

Beaumont Fire-Rescue Services

PERFORMANCE BENCHMARKS

408.01A – Circuit Self-Assessment

Discipline: Fitness
Effective: 3/1/2007
Revised: 10/5/2016
Replaces: UOG 104.08

Anne Huff, Fire Chief

I. Objective

After obtaining medical clearance to participate in the assessment, the member will complete the Circuit Self-Assessment, document and interpret results.

II. Preparation & Equipment

A. Equipment needed:

1. Circuit Self-Assessment Worksheet
2. Pen or Pencil
3. Timer or stop watch
4. Heart rate monitor
5. Dumbbells (pairs of 15 lb., 20 lb., 30 lb. and 35 lb.)
6. Treadmill (capable of 5 mph and 15 percent grade)
7. Lat pulldown machine (set at 80 lb.)
8. Flat bench

B. Preparation Instructions

1. Place the equipment conveniently close to the treadmill since you will be returning to the treadmill throughout the assessment.
2. Once the assessment has begun, you will move from one station to the next with a target of no more than 30 seconds between circuits.
3. Write the date, your name and weight on the Circuit Self-Assessment Worksheet. Keep the worksheet with you so that you can record your heart rate immediately after each part of the assessment.
4. Wet the heart receiver and place it on your chest. Tighten it to a comfortable setting. Turn on the watch and be sure it is receiving your heart rate.
5. Remember that you will be recording both your time and heart rate when you complete each circuit.

III. Instructions – Procedures for Achieving the Objective

You must obtain medical clearance prior to attempting the circuit self-assessment. Prior to beginning the assessment, you will warm up for a minimum of five minutes to prevent injury. You will perform the protocol as follows:

A. Circuit #1 - Treadmill

1. Straddle the treadmill and start the belt.
2. Set the exercise time for 20 minutes so the treadmill can run continually during your assessment.
3. Set the speed for 3.5 miles per hour.
4. Increase the incline to 15 percent.
5. Increase the speed to 5.0 miles per hour.
6. Begin timing your assessment now.
7. ***Run at 5.0 miles per hour on a 15 percent grade for one (1) minute.***
8. Reduce the speed to 3.5 miles per hour and step off of the treadmill.
9. Record your heart rate.

B. Circuit #2 – 15 lb. Dumbbells

1. Pick up the dumbbells.
2. ***Perform 24 bicep curls with both arms simultaneously.***

NOTE: Do not swing your arms or upper body. Be sure to move through the full range of motion when exercising with dumbbells.

3. Record your heart rate.

C. Circuit #3 – Treadmill

1. ***Walk on the treadmill for one (1) minute at 3.5 miles per hour on a 15 percent grade.***
2. Record your heart rate.

D. Circuit #4 – 30 lb. Dumbbell on Flat Bench

1. Place your left knee and left arm on the flat bench.
2. Pick up the 30 lb. dumbbell with your right hand.
3. Keeping your chest parallel to the ground, pull the dumbbell upward and into your lower chest.
4. ***Perform 24 repetitions with your right arm.***
5. Place your right knee and right arm on the flat bench.
6. Pick up the 30 lb. dumbbell with your left hand.
7. ***Perform 24 repetitions with your left arm.***
8. Record your heart rate.

E. Circuit #5 – Treadmill

1. ***Walk on the treadmill for one (1) minute at 3.5 miles per hour on a 15 percent grade.***
2. Record your heart rate.

- F. Circuit #6 – 20 lb. Dumbbell Military Press
1. Pick up the 20 lb. dumbbells with each hand.
 2. From a standing position, alternating each arm and perform 24 repetitions of the military press.
 3. Record your heart rate.
- G. Circuit #7 – Treadmill
1. ***Walk on the treadmill for one (1) minute at 3.5 miles per hour on a 15 percent grade.***
 2. Record your heart rate.
- H. Circuit #8 – 35 lb. Dumbbell Carry
1. Bend down using your legs and pick up the 35 lb. dumbbells, one in each hand.
 2. Carry the dumbbells to a point 6 feet away, and set them down on the ground.
 3. Turn around and face your starting point.
 4. Bend down using your legs to pick up the dumbbells, one in each hand.
 5. Carry the dumbbells back to your starting point.
 6. ***Repeat this procedure (steps 1-5) ten (10) times.***
 7. Record your heart rate.
- I. Circuit #9 – Treadmill
1. ***Walk on the treadmill for one (1) minute at 3.5 miles per hour on a 15 percent grade.***
 2. Record your heart rate.
- J. Circuit #10 – 80 lb. Lat Pulldown
1. Sit down with your knees secured.
 2. Grasp the straight lat pulldown bar with your hands close together and your palms supinated so they are facing you.
 3. Pull down in front of your body until the bar reaches your chin.
 4. Insure the bar goes all the way back up.
 5. Perform 24 repetitions.
 6. Record your heart rate and total time to complete the assessment.
- K. Sit in a quiet location and record your heart rate every minute for the next five (5) minutes.
- L. Interpret Your Results
1. Determine your target exercise heart rate using the simple Karvonen Method equation:

$$\text{Target Exercise Heart Rate} = .85(220 - \text{Age})$$
 2. Observe your heart rate throughout the assessment. Determine whether you exceeded your target rate.

Coming close to or exceeding your target heart rate indicates you may need to improve your cardiovascular conditioning. You may have little to no reserve if a greater demand is needed on the fire ground.

3. Observe each circuit and determine whether you were able to complete the required number of repetitions.

If you had trouble completing the required number of repetitions, you may need to work on your muscular strength and/or endurance in those specific muscle groups.

4. Observe the total time it took for you to complete the assessment.

If your total time for this assessment is less than your last assessment, and your heart rate response is the same or less, your fitness level has improved.

5. Observe your 5-minute recovery.

A heart rate that recovers quickly is indicative of aerobic fitness. If your heart rate recovery is less than your last assessment, your fitness level has improved.

408.01A – Circuit Self-Assessment

Discipline: Fitness

Name:	Officer#:
Recorder:	Officer#:
Date:	Location:
Start Time:	Finish Time:

[START TIME]	Heart Rate
Circuit #1: Treadmill at 5 mph on a 15% grade for 1 minute	
Circuit #2: 15 lb. dumbbell curls, standing, both arms simultaneously, 24 repetitions	
Circuit #3: Treadmill at 3.5 mph on a 15% grade for 1 minute	
Circuit #4: 30 lb. dumbbell rows, each arm, 24 repetitions	
Circuit #5: Treadmill at 3.5 mph on a 15% grade for 1 minute	
Circuit #6: 20 lb. dumbbell military press, standing, alternating arms, 24 repetitions	
Circuit #7: Treadmill at 3.5 mph on a 15% grade for 1 minute	
Circuit #8: 35 lb. dumbbell carry, pick up & carry 6 feet, 10 repetitions	
Circuit #9: Treadmill at 3.5 mph on a 15% grade for 1 minute	
Circuit #10: Lat pulldown at 80 lbs., close grip, palms toward face, 24 repetitions	
[STOP TIME]	
Recovery at 1 minute (sitting quietly)	
Recovery at 2 minutes (sitting quietly)	
Recovery at 3 minutes (sitting quietly)	
Recovery at 4 minutes (sitting quietly)	
Recovery at 5 minutes (sitting quietly)	
Interpreting Results:	
<ul style="list-style-type: none"> • Calculate your Target Exercise Heart Rate = .85(220-Age) • Was your heart rate close to or did it exceed your target heart rate? • Were you able to complete all required repetitions? • Was your total time less than or equal to your last assessment? • Did your heart recover faster than your last assessment? 	