

# Chapter W2 – Memphis Gold

July 2009



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**Meeting Time** – 1<sup>st</sup> Thursday of each month  
**Eat at 6:30 PM – Meet at 7:30 PM**  
**Perkins – 1340 S Germantown Rd.**  
**Germantown, TN**

**From the Chapter Director**  
**By: Glenda Keough**

Mother Nature sure has made it difficult for motorcycle riders so far this year. It seems we went from great temperatures and monsoon rains directly into a heat wave. I know that this past month has been awfully hot, but not hot enough to keep W2 at home. We have had a pretty busy month. The first weekend in June found Jim and Pat Brewington and Ray and Ann Beloate in Clarksville, TN for Chapter Q’s birthday bash. They reported great weather and a really fun time. Jim seemed to have the magic touch when it came to winning door prizes to hear them tell it.

A few of us braved the heat and spent one Wednesday evening at bike night on Beale Street. It was almost too hot to enjoy ourselves and everyone left fairly early to head back to home and air conditioning. Our monthly dinner ride was planned for Lamberts in Sikeston, MO this month, but due to several members being unable to ride that weekend those of us who were at the meeting place decided to change the destination to Pickwick this month and

ride to Lambert’s when more of our members could participate. We will reschedule the ride and let you know when we are going to try again.

We had some pretty wild weather this June, too; at least 2 tornados and some ferocious straight-line winds. There were some scary moments for some of our members and several hours dedicated to cleaning up the destruction left in the storm’s aftermath, but I’m happy to report that all are safe and well.

July’s dinner ride is to Wells Kitchen in Brighton, TN. More details at the meeting on July 2<sup>nd</sup>. I’d also like to plan a couple more rides for July if the weather will cooperate just a tiny bit. Be thinking of where you’d like to ride and share with us at the meeting. There are loads of places to ride and lots of dishes to taste within a reasonable distance from here, so lets go try them.

As most of you know Ken and Julie Zahn left on June 5<sup>th</sup> for a bike trip to Alaska.

Y’all stay cool and safe until next time.

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*The Alzheimer’s Association Ride to Remember ride is this Saturday, June 27th. Let’s plan on meeting at McAlisters at 9:30 Saturday morning. I’m hoping for a good turnout by Chapter W2 for this ride. I’ll be in the T-Bird since Alan is working Saturday, but I’ll see you there!*

Glenda

## RIDER EDUCATION

By Alan Keough

### What is countersteering? (part 2)

Written March 29, 2007

By Ian Johnston

Explaining countersteering is an involved process, which can easily include obfuscating physics references. I'll try to avoid that, and keep it simple. If you want a more technical explanation, it's out there. This is an article for beginners.

First, some background.

Ok, so take a look at this picture. Follow that line down through the fork legs, all the way to the ground. Where that line hits the ground (so the bike geometry experts assure me) is the front wheel's natural pivot point. You'll notice, though, that where the wheel actually hits the ground is behind that pivot point. The distance between the wheel's contact point and that imaginary pivot point is called the bike's **trail**. The trail provides a castering force. This is the same kind of caster as you see on wheeled office chairs, or on the front of shopping carts\*. The distance between the pivot and the ground-contact point is important -- the longer it is, the stronger the castering force is. That castering force is one of the forces acting upon a bike to keep it upright when it's moving. It keeps the wheel pointing straight forward.

\* Ever notice how those shopping cart wheels sometimes waggle back and forth? Look at the angle of their pivot -- it's straight up and down. A cycle's rake (the angle between vertical and the cycle's forks) is a vital part of preventing that, so it's not *all* about the trail.

Another force acting on the bike is the wheel's *gyroscopic force*. This is exactly the same gyroscopic force you can see demonstrated with a child's toy gyroscope. When you spin it fast and set it on edge, it

tends to stay upright. The reason for this is involved, but for the purposes of this article, just keep in mind that it happens, and it's real. If you don't believe me, go buy one of your own and prove it to yourself.

Wikipedia is happy to explain gyroscopes as well.

Ok, we have the forces down. At the top of the article, with our footy experiment, we established the basics of balance. Grab your bike, there's one more thing to demonstrate; this will be easier with a bicycle, but a motorcycle will do if you're careful. Keep a friend handy to help out if you have any concerns about this next one.

Straddling your bike, with the bike straight upright, turn the wheel back and forth. Not much difference, is there? It doesn't really want to fall either way with the wheel turning. That changes when you're moving, but that's not this demonstration. Now, (carefully!) lean the bike slightly over to one side. Turn the wheel towards and away from the lean. The wheel suddenly makes a lot more difference. Try leaning further, as far as you're comfortable with, and turn the bars. In fact, if you go too far over, you can turn the wheel into the fall, exactly as you would with countersteering, to help pick it up again.

This demonstration is mostly to give you a tactile impression of what happens when you turn the wheel with the bike leaned over. The front wheel has a lot of effect.

Now, when you're rolling, turning the wheel has a definite effect, even when you're upright. It makes the whole bike go the direction the wheel is turned (wait for it!). Since the bike is *balanced*, with the wheels providing the only traction, any deflection is going to rotate about the traction point. That is to say, if you steer left, the bike will tend to fall over to the right. Let's examine that in detail.

Imagine you're in a car. You're driving along a straight road. It curves, so you turn the wheel to the left. Your weight (particularly going too fast through a tight curve) is thrown to the right. This is commonly referred to as centrifugal force, which is close enough for our purposes\*. The car doesn't fall over because it's got four wheels, but the bike only has two. Yet it reacts in the same way. You turn that wheel left, and the bike falls over to the right, having no extra wheels to catch it. You've unbalanced the bike.

\* Check out [this article on centrifugal force](#) if you're interested in the nerd's-eye view of why "centrifugal force" sort of doesn't exist.

Now, it happens that due to a complex interaction involving conical sections and gyroscopic precession, when you lean the bike over to the right, it will tend to turn to the right. Leaning to the right also happily balances gravity against the centrifugal force trying to pull you over to the left. That's actually what happens when you turn a bike -- you're balancing gravity and the sideways force trying to pull you off the bike.

So, this is where things get interesting. Remember those forces that act to keep your bike upright (trail and gyroscopic force)? Those forces *always* act on the bike, but they get stronger the faster you go. That is, at walking speed (3 MPH), they're barely perceptible. As you speed up, they get stronger and stronger, until at 100 MPH, you're fighting with the bike just to get it to lean over.

This is largely why countersteering "doesn't work" at low speeds. You don't really need it. The feeble forces keeping you upright (trail and gyroscopic) can easily be overwhelmed by shifting your weight or

calling upon the faeries, or whatever you like. Surely, it still works, but it's not necessary.

As the bike goes faster, trail and gyroscopic force get stronger and stronger, until they're stronger than you are. Seriously, motorcycle racers work out partly to be strong enough to muscle their bikes over in corners.

#### **And It All Boils Down To...**

Where this should all come together is that once you understand what countersteering is, and how it works, you are in much better control of your bike. Get countersteering straight in your head, and you can keep your bike upright at the lowest speed, with practice. (Just because your head understands, that doesn't mean your body does, but it will with training.)

With countersteering, you can swerve on command, commence a turn at any point, and come out of it whenever you want to. Sure, you could kind of do that before, but with this understanding, you can do it a lot better, and much more crisply.

So now that you've read through this whole thing, get out on your bike, and practice countersteering. Do it gently, and do it safely, but practice it every time you need to turn that bike. I'm still working on countersteering consciously, and I've been riding since 1999 (or about 1976, if you count bicycles), almost every day.

I hope this has been helpful. If you have suggestions or comments, please drop me a line at reaper at obairlann dot net.

*If you've read all this and are screaming, "I want more!" then you may enjoy my [older, less well-written article on countersteering](#).*

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# July 2009

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2 W2 Meeting - Leesa Coburn B- Day	3 Wing Ding	4 N Meeting - Independenc e Day – Wing Ding
5 Wing Ding	6	7	8	9 MS Y Meeting	10	11 I Meeting
12	13	14	15	16	17	18 W2 Dinner Ride
19 D2 Meeting – Bev Kimbrough B- Day	20	21	22	23	24	25
26	27	28	29	30	31	



## CHAPTER TN-Q BIRTHDAY BASH

On June 5<sup>th</sup>, four of us from W-2 (Ann and Ray Beloate, Jim and Pat Brewington) traveled to Clarksville TN. On Saturday, June 6<sup>th</sup>, TN-Q had their 20<sup>th</sup> Birthday Bash. Some of you have been around long enough to know Sam Winters. Sam was the first Chapter Director of TN-Q. Many have followed in his footsteps, and Russ and KJ Kimmett are the present Chapter Directors.

The birthday bash was held at Rotary Park in Clarksville. This was a great place to hold this event because there was plenty of shade. We had great food with hamburgers and hot dogs grilled by Russ Kimmett and Jim Hall.

Several GWRRA members from numerous chapters all over Tennessee and West Virginia attended. There were games, a horseshoe tournament, 50/50, door prizes and game prizes. The four of us from W-2 brought home our share of the prizes. The money TN-Q raised on this day will go to St Jude.

We had a lot of fun at this birthday bash. If you know of a chapter celebrating a birthday let us know so we all can go and have some fun. We saw friends we had not seen in awhile and met lots of new friends too.

### Signals of Heat Emergencies

- **Heat exhaustion:** Cool, moist, pale, or flushed skin; heavy sweating; headache; nausea or vomiting; dizziness; and exhaustion. Body temperature will be near normal.
- **Heat stroke:** Hot, red skin; changes in consciousness; rapid, weak pulse; and rapid, shallow breathing. Body temperature can be very high-- as high as 105 degrees F. If the person was sweating from heavy work or exercise, skin may be wet; otherwise, it will feel dry.

### Treatment of Heat Emergencies

- **Heat cramps:** Get the person to a cooler place and have him or her rest in a comfortable position. Lightly stretch the affected muscle and replenish fluids. Give a half glass of cool water every 15 minutes. Do not give liquids with alcohol or caffeine in them, as they can make conditions worse.
- **Heat exhaustion:** Get the person out of the heat and into a cooler place. Remove or loosen tight clothing and apply cool, wet cloths, such as towels or sheets. If the person is conscious, give cool water to drink. Make sure the person drinks slowly. Give a half glass of cool water every 15 minutes. Do not give liquids that contain alcohol or caffeine. Let the victim rest in a comfortable position, and watch carefully for changes in his or her condition.
- **Heat stroke:** Heat stroke is a life-threatening situation. Help is needed fast. Call 9-1-1 or your local emergency number. Move the person to a cooler place. Quickly cool the body. Immerse victim in a cool bath, or wrap wet sheets around the body and fan it. Watch for signals of breathing problems. Keep the person lying down and continue to cool the body any way you can. If the victim refuses water or is vomiting or there are changes in the level of consciousness, do not give anything to eat or drink.

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