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THE GUIDE TO  
TRACK DAYS

Great motorcycle quotes and wisdom.....

“I didn’t have a clue where I was going on my first lap of practice” - Joey Dunlop

“For the first approach you will think this is a crazy sport, but at the end of the da it’s not that crazy” - Max Biaggi

“There are only three sports, mountain climbing bull fighting and motor racing. All the rest are merely games.” - Ernest Hemingway

“Faster, faster, faster, until the thrill of speed overcomes the fear of death....” – Hunter Thompson

“Racing is life... everything else before and after is just waiting,” – Steve McQueen as Michael Delaney in ‘ Le Mans’

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## 1. Introduction:

How many times have you gone out for a ride with your friends only to have your day ruined by a speeding ticket or worse? Ever think about what it would feel like to really ride your bike to its limit without fear of legal repercussions. Well, the MCRA is giving you just such an opportunity with our MCRA Track Days.

[MCRA Track Days](#) allow riders the experience of testing the limits of you and your machine without the stress of competition. It is a very easy step to take to go from riding on the street to riding on the track, and once you make that first step, it is indeed a small step from track days to [MCRA Challenge Series](#) races. We intend to ease some of the fear of those steps, while giving the benefit of our experience to those who want to just enjoy their machine in a safe, legal situation. To many it may sound a little intimidating at first, but once you have made that commitment to ride the track you will have wished you would have done it a long time ago! Just ask anyone about their first-time track experience!

The main goal of the MCRA Track Days is to give street riders a safer alternative to highspeed street riding. The beneficial by-product of these events for the MCRA is to introduce more riders to the sport of road racing, and to help riders become more involved with more experienced racers, who can help them improve their skills to become better riders whether just street riding or racing.

To ease the apprehensions of street riders that have never turned a wheel on a real racecourse, the MCRA Track Days will feature a minimum of four rider groups, to be known as **Test The Track (Gateway Only)**, **Novice**, **Intermediate** and **Advanced**. Riders will be divided up into these four categories according to skill level.

The **“Test The Track”** will have 1 session during the Track Day. They are exempt from some of the safety requirements of the normal track rider with some stricter speed requirements just for that group. It will give the street rider a chance to feel the track experience at a reduced cost. For requirements, and to sign up visit [www.midwestcaferacing.com](http://www.midwestcaferacing.com) or contact your participating dealer.

The first group to run the track will be the **Advanced** class. This class consists of very experienced track riders and licensed racers, so the advance class is not for the faint of heart. Every session will be monitored to ensure the ability of the riders on the track in this group, and riders who do not appear comfortable in this class will be asked to move back into the Intermediate Group. This is where you get to ride just as fast as you can, pass wherever there is sufficient room, and really find the absolute limits of you and your machine. Prove yourself in this group, and you are one very small step away from becoming one of the elite road racers young riders admire to or currently admire to yourself.

The second group to run the track will be the **Intermediate** class. This class due to its size may be split into 2 groups. These riders will have no speed limit, and passing will be allowed

on straight-aways and on the outside and inside of corners while maintaining a 6 foot perimeter. This class is for riders that are more confident, more comfortable with their machines and the higher speeds and have prior track experience. At this level, the fun and excitement of riding fast really gets your attention. With the minor passing controls in place, the rider soon begins to learn the pace and control of riding in higher speed traffic, while building the confidence in those around him that will be needed to step into the fastest group. Not all riders will choose to take that next step, so the Intermediate class should be a very popular group everywhere we go.

The last group to run the track will be the **Novice** class. This class is where most new riders will come to learn the track and advance their skill level. The novice class has more structure and rules to help keep riders as safe as possible. Passing will only be allowed on straightaways. Control riders will be available on and off track to provide instruction to anyone that needs help. After each session, the control riders will stick around to answer any questions the riders may have on technique or machine set up and to evaluate riders moving to move to the Intermediate class. There is also classroom instruction available, see the head novice control rider for more information.

These 3 groups will continue in this order the rest of the day.

## 2. Rider Requirements:

- 1.) Undamaged full-face helmet with face shield and bearing a stamp of approval from one of the following international standards: BSI, ECE-2205, DOT or SNELL
  - A. It is required that all riders put their competition number on the chin bar or side of their helmets to aid in identification should the rider be involved in a multi-bike incident.
- 2.) Gauntlet gloves with leather protecting the palms and fingers.
- 3.) Riding boots at least 8" that fully cover the ankle and go over the pant leg.
- 4.) Suit requirements
  - A. Test The Track - Requires at least a textile or leather riding jacket (no mesh) and jeans.
  - B. Novice - One or Two piece suit required. Two piece suits must have 360 degree zipper. Textile suits are allowed.
  - C. Intermediate and Advance - One or two piece leather suit required. Two piece suits must have 360 degree zipper.
  - D. We suggest you use a chest and back protector.
- 5.) Please carry your In Case of Emergency information with you on the track. This info would include: your full name, blood type, current medications, allergies and emergency contact persons name and phone number. I.C.E info cards are not required. But, are highly recommended.
- 6.) Knee and toe sliders that emit sparks are prohibited.
- 7.) All gear must be in good condition, free of holes and have padding in the shoulders, elbows and knees.

(A mandatory riders meeting is held in the morning for each class and must be attended before you are allowed to enter the track area.)

**8.) MCRA AGE REQUIREMENT-** Applicants must be at least 12 years of age. Applicants below the age of minority in their home state must provide a notarized statement of permission from a legal parent or guardian at each event. MCRA reserves the right to restrict participation in any event based on age and/or specific track regulations.

### 3. Rider Preparation:

1.) **Be Well-Rested:** Do not let fatigue cloud your judgment. This activity is very physically and mentally taxing, so be ready by being rested.

2.) **Be Early:** The best way to stay relaxed is to not have to be in a hurry for anything. The stress and tension created by having to rush around to get ready will reduce your ability to concentrate on the job at hand, riding safe, riding fast and having fun.

3.) **Be Prepared:** Have everything you will need for the day with you, use a check list if needed, and have your machine ready to go on track before you get to the track. It bears repeating, the stress and tension created by having to rush around to get ready will reduce your ability to concentrate on the job at hand, riding safe, riding fast and having fun.

4.) **Bring a Friend:** There are two kinds of riders, those who have crashed, and those who will crash. Be prepared if it happens to you. You may or may not get hurt, but if you do, it makes sense to have someone there that can get you and your equipment home. Besides, everyone needs someone to recount his or her on track exploits to.

5.) **Wear the Best:** Get the best safety equipment you can afford. Your full-face helmet, boots, gloves and leathers (all of these are required) are your only physical protection in case of a tip-over, and you're pretty important, so why not make sure you have the best protection possible.

6.) **Bring Personal Supplies:** Water, food, notepad, hat, a writing instrument, sun block, lip balm and something to sit on in between sessions.

## 4. Motorcycle Preparation:

**Check It Over, and Then Check It Over Again:** The motorcycle requirements are very simple, actually no more stringent than what you should do before you take to any street trip.

- 1.) **Neat and clean:** No oil leaks, nothing hanging off the machine that could endanger you or another person during the event. If it was bolted on before, it should be bolted on now.
- 2.) **Tires:** Tires need to be in good condition with at least 50% of their original tread still available. We strongly recommend a good set of Sport or Racing DOT tires since this activity brings you close to the speed and forces that are present during actual racing. Remember it's your butt, doesn't it deserve the best?
- 3.) **Mirrors:** (Test The Track Exempt) Remove them whenever possible. Some models use the mirrors as the upper fairing mount, while we recommend you replace them on these models with plates, sometimes that is not possible. In those circumstances, we will allow the mirror lenses to be taped in lieu of mirror removal.
- 4.) **Lenses:** (Test The Track Exempt) Must be taped up or removed. As much as turn signals cost to replace, removal would be more prudent since you won't be using them on-track anyway.
- 5.) **Lights:** (Test The Track Exempt) Must be taped completely and/or disconnected so no light shows through. We strongly recommend you remove them wherever possible, using the same rationale as the turn signals, you are not going to need them while you are on the track anyway.
- 6.) **NO Antifreeze:** (Test The Track Exempt) The MCRA Track day participants will NO LONGER be allowed to run Ethylene-glycol antifreeze PERIOD. Ethylene-glycol antifreeze is very slippery when dropped on the track surface, and it is nearly impossible to clean up, thus shortening the available track time to everyone if such a spill occurs. Be kind to everyone and the environment. It doesn't take that much time to change it out before your track day.
- 7.) **Oil Fillers, Drains and Filters:** (Test The Track and Street/Novice Exempt) Make sure these are tight, no leaks, no seepage at all and that ALL 3 ARE SAFETY WIRED. At these speeds, engine vibration will make things come loose you thought never would, so be absolutely certain you have them tight every time you go out. NOTE: If you wish to move up to the intermediate group during the day, these will need to be wired.
- 8.) **Stands:** (Test The Track and Stree/Novice Exempt) If your center stand or side stand is the first solid piece of the machine to touch down when you lean over, we recommend that you remove it. Participants have the option of removing all of them. These stands, if left on

the bike, should be secure in the closed position. Just the G-Force of a high-speed turn can cause them to extend and cause an upset.

**9.) Adjustments:** Make sure you have all your machines adjustable pieces within specifications before participating. This includes throttle cables, clutch cables, levers, drive chains and steering dampers. If it is out of adjustment, it won't work the way you need it to, and that could be trouble.

**10.) Brakes:** Check brakes every time before you go out. Several times a year we see crashes that are directly attributable to failure to pump up brakes after installing new tires or brake pads. They are the most important safety item on your machine; make sure they work before participating in any track session.

**11.) Number Plates:** (Test The Track Exempt) All bikes on the track are required to have a number on the front of the bike and a matching number on the back of the riders helmet. Both numbers should be visible from 100ft away. Licensed riders will most likely already have numbers on their bikes which will be acceptable. Just don't forget the back of your helmet. You the rider will be responsible for numbering your bike and helmet before arriving at the track. We will have only a few numbers stickers for sale at the track. We ask that you respect our retired numbers and not use the following number(s).

(1) 74 – Chris Knauer

## 5. On Track Basics:

1). **Flags:** This is how the safety workers communicate to the riders about track conditions and situations that they need to be aware of. Some flags require specific action while others are for informational purposes only.



a.) **Green:** This flag means track is open for activity.



b.) **Red:** This flag means the session or race has ended early. It does not mean stop on the race track, but you must signal other riders that you are reducing speed (raise a hand or stick out a leg), then slowly reduce your speed to approximately 30 MPH and proceed around the race course to pit road. When you see this flag, something has happened where we feel that we need to stop activity immediately, and we need you to get to pit road as safely as you can. **No Passing!** Passing under a red flag will result in the end of your day, unless you were instructed to do so by an official or the rider in front of you has waved you past them. Once on Pit Road, make your way to the Pit Steward / Race Director who will let you know if the session is to resume.



c.) **Yellow with Red Stripes:** When this flag is displayed stationary, it means debris on the track surface, anything from sand to oil to anti-freeze or even motorcycle parts, make sure you have control of your machine and can take evasive maneuvers if needed. This flag will also be used to warn you of rain by folding it diagonally so it forms a triangle and then the flag is pointed at the sky to let you know the rain is coming down. If the flag is displayed, then furled and pointed at you, you are the debris. You have something wrong with your machine and you need to get off the racing line before your problem becomes someone else's problem. Signal the other riders, reduce speed and pull into the first corner station or pit road and an official will let you know what was observed to be wrong with your machine.



d.) **Yellow-Standing:** A yellow flag held stationary at a flag station tells you there is something on or near the track surface that you should be aware of. This could be a rider with mechanical difficulty, an animal, a safety crew worker, a piece of debris (most common would be body work that came off someone's machine) or any object that you need to be aware of before you get to it. Exercise caution, be aware of your surroundings, but do not radically change speed or direction in response to this warning flag. Passing is allowed once you are past the incident that brought out the yellow.

e.) **Yellow-Waving:** A yellow flag being waved denotes something is on the track surface on or near the line that you will need to use. Make sure your bike is under control, acknowledge the flag by nodding your head vigorously, and prepare to change your line to avoid the

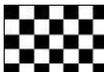
obstacle. This flag condition can also result in a red flag being displayed in the interest of safety, so be prepared to make your way to pit road as soon as possible. ***Remember No Passing Allowed!***

f.)  **White Flag with Red Cross:** Ambulance has been dispatched. This flag will be displayed if the ambulance is sent on course before the session can be completely stopped. While it is acceptable to pass an ambulance, do not pass another rider while in sight of the ambulance. So treat this like a Red Flag but pass the Ambulance with caution.

g.)  **Black Flag with Orange Disk:** This is called a meatball flag; it is used to notify you to report to the Pit Steward just as soon as possible. The meatball flag is generally thrown at the start finish line along with a number board with your bike number displayed to help identify the bike and rider that needs to come in.

h.)  **Black Flag:** You have something wrong with your machine and you need to get off the racing line before your problem becomes someone else's problem. Signal the other riders, reduce speed and pull into the first corner station or pit road and an official will let you know what was observed to be wrong with your machine. This flag will only be seen at the starter's station.

i.)  **White Flag:** Courtesy flag meaning one lap before the checkered flag. Rarely displayed on Sport Rider Days, but if shown no action is necessary from you, except to continue around to the checkered flag.

j.)  **Checkered Flag:** Session/event is over, continue around and enter Pit road. Before slowing down, signal the other riders of your intentions by raising your hand or taking your foot off the peg and sticking your leg out, and then proceed directly to pit road. DO NOT abruptly slow down after receiving the checkered flag, continue on and slowly come down from full speed past the starter before you enter turn one.

## **6. Track Etiquette:**

### **1.) Test The Track Group:**

- a.) Entering the track from pit lane.
- b.) Wait for Pit Steward to release you.
- c.) Stay on the slow side of track until speed is safe to merge with continuing traffic.
- d.) Look before moving over to the high speed line. (Traffic already up to speed has the right of way.)
- e.) Obey flags displayed by any and all flag stations.
- f.) No passing. You must maintain a 6 foot perimeter at all times.
- g.) Passing the Coaches is prohibited unless the Coach signals you to go past.
- h.) Signal before slowing on the racecourse.
- i.) Never stop on the racecourse.
- j.) Exit the track onto pit lane.

### **2.) Novice Group:**

- a.) Entering the track from pit lane.
- b.) Wait for Pit Steward to release you.
- c.) Stay on the slow side of track until speed is safe to merge with continuing traffic.
- d.) Look before moving over to the high speed line. (Traffic already up to speed has the right of way.)
- e.) Obey flags displayed by any and all flag stations.
- f.) Passing only allowed on designated straight aways. You must maintain a 6 foot perimeter at all times.
- g.) Passing the Coaches is prohibited unless the Coach signals you to go past.
- h.) Signal before slowing on the racecourse.
- i.) Never stop on the racecourse.
- j.) Exit the track onto pit lane.

### **3.) Intermediate Group:**

- a.) Entering the track from pit lane.
- b.) Wait for Pit Steward to release you.
- c.) Stay on the slow side of track until speed is safe to merge with continuing traffic.
- d.) Look before moving over to the high speed line. (Traffic already up to speed has the right of way.)
- e.) Obey flags displayed by any and all flag stations.
- f.) Passing only allowed on designated straight aways and on the outside line through the corners. You must maintain a 6 foot perimeter at all times.
- g.) Signal before slowing on the racecourse.
- h.) Never stop on the racecourse.

i.) Exit the track onto pit lane.

**4.) Advance Group:**

a.) Entering the track from pit lane.

b.) Wait for Pit Steward to release you.

c.) Stay on the slow side of track until speed is safe to merge with continuing traffic.

d.) Look before moving over to the high speed line. (Traffic already up to speed has the right of way.)

e.) Obey flags displayed by any and all flag stations.

f.) Passing is open to the full track area. Still, caution is to be used to make a safe pass for both you and the other rider.

g.) Signal before slowing on the racecourse.

h.) Never stop on the racecourse.

i.) Exit the track onto pit lane

"Being shot out of a cannon will always be better than being squeezed from a tube. That's why god made fast motorcycles, bubba"  
- Hunter Thompson

## 7. The Basic Four:

Braking, Entrance, Apex, Exit

The basic function to cornering under full control is to brake before “peeling” into a corner. (When braking, squeeze your lever – don’t grab a handful.) Accomplish your braking and then do your turning. This will give you more traction and free up your thought-processes for the issue at hand: How to best take a corner on a racetrack. The basic approach for a corner is to enter at the outside, steer to the inside, and then let the bike flow outside as you exit the corner. During cornering, your apex is where you are no longer tightening-up your line and you have decided you are going to start applying more throttle. It is usually half way through a given corner. But the apex changes from corner to corner and it is the location of the apex that determines your line. All corners are not created equal. Some may be double apex, decreasing or increasing radius.

You must decide where the apex is and plan accordingly. The apex is your initial target when entering a corner, and your exit location (where you want to be when you are done with the corner) is your secondary target while you enter your apex. This secondary target must be considered in your quest for the proper entrance of the next corner. Establish an arc flowing from the entrance, through the apex, to the exit.

A proper exit will help with your next corner.

The trick is to make your apex the same as the corner’s real apex. Too often we perceive an apex in one location only to find the corner did not feel comfortable. You will know when you have achieved the true apex. It will feel right and your bike will not fight to maintain momentum, or to remain on track. Misjudge matching your apex with the real apex and you will either turn too early, perhaps banging into the curbing, or you will go wide and struggle to keep the bike from going off the track.

Big Note: Cornering is best done with “plus” throttle or “neutral” throttle. Going into a corner with the throttle completely closed will make your bike more “nervous” and will make you feel unsure about opening the throttle until you are well into the apex. Your bike will also not want to lean. To avoid this, brake early, apply “plus” throttle and feel the bike want to steer. Early throttle will promote the bike to lean in, thus placing your knee squarely on the pavement through the apex.

## 8. Braking and Throttle Control:

By Mike Pruitt

**Braking Power** – The front brake is the most powerful control on your motorcycle. In a ¼ mile it will slow you in about ½ the distance it takes the motor to accelerate you that distance.

**Speed Adjustment** – Think about the front brake as a speed adjuster. It is used to adjust your speed to how fast you think you can enter a corner. Again, you use the brakes to adjust the speed to match the idea of how fast you think you should be going in any given corner.

**Hard and Late Braking** – You cannot brake hard and turn hard at the same time. Your tires have limited traction and they cannot handle the forces of hard braking and hard cornering at the same time. Do your braking before you enter a turn. Hard braking and late braking require a large amount of attention and will reduce your ability to hit your “turn in” point. Hard braking makes it very difficult to judge your corner entry speed. The forces of braking such as your body being driven forward and the forks compressing are severe and require a lot of attention. Because it requires a lot of attention you don’t want to be doing this at the entry of a corner. You want to have the braking done early and smoothly so that everything settles down (chassis flex, fork rebound, etc.) At this point you will have time to focus on the next task at hand. Setting up the turn.

Use beginning braking markers. I prefer to find braking markers on the track such as cracks in the pavement, pavement changes, pavement discoloration etc. so that you are not distracted by looking off the track surface. You can also use your peripheral vision to see cones or other braking markers on the side of the track. Eventually as you progress you will be more concerned with your end of braking markers. You will want to focus on where you want to be off the brakes and have your speed matched perfectly at your turn in point.

**Smooth Braking and Downshifting** – When braking; be smooth when pulling on the brake lever. The brakes on modern motorcycles are very powerful and do not require tremendous effort. You want to smoothly set the pads on the rotor and then firmly squeeze. Don’t ever slam the brakes on. Personally I only use one finger and I keep it on the lever all the time. I’ve trained myself to leave it there. I have very little lag time in getting on the brakes because my finger is always there. While braking you must also perform you’re downshifting. When down shifting you’ll want to blip the throttle to match you engine RPM with that of your back wheel. A quick blip of the throttle will increase the engine RPM so that when you let the clutch back out after your downshift the rear wheel will not lock up and slide. If your back wheel does lock while practicing this – do not panic. Just be smooth. The wheel will begin spinning again as your speed decreases. This is yet one more reason to do your braking before turning the bike.

**Scrubbing Speed and Apply Throttle** – You will find that many corners don't require nearly as much braking as you first thought. The tire friction induced by cornering will scrub off speed. You will find that in some turns you will have to account for this deceleration by applying throttle early in your turn. In order to hold the speed you have while entering a turn you may have to apply throttle. Applying throttle while entering a turn, or approaching the apex will settle and smooth out the motorcycle. Applying throttle stabilizes the bike by transferring weight from the front tire to the rear tire. It distributes the weight to the tires more evenly. It also increases ground clearance by raising the bike in the suspension.

**Don't Choke! Turn!** – If you come into a turn at a speed your brain tells you is too high, chances are your brain is wrong. Your brain simply hasn't personally experienced or sampled that particular corner that fast before. You have a much better chance of getting through the turn if you just turn the bike in. Resist the urge to jam the brakes and stand the bike up. Using the brakes heavily while cornering usually causes two things (1) the motorcycle will upright itself and shoot you off the track or (2) you won't have enough traction on the front tire and will low side and crash the motorcycle. Either way you end up off the track. When you're off the track and in the grass anything can happen. Turn the bike!

**Mid Corner and Exit** – When you reach the midpoint or apex of a turn (normally your greatest lean angle) you want to smoothly apply throttle as the bike straightens up until you reach wide-open throttle. Smooth is the word here. At maximum lean angle you do not want to do anything notchy or erratic. If you twist the throttle too quickly you can encounter a high side crash in which the rear end comes out from under you, snaps back and in some cases sends you flying. Note: Typically the smallest gains are made in the mid-corner or at the apex of a turn. As you accelerate out of the turn the front wheel will get light and sometimes wheelie and transfer all or most of the weight and traction to the rear tire. Continue on a smooth arc or line to the outside or exit of the turn and if possible leave a few feet at the edge of the track for error and for faster riders that may be trying to pass.

## 9. Basic Bike Set Up:

There are three functional aspects of all suspension systems: Spring rate, Compression damping, and Rebound damping. Depending on the bike you ride, these may or may not be adjustable externally. In some cases, they are fixed by the manufacturer with no external adjustment possible.

**Spring Rate** – This is determined by calculation and experience. An ideal spring rate for most situations is one that will allow 25% - 30% of the suspension travel to be used up with the rider aboard, sometimes referred to as sag/ If a passenger or luggage were to be carried, more pre-load would be required. Pre-load should be set with the aid of a tape measure. An assistant makes this easier. Race Tech even sells a tape measure with the addition of a small pin on the body for insertion into a hollow axle. This is to permit the rear suspension pre-load to be measured by the rider while on the bike. Setting up the front suspension requires the use of a zip tie around the male part, the fork slider, to measure the amount of sag. It is also important to take into account stiction when performing this measurement. Stiction is the initial inability of the suspension to move. Again, Race Tech provides excellent information which is available usually with the purchase of their products.

**Rebound Damping** – Not quite as easy as using a tape measure, this requires the bike to be ridden with the objective of having the bike absorb bumps by compressing the suspension and returning to its original position in a controlled fashion. The suspension is set up correctly when it can run over a series of bumps and does not pack down/compress the suspension or extend or get taller. If too much rebound is used, the bike will compress the suspension over a series of bumps in the road and become harder and will lose its ability to absorb the last of the bumps in the series. Solution: back off the rebound. A good place to start when setting rebound is in the middle of the range provided.

**Compression Damping** – This is usually the last adjustment made. When the spring rate and rebound dampening settings have been made and appear to be working fine, but things may not be quite right, look at the compression damping. Compression damping works with the suspension spring during compression. It is desirable for the suspension at both ends to compress at the same rate, i.e. we want the bike to move up and down in a horizontal plane. It is possible to use compression damping to control the rate of compression. If one end with correct pre-load appears to be still too soft, add some compression damping to the soft end to obtain the correct movement of the bike in a horizontal plane.



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