

2018

# Saint Paul Fire Department

## Preparing for Firefighter Physical Performance Test



St Paul Fire Department

City of St Paul

2/15/2018

# SPFD Firefighter/EMT Physical Performance Test Standards

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Below you will find detailed information on the Firefighter/EMT PPT.

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## 1. *Climbing Stairs Under Load*

Candidate shoulders (from 60" high table) a standard high-rise pack of 100' - 1¾" hose weighing approximately 58 lbs. The candidate then carries the bundle up to the 5th floor landing inside the drill tower. Upon reaching the 5th floor landing, candidate places bundle of hose in designated area (both feet must be on the 5th floor landing before dropping the bundle) and returns to the bottom of the tower.

NOTE: Candidate must touch each of the 64 steps on the way down.

**\*\* Candidate proceeds to next station (75 feet) \*\***

## 2. *Dragging a charged hoseline*

Candidate picks up the nozzle of a charged 1¾" hoseline from hydrant, places it over the shoulder, and drags it a distance of 75'. Candidate lays hose down once the distance is reached.

**\*\* Candidate proceeds to next station (27 feet) \*\***

## 3. *Victim Rescue*

Candidate lifts (from under the arms and from behind) a 175 lb. rescue mannequin, and drags it 100' while walking backwards. Once the feet of the mannequin pass a designated mark, candidate releases the mannequin and proceeds to next station. Candidates may allow the feet of the mannequin to lift off ground.

NOTE: Candidates must initially lift from under the arms, and pull mannequin backwards. In the event the candidate loses his/her grip, he/she may complete the station by gripping either the jacket, one arm, or both arms, and continue pulling the mannequin backwards until the feet have crossed designated mark. At no time may the candidate pull by the head or allow the head to drag.

**\*\* Candidate proceeds to next station (35 feet) \*\***

## 4. *Equipment Carry*

Candidate picks up a 12" steel exhaust fan (weighing approximately 47.5 lbs.) with one or both hands, and carries it while walking a distance of 150'. Candidate places fan in marked box on ground.

NOTE: Fan cannot be carried on the candidate's shoulder.

**\*\* Candidate proceeds to next station (17 feet) \*\***

## 5. *Forcible Entry Simulator: (Keiser Force Machine™)*

Candidate straddles a 150 lb. steel beam girder with Teflon® glides. Using an overhead chopping motion with an 8-lb. shotmallet (similar to a sledgehammer), the candidate drives the girder a distance of 5' along a stainless steel track.

**Equipment:** The Candidate must complete this exam while wearing the following equipment:

- ◆ A fire turnout coat (approx. 8 lbs.)
- ◆ A weighted vest (20 lbs.)
- ◆ Gloves
- ◆ An empty SCBA air tank (18.25 lbs.)
- ◆ Fire helmet (2.5 lbs.)

Candidates will not be allowed to wear or use their own equipment except for a pair of gloves. Candidates will be allowed to use their own leather work gloves at their own risk. Gloves are subject to approval. Batting, golf, or gardening gloves are NOT acceptable. Gloves will also be provided. Equipment must be kept on during the entire test. If the helmet falls off during any portion of the test, candidate must replace it immediately and continue on with the test. The time will continue to run.

**Time:** Timing will begin as soon as the candidate crosses the start line, and will continue until the steel girder from the Keiser Force Machine™ reaches the end of the stainless steel track. Candidates may stop and rest at any time during the exam, but the stopwatch will continue to run. In order to pass the exam, candidates must complete the 5 exercises in a maximum of **7:00 MINUTES**.

**While running is not allowed, candidates are encouraged to progress as quickly as possible through the test.**

*For more information on the PPT, please visit: <http://bit.ly/SPFDInfo>*

# Preparing for the SPFD Physical Performance Test

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Saint Paul Fire Department has designed this training manual written for individuals who are in the beginning phase of training for the Saint Paul Firefighter Physical Performance Test (PPT). This manual is only a sample of exercises to get you started, but as you progress it is recommended to increase the intensity and frequency of your workouts.

Improving your fitness levels can have a positive impact on your performance on the Physical Performance Test. This training manual is broken into four sections: **Stairclimbing, Strength Training, Training for Individual Sections of the Physical Test, and Cardio Circuit**. The training also comes with a **Work Out Calendar Sample, Blank Work Out Calendar**, and an **Exercise Appendix**.

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## *Tips, Information, and More!*

- You will find suggestions on how to progress stairclimbing for a beginner, strength training suggestions that can be completed at most gyms, and cardio circuits that can be completed with minimal equipment.
  - The workouts are design to have minimal equipment and for someone just becoming active
  - If you have access to “nontraditional” gym equipment, it is strongly suggested to incorporate those pieces of equipment
    - Examples: tires, sledge hammers, battle ropes, weighted sleds, sand bag

## *Before You Start*

- Make sure to be medically cleared before engaging in new activity and physical exercise that you have not previously done.
- If you have not been active in a considerable period of time, you need to first allow your body to adapt to moving.
- Start with shorter workout durations and gradually increase your time.
- Allow adequate rest breaks and recovery time.

## *Importance of Hydration*

- Water is important to properly metabolize food. Drinking sufficient amounts of water will help reduce constipation. Exercise increases the amount of water lost through sweat when you work out and encourages a high metabolism (caused by increased exercise and more lean body mass).
- Water regulates your body temperature and lubricates your joints. It helps transport nutrients to give you energy and keep you healthy. If you're not hydrated, your body can't perform at its highest level. You may feel tired, have muscle cramps, dizziness, or other serious symptoms.

### *Fuel your body properly to be able to make progress*

- If you are starting a new exercise program, it's important to make sure you are getting the nutrition your body needs
- Seek out nutritional guidance if needed

### *Take an honest assessment of where you are starting from in order to see your own progress*

- Examples:
  - Time your mile run or completing a certain number of stairs
  - Max number of push-ups as a marker for upper body strength
  - Max plank hold as a marker for core strength
  - Time and document different workouts so when repeated, you can see the difference
  - Document weights that you are using during the exercises
  - The scale is not always a great measurement of progress
    - If able, have body measurements completed at the beginning
    - Losing inches may be a better measurement of progress than weight loss
- Identify your own personal weaknesses and strengths
  - Listed below are examples of strength programs for upper body and lower body, cardio circuits, and how to increase stairclimbing ability
    - Make sure that you are well rounded in your training to increase both cardio and strength training
    - If you find an area of weakness, you may need to modify your training program to highlight those areas so that you will be prepared
  - Other suggestions to research and incorporate in your training:
    - "Lactate Threshold training" – make sure to find a reputable source
    - Utilize online videos that are demonstrating the movements provided below

*Tip: Videotaping yourself will allow you to see if you are completing proper form*

- There are great resources also listed on the Firefighter website for local gyms that have training programs specifically for the physical performance test
  - Individuals are responsible for memberships at participating gyms and need to contact them individual for pricing

### *Training for Individual Sections of the Physical Performance Test*

- It will be important to incorporate the non-traditional "work-out" ideas that are listed under each individual sections of the entrance test
  - These allow you to specifically train for individual sections of the test
  - If you are able to set up a "mock" test at home, you can time yourself and be able to monitor your progress

# Stairclimbing

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Listed below is a suggestion of how to progress your endurance with stairclimbing. If you are just beginning to get active, complete the following stair intervals with body weight.

After you complete the 8-week program, you can repeat the 8-week program by adding weighted items suggested.

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## *Recommendations*

At any point you are able to progress at a faster pace or add weight, it is recommend to push yourself and advance your training. It is recommended to add weight to simulate the test more accurately. See suggestions below:

- Weighted vest
- Sand bag or other weighted bag over shoulder
- Backpack with weights inside

## *Simulating Stairclimbing*

1. Stairclimbing machine (revolving stairs)
2. Stair-stepper machine
3. Outdoor stair cases
4. Indoor apartment stairs
5. Parking ramps stairs
6. Steep outdoor hills

*Tip: Real stair cases with an interior handrail are the best simulation of the test*

## *Stairclimbing Workout Calendar Example*

Week 1: Complete 2-3 sessions per week

- 20 minute Session
  - 30 second sprint intervals (as fast as possible)
  - 2 min slow pace recovery
  - Total of 8 sprint intervals

Week 2: Complete 2-3 sessions per week

- 21 minute Session
  - 30 second sprint intervals (as fast as possible)
  - 1 minute recovery
  - Total of 14 intervals

Week 3: Complete 2-3 sessions per week

- 30 Minute Session
  - 30 second sprint intervals
  - 1 minute recovery
  - Total of 14 intervals

Week 4: Complete 3-4 sessions per week

- 21 minute session
  - 45 second sprint interval
  - 45 second recovery
  - Total of 14 intervals

Week 5: Complete 3-4 sessions per week

- 20 minutes
  - 45 second sprint intervals
  - 30 second recovery
  - Total of 16 intervals

Week 7: Complete 4 sessions per week

- 30 Minutes
  - 45 second sprint intervals
  - 30 second recovery
  - Total of 24 intervals

Week 6: Complete 4 sessions per week

- 20 minutes
  - 45 second sprint interval
  - 15 second recovery
  - Total of 20 intervals

Week 8: Complete 5 sessions per week

- 30 minutes
  - 45 second sprint intervals
  - 15 second recovery
  - Total of 30 intervals

# Strength Training

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The following plans can be completed with equipment at most standard gyms.

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## *Recommendations*

In an ideal workout plan, an individual should incorporate strength training 4 days per week:

- The workout should be modified based on the individual needs and current abilities
- Some individuals may find that they have the strength to complete the different sections of the test but are limited by their endurance
  - These individuals should focus their attention on their cardiovascular endurance and increase time spent in that area
- You may only be able to complete one lower body and one upper body strength training session per week when you first begin
- As you are able, progress with an eventual goal of strength training 4 days per week

## *Abbreviations Explained*

Please refer to the explanations below for the abbreviations used:

- 10,8,6, 5x5
  - Warm up and gradually increase
  - Complete First set at 10 reps
  - Second set at 8 reps
  - Third set at 6 reps
  - Complete 5 sets of 5 reps maximum weight that you are able to complete
- Example: 4x 20 equals 4 sets of 20 repetitions
- In a circuit, you will complete the exercises in order and then repeat based on how many sets are dictated
- If it states 3x8e, 8e means each leg

## *Strength Training Session Examples*

Lower Body Strength Session 1

1. Alternate between the 2 following squat styles
  - a. Front Squat 10, 8, 6, 5X5
  - b. Back Squat 10, 8, 6, 5X5
2. Circuit #1
  - a. Goblet Squat 4 x 20
  - b. Step Back Lunges 4 x 20
  - c. Leg Extension Machine 4 x 20



3. Circuit # 2
  - a. Box Jumps 3 x 10
  - b. Wall Sits 3 x 30 seconds (progress from 15 seconds, 30 seconds, 45 seconds, 60 seconds)
  - c. Lateral Lunge 3 x 8e

#### Lower Body Strength Session 2

1. Deadlift 10, 8, 6, 5X5 (Can alternate between Standard, Romanian, Sumo style)
2. Circuit #1
  - a. Hamstring Curl on a Stability Ball 3x8
  - b. Leg Curls Machine 3x8
  - c. Single Leg Glute Bridge 3x8e
3. Circuit #2
  - a. Cable Single leg Donkey Kicks 3 x 8e
  - b. Single leg Deadlifts with Kettle Bells 3 x 8e
  - c. Step Ups on a Box 3 x 8e

#### Upper Body Strength Session 1

1. Bench Press 10, 8, 6, 5X5 (Can vary between Incline, decline, regular, narrow grip)
2. Circuit # 1
  - a. Farmer's carry 4 x 100 feet
  - b. Triceps Dip (Bench or Bar) 4x10
  - c. Triceps Extension 4 x 8
3. Circuit #2
  - a. Push-ups 4 x 20
  - b. Static Arm Hang 4 x 30-60 seconds (Utilize band or assisted machine if unable to hang)
  - c. Med Ball pick up and over shoulder 4 x 8

#### Upper Body Strength Session 1

1. Bent over Row with Barbell 10, 8, 6, 5X5
2. Circuit # 1
  - d. Shoulder press 4 x 8
  - e. Landmine shoulder press 4 x 12
  - f. Landmine rows 4 x 8e
4. Circuit #2
  - a. Inverted Row or Pull up (3 x maximum reps)
  - b. Lat pulldown 3 x 8
  - c. Seat cable Row 3 x 8

## Training for Individual Sections of the Test

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The following section go over tips on how to train for each section of the Physical Performance Test.

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### Stairs

- Practice skipping steps while ascending, if able
- Practice touching every step when you are descending which is similar to testing process

*Tip: Real stair cases with an interior handrail are the best simulation of the test*

- Focus on using your left arm to pull yourself as you ascend up the stairs to increase speed
- Use a weight vest if one is available as you will be required to wear one during the test
- Utilize a backpack that is weighted to simulate the SCBA
- Find something to simulate the hose bundle as a large bag of sand from Menard's or a long weighted bag
- Train similar to the entrance test to include full PPE such as thick coat, gloves, helmet, weighted vest, backpack, and simulated hose bundle as you are able to progress

### Hose Drag

- Drag a heavy bag with rope
- Sled pulls
- Dragging a tire on rope or hose
- Pulling a heavy kettlebell connected to a battle rope
- Log with rope
- Simulate the rope over the shoulder, driving forward
- Lunging body weight forward to utilize legs as the driving power
- Have a set distance when focusing on this area as an end goal to keep the momentum going the entire distance-try for 75 feet

### Dummy Drag

- If you are currently unable to lift the dummy, improve strength through front squats and deadlifts
  - This also teaches you proper position and can simulate the motion needed to lift the dummy
  - Proper form is important so you don't injure yourself
- Tire flips if you have access to a heavy tire
- If you don't have access to a dummy, you can practice lifting other objects such as items listed below:
  - Large hockey bag filled with weighted objects
  - 5 gallon Culligan bottle
  - Tree log with large circumference

- A family or friend that is similar weight (possible start with a lighter person and progress as able)
- Most people going through this portion of the test will face some significant “Quad” burn in their legs. Finding an activity that replicates that intensity and being able to work through the discomfort will help you.
  - Exercises such as a spin class can simulate that “burning sensation”
    - Your mind will give up before your body will so it’s important to be able to learn to embrace the discomfort and increase mental toughness
    - Learn to push through
  - Walking backwards up incline such as a steep hill or treadmill
  - Pushing a weighted sled backwards if you have access to one
  - If you have access to weighted sleds, it’s a piece of equipment that is excellent at simulated the “quad” burn
    - Recommend completing a variety of positions for sled pushes to train

#### Dummy Drags with Live Victim



#### Fan Carry

- Carry a crate filled with weighted objects
- Farmer carry’s
- Water jug
- Large Tupperware container with appropriate weight
- Practice the pickup and set down
- Focus on controlled breathing during this portion of the test this will be a recovery period for you
- Improve speed walking during this section by following recommendations listed on site below
  - <http://image.aausports.org/sports/athletics/pdfs/PrintRaceWalkingInfo.pdf>

#### Keiser Sled

- Sledge hammer and tire swings
- Practice with backpack to train the body to be used with additional weight
- Practice while wearing other PPE such as a helmet and gloves
- Ball slams can help simulate core strength and motion
- Sledge hammer swings on a log



- Mimic the same foot position and swing that would be utilize with Kaiser
  - Short, quick hits with sledge hammer while standing over the object being struck

## Cardio Circuit

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The following workouts are intended to be a shorter duration and meant to provide an opportunity to push your body into an anaerobic state similar to the current physical performance test. As you are able to progress through your training, begin to incorporate these circuits into your cardio workouts.

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### *Recommendations:*

- AMRAP: is defined as an abbreviation that means "as many reps as possible," meaning to do a circuit of exercises as many times as possible within a specific period of time.
  - *An example of an AMRAP is the instruction "6 minute AMRAP: 10 pullups, 10 pushups and 10 squats"*
- Rounds for time: Complete the number of rounds indicated as quickly as possible and track how many rounds you are able to complete
- 10!: Complete all exercises listed with 10 reps, then 9 reps, then 8 reps...down to 1 rep as fast as possible
- All the exercises listed below can use alternate exercises, please refer to appendix for suggestions
- Please refer to Appendix for suggestions on how to regress or progress each exercise.
  - Each exercise can always be made more difficult by adding a weighted vest, increasing weights, or using alternative exercises
- These Cardio circuits are meant to push you to your maximum capability
- The physical performance test is competitive and demanding, and you will need to push yourself to improve your time

## *Circuit Workout Examples*

### **Example 1:** 5 minute AMRAP

Equipment needed: space to complete

- 20 bodyweight Squats
- 10 pushups
- 10 lunges each side
- 10 leg lifts

### **Example 3:** Complete for time, 5 Rounds

Equipment needed: space to complete, med ball

- 10 Med ball slams
- 20 push ups
- 30 jumping jacks
- 40 body weight squats

### **Example 5:** 10 Rounds for Time

Equipment needed: Set of stairs, set of dumbbells/kettle bells

- 5 Flights of Stairs
- 10 Thrusters
- 10 Push ups

### **Example 7:** 10!

Equipment needed: space to complete, med ball

- Burpees
- Pushups
- Leg Lifts
- Med ball slams
- Body weights squats
- Scissor Kicks

### **Example 2:** 5 minute AMRAP

Equipment needed: space to complete

- 20 jumping jacks
- 10 tuck jumps
- 10 plank jacks
- 10 Body weight squats

### **Example 4:** Complete for time with follow reps of each 9, 15, 21

Equipment needed: space to complete, weights for thrusters, place for pull ups (bands if needed assistance)

- Thrusters with dumbbells, barbells, or kettle bell
- Burpees
- Pull-ups
- Push-ups

### **Example 6:** 5-minute AMRAP

Equipment needed: open space

- 10 Burpees
- 20 Walking lunges
- 20 Plank jacks

### **Example 8:** 5 Rounds for time

Equipment needed: space to complete, wall to lean against, weights, sledgehammer and item to hit (tire, log)

- Wall sits: 45 seconds
- Jumping lunges: 10 Each leg
- Farmer's carry: 50 Feet down and back
- Sledge Hammer on tire: 30 hits

**Example 9:** 20 minute AMRAP (May need to modify number of reps to 10)

Equipment needed: space to complete, weights

- Squat Press 20 reps
- Push-up with row 20 reps
- Mountain climber 20 each leg
- Lunge with curl 10 each leg
- Plank with front raise 10 each arm
- Burpee with push up 20 reps

**Example 10:** Complete below as fast as possible

Equipment needed: space to complete, stairs, wall to lean against

- Stairs 5 flights
- Plank hold 45 seconds
- Stairs 5 flights
- Wall sit 45 seconds
- Stairs 5 flights
- Flutter kicks 45 seconds
- Stairs 5 flights
- Wall sit 45 seconds
- Stairs 5 flights
- Side plank 30 seconds each side
- Stairs 5 flights
- Wall sit 45 seconds
- Stairs 5 flights
- Leg lift 45 seconds
- Stairs 5 flights
- Wall sit 45 seconds

**Example 11:** 6 Rounds for time

Equipment needed: space to complete, weights, box or bench

- Mountain climber 20 each leg
- Farmer's carry 100 feet down and back (200 feet total)
- Box jumps 20 reps
- Push-ups 20 reps

**Example 12:** Complete for time

Equipment needed: space to complete, stairs, tires, weighted object to pull on rope, sledgehammer and tire

- Stairs 10 flights
- Pull weighted object over shoulder 100 feet
- Tire Flips x 10
- Farmer's carry 100 feet
- 30 sledgehammer swings on tire

**Example 13:** Complete for time

Equipment needed: space to complete, stairs, tires, weighted object to pull on rope, sledgehammer and tire, stairs, weights, box or bench, heavy object to carry

- 20 sledgehammer swings on tire
- Burpees 10 reps
- Heavy drag/carry (dummy drag) 50 feet down and 50 feet back
- Stairs 10 flights (can replace with 50 jump squats, 100 step ups, or 100 walking lunges)
- Farmer's carry 200 feet
- Box jumps 30 reps

**Example 15:** 10 rounds for time, 10 reps each

Equipment needed: space to complete, weight, bench

- Forward lunges
- Push ups
- Leg Lifts
- Goblet Squats
- Bench dips
- Squat jumps
- Shoulder taps
- 50 foot sprints

**Example 14:** Complete for time

Equipment needed: space to complete, stairs, sledgehammer/tire, med ball

- Jumping Lunges 10 each side
- 3 flights of stairs
- Sledgehammer swings 10 each side
- Push up 20 reps
- 3 flights of stairs
- Sledgehammer swings 10 each side
- Leg lifts 20 reps
- 3 flights of stairs
- Sledgehammer swings 10 each side
- Full planks 60 seconds
- 3 flights of stairs
- Sledgehammer swings 10 each side
- Med ball slams 20 reps
- 3 flights of stairs
- Sledgehammer swings 10 each side

**Example 16:** Complete 6 rounds with maximum reps during work period

- Each Round with consist of 6 exercises with work rest ratios listed below
  - Snow Angels, Box Jumps, Bulgarian split squats, Med ball push-ups, Burpees, Thrusters
- Round 1: work time 30 seconds Rest time 30 seconds
- Round 2: work time 30 seconds Rest time 25 seconds
- Round 3: work time 30 seconds Rest time 20 seconds
- Round 4: work time 30 seconds Rest time 15 seconds
- Round 5: work time 30 seconds Rest time 10 seconds
- Round 6: work time 30 seconds Rest time 10 seconds



## Awesome you did it!

The City of Saint Paul does not assume any responsibility for any medical consequences that may arise from participating in these exercises. The exercises contained in this manual, like all exercises, do pose some inherent risk, and the City urges readers to take into consideration their individual levels of experience and training before attempting any activities described in the manual. Consult your physician for matters relating your health.

This manual was put together by our Saint Paul Fire Department Peer Trainers. We hope that you have found this manual useful in your training.

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