

## Arlington Fire Department Physical Ability Test

The physical ability test administered by the Arlington Fire Department is a two-tiered test that simulates activities typically performed on the fireground. The first tier consists of a separately timed aerial ladder climb followed by a separately timed victim search event. The second tier immediately follows and consists of seven continuously timed events. Each event is anaerobic in nature but will assess aerobic conditioning when combined with all of the events that make up the physical ability test. The overall test is designed to assess a candidate's ability to satisfactorily perform the physical essential job functions of a firefighter.

### **Initial Events: (2 Minute Limit On Each Event)**

- **Aerial Ladder Climb:** This event requires the applicant to climb and descend an aerial ladder extended 70 feet high, with a climbing angle of 70 degrees.
- **Victim Search:** This event requires the applicant to maneuver 60 feet around the walls of a darkened room while wearing a darkened air mask, crawling on hands and knees.

### **Continuously Timed Events: (8 Minute Limit)**

- **Supply Line Pull:** The applicant will pick up both a 33 pound humat valve attached to 100 feet of 4-inch hose and a 4 pound hydrant wrench. The applicant will pull the 4-inch supply line a distance of 100 feet, walking forward in a continuous motion.
- **Salvage Cover Carry:** The applicant will pick up and carry two 30 pound salvage covers, maneuvering through doorways, hallways, and rooms a distance of 100 feet.
- **1 3/4-Inch Hose Line Advance:** The applicant will advance an uncharged 1<sup>3</sup>/<sub>4</sub> inch hose 75 feet, make a 90 degree turn around a stationary object, advance the hose another 25 feet then drop to one knee and pull the remaining 50 ft section of hose across a designated line.
- **Ladder Carry/Set/Climb:** The applicant will remove a 78 pound extension ladder from the ladder rack, carry it 30 feet to the building, set and climb the ladder, walk up the pitched roof mock-up, return to and climb down the ladder, lower the ladder and return it to the rack.
- **Extension Ladder Raise:** The applicant will fully extend a 28 foot extension ladder that is vertically affixed to the side of the building.
- **Stair Climb:** The applicant will shoulder carry a 50 pound high-rise load of 3 inch hose up to the fourth floor of the drill tower and then back down.
- **Victim Rescue:** The applicant will approach a 150 pound rescue mannequin that is lying in the supine position. The candidate will grasp one or both handles of the rescue harness, drag the rescue mannequin a distance of 37.5 feet, maneuver 180 degrees around a barrel and return to the starting point, dragging the rescue mannequin a total distance of 75 feet.

All applicants will be required to wear the following safety gear: helmet, turnout coat and gloves. An air pack will also be required but will be provided by the AFD. In addition, **long** pants of the candidates choice (bunkers, jeans, sweats, etc.) and closed toe shoes (boots, sneakers, shoes, etc.) will be required. The AFD will provide helmet, coat and gloves to candidates, if needed.

# AERIAL LADDER CLIMB

## EVENT DESCRIPTION:

The applicant will be required to climb and descend an extended aerial ladder within a maximum time of **two minutes**. The aerial ladder will be extended to approximately 70 feet high, with a climbing angle of approximately 70 degrees. The applicant will be required to wear a safety belt, in addition to the turnout gear (coat, helmet, gloves and airpack) required for the physical ability test. After all safety equipment has been donned and checked, the applicant will proceed to the turntable of the aerial apparatus. Before the applicant begins the ascent, s/he will be rigged with a safety line attached to his/her safety belt. A belay person will take up slack in the rope during the candidate's ascent and allow slack in the rope during the candidate's descent. The candidate will start the exercise with both feet on the turntable, at the base of the ladder. The candidates may grasp the ladder rungs. The applicant's time will start when the evaluator says "Go," and will stop when both feet touch the turntable. The candidate must climb the entire length of the aerial ladder and touch the top rung before descending. **This exercise will be pass/fail.**

## RATIONALE:

A firefighter may be required to climb and/or work from an aerial ladder in order to accomplish necessary tasks. These tasks may include rescue and ventilation activities, elevated access into involved structures, and master stream operations. Acrophobia could prevent a firefighter from fulfilling necessary and required tasks at the emergency scene. This could present a hazardous condition to the firefighter, co-workers, and the general public who depend on the firefighter to accomplish his/her assigned tasks. The firefighter is required to wear protective clothing, including an SCBA, while performing these tasks at emergency incidents. The firefighter must possess balance, coordination, agility, and stamina in order to ascend an aerial ladder, complete assigned tasks, and descend the ladder safely while wearing protective clothing. In addition, these tasks are usually accomplished during highly emotional and stressful times.

## REQUIRED ABILITIES:

Forearm/hand flexors  
Biceps  
Latissimus Dorsi  
Quadriceps  
Balance, coordination, and agility.

## RECOMMENDED CONDITIONING:

Military presses  
Curls and reverse curls  
High pulls/pull downs  
Bench step and/or stair climb exercises  
Aerobic conditioning (i.e., walking, jogging, running, etc.)

**NOTE:** This task is anaerobic in nature but will assess aerobic conditioning when combined with the other events of the physical ability test.

# VICTIM SEARCH

## EVENT DESCRIPTION:

The applicant will be required to enter a darkened room crawling on hands and knees to navigate approximately 60 feet around the walls of the room and exit within a maximum time of **two minutes**. The applicant will be required to wear a darkened air mask in addition to the turnout gear (coat, helmet, gloves and air pack) required for the physical ability test. This event simulates searching for a victim in an unpredictable area when visibility is limited. The applicant's time will start when s/he enters the room and will stop when the applicant exits from the room. An assessor will be present in the room to ensure the applicant successfully maneuvers around the walls of the room without panicking and without removing the air mask. **This exercise will be pass/fail.**

## RATIONALE:

A fire department's primary mission on a working fire is to find and rescue victims. To accomplish this, firefighters must crawl low and maneuver around furniture and other obstacles in total darkness. The darkness is created by heavy smoke conditions and the loss of electrical power to the structure. The 60 ft. is an approximate distance from the front door to and around the common living space of a single family occupancy of approximately 1700 square feet. Claustrophobia could prevent a firefighter from fulfilling this necessary and required task at the emergency scene. This could present a hazardous condition to the firefighter, co-workers, and the general public who depend on the firefighter to accomplish his/her assigned tasks.

## REQUIRED ABILITIES:

Forearm/hand flexors  
Biceps  
Latissimus dorsi  
Anterior deltoids and trapezius  
Gluteus maximus  
Quadriceps

## RECOMMENDED CONDITIONING:

Military presses  
Curls and reverse curls  
High pulls/pull downs  
Incline bench presses with dumbbells  
Stomach crunches and prone hyper extensions  
Bench step and/or stair climb exercises  
Aerobic conditioning (i.e., walking, jogging, running, etc.)

**NOTE:** This task is anaerobic in nature but will assess aerobic conditioning when combined with the other events of the physical ability test.

## **SUPPLY LINE PULL**

### **EVENT DESCRIPTION:**

The applicant will approach the simulated apparatus hose bed. The applicant will pick up a 33 lb. Humat valve, which is attached to 100 ft. of 4-inch hose, and a 4 lb. hydrant wrench. The assessor/time keeper will advise the applicant that the timed portion of the physical ability test is about to begin. Time will start when the assessor/time keeper says "Go." Upon hearing the word "Go," the applicant will, in a forward continuous motion, pull the 4-inch supply line a distance of 100 ft., while carrying the attached Humat valve and hydrant wrench. After crossing the finish line, the applicant will **gently** lay the Humat valve and hydrant wrench on the ground. The applicant will not run during this exercise, but should move in an expedient manner in order to establish the momentum necessary to complete the task.

### **RATIONALE:**

A constant water supply must be accomplished at working fires. This task requires a firefighter to dismount the apparatus and connect a 4-inch supply line to a hydrant. One firefighter is utilized in completing the task. The firefighter should be capable of pulling a 4-inch hose from the apparatus to the hydrant in order to establish a constant water supply.

### **REQUIRED ABILITIES:**

Forearm/hand flexors  
Deltoids and trapezius  
Biceps and triceps  
Quadriceps

### **RECOMMENDED CONDITIONING:**

Military presses  
Curls and reverse curls  
Dumbbell raises to front with thumbs up  
Incline bench presses with dumbbells  
Bench steps and/or stair climb exercises  
Aerobic conditioning (i.e., walking, jogging, running, etc.)

**NOTE:** This task is anaerobic in nature but will assess aerobic conditioning when combined with the other events of the physical ability test.

## **SALVAGE COVER CARRY**

### **EVENT DESCRIPTION:**

The applicant will approach a table with two rolled salvage covers laying on its surface. The applicant will pick up the 30 lb. salvage covers, placing one on his/her shoulder and carrying the other under his/her arm. The applicant will proceed through the doorway and follow the arrows marked on the floor of the building. The applicant will carry the salvage covers approximately 100 ft. Upon exiting the building, the applicant will place the two salvage covers back on the table.

### **RATIONALE:**

During an emergency incident, a firefighter is required to carry equipment and/or supplies that will be used for rescue/emergency medical treatment, incident stabilization, and/or property conservation. The firefighter must be able to carry this equipment while navigating close spaces, such as doorways. The firefighter must be able to accomplish this task in a timely and expedient manner.

### **REQUIRED ABILITIES:**

Forearm/hand flexors  
Deltoids and trapezius  
Biceps, triceps, and pecs  
Exterior obliques  
Quadriceps

### **RECOMMENDED CONDITIONING:**

Military presses  
Curls and reverse curls  
High pulls/pull downs  
Side bends  
Incline bench presses with dumbbells  
Bench steps and/or stair climb exercises

**NOTE:** This task is anaerobic in nature but will assess aerobic conditioning when combined with the other events of the physical ability test.

## **1 3/4-INCH HOSE LINE ADVANCE**

### **EVENT DESCRIPTION:**

The applicant will approach an uncharged 1 3/4" hose line positioned on the ground. The 200 feet of 1 3/4" hose line will be connected to a stationary device (fire hydrant) on one end and a nozzle on the other end. The applicant will pick up the nozzle and place the hose over-the-shoulder or across the chest. The applicant is permitted to run during the hose drag. The applicant will drag the hose 75 feet to a pre-positioned drum, make a 90 degree turn around the drum and continue an additional 25 feet to a marked box. The candidate will stop within the marked box and drops to at least one knee and pull the hose line until the hose line's 50-foot mark is across the designated line. The task will be successfully completed when the hose line's 50-foot mark is across the designated line.

### **RATIONALE:**

The 1 3/4" hose line is the primary fire attack line on apparatus in the Arlington Fire Department. The firefighter must be able to drag an uncharged 1 3/4" hose line to the fire occupancy and pull the uncharged 1 3/4" hose line around obstacles while remaining stationary.

### **REQUIRED ABILITIES:**

Forearm/hand flexors  
Deltoids and trapezius  
Biceps, triceps, pecs  
Abdominal muscles  
Gluteus Maximus  
Lumbar muscle strength  
Quadriceps  
Balance and coordination

### **RECOMMENDED CONDITIONING:**

Military presses  
Curls and reverse curls  
Incline bench presses with dumbbells  
Stomach crunches and prone hyper extensions  
Squats  
Leg presses  
Bench steps and/or stair climb exercises  
Aerobic conditioning (i.e., walking, jogging, running, etc.)

**NOTE:** This task is anaerobic in nature but will assess aerobic conditioning when combined with the other events of the physical ability test.

# **LADDER CARRY/SET/CLIMB**

## **EVENT DESCRIPTION:**

The applicant will approach the ladder rack and remove a 24-ft. extension ladder. The 78 lb. ladder will be carried 30 ft. to the building. The ladder will be placed on the ground with the heel against the base of the building. The ladder will be flat raised to a vertical position. The heel of the ladder will then be moved out to a line marked on the concrete. This line ensures the proper climbing angle. The ladder will be climbed, one rung at a time to the roof of the building. The applicant will step off of the ladder and onto the roof, while maintaining contact with the ladder to ensure a safe dismount. The applicant will proceed to the pitched roof mock-up and walk up the incline to the "X" marked on that roof. After touching the "X" with his/her foot, the applicant will return to the ladder and descend. The applicant will grasp the ladder and move it back into a vertical position against the wall. The applicant will then lower the ladder, laying it flat on the ground. The ladder will be picked-up, using proper lifting techniques, and returned to the ladder rack. The heel of the ladder must be placed at the designated end of the rack.

## **RATIONALE:**

Ladders are an integral part of the fire suppression effort. A firefighter may be required to carry, set, and climb a ladder in order to perform rescue, ventilation, and/or to gain access into a structure for fire suppression activities. Firefighters usually accomplish this task individually and without assistance. The task must be performed in a timely and effective manner. Firefighters are also required to pick-up, carry, and reload equipment after the conclusion of an emergency in order to return the apparatus to a level of operational readiness.

## **REQUIRED ABILITIES:**

Forearm/hand flexors  
Deltoids and trapezius  
Biceps, triceps, and pecs  
Latissimus dorsi  
Quadriceps

## **RECOMMENDED CONDITIONING:**

Military presses  
Curls and reverse curls  
High pulls/pull downs  
Incline bench presses with dumbbells  
Stomach crunches and prone hyper extensions  
Bench steps and/or stair climb exercises

**NOTE:** This task is anaerobic in nature but will assess aerobic conditioning when combined with the other events of the physical ability test.

## **EXTENSION LADDER RAISE**

### **EVENT DESCRIPTION:**

A 28-ft. extension ladder will be vertically affixed and secured to a wall of the training tower. The applicant will approach the ladder and grasp the halyard. The applicant will, while employing a hand-over-hand motion, raise the fly section of the ladder. The fly section of the ladder will be raised until it strikes the stops (fully extended). The applicant will then hand the halyard to a testing coordinator standing adjacent to the ladder. The applicant will **not** be required to retract the ladder.

### **RATIONALE:**

Ladders are an integral part of a fire suppression effort. The capacity to extend a ladder is an essential requirement for a firefighter. Ladders are used to perform rescue, ventilation, and/or gain access into a structure for fire suppression activities. Firefighters usually perform this task individually and without assistance. The task must be performed in a timely and effective manner. Firefighters are also required to pull ceilings during fire suppression activities. This task must be performed in order to check for fire extension and/or to gain access for fire suppression activities. The ladder extension is an acceptable substitute to assess the muscular strength and endurance required to pull ceilings.

### **REQUIRED ABILITIES:**

Forearm/hand flexors  
Deltoids and trapezius  
Latissimus dorsi  
Biceps and triceps

### **RECOMMENDED CONDITIONING:**

Military presses  
Curls and reverse curls  
High pulls/pull downs  
Incline bench presses with dumbbells

**NOTE:** This task is anaerobic in nature but will assess aerobic conditioning when combined with the other events of the physical ability test.

## STAIR CLIMB

### EVENT DESCRIPTION:

The applicant will approach a high-rise load positioned at the base of the tower. The high-rise load consists of 50 ft of 3 inch hose with one gated wye connected to the male end of the hose. The applicant will lift the 50 lb. high-rise load and place it on his/her shoulder. The applicant will walk up four flights of stairs while carrying the high-rise load. The handrail should be used with the free hand. When the applicant reaches the fourth floor, s/he will walk over to the door and touch it with the free hand. The applicant will turn and descend the stairs to the ground floor. The applicant will place the hose back against the side of the tower. **Stairs may be taken in multiples on the ascent, but not on the decent.** Upon completion of the task, the hose will be gently laid against the side of the tower, not dropped or thrown.

### RATIONALE:

Multistory structures are common in the City of Arlington. Fires in multistory structures represent one of the gravest threats to life and property. A firefighter will respond to these emergencies which occur several stories above ground or up in rough terrain. Emergency operations in office buildings, multifamily residential units, and even single family dwellings often require the movement of equipment to a location of two stories or more above ground level. The firefighter must be able to transport hose and necessary equipment to the site of these emergencies and initiate operations in a timely and effective manner.

### REQUIRED ABILITIES:

Forearm/hand flexors  
Deltoids and trapezius  
Biceps  
Triceps and pecs  
Quadriceps  
Balance, coordination, stamina

### RECOMMENDED CONDITIONING:

Military presses  
Curls and reverse curls  
High pulls/pull downs  
Incline bench presses with dumbbells  
Bench step and/or stair climb exercises  
Aerobic conditioning (i.e., walking, jogging, running, etc.)

**NOTE:** This task is anaerobic in nature but will assess aerobic conditioning when combined with the other events of the physical ability test.

# VICTIM RESCUE

## EVENT DESCRIPTION:

The applicant will approach a rescue mannequin weighing approximately 150 lbs. The mannequin will be lying in a supine position on the ground. The applicant will approach the mannequin from the head end, grasp one or both handles (either is permitted) of the shoulder rescue harness, drag the mannequin a distance of 37.5 feet, maneuver 180 degrees around a stationary barrel and back a distance of 37.5 feet to the starting point, dragging the rescue mannequin a total distance of 75 feet. The applicant will drag the mannequin until the mannequin's feet pass the finish line. Time will stop when the mannequin's feet have passed the finish line. This will complete the physical ability test.

## RATIONALE:

Firefighters must be able to rescue incapacitated citizens or firefighters from the scene of fires and/or other emergencies. The 75 ft. is an approximate safe distance that a firefighter may have to move a victim through two rooms of a structure and out of the building, away from any hazard, hazardous material spill, and/or potential explosion. In a best case scenario, a rescue is accomplished through a team effort; however, there is a reasonable expectation for a single firefighter to accomplish this task, particularly if operating as a member of a two-person team.

## REQUIRED ABILITIES:

Forearm/hand flexors  
Biceps  
Latissimus dorsi  
Anterior deltoids and trapezius  
Gluteus maximus  
Quadriceps

## RECOMMENDED CONDITIONING:

Military presses  
Curls and reverse curls  
High pulls/pull downs  
Incline bench presses with dumbbells  
Stomach crunches and prone hyper extensions  
Bench step and/or stair climb exercises  
Aerobic conditioning (i.e., walking, jogging, running, etc.)

**NOTE:** This task is anaerobic in nature but will assess aerobic conditioning when combined with the other events of the physical ability test.