

GEORGIA SMOKE DIVER PHYSICAL TRAINING GUIDE



THE COMPLETE WORKOUT GUIDE FOR THE GEORGIA SMOKE DIVER PROGRAM

Created By: A Georgia Smoke Diver, Georgia Smoke Diver Association. (2021)

PROGRAM OVERVIEW

The Georgia Smoke Diver course is a six-day, 60-hour program designed for the experienced firefighter who desires realistic training in self-survival, firefighter rescue, advanced search & rescue, thermal imaging, emergency procedures, teamwork, discipline, team leadership, situational awareness and decision making as well as how to function within the elements of the Incident Command System.

The program condenses and replicates the extreme demands that may be placed on firefighters at any incident. Emphasis is placed on the day-to-day challenges firefighters face at structure fires, multiple-alarm fires and multiple fires within a single shift. These same principles can be applied to the performance of duties at natural disasters, catastrophic events and acts of terrorism. The course is a physically demanding and mentally challenging program. Its design allows each candidate to understand and manage their physical and mental limitations under safe but stressful realistic conditions. Coupled with constant situational awareness drills and forced decision making, the candidate gains condensed experience and therefore is able to operate more efficiently and safely at incidents. The program has a long history of improving the lives and careers of Georgia firefighters, as well as firefighters throughout the nation, through the emersion of servant leadership principles. The course is continually updated to stay on the leading edge of firefighting technology and firefighter safety while the core mission remains the same as developed in 1978.

This unique course is conducted by the Georgia Smoke Diver Association. Due to the rigorous schedule, demanding scenarios and the physical and mental demands of the course, all nutrition and fluid intake is monitored and documented. A licensed physician's verification of the candidate's ability to participate in the course is required. All participants are required to utilize lodging arrangements provided, for the accountability and safety of the candidate.

THE SMOKE DIVER'S CREED

If I persist, if I continue to try, if I continue to charge forward, I will succeed. I will not hear those who weep and complain, for their disease is contagious. The prizes of life are at the end of each journey, not near the beginnings, and it is not given to me to know how many steps are necessary in order to reach my goal. I will never consider defeat, and I will remove from my vocabulary such words as quit, cannot, unable, impossible, failure, and retreat, for these are the words of fools and cowards. When my thoughts beckon my tired body homeward, I will resist the temptation to depart. I will try again. I will make one more attempt to close with victory, and if that fails, I will make another. When others cease their struggle, then mine will begin, and my harvest will be full.

PREPARING FOR THE GEORGIA SMOKE DIVER PROGRAM

The Georgia Smoke Diver (GSD) Physical Training Guide (PTG) provides information about the type of training required to properly prepare for the demands of the Georgia Smoke Diver Course. Each week of progressively harder workouts in the PTG is designed to help you develop the strength and endurance to withstand the rigors of training.

The PTG is designed to assist anyone who wants to improve their fitness in order to take and pass the GSD Physical Qualification Test (PQT) and succeed at the Georgia Smoke Diver Course.

The PTG offers a 16-week training template that will help future candidates train effectively and minimize the risk of injury. The training template can be modified to suit your individual needs. If you want, you can extend the 16-week training template indefinitely.

QUALIFICATION TEST

The Georgia Smoke Diver Qualification Test is an indoctrination and screening tool for acceptance into the Smoke Diver Course. Candidates are tested on their Firefighter I cognitive knowledge as well as their physical abilities. The FF I test consists of 50 multiple choice questions, in which the candidate must have a minimum score of 80% to continue.

The physical ability portion includes 6 events which are timed and scored.

These Events Include:

- **10 Palms-Away Pull Ups**
- **25 Pike Pole Pulls**
- **5-Story Stair Ascent and Descent with Hose-Pack**
- **Equipment Hoist**
- **Rescue Drag**
- **1.5 Mile Run**

This Physical Training Guide Is Specifically Designed To Help Candidates Prepare For The Physical Portion Of The Qualification Test As Well As Develop The Necessary Strength And Endurance To Withstand The Physical Demands Of Training They Will Have to Endure During The 60-Hour Georgia Smoke Diver Course.

SMOKE DIVER PT

In addition to daily fireground based evolutions performed in full gear, including SCBA on air and classroom style lectures, each candidate should be prepared for morning physical training that will also include a group run. PT will be performed in the day's PT attire, as well as Full Firefighter PPE, while the run is to be performed in normal gym attire and running shoes.

Candidates will be expected to excel in all aspects of training, including daily PT, group runs, and the Obstacle Course. Failure to meet the standard can result in a Drop on Performance (DOP) from the program or a Drop on Request (DOR) if the candidate feels they cannot or do not want to continue the training.

DAILY PT EXERCISES

- **JUMPING JACKS**
- **MOUNTAIN CLIMBERS**
- **PUSH UPS**
- **UP/DOWNS (BURPEES)**
- **ARM CIRCLES**

While these exercises are simple in design, the candidate must develop the necessary strength and endurance to not only meet the standard but excel. Candidates should be able to perform these exercises in normal gym attire and in full PPE for long undetermined durations. Failure to do so can result in a performance drop or the strong desire to quit in which they can Drop on Request (DOR).

For further information on the above-mentioned exercises, refer to the Exercise Index.

DAILY GROUP RUNS

As a part of your morning PT session, you will perform a group run with the rest of your class. This run varies in distance, duration, and intensity. Passing the 1.5 Mile Run with a minimum score as part of your Qualification Test will not guarantee your success throughout the course. You must be able to excel in every aspect of this training including the group runs, failure to meet the standard and/or keep up can result in a performance drop from the program.

Over the years the attrition rate of the course has ranged from 30% to 75%. Most of those who drop out on request did not adequately prepare for the class either physically and/or mentally. Failure to prepare accordingly is preparing to fail.

THE OBSTACLE COURSE

The Georgia Smoke Diver Obstacle course is designed to reinforce certain fireground behaviors and to stress all the muscle groups, work the cardiovascular system and improve air consumption while wearing the self-contained breathing apparatus.

The obstacle course includes many common fire ground activities including hoisting equipment, climbing ladders, maneuvering on ceiling rafters, chopping, dragging hose, searching, nozzle and hose management and more. The combination of the calisthenics and obstacle course are the equivalent of working hard at 2-3 incidents.

We have found that job related obstacle courses are one of the best uses of physical training time. These courses can be used to instill desired behaviors through repetition. Working out in full protective clothing and breathing apparatus conditions the cardiovascular system and muscular system to perform in the environment firefighters actually work in.

Obstacle courses can be created at just about any fire station with existing equipment. See below for some suggested obstacle course stations:

Pike Pole Pull

The student will pull the handle of a pike pole downward until it touches the ground 25 times. The pike pole will be attached to a rope/cable that is attached to 50 lbs. of hose. The student will be required to complete this task using primarily the upper body to complete the pull. The pike pole handle & hose must touch the ground successively in order to complete the cycle. This exercises the upper body and grip strength.

Ladder Setup

The students will work as a team to remove a 24-foot extension ladder from a climbing position on the building, carry the ladder 50 feet down and around a cone and return the ladder to its original position. This exercise requires flexibility, upper body, and leg strength.

Hose Evolution (Flashover)

The student will enter the room, locate the hose line and follow it toward the nozzle, identifying the team's direction of travel. Upon reaching the nozzle the team will flow water into the ceiling area to demonstrate actions to stop or prevent flashover conditions. This evolution works the arms, shoulders, legs and cardiovascular system.

Team Search & Rescue

The student will perform a search pattern of the interior floor with a partner, locate a victim, and remove the victim to the nearest exit. This evolution requires flexibility of the upper and lower extremities, back and shoulders, strength in the upper and lower body, and works the cardiovascular system.

Low Profile Maneuver

The student will enter the room, locate and negotiate the restricted opening. This evolution works the upper extremities, back, legs and cardiovascular system.

Vertical Chop

The student will use the Keiser Force Machine for this exercise. Using a dead blow hammer, the student shall drive the sled the full distance of the track. An alternate method of using a tire and sledgehammer may also be used. This exercise requires flexibility of the upper body, strength in the arms, and works the cardiovascular system.

Accordion Hose Carry

The student will lift and carry 50 lbs. of hose folded into an accordion load a distance of 100 feet. This exercises the lower back, shoulders, legs, and cardiovascular system.

Forcible Entry

The students, working as a team, will use the tools provided to properly force open an inward or outward swinging door.

Attic Crawl

The student will crawl up through an attic scuttle, cross a set of floor joists a distance of approximately 12 feet, and exit out a second attic scuttle. This exercise requires full flexibility of all major muscle groups and works the cardiovascular system.

Ladder Bailout

The student will enter the prop and perform a head-first ladder bailout by exiting through the window onto a straight ladder. This requires flexibility of all major muscle groups, strength in the upper and lower body and works the cardiovascular system.

Rolled Hose Carry

The student will carry two (2) 50 lbs. sections of rolled hose with handles a distance of 100 feet. This exercise tests back flexibility and requires upper and lower body strength.

Hose Advance

The student will advance a hose line to a designated area and flow water from the nozzle. This evolution requires flexibility of the upper & lower extremities, back & shoulders, strength in the upper & lower body, and works the cardiovascular system.

Equipment Hoist

The student will pull a ½ inch diameter rope with 50 lbs. of hose attached up to the roof of the burn building hand over hand; a distance of 26 feet. The equipment is then lowered to the start position, hand over hand. This exercises the upper body strength and the cardiovascular system.

Fan Carry

The student will lift a smoke ejector fan from the ground and carry it a total distance of 100 feet. This exercise requires upper and lower body strength.

Tire Flip

The student will flip the tire a total of six (6) times. This requires flexibility of the back, upper and lower body strength.

Hose Drag

The student will drag the hose drag prop a distance of 50 feet. This requires flexibility of the back, upper and lower body strength.

Please note that the actual Georgia Smoke Diver Obstacle Course is not published in order to maintain the uncertainty that adds to the mental stress of the candidate



TRAINING

The condition that a firefighter must be in to adequately perform on the fireground can be compared to that of a professional athlete. Unlike professional athletes, we don't know when the next fire is, we don't get to warm up and we don't have the benefit of professional coaches, massage therapists, medical staffs and state of the art gym equipment. There has always been controversy regarding fitness standards. There is no current fitness test or standard for the State of Georgia firefighters. Many local departments have fitness standards for their hiring process but nothing for incumbent members.

The Georgia Smoke Diver program places high importance on firefighter conditioning. Remember, heart attacks are still the number one killer of firefighters nationally. The Smoke Diver course is not designed to increase the physical fitness of a firefighter. However, firefighter fitness is a byproduct of the entire training and preparation for the course. So, the program does have a positive impact on firefighters' level of fitness.

The physical training portion of the Georgia Smoke Diver course is designed to warm up and then stress all the muscle groups, work your cardiovascular system and your flexibility. Calisthenics and the Obstacle Course are used because of time restraints. The calisthenics are used as a warm-up to prevent injuries on the obstacle course.

MISSION

To prevent death and injury by training firefighters to be adaptable and to develop critical decision-making skills in high stress environments.

CORE VALUES

*Competence • Honor • Integrity
Mental Toughness • Servant Leadership
Commitment*

GENERAL PHYSICAL PREPARATION (GPP)

General Physical preparation (GPP) is intended to provide balanced physical conditioning in endurance, strength, speed, flexibility, and other basic factors of fitness. It is “General” in the fact that it is not training for a “specific” event. GPP helps prevent imbalances and reduce injuries as it should be geared towards addressing weak links and areas that go undeveloped due to “specific” training. Means of GPP training may include Functional Fitness, Weight Training, BJJ, Rucking, Sled Drags, Heavy Stones, Playing Recreational Sports, etc. Use GPP workouts to help build your conditioning base without over training. GPP can also be active recovery activities that help promote restoration throughout your training that will increase your performance during your specific training.

RUNNING WORKOUTS

GSD utilizes daily group runs as part of your morning PT regiment to prepare the candidates for the day’s training. These runs are varied in distance, time, and intensity and will require you to keep up or risk the chance of being Dropped on Performance for failing to meet the standard. To prepare for these as well as your 1.5 Mile Run as part of the Qualification process, you should train your Speed as well as your Endurance. This guide provides a 16-week workout progression focusing on both of these aspects. Refer to the table below for your target paces based off your goal and specific intervals you are training that week. Do not move on to the next week of Running Workouts until you are able to finish all intervals at or below your target pace.

<i>Target 1.5 Mile Time</i>	<i>Interval Distances</i>						
	Mile Pace	100m	200m	400m	800m	1200m	1600m
<i>10:30</i>	7:00	0:27	0:53	1:45	3:29	5:14	6:58
<i>11:00</i>	7:20	0:28	0:55	1:50	3:39	5:29	7:18
<i>11:30</i>	7:40	0:29	0:58	1:55	3:49	5:43	7:38
<i>12:00</i>	8:00	0:30	1:00	2:00	3:59	5:58	7:58
<i>12:30</i>	8:20	0:32	1:03	2:05	4:09	6:13	8:18
<i>13:00</i>	8:40	0:33	1:05	2:10	4:19	6:28	8:37

Weekly Training Program

Below is an example of how you could structure your Weekly Training Program. You can arrange your workouts for the first 16 weeks or for longer periods until you are ready. You'll want to create balance in your workouts, considering how different workouts may interfere with each other, but results vary among different people so construct a schedule that works best for you.

It may be preferable to split a day into morning and afternoon/evening sessions to allow better recovery, but if that is not practical, do a single session. Worry more about completing your workouts every week rather than worrying about the exact schedule. Over time, make adjustments if necessary, to the days you do specific workouts, but keep following the general progressions for increasing your running, calisthenics, and workouts in gear. Maintain your commitment to train as effectively as possible to prepare appropriately before showing up for the Georgia Smoke Diver Course.

Weekly Plan for 16 Weeks						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
PT	In Gear	PT	In Gear	PT	G.P.P.	Rest/Active Recovery
Run – Speed		G.P.P.		Run - LSD		

PT = Jumping Jacks, Mt Climbers, Push Ups, & Up Downs
Start by performing these in normal gym attire, as you progress add your PPE, and then SCBA.
 G.P.P. = General Physical Preparation
 In Gear = Obstacle Course, SCBA Confidence, Full PPE on Air, etc.

BENCHMARKS

Here are some benchmarks that you can test yourself against to know if you are “ready”:



“DEATH BY GSD”
 EVERY 2:00 COMPLETE THE FOLLOWING:
10 UP DOWNS
20 PUSH UPS
30 MT CLIMBERS
40 JUMPING JACKS

CONTINUE FOR AS LONG AS POSSIBLE UNTIL YOU FAIL TO COMPLETE THE EVOLUTION IN THE TIME ALLOWED

“DEATH BY GSD”
GOAL > 10 RDS

“F.I.D.O”
GOAL < 40MIN
INDEX - GSD CALIST



F.I.D.O.

RUN 1.5MI
100 UP DOWNS
200 PUSH UPS
300 MT CLIMBERS
400 JUMPING JACKS
RUN 1.5MI

PARTITION THE UP-DOWNS, PUSH-UPS, MT. CLIMBERS, AND JUMPING JACKS AS NEEDED. START AND FINISH WITH A 1.5 MILE RUN.

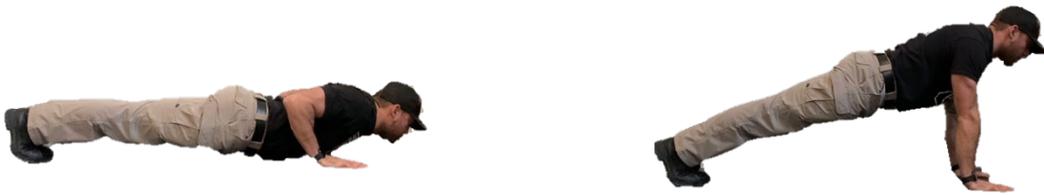
JUMPING JACK



MT CLIMBER



PUSH UP



UP DOWN



SAMPLE GSD “PT” WORKOUTS (CALISTHENICS)

Deck of Cards Workout

In this exercise you will assign an exercise to each suit and face card. The number will reflect your reps. Time should be kept to under an hour.

Examples:

- Hearts = Pull-ups
- Spades = Push-ups
- Clubs = Mt. Climbers
- Diamonds = Up Downs
- Aces = Jump Rope or Sprints
- Kings = Tire Hammer (8 lbs. sledge)
- Queens = Jumping Jacks
- Jacks = Arms Circles (at least 60 secs)

Tabata GSD – 0:20 Work / 0:10 Rest

- Jumping Jacks
- Mt. Climbers
- Push-ups
- Up Downs

Start by going for 10 min (0:20/0:10 x 20 Rds.); as the weeks progress, increase the rounds until you are able to PT for 20-30 min straight. Once this is easy, start back over and add in PPE working up until you are able to PT in Full PPE including SCBA.

GSD PT Pyramid

1-2-3-4-5-6-7-8-9-10+...3-2-1

- Up Down
- Mt. Climber
- Push Up
- Jumping Jack
- (All movements are 4-count exercises)

Pick a Goal “Peak” and work Up and then back Down as quickly as possible. As the weeks progress, add in PPE until you are able to PT in Full PPE including SCBA.

Running – Speed Intervals

Week	Total Volume	Intervals					
		<i>Focus On Completing Each Interval At Your Target Pace Refer To Table To Decide On Your Target Pace</i>					
		Rest: 1 To 3 Minutes B/T Efforts <i>Try To Reduce Your Rest Time B/T Efforts As The Weeks Progress Walk Or Jog During Rest Intervals</i>					
		1	2	3	4	5	6
1	1.5 Miles	Run 1.5 Mile Time Trial					
2	800m	200m	200m	200m	200m		
3	1000m	200m	200m	200m	200m	200m	
4	1200m	200m	200m	200m	200m	200m	200m
5	1200m	400m	400m	400m			
6	1600m	400m	400m	400m	400m		
7	2000m	400m	400m	400m	400m	400m	
8	1.5 Miles	Run 1.5 Mile Time Trial					
9	2400m	400m	400m	400m	400m	400m	400m
10	2400m	800m	800m	800m			
11	3200m	800m	800m	800m	800m		
12	3600m	1200m	1200m	1200m			
13	4800m	1200m	1200m	1200m	1200m		
14	3200m	1600m	1600m				
15	4800m	1600m	1600m	1600m			
16	1.5 Miles	Run 1.5 Mile Time Trial					

Running – Long Slow Distance Intervals (LSD)

Week	Total Volume	Intervals					
		<i>Focus on accumulating the mileage and less on specific pacing As the weeks progress shoot for faster 3 Mile Time Trials</i>					
		Rest: 2 To 5 Minutes B/T Efforts <i>Try To Reduce Your Rest Time B/T Efforts As The Weeks Progress Walk Or Jog During Rest Intervals</i>					
		1	2	3	4	5	6
1	3 Miles	Run 3 Mile Time Trial					
2	2 Miles	1 Mile	1 Mile				
3	2 Miles	2 Miles					
4	3 Miles	1 Mile	1 Mile	1 Mile			
5	3 Miles	1.5 Miles	1.5 Miles				
6	3 Miles	2 Miles	1 Mile				
7	4 Miles	1 Mile	1 Mile	1 Mile	1 Mile		
8	3 Miles	Run 3 Mile Time Trial					
9	4 Miles	1.5 Miles	1.5 Miles	1 Mile			
10	4 Miles	2 Miles	1 Mile	1 Mile			
11	4 Miles	2 Miles	2 Miles				
12	5 Miles	3 Miles	1 Mile	1 Mile			
13	5 Miles	3 Miles	2 Miles				
14	5 Miles	4 Miles	1 Mile				
15	5 Miles	5 Miles					
16	3 Miles	Run 3 Mile Time Trial					