PRO MOTOCROSS

RIDING TECHNIQUES & FITNESS TIPS

Training Manual

Free Motocross Guide: 12 Steps To Railing Corners

The intention of Dirts Soldiers Mx Training Academy is to have you understand the fundamentals of cornering.

In motocross stay seated the whole time in the corners and stand-up only when you have to, such as a jump or a bump that is too big to sit through. Watch the top guys especially in Supercross, it is so obvious that Reed, Dungey, RC, and Bubba do not get off the seat. **Why? Because there is simply more control seated.** It lowers the center of gravity and you make more contact with the bike. Trial riders stand because they are going so slow and need the leverage to move the bike. Flat trackers and road racers sit because it is the fastest way to corner. Think about it, would you rather be sitting or standing and have your rear wheel slide out? How about your front wheel? How about both wheels sliding out? If you are going fast both wheels are sliding out going into the corner and like RC and Dungey you will be forward and on the seat.

It is paramount that you get this! Cornering Guidelines

- Stay standing as long as possible entering a corner (you can take more abuse standing through breaking bumps if your are in the neutral position)
- Stay seated longer exiting the corner unless there are to many acceleration bumps
- use all three brakes when entering a corner (Front, Rear & Engine Braking)
- outside corner entry inside corner exit like the Pros (amateurs use inside out)
- ball of foot on outside peg, which weights peg and gives control. (try a flat in your arch and on your ball and see the difference)

12 Steps To Railing Corners

- **Brap, brap, brap** through corner
- Clutch feed through corner
- Press knee into tank to lean over bike
- Keep outside elbow up for exit control and lean angle
- Re-grip throttle to keep elbow up
- On tight slow corner lean head at the same angle as the front fender
- Shift down when entering corner to help slow bike.
- Rule of real estate inside line is usually faster because less distance out and back.
- Arc the corner instead of V the corner this common amateur cornering and is a illusion of speed.
- One mph faster in the corner could equal five mph down the next straight. **Momentum!** It is not the rider that goes the fastest but the rider who slows down the least.
- Brake early rather than late for faster lap times

Corners 12 steps

1.- Attack over front-end elbows up proper grip and weight over front of bike to make it stick.

2.- Standing as long as possible entering a corner (you can take more abuse standing through breaking bumps if your are in the neutral position)

3.- Balls of feet on pegs, middle finger pulling front brake

4.- Blip throttle as you go through turn for control of bike

12 Steps To Railing Corners

5 - Press knee into tank to lean over bike

6.- On tight slow corners lean head at the same angle as front fender

7.- When you are ready to apply power slip clutch at apex to control power as you exit corner. Same as if you were starting

8.- Outside elbow up for control

9.- Re-grip throttle to keep outside elbow up when twisting throttle

10.- Shift down when entering corner to help slow the bike don't be afraid to use first gear

11.- Use outside to inside lines like the pros do. Amateurs use inside to outside lines

12.- Inside line is usually the fastest way around. Less distance to travel

.

BECOME THE MASTER OF YOUR BIKE

Do you control your bike, or is your bike controlling YOU? Sliding through corners and wiping out on jumps are just 2 signs your bike is controlling you. But good news! With a stronger 'riding techniques' and better bike control, you can take back control of your bike while improving your riding skills. I'll show you how to become the Master of Your Bike:

GET ULTIMATE MX SWAGGER

12 Steps To Railing Corners

Think about your favorite motocross rider for a second...

You admire them because they just OWN their riding. They look good riding and you know they are having FUN every time they hop on their bike. They have Ultimate MX Swagger!

Want to feel that same swagger every time you ride?

Dirt Soldiers Motocross Training Academy

Cornering

Racers are won and lost in corners!

How To Rail The Corners

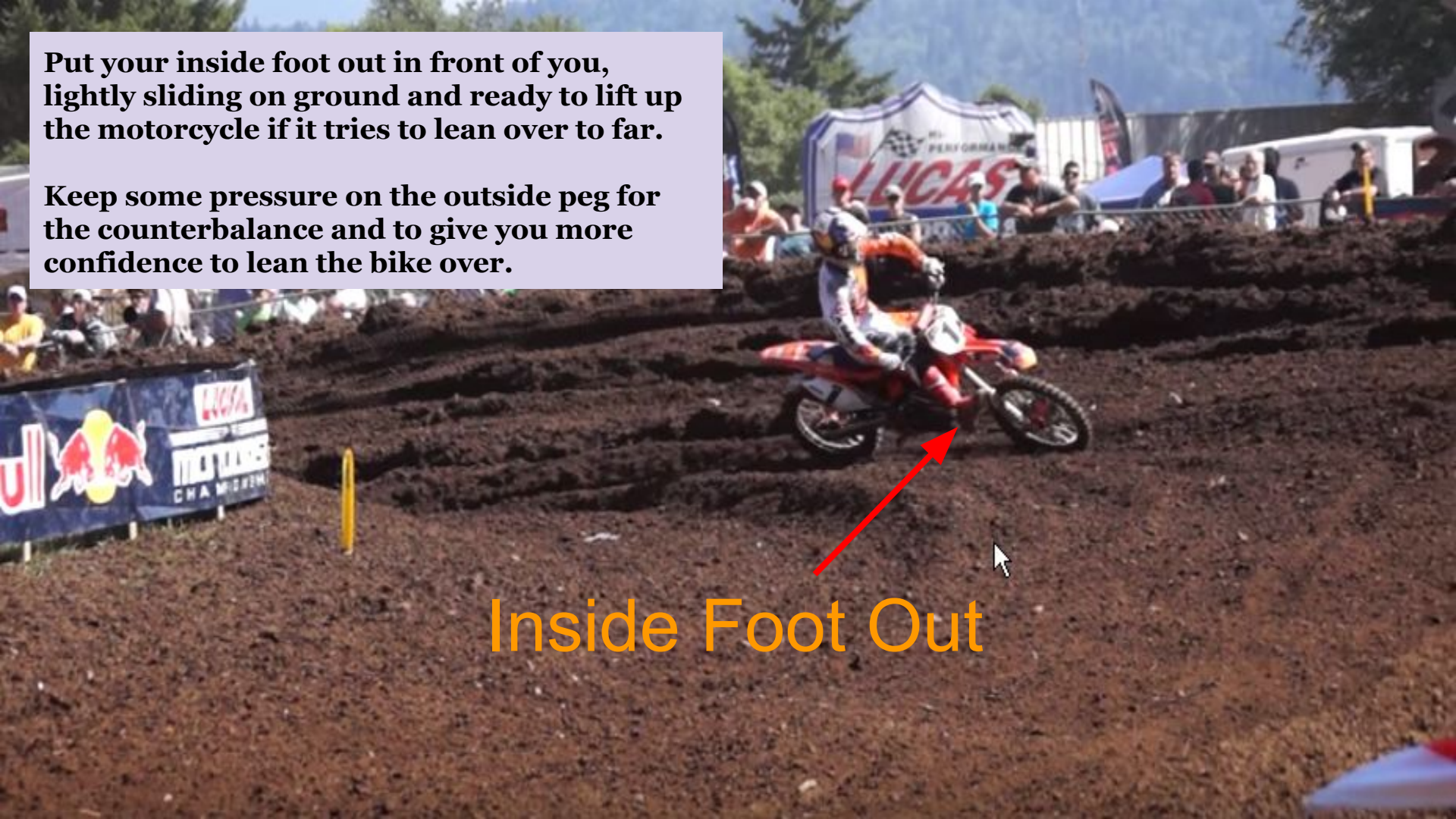
- Ready To Start
- Gear Selection
- Ruts Ready
- Line Selection

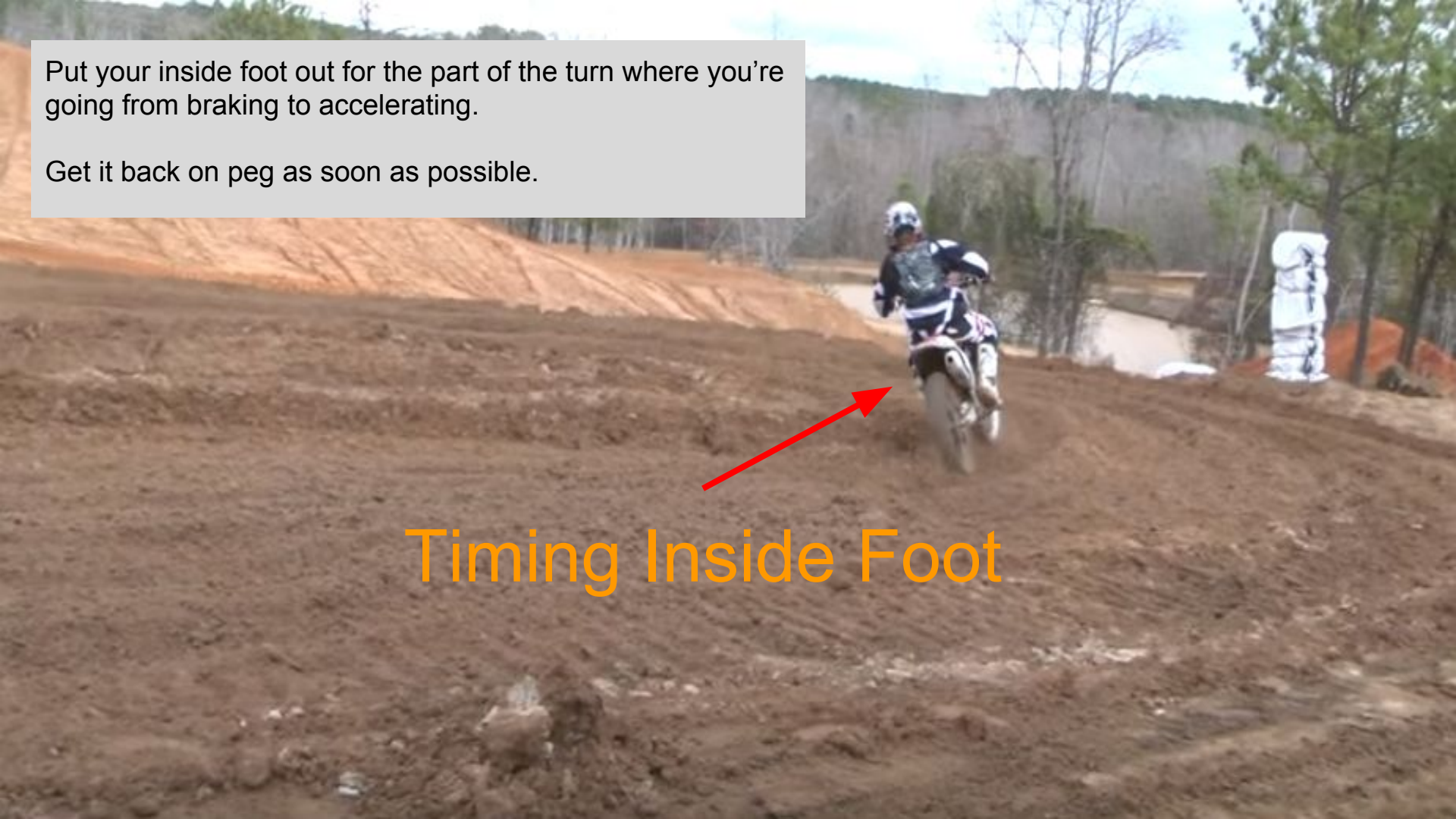
Allows you to use controls easier. Throttle/front brake/clutch.

Allows you to make lateral movements with upper body for balance. Gives you the leverage between arms and body.

Keep Head Centred Over Handlebar Pad

Raise your outside elbow above your handlebar when cornering.
Your inside elbow should be a little lower.


Put your inside foot out in front of you, lightly sliding on ground and ready to lift up the motorcycle if it tries to lean over to far.
Keep some pressure on the outside peg for the counterbalance and to give you more confidence to lean the bike over.
LUCAS
Inside Foot Out


Put your inside foot out for the part of the turn where you're going from braking to accelerating.
Get it back on peg as soon as possible.
Timing Inside Foot

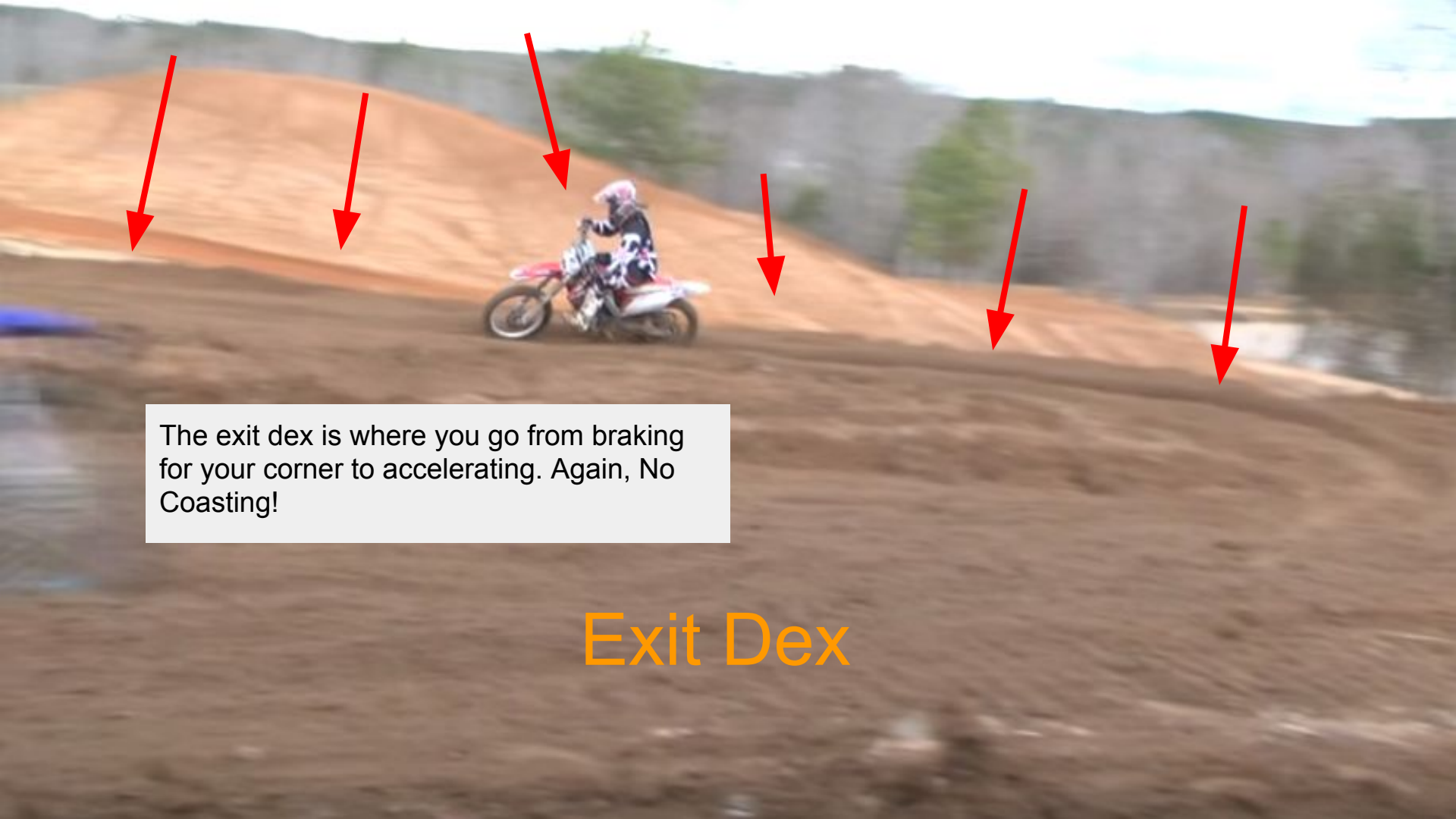

Timing Inside Foot

When you are riding a motocross track, you should either be braking or accelerating. Never Coasting!


Go right from braking to accelerating.
When you are coasting, you give control back to the bike. You control the bike at all times. It does not control you!
Accelerate

The entrance dex is where you go from accelerating from your last obstacle to braking for your corner.

Remember No Coasting In Between!



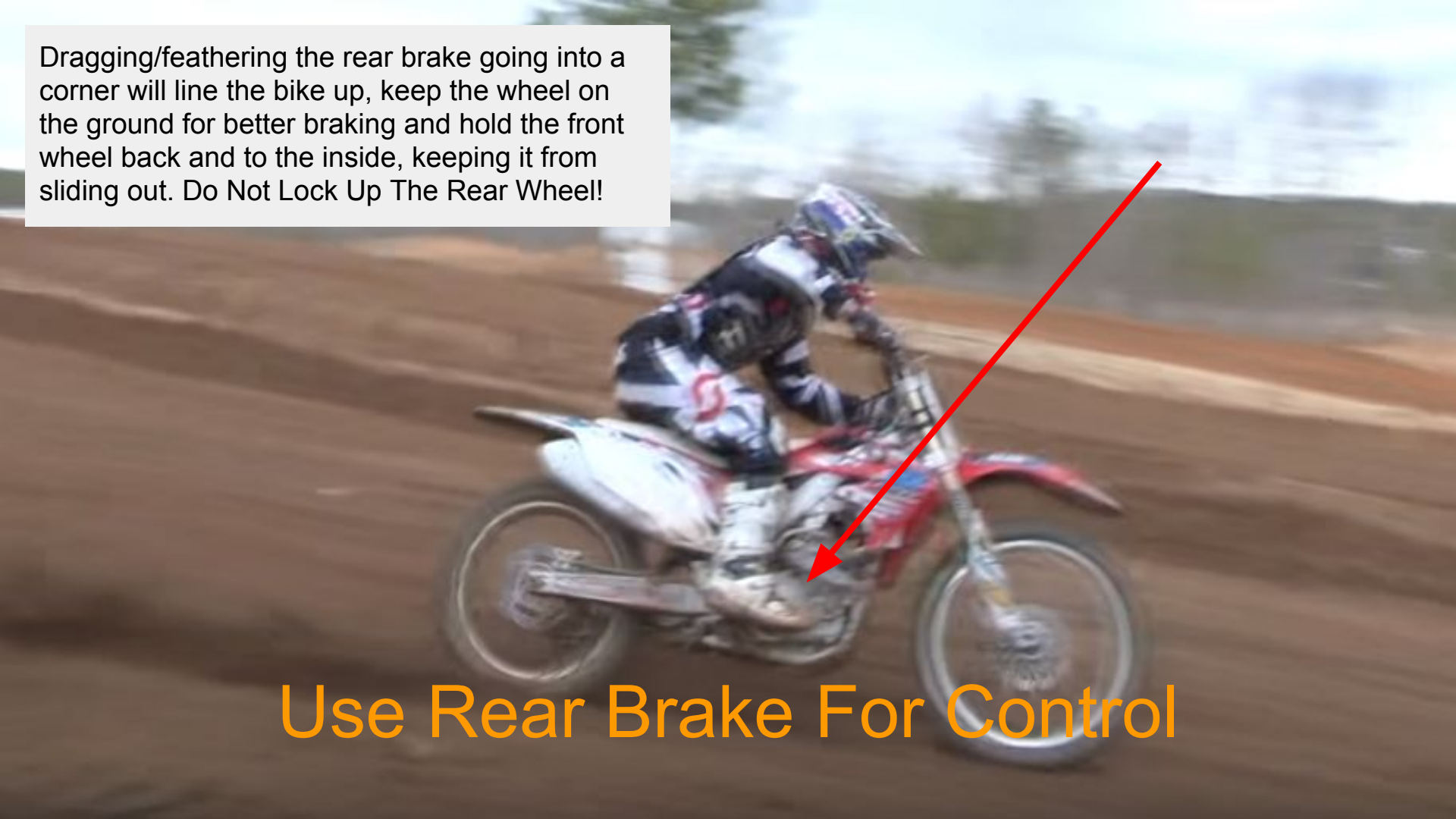
The exit dex is where you go from braking for your corner to accelerating. Again, No Coasting!

Exit Dex

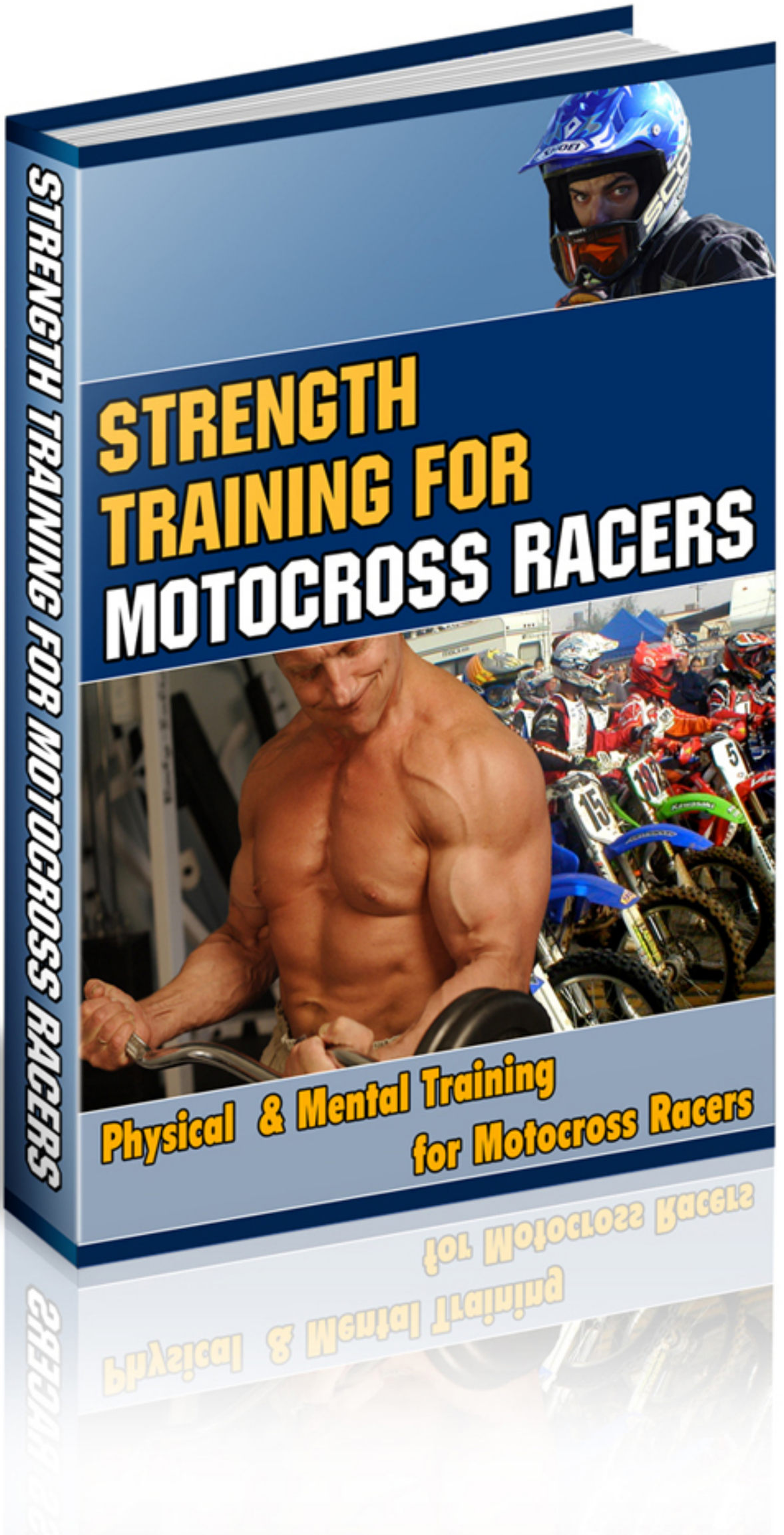

At the entrance and exit dexes, you make smooth transitions from accelerating to braking and from braking to accelerating.
Connect The Dexes


Feathering the front brake through a bermed corner will hold the front wheel in the berm and make the motorcycle turn more sharply!
Feather The Front Brake

Dragging/feathering the rear brake going into a corner will line the bike up, keep the wheel on the ground for better braking and hold the front wheel back and to the inside, keeping it from sliding out. Do Not Lock Up The Rear Wheel!



Use Rear Brake For Control


STRENGTH TRAINING FOR MOTOCROSS RACERS
STRENGTH TRAINING FOR MOTOCROSS RACERS
Physical & Mental Training for Motocross Racers

Strength Training for Motocross Racers

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Introduction

It's an unfortunate fact that most motocross racers don't think that weight training will help their game. Actually, the very opposite is true. It takes strength and endurance to go the distance and the racer that has the strength to maintain precise control and balance will have a decided advantage over the rest of the field.

Why do most racers have this attitude and belief? Over and over again you get the same excuse: "If I work out, I'll get arm pump!" As you know, arm pump is caused by blood build up in your fore arms. The muscles expand and then blood flow is restricted. Common sense tells us that this will surely happen if we approach weight training like a body builder. On the other hand, if our overall training regimen completely ignores weight training, we lose part of our competitive edge.

Did you see the Seattle SX, when RC hammered the field through the whoop section? Do you think he could have done that on a 450 without superior strength? The fact is, weight training protects your joints and muscles by strengthening them; especially when combined with good nutritional guidelines. When you get into the rough sections of the course and you've got to manhandle that bike like a bull rider, you are going to need solid muscles and joints to keep up your endurance and avoid injury.

The majority of racers approach weight training from the wrong viewpoint - that is why they don't get the results they want and need. If you approach your routine like a bodybuilder, you are going to end up looking good at the beach, but it's not going to do much for you when you mount up on race day. What racers need is a program geared specifically for them, one that addresses their particular needs, not the standard old pattern of leg extensions, bench press, military press, and bicep curls. What racers need is the right exercises with the right number of reps in the right number of sets.

What do you suppose the consequence is of weight training like a bodybuilder rather than following a program tailored for racers?

You will develop a muscular strength imbalance between the muscle groups that are important when racing or just riding. These are between the upper and lower body, and between the front and back of the body. If these areas of the body are at all out of balance, the

chances of muscular and ligament injury rise dramatically under the stress that is particular to motocross racing.

The weight training program presented here is based on four underlying principles. Developed specifically for motocross racers, following this program rigorously will build strength in the necessary areas. The end results will be: minimizing the chance of injury, reducing recovery time after a race, and lowering your lap times.

The Four Underlying Principles

#1. Focus on Your Back Muscles

If you go to the gym and study bodybuilders, you will realize that the focus of their workout is to achieve either overall mass for a visual impact, or in the case of power lifters, strengthening mainly the upper body and legs. All this is fine for them, but your goals are quite different.

Although you will be strengthening your arms, chest, quadriceps, and abdominals, equally important in your case are the calves, hamstrings, and back. We will refer to this group of muscles as the posterior chain. One of the most important factors in riding with control and endurance is a strong posterior chain, working in conjunction with strong arms, chest, quadriceps, and abdominals. If the posterior chain is weak, your posture will suffer, which will negatively affect your performance.

Do you recall when we mentioned how some riders blame weight training for arm pump? Now you see that it is not weight training itself that causes it, but the specific weight training routine.

#2. Focus on Strong Core Muscles

Strong core muscles are important for more than just looking good at the beach! Flabby core muscles are one of the main causes of poor posture and back pain. If they are responsible for these types of problems in sedentary people, just imagine what it does for motocross racers!

If a racer's core muscles are weak, the end result is poor posture. This is bad enough anytime, but especially when riding. Balance and control are essential components of skilful riding. When the core is not strong, the rider must shift the work load to the shoulders and arms.

Not only does arm pump result, but overall race performance suffers, since isolated parts of the body are doing more than their fair share of the work, causing early fatigue.

#3. Focus on Strength rather than Endurance

If a person's weight training regimen focuses on lifting low weight with a high number of repetitions, they are training the endurance portion of their overall fitness profile. Motocross racers, by definition, already have a high endurance profile.

What most racers do not focus on enough is strength. Strength training is the inverse of endurance training, as you might imagine: higher weight, fewer reps.

Why do you need strength? It improves the stability of your joints. If you find yourself having to recover from a major swap, you are going to need that joint strength and stability to protect your joints and muscles.

Are you concerned with bulking up too much? Some people mistakenly equate muscle strength with unnecessary mass. You don't have to worry about that. It is the case with body builders, but to achieve that much mass they focus only on strength, eat a targeted diet, and take special supplements.

#4. Focus on Total Body Movements

If you are like most motocross racers, racing is not your full time job; you've got to work somewhere else to pay the bills. So between working and riding your bike, your free time is limited. Your workout needs to ensure that you get the maximum result for the amount of time you budget for the gym. Let's take a look at how you can achieve this goal.

The most logical method of getting that result is to focus on doing exercises that work multiple joints, rather than isolation type exercises. This adds efficiency to the workout.

Some examples of these are the power clean, lat pull-down, squats, and the dead lift. Don't just rely on one joint isolation exercises such as parson's curls or the bench press.

Put the Plan in Action

The plan is centred on two basic workouts. Each workout is composed of five distinct exercises. The first three exercises of each workout are done together as a circuit. Each circuit should be done three times in order at a comfortable pace. In other words, exercise 1, 2, 3 **+** exercise 1, 2, 3 **+** exercise 1, 2, 3.

Perform the same circuit idea with the remaining two exercises. This time however, rather than working at a comfortable pace, use the heaviest weight that allows you to complete every rep of its set.

You'll know you've got the right weight when the last rep is a bit of a struggle. If you are just starting a weight training program, it may take a couple of trips to the gym to get your correct weight. Experiment. It also helps to maintain a log to keep an eye on your progress. Very soon, you will find yourself adding weight.

Now let's take a look at the workouts.

The Workouts

Workout # 1

Exercise # 1: The Step-Up Press

What do you need for this exercise? The aerobics area of your gym should have aerobic steppers. Borrow one with about five or six risers for each side. You will also need a barbell with enough weight that you can lift it comfortably without straining.

Put the barbell behind your head on your shoulders. Place your feet approximately shoulder width apart.

Keeping your spine erect, step up onto the stepper with one foot, and then the other. Once you are stable on the stepper, raise the barbell over your head and then return it to your shoulders. Step back down and repeat, this time altering feet when stepping up. You will need to do ten to twelve reps per set.

Muscles Worked: lower back, quads, hamstrings, glutes, shoulders, and core.

Exercise # 2: Chin-ups

This exercise can be performed in one of three ways: under hand, over hand, or the mixed grip (one hand over and one hand under). Use the method which is most convenient for you - or mix it up.

Begin by hanging from the bar, your arms completely straight and your feet off the ground. Pull yourself up until the level of your chin is just above the bar. Hold it there for one second. Do eight to ten reps per set.

Your gym may have a Nautilus type machine for this exercise. For some people, it makes the movement easier because the weight stack assists you in the pulling motion.

Muscles Worked: back, biceps, lats and core.

Exercise # 3: Bent-Over Row

For this exercise, place your feet far enough apart to give you a solid base of support. For most people, this is usually slightly wider than

shoulder width. Bend your knees at a 45 degrees angle. Keep your back straight and your head up.

Lift the weight up and into your chest in a smooth fashion. Squeeze your shoulder blades together as you press your elbows back behind you. Maintain a straight back and keep your knees bent and your head up. Do ten to twelve reps per set.

Muscles Worked: shoulders, glutes, and upper, lower, and middle back.

Exercise # 4: Stability Ball Jack knife

Assume the push up position. Place your shins on a stability ball. (Your gym probably has them all over by the stretching area.)

Draw the stability ball in the direction of your chest by raising your hips while bending your back as you roll the ball forward with your feet. Some people find it easier to pull their knees as close to their chest as possible without raising their hips at all. Do ten to twelve reps per set.

Muscles Worked: Shoulders and core.

Exercise # 5: Dead Lift

Begin this exercise in the following position: set your feet approximately shoulders' width apart with your buttocks out. Keep your back straight, with your knees bent at a ninety degree angle and focus your eyes straight ahead. Now, slowly lift the weight up and in the direction of your hips in a smooth fashion. Be sure not to jerk the weight up off the floor quickly, because this could result in serious injury to your lower back. It is essential to keep your back straight and your butt out. Do ten to twelve reps per set.

Muscles Worked: Lower back, legs, and core.

Workout # 2

Exercise # 1: The Squat-To-Row

This exercise is performed at a cable station.

Attach universal grips to the lower pulley. Face toward the weight stack and grab the handles. Move back a few steps while raising the weight just a bit. Keep your arms straight and squat at a ninety degree angle. Remember to keep your back straight and head up. Don't allow your knees to get in front of your toes.

Maintain an erect stance while pulling the handles in the direction of your chest. Simulate riding your bike, keeping wide elbows. The universal grips should arrive at your chest at the same time as you begin to stand straight up. Return to the original position. Repeat this routine ten to twenty times.

Muscles Worked: Upper back, shoulders, core and legs.

Exercise # 2: Bench Press Push Up

You will need a bench press and bar bell in order to perform this type of push-up.

Place the bar on the bar rack of the bench press. Kneel on the bench while you face the bar. Put your hands on the bar just a bit wider than your shoulders. Keep your arms straight while rising up onto your toes. Keep a slight bend in your knees while you do this. Now, simply perform a regular style push-up while you maintain a slight bend in your knees. Do ten to twelve reps per set.

Muscles Worked: Upper back, shoulders, arms, and core.

Exercise # 3: Overhead Lunge Press

Begin by standing straight up, holding a pair of dumbbells while in the shoulder press position. Step forward with your left leg. Lower your body until your front knee is bent at a ninety degree angle. Press the weight overhead now and return to the shoulder press position.

Return to the starting position and repeat with your right leg. That completes the first rep. Do ten to twelve reps per set.

Muscles Worked: quadriceps, hamstrings, glutes, shoulders and core.

Exercise # 4: Swiss Leg Curl

Begin by lying on your back. Place a stability-ball a few feet in front of you. Set your calves on the ball while extending your arms to the side. This will make balancing easier.

Push your hips in an upwards direction so there's a straight line from your shoulders to your heels. Roll the ball towards you by lifting your hips up and bending at your knees. Roll the ball as close to your buttocks as you can.

You may increase the difficulty of this exercise by lifting one leg into the air and holding it while doing the exercise with the other leg. Do ten to twelve reps per set.

Muscles Worked: Hamstrings, glutes, core.

Exercise # 5: Power Clean

Pay heed to the fact that this exercise is advanced and you should research power lifting exercises if you have never done them before.

Begin by placing your feet a bit narrower than shoulders' width. Grab the bar with a grip that is just on the outside the width of your hips. Maintain a flat back. Keep your shoulders directly over the bar while you are in the bottom position.

Raise the bar off the ground with your legs, *not* your back, until the weight is past your knees. Don't jerk the bar off the ground. This will only ruin the proper back angle necessary for a safe lift.

During the second pull phase, you accelerate your hips in a forward direction. Shrug your shoulders when the bar reaches the middle to upper portion of your legs. In the third phase, you quickly drop underneath the bar to catch the weight. Be sure to keep the bar very close to your body throughout the total movement. Complete this portion of the lift by standing tall with your elbows pointing in the forward direction. Keep your hands open and the bar resting on your fingertips and shoulders.

Place the bar back on the floor by rolling the bar off your shoulders. Let the bar return slowly to the floor. You can change up this exercise by not placing the bar on the floor, but rather maintaining it in the mid-thigh area. This removes the initial pull phase if your lower back gives you some grief. Do eight to ten reps per set.

Muscles Worked: Lower back, quadriceps, core and shoulders.

Strength Training – an In-depth Look

Earlier, we talked about the need of motocross racers to fit a strength training program into their overall fitness regimen. To reiterate, this is extremely important if you want to take your abilities to the next level. We also spoke of choosing the right kinds of exercises for our purpose: compound exercises that work on the large muscle groups.

We have long known that building strength is an important part of an athlete's training regimen, and in our case, specifically motocross racers and off-road riders.

You need access to a weight room or the opportunity to work out at a gym if at all possible. This will give you a structured environment where you control all the variables such as weight, specific exercises, etc.

When you first think of strength training, doesn't lifting weights at the gym using machines, barbells, and dumbbells come to mind? Of course it does. But there are other perfectly good strength building alternatives if you don't have access to gyms or a weight room - or don't feel comfortable in a gym or a health club environment. But don't worry; there are many exceptional strength building exercises that you can undertake with very basic equipment in your house, on your back deck, or in your garage.

You can either use bodyweight training exercises (where the only resistance is provided by the weight of your body) or use creative sources of resistance. You will have to find some odd objects to be creative!

Some traditional bodyweight exercises would be pull ups, sit ups, push ups, and squats. If you go the odd object route, resistance can be provided with items such as paint cans, sandbags, rocks, cinder blocks, tires, etc. Be creative and use any object that you might pick up and use as a substitute for a dumbbell or barbell.

Let's examine using bodyweight exercises to build your strength.

The design of an effective exercise program can be approached in many different ways. Generally, the approach used at the majority of gyms is to work muscles individually. In fact, this is what a bodybuilder does. But for motocross racers and almost all other

athletes in a specific sport, this is the wrong approach to strength training.

To excel as an athlete, your muscles and body have to be trained to work as one functional unit. That is why this is often called the theory of "functional training". Most of the exercises that fall into this classification use movements that work the major muscle groups in a coordinated manner. Think of it in this way; we are training "movements" rather than individual, isolated "muscles".

You might be just starting out in a strength building program. If this is true, it is vital to use a logical approach when you set up your training regimen.

As a motocross racer, bodyweight exercises should be your natural choice as the first step. These are exercises like push ups, inverted rows, one leg squats, and so on. You should feel comfortable with these, before loading up with other weight for resistance. Now that we are familiar with that concept, let's look at some basic exercises that you can do using only the weight of your body for resistance.

It is best to be systematic when defining a strength training program. The body can be separated in four different ways. It makes sense to divide it into the following sections: Upper Body, Lower Body, Midsection or Core, and Total Body Exercises.

Let's look at a few from each category.

Upper Body Exercises

Upper body exercises are typically pull-ups, inverted rows, many different varieties of push ups, and dips. Each of these upper body exercises has many different variations. They can be done with just a pull-up bar and a set of dip bars or push up bars.

All of this equipment is highly affordable and there are some things you can even build yourself. Whichever way you choose to go, there are a multitude of ways to work your upper body if you have an imagination and a pull-up bar.

Both wide and narrow grips can be used when performing pull-ups. This can be accomplished with an underhand or overhand grip. Want to build grip strength? Use towel pull-ups. These will also enhance your total upper body strength.

For push ups, there are many variations that you can incorporate to add intensity or increase the difficulty of the exercise.

For example, put your feet up on a chair or a stability ball, or place your hands on a stability ball. You can use handles or rings hanging from your pull-up bar (tie-downs are ideal) for suspended push ups. These are thought to be the best type of push up to ramp up your motocross game. This is because you are continually moving your hands and arms, and it trains the stability in your upper body. Do this one often and it will pay off in spades.

Lower Body Exercises

Upper body exercises are actually more complicated than lower body exercises. This is because you really do not need too much in respect to specialized equipment.

Some exercises guaranteed to build both leg endurance and strength are bodyweight squats, wall sits, lunges, one leg squats, calf raises, and step-ups.

One exceptional type of bodyweight squat is the Hindu Squat. For hundreds of years, wrestlers have relied on this particular squat for overall body strength and endurance. You have to take the time to learn the proper technique, but it is a particularly useful exercise for motocross racers. Why? The type of muscular endurance that it establishes in the legs and the entire body will carry you through a gruelling race with an advantage.

On the subject of leg development, consider one leg squats. These are very elementary: just stand in front of any chair or stability ball putting one foot behind you on the top of the chair or ball. Then, do a controlled squat using the leg in contact with the floor. Continue until you reach the point where the top of your thigh is parallel to the floor.

Go ahead and hold onto something until you've developed the balance you need to do them without a prop. As your legs strengthen and your balance improves, you can remove the chair. Then, go ahead and do the squats with your free leg out of contact with the ground.

Step-ups on a step, or regular short bench, or steps, lunges, calf raises, and wall sits are some other helpful exercises that you can do almost anywhere.

Midsection or Core Exercises

Some people tend to neglect exercises for the midsection or core. That's unfortunate, because they can be critical in establishing yourself as a total athlete. Your core muscles are used to connect your upper body with your lower body. In order to assist in quick, strong movements in different directions, help prevent injuries, and maintain good posture, they need to be thoroughly developed.

Exercises that will help are variations of sit ups, back extensions, plank raises, and leg lifts. Crunches remain popular, but they are more in the category of isolationist exercises. The ones mentioned are more efficient because they provide a full range of movements.

Another type of training that is imperative for motocross racers is neck and spinal training. This is done with both strength and flexibility in mind. The neck is critical because it involves the spinal column. In fact, the neck is one of the most under trained areas of the human body. Incorporating a few neck training exercises into your training program will help you avoid the potential of injury. This is especially true in the violent sport of motocross. You can't overlook the practicality of a strong neck; these should be included in any strength training regimen.

Total Body Exercises

Total body exercises are just what you might infer from the name: these are the type of exercises that train many muscles at the same time, including the lungs and the heart.

Some of the exercises in this category are bear crawls, jumping rope, mountain climbing, pulling a tire or sled, running stairs, or swimming. These exercises are aerobic; they work your complete body, make you breathe hard, and your get your heart pumping.

Although these exercises are aerobic in nature, they work to develop comprehensive body strength in conjunction with muscular endurance. This is why they are so effective for the motocross athlete when they are made an integral part the overall training experience.

Summing it All Up

There are several ways to put together a beginner's training program. If you are just beginning a program, it's a good idea to just start out by working your entire body three times a week, such as: Monday, Wednesday, and Friday.

Make your plan simple to ease into so that you minimize the chance of injury and psychological burn-out. Choose two exercises from every category and start off with two to three sets of each one for twenty to twenty five reps. In the beginning, the order of the exercises is really not important, but save the total body exercises until the end.

Keep moving to keep your heart rate up; rest no more than one minute between each set. You should experience heavy breathing while exercising with intensity. If you find yourself just ambling along, rest for a smaller duration and build more sets and reps. Try doing a circuit workout to further increase the intensity. Listen to your body to prevent injury, but continually push yourself and focus on improving to get better each and every workout. Be sure to mix up your routine to keep from flaming out or getting too bored.

The exercises we have discussed are primarily related to developing muscular endurance and strength. To develop the total athlete a bit more is needed in the program. Additional exercises and routines should be incorporated to improve your flexibility, power, balance, agility, and reflexes. These are beyond the scope of this article but remember, strength training can be found in a variety of places; sometimes you need to be creative.

Keep working at it, be creative, and soon you will have a program that will allow you to get stronger and become a "total athlete".

What Metrics Mean in Your Training

So, you're a motivated motocross racer. You work hard to put all your motos in at the track. You incorporate bicycle riding on a road bike to improve your aerobic capacity. You consistently put in the hard work and now you want to see your hard won dividends. Of course you know precisely what to do at the track; you've been at it a while. But what do you know about training on the bicycle?

What we are going to talk about here is how to make your cycling or other aerobic training as productive as possible. You must train smarter, not simply harder.

There are three integral parts to any athletic training program:

Frequency – how many times per week you do an activity. Duration – the time period you spend on an activity for each session. Intensity – your perceived effort; what percentage of your predicted maximum effort that you are expending in a particular exercise session.

We use all three of these variables in a manipulative manner to create a single workout and then expand it to form a comprehensive training plan. Intensity, the final variable, is the one that is the least understood and even gives experienced cycling pros and motocross racers the most confusion.

This purpose of this section is to give a ground-up explanation, so you can effectively measure workout intensity and determine which systems in your body are targeted for each level of intensity. Possessing this knowledge, you can begin to create your cycling and other aerobic workout routines and formulate a training plan. It will also provide you with a physiological goal for each individual workout. This helps in keeping you on track to complete each and every workout properly.

The Relationship between Your Body's Fuel Systems and Intensity

Why would you modulate your intensity level? The fundamental reason is to enable the stressing of your body's different fuel systems. At very

low exercise intensity levels, the majority of the energy you use comes from a combination of the oxygen you take in and metabolized fat.

Although fat in overabundant quantities can pose a health risk, it is also your body's most efficient fuel source. Molecule per molecule, it makes more energy available than your body's other fuel choices. An added bonus is that it presents no harmful by-products to your body.

When you increase the intensity of your exercise, your body uses an increasingly smaller ratio of fat to stored carbohydrates, although both types of fuels need oxygen to metabolize. This process of ratio changing continues as long as you keep increasing the intensity of your exercise.

If you maintain this intensity, you reach the point where all your energy demands are being met by carbohydrates. Soon your body begins to stop using oxygen in the process. This causes your working muscles to accumulate lactic acid. This is a counter productive by-product which can cause your performance to plummet. There is a physiological point known as the Lactate Threshold, when your muscles produce lactic acid as quickly as you eliminate it.

Now you have a good idea why it is a good scientific training protocol to monitor your exercise intensity level. By doing this, you will be able to properly stress each fuel system, assuring maximum return from your exercise effort.

Determine Your Heart Rate Training Zones

As we've said, your goal is to improve your training plan to make it more effective. This can be achieved by establishing your personal training zones. We will base the zones on the intensity levels we discussed earlier.

The typical way to do this is to conduct a test to evaluate your Lactate Threshold Heart Rate. This is the heart rate at which you reach your Lactate Threshold during your chosen aerobic activity.

The hardware needed is an accurate heart rate monitor designed to read and determine average heart rate for the duration of the test. The test is not complicated, but requires you to be well rested, hydrated, and energetic, because you will be required to put forth a maximum effort!

Performing the Lactate Threshold Heart Rate Test

We will start with a ten minute warm up, followed by a thirty minute all-out effort. The tricky thing here is pacing. You need an effort level that lets you complete the thirty minutes at as high a level of intensity as possible for the entire test, but not crash as you finish the test.

Put your heart rate monitor into recording mode when you reach 10 minutes into your 30-minute effort and stop it when you reach the thirty minute limit. Finally, cool down for five minutes as you normally would. Your resulting LTHR is your average heart rate for the last 20 minutes of the test.

ZONE	PURPOSE	FUEL	% OF LTHR
1	RECOVERY PREDOMINANTLY	FAT	<83%
2	AEROBIC CONDITIONING	MOSTLY FAT, SOME CARBOHYDRATE	83-89%
3	HIGH LEVEL AEROBIC CONDITIONING	FAT AND CARBOHYDRATE	89-93%
4	AEROBIC/ANAEROBIC THRESHOLD	PREDOMINANTLY CARBOHYDRATE	93-100%
**********	**********LTHR**********	**********	**********
5	ANAEROBIC CONDITIONING	ALL CARBOHYDRATE	100%<

Calculate your five heart rate training zones

Add one heart beat to each zone starting number beginning with zone 2 to get the right zone range numbers. In other words, add one heart beat to 89% (high zone 2 number) of the LTHR to get the low heart rate number for zone 3.

For example, if your average heart rate was 155 BPM from your heart rate monitor,

- Zone 1 would be anything less than 129 BPM (155 x 0.83 = 129)
- Zone 2 would be 130 to 138 BPM
- Zone 3 would be 139 to 144 BPM
- Zone 4 would be 145 to 155 BPM
- Zone 5 is anything above 155 BPM

What does it all mean?

You're saying, "Ok, now I've got all this data. What do I do with it?" We create your actual training routine, of course!

As common sense will tell you, when intensity increases, duration decreases. This is applicable for a single workout and for your weekly plan. Let's say you might complete one hour of cycling in zones 1 and 2, but you may do only 3 intervals of 4 minutes each in zone 4. This comes out to a sum of 12 minutes in zone 4.

This implies that weeks that have only lower zone workouts associated with them will have a higher total weekly quantity of training than weeks that include work in the higher zones.

You will continue to work from the lower zone workouts to the high zone workouts. As you begin, you may be using only zones 1 and 2, but in a few months, you are doing workouts that include zone 4 and zone 5. You must begin by building a foundation of lower zones.

The higher you get into the zones, the fewer total weeks you will work out in that zone. For instance, you might have eleven weeks in zone 1 and 2 but only use zones 4 and 5 for three weeks.

As the date for your target race gets closer, you will schedule higher zone work, but you log a smaller total volume of work. The last several weeks before your target race comprise the smallest total volume but have the most workouts of high zone work.

Zone 1 and zone 2, taken together, are your backbone work. These are the totally fat burning aerobic zones. Doing them consistently will afford you the ability to burn fat efficiently. As you get deeper into the season and you ease into higher zone work, you'll do it less. However, you should always be doing lower zone workouts.

These are the basics on how you create targeted workouts and training schedules. It takes some pencil and paper work to get it right. Remember to be flexible; things in your work and personal life will come up.

Now you can begin smarter, more effective training. Any racer can just work harder, but if you find yourself continually gaining fitness and speed, you know that you are training smarter.

Race Day Psychology

It's finally race day and all the intense preparation is behind you. You have trained according to your schedule, you are brimming with confidence, your bike is perfectly tuned, and you have memorized the track. It's all set up, but as you sit on the moto starting line, your brain starts playing tricks on you, and your confidence begins to waver.

This is racing's mental game, and it can kill your race.

Racers are great about their training, bike maintenance, and practicing, but many of them disregard the mental maintenance. This aspect is just as, if not more, important than the others mentioned. It is precisely the racer's thoughts and feelings that determine his or ability to kick into high gear and deliver a peak performance on race day.

Motocross racers, a word to the wise: work on your mind as ruthlessly as you work on your ride. You'll be picking up a trophy more often or at least finish higher in the field more consistently. The trickiest part is figuring out what to work on to fortify your mental grit and attitude and then apply it to your game. So get started!

Which important mental skills do racers need to work on to boost their mental horsepower? Every racer is different with unique challenges, but a few fundamental mental game skills are applicable to boost everyone's game.

Confidence

Topping the list is confidence. If you have a habit of doubting yourself or ability on race day, you can surely use some work in this department. You can spot the confident ones such as James Stewart. You can read the total conviction and belief in his inherent ability in his face. How do you think he got there? You have to believe you can before you can! You must first take responsibility for your own confidence to eliminate those pesky doubts that pop into your mind when least welcome.

Focus

Next on the list is the ability to focus like a true champion. Performing in that magic zone where everything clicks is what all athletes live for.

You can't put those feelings in your pocket when you find yourself in the zone, but you can train your mind to recognize a "zone focus" so you can be there when the gate drops.

Distractions are to be expected as anyone involved in a sport can tell you. You can't change that, but you can train yourself to refocus when distractions happen. This (and the ability to *maintain* focus) is one factor that separates the winners from the losers.

The best athletes will tell you that there exist two essential mindsets that you must master for success, regardless of sport: practice mindset and the race mindset.

In the practice mode, you work on your technique and focus your riding competency on jumps, in the corner, and on bumps. The training mindset is your homework.

The race-time mindset is there to maximize your race performance and is a must-have for peak riding with the top dogs. Why do you think Ricky Carmichael is the best motocross racer? Part of it is his incredible work ethic and devotion to training. However, he also is the master of the race-time mindset.

The ability to be a natural performer and apply your skills without thinking is crucial to motocross success. That's why you go to racing school, practice, and slide through the same turn fifty times in a row just to get it fluid and right. It has to be there when the chips are down. You want everything to become "just a reaction."

Shaking It Off

The next skill you must master to minimize brain fade and arm pump is the ability to just shake off the tension and get focused. Of course, it's natural to tighten up and try harder. But trying too hard to fly through the course can actually work against you. Your timing gets fouled up and your natural rhythm evaporates. It might even cause arm pump. You want to ride as fast as you can in a race, just as you do when you practice. There is no such thing as the perfect, mistake-free moto. Accept it. Deal with it.

This leads us to the ability to handle errors and take them in stride. Some racers have a hard time putting early-race errors in the back of their minds, which sticks them in a mental rut. Let go of those errors

right away and don't over-analyze them. Ride your race one section at a time.

Tuning Up Your Mind

The final mental prep for a moto is just as important as the bike prep. You have to tune up your mind. How can you do this? By having a race strategy prepared *before* you get to the starting line. This is no time to figure out what you need to do! Let experience be your guide. Have confidence in your plan from the starting line to the finish line. You will need to be flexible as conditions change but have a core game to follow.

Remember to have fun out there. Pressure and expectation from any source will only cause you grief. Remember why you're out there anyway; it's because of the thrill of putting the hammer down and hanging on!

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