

Engineer of Fire Department (2131)  
Task List

**I. OPERATING AND USING APPARATUS AND EQUIPMENT**

1. Drives heavy fire apparatus, such as triple combinations and crash trucks, over a variety of roads and surfaces (e.g., paved streets, freeways, gravel and dirt roads, fire roads, and airport runways) by smoothly shifting gears, operating air brakes and auxiliary brake, and utilizing defensive driving techniques in order to safely and quickly travel to the scene of an emergency.
2. Determines the placement and spotting of the apparatus by considering factors such as the type of emergency (fire, auto accident, hazardous waste spill, or life saving resuscitation), location (house, apartment building, high rise, street, freeway, or brush covered mountain area), size (entire building or area engulfed in flames or just a portion), source of water (hydrant, lake, ocean, swimming pool, or relay), where other apparatus will park, and where firefighters will be while handling the emergency, in order to ensure the apparatus is in the most advantageous position to assist in resolving the emergency such as pumping water to the scene, protecting the firefighters from on-coming traffic, allowing other firefighting units through, protecting the triple and equipment from damage such as scorching or falling glass, potential building collapse or other changes, and maintaining security of the apparatus and its equipment from theft.
3. Pumps water to the firefighters as needed or to other fire protection systems by attaching hoses by hand or by using a spanner and/or rubber mallet to the pump intake for either soft suction or drafting in order to draw in water from the water source and to pump to outlets, in order to provide a water source in handling emergencies.
4. Interprets various gauges and dials on the pump's panel such as the compound, fuel, and oil pressure, engine tachometer, engine and pump temperatures, and discharge gate gauges in order to monitor the operation of the pump and engine to maintain accurate readings and pressure, including pumping at the required pressure, and to ensure the source of water is sufficient to conduct operations.
5. Observes factors such as how many hoses are connected to the triple, the length, size and type of nozzle being used on each hose, and which companies have initiated these lines, and any changes in elevation such as up or downstairs or a hill, in order to mentally make the appropriate hydraulic calculations that determine how much water is required and at what pressure the triple must pump to supply water to all hoses at the correct flow and with correct pressure as required by the incident.

6. Visually inspects the apparatus pump and engine such as checking the pump packing, emergency lights, ground spray, and all emergency components while they are operating in order to ensure that they are operating properly for the duration of the emergency.
7. Performs any appropriate activity to keep the apparatus functioning for the duration of the emergency, including taking on extra fuel and diverting water from the pump to the triple's cooling system.
8. Performs the duties of a firefighter at the scene of an emergency (e.g., providing emergency medical services, using a wide variety of firefighting and rescue tools such as nozzles and hoses, axes, ladders, rotary and chain saws, and resuscitators) when not tending an apparatus at the direction of a Fire Captain or on own initiative as the situation warrants.

## **II. MAINTAINING APPARATUS AND EQUIPMENT**

9. Performs any appropriate activity to maintain the apparatus and equipment in prime condition and in readiness for any emergency including cleaning the apparatus and its tools, fittings, ladders, and equipment of dirt and grime.
10. Performs any appropriate activity to maintain the apparatus and equipment in prime condition and in readiness for any emergency including performing required preventive maintenance records such as maintaining fuel supply to capacity, checking and filling (as needed) crankcase oil, radiator coolant, and power steering fluid, checking tire pressure and batteries, checking the air brake system, and checking the signal and lighting systems.
11. Performs any appropriate activity to maintain the apparatus and equipment in prime condition and in readiness for any emergency including tightening loosened bolts and screws, replacing blown fuses and bulbs, and reattaching loose wires when found during routine cleaning, maintenance, and inspection.
12. Performs any appropriate activity to maintain the apparatus and equipment in prime condition and in readiness for any emergency including identifying if any equipment on the apparatus is broken and attempting to determine how and why it broke.
13. Performs any appropriate activity to maintain the apparatus and equipment in prime condition and in readiness for any emergency including determining if apparatus is scheduled or in need of repair or maintenance, such as lubrication, replacement of crankcase oil or replacement of tires.
14. Performs any appropriate activity to maintain the apparatus and equipment in prime condition and in readiness for any emergency including proper

notification of Supply and Maintenance Division and Station Commander of any needed repairs.

15. Speaks with the Fire Captain in command and the Supply and Maintenance Division coordinator, either personally or by telephone, about the condition of the apparatus and need for scheduled maintenance or repair in order to explain why the apparatus is not at emergency status and what needs to be done to repair it, and completes Forms F-705 (repair record), F-80 (supply requisition), and F-377 (bi-monthly).
16. Verifies that all equipment carried on the apparatus, such as emergency medical supplies, hoses, nozzles, valves, axes, breathing apparatus, ladders, and spare air bottles, oxygen bottles, and fire extinguishers, is accounted for in order to make sure that the equipment inventories for both the station and apparatus are fully accounted for.
17. Verifies that all equipment carried on the apparatus meets readiness standards, such as ensuring hoses are clean and not punctured, valves and nozzles are free of dirt and oil and are not broken, oxygen, air bottles, and fire extinguishers are at minimum levels or above, and axe and saw blades are sharp, and repairs, replaces, or recharges equipment as needed in order to maintain equipment in a state of readiness for any emergency.
18. Cleans station facilities with assistance from other firefighters, particularly the apparatus floor and equipment, such as hoses, ladders, and hand tools, in order to maintain the station in top readiness status.
19. Cleans all rescue equipment (e.g., gurney, trauma box) using disinfectants in order to have clean and sterile resuscitation equipment available when going out on an emergency call.

### **III. PERFORMING FIRE PREVENTION ACTIVITIES**

20. Participates in pre-fire planning with company members and nearby fire stations by walking through building or area and observing and discussing important characteristics (e.g., sources and locations of water) and specific hazards (e.g., presence of hazardous materials) in order to be prepared with a firefighting plan in case of an emergency at major target hazards such as oil refineries, office high-rises, or crowded apartment buildings.
21. Assists in conducting fire prevention inspections of local businesses, writes notices to correct hazardous conditions, and speaks with citizens regarding fire code violations found during inspection and ways to correct them in order to eliminate fire hazards and obtain maximum cooperation from citizens and local businesses in their abatement.

#### **IV. RECORD KEEPING**

22. Maintains and updates LAFD maps, incident packets, and various manuals such as apparatus log books, operating manuals, building inventory book, and hydrant records by recording vehicle and equipment information and ordering and inserting new pages to replace outdated or worn pages in order to keep each book current and the pages in good condition.
23. Writes in a variety of logs and forms such as the apparatus log book, station log book, repair record, tire record, hose record, hydrant record, daily, weekly, monthly, and bi-monthly (Form F-377) apparatus checks in order to maintain a written record of all maintenance, repairs, and status of the apparatus, equipment, station, and the hydrant districts.
24. Conducts tests of fire hydrants and documents hydrant records and hydrant test records (Forms F-95 and F-70, respectively) in order to keep track of the condition of each hydrant in the station's hydrant district.
25. Verifies that all hoses are accounted for and marked with fire station and identification numbers, conducts hose tests according to LAFD specifications and procedures, and documents hose test records in order to ensure that all hoses are in proper condition.

#### **V. PERFORMING OTHER ACTIVITIES**

26. Reads LAFD maps and develops a working knowledge of the station's first-in district and general knowledge of the greater alarm area such as major streets, locations of hydrants, on and off ramps of freeways, and major structures (target hazards) in order to determine the safest and most correct response route and all alternate routes, if necessary, when notified of an emergency.
27. Reads manuals such as the Manual of Operations, LAFD Rules and Regulations, apparatus log books, manufacturer's operating manual for the apparatus, Driver's Training Manual, Apparatus Operator's Training Manual (AOTM), and the California Vehicle Code in order to keep aware of department policy and be intimately familiar with the operation of the apparatus.
28. Trains company members during technical drills in engineer certification, hose connections, safe driving practices, and knowledge of the first-in and greater alarm districts in order to have firefighters trained and ready to act in the Engineer's place during his/her absence, to promote interest in the position of Engineer, and to provide a general theory of water supply and hydraulics.
29. Attends training sessions and company drills such as fire prevention, apparatus maintenance and troubleshooting, earthquake preparedness, and other City mandated trainings (e.g., sexual harassment awareness, workplace

environment) in order to maintain knowledge and to improve on technical skills voluntarily or at the direction of the station commander.

30. Participates in the LAFD public relations programs, including giving school demonstrations and answering questions from citizens in order to present a positive image of the fire service, increase fire safety awareness among the public, and create interest in possible candidates to apply for Firefighter.
31. Creates a safe working zone at incidents by strategic placement of the apparatus, assisting in the direction of traffic in main thoroughfares (e.g., laying flares, traffic cones), and controlling traffic patterns at the site of an emergency in order to maintain emergency operations, protect LAFD personnel from on-coming traffic, and protect LAFD equipment.