

**CHAPTER 7**  
**PREPARING FOR THE ANNUAL FITNESS CHALLENGE**

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## CHAPTER 7

### PREPARING FOR THE ANNUAL FITNESS CHALLENGE

#### 1. INTRODUCTION.

a. The Annual Fitness Challenge (AFC) is comprised of five events measuring cardiovascular endurance, anaerobic power, muscular strength, endurance, and flexibility. The 1.5-mile run assesses cardiovascular endurance, the 300-meter run assesses anaerobic power, push-ups and sit-ups assess the muscular endurance of the upper body and trunk, and the sit-and-reach test assesses the flexibility of the muscles in the lower back and hamstrings.

b. The best way to prepare for the AFC is to train the primary energy systems that are utilized during the event. The body has three energy systems:

(1) Adenosine Triphosphate-Creatine Phosphate. This system can produce about 6 to 10 seconds of energy, and is used during events requiring speed and strength. The 300-meter run, sit-ups, and push-ups utilize this energy system. A maximum bench press only uses this system.

(2) Lactic Acid. This system is utilized during activities lasting less than two minutes in duration. This is the predominant system used during the 300-meter run, sit-ups, and push-ups.

(3) Aerobic. This system is used for events lasting longer than two or three minutes in duration. This is the predominant energy system for the 1.5-mile run and 1-mile walk.

c. The Adenosine Triphosphate-Creatine Phosphate and Lactic Acid systems require no oxygen for the production of energy and are referred to as the anaerobic system, whereas the aerobic system does require oxygen. It is important to remember that all three energy systems are used during all of the AFC events (except the sit-and-reach); however, the percentage of each system varies with each event. For example, the 300-meter run will utilize approximately 85 percent of the anaerobic system and 15 percent of the aerobic system; the 1.5-mile run will utilize approximately 65 percent of the aerobic system and 35 percent of the anaerobic system.

d. A principle that should be applied when training for the AFC is specificity. Running or other cardiovascular exercises will not improve performance in the sit-up or push-up events. Additionally, the greatest improvement will be shown in the activity that is used for training. For example, bicycling to improve

cardiovascular endurance will not improve running as much as it will improve cycling performance. Hence, running will be more beneficial than bicycling when preparing for the 1.5-mile run.

## 2. 1.5-MILE RUN.

a. Persons involved in a regular cardiovascular exercise program should incorporate a timed 1.5-mile run into their program every six to eight weeks. This will help determine an increase or decrease in cardiovascular fitness, and ascertain if the minimum standard for this event is being met.

b. Persons not involved in a cardiovascular conditioning program, but who would like to participate in the AFC, should begin conditioning at least six weeks prior to the event. Studies show a 13 percent improvement in cardiovascular endurance in as little as six weeks. Use the guidelines in Chapter 4, Cardiovascular Endurance, of this manual, to determine the intensity, frequency, and duration of exercise. After acquiring a level of fitness that allows running of 1.5 to 2 miles without stopping, begin to increase the pace in order to finish at or above the minimum standard in the AFC event.

## 3. 300-METER RUN.

a. Most people that follow a regular exercise program do not include anaerobic conditioning such as sprinting; however, police officers are sometimes required to make short, intense bursts of maximal effort. Therefore, it is an important component of job-related fitness.

b. Although anaerobic power can be increased using bicycling, swimming, and other modes of exercise, to condition for a 300-meter run, it is best to train with sprint training. Unlike cardiovascular conditioning, the anaerobic system needs training only once or twice a week to have significant improvement.

c. A sprinting program should begin at least 6 weeks prior to an event. An example of a basic program is:

(1) Weeks one and two. Ten 60-yard sprints with a two-minute rest period between each sprint, one day/week.

(2) Weeks three and four. Ten 110-yard sprints with a two-minute rest period between each sprint, one day/week.

(3) Weeks five and six. Eight 220-yard sprints with a two-minute rest period between each sprint, one day/week.

(4) Anaerobic training is considered very high intensity and, therefore, it is extremely important to warm up and cool down. A good method is to walk or jog during the rest periods between sprints and perform the first few sprints at half speed.

4. PUSH-UPS. As mentioned in Chapter 5, Muscular Strength and Endurance, of this manual, a weight training program can dramatically improve muscular strength and endurance. Yet, if push-ups are not routinely incorporated into a resistance program, they should be a few weeks prior to the event. One to three sets, depending on level of fitness, should be performed to failure. If already involved in a weight training program, perform the push-ups on the days when chest exercises are performed. If not currently in a weight training program, perform three sets to failure, three times weekly (e.g., Monday, Wednesday, and Friday), approximately six weeks prior to the AFC event.

5. SIT-UPS. Health experts suggest performing curl-ups (crunches) instead of a full sit-up. Curl-ups put less strain on the lower back and isolate the abdominal muscles; however, the timed sit-up is the best method for assessing abdominal/trunk strength and endurance. Sit-ups involve muscles (hip flexors) that are not used during crunches. Thus, it is important to incorporate sit-ups into training a few weeks prior to the AFC. Perform the sit-ups exactly as performed during the event: feet secured, knees bent at 90 degrees, hands at the side of the head near the ears, and move through a full range of motion. Perform as many as possible using proper form for one to three sets with a one-minute rest period between each set, three times weekly. If not currently in a physical conditioning program, perform three sets to failure, three times weekly (e.g., Monday, Wednesday, and Friday), approximately six weeks prior to the AFC event.

6. SIT-AND-REACH.

a. The sit-and-reach test measures the flexibility of the muscles in the lower back and hamstrings. Therefore, it is important when preparing for the AFC, to do stretching exercises that emphasize these muscle groups be performed (refer to Chapter 3, Warm-Up, Stretching, and Flexibility, of this manual). To determine flexibility, it is best to perform the test.

(1) Sit on the ground with shoes off and the knees fully extended. The heels touch the near edge of the box and are 8 inches apart. A yardstick is centered

over the space between the legs with the 15-inch mark placed at the near edge of the box and the nearest 1-inch mark. (Refer to Photo 7-1)

(2) Slowly reach forward with both hands (with one hand on top of the other) as far as possible and hold for at least a second. Measure the distance reached to the nearest 1/2 inch on the yardstick. (Refer to Photo 7-2)



Photo 7-1, Sit and reach



Photo 7-2, Sit and reach

b. Stretching five days a week for 15 to 30 minutes each day has shown to significantly improve flexibility within five weeks. Therefore, individuals who are not currently involved in a stretching program should begin one approximately six weeks prior to the AFC event.

7. 1-MILE WALK. The 1-mile walk is designed as an alternate event for the 1.5-mile run. This event enables officers who are unable to run, an opportunity to obtain a rough estimate of their level of cardiovascular fitness.

8. 1-REPETITION MAXIMUM BENCH PRESS. The 1 repetition maximum (RM) bench press is designed as an alternate event for the push-ups to challenge the employee in an upper body absolute strength test. This event shall only be allowed to be an alternative to the push-ups when the proper equipment to perform the test is available. The test shall only be performed on a Universal Gym Dynamic Variable Resistance (DVR) bench press or a free-weight bench press. A free-weight bench press equipped with safety arms is recommended.

9. VERTICAL JUMP TEST. The vertical jump test is designed as an alternate to the 300-meter run to test the employee's explosive leg power.

## ANNEX A

### FITNESS CHALLENGE EVENT PROTOCOLS

1. 1.5-MILE RUN.

- a. Purpose. To challenge the employee in an aerobic power event.
- b. Protocol. The employee will run 1.5 miles for time on a track/course comprised of a level, firm surface. Following are the maximum times in minutes allowed to reach the 50th percentile in this event based on age and gender.

	<u>AGE</u>			
	<u>21-29</u>	<u>30-39</u>	<u>40-49</u>	<u>50+</u>
Male:	12:18	12:51	13:53	14:55
Female:	14:55	15:26	16:27	17:24

2. SIT-AND-REACH.

- a. Purpose. To challenge the employee in a lower back flexibility event.
- b. Protocol. The employee sits on an exercise mat facing a measuring device and places the soles of their feet against a flat surface. Keeping the knees fully extended, the employee slowly bends forward, extending their hands to touch the flat surface next to the feet. Simultaneously, the employee stretches forward to the point of tension at the farthest distance possible. Following are the minimum inches necessary to meet the 50th percentile based on age and gender.

	<u>AGE</u>			
	<u>21-29</u>	<u>30-39</u>	<u>40-49</u>	<u>50+</u>
Male:	17.5	16.5	15.3	14.5
Female:	20.00	19.0	18.0	17.9

3. 300-METER RUN.

- a. Purpose. To challenge the employee in an anaerobic power event.

## ANNEX A

### FITNESS CHALLENGE EVENT PROTOCOLS (*continued*)

b. Protocol. The employee will run 300 meters for time on a track/course comprised of a level, firm surface. Following are the maximum times in seconds allowed, based on age and gender, in order to reach the 50th percentile in this event.

	<u>AGE</u>			
	<u>21-29</u>	<u>30-39</u>	<u>40-49</u>	<u>50+</u>
Male:	64	64.5	66.4	67.9
Female:	72.6	74.8	76.8	79.2

#### 4. SIT-UPS.

a. Purpose. To challenge the employee in an abdominal muscular endurance event.

b. Protocol. The employee will lie on their back with knees flexed and feet flat on the exercise mat. Accordingly, the employee will place their hands at the side of the head near the ears. The sit-up movement will begin with a roll up to a sitting position with the head close to the knees. The employee will then roll back to the beginning position, ensuring the middle of the back makes contact with the floor before sitting back up. The employee will perform as many sit-ups as possible in one minute. Following are the minimum number of sit-ups required to reach the 50th percentile, according to age and gender.

	<u>AGE</u>			
	<u>21-29</u>	<u>30-39</u>	<u>40-49</u>	<u>50+</u>
Male:	40.0	36.0	31.0	26.0
Female:	35.0	27.0	22.0	17.0

#### 5. PUSH-UPS.

a. Purpose. To challenge the employee in an upper body muscular endurance event.

## ANNEX A

### FITNESS CHALLENGE EVENT PROTOCOLS (*continued*)

b. Protocol. The employee will place their hands on the floor slightly outside shoulder width, supporting the body weight on their hands and toes (females may perform the modified push-up on their hands and knees). Keeping the body straight, the employee will bend elbows, lowering the chest until it almost touches the floor, then push themselves back up. The employee will perform as many of these push-ups within one minute as required to reach the 50th percentile, according to age and gender.

	<u>AGE</u>			
	<u>21-29</u>	<u>30-39</u>	<u>40-49</u>	<u>50+</u>
Male:	33	27	21	15
Female:	26	21	15	13

6. 1-MILE WALK. (Alternative to 1.5-mile run.) An alternative task for employees unable to participate in the 1.5-mile run has been designed. The employee will have the option of completing a 1-mile walk as an alternative physical task.

a. Purpose. To challenge the employee in an aerobic power event and to estimate their cardiorespiratory fitness level (VO<sub>2</sub> max).

b. Protocol. A pulse rate monitoring device is required for the test. The employee will walk 1 mile on a track/course comprised of a level, firm surface. The employee is not allowed to run or jog during this event. Just prior to completing the 1-mile walk, record the heart rate from the pulse rate monitor. If a pulse rate monitor is not available, check your pulse for ten seconds just before completing the 1-mile walk. Check the pulse while walking, do not stop. Multiply the result by six to obtain your heart rate. After completion of the 1-mile walk, utilize the following formula to estimate the employee's VO<sub>2</sub> max:

$$\text{VO}_2 \text{ max} = 132.853 - (0.0769 \times \text{WT}) - (0.3877 \times \text{AGE}) + (6.3150 \times \text{SEX}) - (3.2649 \times \text{T}) - (0.1565 \times \text{HR})$$

WT = Weight in pounds    AGE = Age in years    SEX = 0 for female, 1 for male  
T = Walk time in minutes to the nearest tenth of a minute  
HR = Heart rate in beats per minute

## ANNEX A

### FITNESS CHALLENGE EVENT PROTOCOLS (*continued*)

The following is the minimum VO<sub>2</sub> max allowed to reach the 50th percentile in this event based on age and gender.

	<u>AGE</u>			
	<u>21-29</u>	<u>30-39</u>	<u>40-49</u>	<u>50+</u>
Male:	43.9	42.5	40.1	37.4
Female:	37.7	36.7	34.9	31.6

7. 1-REPETITION MAXIMUM BENCH PRESS. The 1-RM bench press shall only be allowed to be an alternative to the push-ups when the proper equipment to perform the test is available. The test shall only be performed on a Universal Gym DVR bench press or a free-weight bench press. A free-weight bench press equipped with safety arms is recommended.

a. Purpose. To challenge the employee in an upper body absolute strength event.

b. Protocol.

(1) Universal Gym DVR bench press.

(a) Your hands should be approximately shoulder width apart.

(b) The resistance for males shall be two-thirds of their body weight. The resistance for females, shall be the first or second plate level of the weight stack.

(c) Press the weight once for an easy warm-up. Progressively increase the resistance until the weight stack can no longer be lifted.

(d) The first two to three attempts should be warm-up lifts. The maximum lift should be achieved by the fifth or sixth attempt.

(e) Divide number of pounds lifted by body weight to obtain ratio.

(2) Free-weight Bench Press.

(a) Two experienced spotters must be used on each side of the bar.

## ANNEX A

### FITNESS CHALLENGE EVENT PROTOCOLS (*continued*)

- (b) The employee's hands should be approximately shoulder width apart on the bar.
  - (c) The starting weight for men should be approximately two-thirds their body weight. The starting weight for women should be the bar (45 lbs.).
  - (d) With the assistance of the spotters, the weight is unracked and the spotters lower the bar until the employee's elbows are at a 90-degree bend. The spotters release the bar, and the employee presses the weight until full extension is reached.
  - (e) Continue to increase the weight until the maximum lift is achieved by the fifth or sixth attempt.
  - (f) Divide number of pounds lifted by body weight to obtain ratio.
- (3) If the free-weight bench press is equipped with safety arms, you may also perform this test in the following manner:
- (a) For safety, continue to utilize two experienced spotters on each side of the bar.
  - (b) The starting weight for men should be approximately two-thirds their body weight. The starting weight for women should be the bar (45 lbs.).
  - (c) With the bar on the safety arms, adjust the safety arms so that the employee will start with their elbows at a 90-degree bend. The employee's hands should be approximately shoulder width apart on the bar.
  - (d) Starting at the safety arms, the employee presses the weight to full extension and then lowers it back onto the safety arms. Continue to increase the weight until the maximum lift is achieved.
- (4) Once the maximum lift is achieved, convert the free-weight bench press score to the 1-RM universal bench press score by using the following formulas:
- Males:  $1.016 \times \text{free-weight} + 18.41 = X / \text{body weight} = \text{Bench press ratio}$   
Females:  $.848 \times \text{free-weight} + 21.37 = X / \text{body weight} = \text{Bench press ratio}$
- Example: Male weighing 175 pounds with a free weight max bench of 250 pounds would calculate  $1.016 \times 250 + 18.41 = 272.41 / 175 = 1.55$

**ANNEX A**

**FITNESS CHALLENGE EVENT PROTOCOLS (continued)**

c. The following is the minimum 1-RM bench press ratios to reach the 50th percentile in this event based on age and gender.

	<u>AGE</u>			
	<u>21-29</u>	<u>30-39</u>	<u>40-49</u>	<u>50+</u>
Male:	1.13	1.06	.93	.84
Female:	.63	.65	.57	.52

8. VERTICAL JUMP TEST. As an alternative to 300-meter run, the employee will have the option of completing a vertical jump test.

a. Purpose. To test the employee's jumping or explosive leg power.

b. Protocol.

(1) The employee stands with one side toward a smooth wall and reaches up as high as possible to mark their standing reach (mark the employee's reach with a piece of chalk).

(2) Prior to the jump, one foot must remain stationary on the floor.

(3) Utilizing chalk dust on the employee's fingers, the employee jumps as high as possible and marks the wall with their hand.

(4) Measure the distance from the employee's standing reach to the top of the jump mark.

(5) Allow the employee three attempts and record the best score.

c. The following is the minimum vertical jump scores to reach the 50th percentile in this event based on age and gender.

	<u>AGE</u>			
	<u>21-29</u>	<u>30-39</u>	<u>40-49</u>	<u>50+</u>
Male:	20.5	19.5	16.0	14.0
Female:	15.2	12.5	10.0	10.0

## ANNEX B

### FITNESS CHALLENGE POINTS AND PERCENTILES

<b>MALES AGE 21-29</b>									
National Percentile	Sit-Ups (1 Minute)	Push-Ups (1 Minute)	Sit-and-Reach (Inches)	1.5-Mile Run (Minutes)	1-Mile Walk (VO <sub>2</sub> max)	300-Meter Run (Seconds)	1-RM Bench Press	Vertical Jump	Score (Points)
99	>56	>100	>23.1	<8:22	>59.8	<47.3	>1.63	>30.3	20
95	55	62	23.0	9:10	55.4	49.0	1.63	26.5	19
90	52	57	21.8	9:34	53.5	50.3	1.48	25.0	18
85	49	51	21.0	9:45	51.8	52.4	1.37	25.0	17
80	47	47	20.5	10:16	51.1	53.9	1.32	24.0	16
75	46	44	20.0	10:42	48.4	55.1	1.26	23.0	15
70	45	41	19.5	10:47	47.5	57.3	1.22	22.5	14
65	44	39	19.0	11:18	46.8	59.2	1.18	22.0	13
60	42	37	18.5	11:41	45.4	61.2	1.14	21.5	12
55	41	35	18.0	11:49	44.6	63.4	1.10	21.0	11
50*	40	33	17.5	12:18	43.9	64.0	1.06	20.5	10
45	39	31	17.0	12:20	42.5	66.1	1.03	20.0	9
40	38	29	16.5	12:51	41.7	69.0	.99	20.0	8
35	37	27	16.0	13:06	41.0	71.7	.96	19.0	7
30	35	26	15.5	13:22	39.9	73.1	.93	18.0	6
25	34	24	15.0	13:53	38.8	75.2	.90	18.0	5
20	33	22	14.4	14:13	37.8	77.0	.88	17.5	4
15	32	19	13.5	14:24	36.7	78.9	.84	17.0	3
10	30	18	12.3	15:10	34.5	81.1	.80	16.0	2
5	27	13	10.5	16:12	31.3	83.0	.72	13.6	1

\* Denotes the recommended minimum fitness level.

Utilize the highest score for the boxes with the same values.

## ANNEX B

### FITNESS CHALLENGE POINTS AND PERCENTILES *(continued)*

<b>MALES AGE 30-39</b>									
National Percentile	Sit-Ups (1 Minute)	Push-Ups (1 Minute)	Sit-and-Reach (Inches)	1.5-Mile Run (Minutes)	1-Mile Walk (VO <sub>2</sub> max)	300-Meter Run (Seconds)	1-RM Bench Press	Vertical Jump	Score (Points)
99	>52	>86	>22.1	<8:49	>58.3	<48.7	>1.35	>28.4	20
95	51	52	22.0	9:31	54.0	50.0	1.35	25.0	19
90	48	46	21.0	9:52	51.6	51.2	1.24	24.0	18
85	45	41	20.0	10:16	49.9	53.5	1.17	23.0	17
80	43	39	19.5	10:47	48.3	55.0	1.12	22.0	16
75	42	36	19.0	11:18	47.0	56.5	1.08	21.0	15
70	41	34	18.5	11:34	46.0	58.9	1.04	21.0	14
65	40	31	18.0	11:49	45.3	60.3	1.01	20.0	13
60	39	30	17.5	12:20	44.0	62.1	.98	20.0	12
55	37	29	17.0	12:38	43.9	64.0	.96	20.0	11
50*	36	27	16.5	12:51	42.4	64.5	.93	19.5	10
45	36	25	16.0	13:22	41.1	67.1	.90	19.0	9
40	35	24	15.5	13:36	40.5	69.8	.88	18.6	8
35	33	21	15.0	13:53	39.5	72.5	.86	18.5	7
30	32	20	14.5	14:08	38.6	74.2	.83	18.0	6
25	31	19	13.8	14:24	37.6	76.6	.81	17.0	5
20	30	17	13.0	14:52	36.7	78.7	.78	16.5	4
15	28	15	12.0	15:20	35.2	80.3	.75	16.0	3
10	26	13	11.0	15:52	33.8	82.6	.71	15.5	2
5	23	9	9.3	16:27	31.1	84.5	.65	14.5	1

\* Denotes the recommended minimum fitness level.

Utilize the highest score for the boxes with the same values.

## ANNEX B

### FITNESS CHALLENGE POINTS AND PERCENTILES *(continued)*

<b>MALES AGE 40-49</b>									
National Percentile	Sit-Ups (1 Minute)	Push-Ups (1 Minute)	Sit-and-Reach (Inches)	1.5-Mile Run (Minutes)	1-Mile Walk (VO <sub>2</sub> max)	300-Meter Run (Seconds)	1-RM Bench Press	Vertical Jump	Score (Points)
99	>48	>64	>21.4	<9:02	>56.1	<51.8	>1.20	>25.1	20
95	47	40	21.3	9:30	52.5	52.9	1.20	22.0	19
90	43	36	20.0	10:16	49.7	54.7	1.10	20.3	18
85	40	34	19.3	11:18	48.2	55.8	1.04	19.5	17
80	39	30	18.5	11:44	46.4	56.7	1.00	19.0	16
75	37	29	18.0	11:49	44.9	57.7	.96	18.0	15
70	36	26	17.5	12:34	43.9	59.4	.93	18.0	14
65	35	25	17.0	12:51	43.2	62.6	.90	17.0	13
60	34	24	16.3	13:14	42.4	63.7	.88	17.0	12
55	32	22	16.0	13:22	41.0	65.3	.86	16.5	11
50*	31	21	15.3	13:53	40.1	66.4	.84	16.0	10
45	30	19	15.0	14:08	39.5	67.9	.82	16.0	9
40	29	18	14.3	14:29	38.5	70.0	.80	15.5	8
35	28	16	14.0	14:47	37.7	73.7	.78	15.0	7
30	27	15	13.3	14:56	36.7	75.1	.76	14.5	6
25	25	13	12.5	15:26	35.9	78.5	.74	14.0	5
20	24	11	12.0	15:41	34.9	80.1	.72	14.0	4
15	22	10	11.0	15:57	33.8	81.8	.69	13.0	3
10	20	9	10.0	16:28	32.3	84.2	.65	12.1	2
5	17	5	8.3	17:23	29.5	85.7	.59	11.0	1

\* Denotes the recommended minimum fitness level.

Utilize the highest score for the boxes with the same values.

## ANNEX B

### FITNESS CHALLENGE POINTS AND PERCENTILES *(continued)*

<b>MALES AGE 50-59</b>									
National Percentile	Sit-Ups (1 Minute)	Push-Ups (1 Minute)	Sit-and-Reach (Inches)	1.5-Mile Run (Minutes)	1-Mile Walk (VO <sub>2</sub> max)	300-Meter Run (Seconds)	1-RM Bench Press	Vertical Jump	Score (Points)
99	>44	>51	>20.6	<9:31	>54.0	<55.0	>1.05	>22.0	20
95	43	39	20.5	10:40	49.0	56.9	1.05	21.0	19
90	39	30	19.0	11:18	46.7	58.1	.97	19.5	18
85	36	28	18.3	12:20	44.6	59.4	.93	18.0	17
80	35	25	17.5	12:51	43.4	61.1	.90	17.0	16
75	33	24	17.0	13:22	41.9	61.9	.87	16.5	15
70	31	21	16.5	13:45	41.0	62.8	.84	16.0	14
65	30	20	16.0	14:03	39.9	64.0	.81	15.5	13
60	28	19	15.5	14:24	39.2	65.9	.79	15.0	12
55	27	17	15.0	14:40	38.1	67.0	.77	14.5	11
50*	26	15	14.5	14:55	37.4	67.9	.75	14.0	10
45	25	14	14.0	15:08	36.7	69.7	.73	14.0	9
40	24	13	13.3	15:26	35.6	71.4	.71	13.5	8
35	22	11	12.5	15:53	35.0	75.0	.70	13.5	7
30	21	10	12.0	15:57	33.8	77.8	.68	13.0	6
25	20	9	11.2	16:23	33.0	80.2	.66	12.2	5
20	19	8	10.5	16:43	32.3	82.0	.63	11.9	4
15	17	7	9.7	16:58	30.9	83.2	.60	11.0	3
10	15	6	8.5	17:29	29.4	86.0	.57	10.0	2
5	12	3	7.0	18:31	27.0	87.1	.53	9.3	1

\* Denotes the recommended minimum fitness level.

Utilize the highest score for the boxes with the same values.

## ANNEX B

### FITNESS CHALLENGE POINTS AND PERCENTILES *(continued)*

<b>FEMALES AGE 21-29</b>									
National Percentile	Sit-Ups (1 Minute)	Push-Ups (1 Minute)	Sit-and-Reach (Inches)	1.5-Mile Run (Minutes)	1-Mile Walk (VO <sub>2</sub> max)	300-Meter Run (Seconds)	1-RM Bench Press	Vertical Jump	Score (Points)
99	>52	>70	>24.6	<9:23	>54.4	<53.5	>1.01	>19.0	20
95	51	45	24.5	10:47	49.7	55.0	1.01	18.8	19
90	49	42	23.8	11:43	46.8	57.0	.90	18.1	18
85	45	39	23.0	12:20	45.3	58.9	.83	18.0	17
80	44	36	22.5	12:51	43.9	60.7	.80	17.7	16
75	42	34	22.0	13:22	42.4	62.6	.77	17.0	15
70	41	32	21.5	13:53	41.0	64.3	.74	16.3	14
65	39	31	21.0	14:08	41.0	66.2	.72	16.0	13
60	38	30	20.5	14:24	39.5	68.4	.70	15.9	12
55	37	29	20.3	14:35	38.5	70.7	.68	15.5	11
50*	35	26	20.0	14:55	37.7	72.6	.65	15.2	10
45	34	25	19.5	15:10	36.7	75.2	.63	14.3	9
40	32	23	19.3	15:26	36.0	78.1	.59	14.0	8
35	31	22	19.0	15:48	35.2	79.7	.58	13.9	7
30	30	20	18.3	15:57	34.0	82.3	.56	13.5	6
25	28	19	17.8	16:26	32.9	84.8	.53	13.0	5
20	27	17	17.0	16:33	32.3	87.0	.51	12.6	4
15	24	15	16.4	16:58	30.9	89.2	.50	12.0	3
10	23	12	15.4	17:21	29.5	91.5	.48	12.0	2
5	18	9	14.1	18:14	27.1	93.5	.44	11.4	1

\* Denotes the recommended minimum fitness level.

Utilize the highest score for the boxes with the same values.

## ANNEX B

### FITNESS CHALLENGE POINTS AND PERCENTILES *(continued)*

<b>FEMALES AGE 30-39</b>									
National Percentile	Sit-Ups (1 Minute)	Push-Ups (1 Minute)	Sit-and-Reach (Inches)	1.5-Mile Run (Minutes)	1-Mile Walk (VO <sub>2</sub> max)	300-Meter Run (Seconds)	1-RM Bench Press	Vertical Jump	Score (Points)
99	>43	>56	>24.1	<10:05	>52.5	<55.9	>.82	>18.0	20
95	42	39	24.0	11:49	47.4	57.2	.82	16.9	19
90	40	36	22.5	12:51	45.3	58.6	.76	16.0	18
85	38	33	22.0	13:06	43.9	60.2	.72	15.5	17
80	35	31	21.5	13:43	42.4	62.5	.70	15.0	16
75	33	29	21.0	14:08	41.0	64.2	.65	15.0	15
70	32	28	20.5	14:24	39.6	66.0	.63	14.9	14
65	30	26	20.3	14:50	38.6	68.4	.62	14.3	13
60	29	24	20.0	15:08	37.8	70.3	.60	13.2	12
55	28	23	19.5	15:20	37.1	72.6	.58	13.0	11
50*	27	21	19.0	15:26	36.7	74.8	.57	12.5	10
45	26	20	18.5	15:47	35.2	77.1	.55	12.4	9
40	25	19	18.3	15:57	34.4	79.9	.53	12.0	8
35	24	17	17.8	16:23	33.8	82.3	.52	12.0	7
30	22	15	17.3	16:35	32.5	84.0	.51	11.1	6
25	21	14	16.8	16:58	32.3	86.6	.49	11.0	5
20	20	11	16.5	17:14	30.9	88.5	.47	11.0	4
15	18	9	15.5	17:29	29.5	90.8	.45	10.9	3
10	15	8	14.4	18:00	28.0	93.4	.42	10.2	2
5	11	4	12.0	18:31	25.9	95.0	.39	9.1	1

\* Denotes the recommended minimum fitness level.

Utilize the highest score for the boxes with the same values.

## ANNEX B

### FITNESS CHALLENGE POINTS AND PERCENTILES *(continued)*

<b>FEMALES AGE 40-49</b>									
National Percentile	Sit-Ups (1 Minute)	Push-Ups (1 Minute)	Sit-and-Reach (Inches)	1.5-Mile Run (Minutes)	1-Mile Walk (VO <sub>2</sub> max)	300-Meter Run (Seconds)	1-RM Bench Press	Vertical Jump	Score (Points)
99	>39	>60	>22.9	<10:47	>51.1	<57.1	>.77	>13.5	20
95	38	33	22.8	12:51	45.3	58.3	.77	13.5	19
90	34	28	21.5	13:22	43.9	60.2	.71	13.3	18
85	32	26	21.3	14:06	41.1	62.4	.66	13.0	17
80	29	24	20.5	14:31	39.7	64.6	.62	13.0	16
75	28	21	20.0	14:57	39.2	66.4	.60	12.7	15
70	27	20	19.8	15:06	38.1	68.3	.57	12.3	14
65	25	19	19.1	15:41	36.7	70.3	.55	11.6	13
60	24	18	19.0	15:57	36.3	72.4	.54	11.5	12
55	23	17	18.5	16:12	35.2	74.6	.53	11.1	11
50*	22	15	18.0	16:27	34.9	76.8	.52	10.0	10
45	21	14	17.5	16:34	33.8	79.2	.51	10.0	9
40	20	13	17.3	16:58	33.0	82.1	.50	9.6	8
35	19	11	17.0	16:59	32.3	84.2	.48	9.0	7
30	17	10	16.5	17:24	31.3	86.1	.47	9.0	6
25	16	9	16.0	17:29	30.4	88.6	.45	8.5	5
20	14	6	15.0	18:00	29.4	89.9	.43	7.8	4
15	13	4	14.0	18:21	28.2	92.1	.42	7.1	3
10	10	2	13.0	18:31	26.7	94.7	.38	7.0	2
5	7	1	10.5	19:05	25.1	96.6	.35	7.0	1

\* Denotes the recommended minimum fitness level.

Utilize the highest score for the boxes with the same values.

## ANNEX B

### FITNESS CHALLENGE POINTS AND PERCENTILES *(continued)*

<b>FEMALES AGE 50-59</b>									
National Percentile	Sit-Ups (1 Minute)	Push-Ups (1 Minute)	Sit-and-Reach (Inches)	1.5-Mile Run (Minutes)	1-Mile Walk (VO <sub>2</sub> max)	300-Meter Run (Seconds)	1-RM Bench Press	Vertical Jump	Score (Points)
99	>31	>31	>23.1	<12:28	>46.0	<58.3	>.68	>13.5	20
95	30	28	23.0	14:20	41.1	60.9	.68	13.5	19
90	29	25	21.5	14:55	39.5	62.7	.61	13.3	18
85	25	23	21.0	15:29	37.4	64.6	.57	13.0	17
80	24	21	20.3	15:57	36.7	66.3	.55	13.0	16
75	23	20	20.0	16:05	35.3	68.2	.53	12.7	15
70	22	19	19.3	16:27	34.5	70.3	.52	12.3	14
65	21	18	19.0	16:51	33.7	72.5	.50	11.6	13
60	20	17	18.5	16:58	33.0	74.6	.48	11.5	12
55	19	15	18.0	17:14	32.3	76.8	.47	11.1	11
50*	17	14	17.9	17:24	31.6	79.2	.46	10.0	10
45	16	13	17.0	17:29	30.9	82.3	.45	10.0	9
40	14	12	16.8	17:54	30.2	84.0	.44	9.6	8
35	13	10	16.0	18:09	29.5	85.9	.43	9.0	7
30	12	9	15.5	18:23	29.0	87.9	.42	9.0	6
25	11	8	15.3	18:31	28.0	90.4	.41	8.5	5
20	10	6	14.8	18:49	27.0	91.7	.39	7.8	4
15	7	4	14.0	19:02	25.9	93.6	.38	7.1	3
10	6	1	13.0	19:30	24.8	95.8	.37	7.0	2
5	5	0	12.3	19:57	23.1	98.0	.31	7.0	1

\* Denotes the recommended minimum fitness level.

Utilize the highest score for the boxes with the same values.

A study was not performed in the vertical jump for this age bracket. The vertical jump values were utilized from the female age bracket of 40-49.

## ANNEX C

### PRESCREENING FOR ANNUAL FITNESS CHALLENGE

State of California

Transportation Agency

#### Memorandum

Date:

To:

From: **DEPARTMENT OF CALIFORNIA HIGHWAY PATROL**

File No.: *Location Code.Author's ID.File Name*

Subject: **PRESCREENING FOR ANNUAL FITNESS CHALLENGE**

This form must be completed before participating in the Annual Fitness Challenge. Check the appropriate column below. If unsure, check "yes." All yes responses will be discussed with the Area Fitness Coordinator to determine if medical clearance should be obtained.

- | Yes                      | No                       |  |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | 1. Has a doctor said you have heart trouble or a heart murmur, or have you had a heart attack?   |
| <input type="checkbox"/> | <input type="checkbox"/> | 2. Do you frequently have pains or pressure in the left or mid chest area, left neck, shoulder or arm during or immediately after exercise?          |
| <input type="checkbox"/> | <input type="checkbox"/> | 3. Do you often feel faint or have spells of severe light headedness?  |
| <input type="checkbox"/> | <input type="checkbox"/> | 4. Do you experience extreme breathlessness after mild exertion?   |
| <input type="checkbox"/> | <input type="checkbox"/> | 5. Has your doctor said that your blood pressure was too high and is not under control? Are you unsure whether or not your blood pressure is normal? |
| <input type="checkbox"/> | <input type="checkbox"/> | 6. Has a doctor said you have bone or joint problems, such as arthritis, which may worsen with exercise?   |
| <input type="checkbox"/> | <input type="checkbox"/> | 7. Do you have a family history of premature coronary artery disease or high blood pressure before age 50?   |
| <input type="checkbox"/> | <input type="checkbox"/> | 8. Do you have a medical condition or any physical limitations which should not allow you to participate in an activity program?                     |

*Safety, Service, and Security*  
CHP 51 (Rev. 06/2013) OPI 078



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ANNEX C

PRESCREENING FOR ANNUAL FITNESS CHALLENGE (*continued*)

*Name*  
*Page 2*  
*Date*

I understand that any inquiries or complaints of pain sustained while participating in these events shall be reported on the same day of the event to the Area Fitness Coordinator.

A. A. ADAMS, Captain


Print Name \_\_\_\_\_ I.D.# \_\_\_\_\_

Employee's Acknowledgment \_\_\_\_\_ Date \_\_\_\_\_

Area Fitness Coordinator's Signature \_\_\_\_\_ Date \_\_\_\_\_

## ANNEX D

### ANNUAL FITNESS CHALLENGE PRECHALLENGE INSTRUCTIONS

State of California	Transportation Agency
<b>M e m o r a n d u m</b>	
Date:	
To:	
From:	<b>DEPARTMENT OF CALIFORNIA HIGHWAY PATROL</b>
File No.:	<i>Location Code.Author's ID.File Name</i>
Subject:	<b>ANNUAL FITNESS CHALLENGE PRECHALLENGE INSTRUCTIONS</b>
<p>Your Annual Fitness Challenge (AFC) is scheduled to take place on _____ at _____ hours. It is recommended that you take the following measures:</p> <ol style="list-style-type: none"><li>1. Allow at least 3 hours between your last meal and your scheduled fitness challenge time.</li><li>2. Prior to the fitness challenge, refrain from smoking or drinking coffee for 2 hours, consumption of alcoholic beverages for 8 hours.</li><li>3. Participants should try to sleep 6 to 8 hours the night preceding an AFC. Heavy physical activities or emotionally stressful work should be avoided 2 hours prior to the test.</li><li>4. Participants under the care of a physician or taking prescription medication should consult their physician prior to participation in an AFC. Nonprescription medications should not be taken 24 hours prior to the AFC. Participants taking prescribed medications such as antidepressants, stimulants, and bronchodilators should consult their physician about discontinuing their use 24 hours prior to the AFC. The following conditions may also indicate that you should contact your physician before participating: anemia, history of bleeding ulcers, neurologic disorders, fainting spells, recent surgery, kidney disease, severe cough or dislocated bones not fully healed, or arthritis requiring frequent medication. If you exhibit a fever, excessive heart rate, or high blood pressure at the time of the AFC, you will not be allowed to participate unless a physician's approval is presented.</li><li>5. Wear loose fitting clothing, preferably exercise suits or shorts and athletic shoes during the AFC.</li></ol>	
<i>Safety, Service, and Security</i> CHP 51 (Rev. 06/2013) OPI 076	 <i>An Internationally Accredited Agency</i>

**ANNEX D**

**ANNUAL FITNESS CHALLENGE PRECHALLENGE INSTRUCTIONS (*continued*)**

*Name*  
*Page 2*  
*Date*

6. After the test, avoid sitting or standing still for at least 10 minutes and do not eat for at least an hour. If you feel any undue fatigue, dizziness, nausea, or discomfort of the chest, teeth, jaw, neck or arm, notify a coordinator or emergency medical technician.

*Signature Block*