

# **THE REACTIVE TRAINING MANUAL**



**DEVELOPING YOUR OWN CUSTOM  
TRAINING PROGRAM FOR  
POWERLIFTING**

**BY MICHAEL TUCHSCHERER**

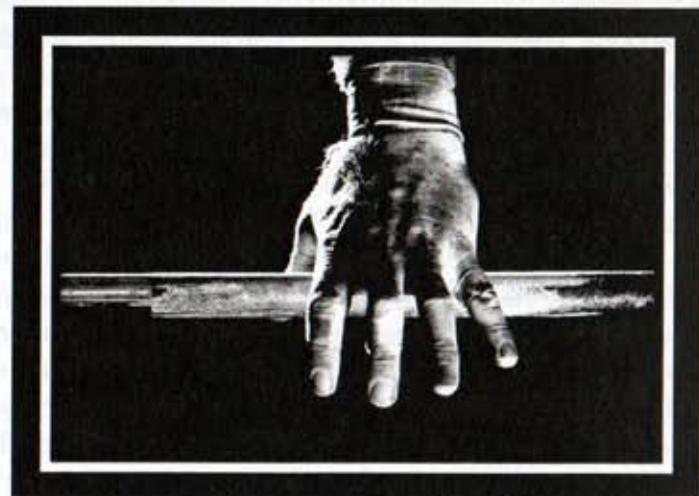
**Warning:**

Do not begin this, or any other exercise program, without the consent of your doctor. Failure to do so could result in serious injury or death. Powerlifting is an inherently dangerous activity and every precaution should be made to ensure the safety of all participants before beginning this, or any program.

Additionally, this book was not written as a technique teaching tool. Good technique on all exercises, as well as standard safety equipment (including, but not limited to, safety racks, sturdy bars and other equipment, and competent spotters) is an understood initial condition for all information in this book.

You are responsible for your safety!

# THE REACTIVE TRAINING SYSTEM



By Mike Tuchscherer

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## Introduction

First, let me introduce myself. I'm Mike Tuchscherer. I have been competing in Powerlifting for 8 years and have posted a 2342 total weighing 275 in the IPF at 22 years old.

After USAPL Collegiate Nationals in 2006, a few of my teammates from the Air Force Academy Powerlifting Team and I, developed, and began doing Reactive Training. We developed it ourselves from piecing together the effective parts of other programs, learning some new things that nobody else does, and packaging it all in a manner that is sane. The trouble is that this was a fairly long process and it is rather complex until you understand it.

We were sitting around one day talking about training; and this kind in particular. We were talking about how to explain Reactive Training so it was easily understood. Obviously, an article would be the easiest way to get all the information out on a large scale, but the complexity of the program is what caused us some problems. As I began writing, the system took on a life of its own and it became clear that an article, or even a series of articles, could not do it justice. It would have to be a manual in order to encompass the extent that the program developed.

In this manual, I will first give you a basic, normal program; much like any other program article. It is a good program to use on its own, but the Reactive Training modifications make it much more customizable and effective. After you have this base program that is outlined in Chapter 1, the rest of the manual will cover these modifications. It will result in you becoming much, much better at managing your own training, and auto-regulating it for yourself and your specific needs.

As time goes on, you may notice that some things later in the series may contradict the earlier information; but this is intentional. The idea is to present this information in a way that you can wrap your brain around the information and turn what seems like a complicated system into a manageable training process. Also, what is appropriate for one stage of the training process may not be appropriate for another, and that is why the design flows the way it does. In essence, this will take you through a step by step process of how I feel the training process should go for Powerlifters. The benefit for you is that you learn all the same stuff that my team and I did, but you learn it a lot faster. You get the trial without nearly as much error. And that means your progress, after everything is all said and done, surpasses what you could have done otherwise.

I'm sure it's clear that I think RTS is a great way to train Powerlifters. That said; I also recognize that it's not always the best method. RTS is not for beginners. It was designed specifically to take intermediate lifters and bring them through to an advanced stage of training. My background before RTS had quite a bit of emphasis on the Westside Barbell type methodology, so an understanding of that system will no doubt be helpful.

RTS seems to work best for those who are what I describe as, controlled-aggressive. You need to be aggressive in the gym, but if you go absolutely crazy, you might miss some of the finer points. Additionally, you need to be honest in some of the more subjective assessments required by RTS. That means even if it requires you to go through more pain (another grueling set), or if it holds you back when you want to charge ahead (keep the weight light when you're supposed to). Of course, all that will make more sense as you learn more about RTS.

## **Chapter 1 – The Basic Template**

So, let's get on with it... Here is the Basic Template for Reactive Training.

### **Monday- Squat, Deadlift**

Main Squat Variation- Cyclic  
Deadlift Assistance- Cyclic  
Squat Supplement- 4 to 5 sets of 5 to 8 reps  
Abs

### **Tuesday- Raw Bench**

Main Raw Press- Cyclic  
Raw Assistance- Cyclic  
Shoulders- 4 to 5 sets of 5 to 8 reps  
Lats

### **Thursday- Deadlift, Squat**

Main Deadlift variation- Cyclic  
Raw Squat variation- Cyclic  
Deadlift Supplement- 4 to 5 sets of 5 to 8 reps  
Abs

### **Friday- Shirt Bench**

Main Lockout variation- Cyclic  
Lockout Assistance- Cyclic  
Lockout Supplement- 4 to 5 sets of 5 to 8 reps  
Lats

## Exercise Selection

### Equipped Squat Variation-

This slot is your primary exercise for your equipped squat. Train this one hard!

It can be a gear squat, but is usually a squat variation (box squat, squat, pin squat) with bands, chains, or reverse bands. Anything that is designed to improve specifically your competition squat is fair game. If you compete raw, this would be a raw-focussed movement.

### Deadlift Assistance-

Deadlift Assistance is an exercise that gets a barbell in your hands. It should require some kind of pulling and be something that specifically targets your deadlift overall, with particular emphasis on your weakness. Some ideas for this movement are Reverse Band Deadlifts, Deadlifts with chains, Deadlifts standing on a box, Deadlifts using the alternate style to your competition style (conventional or sumo), and many, many variations thereof.

### Squat Supplement-

This slot is intended to get you squatting for a few higher reps. It will help refine the movement pattern and help to strengthen your weaknesses. Select a squat-type movement that has a bit of an emphasis on the bottom. Examples include Olympic Squats, SSB Squats, Pause Squats, and all sorts of combinations with, or without, moderate amounts of chain.

### Main Raw Press-

Generally, this is a full-grip press that is designed to work the bottom of your bench. Bench Press, Pause Bench, 3 Second Pause Bench, Ply Press (basically a board press, but you use a piece of  $\frac{1}{2}$ " plywood instead of a 2x4), etc., are all acceptable variations. You want to choose an exercise that very closely mimics the bench press (as the above examples do) in order to develop specific strength and efficiency to press big weights off the bottom end. Even if you compete in gear, having a very strong raw base will be important to continued improvement.

### Raw Assistance-

This can be a wide variation of exercises. Inclines, Close Grip variations, and you can even add modest amounts of chain to this. Add to that variations which include pauses, a Ply (as in Ply Press), or even rack pins, and you have many more options to choose from. It should be a full range of motion (ROM) and focus on the bottom.

### Shoulders-

This too can be a Close Grip Bench, but generally is more for overhead pressing and inclines with barbells or dumbbells. Don't forget varied grips also add variation. This is intended to add some volume and mass to your shoulders in order to keep them getting stronger. If you can't do overhead pressing (or even if you can, but need to switch things up), various inclines work quite well.

### Main Deadlift Variation-

This is your prime pulling movement. Examples include Deadlift, Pulling off a Block, Pulling against bands or chains,

Reverse Band DL, etc. It should definitely be with a barbell in your hands, and preferably a full ROM at least.

#### Raw Squat Variation-

This is some kind of squat, but with emphasis on the bottom end of your squat. That emphasis will build speed out of the hole and overall strength and control when you get into a suit. Examples include Box Squat, Squat, Pause Squat, 3 Second Pause Squat, Low Box Squat, Olympic Squat and moderate chain usage; they all provide good examples of Raw Squat variations. If you compete raw, this should be more of a top-end movement for you in order to develop your comfort with larger loads (so, effectively a Raw lifter will switch the Raw Squat Variation and the Equipped Squat Variation slots in the template).

#### Main Lockout Variation-

The Main Lockout Variation usually consists of a full ROM press with bands, chains or reverse bands. The bands and chains are used to shift the emphasis to the lockout. Don't forget to include shirt work in here! If your elbows can't take too much band/chain work, make sure you take that into account with your programming. If you feel very strongly about it, you may use board work in this slot.

This slot is still important for a Raw lifter. They will just use slightly less bands/chains/etc. It will serve: 1) to develop their ability to finish weights, and 2) to condition them to handle heavier weight.

#### Lockout Assistance-

Examples include 2, 3, or 4 Board Press, High Rack Lockouts, Floor Press; Bands and Chains can be used on any of these exercises. These exercises will provide a specific influence on your top end and help you finish those big benches.

#### Triceps-

This does not mean pushdowns or kickbacks! Close Grip 3 Boards (+/- bands), J.M. Press, Elbows out extensions, or Close Grip Floor Press all make good variations for this slot. This is intended to get some size on your triceps or some strength through volume.

#### Cycles

You probably noticed in the template where some exercises were noted with "cyclic". This section is where you find out what that means. There are two main cycles in Reactive Training. The first is Volume and the second is Intensity. Each is a 3 week block. Here is a list of some specific protocols you can use for each block.

#### Volume

(sets x reps)

- 6x3 using a weight you could do for 4-5 reps
- 6x2 using a weight you could do for 3-4 reps
- Speed work ups:
  - 8x2 using a "speed" weight (around 75-80% of raw max),
  - then work up to 1x2 with a weight you could do for 3 reps

- 5x5 using a weight you could do for 5 to 6 reps
- 6x4 using a weight you could do for 5 to 6 reps

#### Intensity

- 1 to 3 Rep Max
- 3x3 using a weight you could do for 3 to 4 reps
- 4x2 using a weight you could do for 2 to 3 reps
- 4 to 5x1 using a weight you could do for 1 to 2 reps

#### **Okay, so how do I work this program?**

The first thing you need to do is select your exercises. The first two exercises in each workout are your main lifts, and the last two are “supplemental and support”. You will select and keep your main lifts for the entire Meso-Cycle (aka 1 volume block and 1 intensity block, aka 6 weeks). For this reason, you want to pick your exercise for the Meso-cycle very carefully. If you are outside of 16 weeks from a competition, pick whatever you want. I would still try to select something that makes sense logically and see if it works, but outside of 16 weeks is a good time to experiment. If you are inside of 16 weeks, you want to only pick exercises that you know will work from your experience. Your last 6 week Meso-cycle should be your peaking stage. If you have some semi-tight training gear, the last Meso might be a good place to do a cycle in the gear to peak for the meet. Of course, this will depend on how it fits and how you respond to it. If you’re a Raw lifter, then the last 6 weeks is a great time to train your competition lifts to peak for the meet.

Now that you have your exercises, it’s time for you to pick your protocols, or “sets and reps”. What you pick will depend on what phase you are in. If you are in the Volume

phase, then select a protocol from the Volume list, and vice versa. Try to stay fairly random in how you pick. You shouldn’t always do the highest volume possible, nor should you always pick a 1 rep max. Change it up. I also only plan workouts one week in advance. This helps us to stay interested and keep the programming so that it fits our needs. Let’s face it; you don’t know how you’ll feel tomorrow, much less 3 weeks from now. Plan your training in smaller chunks so you can take advantage of your own reaction to training. Vary your volumes and intensities constantly.

The rest is just working hard and watching when to switch blocks of training (every 3 weeks, in case you forgot).

#### **Why the separate blocks? I thought Conjugate Training was good.**

The idea of building everything up at once (get faster, stronger, better lockout, leaner, etc., etc.) is only good for low-level athletes. Once you advance to a certain level, you need a greater and greater stimulus to continue making gains. You become more prepared, and the greater stimulus is required to push your body out of homeostasis. You cannot obtain this level of volume by trying to improve everything at once. You must focus on certain aspects of a lift at certain times to continue making upward progress. That is the idea behind the template. It develops traits (bottom end and lockout strength) together, because at this stage of your training, that is appropriate. However, it would not be appropriate to allow volume and intensity blocks to intermingle.

Also, yes, Conjugate Training is supposed to be the “best” at training high-level athletes, but building everything up at once is Complex Training – even if it’s over the course of a

weekly cycle. One more time... trying to build up everything at once – even over the course of a weekly cycle, is called Complex Training, *not* Conjugate Training. Complex Training is what is only good for low-level athletes. Conjugate Training is a system much more complicated than that, and a whole other topic itself. When people start throwing the word “conjugate” around, look to see if they really mean “complex”. And if you’re an intermediate lifter or better, Complex Training is not as good as it could be.

The idea behind the blocks is that the volume training not only gets you strong through affecting your nervous system, it gets you used to the movement and it builds you a well conditioned base to work from. If you have an excess of calories, it will help you build muscle too. Then, when you switch to an intensity phase, you will get very strong through the development of further neuro-muscular efficiencies. This is because you are very well conditioned, and the higher intensity does not take a toll on you as badly. Each block develops strength in slightly different ways at the motor-unit level. In simpler terms, the volume and intensity blocks are two ways to get you stronger. By using both you can use the most effective exercises for a little longer and get much more out of them.

This is the basic program behind Reactive Training. While this program can stand alone and do very well, the improvements on it will be even more valuable and raise its effectiveness to new levels!

## Chapter 2 – Rates of Perceived Exertion (RPEs)

This chapter concerns the RPE system in Reactive Training. Pay attention, because if you don’t get this right, the entire system can be thrown off to a degree. I would say that this information is absolutely central in making the program effective as you advance to higher stages.

RPE stands for Rate of Perceived Exertion. Basically, it’s how hard something feels to you at the time. It is a subjective measure of your strength at a given time. We rate this on a scale from 1 to 10. The higher the number, the harder the set felt. You can develop your own, or use the one that we will discuss in this chapter. The main thing is that you are consistent.

Let’s start with why you should use an RPE scale as opposed to a percentage program. Even though percentage programs are easy to use, they are very limited in how accurate they can be. There are many things that throw off your percentages. The longer you go in a training cycle, the less accurate they become, due to your own individual strength adaptation. Each athlete is different, because of differences in training history, fast-to-slow-twitch ratio, whether you’ve been sick or not, your “bad” days and “good” days, and general sleep patterns. Basically, life happens and you won’t always be 100% when you come in to train.

An RPE overcomes this stuff by allowing you to regulate training based on how hard a weight feels (which is all a percentage tries to do anyway). By using an RPE, you can regulate training more effectively, and do so in a way that would automatically take into account all of the individual differences mentioned above.

Now, if you're curious as to what RPEs are, here is the scale that we use:

- 10- Maximal. No reps left in the tank.
- 9- Last rep is tough, but still 1 rep left in the tank.
- 8- Weight is too heavy to maintain fast bar speed, but is not a struggle. 2-4 reps left.
- 7- Weight moves quickly when maximal force is applied to the weight. "Speed weight"
- 6- Light speed work. Moves quickly with moderate force.
- 5- Most warm-up weights
- 4- Recovery. Usually 20+ rep sets. Not hard, but intended to flush the muscle.

RPEs below 4 are not important.

Here's how it works. You apply it to a set-rep range. For example, if you were going to do 5x5 at an 8-9 RPE, then you know you're doing 5x5 with a weight that is between an 8 RPE and a 9 RPE. So you should select a weight that will allow you to do between 1 and 4 more reps than the set requires.

If the RPE system seems awkward at first, don't worry, you'll get used to it and be able to use it quickly. An easy way to gauge the RPE of a set is to ask yourself how many more reps you could've done with a particular weight. Here is where honesty is the absolute key! If you're too macho and say, "yeah, I coulda done one more" when you know that the set was maximal, your training will be thrown off. This tends to be tough for the training hot-heads that always want to go heavy, but also for the timid who are afraid to push themselves. You must be disciplined to use this method effectively!

There is also a chart that I developed that roughly correlates an RPE and rep range to a percentage. It should only be used as a guide, not to attempt to derive a max. I'll insert the chart, then go through how to use it.

RPE	12 reps	10 reps	8 reps	7 reps	6 reps
10	62	66	71	74	77
9	60	64	68	71	74
8	58	62	66	68	71
7	56	60	64	66	68

RPE	5 reps	4 reps	3 reps	2 reps	1 rep
10	80	85	90	95	100
9	77	80	85	90	95
8	74	77	80	85	90
7	71	74	77	80	85

As you can see, for each rep range and the correlating RPE, there is a percentage. 80% is where peak force is produced. Be careful with how much time you spend in the 90%+ area. The closer you are to the upper right corner, the more accurate the chart is.

Here's how to use it. In the above example, you can see that we did 5x5 at 8-9 RPE. Using the chart, this roughly correlates to 70-75%. The next time, you may want to pick a protocol that allows you to train in the 80-85% range or even the 90%+ range. The choice is up to you and how you want to program your training, but this tool can help you approximate how heavy you have been going in terms of percentage.

So, using this knowledge, here is what happens to your protocols:

#### Volume

(sets x reps)

- 6x3 @8-9
- 6x2 @8-9
- Speed work ups:
  - 8x2 @6-7
  - then work up to 1x2 @8-9
- 5x5 @9-10
- 6x4 @8-9

#### Intensity

- 1 to 3 Rep Max
- 3x3 @9-10
- 4x2 @9-10
- 4 to 5x1 @9-10

Just to reiterate, RPEs allow you to regulate your training intensity based on your condition right now. Not your last meet, not yesterday, not even last set. It allows you to quantify where your preparedness is at any given time. This is an extremely powerful tool, and one that will be invaluable in the Reactive Training System.

## Chapter 3 – Fatigue Stops

So in the last chapter, you learned about RPEs, and how they can have a dramatic effect on your training by allowing you to constantly monitor your training in relation to your current state. In this installment, we will discuss Fatigue Stops; what they are, how to use them, and why.

Say you do program X. It says to 5x5 or 5x3 or 10x3 or whatever else set-rep protocol they have for you. You are an individual and the coach who wrote these programs did not write it for you. Why does it matter? Because you are different than the person it was designed for. Not only that, but your level of conditioning, amount and quality of sleep... and pretty much everything else in your life, has an effect on your training. So, 5 sets is perfect for you whether you're in the world's best training environment or if you're the busiest guy in the world with no aid whatsoever? No, it is not.

Dave Tate talks about this a lot as to why written programs suck. It's because they can never take into account how *life* happens. I know what you're thinking. "That's great, but how do I fix it?" Well, this is where Fatigue Stops come in.

A Fatigue Stop is a way of telling when you have done an amount of volume to stimulate your muscles for the day. We all agree that once you stimulate a muscle, you've done all you can do that session (at least from a simplistic standpoint we can agree on this). What if you could tell when you reached this point?

If you use your RPEs, you can determine this point. You need to throw out the notion of counting sets, though. This will only impede you, because mentally, this will be a goal or a barrier that you want to hit. You should let your body be your

guide, and if you should do more or less, your body will let you know. So, don't pre-plan sets anymore! No! Not at all!

So whichever way you choose (I prefer a training log), you track your weights and RPEs for each set. When there is a downward trend in your strength levels, then you have reached your Fatigue Stop. Here is an example to make that a little more digestible.

You are doing triples at an 8-9 RPE (remember, this is heavier than speed, but always at least 1 rep left over). Say you work up and you're doing sets at 315. You do 3 sets and they are an 8. Then you do one more set and it is a 9. You've hit your Fatigue Stop for this exercise. You are getting temporarily "weaker" from the fatigue of the workout. You have stimulated, so move on.

Or another example: Same setup – Triples @8-9. You do some sets at 315 with an 8 RPE. You go to 355 and it's a 9. At this point, several things can happen. If you do one more set at 355 and it is a 10, then you've hit your Fatigue Stop. If you drop back to 315 and it is now a 9 also, you've hit your Fatigue Stop. There are a ton of circumstances that will happen in a real life training session, so don't worry about it much. Just watch what happens in terms of the weight and how hard it is. When you notice you are getting weaker, stop.

### **When should I implement this change?**

You should implement this change as soon as you feel confident in your use of RPEs. There is no reason to delay too long, but you also don't want to mess up your training because you're bumbling with RPEs.

So, basically, your Fatigue Stop is when fatigue is causing you to lose strength – even slightly. Granted, this will

occur more quickly when intensity rises, but this should be a given. One more time: A Fatigue Stop is when your strength is now decreasing within a workout. Oftentimes, you see this through your RPEs.

What do you do after you reach your Fatigue Stop? That really depends. For normal training, once you reach your Fatigue Stop, you move on to the next exercise.

So, how does Fatigue Stop Training work in this template? Glad you asked. Here are the new protocols that take Fatigue Stops into account.

#### Volume

(sets x reps)

- Triples @8-9
- Doubles @8-9
- Speed work ups:
  - Doubles @7-8,
  - then work up to 1x2 @9
- x5 @9-10
- x4 @9-10

#### Intensity

- 1 to 3 Rep Max
- Triples @9-10
- Doubles @9-10
- Singles @9-10

As you can see, there are no numbers of sets for any of the protocols except the end of speed work. This is because by using the Fatigue Stop method, you will now auto-regulate your own volume based on the fatigue you are inducing, versus your level of conditioning.

So, just to recap, to use Fatigue Stops, you don't count sets, you work at the specified reps and RPE until you begin to fatigue, then you move on. Pretty simple, huh?

## Chapter 4 – Tracking Your Training

It isn't a new concept for people to track their Personal Records (PRs). If you keep a detailed training log, you can look back and see that in week 1 of your training block, you squatted 400 for 3 reps at a 9 RPE, and now in week 3 you did 425 for 3 reps at an 8 RPE. *Clearly*, this shows a strength increase. However, there are many aspects of training that are important to the development of strength, and if you aren't tracking them, you really aren't paying attention to it. Tracking multiple variables in your training is very important to your long term development. How else will you know if you're training too heavy? Not heavy enough? Too much work? Not enough work? And so on.

Besides tracking PRs, another way to track your progress is through an estimated one rep maximum (1RM). In Chapter 2, you were presented with a chart that approximated your percentage based on the reps you did and the corresponding RPE. If you take this percentage and derive your 1RM, you can see if you're making progress. Deriving your 1RM → weight lifted divided by percentage →  $425 / .80$ . Remember that this way of "estimating your 1RM" is not totally accurate, and is not without error (sometimes significant error). So, don't get super uptight about what your 1RM is projected to be. Just use it as a way to see overall trends in strength.

The previous two methods (PRs and estimated 1RM) of tracking progress are simple and probably the most effective. They make up some of the most reliable and relevant ways to track your training. After all, if your 1RM isn't improving, it's a quite clear indication that something is wrong in your training. But there are other metrics to track and analyze that are also important. Now, before you read the next part and freak

out at all the calculations, I want to let you know that I have a spreadsheet that helps to track all of this stuff without requiring more than entering some numbers on your part (i.e. all the calculations are done for you).

- Number of sets. This is easy. Just count how many sets you did.
  - This is one way to measure the volume of your workout.
- Number of lifts (NL) -- aka the total number of reps you did. If you did 5x5, then you did 25 lifts.
  - This is another way to measure the amount of volume you did. It is quite useful by itself, but it is even more effective when NL is tracked within various intensity brackets (see NL per Intensity bracket below)
- Volume is the total weight you lifted
  - If you did 5x5x200, then  $5*5*200$  is 5000 pounds.
  - This gets much more complicated when the weights change.
    - 1x5x150
    - 3x5x205
    - 2x5x225
    - total volume is 6075 pounds.
  - This is another way to measure how much volume you did.
  - Since the weight lifted varies according to leverages, this can only be compared to the same lift.

- i.e., an SSB Squat cannot be compared to a Band Squat with a straight bar. SSB Squats can ONLY be compared to SSB Squats. Different depths, bars, pause length, bands, chains, etc., etc., should all be considered as different movements.
- Average RPE is the average of the RPEs you did for the day.
  - This can give an indication as to how much effort was required.
- Average Intensity
  - This is an average percent of your 1RM that you did. It is calculated as follows.
    - Determine your top set of the day and look up the corresponding percentage on the RPE Chart. Let's say you did 315x3 @9 (315 for 3 reps at a 9 RPE). This corresponds to 85%.
    - Using the percentage, derive your estimated 1RM by dividing the weight by the percentage.  $315/85\% = 370$
    - Base all other sets off of this estimated 1RM by dividing the weight by the 1RM. For example, if you did a set at 275, the intensity will be  $275/370 = 74\%$ .
    - After determining the intensity for each set, average them together.
    - This is much less calculation-intensive with a spreadsheet.
  - This is used to determine how heavy you were working in terms of a percentage of your 1 rep maximum.

- The limitation of Average Intensity is that several combinations can lead to the same average. If I do 2 sets at 85%, the average intensity will be 85%. If I do a set at 80% and a set at 90%, the average will still be 85%, although the two sequences will have different training effects.
- Normalized Volume is another way to measure volume.
  - This is NL \* Average Intensity\*100
  - This gives you a “normalized” version of volume that is useful when you are trying to compare different exercises.
    - So you can compare the volumes of SSB Squats to Box Squats with a strong band, and do it in a way that’s more comparable than number of sets or NL.
- NL per Intensity bracket
  - This is a count of the number of reps you did, for example, at 70-80% versus 80-90%, etc.
    - This gives you a good idea of how your volume was distributed, and can be even more effective when analyzed in conjunction with Average Intensity to overcome shortcomings in both.
    - The shortcoming of this method is that you are limited by the size of the brackets that you track. Smaller brackets are not always better because it makes the info more difficult to process.

### What do I do with all this information?

Explaining how to analyze this info is exceedingly difficult in this format. There are so many examples and combinations of data, each requiring individual details of training, that it isn’t practical for me to teach analysis here. But I can give you a brief tutorial on how you can begin to teach yourself analysis.

The first thing to do is to begin tracking your training after each workout. Watch the trends and just take note of them. Also, begin learning more about each parameter. Learn what it means and how it is used. If/when you begin to notice a problem in your training (such as a lack of improvement), take a look at the trends in your training. See if it can be explained. If it can, take corrective action. If it can’t be explained from the metrics you are tracking, it could mean one of two things: 1) it is a non-qualitative issue, meaning it isn’t a result of the numbers themselves, or 2) you haven’t learned enough about analyzing your data. Either way, don’t give up on tracking your training variables.

One of the first ways you should be able to use this data is to adjust block-length. In the basic RTS program, training blocks are 3 weeks. This may or may not be optimal for you. If you notice that your strength begins to stagnate or drop after 2 weeks, you can use this information to adjust your training blocks. Likewise, if you are making great gains after 3 weeks with no signs of slowing, why should you automatically transition to a different block and “short-circuit” your gains? Gradually lengthen the training block and see if the gains keep coming. Keep in mind that it’s a matter of finding the absolute best block length for you (and they may be different between volume and intensity blocks), so mediocre gains over the course

of the block will not suffice. You want great gains, and when they slow down, transition to something else that gives you great gains!

### **When should I begin tracking these things?**

This can begin as soon as possible. The more data you have, the more you have to compare it with, so getting an early start will be an advantage.

Given enough time, practice, and diligence, you will begin to see the trends in your training as indicators of what you should do next. This is a continuous process that is never truly “completed.” It is far better to start early in your training and learn how to manage the data for when it becomes important – when your abilities improve!

## **Chapter 5 – The Transition Block and Cycle Planning**

So now you are a master of the basic Reactive Training System. You have all the info you need to deftly operate the system in reaction to how your body responds to training. The longer you do this, the better you will get at it. However, even while you perfect your ability to manage the system, you can take advantage of some more advanced techniques in training. This chapter will cover the Transition Block and a bit on Cycle Planning. And you thought it was all volume-intensity!

Obviously, the two most basic training blocks are the Intensity Block and the Volume Block. These are your bread-and-butter training blocks, as they are not only the most simple, they are the most versatile, and the most effective for athletes of medium qualification.

The first non-standard block you should be aware of is the Transition Block. This block is sometimes injected between a Volume and Intensity Block, and at other times it can be used after a competition to transition back to normal training. It is used to accomplish a host of training objectives. It lasts one to three weeks. Oftentimes, this is used to get in your competition gear and practice with it in the off season. Other things that can be useful in this block are Overloads, Plyometrics, Deloading, Experimenting, and other means and methods that will be discussed in the next chapter. They are things with a strong training effect, but too general for the normal program.

Reasons to program a Transition Block:

- To work in your gear during the off season
- To serve as transition between volume and intensity phases
- To give you a break from the same old exercises that you've been hammering since the start of the MesoCycle

- This is where the alternate means and methods come in next time
- To give you an opportunity to do something fun in the gym that doesn't necessarily fit into your everyday training block
  - Even so, it should still probably be goal-oriented
- To give you an opportunity to test a lift (either raw or geared)
- To serve as a deload week

As you can see there are many, many reasons to use a Transition Block. You will have to get good at determining what you need, and there can be combinations of different purposes. For example, you might combine a Gear Transition with an Overload Transition. It depends on the rest of your training blocks and how they are constructed. This is not a main part of training. It is only to supplement the normal training blocks, so have fun with it and put some effort into the development of your transitions, but don't get too worked up if you can't decide the perfect way to transition.

Now, how do you go about putting these blocks together into a cohesive MesoCycle? The first things you need to determine are your objectives for the MesoCycle. Are you trying to peak for a meet? Are you getting ready for a peaking cycle? Are you off-season? The list goes on and on.

After you determine your goal, then you construct your training blocks around the goal and the time limits you have. For example, if you need to peak in 5 weeks, then you will construct your training to facilitate that goal. I know that as you are reading this, many of you are craving a laid-out approach to setting up the blocks, but this simply cannot be done effectively. Everyone is different and each situation is unique. I will,

however, provide a specific example. Keep in mind that you need to change this to suit your specific needs.

Example 1: A Powerlifter is trying to peak in 8 weeks for a major competition. He is of elite status and he competes in the IPF. He has done Reactive Training for quite some time now and is proficient at listening to his body, reading his indicators, and he has developed a high work capacity.

He knows he has 8 weeks until the competition and one of those weeks will be a deload week before the meet. So, that leaves us with 7 training weeks. Here are some of his options:

- Volume Block (3 weeks) / Transition-Gear Block (1 week) / Intensity Block (3 weeks)
- Transition-Overload Block (1 week) / Volume Block (3 weeks) / Intensity Block (3 weeks)
- Volume Block (2 weeks) / Intensity Block (1 week) / Volume Block with competition gear (2 weeks) / Intensity Block with competition gear (2 weeks)

These are just a few of the possible options. Changing any of the initial parameters could have drastic effects on his options and which option would be best for him. If he had more or less time, if he was not elite, if he was new to Reactive Training, if he was new to Powerlifting, if he was training for a raw meet, etc., etc., etc.

Up to this point, my guidance on selection of protocols has been "keep it random". Of course, this isn't exactly optimal. By the time you get to this point in the development of your own training style, you have probably come up with a way to cycle training that you like and that works for you. That's good! If not, I'd like to share some info on it.

When you begin a Volume Block, select a protocol that allows you to get a good amount of volume and keep the

intensity in check. When you first start a Volume Block, you don't want to go straight to heavy weights. This serves as a bit of an introduction to the movements you will be doing, it gets you stronger, and it doesn't beat you down the first week. From there, cycle your protocols so the intensity waves up, then down at the end of the block.

The Intensity Block can be done in much the opposite fashion. The first week of the Intensity Block, select a protocol with high intensity. Reduce the intensity in subsequent weeks only to raise it again even higher at the end.

Of course, this isn't the only way to do it. If you have your own style, that's good and you should keep with it. This "jump-start" was directed at those who may be struggling to develop their own training style.

### **When should I implement this idea?**

You should begin doing this after you have completed a few MesoCycles of regular RTS grunt-work. The few cycles you do initially will provide a foundation of understanding for this kind of training before you start messing around with it.

I know someone is thinking, "If this is so subjective and my decisions hinge on so many small details, how am I ever going to figure this out?"

The answer is that you have to work at it. This isn't a neatly packaged program, because "neatly packaged" doesn't work in the real world. Neatly packaged *does* help people sell programs/other junk, though. How will you figure it out? Well, it helps if you have good coaching. If you don't, then you need to be your own coach. You need to be a student of the sport and learn about it. I'm going to repeat that: You need to **be a student of the sport** and learn about it! Read about it. Think

about it. Talk to your training partners about it. Then, you make an educated decision on what you need to do. What exercises to pick, which blocks to do, how long, how heavy, how fast, and so on....

Then you flat-out do it. You made your decision carefully. Now do it and see what happens. Don't second guess yourself. If you did your homework, hopefully you were met with at least moderate success. Now you record your results and make MODEST changes. Record your results again and repeat the process. More often than not, improving your training is a process of *evolution*, not *revolution*.

Before you know it, you have a totally customized program that is designed entirely to work for you and you are making gains at a much, much faster rate than your competition. You are an expert in training yourself, which is what counts. No, it's not easy. It's not sexy. It won't happen tomorrow. But it will happen next year. And then you can *really* start mopping up the competition. This is certainly not "neatly packaged," but it is definitely honest.

## Chapter 6 – Alternate Means and Methods

**Means:** An exercise, exercise variation, or modification to an exercise.

**Method:** What you do with a specific means. Generally sets and reps; but not limited to this.

Alternative means and methods of strength training can all be used in a Reactive Training System. The way in which they are implemented depends on many things, and I will try to cover them as we go. Hopefully, this will be a meaty chapter, so let's just get going. First, however, we need to re-hash and deepen our understanding of Exercise Selection.

When planning your MesoCycle, the selection of the means (exercise selection) is possibly the most important factor in determining what exact training effect you will get. After establishing what kind of training blocks you want and what order they go in, you must select exercises based on what your goal is for the MesoCycle. If you are planning a pre-meet cycle, then you want to do your pre-meet exercises. This may be gear work, or you may have found that this doesn't work for you. The point is to be goal oriented.

If you don't have a large number of movements in your arsenal, then that could be another consideration in your planning. You might plan a Transition Block where you will try numerous exercises and decide which ones you should keep and which you should toss back.

"Normal" Training means, for a Powerlifter, usually consists of various Squats, Benches, and Deadlifts of varying ranges of motion (ROMs) and equipment usage. If you are/were a follower of Westside (or even if you're not), then you may be familiar with other means such as Bands, Chains, Special Bars,

Board Presses, etc. All of these are in common practice with most of the Powerlifting community, so we will assume all of these training means constitute "normal" means. I will assume you are already reasonably familiar with these, and will only cover what I consider to be alternate means for Powerlifting.

One of the first alternate training means for a strength athlete is Isometrics. Isometrics are a group of movements that trains the muscle without actual movement. Think of a Bench Press with 5 pounds over your max. What happens? You get stuck in a place and you cannot move the bar any more, but it probably remains motionless at your "sticking point" for some period of time. This is, in essence, what Isometric Training is all about.

There are various kinds of Isometrics, and not all of them are Maximal Isometrics as the previous example was. The term Isometric can be applied to anytime there is muscular tension with zero movement velocity. The pause on your competition Bench Press is Isometric. Holding an arch in your back as you squat is Isometric.

Some specific ways to do Isometrics are Pause Benches with various length pauses, Pin Pushes (the bar is underneath the pins and you push against an immovable pin), Pause Squats, etc. The Pin Push is a pure Isometric, where a Pause Bench is a static-dynamic variation (sometimes called ISO MIO). I find that the static-dynamic versions usually work much better. Keep in mind that Isometrics will develop strength at low speeds, which is something you should remember when developing your training. Movements that heavily rely on a stretch reflex will be aided much less by Isometrics than movements which do not. In terms of Powerlifting, the Bench Press and Deadlift tend to respond well to static-dynamic Isometrics, and the Squat responds to a much lesser degree.

If you try the static-dynamic methods, try to vary the pause length to see what works well for you. Gradually reducing your pause length over the course of a few weeks can be another means of overload. It's also worth noting that these aren't the only kinds of Isometrics out there. Other styles of Isometrics can also be useful, but these seem to be the most applicable to Powerlifters.

Another special means of strength training is known as Overloads. There are many ways to go about performing Overloads. Usually, it involves using increased weight for partial ranges of motion. We use variations of the Overload all the time in Board Presses, Rack Pulls, etc. However, in this case, the special training means known as Overloads will refer to the specific instances when ROM becomes zero, such as in a Squat Walkout.

Overloads are good for conditioning your nervous system to handle larger and larger loads. Generally, athletes should use between 110-150% with 120% being the average. Be careful not to over-use this means, because it can be quite demanding on the nervous system. A little experimenting should help you determine how often you can do this, if at all. Usually, people can handle Overloads once every two weeks to once per month, but your results may vary. If you decide to do these, start with once a month or so. You can increase the frequency later if you feel that you need it.

Generally, training methods are various sets and reps, but there are a few alternate training methods that are highly effective when mixed into your normal training routine. Unlike Alternate Means, which are usually reserved for Transition Blocks, the Alternate Methods that I am about to discuss should be used at various points in the MesoCycle, and not just in the

Transition Blocks. First, we will discuss is the Dynamic Effort Method, otherwise known as speed work.

First of all, the reason I list this as an Alternate Method is because: 1) I don't feel it is required very often, and 2) I also feel it is quite misunderstood, so I want to speak on it for a bit.

For speed work, the lifter accelerates the load as quickly as possible. The RPE is generally 7 to 8. The weight should move quickly and to someone watching, the rep looks very easy. But you should have enough weight on the bar that the only way you can achieve that speed is by accelerating the bar with maximal effort. As you can see, this is not "easy" by any means. You still push with max effort on every rep, but the weight is manipulated in such a way that when you push with max effort, you get quick bar speed. Usually, this will be between 70% and 80% of your max on a particular exercise, however, this will be HIGHLY dependant on your training background and will vary over time.

Speed work is good for developing explosive strength. Many people will try to tell you that putting max effort into every rep will develop this speed-strength even if they use a higher load. They say that intent to move quickly is more important than actual bar speed. In my experience, this is not 100% correct.

It may be true that lower level athletes will get faster simply by becoming stronger, but the higher the level one achieves, the more specific their training must become. If you want to be an explosive Powerlifter, you must train explosively.

Now you may say, "I don't need to move fast. I am a Powerlifter and my lifts are slow."

You are wrong.

For example, when you are benching in your shirt, after you touch, do you not try to blast it off your chest as quickly as

possible? If you don't train to have that speed, you won't have it when you need it.

You don't need to train speed all the time, but you should not ignore it. Much like any other weakness, an analysis of whether or not you are deficient in speed-strength will usually tell you if you need to spend time here. A good way to tell if you are speed-strength deficient is to examine whether or not you can be fairly explosive with 70-80% loads (70-80% of your max on that particular movement). If you can be explosive in that range, then you are probably not deficient in speed strength.

Another special method of strength training is known as Wave Loading. Wave Loading is a method of manipulating reps or load to elicit a specific training effect. For example, if you do two sets of speed doubles, then a heavy double, then go back to speed doubles, you will be faster on the second round of speed doubles as well as stronger on the heavy doubles, barring fatigue's interference. The point is to allow you various nervous system stimuli that grow in intensity as the waves progress, and provide a strong impulse to the body's adaptive reserves and stimulate increased gains.

The aforementioned wave is by no means the only one. There are as many waves as there are set rep combinations. Another example is one that Olympic weightlifters use often: Work up to a heavy weight (let's say a triple @ 9 RPE), then drop the weight back (usually 20-50 pounds) and work back up over the course of two or three sets. You should be able to add some weight (10+ pounds) on your initial set point, again, barring fatigue's interference. I've seen a few nationally ranked weightlifters set PRs with this method. The Powerlifters I have trained have met varied levels of success with this method. It may work for you – it may not. Give it a try and see.

The key is to make sure that when you construct your waves, make sure that part 1 enhances part 2, which enhances part 3, etc., until you reach your goal. This can be tricky and requires a good understanding of the training effect of the methods you employ, as well as why it has that effect. The more waves you have, the more complex this process can become. Also, volume control can be tricky. Pay careful attention to your Fatigue Stops.

### **When should I make use of these ideas?**

Start implementing these techniques after you feel confident in your ability to organize training up to this point. There is no other reason to delay beyond personal comfort level.

## Chapter 7 – RTS Necessity

We have covered all of the parts of the general Reactive Training program. This chapter will be to rehash why all of this stuff makes sense and why it is necessary. There are other chapters after this one, but they will tend to cover amendments to the Reactive Training program as well as add more details to the system in general.

I'm sure that among those who read this manual, many wonder why all of this is important. I mean, the guys who win the big meets don't do this stuff. They're not fooling around with RPEs, Fatigue Stops, and all that junk. Why should you?

The answer is that they DO deal with all of that stuff (or at least most of them do). They just don't do it by the same name that we have in this manual. If you ever hear of anyone training "by feel", they are likely referring to some form of training that ends up similar to Reactive Training. Dave Tate refers to it as the "break through" – when you just learn how to train yourself. Reactive Training was originally intended to facilitate this kind of transition for those lifters who can't train under extremely advanced coaching.

While that was the original intent of Reactive Training, it has evolved into a system that allows you to train yourself according to what your body can best adapt to. Instead of you doing Lifter X's Squat Cycle, you will do YOUR squat cycle. It may not be published in a magazine (yet), but I will put money that if you spend the time to learn this system and work it, then you will see your own strength go up far beyond what it would from doing Lifter X's program.

The RPEs allow you to train according to your own personal capability despite what is going on outside of training. The Fatigue Stops allow you to get your ideal amount of volume

in a workout. You construct your own Training Blocks from various combinations of Volume, Intensity, Transition, etc. You construct them so they fit YOU, not someone else with different training needs; by paying special attention to your training data. You know about how to use special means and methods to facilitate improved training effects. All of this stuff has a specific purpose. It is NOT the only way to go about it, but it is a simpler way, and it does provide advantages over the "by feel" method.

It is more deliberate than just going "by feel". This allows you to control your training variables on a day to day and week to week basis, which will make your training customized to fit your needs. Another advantage is that it provides you with specific and defined terms. While many may see this as geekism, I feel that it just provides you with specific words to discuss your training with others, and avoid a lot of the confusion that they face when using less tangible words such as "heavy" and "high volume".

I said earlier that I believe this type of system is necessary. I truly believe it is, especially if you want to progress further in the sport than others have so far. All other sports track various indicators and output metrics for different variables. This data provides the coach with specific information on how his athlete's training is going. Powerlifting (so far) has not been like this. We frown upon so-called geeks who over-analyze data and crunch numbers. While I agree that this has its limits of usefulness (you can have too much data), most Powerlifters do far too little of this kind of number crunching. They end up with no idea how they got to where they are, because what they started out doing is often not what they ended up doing. Furthermore, the lifters may think that they were doing high volume, but the only evidence they have

for that is their level of fatigue after a workout, which is pretty much useless by itself.

I don't want to belabor any of my points, and I am not trying to say that all other programs suck and mine is the only good one. However, I do think this is a question of good, better, best. Reactive Training is getting closer to being the "best". While nobody has all the answers, I believe Reactive Training can provide many answers to the questions that intermediate lifters have. And they are customized to fit your needs.

## **Chapter 8 – Unidirectional Loading**

Developing all traits at once works well for athletes of low and medium qualification, but what happens when you become advanced beyond these lower levels? This is where Unidirectional Loading comes into play.

Loading is placed into categories based on how it is organized. There are two main types of loading; Complex Loading and Unidirectional Loading.

Complex Loading is a style where the contents of loading are arranged so the athlete is working to develop all abilities together. A good example of this would be a Powerlifter that pursues Explosive Strength, Absolute Strength, Reactive Strength, etc., all in one week or one training session. This works well for athletes of lower qualification, but it does not work for elite athletes. This is because as athletes get better, they require more directed volumes of work to develop any one motor quality. Eventually, the volume of work required to see acceptable gains in all abilities at once is too much to recover from. This is where Unidirectional Loading comes in.

Unidirectional Loading is loading that is directed at one specific motor ability for a given period of time. An example of this would be a three week block of bench training where the focus is bottom end strength. One important thing to remember is while you focus in one specific area, other abilities are still worked with maintenance levels of volume. This allows you to focus directed levels of volume on specific target abilities while not losing ground in other abilities.

Unidirectional Loading must not only be applied in the workout itself, but in the weekly cycle as a whole. If you had two bench sessions in a week and one was for bottom end and one was for top end, then you have a template which is

Unidirectional in the training session, but Complex in the weekly cycle. This is only slightly better than Complex Loading everything. So, how do we fix this problem?

You fix it by Complex Loading one training session, and Unidirectionally Loading the second session. The Complex training session provides you with maintenance loading for one ability, and a start to the total volume of the other ability. The Unidirectional session really allows you to add the needed volume to the ability you are really trying to improve on.

At this point, we need to discuss some other terms associated with this style of Loading. A Primary Emphasis is the ability that you are trying to improve on. A Secondary Emphasis is the ability you are trying to maintain. So if you are trying to improve your Lockout, then Lockout is your primary emphasis. If you are trying to maintain your bottom strength, then this is your secondary emphasis.



Here is a sample (and VERY effective) template of a Unidirectional weekly cycle.

#### **Monday**

Primary Squat Main- Volume/Intensity protocol (20min)  
Primary DL Assistance - Volume/Intensity protocol (20min)  
Secondary Squat- Volume/Intensity protocol (20min)  
Abs

#### **Tuesday**

Secondary Bench Main- Volume/Intensity protocol (20min)  
Primary Bench Assist 1- Volume/Intensity protocol (20min)  
Shoulders- Volume/Intensity protocol (20min)  
Lats

#### **Thursday**

Primary DL Main- Volume/Intensity protocol (20min)  
Primary Squat Assistance- Volume/Intensity protocol (20min)  
Deadlift Supplement- Volume/Intensity protocol (20min)  
Abs

#### **Friday**

Primary Bench Main- Volume/Intensity protocol (20min)  
Primary Bench Assist 2- Volume/Intensity protocol (20min)  
Triceps- Volume/Intensity protocol (20min)  
Lats

So, if your primary emphasis for bench is Lockout, just replace the word “Primary” with “Lockout” and it becomes much easier to understand. Decide the primary and secondary emphasis before you start trying to plug in exercises. It makes it much easier to keep the integrity of the template. Deadlift only

has a primary emphasis because it generally doesn't have the gear considerations that the other two lifts have. You may also notice (20min) appears after most exercises. That means try to achieve your Fatigue Stop within 20 minutes of your first work set. It's not vitally important, but it certainly helps to regulate the volume. If you have training partners and you work off of one piece of equipment, you may need to add some time to the 20 minutes recommended. This is because changing weights, lift offs, and spotting can slow your pace down a little and you want to ensure you are getting sufficient volume.

As an athlete/coach, you must decide what your emphasis will be for each MesoCycle. It may be easy to say, "I'm a Raw lifter, so my primary emphasis should always be bottom end" or vice versa. This is not true. You must not only look to what your current weakness is, but what your competition schedule looks like, and where you could use the most gain in strength. If you are a geared Powerlifter, but you have no meets in the next 12 weeks, a raw cycle would probably do you some good for the upcoming peaking phase. This is ultimately up to the lifter, and can be a very individual thing, but it is good to keep in mind that a good mix of emphasis is necessary to maintain lasting improvement.

#### **When should I implement this change?**

You should implement this change after you see your gains from the beginning template begin to slow. If you are tracking your training variables and paying attention to them, you should be able to notice this coming and react accordingly.

There you have it. A more powerful template for an already very powerful Reactive Training base. Understand how this works and learn to train yourself well!

## **Chapter 9 – Frequency and Fatigue Management**

Up to this point, we have been discussing training on a 4 day per week program with a frequency of 2x per week. This means we have been looking at 4 total training days with each body part being trained 2 times.

While this is a very good split and it seems to work well with a lot of people, it is not perfect. You will need to vary your frequency to get the best long term gains.

We need to start off with a question. How do you regard the current template? Do you think of it as high frequency or low frequency? Do you think of it as somewhere in the middle? Even though this subjective answer is based on our own incomplete understanding of how the training process is working, the fact that we perceive our training one way or another is an important indicator of how we need to modulate frequency. In other words, it's a good place to start!

Basically, there are two types of templates we will be discussing here. One is Fatigue-Based and the other is Frequency-Based. In a Fatigue-Based template, the frequency is lower, but the fatigue induced by each session is high. In a Frequency-Based template, the frequency is higher, but the fatigue induced by each session is less.

A Fatigue-Based cycle is designed to teach your body how to recover from large amounts of fatigue. A frequency toleration cycle teaches your body to recover from smaller bouts of fatigue more quickly. By rotating both into your training, your work capacity goes up, therefore, your ability to accomplish and recover from training goes up.

This is an important point, because many people don't understand why a high work capacity is important to Powerlifters. You only do 9 total reps in a Powerlifting meet,

right? Why do you need to do a billion in your training sessions? The answer is this:

As you become more advanced, you need a stronger and stronger stimulus to force your body to adapt. You do this through the volume and intensity of a workout, how your template is arranged, and how you program your training cycle. This is the whole premise behind Conjugate Sequencing. You focus your efforts on one trait in order to make it move. Then you switch.

The reason this is relevant to Powerlifters is because if you don't elevate your work capacity, then you are setting up for early stagnation due to an inability to accomplish and recover from work. Basically, as you become more advanced and it takes more work to make gains, you won't be able to do more work because if you do, you'll overtrain. This isn't something a few weeks of sled dragging is going to fix. Work capacity is developed over years of training, which is why it is vitally important not to forget about it in your current stage of training.

Now that you understand why modulating your frequency is important, let's look at some ways to do it...

So, I ask again, how do you perceive your current training? If you feel that your current split is Frequency-Based, you may want to cut back the frequency, but increase the fatigue induced by each session. If you feel that your current split is Fatigue-Based, perhaps you want to increase frequency and decrease fatigue. If you feel like the current template is neither Frequency Toleration nor Fatigue Toleration, then I suggest that you try both examples at some point. Maybe one will work better than the other. Maybe both will work. Either way, your training will be better off.

Note: "Fatigue" refers to the total stress induced by a workout. It is not simply volume and not simply intensity. It is the result of volume and intensity interacting with one another.

What are some ways you can do this? Here are two good examples. The rest of the Reactive Training System stays in place – you simply change the template

#### **Increased Frequency, Reduced Fatigue:**

##### **Monday**

Secondary Squat Main- Volume Protocol, 20min  
 Primary Bench Assist- Volume Protocol, 20min  
 Primary Squat Assistance- Volume Protocol, 20min

##### **Tuesday**

Heavy Rows (2-3 sets of 4-6 reps)  
 Vertical Pulls (2-3 sets of 10+ reps)  
 Abs

##### **Wednesday**

Primary Bench Main- Volume Protocol, 20min  
 Primary Deadlift Main- Volume Protocol, 20min  
 Primary Bench Assist- Volume Protocol, 20min

##### **Thursday**

Heavy Vertical Pulls (2-3 sets of 4-6 reps)  
 Rows (2-3 sets of 8-12 reps)  
 Abs

##### **Friday**

Primary Squat Main- Volume Protocol, 20min  
 Triceps/Shoulders- Volume Protocol, 20min  
 Primary Squat Main- Volume Protocol, 20min

##### **Saturday**

Primary Deadlift Assistance- Volume Protocol, 20min  
 Secondary Bench Main- Volume Protocol, 20min  
 Primary Deadlift Supplement- Volume Protocol, 20min

**Reduced Frequency, Increased Fatigue:**

To do this one, look at the same template you are currently using. The first thing to do would be increase the time devoted to each slot to 25 minutes or add 2-3 sets. It may not seem like much, but it is probably more than you think. The next thing to do would be to rotate the four workouts over three days per week. Basically, you train with the same template that you currently do, but instead of doing Mon, Tues, Thurs, Fri, you would only train on Mon, Wed, and Fri. This would cause you to have 2 upper body workouts and 1 lower body workout in one week, and it would switch the following week. Due to this, ensure your block length is an even number of weeks.

How often should you switch? Well, as with everything, this is very much up to you. Ideally, you would switch once every couple of MesoCycles. This may not be possible due to your meet schedules, or other reasons of how you conduct your training, but it should be done to keep your gains from shorting out.

**When should I begin to vary my frequency?**

After you have approximately 6-8 months of experience in RTS, begin varying your frequency. The reason for the delay is that it almost always takes that long for people to develop the awareness of themselves to monitor how they are responding to changes such as this.

So, to recap, you need to change the frequency of your template from time to time. There are many ways of doing it, two of which are presented in the chapter. If you stick to similar amounts of volume in a given time period, then you should have

no problems with recovery. Make sure to watch the numbers and listen to your body.

## Chapter 10 – Stress Management

Up to now, there have been Volume Blocks of Training and Intensity Blocks of training with a few exceptions. This works very well, but as with all things, it does not work forever. After a lifter progresses beyond a certain point, more detail will need to be included in his training, and “Volume” or “Intensity” won’t be enough information.

Before I go into any more detail, I need to cover the idea of stress management as a part of training. The Volume of your training and the Intensity of your training combine to make a stress level. Typically, we consider Medium Stress to be something that a lifter can recover from before his next workout of the same muscle group. So, if you were doing the standard template in Reactive Training, Medium Stress would allow for recovery in 72 hours. Low Stress allows for more than adequate recovery in this amount of time, while High Stress does not allow for complete recovery between every workout. Low Stress in the standard template would be 48 hour recovery, while High Stress would be 96 hour recovery.

The Volume and Intensity of a workout combine to create a certain stress level. If you are stuck in the idea of Medium Stress, or complete recovery between workouts, then your Volume and Intensity will seem to be inversely related. But after you get past that point, you realize that you cannot progress beyond an intermediate classification if you always maintain complete recovery. You can vary your stress levels to make Volume and Intensity not so closely linked.

That might be difficult to understand, so here’s an example. If you decide that Medium Volume and Medium Intensity create Medium Stress, then you have a starting point. You can vary your Volume and/or Intensity to affect the stress

level. This is not as complicated as it seems. Increase Volume and/or Intensity beyond this initial point, then it takes longer to recover. Decreasing Volume and Intensity has the opposite effect.

So, what does this mean to you and your training?

Consider the following table:

Volume	Intensity	Stress
M	M	M
H	M	H
M	H	H
H	H	Very H
L	H	M
L	M	L
L	L	Delaod

I have found that a good way to quantify these things using the standard Reactive Training template is to assign the following:

Low Volume = 15min per exercise, Medium Volume = 20min per exercise, High Volume = 25min, and you decide that Low Intensity = 0 Max Effort slots per week, Medium Intensity = 2 Max Effort slots per week for the entire body, and High Intensity = 3-4 Max Effort slots per week for the entire body; then all this is a lot more applicable. Note: Max Effort refers to 1 to 3 rep maxes, not always 1RM. Also, this may need to be adjusted to fit your particular needs, but this is something I have found to work very well for my team and me.

There are some important lessons to take away from the table. The first three rows demonstrate how Volume and Intensity interplay. The fourth row demonstrates how the Volume and Intensity are only linked as far as they create a stress level. The fifth row shows how extreme combinations

work. The last two rows show how the lower stress ranges work (which is very similar to the first three rows). This does not represent all the combinations by any stretch, but it should allow you to get an idea of how Volume and Intensity interplay with one another.

If a lifter has been doing the standard Volume and Intensity Blocks, then he has been stuck at the extremes as far as stress levels go. A typical Volume workout is Medium Volume and Low Intensity. This makes Low Stress. A typical Intensity workout is Medium Volume and High Intensity to make High Stress. This somewhat linear approach fails, as a lifter gains ability.

The way to apply this new knowledge to your training is to work from higher levels down. Start with stress. A good sample cycle might look like this:

- Week 1: Medium Stress
- Week 2: High Stress
- Week 3: Low Stress
- Week 4: Medium Stress

Then, you substitute in your desired Volume and Intensity constructs. This will vary widely from person to person, and it will depend on what you have found to be effective and what type of block you are in (Volume or Intensity). One example is:

- Week 1: MV/MI
- Week 2: HV/MI
- Week 3: MV/LI
- Week 4: LV/HI

The result is a four week cycle that is much more varied than the more standard Volume and Intensity Blocks. It will be more effective too.

The trick is to not get too carried away. Keep with a theme. If you should be doing a Volume Block, program your stresses, volumes, and intensities with the context of a Volume Block in mind. Same with Intensity. Typically, Volume Blocks use low and medium Intensity, while Intensity Blocks use medium and high intensities. Both blocks use all three stress levels.

#### **When should I begin programming training with Stress Management in mind?**

Begin varying the stress of your workouts after you have been using the Unidirectional Loading template for 3-4 MesoCycles. This is to allow you to reap additional benefits from the template change and develop a bit more understanding of the programming before you add an extra step to your programming process.

## Chapter 11 – Fatigue Percents: Part One

So now you understand the need for stress management. Sometimes you want to overstress yourself in order to supercompensate later. Other times you need to back the stress way off so you have more than enough time for recovery. Still other times, you want to just recover between sessions. Understanding the management of stress is a major part of understanding periodization in general.

In the last chapter, I also discussed the use of time to help determine the “volume” of your session. In this section, I will show you how to more precisely control your Volume, and in turn, your stress level.

The purpose of Training Volume is to induce a certain amount of fatigue (stress) – the recovery of which results in strength gain. The more stress you recover from (to an extent) means a greater gain. The need to optimize your stress for your recovery time should be clear.

The time methods that were proposed in the last chapter are effective, but there is a more precise way. Consider the following table:

Very High Stress	10% Fatigue (30-35 min)
High Stress	7% Fatigue (25-28 min)
Medium Stress	5% Fatigue (20-22 min)
Low Stress	3% Fatigue (18-20 min)
Deload Stress	0% Fatigue (15-18 min)

Keep in mind that these percentages hold true with any of the templates provided in this manual, or any template that has 6 exercises for both upper body push muscles and lower body muscles in each week.

### What does this all mean?

Now that you have “usable” numbers, how do you use them? Fatigue Percents (FPs) can be hard to understand. This represents a level of fatigue that corresponds to a particular stress level. For example, let’s say you are going to do High Stress this week, and you are getting ready to do your squats.

When you first start squatting and you are fresh, you are at your strongest. As fatigue sets in, you get weaker. The percentage is a way to measure this fatigue so we can decide how much Volume you should use in training to achieve a certain stress level, while also taking all things into account.

Let’s assume that the protocol you picked for this example was Triples @ 9-10 RPE. You know that you want to do High Stress, which is 7% fatigue. Now your work sets start...

385x3 @9

405x3 @9

425x3 @10 which is as high as you will go for today.

This set represents your “initial”. You take 7% of this weight ( $425 \times 0.07 = 29$ ) and subtract it from your initial. That leaves you with 395-ish. This tells you that when 395x3 becomes a 10 RPE, then you have achieved a 7% fatigue drop and you are done with this exercise. So basically, when you get tired to a certain point, you are done. The fatigue percent just tells you exactly when this point occurs. Let’s see what this might look like after the “initial”.

415x3 @10 (see, fatigue is setting in)

405x3 @10

395x3 @10 (this is your stopping point. You are done)

Another example is this one (continued from the “initial”).

395x3x3 @9

395x3 @10 (again, you’re done)

In the first example, you slowly work down the weight. This method will achieve the fatigue faster (usually), so it is better when used for Intensity-Focused Blocks. In the second example, you dropped the weight down all at once and did more Volume at the lower Intensity (naturally, this is better for Volume Blocks). Both ways can be effective, so be sure to include both. Also remember that when the time runs out, you’re done with that exercise, regardless of where you’re at! This should let you know that you need to control your rest periods in order to achieve the desired fatigue in the required time.

Note: A good rule of thumb is to try to set your initial before the half way point of your time. So, if you have 20 minutes for a slot, try to set your initial before 10 minutes pass.

I’m sure many of you wonder why we even use time limits. The reason is that if you don’t have them, the Fatigue Percents become much less accurate. If you rested 5-10 minutes between each set, it would take forever to reach a significant fatigue at anything other than a 10 RPE. The reason I chose a time limit instead of a rest period to go with each set, is because the appropriate rest period often varies with the RPE of the work. I’m sure everyone would agree that it takes longer to recover from a set at 10 RPE than a set at an 8 RPE. So, if you could potentially have both in a training protocol, why have the same rest period for all sets? I wouldn’t. The overall time limit allows you the flexibility to manage your own rest times.

### **When should I begin using Fatigue Percents?**

Start using this method of Volume regulation when you have been doing Fatigue Stops for 7-9 months. This is to give you a solid foundation in Fatigue Stops and allow you to develop your style of training before transitioning to a more complicated method of Volume Control.

I know that was a huge amount of information to digest. If you are wondering why all this is important, just look to the next chapter.

## Chapter 12 – Fatigue Percents: Part Two

As I said in the last chapter, there is a need to use these Precision Volume Controls. This method is more flexible and accurate than the Fatigue Stops of before. This will give a much greater degree of precision to your programming.

One question that I see arising from the last chapter is what if you are in a Frequency-Based Block? The answer is that since you are still only doing 6 exercises for a “body group” per week, you can still use the same FP table. Think of it as the same Volume as a Fatigue-Based Block, but just spread over the week, instead of fed to you in concentrated chunks.

If your template calls for anything other than 6 exercise slots per muscle group per week, you need to adjust the Fatigue Percents. You do this by taking the FP you want to use, multiplying it by 6 to get the total stress induced in a week, then dividing it by the number of exercise slots your template has for a body group in a given week. For example, let’s say you were doing a template that only had 4 bench exercises (anything for chest, shoulders, or triceps) in a given week, and you wanted to do Medium Stress. Medium Stress for 6-slot-weekly templates is 5%.  $5\% * 6 \text{ slots} = 30\% \text{ per week for bench}$ . Divide that by the 4 slots your template has ( $30\% / 4 = \sim 9\%$ ) and you need to achieve 9% fatigue on each slot to achieve Medium Stress.

There are those that doubt the effectiveness of this system of Volume Control. They often question what might happen if you trained a Volume that required 72 hours recovery (full recovery), but then you don’t get as much sleep as you need, etc. Or what if you are older and don’t recover as quickly? What if your work capacity is terrible? What if you take no supplements? And so on...

Generally, Fatigue Percents will adjust to fit this. The reason they do is because if “life happens” once in a while and you mostly live in good conditions, you will have enough reserve to overcome the problems, unless your overall programming is stupid (weeks and weeks of High Stress, etc.). If you run into consistent problems, your training volume will adjust itself to fit your needs. If, for example, you don’t get much sleep for a few nights and your recovery is impaired, then when you go to train next time, you will probably reach your Fatigue Percent much more quickly, thus automatically lowering your Volume according to what you can/have been able to recover from. However, there are those who just don’t recover well. If this is you (generally older lifters, etc.), then start with the recommended percent and see what happens. If you don’t feel fully recovered, then adjust the percent down by 1-2% per workout until you do feel recovered. I recommend that you make this a slow and gradual process, because the percentages are usually pretty accurate for most people, and a small change can make a big difference.

Now I’m on a tangent, but it really ticks me off how people think it’s so easy to overtrain. If you regulate your training correctly, then overtraining becomes more and more difficult. And even at that, I think it’s a mental thing for most people. They’re a little tired and de-motivated, so their strength goes down. Maybe they really just don’t recover well, but in most of my experiences, it’s more of a result of being poorly conditioned than some genetic disposition for poor recovery. If they could kick the overtraining monkey off their back, I feel like they could make better gains. Case in point: my dad is 60 years old. He still works 12 hour swing shifts. He benches 4 times per week and does between 5-8 sets per workout, plus assistance work. He is getting much stronger, too. He isn’t beat

up. He isn't injured. He isn't a genetic freak. In fact, he just started training again a few years ago, so he hasn't developed some phenomenal work capacity, but he is also beyond "newbie gains". He just trains smart.

Now that I'm through with my mini-rant, there is another way of reaching your fatigue percent. Let's say that you work up to a 425 bench for a triple at a 10 RPE. Then, on your next set, you only manage 2 reps at a 10 RPE. Obviously this constitutes fatigue, but how do we measure it? The following chart can help us quantify this fatigue:

NL for Initial	1 rep less	2 reps less	3 reps less
1	5%		
2	5%	10%	
3	4%	8%	12%
4	4%	8%	12%
5	3%	6%	9%
6	3%	6%	9%
7	3%	6%	9%
8	2.5%	5%	7.5%
9	2.5%	5%	7.5%
10	2%	4%	6%
11	2%	4%	6%
12	2%	4%	6%

So from this chart, we can see that if you did 3 reps on the initial and dropped 1 rep on the second set (so you still completed 2 reps), it equals a 4% fatigue drop. If you could only do 1 rep on the second set, that equals 2 reps dropped, which is an 8% fatigue level.

Keep in mind that this is for equal RPEs also. If you did your first set with 500 for a triple at a 9 RPE, then your second

set was 500 for a triple at a 10 RPE, you should be able to infer a 1 rep drop (due to the very definition of the RPEs), and respond accordingly.

Again, I'm sure that for most people, this will be tough to digest. Please read it, re-read it, and when you're ready, give it a try. I know you won't be disappointed.

## Chapter 13 – Programming Your Training Cycle

Organizing your training so that it leads up to a contest or test date is critical. If you don't do this properly, you won't be able to display your strength when you need it, and that is a failure of the training process. Don't let this happen to you.

In this chapter, I will outline a process to use to ensure that your training is directed at your overall goal. This way, you will do more to make sure that you perform on contest day.

### The MacroCycle

The biggest cycle that I currently plan is the MacroCycle. A MacroCycle in this context should lead you from your current state to your end state – that is to say that for most people, you go from major contest to major contest. This is a long cycle. For me, this could easily be 25 weeks long.

Now, before everyone panics and says that you can't possibly accurately plan your training that far in advance, I'm not saying that you should. I'm only suggesting a broad overview of your training to that point.

When designing your MacroCyclic plan, decide how many weeks you have to train and what the end objective is (i.e. what meet is it you want to do). That's it. An example would be: Peak for the State Meet (objective) that is 14 weeks away (time).

### The Phase

I divide my MacroCycle into three different Phases of various lengths.

First, there's the Off Season. After a meet, most people take a short amount of time off. I take the first 2-3 days off after a meet, but then I'm back in the gym. Some people take up to three weeks. Basically, when you're feeling like being in the gym again, you should return to training. And when you do return to training, you should do a short Off Season Phase. For me, an Off Season usually lasts 1-3 weeks depending on the length of the MacroCycle. An Off Season in this sense is a time to get away from the traditional training of your sport. For a Powerlifter, do some overhead pressing instead of bench work. Do some lunges instead of squats. Drag a sled, push a prowler, do some Olympic lifting variations, whatever. Maintain one or two exercise slots per week for more traditional Powerlifting work, but this is just to keep your groove fresh. It should be more fluff type lifting than anything.

The purpose of the Off Season is to get you back into lifting after a contest, address some of your weaknesses and imbalances in unique ways, and give you another 1 to 3 weeks to train while NOT punishing your usual Powerlifting groove. If you're like me, it is difficult to stay out of the weight room, especially if you come off of a really great contest. Lots of people want to get back into the gym a.s.a.p. and start banging away again. You can't make big gains year around, so spend some time like this setting ourselves up for bigger gains later.

The second Phase that we use is the In Season. This may be a misnomer, but it is just a name, after all. The purpose of the In Season is to become serious about training again and truly develop your contest lift without using the lift itself very much. Many refer to this as the Conjugate Method. It is not. But you do use other exercises in development of your contest lift. For example, you might squat with bands and chains or do board presses. While these various exercises will be present in

the peaking cycle also, they are the main lifts for the In Season Phase. One other note: Generally, the In Season Phase is the biggest Phase in your Macro Plan. The most common exception is if you have an unusually short MacroCycle and spend the majority of your time peaking. Since you spend the most time in this Phase, this is what most people think of with "normal" training.

The third Phase is the Peaking Phase. A Peaking Phase is the last one leading up to a test date or a major competition. Usually, Peaking Phases last 8-12 weeks. They utilize the actual contest lift to a large extent (although not exclusively – even as the main lift). There is still assistance work, but the focus becomes the competition lift and hitting goal weights.

### **Training Blocks**

Within most Phases, there are Training Blocks. In general, each Phase can be made up of 1 to 3 Blocks depending on length and goals. The first kind of Block is the Volume Block. This Block is characterized by Low to Medium overall Intensity (i.e. low use of Max Effort work). The work is generally kept at an 8-9 RPE and the emphasis is on overall Volume rather than goal weights. This type of Training Block is supposed to prepare you for the other Blocks and set you up for big PRs.

The second kind of Block is the Intensity Block. This Block is characterized by lower Volume, but much higher Intensities (i.e. extensive use of Max Effort work). The overall emphasis of Intensification Blocks is on hitting goal weights with adequate Volume – nearly the opposite of a Volume Block.

The third kind of Block is the Concentration Block. This Block should only be used by the more advanced lifters as it

requires you to listen to your body more than usual, and it is simply not appropriate for lower qualified lifters. In this Block, the Volume and the Intensity are high – too high for complete recovery between sessions. Think "controlled overtraining". The body's ability to adapt to training is outrun by the stress of the workout. When this Block is over, the body will rebound to higher levels of preparation in about the same amount of time as the Concentration Block lasted. For example, if you did a three week Concentration Block, you could expect to fully realize the gains from this Block after three weeks post-concentration. This Block usually lasts 3 weeks (never shorter). I personally recommend no longer than 4 weeks. Concentration Blocks are followed by Intensification Blocks with Low and Medium Stress levels.

### **MicroCycles**

A MicroCycle is a week of training and it is used to construct each Training Block. You determine the overall Stress and Intensity of the week when planning MicroCycles (see Chapters 11 and 12 for more info). When planning the MicroCycles, keep in mind what kind of Training Block you are planning. If you're planning a Volume Block, the Intensity should be generally "Low" with the occasional "Medium". An Intensity Block would be made up with mostly "High" with the occasional "Medium" Intensity levels. Stress for either Block should range from Low to High depending on where it falls in the cycle. Always be aware of what training came before and what comes after the current piece that you are planning!

Note: If you are planning a Concentrated Loading Block, to start with, the stress should be as follows:

Week 1: Very High

Week 2: High

Week 3: Very High

The Intensity should be:

Week 1: Medium

Week 2: High

Week 3: High

Start with this, then adjust after you try this the first time.

### **Training Session**

When planning your Training Session (each individual workout), the primary thing to be concerned with is the exercise selection. Each protocol should also fit with the MicroCyclic plan. Select your exercises based on what the goals are for your current phases. Keep in mind what training came before and what training comes after the current session that you are planning. For example, if you've done 3 Board Press sessions for 4 weeks in a row, do you really want to program it for another week if you need to do them again soon? I don't know the answer for you, specifically. The important thing is that you ask yourself this question and have an answer for it!

### **Other Considerations**

Deloading for a contest is a very individual thing, but here is what I do. When leading up to a contest, I like to Deload only one week before the meet. I keep going to the gym and I only do 3 triples in each lift. Five days out, I will do them at 75-80%, which is fairly significant. This will also be with my

equipment so I am still fresh on meet day. Four days out, I will do the triples at 70-75%. Two days out, I will do them at 65-70%. Except for the first one, all the Deload workouts are done raw. As always, percents are based off the exercise you are doing. The purpose is to keep the groove fresh and keep all of the various setups familiar. I have found that if I take that week completely off, then I am rusty and poor technically when the competition comes around.

The week before my Deload week is what I usually use as a test week. Many people like to only go up to openers, but I like to go to a near-max out on all three contest lifts. Monday, I Squat. Tuesday, I Bench. Thursday, I Deadlift. Friday, I just do more heavy benching. I still do assistance work during all the workouts, but it is abbreviated slightly to make sure that I'm recovering well for the testing. After test week, I game plan for the contest based on the testing that I did. For example, I'll get my opening squat and a general idea of where I want to go for second and third attempts based on how my testing went during the last heavy week of training.

### **When should I begin programming my training like this?**

Start programming in this manner after you do 2-3 solid MesoCycles of using Fatigue Percents. This is to allow you to get comfortable with Fatigue Percents before you start trying to predict your reaction to them. Developing this foundation of using Fatigue Percents will allow you to program training in the above manner much more effectively.

When you decide that you want to begin planning your training like this, you start at the highest level – the MacroCycle, and work your way down. Decide how many weeks you want each Phase to last and which Blocks the Phases

should be composed of. Then, as the Blocks approach, determine what overall Stress and Intensities you want to use. Pay careful attention to what came before and what comes after in terms of Stress, Intensity, and Training Blocks. Follow that by planning the movements and the specific protocols you want to use. Each part should give you a little guidance on how to plan the next detail, so by the time you get to how many reps to do on Tuesday's workout, it fits perfectly into your MacroCycle plan. By the end of your MacroCycle, ideally each piece should have been laid out to build on the piece before it up to the final result.

When planning your MacroCycle on down, keep in mind that you want to end your training with an Intensity Training Block. Working backwards is a good way to make sure this happens. The Volume Blocks increase your strength potential, and the Intensification Blocks develop your ability to display that strength. Both are highly valuable, but generally, Intensity Blocks are better to peak with.

So, I'm sure that was a ton of info to digest. Keep in mind that from the Macro Plan, you have to plan each Training Block as it approaches in more detail so that it becomes a plan you can work from, it stays true to the big picture, and it is still adaptable enough to adjust to nuances that occur in life.

## Chapter 14 – Goal Setting, PRs, and Progress

An expectation of progress is vitally important to long term progress. I have trained in commercial gyms before, and I am always astounded by the number of people who come in day after day, year after year, and never make any progress – *and they're okay with that*. I am convinced that the expectation of improvement is a major component to progress regardless of your goals.

And it's not simply supposing that you'll get better from the training. It's a foregone conclusion that you *will* improve. And if you don't make the anticipated gains, you have to find out why. This *has* to be the attitude that you have as you go through training.

There is a certain amount of this attitude you have to carry with you. Develop it any way you can. Part of it can be programmed into your training. I use goal setting to develop this. Many people do this already. They track their PRs and try to beat them when they can. As with most things with this system of training, we are more deliberate in our approach.

If you track your training after each session, as was recommended in chapter 4, then you already know how to calculate an estimated 1RM. As I said before, this is simply an estimation, and can be inaccurate, but it is useful to see trends in your strength. One of the best indicators that your training is improving is seeing this estimated 1RM go up continually. You can plan your training to achieve this end.

This is best illustrated with an example. Let's say that you are going to the gym to Deadlift and you plan on doing x3 @8-9. From looking at the RPE chart, you can figure that you will be training at 80-85%. Let's say you look at your training logs and you find that your estimated 1RM on this movement

last week was 550. You have an expectation of improvement, so you certainly want to beat this mark. Since your heaviest set will be 85% of your capabilities for that day, you know that it will take  $467 \times 3 @9$  to tie what you did last week. So, if you simply load up 470 instead, that will generate a 553 estimated 1RM – a 3 pound PR (as long as you still did a triple @9). A 3 pound PR doesn't sound like much, but after a year that will yield a 156 pound improvement.

I'm not trying to say that you are guaranteed this kind of progress (although some do get those results), nor am I saying that you should get PRs every week. I am saying that the small improvements add up over time – and more quickly than you think! If you can make a 1-2 pound PR, I would consider that a good day. Between 3 and 5 pounds is very good on a weekly basis. More than that (from week to week) is a great gain. And if this process sounds like too much math for you, then keep a percentage chart in the back of your training log. It's easy to use, and very handy.

### **Limitations**

This is a fantastic method for determining progress and building it into your program, but it does have its limitations. The biggest limitation will be the RPE chart. If you can modify your RPE chart (small changes!) to custom-fit it to you, this method will be more effective and even more reliable. If you don't want to modify the RPE chart, just make sure you become familiar with what is reasonable and what is not. If you can never meet the 80% goal weights, it might be because  $x4 @9$  isn't 80% for you. If modifying the chart isn't your thing, then make a note of these inaccuracies and make sure you modify your goals for each session.

Another limitation of this method is the honesty of the user. If you honestly expect and crave improvement, it can be difficult to deny yourself. For example, if you need to do  $525 \times 3 @9$  for a PR, but it was really  $525 \times 3 @10$ , it can be tempting to say, "I could have gotten one more if my life depended on it" and count it anyway. Don't do this! It will throw off your training numbers! Of course you want to improve and set PRs, but call the RPE how it is. You have to be disciplined.

This is a good method to help you expect improvement. It's easy to use and applicable across different rep ranges, which is beneficial.

## Chapter 15 – Extra Workouts

I have waited this long to address extra workouts for a reason. They are extra, so only consider doing them once you have a solid foundation in all the other chapters that came before this.

Louie Simmons has popularized extra workouts. They have helped keep many of his lifters strong, recovering, as well as help reduce injuries for quite some time now. After reading some of Louie's articles a long time ago, I too began doing extra workouts.

Extra workouts can become a valuable part in the RTS program. I don't have the definitive answer on extra workouts, but I can tell you what has worked for me and my team. I'll also try to tell you why this stuff works. Then, you'll be on your own to experiment a little, but I personally wouldn't stray too far from the recommendations until you start and become comfortable with these sessions.

The purpose of the Extra workout is to:

- 1) Facilitate recovery
- 2) Provide extra work for a *neglected* muscle group (not necessarily lagging)
- 3) Improve conditioning/reduce body fat
- 4) Improve other qualities of fitness such as flexibility or mobility
- 5) Use Passive recovery modalities

These goals are also addressed in the way the extra sessions are structured, and not every goal is trained on every session.

After a general warm-up, you should start with active recovery work. If you have sore or fatigued muscles, recovery work may be a good idea for you. A few sets of a timed

exercise (such as what Louie Simmons recommends) is usually enough to loosen up and aid recovery. Choose an exercise that targets the desired muscle group, and select a very light weight. Now perform that exercise for 2-5 minutes straight. It should not be hard – it should feel somewhat like a long warm-up set.

Next, you should do the work for neglected muscle groups. Many people will go immediately to hamstrings and triceps; but I generally do not. These muscle groups may be weak for you, but they are far from neglected. Training these muscle groups in your main sessions with Fatigue Percents necessitates that they will require this time to recover, and you should not interfere with this process with additional work unless it is recovery in nature. I would only do extra work for these groups if the muscle was not being addressed by your main workouts. For example, if your hamstrings were holding your squat back, but none of the exercises you picked for your main workout address hamstrings, then you don't need extra workouts, you need help with exercise selection!

I implement the work for neglected muscle groups as my lat and ab work for the week. I don't train lats or abs at the end of my main sessions because I am usually too tired and don't have time. So, putting it into an extra workout has worked well. I usually do 15 minutes of a lat/ab superset. Any horizontal or vertical pull is fine for lat work. For abs, generally select a movement that has you working in the 8-20 rep range and usually with weight. Also, don't forget to train the rotational aspect of your abs!

The third spot in your extra workout may be occupied by conditioning work to raise fitness or reduce body fat. I use conditioning to do both. There are tons and tons of ways to do conditioning work. If you're really out of shape, maybe walking around the block will be challenging enough to qualify. Some

of my favorites for conditioning work are interval sprints, running hills, and the always popular sled dragging intervals. I would also love to get my hands on a Prowler, because I think you could do lots of fun stuff with that piece of powder-coated suffering. My conditioning work usually lasts no longer than 15 minutes.

At this time, I think it's also appropriate to address the CNS-intensiveness of conditioning work (how hard the exercises are on the CNS). If you're walking with a weight vest or a sled, you aren't taxing your CNS very much. This is a good thing when we're talking about conditioning work! The whole purpose is to tax your other energy systems – not cause undue CNS stress. On the other hand, things like repeat sprints, hills, etc., can be very CNS intensive. You should pick the appropriate training means based on your *future* training. Here's an example to illustrate my point:

I like to do extra sessions on Wednesday and I have a main lower body workout on Thursday. Since most conditioning work centers on lower body activity, it would not be smart of me to do my conditioning with a highly intensive means such as repeat sprints. This may cause a drain to the CNS, thus affecting my lower body training the next day. If I did these sprints Tuesday afternoon (after my main bench work), so be it. Also, if I wanted to do this session on Friday, or even Saturday, that would be fine because there is a full day of recovery. A better choice for my Wednesday extra session would be walking with the sled since it is lower stress on the CNS. The point is to be conscientious about the stress that you cause to your CNS, and how much recovery time you have before stressing it again.

This also pertains to military folks who may be required to run often. For those people, minimize your running if you

can, but if you are required to do middle distance runs, try to time it so your lower body sessions fall from a few hours to one day before the running. Adjust your template if you need to. The whole point is to allow for the maximum amount of recovery between your jogging workouts and your next main lifting session. This will limit the impact the running has on your lifting.

The next part of your extra workout should be the flexibility/mobility part. I won't spend much time on this. If you don't know what to do, buy Eric Cressy and Adam Robertson's DVD, *Magnificent Mobility*. That video has a host of exercises that will help develop your mobility. This section of your workout should only take 10-15 minutes.

The last part of the extra workout is the passive recovery modalities. Passive recovery modalities are things such as contrast showers, ice baths, icing, ice massage, Stim, Epsom salt baths, etc. Do these if you feel beat up. Here is a short list of protocols that you can try out:

**Ice Bath.** Water should be 50-55 degrees Fahrenheit. Stay in water for 10min.

**Ice packs.** Standard bag-o-ice. Put it on the affected area for 15 minutes.

**Ice Massage.** Fill a paper cup with water and freeze. Peel the paper away and rub the ice over the affected area for 15 minutes.

**Contrast Showers.** Turn water on as hot as is bearable for 1 minute. Switch to as cold as possible for 30 seconds. Repeat for 5-10 minutes.

A lifter new to Extra workouts should start with one per week. After some time (a couple of months), increase to two per week if you desire. This is a good method to make sure you reap the benefits of extra work. Remember, pay attention to

where the session is in your weekly program. You don't want to crowd any workouts.

### **When should I add in Extra Workouts?**

Add extra workouts after you have programmed 2 MacroCycles; as outlined in Chapter 13. This is to allow you time to realize your general pattern of training, which will help you determine how much extra work you can recover from, and when you can ramp up the work vs. back off. The only exception to this is those that have a requirement to implement them earlier (i.e. military people that have to do weekly conditioning). Since you have to do them anyway, you might as well do them as well as you can.

Initially, I had some trouble getting my extra workouts just right, so I wanted to include this supplement for CNS intensiveness:

Some ground rules for conditioning work:

- High Intensity Means = Means that require high RPEs
  - This means that you either push as hard as you can (i.e. sprints) or you come close to failure after completion of the “course”. An example might be nearly dropping the sandbag before you finish your sandbag carries.
  - If you want to use heart rates, High Intensity Means for conditioning will have you close to your max heart rate (approx 220-age) in a short duration
- Low Intensity Means = Means that allow lower RPEs
  - This means that you have some left in the tank. Long duration sled dragging or something similar

provides a good example. You should be nowhere close to muscular failure, however, if your limiting factor is breathing/heart rate, then you are on the right track

- Typically, this will require longer duration activities (such as riding a bike, long duration sled dragging, etc.) or wide ROM dynamic types of movement (such as sandbag clean, carry, and press or barbell clean and press for high reps) or a combination of the two.
- Low Intensity means should be used if there is training the following day.
- High Intensity means may be used if there is an off day following.
- The Percent Fatigue does not need to be calculated at this juncture
  - If you are doing Low Intensity means, then your CNS is not being heavily taxed.
  - If you are doing High Intensity means, it should be taxing a different nervous pathway. This should allow the specific nerve pathways to continue recovering. Any shared or combined pathways should be able to recover during the subsequent off day.

That should be a firm groundwork to structuring your extra workout sessions. These will allow you to develop your recovery ability, heighten your work capacity, and keep you injury-free, all of which are very good things.

## Conclusion

Thank you for reading this manual. I hope it makes a meaningful and lasting impact to your training. This has been several years in the making, from the initial stages of experimenting, putting ideas together, and development to what it has become. And to be honest, training is always continually evolving into other permutations. The training for my team and I has already begun to change. But the point is not to give anyone a stand-alone program. The whole point – even from the beginning – was to teach the readers of this manual how to develop their own training style that worked best for them. Transitioning from an intermediate level Powerlifter to an advanced Powerlifter is a difficult transition to make. Many never make it, and with a sport that is so much about self-improvement, that is sad to see. I hope that this manual can show some lifters how to approach their training so it is customized to fit their needs, and that it makes the transition to programming their own training a bit easier. Thank you again for reading. God bless.

## Glossary

**1RM-** 1 Rep Maximum. The most weight you can do for 1 repetition is your 1RM.

**Active Recovery-** enhancing recovery through light, rejuvenating activity. Can range from sport-games to light weight training, etc.

**Auto-Regulate-** An arrangement of training that automatically configures various parameters to your specific needs at the time.

**Bands-** Large rubber bands that are used as “accommodating resistance” for various weight exercises. Most often they are fixed and attached to a weighted barbell. This has various benefits which includes improved accelerating strength, improved stretch-reflex response, and improved top-end strength. The drawbacks are that it removes some aspects of stability from the lift and it can cause increased soreness, especially around joints.

**Chains-** Large chains that are attached to weighted barbells for the purposes of “accommodating resistance”. The benefits of this tool include improved accelerating strength and improved top-end strength. The drawbacks are that sufficient amounts of chain can be costly and noisy.

**CNS-** Central Nervous System.

**Deload-** A period of reduced Volume and Intensity put in place to allow the body to recover from previous training.

**Doubles-** Sets of 2 reps.

**Equipped-** Using “gear” such as squat suits and bench shirts.

**Fatigue Stop-** See Chapter 3.

**Means-** See Chapter 6.

**MesoCycle-** In the context of this manual only: One Volume Block and one Intensity Block. This is typically 6 weeks long, although it can vary.

**Method-** See Chapter 6.

**NL-** "Number of Lifts". The total number of repetitions performed.

**Passive Recovery-** Methods used to enhance recovery that involve the athlete's relaxation. Massage, contrast showers, and ice are all examples of passive recovery.

**Ply Press-** an exercise performed much the same way as a Board Press, but with a piece of  $\frac{1}{2}$ " plywood instead of a 2x4. The purpose is to train the bottom end of the bench.

**PR-** Personal Record, aka Personal Best.

**Range of Motion (ROM)-** the amplitude of movement at a certain joint. Full ROM refers to a movement that requires a certain joint to be moved through the full amplitude of its capability. A partial ROM would require less amplitude of movement.

**Raw-** A Powerlifting term meaning "without gear" such as squat suits and bench shirts. Some consider knee wraps to still be "raw" and some do not.

**Reactive Training System-** A system of organizing training that teaches the user to customize his training to fit his individual needs as an athlete.

**Reverse Bands-** attaching bands to the top of a power rack or Monolift and fixing them to a barbell so they remove weight instead of adding weight (see also "bands"). Benefits of Reverse Bands include improved top-end strength and additional CNS adaptation to heavier weights. Drawbacks include diminished effects on the stretch reflex.

**RPE-** Rate of Perceived Exertion. See Chapter 2.

**RTS-** See Reactive Training System.

**Singles-** Sets of one repetition.

**Split-** A term that is used to describe how training is broken down in a given week/two week period. Sometimes used in conjunction with "template".

**Triples-** Sets of three repetitions.

**Westside-Barbell-** A Powerlifting gym in Columbus, Ohio. The lifters of this gym pioneered many advanced means and methods for Powerlifting. It is still considered by many to be one of the strongest gyms on the planet.

**Work Capacity-** The ability to do work without fatigue.

# THE REACTIVE TRAINING MANUAL

"Mike does an excellent job in describing logical personal programming for powerlifting via his Reactive Training System and puts it in a language that is easy to understand and use for the intermediate powerlifter. From basic templates to more advanced ones, Mike gives you the tools to successfully program your own training based on your personal goals and how you are responding to your training. The Reactive Training System is one that can grow as the knowledge and skill level of the powerlifter grows, and I highly recommend it to anyone that is simply looking to get efficiently stronger and stronger without spinning their wheels."

-Eric Talmant

*Elite Fitness Systems Sponsored Athlete*

*Raw Unity Championship Founder / Director*

"Recently, Mike has helped me lay out an RTS deadlift program. I have to admit I am not a big fan of programming. However, by manipulating reps, sets, and percentages on the fly Mike has helped me realize the value of volume control. It is hard to argue when just after 6 weeks of the program you hit a 40 pound PR in a lift you struggle with. Through just the early stages of Mike's program my speed off the floor and form have improved big time. So much in fact that a few other members of Team Super Training have jumped on the RTS band wagon.

Mike's RTS program reminds me of the great Bruce Lee's motto, "Be Like Water". This program adapts and conforms to YOU as you go. By learning the ins and outs of the Reactive Training System you will be able to adjust your reps, sets, and percentages as they suit your current strength levels."

*Mark Bell, aka "JackAss" from [www.elitefts.com](http://www.elitefts.com)  
Owner of Super Training Gym, Sacramento, CA*