

STATE CERTIFICATION CLASSES *Identified as "CFM" numbers*

CFM-115 FIRE PUMPS AND ACCESSORIES

Monday-Friday

36 hours

This class will acquaint students with the principles and theories associated with the maintenance, pump operation, and operational pump testing required for fire apparatus and equipment. Class fulfills partial education requirement for Level I state certification.

NOTE: Pump test portion of class is at a different location.

The student will provide PPE ~ Boots, gloves, helmet, hearing and eye protection

CFM-215A ELECTRICAL SYSTEMS

Monday-Friday

36 hours

This class will cover the theory, operation, and maintenance of electrical systems currently being used in fire apparatus. Class fulfills partial education requirement for Level II state certification. **See page 19.**

Required Prerequisite: FM-109: Basic Automotive and Truck Electronics

CFM-215B ALLISON TRANSMISSION

Monday-Friday

36 hours

This class will cover a thorough introduction, application, and general assembly. Training includes complete transmission teardown and rebuild, subassembly tear down, hydraulics, power flows, troubleshooting, parts and maintenance procedures. Class fulfills partial education requirement for Level II state certification.

CFM-215C AERIAL APPARATUS

Monday-Friday

36 hours

This class will cover the physical principles of manufacture, testing, and preventative maintenance of aerial devices commonly found in use by the fire service. Class fulfills partial education requirement for Level III state certification.

Required Materials: Calculator, coveralls and work boots

CFM-216 AMBULANCE SERVICE AND MAINTENANCE

Monday-Friday

36 hours

This class will cover service and maintenance techniques used to maintain OEM chassis, motor, drive train, steering, suspension, brakes, oxygen system, suction system and air conditioning/heating system. Class fulfills partial requirement for Fire Mechanic Level III state certification.

CFM-217

MANAGEMENT 1

Monday-Friday

40 hours

This class will provide an overview of basic supervisory, managerial, and leadership skills required in decision making, delegating, personnel motivation, communicating, time management, resource management, record keeping, team building, disciplinary functions and dealing with change and stress. Class fulfills partial education requirement for Fire Mechanic Level III state certification.

MECHANIC RE-CERTIFICATION

Beginning January 1, 2001, mechanic certifications issued by the California State Fire Marshals Office expire five years from the date of issuance. Those students needing to recertify specific levels can do so by writing in either Level I Re-Cert, Level II Re-Cert or Level III Re-Cert in the first choice selection box of the Student Registration form. Remember that you only have to re-certify to your highest level. These students will be given an individualized class schedule that will meet all of the continuing education requirements for the specific level requested.

RCFM-1

LEVEL I RE-CERTIFICATION

Monday-Friday

36 hours

This class provides review and update of operation, service and maintenance of pumps and accessories used in fire apparatus. The class fulfills re-certification requirements for Level I Fire Mechanic.

RCFM-2

LEVEL II RE-CERTIFICATION

Monday-Friday

36 hours

This class will review and update the theory, operation and maintenance of fire pumps and accessories, electrical systems and Allison transmissions currently being used in fire apparatus. The class fulfills re-certification requirements for Level II Fire Mechanic.

RCFM-3

LEVEL III RE-CERTIFICATION

Monday-Friday

36 hours

This class will review and update the theory, operation and maintenance of fire pumps and accessories, electrical systems, Allison transmission, aerial ladders and platforms and ambulances currently being used in the fire service and emergency response agencies. Also included will be a review of basic supervisory, management and leadership skills. This class fulfills re-certification requirements for Level III Fire Mechanic.

FF-501

KNOWING YOUR APPARATUS

Monday-Friday

32 hours

This class will provide a detailed review of the primary operating systems of fire apparatus and troubleshooting techniques the operator can perform. The class will review the special requirements, needs and issues of fire service equipment and enhance the student's ability to provide more detailed information to the fire service mechanic. It will also cover the role of the apparatus operator dealing with emergency response equipment and the goal to be operationally ready at all times.

FF-503

KNOWING YOUR AERIAL

Monday-Tuesday

16 hours

This class covers firefighter/operator maintenance and operating requirements for aerial apparatus used in the fire service. Topics may include operation, operator maintenance and safety considerations.

FF-504

GROUND LADDER TESTING

Friday

4 hours

This course covers fire service ground ladder maintenance, inspections and testing as required by NFPA 1932 *Standard on Use, Maintenance, and Service Testing of In-Service Fire Department Ground Ladders*. This course will provide students with the means to determine if in-service ground ladders meet the standard for continued service as well as proper maintenance.

FM-103

ELECTRICAL CHARGING & STARTING SYSTEMS

Wednesday–Thursday

12 hours

This class will cover both testing and service techniques used to maintain charging and starting systems and components.

FM-109

BASIC AUTOMOTIVE & TRUCK ELECTRONICS

Monday-Friday

32 hours

This is the first of two courses in the electrical certification series. This course is designed for the student with little or no knowledge of electrical systems as they relate to automotive and truck applications and is ***required*** for students wishing to take the electrical certification class and state examination. This course will cover electrical theory, magnetism, semiconductors, transistors, relays, circuit theory, circuit building and testing, multimeter basics, batteries, charging systems, starting systems and wiring diagrams and schematics.

Required Materials: Digital Volt Ohm meter (DVOM) and calculator

FM-110

BRAKE SYSTEMS & ABS

Tuesday–Wednesday

16 hours

This class will cover maintenance requirements for typical hydraulic, air brakes and ABS systems found on fire apparatus. Individual components will be discussed along with typical service requirements for each unit. The class will include troubleshooting and analyzing failures.

FM-111B [FIRE SERVICE VALVES ~ ELKHART](#)

Friday

4 hours

This class will cover the application and service requirements for Elkhart fire service valves. The student will be taught the specifications and techniques for overhauling and rebuilding these valves.

FM-112 [PUMP OPERATION AND TESTING](#)

Monday–Tuesday

16 hours

This class will cover the procedures used to perform various pump tests which are conducted at the draft pit including troubleshooting and analyzing test data. Demonstration and practice of actual pump test is included and will be held off site. Students are required to provide protective clothing.

FM-117 [APPARATUS SAFETY INSPECTIONS](#)

Monday

8 hours

This class will cover the latest standards and techniques used in apparatus safety and maintenance inspections on various emergency vehicles.

FM-126 [WHEELS AND TIRES](#)

Thursday

4 hours

This class will cover inspection, service, air pressure requirements, maintenance and the proper use of tires and wheels used on fire service vehicles.

FM-127 [HYDRAULICS & RESCUE TOOLS](#)

Tuesday

8 hours

This class will cover inspection, basic maintenance, service and repairs of hydraulically powered rescue tools as per industry standard and NFPA 1936.

FM-205 [INTERNATIONAL DIESEL SERVICE](#)

Wednesday-Thursday-Friday

16 hours

This class will cover maintenance and tune-up procedures with recommended methods of troubleshooting. It includes the various models and their design features used in typical fire apparatus applications.

FM-206 [ALLISON TRANSMISSION PREVENTATIVE MAINTENANCE](#)

Wednesday-Thursday

12 hours

This class will cover preventative maintenance programs and troubleshooting which is an important component of any service and maintenance program. Also covered will be the use of approved filters, fluids, and the fluid cooling systems in keeping with Allison warranty requirements.

FM-210**WATEROUS FIRE PUMPS**

Monday & Tuesday

16 hours

This class will include identification, repair and preventative maintenance of Waterous fire pumps and related accessories. It will include applications, service requirements and troubleshooting of various Waterous fire pumps, transmissions, transfer valves, relief valves, governors and priming devices.

FM-211**DARLEY FIRE PUMPS**

Monday & Tuesday

16 hours

This class will include identification, repair and preventative maintenance of Darley fire pumps and related accessories. It will include applications, service requirements and troubleshooting of various Darley fire pumps, transmissions, transfer valves, relief valves, governors and priming devices.

FM-212**HALE FIRE PUMPS**

Monday & Tuesday

16 hours

This class will include identification, repair and preventative maintenance of Hale fire pumps and related accessories. It will include applications, service requirements and troubleshooting of various Hale fire pumps, transmissions, transfer valves, relief valves, governors and priming devices.

FM-216**AIR BREATHING COMPRESSORS**

Wednesday

8 hours

This class will cover the theory, operation, and maintenance of air breathing compressors used in the fire service, both stationary and mobile.

FM-217**SECONDARY BRAKES & RETARDERS**

Thursday

4 hours

This class will cover descriptions of various secondary brakes as well as service requirements in the fire service.

FM-225**MAINTENANCE, SERVICE & REPAIR OF CAFS**

Monday

8 hours

This class will focus on the theory, maintenance and troubleshooting of CAF system components.

FM-229C**CATERPILLAR ENGINE TUNE-UP & TROUBLESHOOTING**

Monday-Friday

32 hours

This class will cover the theory and operation of Caterpillar mechanical fuel-injection systems, Caterpillar electronic fuel-injection systems and Caterpillar HEUI fuel system. The operations and troubleshooting of the various systems including fuel, emission control, engine control and tune-up will be explored.

FM-230 [GENERATOR SERVICE & MAINTENANCE](#)

Tuesday

8 hours

This class will explain the service and maintenance requirements for generators used in fire service applications including identification of generator types, their service and maintenance requirements, procedures and intervals of service.

FM-231 [WARNING EQUIPMENT SERVICE & MAINTENANCE](#)

Wednesday

8 hours

This class will cover the servicing and maintenance procedures for halogen, strobes, and LED lighting systems plus mechanical and electronic audible warning devices.

FM-303 [ELECTRICAL MULTIPLEXING SYSTEMS](#)

Wednesday-Thursday-Friday

16 hours

This class will cover new and anticipated design changes and service requirements, differences in current production electrical units compared to previous models, and experimental changes which are expected in the future including electronics and microprocessors. * This course will cover the multiplexing system used on **Pierce** Fire Apparatus only. ***Per Pierce Manufacturing, all students requesting this multiplexing class are required to have a multiplexed fire apparatus within their agencies fleet. Pierce will require students to provide the agency name and a job number of at least one Pierce multiplexed vehicle at the start of the class.***

FM-308 [AERIAL SERVICE & MAINTENANCE](#)

Wednesday-Thursday-Friday

16 hours

This class will cover the factory service and maintenance requirements specific to aerial apparatus used in the fire service. Topics will include hydraulic system, electrical system, structural repair and testing requirements.

FM-311 [DIESEL PARTICULATE FILTERS](#)

Tuesday

8 hours

This class will provide a detailed overview of the handling and maintenance of the EPA required DPF systems used currently on emission controlled diesel engines. It will cover service and maintenance requirements along with diagnosing possible issues with the systems and controls.

FM-324

APPARATUS REFURBISHING

Wednesday

8 hours

This class will cover minimal requirements and guidelines for fire apparatus refurbishing as per industry standards and NFPA 1912 including defining the levels of refurbishment being done by departments, municipal maintenance facilities, private contractors and apparatus manufacturers.

FM-331

LAWS, REGULATIONS & STANDARDS

Friday

4 hours

This class will cover Federal Motor Vehicle Safety Standards, NFPA Standards and “Out-of-Service” criteria, acquainting students with the principles and theories associated with maintenance required for fire apparatus and equipment. Recent case studies will be reviewed in the classroom setting.

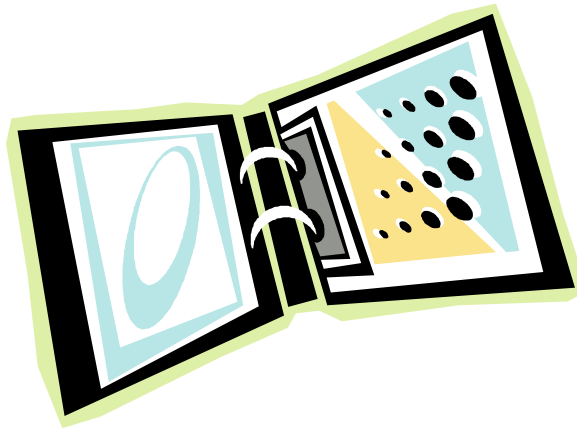
FM-332

DIESEL EMISSIONS

Thursday

4 hours

This class will help the student understand the opacity requirements of diesel engines as required by state and federal agencies.



**DON'T FORGET TO BRING ANY
CLASSROOM MATERIALS YOU
MIGHT NEED !**