

# PJ/CCT PIPELINE TRAIN UP

This work out is intended to help train you to meet the standards of the PJ/CCT Pipeline. The Pipeline is all about mental toughness but physical fitness will make it much easier for you to complete the tasks assigned. The heart of this workout is endurance and improvement of evaluated fitness events. You will not get big on this program; you will get leaner, faster and gain greater endurance in the events you must pass in the Pipeline.

## Running:

Bruce Lee called running, “The King of exercises.” Nothing builds endurance and cardio-pulmonary fitness like running. Running is an evaluated event throughout the Pipeline and you will do a lot of running in the course of your training day.

Running can be broken down into three components: **Speed, Endurance** and **Rest**. You need speed work to get faster, endurance work to carry your pace longer, and rest to recover and rebuild.

### **SPEED WORK (Two days per week)**

**Intervals:** Intervals are designed to teach you how to pace yourself and to make you faster. The idea is to run as fast as you can for a given time or distance, rest for a prescribed time or distance (generally half the time or distance of the work interval), then run again. The key is to make each interval as fast or faster than the one preceding it and to complete the work out. This will make you stronger and faster and teaches you to pace yourself for any given time and distance. Knowing your pace is very handy when running evals and for running on your own.

Generally, intervals fall into three categories; basic intervals, pyramids, and ladders. They always involve a fixed pace, a fixed distance/time and a fixed rest distance/time. Generally rest at least 400m or half the distance/time of the work interval, whichever is greater between work intervals.

**Basic intervals** involve running the same distance or time and using the same rest distance and time through the whole work out. An example would be 4 x 400m with 400m rests in between.

**Pyramids** involve stair step increases in time or distance then stepping back down. An example would be 200m, 400m, 800m, 400m, and 200m with equal rests in between.

**Ladders** are very much like pyramids but the time/distance does not come back down. An example would be 2 x 200m, 2 x 400m, 1x 800m.

**Hill Intervals** can be run like any of the above but on slopes. The rest interval is a slow jog back up or down the hill from the finish point back to the starting point. **UP Hill** intervals increase the difficulty (resistance) of the interval compared to running on flat terrain. Running up hill requires you to take shorter, faster strides than running on flat terrain and involves greater effort. The chances of injury running up hill is less than running on flats because you are taking shorter strides and putting less impact on your joints. Most muscle pulls are from exceeding your normal range of motion (taking longer strides, for example) than usual or from higher impact. You avoid both by running up hill. **Down Hill** intervals decrease the difficulty (resistance) of the interval compared to running on flat terrain. Running down hill requires longer, faster strides than running on flats. Running down hill will allow you to increase your turn over (how many strides you take in a given time), getting your legs and body used to a faster pace than normal. You must be careful on down hills however because the longer stride, faster turn over, and greater impact all contribute to a

greater risk of injury. The pay off is that down hills allow you to break free of plateaus with no more effort than normal.

**Fartleks:** Fartlek is a Scandinavian work meaning “Speed Play”. The idea is to run as fast as you can for a random distance or time of your choosing then slow back down to a jog. Just as you begin to feel recovered, you take off again. Run sprints as short as 100m and stride out for as long as 800m. The key is to mix it up so your body never knows what to expect. Use the distance between landmarks like telephone poles, curves in the road, hills, road signs, etc to choose a distance. Fartleks will teach your body and mind to respond on demand. Always run a 5-10 minute warm up before a Fartlek workout and always run a 5-10 minute cool down after words. An example would be: 15 minute Fartlek. Run 5 minute warm up, run sprints of 100m-800m with short rests in between for 15 minutes, then run a 5 minute cool down.

### **ENDURANCE (Two to five days per week)**

**LSDs:** LSDs are Long Slow Distance runs. They are intended to build up your cardiovascular and muscular endurance while allowing your body to recover from speed work. LSDs require you to run at a pace at which you can take in three to six syllable sentences as you run. **DO NOT RUN FAST ON LSD DAYS** as you will not get enough rest and recovery. This will cause you to over train in a few weeks or make you so sore in the early stages that you don’t work out as hard or often as you should. A variation of the LSD is to run slightly faster for slightly shorter distances. A simple method would be to use the “three syllable sentence” rule above instead of 6 syllables. Another variation is the Very Long Slow Distance (VLSD). One day a week, simply run 30%-50% longer than your usual LSD.

### **REST**

Rest, stretching and warming up/cooling down are all designed to help your body prepare for working out and to recover and rebuild after words. **DO NOT IGNORE THE NEED FOR REST AND RECOVERY.** The strain put on your body by an effective PT program will tear down muscle and put new demands for blood and oxygen flow on your cardio pulmonary system and muscles. Your body needs time to rebuild these structures and the proper conditions to do so. That means sleep and time off from physical activity.

### **FIGURING OUT YOUR PACE**

You must know your pace to get the most out of yourself during races and workouts. If you start out too fast, you can’t hold the pace and slow down. If you go too slowly, you are not making as much progress as you should and never get much faster. So, how do you figure out your pace? Here is a basic rule: Divide your work out into four parts. Run the first part at 90% effort, the next at about 95% effort, the third part at 98% effort and just hold on for the last part. It takes a while to get a feel for 90% effort or 98% effort so here is a little formula for you to use.

Run a one-mile time trial. Go to a track or a flat course and run one mile as fast as you can. That mile is the basis for all your speed work. Take the mile time, divide it by four and that gives you your quarter mile (or 400m) time. 400m is one lap on a standard track. This gives you a useful tool for pacing your intervals.

## EXAMPLE OF PACE

**You run an 8-minute mile time trial. That means your average 400m time is 2 minutes.**

### 200m intervals

Take your 400m average and divide it in half. Subtract 10 to 12 seconds. This is your pace for 200m intervals

(From mile time trial)	divide	200m average	subtract	200m interval times
<b>2:00 (120 secs)</b>	<b>divide by 2</b>	<b>1:00 (60 secs)</b>	<b>10-12 secs</b>	<b>48- 50 secs</b>

### 300m intervals

Take your 200m interval times and divide in half. Take this answer and add it to your 200m-interval time. This is your pace for 300m intervals.

200m-interval time	divide by 2	Add 200m+100m time	300m-interval times
<b>48-50 secs</b>	<b>24-25 secs</b>	<b>48+24=72, 50+25=75</b>	<b>1:12-1:15 (72-75 secs)</b>

### 400m intervals

Take your 400m average and subtract 7 to 10 seconds. This is your pace for 400m intervals

(From mile time trial)	subtract	400m interval times
<b>2:00 (120 secs)</b>	<b>7-10 secs</b>	<b>1:50-1:53 (110-113 secs)</b>

### 600m intervals

Take your 400m-interval time and divide in half. Take this answer and add it to your 400m-interval time. This is your pace for 600m intervals.

400 m interval time	divide by 2	Add 400m+200m time	600m-interval times
<b>110-113 secs</b> <b>(1:50-1:53)</b>	<b>55-57secs</b>	<b>110+55=165 secs</b> <b>113+57=170 secs</b>	<b>2:45-2:50</b> <b>(1:22- 1:25 per lap)</b>

### 800m intervals

Take your 400m-interval time and double it. Add 2-3 seconds. This is your pace for 800m intervals.

400m-interval time	multiply by two	add 2 to 3 seconds	800m interval pace
<b>1:50-1:53 (110-113 secs)</b>	<b>3:40-3:46</b>	<b>3:42-3:49</b>	<b>3:48-3:53</b> <b>(1:54-1:56 per lap)</b>

**Ruck Marches:** Ruck marches are included to get you ready for this little treat in the pipeline. Use hiking boots or military issue boots (preferably the ones you will use in the pipeline). No tricks here, just do it.

## Callisthenic Exercises

Cals are a test of basic strength and endurance are part of the PT Eval as well as your daily lot in life as a Trainee. Cals, like running, have three components; strength, endurance and rest. You must develop enough strength to perform the required repetitions on evals, the endurance to complete all workouts and to survive the day, and enough rest to recover to do it all over again.

Cals take many forms but are designed to either increase your strength or endurance. A variety of exercises are available but you should concentrate on those that will best build up your back, chest, hip flexors and abs as these are the muscle groups you are tested on in evals and work out every day.

### **STRENGTH (two days per week)**

Strength work outs are designed to increase the number of reps you can do for a given exercise and focus on the events on the PT Eval; Pull Ups/Chin Ups, Sit Ups, Push Ups and Flutter Kicks.

**Failure Sets:** Failure sets are performed by exercising until muscle failure or time expires. If you can perform no more reps but time has not expired, remain in the ‘up’ position or hang on the bar until time does expire. You can rest as often as you like as long as you remain in the ‘up’ position. Perform the same exercise until all sets are completed before moving onto the next exercise. Failure Sets consist of Pull Ups, Sit Ups, Push Ups and Flutter Kicks in that order. For example “Failure, 3 sets/1min/2min” means perform a set of pull-ups, doing as many reps as possible in 1 minute, rest for two minutes, then start a second set. Finish that set, rest for two minutes and begin a third set. After completing the third set of pull ups, take a two-minute break then begin sit-ups. Perform three sets to failure then move to push ups. Perform three sets of push-ups then move to flutter kicks.

**Set Reps:** The idea of Set Reps is to meet a goal regardless of how you feel. Simply stay in position until you reach your goal, no matter how long that takes. Then take a two-minute rest and start the next set. Repeat until all sets are done. Set Reps are very useful for breaking a stalemate when you reach a plateau. For example, if you consistently get to 40 push ups in one minute of failure sets, set a goal of 50/30/20. This will push you pretty far. For added challenge, use your PT Eval score to set a goal. For example, if you consistently get about 60 reps on your eval, set a goal of 70/35/25. Obviously, 70 reps is higher than your eval score and will take longer than two minutes (since you only got 60 reps in 2 minutes on the eval) but it will push you past your normal frontiers.

Once all sets of an exercise are done, take a two-minute rest and move onto the next exercise. An example would be Pull Ups: 16/9/7 Sit Ups: 100/60/40 Push Ups 50/30/20 and Flutter Kicks 75/50/30. You would do 16 pull ups, rest two minutes, do 9 pull ups, rest two minutes, then do 7 more pull ups, rest two minutes then move onto sit ups. Perform 100 sit ups, rest two minutes, perform 60 sit ups, rest two minutes then perform another 40 sit ups. Take your two-minute break and move onto push ups then flutter kicks.

### **ENDURANCE (Two or three days per week)**

Endurance workouts are designed to increase you endurance in the exercises of the PT Eval as well as general conditioning. This workout still focuses on the four main body areas evaluated in the PT Eval but includes other exercises for variety.

**20/40s:** 20/40 refers to the number of seconds spent working versus resting and includes the events of the PT Eval; Pull Ups/Chin Ups, Push Ups, Sit Ups and Flutter Kicks in that order. The idea is to perform the same exercise until all sets of that exercise are completed then move onto the next exercise. Simply perform pull ups/chin ups for 20 seconds, take 40 seconds off then get back on the bar for another 20 seconds. Repeat until required number of sets is met. Take a one-minute break then move onto push-ups. Sit ups follow push-ups and flutter kicks finish the work out.

**20/1min:** For variety in 20/40s try to perform 20 repetitions every minute on the minute. Start the stopwatch, do 20 push-ups. Take a break for remainder of that minute. Do another 20 push ups, rest until that minute runs out. Do another 20 reps, and rest for the remainder of that minute. Pretty soon, you will be smoked. Change the number of reps on pull-ups to 5-15 reps depending on your fitness level. Sit-ups and flutter kicks can remain at 20 reps as well.

**Pyramid Cals:** Pyramid cals are like running pyramids; the number of reps increases in a stair step fashion then goes back down. I like to divide the work out into two halves: upper body and lower body. For the upper body, do twice as many push-ups as pull-ups. An example would be Pyramid, 7 reps. This means do one pull up, get off the bar and immediately do two push ups. Get back on the bar and immediately do two pull ups followed by four push-ups. Continue until you reach 7 pull ups and 14 push ups then go back down to 6 pull ups and twelve push ups, decreasing reps until you reach 1 pull up and two push ups again. Begin with sit ups, doing 2 sit ups, then move immediately to doing two four count flutter kick. You may need to up the numbers once you get fitter. I recommend 4 sit-ups and 4 flutter kicks for each pull up.

**Pyramid Cal Variation 1:** Do not divide the work out into upper and lower body phases. Simply do one pull up, two push-ups, four sit-ups and four flutter kicks. Get back on the bar and do two pull-ups, four push-ups, eight sit-ups and eight flutter kicks. When you reach the magic number, go back down again.

**Pyramid Cal Variation 2:** Do routine as either way above but upon reaching failure, begin back at one rep. For example, upon reaching 6 pull ups, 12, push ups, 24 sit ups and 24 flutter kicks, start all over at 1 pull up, two push ups, 4 sit ups and 4 flutter kicks.

**Circuit Cals:** Circuit Cals are designed to increase cardio and muscular endurance and strength at the same time. The idea is to perform continuously for at least 20 minutes and to keep your heart rate in the cardio training zone the entire time. Simply perform one exercise per muscle group at 30%-60% of your max before moving onto the next muscle group. Perform a rest exercise between muscle group exercises to keep your heart rate up while resting the muscles you will use next. Choose an exercise from the list below for each muscle group and perform a different exercise from the list each time you return to that muscle group. A circuit is one exercise for each muscle group. Generally, you can complete four circuits in 20 minutes.

**Back Exercises**

wide grip pull ups  
close grip pull-ups  
behind the neck p/u  
Chin-ups  
close grip chin-ups  
wide grip chin-ups  
helicopter skid pull-ups

**Ab Exercises**

sit ups  
half sit ups  
leg up crunches  
Rocky sit-ups  
Mad Russians  
Israeli sit-ups  
4-second crunch

**Chest Exercises**

diamond push up  
triceps push ups  
Chinese push-ups  
regular push-ups  
wide push ups  
clapping push-ups  
feet elevated p/u

**Hip Flexor Exercises**

flutter kicks  
seated flutter kicks  
hello darlings  
leg lifts  
leg lifts with a kip  
seated leg lifts  
little circles

**Rest Exercises**

steam engines  
running in place  
mountain climbers  
arm rotations  
wind mills  
jumping jacks  
knee bends, duck walk  
lunges, star bursts

**Swimming (Two speed days per week, two to five easy days per week)**

Swimming is a required part of the PAST Test and PT eval. You will need to be able to free style and fin in the Pipeline. Swim workouts are a lot like running workouts, they require speed work, endurance work and rest. FORM is much more important in swimming than in running.

Guides such as Total Immersion, or basic instruction/coaching can pay big dividends. It is entirely possible and very common to do just fine with out either one.

Always warm up and cool down 200-800m (depending on needs and ability). Do not swim hard on your easy days. The annotation “FS” means free style, “LSD” means long slow day, and Fin means fin using leading arm-trailing arm technique. 4 x 100 FS means 4 free style intervals of 100 m with a 50m recovery in between. 4 x 50 fin means 4 fin intervals of 50m with a 25m free style recovery (use of fins optional) in between. Rest can be half time of interval.

### **Adding variation to your work out**

This guide is just that, a guide. It is not all encompassing and it will not work exactly as written for everyone. Feel free to adjust as needed. Change the work interval/reps, the rest interval, the number of sets, or the number of days you work out, etc. Feel free to select cal, runs and swims from across the schedule. You may find that you are on week one cal, week four runs and week eight swims. Adjust as needed. You may find that you get bored with running intervals or the tedium of failure sets. Feel free to substitute something else from time to time from the same category.

## TRAINING SCHEDULE

<b>Week 1 and 2 Run</b>	<b>Swim</b>	<b>Cal</b>	
Day 1	200, 400, 400,200	4 x 100 FS	20/40s, 3 sets
Day 2	20 min LSD	500m LSD	Failure, 3 sets/1min/2min
Day 3	Off	Off	Off
Day 4	10 min fartlek	4 x 50 fin	Circuit cal, 4 sets
Day 5	20 min LSD	500m LSD FS	Failure, 3 sets/1min/2min
Day 6	Off	Off	Off
Day 7	Off	Off	Off
<b>Week 3</b>	<b>Run</b>	<b>Swim</b>	<b>Cal</b>
Day 1	200, 300, 400, 300, 200	6 x 100 FS	20/40s, 4 sets
Day 2	25 min LSD	700m LSD	Failure, 3 sets/1min/2min
Day 3	Off	Off	Off
Day 4	12 min fartlek	6 x 50 fin	Circuit Cals, 4 sets
Day 5	20 min LSD	700m LSD FS	Failure, 4 sets/1min/2min
Day 6	Ruck, 40 lbs/4 miles	Off	Off
Day 7	Off	Off	Off
<b>Week 4</b>	<b>Run</b>	<b>Swim</b>	<b>Cal</b>
Day 1	4 x 400	4 x 150 FS	20/40s, 5 sets
Day 2	25 min LSD	300m fin	Failure, 3 sets/1.5min/2min
Day 3	Off	Off	Off
Day 4	15 min fartlek	800m LSD FS	Circuit Cals, 5 sets
Day 5	Off	Off	Off
Day 6	PAST Test/PT Stan Eval		
Day 7	Off	Off	Off

<b>Week 5 and 6 Run</b>		<b>Swim</b>	<b>Cal</b>
Day 1	4 x 600	100,200,300,200,100FS	20/40s, 7 sets
Day 2	30 min LSD	400m fin	Failure, 4 sets/1.5min/2min
Day 3	Off	Off	Off
Day 4	17 min fartlek	800m LSD	Circuit Cals, 5 sets
Day 5	35 min LSD	4 x 100 fin	Failure, 3 sets/2min/2min
Day 6	Ruck 50 lbs/5 miles	Off	Off
Day 7	Off	Off	Off

<b>Week 7 and 8 Run</b>		<b>Swim</b>	<b>Cal</b>
Day 1	400, 600, 800, 600, 400	4 x 200 FS	20/40s, 8 sets
Day 2	40 min LSD	500m fin	Failure, 4 sets/1.5min/2min
Day 3	Off	Off	Off
Day 4	18 min fartlek	1000m LSD	Circuit Cals, 5-6 sets
Day 5	40 min LSD	6 x 100 fin	Failure, 4 sets/2min/2min
Day 6	Ruck 50 lbs/6miles week 7, PAST Test/PT Stan Eval week 8, off swim and cal		
Day 7	Off	Off	Off

<b>Week 9 and 10</b>		<b>Run</b>	<b>Swim</b>	<b>Cal</b>
Day 1	4 x 800		6 x 200 FS	20/40s, 8 sets
Day 2	40 min LSD		600m fin	Failure, 4 sets/2min/2min
Day 3	Off		Off	Off
Day 4	20 min fartlek		1200m LSD	Circuit Cals, 6 sets
Day 5	40 min LSD		8 x 100 fin	Failure, 5 sets/2 min/2min
Day 6	Ruck 50 lbs/6 miles		Off	Off
Day 7	Off		Off	Off