



SOUTH LYON FIRE DEPARTMENT

Manual of Procedures 208

ENGINEER

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Approved: Chief Mike Kennedy

I. CLASSIFICATION RESPONSIBILITIES

An engineer is an employee of the rank of firefighter/EMT who is cleared to drive and operate SLFD engine companies.

An engineer is primarily responsible for the safe and efficient operation of firefighting apparatus in response to emergencies, and for pumpers and other special firefighting apparatus at the emergency scene. Duties include driving a fire engine or other large apparatus to and from fires and drills, regulating the water pressure from a pumper, and checking motorized apparatus for proper operation and general condition. If an apparatus is not engaged at a fire scene, engineers may participate in other firefighting activities. A portion of an engineer's work also consists of the routine maintenance of apparatus and equipment and to maintain them in a response-ready mode. Engineers may be required to fill in for a fire officer in an acting capacity. This class is responsible for performing related work as required.

II. DISTINGUISHING FEATURES

Fire department motorized apparatus operation requires constant alertness, observation, and judgment to ensure the maintenance of proper pressure requirements. Work at fire scenes and other emergencies may involve strenuous physical exertion, often under very adverse climatic conditions. In these situations, the employee is subjected and exposed to dangers and hazards that could result in severe injuries. Work is performed under the supervision of a fire officer who reviews work through observation of work in progress, meetings, and overall results achieved. Occasionally, engineers may be required to fill in for a fire officer in an acting capacity. Engineers are on-call employees who may also be assigned to work scheduled shifts. Incumbents in the engineer class may be demoted to a lower level class; must be able to demonstrate proficient performance of the essential functions of the lower level class including but not limited to firefighting duties; and will be required to possess and maintain required certifications including but not limited to current Michigan Emergency Medical Technician (EMT) certification and valid Michigan Driver's License.

III. ESSENTIAL FUNCTIONS

Communication: Communicates with the general public in conducting business inspections and school programs, delivering emergency care, assessing patient needs, giving instructions and information, and responding to questions. Presents public safety training classes and school programs and instructs others in a classroom setting regarding fire safety, fire prevention, firefighting, and Emergency Medical Services (EMS) training. Prepares written documents such as memos, repair orders, and fire and emergency medical service reports in order to document technical and legal matters.



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Manual/Physical: Operates fire vehicles e.g. automobiles and fire apparatus requiring a standard Michigan Driver's License to perform normal and emergency-level firefighting duties. Operates various types of motorized fire apparatus and ground monitors. Operates power-driven machinery such as hydraulic and pneumatic rescue tools to rescue trapped or endangered persons, and force entry into locked vehicles or structures. Uses axes, pry tools, pike poles, and power saws to gain entry into vehicles or structures. Performs searches and rescues inside buildings on fire, and treats victims who require first aid. Handles firefighting equipment on apparatus and at emergency scenes. Works in small, cramped areas in order to rescue trapped, endangered, or injured people. Aims fire streams. Climbs ladders and works at heights greater than 10 feet to reach and rescue people trapped on building roofs or upper floors. Moves material such as burnt building debris from one place to another using a shovel, rake, or rubbish hook to rescue trapped or endangered persons, or to overhaul a burned out structure. Moves objects up to 165 pounds or more (including a four inch fire hose) and EMS equipment for distances of more than 20 feet using a lifting aid as appropriate. Digs up ground using a pick, shovel, or spade to fight brush fires and rescue trapped persons from cave-ins. Uses a hammer, saw, screwdriver, or similar tools to overhaul fire scenes, eliminate dangerous situations, and perform routine maintenance on fire apparatus. Works in a variety of weather conditions. Enters data into a terminal, personal computer, or other keyboard device to document fires, EMS incidents, and building inspection reports. Mixes gasoline and oil to fuel power tools used in firefighting and rescue activities. Works with cleaning fluids and agents, chemicals, pesticides, insecticides, paints, or similar solutions using routine and nonroutine protective equipment when performing fire station maintenance duties and mitigating a hazardous materials incident. Detects natural gas leaks while performing emergency work at scenes of gas leaks. Detects audible traffic sounds when approaching traffic at vehicle accidents in roadways, sounds of impending building collapse at structure fires, and calls for assistance. Detects alarms, sirens, and other audible signs of alarm or warning in order to remove self from danger or to assist others in hazardous situations. Uses appropriate Personal Protection Equipment (PPE), including a self-contained breathing apparatus (SCBA) while performing firefighting tasks in environments that may be immediately dangerous to life (IDLH atmospheres). Meets training and attendance requirements.

Mental: Comprehends and makes inferences from written material to perform firefighting duties in accordance with fire department procedures. Learns job-related material regarding firefighting and emergency medical services in an on-the-job training setting. Learns job-related material regarding emergency medical training and firefighting tasks in a classroom setting.

Knowledge and Abilities:

(Knowledge and abilities obtained through successful completion of the MFFTC Firefighter I & II and Pump Apparatus Operator)



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Knowledge of:

Firefighting methods and modern fire prevention practices; emergency medical methods and procedures; overhaul and salvage operations; the principles of hydraulics and their application to the operation of fire apparatus; departmental rules and regulations; City geography, street names and numbers, and the location of hydrants; and traffic laws and regulations and state statutes governing operation of emergency vehicles.

Ability to:

Regulate water pressure from a pumper at fires in accordance with principles of hydraulics; prepare reports on the operation of apparatus; give instructions on the operation of apparatus to firefighters; become familiar with structures within assigned district in order to detect fire and safety hazards; engage in moderate to strenuous physical activity, which under emergency situations may require long working hours under emotional stress; exercise a high degree of self-discipline; participate in physical fitness programs and comply with department medical and fitness requirements; and establish and maintain effective working relationships with employees, coworkers, supervisors, and the general public.

The duties listed above are intended only as general illustrations of the various types of work that may be performed. Specific statements of duties not included does not exclude them from the position if the work is similar, related, or a logical assignment to the position. Job descriptions are subject to change by the fire department as the needs of the fire department and requirements of the job change.

IV. EDUCATION AND TRAINING

Any combination equivalent to experience and education that is required knowledge, skills and abilities would be qualifying. The following education requirements shall be obtained within two years of promotion. A typical way would be:

Education:

- A. Graduation from high school or GED equivalent.
- B. Additional college level courses or a Bachelor's Degree in management, public administration or fire science is highly desirable, with at least six (6) credits in supervisory management.
- C. Michigan Fire Fighters Training Council (MFFTC)
 - i. Firefighter I & II
 - ii. Hazardous Materials Awareness & Operations
 - iii. Drivers Training
 - iv. Pump Apparatus Operator
- D. Confined Space Operations
- E. Emergency Medical Technician or higher State of Michigan EMS licensure
- F. National Incident Management System
 - i. 100, 200, 700, 800



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V. QUALIFICATIONS

The following are the minimum requirements for becoming an engineer. Actual years of experience and / or skills desired may be waived by the fire chief based on the department's needs and ability of the candidate.

- A. Be at least 21 years of age.
- B. Be at the rank of firefighter/EMT for a minimum of one year.
- C. History of safe driving practices.
- D. Engineer training must be performed under the direction of the SLFD Training Officer, to include an Engineer class and driving rodeo.
- E. Successfully completed engineer driving course.
- F. Successfully completed engineer competency examination.
- G. Displayed competency in the pumping operation of Ladder 1. Engineers may be expected to operate the pump on Ladder 1.
- H. Successfully complete annual competencies on both engines.
- I. Approval of the fire chief.

Approved by
/s/ Chief Mike Kennedy