



# Trackside!

June, 2003-Round 2 Coverage

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## 2003 Race Dates

- May 10-11
- June 7-8
- July 26-27
- Aug 9-10
- Sept 6-7

## **How to Turn an Autopac Write-off into a Racer (and not get burned)**

**By James Sheppard**

1. Research your ideal machine. 600 supersport bikes are fairly plentiful, and parts are reasonably cheap. A write-off bike may need wheels, rear sets, a new sub frame, tank, or bars. Log on to [www.ebaymotors.com](http://www.ebaymotors.com) just to get a ballpark price for replacement pieces. Even with the exchange, ebay is likely the best way to buy replacement parts for the bike your purchase.

2. Log on to [www.mpi.mb.ca](http://www.mpi.mb.ca), for the list of salvage items for sale. Bikes are usually done first, so you won't have to stay at the auction for hours. In the summer, MPI in Winnipeg has auctions weekly. Check back often! Bikes listed as "parts only" cannot be put on the road, and usually have more serious frame damage. However, a small dent in the frame spar, or broken sub frame mount has little effect on a race bike and can be repaired. These parts only bikes often sell for even less, as they cannot be re-registered as a street bike. They make ideal racers.

3. Once at the lot (you can only inspect machines the day of the auction), check the engine for integrity. The bikes cannot be started, but look at the sight glass on the case – is there oil there? Shift the



Expert CRA and MRA racer Kyle Knutsen exits turn 3 in round 2 action. *Photo by Warren Hilton*

bike into and out of gear, and/or roll it back and forth in the MPIC lot. Look for signs of coolant loss from a cracked head or holed radiator. These steps go a little way into ensuring you're not buying a bike with expensive internal damage, but this is the area of greatest risk. The mileage of the bike should be listed, which will help, and after purchase they should have a key to give you.

4. Avoid bikes with damaged engine side covers. The crank/alternator may be fine, but how long was the engine running while the oil leaked out? Again, though, risk is relative. A cracked side cover might see a bike go for \$1000 less than normal, but that savings may be spent on an engine rebuild later on.

5. While looking at the bike (s), take notes. If nothing appeals to you, either stay and get an idea of how an auction runs, or go home so you won't be tempted. If you see something promising, mumble under your breath, shake your head, and criticize it to your buddies. This will scare off other potential bidders, or make them think you know something they don't.

6. Once you've seen your dream machine, calculate what it will cost to bring it up to readiness. Is that front rim straight? The tank is dented, but who cares. Can that sub frame be repaired, or do you need a new one? After adding up the suspect parts, add

*(Continued on page 2)*

## How to Turn an Autopac Write-off into a Racer (and not get burned)

By James Sheppard

(Continued from page 1)

\$500 for "room". Then deduct anything you won't need and can sell to someone else. Undamaged street plastic, headlights, rear sets, a stock end can... can all recoup some of your money. Remember, you still need that \$2000 set of carbon-fibre bodywork! Set a limit and stick to it. If you don't get the bike, go home. It took me three auctions to get "exactly" what I wanted. I shudder to think of what I nearly bought in desperation previously.

7. Try to buy the newest possible bike. A 1996 600 may go cheaply, but is best served as a track day machine rather than a pure racer. It's a few generations old, and probably not much less expensive than a newer bike. For example: 1996 CBR 600F2 (Smokin' Joes) \$2600 – bent sub frame, broken front rim, bent forks; 1997 GSXR 750 (parts only) \$4700 – "flipped"; rear rim bent, broken sub frame mounts, frame spar dent; 2001 R6 \$6200 – light cosmetic damage only, low miles

8. 750s and 1000s are much more expensive all around, both in selling price and replacement parts. It also eliminates you from some race classes. Gixxers of any capacity are, as a rule, more abused and have higher mileage. This goes along with their "hardcore" street rep. A lot have "wheelie damage"!

9. Ask around after your purchase. Likely the bike made a stop or two at one of the local shops. The service employees there may be able to tell you some more background about the machine and its previous owner.

10. Take it home, replace the battery, clean up the intake system (the bike may have gone down and ingested debris), add gas, cross fingers, and hope for the best. At the auction, you won't be able to hear the bike run. It'll have been in storage, so the battery will be dead and the fuel skunky. If you're lucky, with a bit of fiddling, your new purchase will start right up. If not, well, you may have paid too much...

In conclusion, even with the risk of the unknown, an MPI write-off is by far the

best way to get a cheap(er) race bike. Ideally you want one with extensive cosmetic damage, a dented tank, and perhaps a broken rear set. The replacement cost of stock plastic sees more and more bikes written off each year. It worked well for me, purchasing a 1999 ZX-6R with only 7700km for less than 50% of its original purchase price. If you have any questions, see me, #65. As always, *caveat emptor!*



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### 1958 No Dogs Allowed

By The Old Codger

I wouldn't want to go back to 1958 again. But just for moment try to picture this – hub brakes, 4 inch wide treaded tires on spoked rims, one compound little or no traction and lean angles that verged on the perpendicular. When a knee down meant you had already parted company with your motorcycle and were in the hands of the crash god.

A naked bike was a 499 Manx Norton,

G50 Matchless or a 7R AJS. Only works bikes like NSU and Gilera had fairings. These were hand beaten from aluminum and probably weighed more than a modern lightweight.

"There's nothing quite like the smell of burning Castrol R in the morning."

My heroes? Geoff Duke, Jonny Hartle, Bob McIntyre, Percy Tait and Bob Anderson. The then very young Mike Hailwood? No, not really. His father owned one of the largest motorcycle dealerships in Great Britain, Kings of Oxford, and I figured that gave him an unfair edge, apart from the fact that his first name was really Stanley.

The scratchers were always my favourites. Scratchers, people who scrape their bikes on the track? No, to me they were the guys scratching enough money together to go racing. Life + Racing = Poverty - that hasn't changed since 1958.

Entry level motorcycles consisted of racing Bantams with polished heads and bell air intakes on Amal carburetors, 125 Bultacos, AMCs, Adlers and a whole host of specials running two stroke Villiers engines. People would shoehorn Triumph engines into featherbed frames not because they went any faster, but because they could.



All this was pre-the Japanese invasion, which is another tale. So the playing field was very even in the national series, most of the racers running the oh-so-popular Manx Nortons. Of course, they could never

(Continued on page 4)



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The Manitoba Roadracing Association is always on the lookout for willing volunteers. We can always find room for people willing to help in cornerworking and many other jobs. Cornerworking pays a small monetary gift as well as getting you up close to the action. If you have a desire to help the MRA grow and enjoy the sport why not come out and get closer to roadracing. Just approach a member of the executive and let them know you'd like to help and we'll find a job for you!

## Ride Report: 2003 Kawasaki ZX-6RR

By Craig Stieben

Novice #10 Larry Lage generously allowed me to take his new ZX-6RR out for a session on Saturday to try out the bike and what follows is a quick riding impression. The bike was completely stock except for the addition of race bodywork and a Hindle high mount exhaust pipe. First impression of the bike was that it was very firmly suspended, I'm not sure if Larry has had a chance to alter the stock settings or not. The riding position was a little more upright than I expected, although the seat to peg ratio seemed a little tighter than my 99 R6. First impressions of the high mount pipe were not great in my opinion. The pipe itself was great but I found it very difficult to get used to having my right heel touching the pipe, although covered by heat tape. By the end of the twenty minutes I was able to get used to it, but it did feel awkward.

The motor felt strong all the way up from about 8000 to the redline and the shift light helped because the bar type tachometer has got to go! I never really had an opportunity to test it's acceleration against any other bikes but it certainly felt as good as my R6. The chassis felt stable at the speed I was riding which was certainly not a race pace due to the fact it was not my bike to throw down the pavement. The biggest impressions I have from riding the bike were the brakes. They were without a doubt the most powerful brakes I have experienced. My R6 is equipped with the tried and true monobloc calipers Yamaha has used with great success on its R6 and R1 series. It is also outfitted with stainless steel lines and DP race

compound pads. The new radial brakes on the Kawi put them to shame! On my first lap around the track I tried using 2 fingers in turn one and three like normally. Whoa these things are strong! After that it was one finger braking everywhere. The feedback was a little vague, nothing stainless lines won't fix but the power was unreal! I found myself able to brake later and later as I got used to them. These things in stock form made me feel like a hero!

After the session was over I told Larry to take the bike away from me now because I want one! The short ride I had only encouraged me to want another one and certainly made me want to go faster and faster. Thanks Larry.

### 2003 Raceday Schedule

- 8.00 am – Tech and Registration open
- 9.00 am -- Rider's Meeting
- 9.10 am -- Open Practice
- 9.40 am -- Track Day
- 10.10 am -- Open Practice
- 10.40 am – Break
- 11.00 am – Sportsman #1
- 11.25 am – Lightweight (may be combined with Sportsman)
- 11.50 am – Lunch
- 12.50 pm – 10 Min Tire Scrub In
- 1.15 pm – Superbike #1
- 1.45 pm – Sportsman #2
- 2.15 pm – Open
- 2.35 pm – Track Day
- 3.05 pm – Dash For Cash
- 3.25 pm – Break
- 3.45 pm -- 600 SS
- 4.05 pm – Track Day
- 4.35 pm – Superbike #2
- 4.55 pm – Track Clean Up
- 5.15 pm – Trophy Presentation

**Trackside!** Is published 6 times a year as the official magazine of the Manitoba Roadracing Association.

Advertising information and submissions are encouraged and can be sent to the editor at trackside@mrasuperbike.ca

Editor: Craig Stieben

At the recent June Round at Gimli some spectators were observed riding pit bikes in and around the infield, during and between track sessions. All pit bikes are to be used in a responsible manner. Please be aware the MRA will impound pit bikes for the weekend if behavior is deemed to be unacceptable. Some people were also observed consuming alcohol. Please be aware it is against facility rules to engage in alcohol consumption prior to the last checkered flag of the day. If this club is to continue to grow people have to behave in an adult like manner. Steps have been taken to ensure the individuals responsible in this particular incident have been dealt with. The MRA and the GEC have the right to eject and ban any person from the facility. Any observed behavior should be reported to the Head Referee who will bring it to the attention of the MRA Executive in a confidential manner.

## Counter Steering

By James R. Davis

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Everyone who has driven a motorcycle has experienced it, the MSF classes mention (but don't explain) it, and motorcyclists discuss it all the time. But what is it, really? How does it work? Why does it work? All questions I will try to deal with in this discussion.

At very slow speeds we steer a motorcycle by turning the handlebar in the direction we wish to go. We can only do that at speeds of less than about 5 MPH. At any higher speed we do the exact opposite, whether we realize it or not. For example, assuming we want to turn to the right, we actually TRY to turn the handlebar left. This results in the front wheel leaning to the right and, as a result of the lean of the wheel, a turn to the right. This is counter-steering.

Why is it that we don't get confused regardless of our speed? Because we have learned that steering a motorcycle is an effortless chore. That attempt to turn the handlebar to the left FEELS like we are pushing the right grip rather

than pulling on the left one. It feels like that because the harder we push it, the more the motorcycle turns to the right and, thus, it feels like the right grip is pushing back at you that much harder. In other words, we quickly learn to associate counter-steering feedback with the hand closest to the direction in which we wish to turn. Further, even a little bit of experience shows that counter-steering is essentially *effortless* while trying to turn the handlebar in the direction you want to go is virtually *impossible*. Humans are relatively fast studies, after all.

It takes only a modest familiarity with a gyroscope to understand counter-steering - at least to understand how most people believe it starts to work. The phenomenon is called *Gyroscopic Precession*. This is what happens when a lateral force is applied to the axis of a spinning gyroscope. The spinning gyroscope translates the force vector ninety degrees off the direction

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## 1958 No Dogs Allowed

By The Old Codger

catch the Gileras or MVs but that was never where the real racing was happening. Safety wasn't taken half as seriously as it is today and on the rear of each entry ticket were two statements, both of which I consider the obvious: *Motor racing is dangerous, and No dogs allowed*. Riders would wear full leathers (no armor) and what we called piss-pot helmets as they resembled what you kept under the bed in case of a middle-of-the-night emergency.

The first person I saw in a helmet with sides was actually a Canadian, namely Mike

Duff, now Michelle Duff (funny what effect riding a fast bike will have on you). His helmet was bright red with a green maple leaf on the front. He was also probably the first person I ever saw getting his ass off the seat when negotiating a curve, so he always had balls.

Ah, childhood memories for me. Every day, rain or shine, someone, somewhere was racing. I may be old, I may be slow, but I'll always be grateful to all those who race. So, thank you, thank you for the days.

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## Sleeper's Soapbox

Why is it that some street riders insist on riding without protective gear? I have lost count of how many riders I have seen in shorts, t-shirts, sandals nothing more protective than their bodies largest organ, skin! If you were to approach each of these riders away from

there bikes and asked them to jump out the back of a pickup truck moving at sixty kilometers an hour, I can almost guarantee everyone would refuse. What is wrong with the mentality? There are now on the marketplace very good pieces of protective gear that offer phe-

nominal ventilation with decent protection. Go buy some! I seethe inside when I see riders like this because they are the same ones who require skin grafts and large medical bills when an accident occurs. Claims like these are a large reason our insurance rates are sky-high and getting higher. The next time you see

a rider like this give them a slap and send them to their favorite dealership. Your pocketbook will appreciate it!

*In this space the Editor will indulge his editorial license to wax eloquence about all topics he finds of interest. Please note: Opinions expressed in this column are only those of the Editor*

and do not reflect a position by the Manitoba Roadracing Association. Comments are encouraged and welcome.



## Dealer Feature—J & M Cycle & Snow By Craig Stieben

Dealer Feature

### J & M Cycle & Snow

Following is an interview with Joanne St. Jean, Manager of J & M Cycle & Snow.

### What year was J & M established?

April 1/1991, originally at the corner of Keewatin and Selkirk. We then moved to Ness for 4 years.

### The business has undergone some growth over the years can you highlight it?

For 4 years we operated in a 700 sq. foot outlet now we have over 3,000 sq. feet of retail & service area. The extra space has allowed us to display

a lot more of the products we carry.

### You have had a long relationship with your product suppliers, can you tell us a little about that?

Some of our products we have sold for the past 12 years. The

close relationship we have developed with the manufactures have helped in the overall improvements in the apparel & helmets. We focus on suppliers who have a good product with excellent value.

*(Continued on page 6)*

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Spectators are encouraged to come out and watch the exciting action at all of our events.

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*(Continued from page 4)*

of spin. Thus, if we try to turn our front wheel to the left, the force we use appears as a lateral force forward against the axle on the right side and this is translated into a force that tries to lean the wheel to the right. Similarly, trying to turn the wheel to the right results in the wheel trying to lean to the left.

But gyroscopic precession is not a necessary component of counter-steering. No matter how slight, if your front wheel deviates from a straight path your motorcycle will begin to lean in the opposite direction. It is entirely accurate to assume that even without gyroscopic precession, the act of steering the front wheel out from under the bike would start counter-steering in the opposite direction. This is a result of steering geometry - rake. You can observe it at a complete stop. Just turn your handlebars in one direction and you will see that your bike leans in the opposite

direction as a result. [Please note that though gyroscopic precession is not a necessary component of counter-steering it GREATLY facilitates it. Indeed, it is the precession of the REAR tire that results from the momentary change of direction of the bike that 'pushes' about 80% of the bulk of the bike into a lean in the direction you want to go.]

In the case of a motorcycle, your handlebar input is immediately translated by gyroscopic precession into a lean in the opposite direction. Since your front wheel is attached to the bike's frame, the body of the bike also attempts to lean. It is the lean of the BIKE that overwhelms the handlebar effort and drags the front wheel over with it - gyroscopic precession merely starts the process and soon becomes inconsequential in the outcome.

If, for example, you had a ski rather than a front wheel, the front would actually begin to

turn in the direction of handlebar input (just like it does with a wheel instead of a ski) and body lean in the opposite direction would then overwhelm that ski making counter-steering still effective.

The ONLY WAY to turn a motorcycle that is moving faster than you can walk is by leaning it (if it only has two wheels). We have talked only about what starts that lean to take place. Indeed, all we have talked about is the directional change of the front wheel along with the simultaneous lean of the bike, both in the opposite direction signaled by handlebar input. So then what happens?

Before getting into what is actually somewhat complicated let me say that if you were to let go of your handlebars and provide no steering information whatever (or you were to get knocked off your motorcycle), after some wildly exciting swings from side to side your motorcycle

*(Continued on page 7)*

## **Dealer Feature—J & M Cycle & Snow** **By Craig Stieben**

*(Continued from page 5)*

**You have a great atmosphere here at J & M; can you tell me a little about that?**

We try to help our customers make the right choices with their clothing, helmets and accessories. Making sure that the product fits is very important. Because we have a good variety it allows us to find the right product.

**In closing can you sum up J & M's Philosophy?**

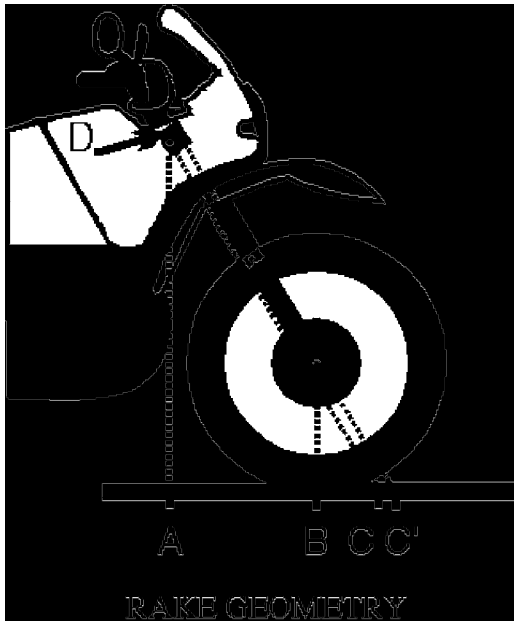
We try to give the best service & products at reasonable prices. We pride ourselves on making our customers satisfied.

James Sheppard warms up the Autopac Auction special Kawasaki 600.



would 'find' a straight course to travel in and would stabilize itself on that course, straight up! That's right, your motorcycle has a self-correcting design built into it - known as its Steering Geometry - that causes it to automatically compensate for all forms of leaning and speed changes and end up standing straight up, going in a straight line, whether you are on the bike or not - until it is traveling so slowly that it will fall down.

This diagram shows a typical motorcycle front-end. The handlebars are connected to the steering column, which is connected to the knee bone, which is... Oops, wrong discussion. The steering column (actually called the 'steering stem') does not connect to the knee bone, nor does it connect directly to your forks! Instead, it connects to what is known as the triple-tree (shown as D in the diagram.) This is merely where both forks are tied, along



turn of the wheel towards that lean. For another, it slows your steering. That is, if you turn your handlebar 20 degrees at slow speed your course will change something less than 20 degrees. [At higher speeds you NEVER would turn your handlebars 20 degrees - the front wheel is always pointing virtually straight ahead.] Rake, in the case of higher speed turning then really does SLOW DOWN the realization of the turn. (We will see why soon.)

Looking at the diagram, imagine that instead of pointing to the right the wheel is pointing straight at you. (The body of the motorcycle remains pointing to the right.) You will now recognize that the contact patch which was B before the wheel turned has now got to be near where C' is at. In other words, the fact that your wheel is on a rake results in the consumption of part of your steering input into a displacement of the contact patch of the wheel. (This is why steering is 'slower' - and the greater the rake, the slower it is. Note that 'slow steering' is NOT the same as 'under-steer'.)

Notice also that where the red diagonal line marked C' touches the tire is higher than where B touches the tire. This demonstrates that a consequence of turning is that the front-end of your motorcycle actually lowers based on rake geometry. The distance between where B and C (not C') touch the ground is called trail. (Trail, as you can see, is determined by rake angle, offset and tire radius.) Some motorcycles will have the hub of the front wheel either

above or below the forks rather than directly in the middle of them. In effect, these placements are designed to reduce or increase the effect of the offset in order to increase or reduce trail.

**The stability of your motorcycle at speed is a function of how long its trail is.** However, have you ever noticed that the front wheel on bikes that have excessive rakes (and therefore long trail) have a tendency to flop over (at low speeds) when they are not aligned perfectly straight ahead? This is the phenomena that explains just one of the reasons why your wheel actually turns in the direction you want to go after it begins to lean in that direction. Any lean whatever of the wheel, because gravity tries to lower the front-end, receives an assist from gravity in its efforts to move the contact patch forward along the trail. Further, notice that the pivot axis of your forks is along C, not C' and that this is behind the bulk of the front-end. Thus, gravity plays an even bigger role in causing the wheel to turn than at first glance it would appear. (And now you see why you have steering dampers - so that a little lean doesn't result in a FAST tank-slapping fall of the wheel in the direction of the lean.)

But there is another, more powerful, reason that the lean is translated into a turn - Camber Thrust. Unlike automobile tires, your motorcycle rides on tires that are rounded instead of flat from side to side. When you are riding vertically your contact patch is right in the middle of the tire, at its farthest point from the hub of the wheel. When you are leaning you are riding on a

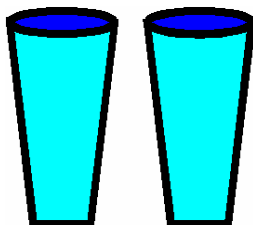
with the steering stem, to the bike's frame. You will notice that the triple-tree extends towards the front and that as a result the forks are offset forward some distance from the steering stem. (Notice the red diagonal lines marked C and C'.) This is known as the offset.

Now please notice that the forks are not pointing straight down from the triple-tree, but are instead at an angle. This angle is known as the rake. Were it not for that rake (and modest offset) the front tire would touch the ground at point A. (Most rake angles are approximately 30 degrees.)

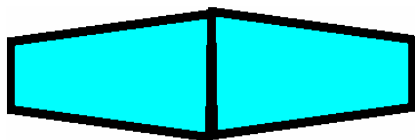
What the rake does for you is profoundly important. For one thing, it causes any lean of the wheel to be translated into a

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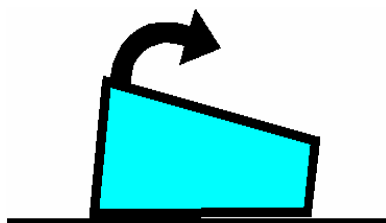
part of the tire that is closer to the hub of the wheel. The farthest parts of the tire from the hub of the wheel are **TURNING FASTER** than any part closer to that hub. Thus, when you are leaning the outside edge of the contact patch is moving faster than is the inside edge.



Imagine taking two tapered drinking glasses and putting them together as in the next diagram. Does this not bear a striking resemblance to the profile of your tires when looking at them head on?



Now imagine placing one of those glasses on its side on the table and giving it a push. Note that the glass **MUST** move in a circle because the lip of the glass is moving faster than any other part of it.



The same is true of your tires. This camber thrust forces your wheel to turn in response to a lean. Thus, both the rake geometry and camber thrust conspire to cause a leaning front wheel to become a turn in the direction of the lean. Then, of course, the motorcycle body follows the wheel and it, too, leans in the direction of the turn.

So, now you know what counter-steering is, how it works, and why. What might just now be occurring to you is with all of these forces conspiring to cause the wheel to lean and then turn in the direction you want to go, what stops that wheel from going all the way to a stop every time a little counter-steer is used? And, as I earlier mentioned, how does a pilotless motorcycle automatically right itself?

The answer to both of those questions is centrifugal force and, again, rake geometry. For any given speed and lean combination there is only one diameter of a circle that can be maintained. This is a natural balance point at which gravity is trying to pull the bike down and centrifugal force is trying to stand it up, both with equal results.

If the speed is increased without a corresponding decrease in the diameter of the turn being made, centrifugal force will try to stand the bike more vertically - i.e., decreases the lean angle. This, in turn, decreases the camber thrust and the bike will, of its own accord, increase the diameter of the turn being made.

If the speed had been held constant but the bike attempts to shorten the diameter of the turn beyond that natural balance point then centrifugal forces are greater than gravity and it stands taller, again lengthening the diameter of the turn as described earlier.

Once your bike is stable in a curve (constant speed and constant lean) then it will stay that way until it receives some steering input. i.e., you again use some counter-steering or the road surface changes or the wind changes or you shift your weight in some way or you change speed.

As soon as any form of steering input occurs the stability of the bike is diminished. Momentum, camber forces and rake geometry will then engage in mortal combat with each other which will, eventually, cause the motorcycle to find a way to straighten itself out. That momentum will try to keep the motorcycle going in a straight line is obvious, but it also works with traction in an interesting way. That is, because the front tire's contact patch has traction the momentum of the entire motorcycle is applied to the task of trying to 'scrub' the rubber off that tire. If the body of the motorcycle is aligned with the front tire (only possible if traveling in a straight line) then there is essentially no 'scrubbing' going on. But if the bike is not in perfect alignment with the front tire, then momentum will try to straighten the

wheel by pushing against the edge of that contact patch which is on the outside of the curve. As the contact patch touches the ground somewhere near point **B**, and because that is significantly behind the pivot axis of the front-end (red-dashed line **C**), the wheel is forced to pivot away from the curve.

**I believe you now see why if the bike were to become pilotless it would wildly gyrate for a few moments as all of these conflicting forces battled each other and the bike became stable by seeking a straight path and being vertical. Clever, these motorcycle front-end designers. No?**

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Turn 5 action photos by Warren Hilton from round 1. From top; Novice Trevor Catchpole, Expert Mike Filipovic and Novice Travis Fredborg. Make sure you see Warren if you'd like some photos. Other Trackside photos are available from Vince Richter.



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<u>Super</u>	<i>Expert</i>	<i>Novice</i>	<u>Super</u>	<i>Expert</i>	<i>Novice</i>
<u>Bike #1</u>			<u>Bike #2</u>		
1st	Myron Groening	Greg Moncrief	1st	Myron Groening	Greg Moncrief
2nd	Mike Filipovic	Larry Lage	2nd	Mike Filipovic	Larry Lage
3rd	Allan O'Ray	Travis Fredborg	3rd	Kyle Knutson	Cam Braaten
4th	Kyle Knutson	Cam Braaten	4th	Allan O'Ray	Kevin Spooner
5th	Rudy Epp	Goran Jablan	5th	Rudy Epp	Trevor Catchpole
6th	Sheldon Chamberlain	Ken Goddard	6th	Sheldon Chamberlain	Robert Enns
7th	James Sheppard	Kevin Spooner	7th	James Sheppard	Travis Fredborg
8th	Andreas Kottscoth	Greg Dobinson	8th		Steve Tiede
9th		Robert Enns	9th		Greg Dobinson
10th		Trevor Catchpole	10th		Aaron Skrabek
11th		Steve Tiede	11th		Les Maxwell
12th		Joe Bastos	12th		Wilson High
13th		Aaron Skrabek	13th		
14th		Wilson High	14th		
15th		Les Maxwell	15th		
DNF			DNF		Ken Goddard
<u>Open</u>			<u>Dash 4</u>		
			<u>Cash</u>		
1st	Myron Groening	Goran Jablan	1st	Mike Filipovic	Larry Lage
2nd	Mike Filipovic	Larry Lage	2nd	Myron Groening	Greg Moncrief
3rd	Allan O'Ray	Greg Moncrief	3rd	Kyle Knutson	Travis Fredborg
4th	Kyle Knutson	Travis Fredborg	4th	Allan O'Ray	Trevor Catchpole
5th	Sheldon Chamberlain	Cam Braaten	5th	Rudy Epp	Kevin Spooner
6th	Rudy Epp	Trevor Catchpole	6th	James Sheppard	Robert Enns
7th	James Sheppard	Ken Goddard	7th		Greg Dobinson
8th		Kevin Spooner	8th		Aaron Skrabek
9th		Robert Enns	9th		Les Maxwell
10th		Greg Dobinson	10th		Wilson High
11th		Steve Tiede	11th		Ken Goddard
12th		Joe Bastos	12th		
13th		Aaron Skrabek	13th		
14th		Wilson High	14th		
15th		Les Maxwell	15th		
DNF			DNF		Joe Bastos
DNF			DNF		Goran Jablan
<u>600 SS</u>			<u>Light</u>		
			<u>Weight</u>		
1st	Myron Groening	Greg Moncrief	1st	Andreas Kottscoth	Travis Fredborg
2nd	Kyle Knutson	Larry Lage	2nd		Aaron Skrabek
3rd	Allan O'Ray	Travis Fredborg	3rd		Wilson High
4th	Rudy Epp	Cam Braaten	4th		Les Maxwell
5th	Sheldon Chamberlain	Ken Goddard	5th		Steve Tiede
6th	James Sheppard	Kevin Spooner	6th		
7th		Robert Enns	7th		
8th		Greg Dobinson	8th		
9th		Steve Tiede	9th		
10th		Aaron Skrabek	10th		
11th		Les Maxwell	11th		
12th		Wilson High	12th		

The editors of Trackside are looking for a volunteer to write the weekend race reports. Please email the editor if you have an interest in covering the series for the MRA.

