

**CARDIO
BASED**

ELITE ENGINE BUILDING

3 MONTH PROGRAM

ELITE
ENGINE
BUILDING

**STAMINA
ENDURANCE**



AGREEMENT AND RELEASE OF LIABILITY

In consideration of being allowed to participate in the activities and programs offered by AMRAP Plus One, LLC, and to use its programs and training, in addition to the payment of any fee or charge, I do hereby waive, release and forever discharge and hold harmless AMRAP Plus One, LLC and its consultants, officers, agents, and employees from any and all responsibility, liability, cost and expenses, including injuries or damages, resulting from my participation in any activities, or my use of any programs designed by AMRAP Plus One, LLC. I do also hereby release AMRAP Plus One, LLC its consultants, officers, agents and employees from any responsibility or liability for any injury, damage or disorder (physical, metabolic, or otherwise) to myself, or in any way arising out of or connected with my participation in any activities with AMRAP Plus One.

I understand and am aware that strength, flexibility, and aerobic exercise, including the use of equipment are a potentially hazardous activity. I also understand that fitness activities involve a risk of injury and even death, and that I am voluntarily participating in these activities and using equipment and machinery with knowledge of the dangers involved. I hereby agree to expressly assume and accept any and all risks of injury or death related to said fitness activities. In addition, I certify that I am 18 years of age or older.

I do hereby further declare myself to be physically sound and suffering from no condition, impairment, disease, infirmity or other illness that would affect nutrient metabolism or prevent my participation or use of equipment or machinery except as hereinafter stated. I do hereby acknowledge that AMRAP Plus One, LLC has recommended to me that I obtain a physician's approval for my participation in an exercise/fitness activity or in the use of exercise equipment and machinery. I also acknowledge that AMRAP Plus One, LLC has recommended that I have a yearly or more frequent physical examination and consultation with my physician as to physical activity, exercise and use of exercise and training equipment so that I might have his/ her recommendations concerning these fitness activities and equipment use. I acknowledge that I have either had a physical examination and been given my physician's permission to participate, or that I have decided to participate in activity and use of equipment, machinery, and programs designed by AMRAP Plus One, LLC without the approval of my physician and do hereby assume all responsibility for my participation and activities, and utilization of equipment and machinery in my activities. AMRAP Plus One diet/training programs are not meant to treat or manage any health condition. Always consult with your healthcare provider prior to adjusting your current style of eating or beginning any new diet and/or training plan.

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Introduction

Elite Engine Building for the CrossFit Athlete

“The most common cause of reduced aerobic function is anaerobic training, and/or too much racing. “ Dr. Philip Maffetone, The Big Book of Endurance Training and Racing

The body is an amazing machine, capable of incredible feats of performance. Of the things that set us apart from the other members of the animal kingdom, however, perhaps the most powerful is our aerobic capacity and the way we shed excess heat

While many animals are faster than us in a short race, eventually a human will catch them. Herd animals such as buffalo or antelope, early food choices for us as a species, cannot sweat. At some point, after running for a while, the animal must make a choice to either stand still - so it can pant and rid excess heat build-up, but also risk capture - or die from heat stroke. Meanwhile we humans will be chugging away remorselessly, sweating freely, and closing in for the kill.

In longer efforts such as events that last for two hours or more, ninety-nine percent of effort comes from the aerobic system. Of our three energy systems this one often seems to get short changed in terms of respect.

A very quick overview of the energy systems goes like this:

Our first five to ten seconds is powered by the ATP/CP system.

Once we have exhausted that supply we move to the lactate system.

After a period of up to two minutes we will no longer be able to sustain that kind of effort and the aerobic system becomes more dominant. The longer the effort the more dominant the aerobic system is.



Some sports, such as boxing, with a championship fight lasting up to forty-seven minutes (twelve three-minute rounds with eleven one-minute breaks) have a varying mix of effort in them, from all out flurries of punches to periods of total rest in between rounds. However, the heart clearly is elevated above rest during the entire match and therefore the aerobic system needs to be strong and robust to cope with this. A thirty-minute event is still ninety-five percent aerobic.

Fat is the main ingredient in powering our aerobic system and is the reason why we're covered in it. Most of our day is spent at relatively low intensity and right now as you read this you are working aerobically. The stronger your aerobic engine the more able you are to use fat for fuel instead of sugar (called glycogen when used in muscles).

And here's where it gets interesting.

When your aerobic system is weak, you require more of your energy supply to come from sugar. But when you eat sugar you increase insulin production, which prevents you from breaking down fat to use for energy. To combat this you'll need more sugar because you can't use fat. This will increase insulin even more and turn your fat burning ability off even further.

If you're one of those people who say, "Oh, I did tons of cardio and it just made me fat," I'm going to say you're doing it wrong. Most likely you found that you needed to eat more once you started burning up a ton of energy on long runs or rides. That's okay. If you burn it, you need to replace it.



But, if you start to think, “Well, running is cardio and cardio means I need carbs,” then you’re going to have a problem. Especially if you eat a carb rich meal before your training session. All that does is encourage your body to need sugar during training and switch off that fat burning mechanism. Then you’ll need sugar during the session to fuel it, sugar after to replace what you burnt, and on and on.

I’ll make a bet with you right now that you are far weaker aerobically than you realize. The side effects of being deficient aerobically are as follows:

Fatigue – The most common symptom is the need for sugar to maintain function. Even just sitting still. Ever wondered why you feel the need to reach for chocolate mid-afternoon? You’ve stopped burning fat effectively and need to get into sugar burning mode.

Increased body fat – Commonly caused by increasing carbohydrates in the diet.

Chronic inflammation – Can trigger injuries and ill health.

Physical injuries – The structures that support our movement, the slow twitch stabilizing muscles, the ligaments and tendons are all fed by our aerobic system.

Hormonal imbalances – Most commonly seen as high levels of cortisol and low levels of DHEA. The signals for these are cravings for sugary foods, insomnia, and high levels of body fat.



Reduced performance – Seen as fatigue, loss of speed, and general overtraining. Michael Blevins wrote an excellent article “Endurance Is Not a Dirty Word” in Breaking Muscle. It has always been our objective to help any athlete find a better way to maximize the performance of their engine. Aerobic adaptation is at the core of our endurance methodology.

Our coaching methods met with considerable skepticism and criticism until Jason Khalipa demonstrated significant performance improvements at the 2013 Games. This article does an excellent job highlighting the on-going 180 degree correction by the CrossFit community towards endurance training. We believe this shift within our community is being driven by evidence based performance improvements. CrossFit athletes must have balance in their stimulus in order to efficiently and effectively maximize adaptation.

As example, Rich Froning walked in the Triple 3 event at the 2014 CrossFit Games because his running workouts focused mostly on high intensity. However, speed was not his limiting factor preventing him from maximizing his performance. It was his endurance. He needed long, slow, distance endurance training in his diet. Although Rich only runs 2-3x/week, the workouts are very specific towards his strengths and weaknesses in order to make him into a better overall CrossFit athlete.

**“[W]E HAVE ALL BEEN TOLD THAT
INTENSITY IS OUR SALVATION, AND THAT
GOING HARD IS BOTH THE WAY AND THE
ONLY WAY TO GODLINESS.”**



Building your engine takes time; it cannot be built overnight, in a couple of weeks, or even in a month. Building your engine takes consistent work that must be worked on several times a week for several months. In this ebook is included numerous interval training sessions that you should implement 2-3 times per week, in addition to your regular training sessions. These intervals are done with either rowing, running, or bike. Due to the lower intensity compared to traditional CrossFit WODs, you can implement these workouts on your active rest days, or for your warm-up before weightlifting.

Stay consistent with doing at least 3 of these sessions per week for 3 months and you will greatly notice your improvement in your endurance and stamina.

There are over 40 training sessions in the ebook, so if you do 3 of the sessions per week, you will have over 3 months of engine building material.



NOTE: do not repeat a workout until all workouts have been completed.

1.Row

2x1000m

Rest 2:00 between reps 4x500m

Rest 1:00 between reps 8x250m

Rest :30 between reps This is 6000m total.

2.Air Assault Bike

10x30 Calorie

-1:00 rest between sets-

Substitute 50 calorie Airdyne or Row if needed.

3.Run

7x800m

:30 rest between each 800m

Workout Details: This is a classic cut down workout where the pace will get progressively faster every 800m interval. This is an easier workout. If you have a 6:30 mile or less you should be able to hold the paces. If your mile is slower, start at a comfortable pace and get progressively faster. Enjoy!!



Workout Pacing:

1st 800m: in 2:12/400m (or 33sec/100 pace)

2nd 800m: in 2:08/400m (or 32sec/100 pace)

3rd 800m: in 2:04/400m (or 31sec/100 pace)

4th 800m: in 2:00/400m (or 30sec/100 pace)

5th 800m: in 1:56/400m (or 29sec/100 pace)

6th 800m in 1:52/400m (or 28sec/100 pace)

7th 800m in 1:48/400m (or 27sec/100 pace)

4.Row

2 rounds 1000m

Rest 1:00

750 m row

Rest :45

500m row

Rest :30

250m row

Rest 3:00

Try to get faster as each distance gets shorter.



5. Assault Bike

5 rounds

5 minute max calories

-rest 1:00 between rounds-

Your score each round is the number of calories.

Substitute airdyne or row if needed.

6. Row

3 rounds

4x400m

rest 1:00 between reps

Rest 3:00 between rounds

Workout Details: This is 4800m total.

7. Run

4 miles

8. Run

2 rounds

8 mins (comfortable pace)

Walk to the next 100

4mins (moderate pace)

Walk to the next 100

2mins (fast pace)

Walk 200



9.Row

1000m

Rest 2:00

8x500m

Rest 1:00

upon completion above rest 2:00

1000m

10.Row

5:00 easy pace

Rest 3:00

10x300m (sprint) on 3:00

Rest 3:00

5:00 easy pace

The 300m rows are every 3:00. So you should get 1:30- 2:00 rest after each 300m. After the 10th 300m rest 3:00 before your last 5:00 at an easy pace.



11. Assault Air Bike

200 calorie above 300/200 watts

Rest 5:00

10x20 calorie

rest 1:00 between sets

*Substitute 300 calorie row or airdyne if needed and 30 calories on the 10 sets.

12. Row

10 Rounds

Row 500m

Rest 1:00 between rounds

13. Run

3 rounds

4:00 Run (Easy)

1:00 walk

2:00 Run (Moderate)

1:00 walk

1:00 Run (Hard)

1:00 walk

:30 run

-Rest 3:00 between rounds-



14.Run

3x600m, 4x200m, 3x500m, 4x200m

90sec rest between reps-

4min rest between sets-

Workout Details: run 600m, rest :90, run 600m, rest :90, run 600m, rest 4:00, run 200m, rest :90, run 200m, rest : 90, run 200m, rest :90, run 200m, rest 4:00, run 500m, rest :90, run 500m, rest :90, run 500m, rest 4:00, run 200m, rest :90, run 200m, rest :90, run 200m, rest :90, run 200m, done

Track Pacing: These paces are manageable if you have a 5:30-6:00 mile. The 600m/500m should be about 75% exertion and the 200m should be fast.

600m pace: 1:30-1:32/400m or 22.4-22.9/100m 200m pace: 38-40sec

500m pace: 1:30-1:32/400m or 22.4-22.9/100m 200m pace: sub-38sec



15.Row

2 rounds 1000m

4x250m

:30 rest between reps

2:00 rest between rounds

Rest :30 after the 1000m and after the first three 250m. After the fourth 250m rest 2:00. Then repeat for the 2nd round.

16.Row

2 rounds

4x1000m

Rest 2:00/1:30/1:00 between reps-

5 mins between rounds-

Workout Details: Row 1000m, rest 2:00, row 1000m, rest 1:30, row 1000m, rest 1:00, row 1000m, rest 5:00, Repeat



17.Row

3 rounds

1000m

2x500m

Rest 1:00 between reps-

Rest 2:00 between rounds-

Row 1000m, Rest 1:00, Row 500m, Rest 1:00, Row 500m, Rest 2:00, Repeat for 2 more times

18.Run

20x400m

Rest as needed between sets-

Choose a maintainable pace for the 20 sets. It does not have to be all out. Example: Rich ran a 7:54/mile pace for all of them with a 1:00 rest. This is 8000m total.

19.Run

4x (300m, 200m, 300m, 200m) 100m walk between reps- 3min rest after each set-

300m - 85% exertion effort 200m - 90% exertion effort



20.Run

3 rounds:

3x400m (at PR mile pace)

3x200m (at 1:30 slower than PR mile pace) 100m recovery jog after all reps-

3:00 rest between rounds-

Total: 5400m (not including walks)

Workout Details: 3 Rounds run 400m, jog 100m, run 400m, jog 100m, run 400m, jog 100m, run 200m, jog 100m, run 200m, jog 100m, run 200m, jog 100m, rest 3:00



21.Run

2000m at 1:55-2:00/400m pace (comfortable pace)

Straight into 8x (Alternating between 50sec easy run & 10sec sprint at max effort)

-60sec rest-

1600m at 1:55-2:00/400m pace (comfortable pace)

Straight into 8x (Alternating between 40sec easy & 10sec sprint)

-60sec rest-

1200m at 1:55-2:00/400m pace (comfortable pace)

Straight into 8x (Alternating between 30 sec easy & 10sec sprint)

-60sec rest-

800m at 1:55-2:00/400m pace (comfortable pace) Straight into 8x (Alternating between 20 sec easy & 10 sec sprint)

-60sec rest-

400m at 1:55-2:00/400m pace (comfortable pace)

Straight into 8x (Alternating between 10sec easy & 10sec sprint)



22.Run

2 rounds

3200m: alternating between 200m fast & 600m easy

no rest between reps-

3 min rest between sets-

Workout Details: Run 200m fast, Run 600m Easy, Run 200m fast, Run 600m Easy, Run 200m fast, Run 600m Easy, Run 200m fast, Run 600m Easy, Rest 3min and Repeat

23.Row

1000m easy

Straight Into 6 rounds

250m hard into 250m easy

This is 4000m total

24.Run

2x800m (75%), 3x300m (85%), 2x600m (75%), 3x200m (85%), 2x400m (75%)

90sec rest between reps

3min rest between sets



25.Run

6 rounds

400m

1 min rest between reps

26.Row

6 Rounds

Row 1000m

Rest :90

27.Row

Row 1000 (moderate)

Rest 2:00

8x200m (very fast)

-rest :15 after each-

Straight into- Row 800 (moderate)

28.Run

2x600m (fast)

1000m (easy)

2x500m (fast)

1000m (fast)

2x400m (fast)

1000m (easy)

2x300m (really fast)

-1 min rest between reps-



29.Run

7200m alternating b/t 200m fast & 400m easy

-no rest b/t reps or sets-

It is 12 total sets of 600m (200m fast & 400m easy).

If you have a 6:00/mile or faster you can hold these paces or faster.

200m pace = 1:44-1:46/400m

400m pace = sub-2:24/400m

30.Row

12 Rounds

Row 250m

-Rest 2:00-

31.Run

3(3x300m)

Rest 1:00 between reps

Rest 3:00 between rounds

This is 2700m total.

If you have a 6:00 mile or less you can hold this pace:

300m pace = 1:30/400



32.Run

12 Rounds

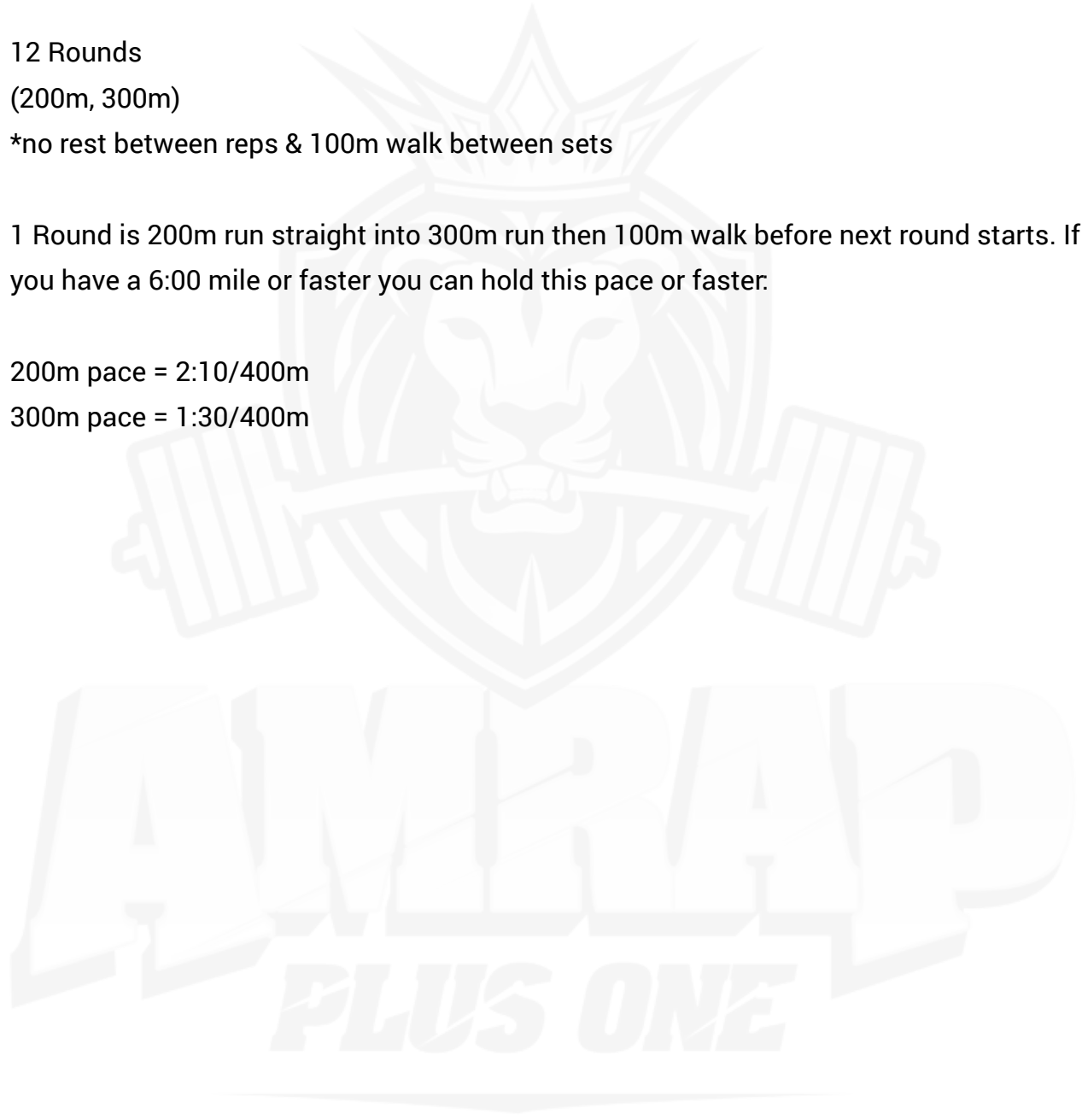
(200m, 300m)

*no rest between reps & 100m walk between sets

1 Round is 200m run straight into 300m run then 100m walk before next round starts. If you have a 6:00 mile or faster you can hold this pace or faster.

200m pace = 2:10/400m

300m pace = 1:30/400m





33.Run

1x(1000m)

- 3min rest-

1x (800m, 200m)

- 3min rest-

1x (600m, 200m, 200m)

- 3min rest-

1x (400m, 200m, 200m, 200m)

- 3min rest-

1x (200m, 200m, 200m, 200m, 200m)

Rest: 10sec rest between all reps

Keep the 1000m and each first rep on the sets at a moderate intensity. Pick up the pace as you add 200s into the workout.

34.Row

10 Rounds

Row 200M

:-30 rest-



32.Run

12 Rounds

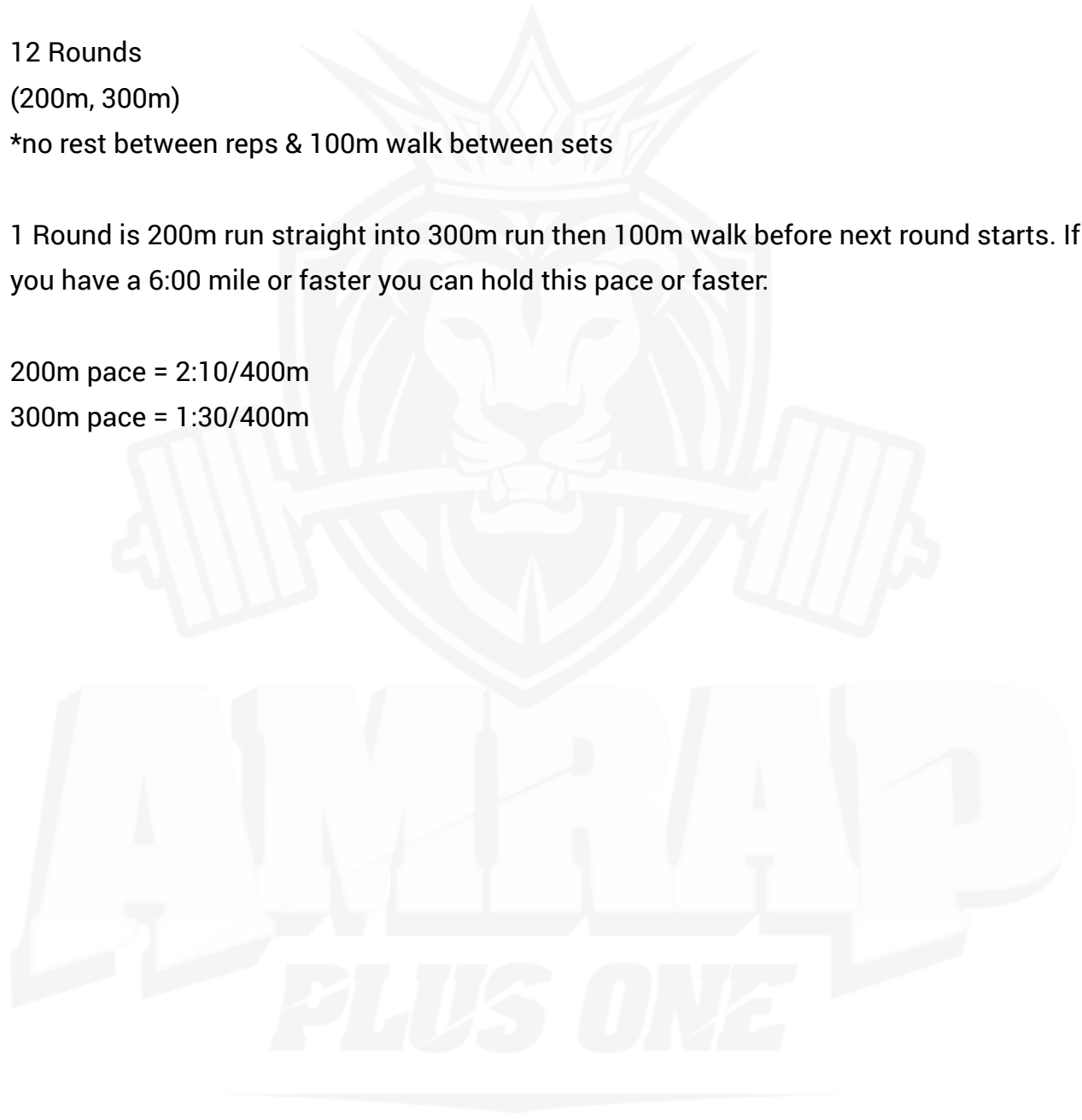
(200m, 300m)

*no rest between reps & 100m walk between sets

1 Round is 200m run straight into 300m run then 100m walk before next round starts. If you have a 6:00 mile or faster you can hold this pace or faster.

200m pace = 2:10/400m

300m pace = 1:30/400m





33.Run

1x(1000m)

- 3min rest-

1x (800m, 200m)

- 3min rest-

1x (600m, 200m, 200m)

- 3min rest-

1x (400m, 200m, 200m, 200m)

- 3min rest-

1x (200m, 200m, 200m, 200m, 200m)

Rest: 10sec rest between all reps

Keep the 1000m and each first rep on the sets at a moderate intensity. Pick up the pace as you add 200s into the workout.

34.Row

10 Rounds

Row 200M

:-30 rest-



35.Row

10 Rounds

Row 300m

-1:1 work:rest-

36.Run

6 Rounds

(Alternating b/t 600m fast & 400m easy)

No rest b/t reps

1min rest b/t sets

37.Row

1000m

4x250m

1000m

4x250m

-Rest 1:00 b/t reps-



38.Assault Air Bike

10 Rounds

1:00 Assault Air Bike

-1:00 Rest-

39.Run

5x400m, 4x400m, 3x400m

Rest :40 b/t reps

Rest 5:00 b/t sets

40.Row

4x500m 1:00 rest b/t

-Rest 5:00-

4x500m 1:00 rest b/t

41.Run

5x (1600m alternating b/t 200m fast & 200m easy) w/ no rest b/t reps & 5min rest b/t sets

Total: 8000m



42.Row

3x2000m (4x250m hard/250m easy)

-Rest 4:00 b/t-

43.Run

4x900m (3x200m fast/100 easy)

-Rest 4:00 b/t rounds-

44.Run

600m, 600m, 4x100m, 600m

- 10sec rest b/t all reps-

- Rest: 3min

Part 2:

400m, 400m, 4x100m, 400m - 10sec rest b/t all reps-

- Rest: 3min

Part 3:

200m, 200m, 4x100m, 200m - 10sec rest b/t all reps-



45.Run

Track

3x600m

-Rest :75 After each-

2x200m Sprint

-Rest :75 After each-

- Rest 4:00-

3x500m

-Rest :75 After each-

-2x200m sprint

-Rest :75 After each-

- Rest 4:00- 3x400m

-Rest :75 After each-

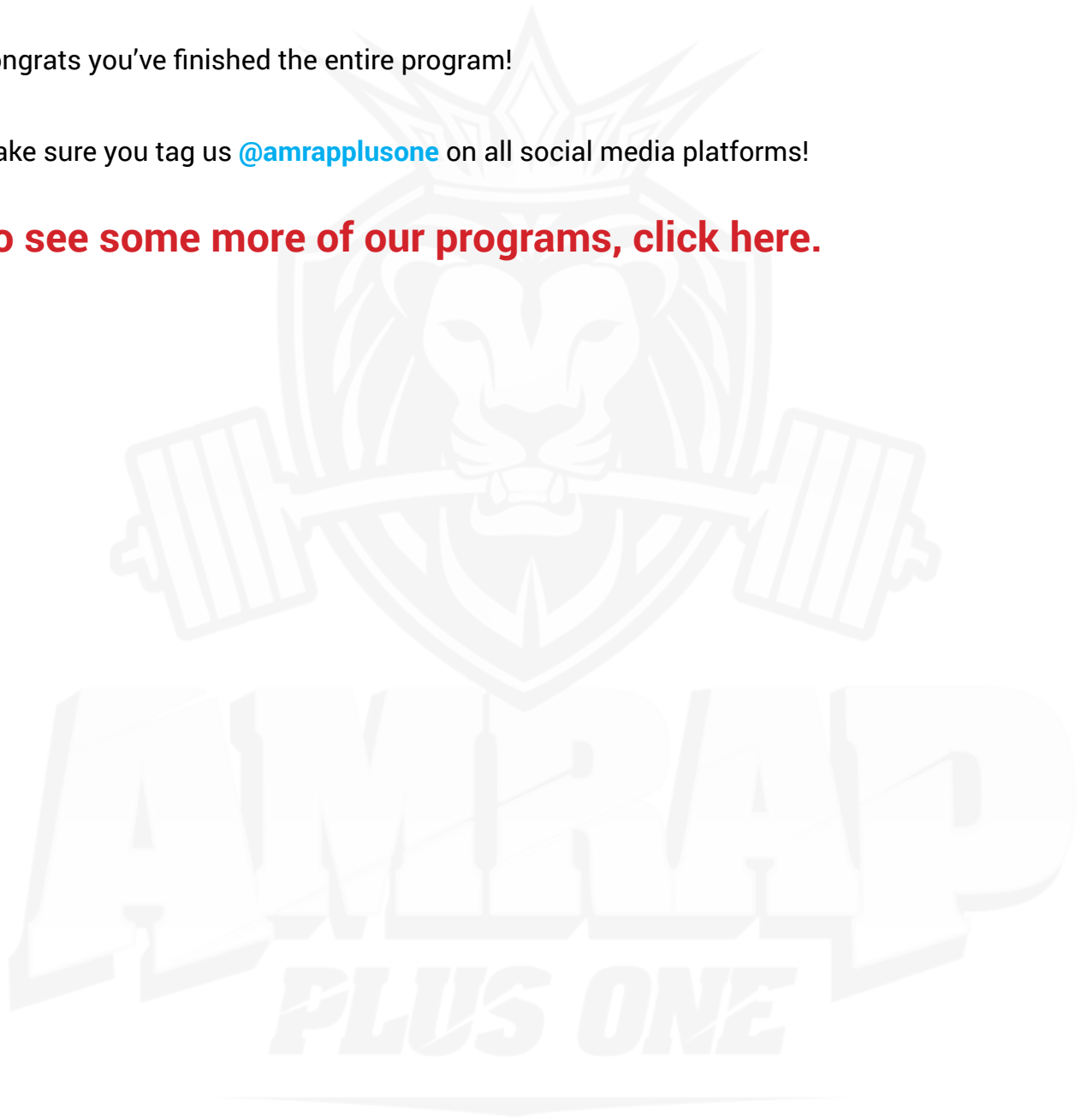


That's it!

Congrats you've finished the entire program!

Make sure you tag us [@amrapplusone](https://www.instagram.com/amrapplusone) on all social media platforms!

To see some more of our programs, click here.





Glossary with Videos

In Alphabetical Order

Alt = alternating

AMRAP = as many rounds/reps as possible

Buy-in = exercise/movement(s) performed one time through BEFORE the workout

Buy-out = exercise/movement(s) performed one time AFTER the workout

BW = BodyWeight

Cash-out = see “buy-out”

C & J = Clean and Jerk =

https://www.youtube.com/results?search_query=crossfit+power+clean+and+jerk

CTB = Chest To Bar = C2B =

https://www.youtube.com/results?search_query=crossfit+chest+to+bar

DB(s) = DumbBell(s)

DBL = Double

DL = Deadlifts =

https://www.youtube.com/results?search_query=crossfit+deadlifts



DU(s) = Double Under(s) =

https://www.youtube.com/results?search_query=crossfit+double+unders

EMOM = each minute on the minute

ERG = Ergometer (aka the part of the rower the seat slides on)

G2OH = ground to overhead (aka snatch, power snatch, clean and jerk, etc) =

https://www.youtube.com/results?search_query=crossfit+ground+to+overhead

GHD = Glute-Ham Developer

HPC = Hang Power Clean =

https://www.youtube.com/results?search_query=crossfit+hang+power+clean

HPS = Hang Power Snatch =

https://www.youtube.com/results?search_query=crossfit+hang+power+snatch

HSPU = Hand Stand Push Ups =

https://www.youtube.com/results?search_query=crossfit+hand+stand+push+ups

I.T.R = Individually Timed Round

K2E = Knees To Elbow =

https://www.youtube.com/results?search_query=crossfit+knees+to+elbow

KBS = Kettle Bell Swing =

https://www.youtube.com/results?search_query=crossfit+kettlebell+swings

RKBS = Russian Kettle Bell Swing =

https://www.youtube.com/results?search_query=crossfit+russian+kettlebell+swings



MONO-STRUCTURAL = single form of metabolic conditioning such as biking, rowing, running, etc.

MU = Muscle Ups =

https://www.youtube.com/results?search_query=crossfit+Muscle+ups

N2W = Nose To Wall, as in “N2W facing handstand”

OH = OverHead

OHS = Over Head Squat =

https://www.youtube.com/results?search_query=crossfit+over+head+squat

ON/OFF = x amount of seconds of work, y amount of seconds of rest

OTM = On The Minute

OTxM = on the seconds/minutes where “x” can be any amount of time

RD(s) = Round(s)

ROM: Range Of Motion

Ring Dips =

https://www.youtube.com/results?search_query=crossfit+ring+dips

RR: Ring Row =

https://www.youtube.com/results?search_query=crossfit+ring+row

S2OH = Shoulder To Overhead =

https://www.youtube.com/results?search_query=crossfit+shoulder+to+overhead



SUITCASE DL = with dumbbells or kettlebells held on the outside of the leg, one in each hand =
https://www.youtube.com/results?search_query=crossfit+suitcase+deadlift

SU(s) = Single Under(s) =
https://www.youtube.com/results?search_query=crossfit+single+unders

TIME TRIAL = typically near a 100% effort of a mono-structural distance

TTB = Toes To Bar = T2B =
https://www.youtube.com/results?search_query=crossfit+toes+to+bar

TOWEL OVER RIG = small towel looped over a bar on the rig to drill grip strength for rope climbs

TUCK-SIT = core movement where you lie prone, then tuck up onto the tail bone, upper and lower body moving to both positions simultaneously =
https://www.youtube.com/results?search_query=crossfit+tuck+sit

V-SIT = see above, except legs are locked out and straight

WB = Wall Balls = https://www.youtube.com/results?search_query=crossfit+wall+balls

Weight designations = i.e. (55/35) = 55lbs for men, 35lbs for women

YGIG = You Go I Go (partner style workout)