and failure demonstrations. C. Auto Eject – Hands on – operations; servicing; preventive maintenance. D. Time Permits – discussion on auto pumps; operation; disassemble and repair

Ernie Kussmaul, Kussmaul Electronics Company, Inc

327 - Weldon V-MUX® System

Workshop emphasizes advanced service of OEM installed V-MUX electrical systems. Manuals and materials will be provided for students. System-wide service: • Proper ground and power set-up; How to troubleshoot with meters and scopes; Voltage fly-back from inductive loads; RS-485 data line inspection. Hardware: • Signal inputs and load outputs; analog sensors; NFPA Vehicle Data Recorder. Software: Diagnostics; Loading updates; • Upgrade support and information; There will be software installation support for any student wishing to bring their own computer. Hands-on workshop: •Live V-MUX vehicle multiplex system. Techniques learned in this class will apply to fire, rescue, and ambulance apparatus.

Jeff Dilgren, Applications Engineer, Weldon, a division of Akron Brass

331 - Ferrara Aerial Maintenance Program

Program will cover - Recommended intervals for: Checking hydraulic system. Typical hydraulic line locations Types of fittings. Types of hose. Replacing hydraulic fluid: a. Using the correct fluid. Replacing hydraulic filter: a. Where to obtain the correct filter. Inspecting slide pads: a. How to remove and replace pads b. Type of lubricant c. Proper application d. Cleaning base rails and slide pads e. Inspecting base rails. Lubricating grease zerks: a. Type of lubricant b. Zerk locations – aerial ladder c. Zerk locations – platform. Lubricating aerial waterway: a. Type of lubricant b. Proper application c. Inspecting waterway and seals. Lubricating outriggers: a. Type of lubricant. Torque turntable bolts: Where to access, Correct amount of torque: a. Inspect rotation gear b. Inspect hydraulic pumps c. Primary pump d. Emergency pump. Inspecting aerial cables: a. Type of lubricant b. Lubricating cables. Inspect aerial lift cylinders, pins. Inspect aerial extension cylinders. How to work on hydraulic valves. How to work on electric over hydraulic valve controls. How to service outriggers: a. Hydraulic cylinders b. Jack pads. How to service swivel: a. Location of swivel, service access for Electric, Hydraulic and Water. How to service monitor: a. 6 monitor functions for Aerial ladder and Aerial platform, electric and manual. Electrical: a. PTO and master switches in cab b. Lower control station c. Turntable control station including



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Positional waterway controls. Method of wiring aerial ladder a. 12V b. Intercom c. 110V d. Platform controls. Locating, adjusting and troubleshooting interlocks: a. Cab/body collision b. Rotation c. Bed zone d. Aerial stow e. Retract safety.

Class repeated from Monday if demand requires

Larry Freeman, Ferrara Fire Apparatus, Inc.

Thursday – May 20, 2010

EVTCC Review

401 - L1 Law Enforcement Vehicle Installer

Classroom course will cover all materials need to pass the L-1 test. L-1 test covers design and performance standards, installation of the specialized systems and equipment, and the accepted practices used in the service and maintenance of LE Vehicles. L-1 is for vehicles smaller than those covered by NFOA and KKK-1822E.

Reference Materials

Note: This exam may contain “accepted practice” type questions not found in reference material.

- **Law Enforcement Preparation Guide** may be downloaded from the EVT web site at www.evtcc.org, Exams and Preparation, or go directly to page by typing in: http://www.evtcc.org/pdf_files/law%20enforcement%20vehicle%20technician%20prep%20guide.pdf.
- **Auto Electricity & Electronic Technology**, by James Duffy. Goodheart-Wilcox 1-708-687-5000 or the book can be ordered from www.Amazon.com for \$52 or *Heavy Duty ProClinic Manual* by Interstate Battery call Mark Estridge at 972-715-6643 for your local interstate dealer ordering information Internet Resources: <https://www.fleet.ford.com/downloads/specvehpolice/2008mguide.pdf>, www.whelen.com, www.3m.com, www.policetechnologies.com, www.pro-gard.com, www.fedsig.com/service, www.powersource.net, www.wattco.net, www.pfmmag.com, www.setina.com, www.autoshop101.com

A. J. Morganelli, Whelen Engineering

403 - CEN Charging System Diagnostics

Course will take a very linear approach to charging system diagnosis. Charging system will be broken down into basic components for extensive review and inspection. Batteries, alternators (C. E. Niehoff and Lundell style), starters, and system wiring will be reviewed and/or disassembled. Standard and advanced maintenance and troubleshooting techniques are included. Reading of wiring diagrams and alternator characteristics charts will also be covered. Plenty of hands-on and on-vehicle activity. Bring your multi-meters and prepare to get dirty.

Norberto Nieves, C E Niehoff, & Co.

405 - Harrison Hydraulic Generator

In depth issues of power generation and equipment installation, maintenance and troubleshooting. Principles of generator operation will be addressed in an easy to understand format using power point presentations as well as hands on demonstrations of key components of hydraulic generators.

Jack Moncada, Harrison HydraGen

407 - Class1 Electronics

Total Pressure Governor– TPG; Total Pressure Governor + - TPG+; Captin Pressure Governor; Inteli-tank Tank Level Gage; ILT4- Tank Level Gage; Vehicle Data Recorder; Seat Belt Warning System.

ES-Key System Software and Diagnostics



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Brief introduction to Class1 and the ES-Key System. What's new in Multiplexing? ES-Key Pro Service software menu structure; Review of Multiplex Logic; Connecting to Multiplexed Vehicles; Troubleshooting with the software, Saving files and viewing reports. Question and answer period.

Chuck Hutchins, Class1

409 - Elkhart Brass Product Repair and Maintenance

Electric Monitor & RF Monitor Troubleshooting, Maintenance & Repair. Portable Monitor Maintenance & Repair, Class Attendees will break down maintenance & Repair. This portion of the class will cover the prescribed maintenance, troubleshooting and repair of Unibody Valves & Electric Valve Controllers. Class Attendees will break down the actual valves and then reassemble the units.

LUNCH 12:00 P.M. TILL 12:55 P.M. COURTESY OF ELKHART BRASS FIREFIGHTING EQUIPMENT

Gated Wye, Siamese, Foam Eductor, Nozzle Tips and Shutoffs Maintenance & Repair. This portion of the class will cover the prescribed maintenance, troubleshooting and repair of Elkhart Gated Wyes, Siamese, Foam Eductors, Nozzle Tips and Shutoffs. Questions & Answer Session, Product Improvement.

Kieran "Mac" McGarry, Elkhart Brass Firefighting Equipment

411 - E-One Aerial Class

Overview of units built by E-One, Aerial and Chassis types, Basic hydraulic systems, components and how they work, mechanical and electrical applications, reading and understanding schematics and basic troubleshooting.

Darryl Beatrice, E-One, Inc.

413 - Wheeled Coach Electrical Class

The class will cover all aspects of the Wheeled Coach electrical system to include but not limited to circuit boards, a/c electrical, and body interface to the oem electrical system up to and including 2010 models. Air suspension as it pertains to ambulance manufacturing. Trouble shooting and diagnosis of issues that could occur on the rescue unit.

Don Estabrook, Wheeled Coach Industries

415 - MedTec Ambulance

Troubleshooting and repair of standard electrical systems on the Freightliner, and International, etc, explanation of Diagnostic and printed circuit boards of ambulances.

MedTec Ambulance, Ten-8 Fire Equipment

Friday – May 21, 2010

7:00 am – 8:00 am

Registration for EVTCC Exams

You must have a [photo I.D.](#) and [registration confirmation](#) from the EVTCC.

8:00 am – 12:00 pm

EVTCC Examinations

You can take more than 1 exam during this testing period.

ADDITIONAL INFORMATION

Class times: Classes begin at 8:00 AM with a one hour lunch and two fifteen minute breaks

PLEASE NOTE:

Classes may be canceled because of under enrollment or instructor difficulties. You will be automatically



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enrolled in your second option, space available, or third option if your second option is filled or canceled.

-----INFORMATION-----

Technicians are to provide their own textbooks and reference materials as recommended by the instructors and the course criteria and requirements as shown in the EVT Certification Program.

Technicians are urged to study the materials recommended in the class description prior to coming to the academy. For additional information, refer to the Emergency Vehicle Technician Certification (EVTCC) Program Handbook available from the EVTCC by calling (847) 426-4075 or by going on line at www.evtcc.org.

Reference materials may be obtained from:

1. International Fire Service Training Association (IFSTA) Call 800.654.4055 or go to www.ifsta.org
2. National Fire Protection Association (NFPA) Quincy, Ma. 800.344.3555 or order at www.nfpa.org
3. James Duffy's book Goodheart-Wilcox 708.687.5000 or at www.Amazon.com
4. Interstate Batteries 12770 Merit Drive, Suite 400, Dallas, TX Jeff Barron 469-221-4655
5. Any hydraulic reference book with symbols, i.e. Fluid Power Designer Lightning 6. Reference Handbook
8th Edition - 562.692.6912
6. Introduction to Hydraulic Technology – Student Workbook Eaton Corp. Vickers Training 15151 Hwy 5, Eden Prairie, MN 800.413.8809, fax 952.294.2080 or www.eatonhydraulic.com
7. Allison Publications can be downloaded at www.allison.transmission.com or at your local dealer
8. NTEA, AMD Division, 37400 Hills Tech Drive, Farmington Hills Mi 48331-3414 248.489.7090 or on-line www.ntea.com/membersonly/division/amd/standard_001-0015.pdf
9. General Services Administration 817.334.5215 or on-line at www.gsa.gov/attachments/GSA_Publications/pub/ambulance_1.pdf
10. OSHA Publications OSHA Regional Offices or at www.osha.gov
11. NAP Truck Equip Assoc 97400 Hills Tech Dr, Farmington Hills 48331-3414
12. Snap-On Training Manuals contact your local dealer
13. Chilton Motor Age www.motorage.com
14. Ford Document get on line www.fleet.ford.com/truckbbas/non-tml/qpg/guidebookcommon5-3-02.pdf
Ford 1-ton Chassis Freightliner Medium Duty/International/Navistar Medium Duty general shop manuals
15. U S Department Transportation, Federal Aviation Administration www.ffa.gov.
16. The Career Equipment Fleet Manager, Association of Equipment Management Professionals. Reference that you are taking an EVT exam to be eligible for member price of \$195.00 from 970-384-0510 or

For additional information, refer to the Emergency Vehicle Technician Certification (EVTCC) Program Handbook available from the EVTCC by calling (847) 426-4075 or by going on line at www.evtcc.org.

Ambulance, Fire Apparatus, ARFF and Management Certification Test

Test will be held Friday, May 22, 2009 from 8:00 AM – 12:00 PM. All fees and registration for the certification test MUST be made through the Emergency Vehicle Technician Certification Commission, Inc.; P O Box 894, Dundee, IL 60118; (847) 426-4075. More than one test can be taken at this session.



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Building and room for the test and registration will be announced at the morning meetings. [Test Site Number is 52110](#). For more certification information go www.evtcc.org.

Scholarship

The Florida Fire & Emergency Services Foundation is extending one (1) scholarship to the National Emergency Vehicle Technician Training Academy. The Foundation will pay for full registration on the Training Academy, plus five (5) nights hotel stay, meals and mileage. For information on the scholarship contact Paula at FFCA, (386) 676-2744. Scholarship does NOT include fees and registration for the EVT Certification tests.

Registration

Monday - Friday registration from 6:30 AM - 8:00 AM at the Advanced Technology College.

Accommodations

The official hotel for the Academy is the Hampton Inn Speedway, 1715 International Speedway Blvd, Daytona Beach, Florida 32114. For reservations call (386) 257-4030. The room rate is \$89 includes continental breakfast and free parking. Reservation must be made directly with the hotel. When making reservations tell the hotel you are with [EVT Training](#). NOTE: If you are using a tax ID number, the hotel will only accept department checks or credit cards, not cash. The cut-off date for the special rate is [Friday April 30, 2010](#). **Make your reservations early**. The special group rates are available 3 days before and 3 days after the academy dates.

Banquet

Held at Daytona International Speedway, Daytona 500 Club and Lounge. Reception will be from 6:00 PM - 7:00 PM. The banquet will be from 7:00 PM – 9:00 PM on Wednesday May 19, 2010. Additional tickets can be purchased for \$30.00.

Morning Meetings

Meetings will be held each morning at 7:30 AM. The meeting room to be announced.

Mini-Expo

Held from 4:00 PM - 6:00 PM at the Advanced Technology Center on Thursday May 20, 2010.

Tuition Information

When three or more full registrations from one agency are submitted at the same time a \$10 discount per person will apply. Send all registrations together to qualify for the discount.

Full package - (Includes 5 day academy, 1 banquet ticket, FAEVT section membership) \$420

Daily registration - \$115.00

[Academy Registration Fee does not](#) include the Ambulance, Fire Apparatus, ARFF and Management Certification Test. All fees and registration for the test are to be made through Emergency Vehicle Technician Certification Commission, Inc.; P O Box 894, Dundee, IL 60118, (847) 426-4075 (www.evtccc.org) Registration for the National EVT Training Academy does not register you for the Certification Exams, nor does it register you for the Section 609 exam.

Questions

Florida Association of Emergency Vehicle Technicians, 880 Airport Road, Suite 110, Ormond Beach, FL 32174. Phone (386) 676-2744 Fax (386) 676- 5490 E-mail: info@ffca.org



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