The Bicycle Adventure Club

eBulletin

Summer 2006 Edition

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Message from the Editor

A "Mini" Issue

Your humble editor has been away for the entire month of May participating in the first ever BAC tour of Sicily. I think that all of the tour participants were surprised at how great cycling in Sicily is at this time of year. Green hills, wildflowers everywhere (see the photo on page 12), deserted country roads, and great food and accommodations. The fact that my wife, Dorlene, was the Tour Coordinator has in no way colored my judgement. It really was a great trip.

My point here is that I returned from Italy on the same date this issue was supposed to be published. Needless to say, I didn't meet the deadline. However, I did prepare for this event by writing a long, and hopefully, informative article on touring bike gearing before I left. This article, which starts on the next page, takes up most of this issue, as was my plan. If you are happy with your current gearing, you can probably just skip to page 12. But, if you have ever wished for a lower gear when climbing a hill or if you're not sure what your most efficient shifting technique is, then you might find something of interest.

The second article of this issue starts on page 12 and is an update of a previous article on Emergency Medical Evacuation. It turns out that BAC member Stuart Richards is VP of a company, "Global Rescue", that provides such a service. Stuart inspired me to do more research into this important topic. I have summarized what I found in the article on page 12.

On page 13 I express my opinion that the BAC Board should require all participants on overseas trips to have emergency evacuation "insurance". By doing this, a "group rate" could be negotiated and everyone would benefit at minimal cost. What do you think? Send me your opinion: BAC_Editor@Comcast.net

Member Article

Gears for Touring Bikes

by George Root

When you're pedaling up a steep hill, do you sometimes wish you had a lower gear? Are you confused by all of the gears you have on your bike? Do you know when to shift onto a different chain ring? Do you know what a chain ring is? In this article I am going to answer those questions and give you more information about bicycle gearing than you probably wanted, but which might come in handy some day while you're cycling or buying a new bike.

Back in the "olde days", discussions about what gearing was best for touring on a bicycle were quite common. Of course back in those days, it was possible to choose exactly how many teeth we wanted on each of our gears. Now that decision has pretty much been made for us by the manufacturer. Today it is common for gear clusters to come riveted together so that our choices are limited to the few different models the manufacturer offers. Still, some choices are possible and it's important to understand a little about gearing so that you can make an informed decision. But before beginning our discussion of bike gearing we need to cover some basics so that we all start at the same point.

Some Basic Terminology

Bicycle gearing consists of two main components: the "crankset" in front and the "cogset" in back. The chain connects these two sets of gears and transmits the power you produce, such as it is, to the rear wheel. The gears in front that make up the "crankset" are called "chain rings". The gears in back that make up the "cogset" are called "cogs". Sometimes the rear "cogset" is referred to as a "cassette", "freewheel", or "cluster" but I don't intend to use those terms here.

Cranksets come in two basic styles: "doubles" which have two chain rings and "triples" which have three. A typical road bike will come with a double crankset while the typical mountain bike comes with a triple. However, it's possible to put a triple crankset on a road bike for touring. In fact, as we will see, it's almost necessary to do that unless you enjoy walking up hills.

Back in those "olde days" I keep referring to, rear cogsets had only 5 cogs. Remember the old "10 speed" bikes? Two gears in front and five in back and you had 10 speeds. Today cogsets come with 7 to 10 cogs depending upon how old your bike is and how much you paid for it. Because of the larger number of cogs in the rear, the strategy for shifting gears is different today than it was back when there were only 5 cogs. We'll see why a little later. But, before we get any deeper into the discussion of gearing, we need to talk a little about how gearing is "measured".

Gear Combinations are Measured in "Gear-Inches"

The most fundamental property of a bike gear is the number of teeth it has around its circumference. A typical road bike might have two chain rings with 53 teeth on the larger and 39 teeth on the smaller. Rear cogsets generally have a smallest cog with 11 or 12 teeth and a largest cog with 20 to 34 teeth. Each combination of front and rear gears results in a different gear ratio. It would be possible to describe these combinations by stating the ratio between the number of teeth on the front and on the rear - some people actually do this. So, if you were cycling along with your chain on the 53 tooth chain ring and the 17 tooth rear cog, you would be using a gear ratio of about 3.12. This means that the rear wheel will go around 3.12 times for every revolution of your feet on the pedals. That's very interesting, but not very informative.

In fact, bicycle gearing is measured in an entirely different way. One that is rooted in history. The first popular bicycles were called "penny farthings" and you have probably seen pictures of them. Like the one on the next page.

With these bikes the pedals were fixed to the front wheel so the gear ratio was always exactly 1.00 - one revolution of the front wheel for every revolution of the pedals. That's why gear ratios were not of much interest back in those days. What was of interest? Well, it turns out that the single parameter of these early bikes that made all the difference for the rider was the diameter of the front wheel. When sitting on the seat, the rider had to be able to reach the pedals. If the wheel diameter was too large, the bike was unrideable.

OK, so why not make the front wheel really small so that everyone would be able to reach the pedals? The answer is simple - speed! Small front wheels, cover less distance for each pedal revolution. Remember your first tricycle? So, "penny farthings" were measured by the diameter of their front wheel and the idea was to get a bike with the largest front wheel you could ride. With the customary male machismo, a rider with a "50 inch" bike was better than a rider with only a "45 inch" bike. Not just because the wheel was bigger, but because the bike was probably faster as well.

Eventually the modern "safety bike" was invented - that's what we ride today. These bikes all had the same size wheels so the idea of describing them by the diameter of their wheels didn't work any longer. In addition, the new bikes had gears so that one revolution of the pedals no longer corresponded to one revolution of the wheels. But, when shopping for one of these newfangled bikes, customers still wanted to know "How fast is this new bike compared to my old "48 inch P-F"? So, the concept of "gear-inches" was invented. Simply stated, "gear-inches" is the diameter of the front wheel of an old P-F bike that would travel the same distance for each revolution of the pedals as the new bike with its gearing and wheels. So, the new safety bikes could be "sized" the same way as the old P-F bikes. A safety bike with 50 gear-inches would travel as fast and be just as hard or easy to pedal as an old P-F with a 50 inch diameter front wheel.

There's an easy formula for calculating gear-inches, but don't worry, in a bit I'm going to show you a neat chart that will do the work for you. No need to dig out the calculator. But, just in case you're interested, here's the formula:

Gear-Inches = D x F / R

where: D = Diameter of the REAR Wheel (inches)
F = Number of Teeth on the Front Chain Ring
R = Number of Teeth on the Rear Cog

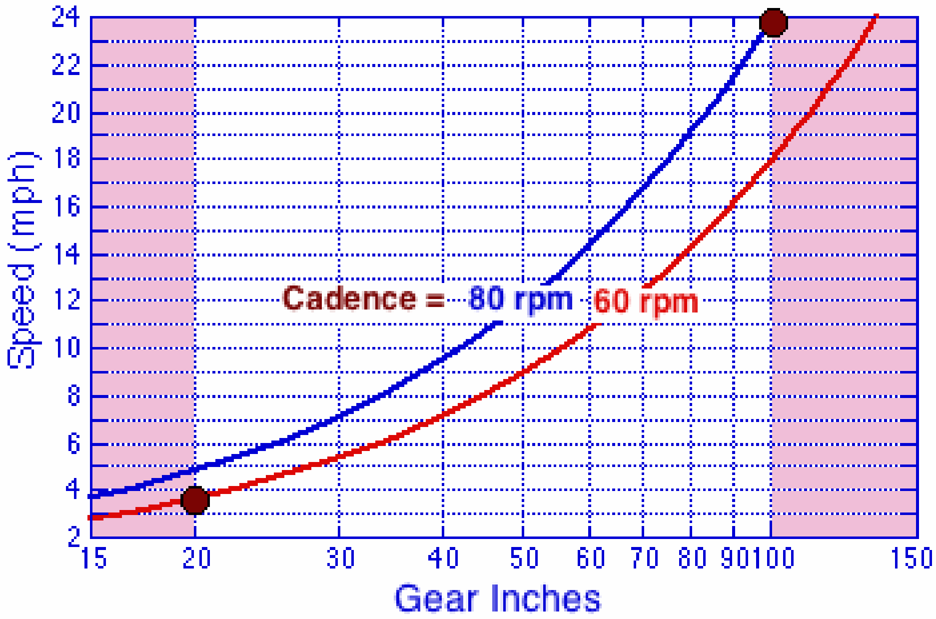
Why the rear wheel? That's usually the one that is driven by the chain. For most bikes both wheels have the same diameter so it's not an important distinction, but there are some bikes, mostly recumbents, that have different wheel sizes. For standard size bikes, the wheels are pretty close to 27 inches in diameter. This is true for both road bikes and mountain bikes. Mountain bike rims are smaller but the tires are fatter so that the diameter where the rubber hits the road is about the same. All the gear charts I will use for this article are for 27 inch wheels. If you have a recumbent or Bike-Friday you will have to use the formula above and do your own calculations.

Gear-Inches and Speed

When we shift gears while riding, the different gear combinations, front and rear, result in different gear-inches. Just as with the old penny-farthing bikes, when we ride with a large gear-inch combination, we go faster for the same cadence, and it gets harder to push the pedals. When we come to a hill and shift into a gear combination with lower gear-inches, we go slower. We adjust our speed by shifting into different gear-inch combinations.

Touring cyclists generally pedal at a cadence somewhere in the range of 60-80 rpm (revolutions per minute for the pedals). Racers will generally pedal faster (100-120 rpm), but they also go faster. Each rider has a cadence that his or her body prefers and without thinking about it, we mostly pedal at this cadence. So, if our cadence is pretty constant how do we go faster or slower? We shift gears. Our speed is directly proportional to the gear-inches of the gear combination we choose, assuming that we don't change our cadence.

The chart on the next page shows two curves of speed vs gear-inches for cadences of 60 and 80 rpm. It confirms what we all know, that if we shift into a "higher" gear, we go faster. "Higher" gears correspond to larger gear-inches. So, the range of gear-inches that we can get by shifting onto our various combinations of gears in front and rear determines the range of speeds at which we can pedal. If we want to go fast, we need a bike with a large gear-inch



combination of gears. If we want to go slow, so that we can climb a hill at a power output that we can handle, we need a bike with a low gear-inch combination of gears. When we buy a new bike, it is the range of gear-inches the bike has that we want to check out.

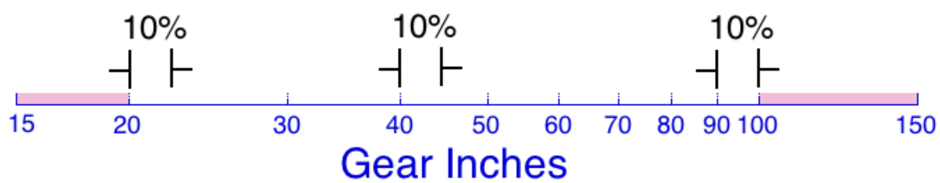
OK, so what range of gear-inches do we need for touring? The answer depends upon how fast and how slowly we want to go. Let's talk about how fast we want to go first. Racers want to go very fast. They need to be able to pedal at 45 mph. My top speed when touring is more modest. I never pedal faster than about 20 mph unless I'm coasting downhill with a strong tail wind. For me, a top pedaling speed of 24 mph is more than fast enough. Notice in the graph that I can pedal at 24 mph at the relatively leisurely cadence of 80 rpm at 100 gear-inches. Even at 100 gear-inches I could still go faster than 24 mph by simply pedaling faster. I could get up to 30 mph at a cadence of 100 rpm, but I can't say that I have ever wanted to pedal that fast. Nor would I be able to keep it up for more than a few feet before keeling over. So, for me, 100 gear-inches is the highest gear I would ever need on a touring bike. It's probably a good upper limit for you too.

Now, how about the other end. What's the lowest gear-inch rating we need for touring? Low gear-inch gears are needed when we want to go slowly - when we're climbing hills. When we climb, we tend to push harder on the pedals and our cadence tends to drop. So, I have used a cadence of 60 rpm to examine the low end of the gear-inch range. Referring back to the chart once again, we see that we can pedal at about $3\frac{1}{2}$ mph at a cadence of 60 rpm if we have a low gear of about 20 gear-inches. Any slower than that and we might as well get off and walk. So, for our discussion here, I have set 20 gear-inches as the low end of the desired gear-inch range.

So, the desired range of gear-inches for touring runs from about 20 on the low end to about 100 on the high end. This range is indicated in the previous chart, and on all of the charts to come, by the red shading along both sides of the chart. Gears that fall in these red shaded regions are not particularly useful for touring. Of course, that conclusion depends a little upon your age. Young racers will definitely want gears well into the red region above 100 gear-inches. Aging tourists, such as myself, might prefer to have a gear or two below the 20 gear-inch limit I have indicated on the charts. Once you find out what range of gear-inches you have on your bike, you will better be able to figure out what range you need and how to get there.

It's Useful to Display Gear-Inches on a Logarithmic Scale

Before we talk about real gears, we need to talk a little about the format of the charts I will present. Specifically, we need to talk about the gear-inch axis of those charts. This is the horizontal axis running from left to right. The one that shows the gear-inch scale. This one:



If you take a look at this axis you will see that the numbers indicating gear-inches aren't equally spaced as they usually are, like on a ruler.

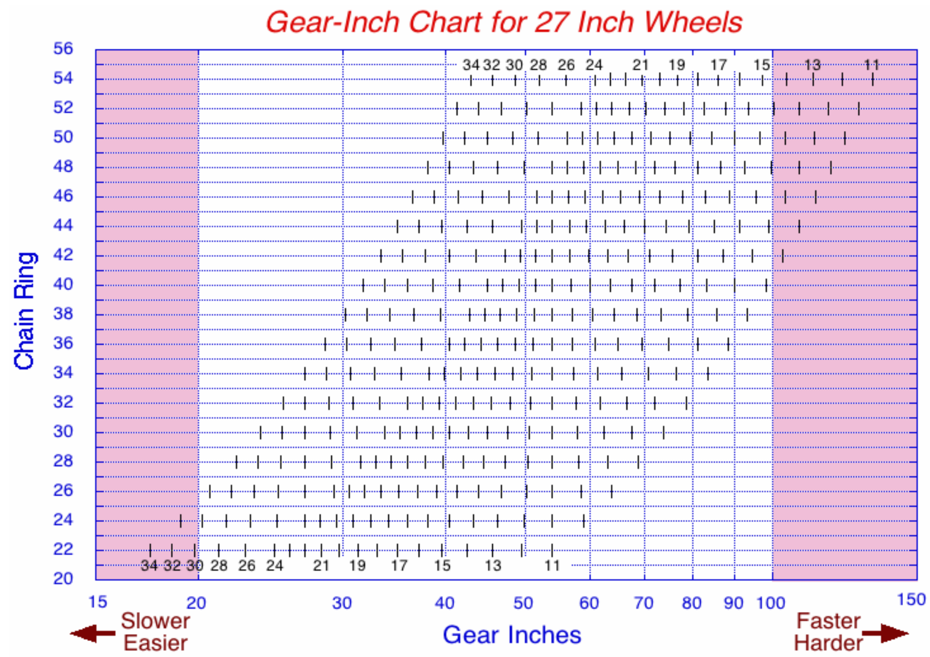
In fact, this is a logarithmic scale, but that's not important. What is important is that on this scale a given percentage change in gear-inches is represented by a fixed distance. So, for example, the difference between 20 and 22 gear-inches is about a 10% change. So is the change between 40 and 44 gear-inches. And between 90 and 100 gear-inches. As you can see on the chart, all of these differences are represented by the same difference in distance along the gear-inch axis. Why is this important? Because human senses work in percentages. Your body will sense a change from 22 to 20 gear-inches as being the same as the change from 100 to 90 gear-inches. Each change will cause your cadence to increase by 10% to maintain the same speed. The "size" of the change will seem to you to be the same. So, gears separated by the same distance on the gear-inch axis will result in the same perceived change when you shift between them.

So, here's a feature of a well designed set of gears. If the gear-inches corresponding to the various gears are all equally spaced on the logarithmic gear-inch axis that I'm using, then shifting between those gears will all result in the same change in cadence and the same perceived change in difficulty.

The 10% differences shown in the illustration above are significant because 10% is roughly the difference between adjacent cogs in a typical cogset. The two smallest cogs frequently have 11 and 12 teeth - a 10% difference (roughly). At the other end of the gears, adjacent cogs might have 24 and 27 teeth. Again roughly a 10% difference. Of course gears cannot have a fractional number of teeth - its got to be 26 teeth or 27 teeth. It can't be the 26.4 teeth that would be needed to make the difference exactly 10%. So, in the real world, we have to settle for gears that are "roughly" equally spaced along the gear-inch axis. At least that's what we're shooting for.

The Gear-Inch Chart

OK, with all of that discussion out of the way, we have finally arrived at the heart of this article. We're going to look at some real gear sets and see how they stack up for touring. I have included a full size gear chart on the last page so that you will be able to print it out and plot your own gears if that sort of thing interests you. There is a small version of this chart shown in the next column so that you can follow this discussion. I'll be using this gear chart to



illustrate some real gear sets a little later, but right now I need to explain what you're seeing on the blank gear chart.

First, the Gear-Inch axis, along the bottom of the chart, is the same as we have already discussed. Larger gear-inches correspond to faster speeds and harder pedaling toward the right. Smaller gear-inches correspond to lower speeds and easier pedaling toward the left.

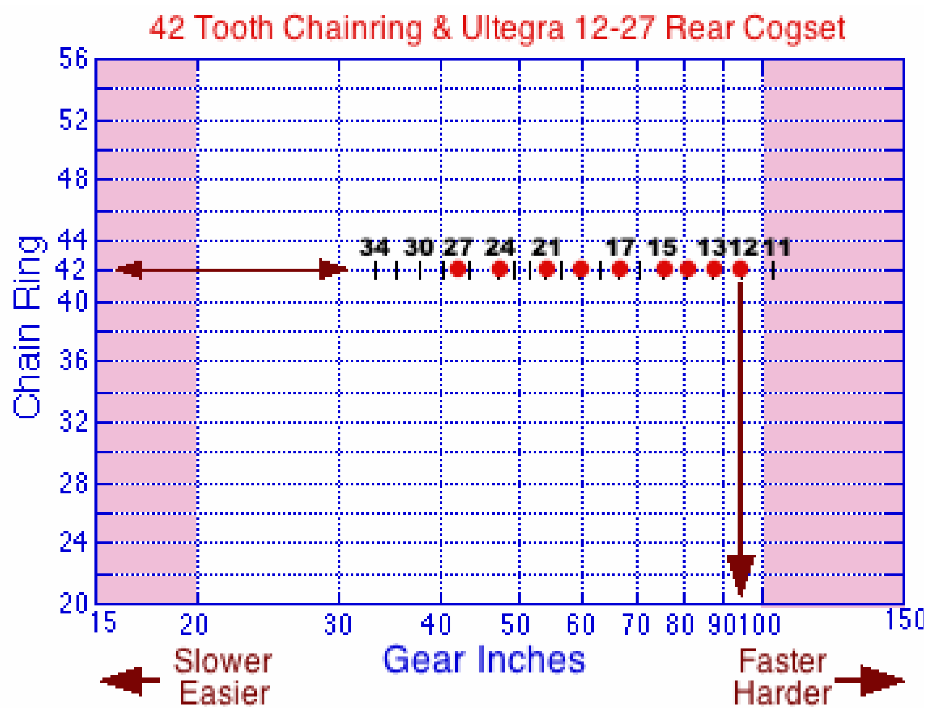
The vertical axis labeled "Chain Ring" indicates the number of teeth on your chain ring. You will have either two or three chain rings to plot using this axis.

Inside the body of the chart, you see a big array of vertical dashes. Each dash represents the number of teeth on one of your rear cogs. You will have 7 to 10 of these to plot for each chain ring.

At the top and bottom of the array of dashes there is a series of numbers corresponding to the number of teeth on the rear cog represented by the nearby dash. Unfortunately, there isn't enough space on the chart to show a number for every dash, so where there are no numbers, you will have to count dashes to find the right one to mark. Use the row of numbers at the top or bottom to figure out how many dashes to count to get to the number you are trying to plot.

Here's how to operate this gear chart: First you have to count the number of teeth on each of your chain rings and rear cogs. Sometimes you will find these numbers stamped onto the side of the gear. If you have a standard crankset or cogset, you can probably find the number of teeth listed on the web somewhere. This is a lot less messy than trying to count yourself. For example, I use a standard Shimano Ultegra cogset with 12 to 27 teeth. Looking it up on the web, I find that the nine cogs have 12-13-14-15-17-19-21-24-27 teeth. This is a "middle of the road" cogset. The largest cog has more teeth than a racer would use but fewer than many tourists might want. It's sort of a compromise between the two regimes. I'll be using this particular cogset in all of the examples I'll be showing.

So now, having counted all of our gear's teeth, here's what we do. Pick one of your chain rings. For example, many standard road bikes come with a double crankset with 42 teeth on the smaller chain ring. The chart below shows a 42 tooth chain ring plotted along with the Ultegra 12-27 cogset. For clarity, I have removed a lot of the clutter that we don't need right now. First I found the row of dashes corresponding to the 42 tooth chain ring by looking up and down the vertical axis until I found the row for 42 teeth. Then, along that row of dashes, I find each dash corresponding to the number of teeth on one of the rear cogs. Once again, you will have to count dashes to do this on your own chart. You can use a pen to mark the location of each of your cogs as I have done with the red dots in this illustration. If you are only interested in the range of gear-inches your bike has, you only have to plot the largest and smallest cogs. Plot all of the cogs if you're interested in examining shifting strategy.



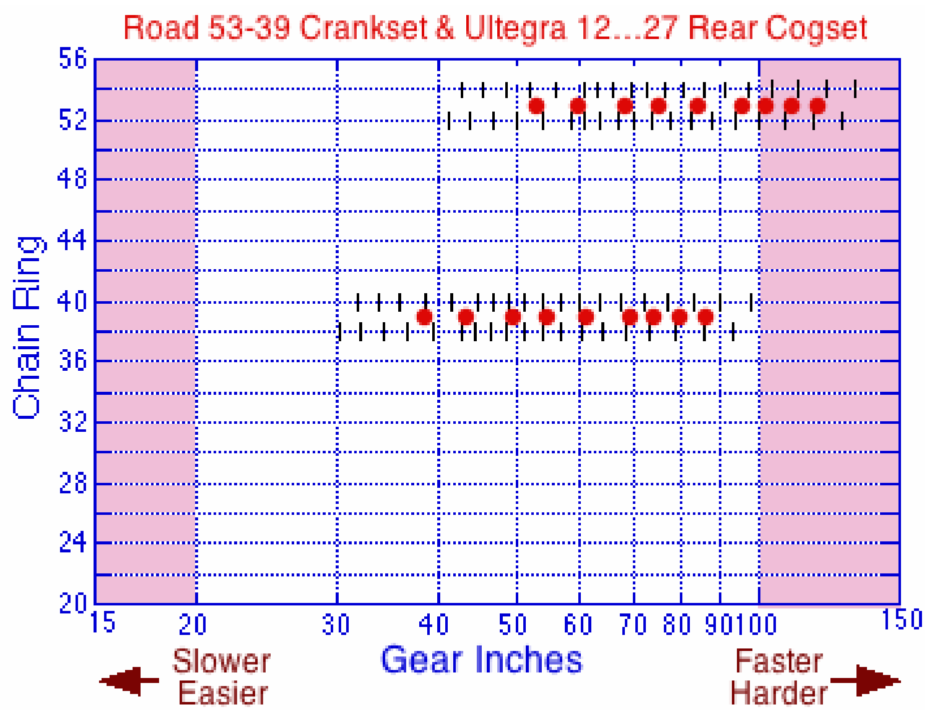
Having plotted the locations of each cog for each chain ring, we can now look directly below each dot to find the number of gear-inches corresponding to that gear combination. For example, the 42 tooth chain ring and 12 tooth cog correspond to about 95 gear-inches for 27 inch wheels as is shown by the vertical arrow in the illustration. We can also see that the 27 tooth cog results in about 42 gear-inches. So, if we shift back and forth on the 42 tooth chain ring, we can get gears spanning the range from 42 to 95 gear-inches. Also notice that this cogset comes pretty close to achieving our goal of having gears spaced apart by roughly the same horizontal distance on our chart. The red dots all have about the same spacing between them.

Our First Important Conclusion

We have barely started examining gears and already we have found a very interesting factoid. Here we are on the *smallest* chain ring of a typical road bike and we can still get nearly to our goal of 100 gear-inches with our "middle of the road" cogset. For touring we don't need the large chain ring! What we need are smaller gears. Even shifting all the way to our 27 tooth cog, we only get down to 42 gear-inches. That's still a long way from our goal of 20 gear-inches. Standard road bikes with typical 52-42 cranksets are definitely not well suited for touring!

Gearing for a "Standard" Road Bike Double

Many road bike manufacturers have moved away from the "standard" 52/42 crankset that has been used for decades on road bikes. The new "standard" is 53/39. This is an attempt to get a wider range of gears while still keeping only two chain rings. The chart for that 53/39 crankset and our 12/27 cogset is shown below.

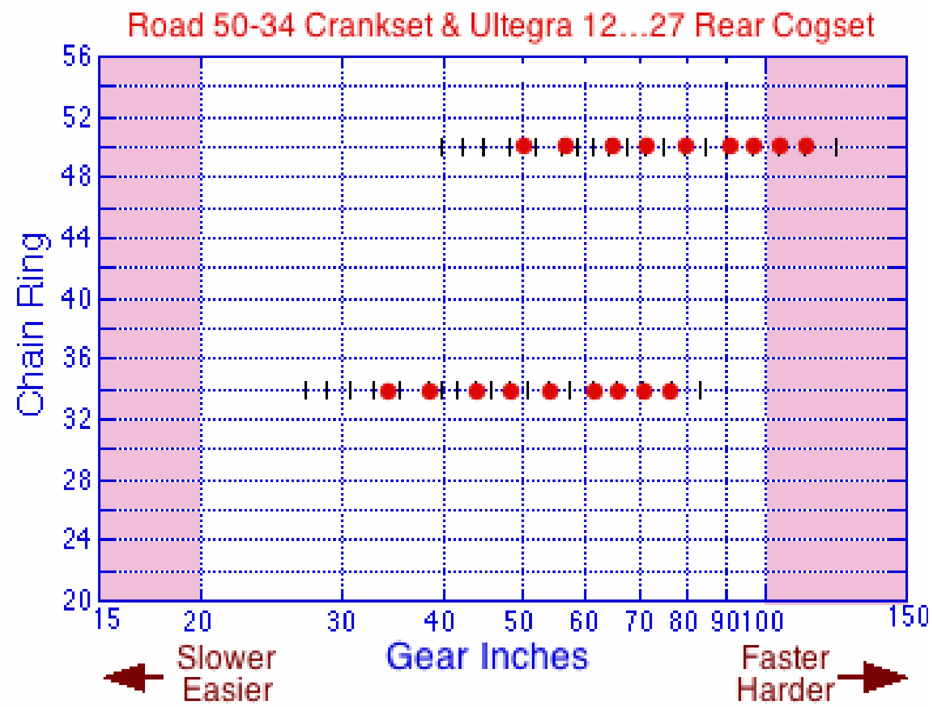


It's easy to see that even with the lower gear 39 tooth chain ring, this gear set is still not well suited for touring. Three of the possible gears are above 100 gear-inches and are thus pretty useless for touring. The lowest gear is only 39 gear-inches still way above our 20 gear-inch goal. We can also see that even if we switched out our 12/27 tooth cogset and put on a mountain bike set of cogs with 34 teeth on the largest gear (corresponding to the left most dash in the row), we would still get down to only about 31 gear-inches. So, standard road bike gearing is a definite loser when it comes to touring.

Gearing for a "Compact" Road Bike Double

Some road bikes now come with "compact" cranksets. These typically have chain rings with 50 and 34 teeth. Lets' see how these look on our gear chart which is shown in the next column.

This "compact double" is a little better. We still have two gears that we'll probably never need since they're above 100 gear-inches. But there has been improvement at the low end of the gear range. With our 12/27 cogset, we can get down to about 34 gear inches. If we

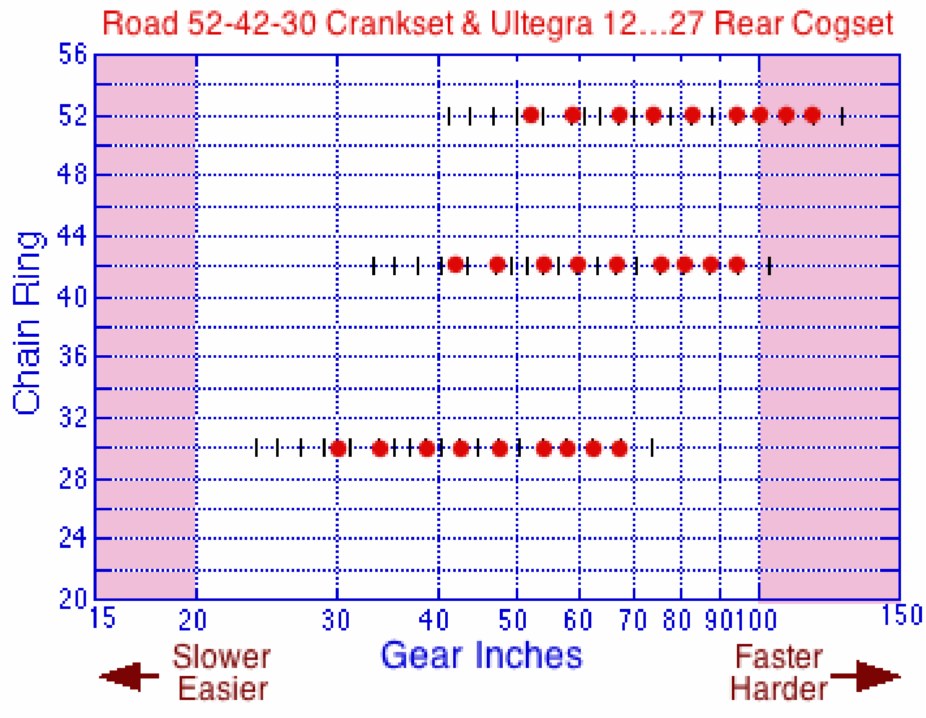


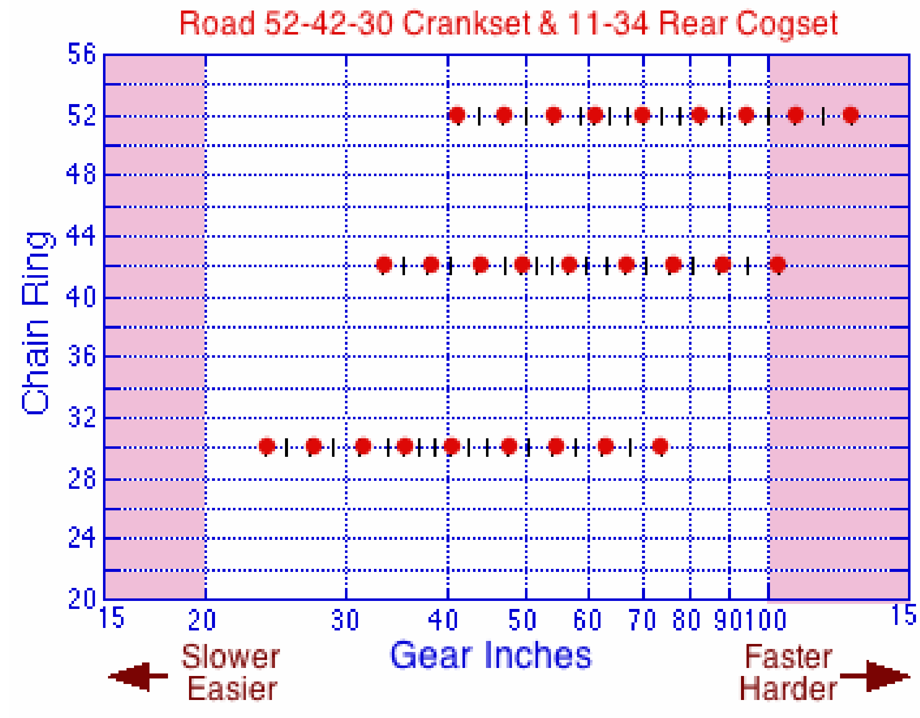
switched to a 34 tooth rear cog we could get all the way down to 27 gear-inches. Still higher than desired, but definitely better than the "standard" road double.

Gearing for a "Standard" Road Bike Triple

In an effort to get lower gears, some road bikes now come with triple cranksets. A typical triple setup that is popular on road and "hybrid" bikes today has 52-42-30 tooth chain rings. The illustration on the next page shows what this gearing looks like on our chart with our "standard" 12...27 cogset.

For touring, this gearing isn't much better than the compact double. The lowest gear is slightly lower at 30 gear-inches, but the largest chain ring is pretty much wasted weight. Two of the large chain ring gears are above 100 gear-inches and 6 gears on the large chain ring essentially duplicate gear-inches already available on the middle chain ring. So, the 52 tooth chain ring is not particularly useful. A "standard" road triple is a step in the right direction, but we can do much better. There are two ways to improve the "standard" road triple for touring.





"Fixing" the "Standard" Road Triple

As you can see by looking at the chart above, we can get lower gears from the "standard" road triple setup by switching the cogset to one with 11...34 tooth cogs. You may also have to replace the rear derailleur and chain if you do this. The chart on the next page shows this setup.

As you can see, this gear setup is a better match to our touring requirements. We can now get gear-inches in the low 20s (24 gear-inches to be exact), so we span almost all of the desired range from 20 to 100 gear-inches. However, this is not an ideal solution. There are three problems with this setup:

1) The 52 tooth chain ring is "extra baggage" - none of the gears it provides are useful for touring.

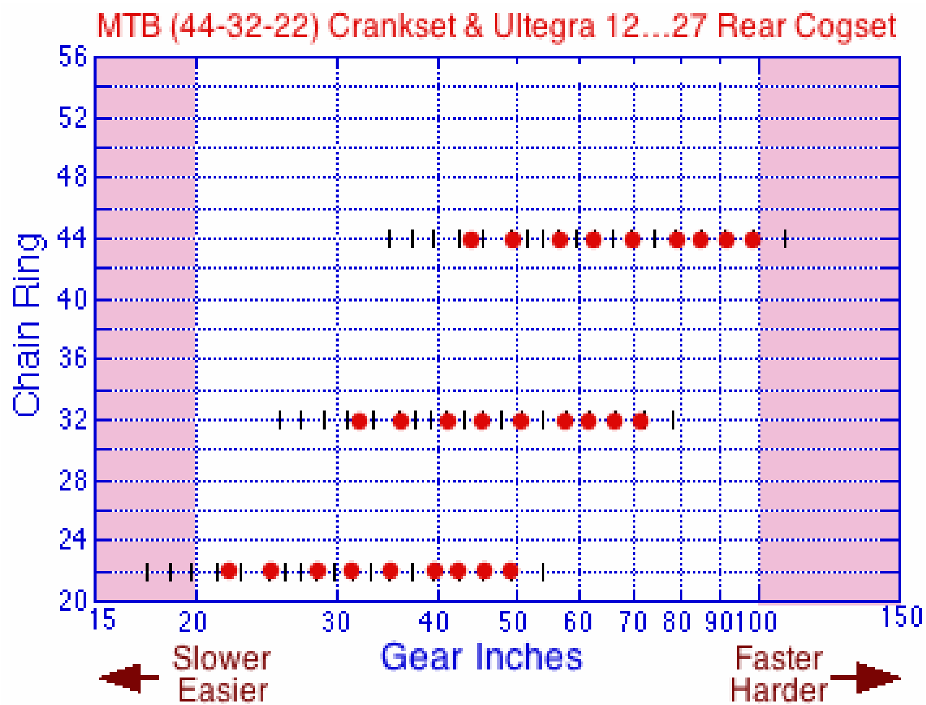
2) This solution adds to the weight of the bike. The 52 tooth chain ring is added weight with no significant utility. The 34 tooth rear cog is the biggest and therefore the heaviest made. And the combination of these two large gears requires a slightly longer chain. All together, these probably add up to less than a pound, but still it is additional weight to lug up all of those hills.

3) Because we are trying to span the range from 20 to 100 gear-inches with only two chain rings (the middle and smallest), the steps between gears is larger than it needs to be. This will make it more difficult to find just the right gear and might produce less "precise" shifting. The average step between gears with the 12...27 cogset is 10%. With the 11...34 tooth cogset the average step between gears is 15%. You will be able to "feel" this difference.

OK, this attempt to "fix" the standard road bike triple by changing the rear cogset is partially successful, but has some disadvantages. We can get a better (and more expensive) solution by changing the front crankset instead.

Gearing with a Mountain Bike Triple Crankset

Even if you have a road bike, you can still use mountain bike components. Current Shimano components all work together (at least they're supposed to). So, you can use a mountain bike crankset and front derailleur with road bike STI shifters and it should all work. Turns out that the combination of mountain bike components in front and road bike components in the rear gives a pretty good gear set for touring. The chart for this setup is shown below.



Now we're getting somewhere! This chart is for a Shimano XT (mountain bike) crankset with 44-32-22 teeth in front and our old friend the Ultegra 12/27 road bike cogset in back.

This combination of gears spans nearly the entire useful touring range from 22 gear-inches at the low end to 99 gear-inches at the high end. The large (44 tooth) chain ring provides 4 useful gears at the high end and the smallest (22 tooth) chain ring provides 3 useful gears at the low end. The middle (32 tooth) chain ring provides 9 nicely spaced gears in the middle for a total of 16 useful, non-redundant gears. It doesn't get much better than this!

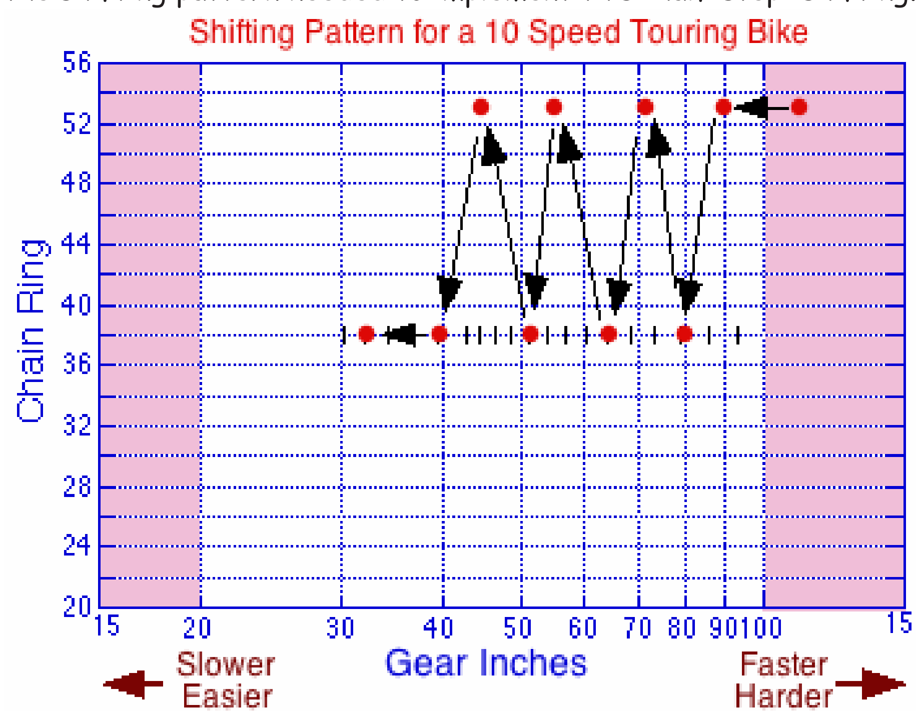
For someone who wants even lower gears for creeping up hills, it would be possible to replace the 12-27 tooth road cogset with a mountain bike 11-34 cogset. The jumps between gears would be larger, but it would be possible to get all the way down to 17 gear-inches this way.

OK, we now have a great combination of gears for touring. Is there any particular strategy we should use to shift between all of these gears most efficiently? Turns out there is.

Shifting Gears Efficiently

Back in those "olde days" with 10-speed bikes, we had only five cogs in our rear cogsets. Spanning a wide range of gear-inches with only five cogs left big spaces between gears. Shifting between two adjacent cogs felt like shifting two or three cogs with a modern cogset. In order to cope with this large gear spacing, several clever shifting techniques were used. One of the most popular was called the "half-step". The gears were arranged so that the gear-inches on the large chain ring fell roughly half way between those on the small chain ring. The chart below illustrates this gear setup.

With the "half-step" arrangement, if you shifted one cog in the rear, you would get a big jump in gear-inches - probably much bigger than you really wanted. But, if you shifted both the front and rear derailleurs at the same time, you could end up with a smaller gear-inch jump - roughly half the size of the big jump. The chart illustrates the shifting pattern needed to implement this "half-step" shifting.

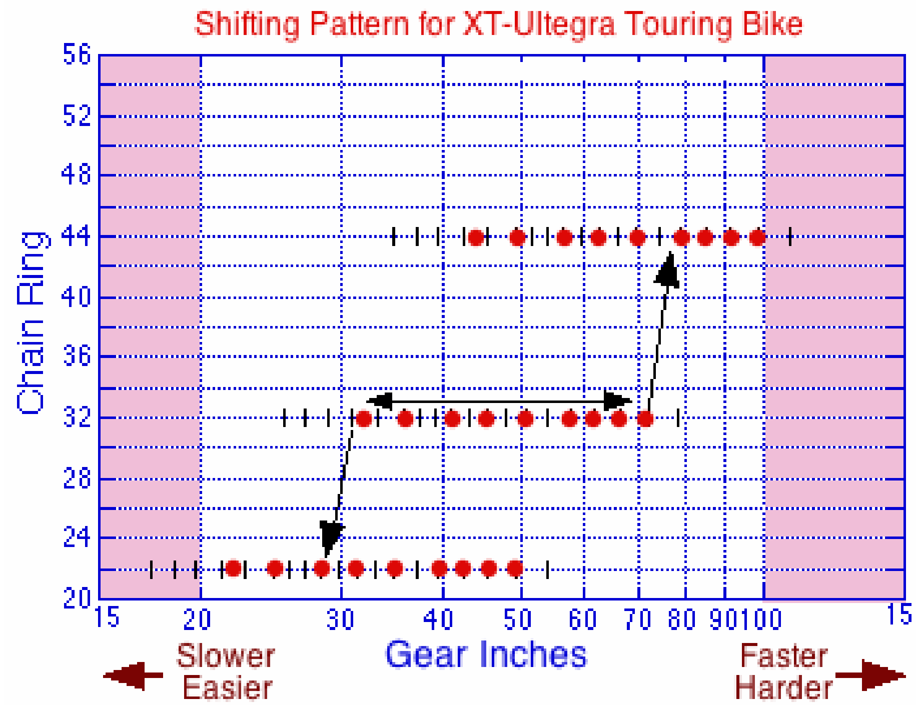


To give an example of how this worked, imagine that you are on your 38 tooth chain ring (the lower row of red dots) and your smallest rear cog - the one that gives you 80 gear-inches on the chart. Now suppose you wanted to shift to a slightly easier gear. Perhaps the road has tilted up slightly and you want a gear that's a little easier to push. If you shift to the next cog in the rear, you would end up with about 65 gear-inches - a 20% change in cadence. Way too big a jump. Looking at your gear chart, you see that you have a gear combination that yields about 71 gear-inches. It's in the upper row of red dots. Much closer to what you want. But, how do you get to that gear? First, you have to shift to your large chain ring (the upper row of dots). You are now pedaling at about 110 gear-inches - pretty hard to push that large a gear. So, you now shift the rear derailleur down two cogs to get to the 71 gear-inch gear that you were looking for. Doing the half step worked like this: Except for the very highest and the very lowest gears, in order to get to your next closest gear, you first shift chain rings. Then you shift the rear derailleur either one or two gears in the *opposite* direction. Confused? Try to figure it all out without the gear chart in front of you!

The main thing to notice about this shifting strategy is that it required a lot of shifting between chain rings. With our modern 9 or 10 speed cogsets, shifting between chain rings is hardly ever necessary. This is a good thing because shifting the front derailleur is generally harder to do and more often results in dropped chains than when shifting the rear derailleur. The next (and last) chart illustrates the shifting pattern that works well with our MTB front and Ultegra rear gear sets. This pattern is the one that I use on my bike.

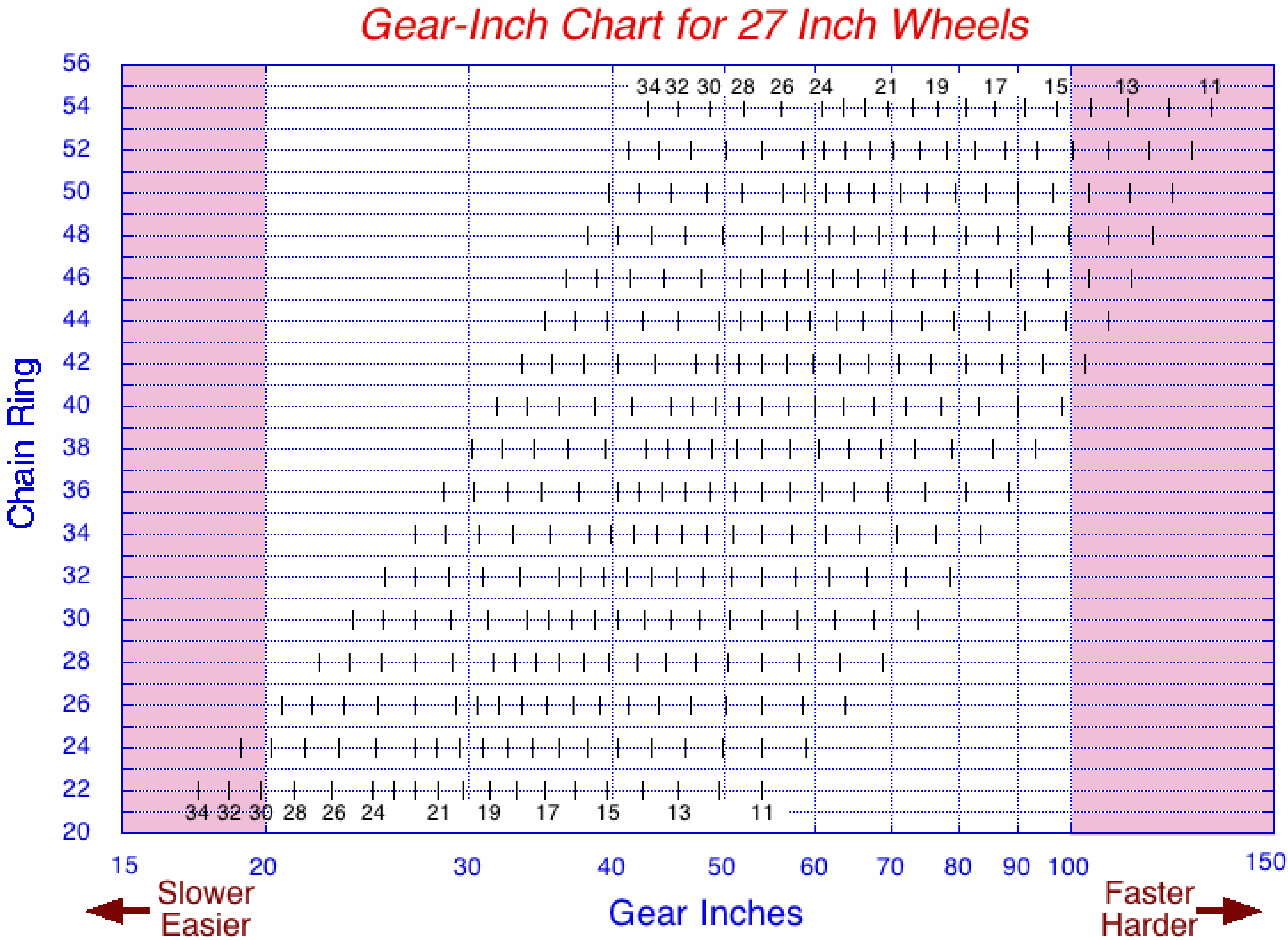
In general, I am almost always on my middle chain ring. As you can see in the chart, this permits me to shift back and forth on the rear cogset while spanning a range of gear-inches between about 32 gear-inches on the low end and about 72 gear-inches at the high end. Referring back to the very first chart, the one that shows speed vs gear-inches, you see that this range of gear-inches allows me to pedal at speeds between about 6 mph and 17 mph while pedaling at a cadence between 60 and 80 rpm. I can actually get to 20 mph by just pedaling a little faster - at about 95 rpm - and this is what I do if I'm only going to be going fast for a brief time.

This range of speeds covers a large part of any touring route I'm



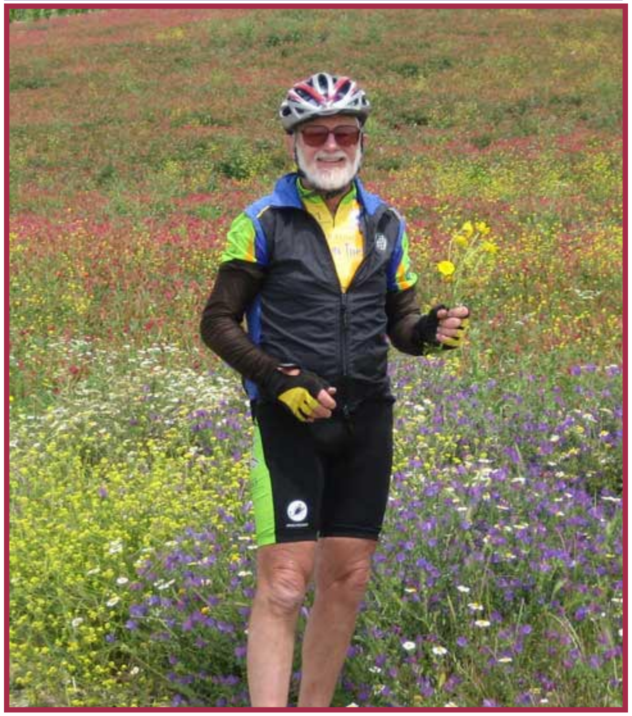
likely to cycle on. For those odd occasions when I need to go slower, I can shift to my smallest chain ring and get three lower gears that will permit me to climb most hills I am likely to encounter. For those rarer occasions when I want to go faster than 20 mph (generally downhill or with a strong tail wind) I can shift onto my large chain ring and have four higher gears. But for the most part, I just stay on my middle chain ring and shift back and forth with my rear derailleur and enjoy the scenery.

I hope you have found some things of interest in this pretty long and drawn out discussion. We have covered a lot of material. Be sure to print out the full size gear chart on the next page and use it to plot out your own gears. You might find the results interesting. You might also be able to figure out a shifting pattern that makes better use of the gears you have.



Gear-Inch Chart for 27 Inch Wheels
34 32 30 28 26 24 21 19 17 15 13 11
56 54 52 50 48 46 44 42 40 38 36 34 32 30 28 26 24 22 20
Chain Ring
34 32 30 28 26 24 21 19 17 15 13 11
15 20 30 40 50 60 70 80 90 100 150
Slower
Easier
Gear Inches
Faster
Harder

Photo from a Recent Trip



Bud Hunt on the 2006 Tour of Sicily

Photo by Susann Novalis

Article Update

Update on Emergency Medical Evacuation

by George Root

Back in the Summer 2005 issue (Vol 2 Issue 2), I published an article on Medical Evacuation Insurance. That article was inspired by the costly medical evacuation of BAC member Del Berg who was seriously injured while on a BAC trip in Mexico. Del's wife Sue found herself responsible for arranging to have Del transported back home from a hospital in Mexico. This evacuation ended up costing over $20,000. Sue recommended that all BAC members consider getting medical evacuation insurance that would cover this cost if it became necessary. At the time, Sue said that a company, "MedJetAssist", had been recommended to her. I have recently been informed by BAC member Stuart Richards that his company, "Global Rescue", also provides emergency medical evacuation.

Thanks to Stuart, I have done a little more research into this topic. Here's what I have found:

Even though $20,000 sounds like a lot of money, it's actually relatively inexpensive for emergency medical evacuation. The average charge for prompt air medivac from Europe or South America is $75,000, from Africa or Asia it is $125,000, and from Australia or New Zealand it is $150,000. As Sue Berg found, you may have to pay this amount before you will be evacuated. I'm trying to imagine myself lying in a ditch somewhere with serious injuries and trying to figure out how I would find an emergency evacuation service and then how I would arrange to pay them this amount of money in advance. Arranging for emergency evacuation before leaving home might be the best idea.

There are two basic types of emergency evacuation services:

1) Insurance companies who will (perhaps) pay for the evacuation, but who do not actually provide any of the services. Think about auto insurance - they pay for repairing your car, but it's still up to you to arrange to have those repairs done.

2) Emergency evacuation providers who actually provide the transportation. You "join" one of these services and pay a fee which depends upon the type and duration of coverage you want. Then if something happens, you call the company and they come and get you.

Emergency Evacuation Insurance

As an example of an emergency evacuation insurance plan, I have done some research into "Travel Guard International" which is a member of the AIG insurance group. They claim to be the largest provider of travel insurance. Here's what their website says about what they cover: "If recommended by your attending Physician, who certifies that Evacuation is necessary to safeguard your life and that Medically Necessary treatment is not available locally, and if approved in advance and coordinated by MultiNational Underwriters" [then the plan will provide] "Emergency air and/or ground transportation to the nearest Hospital that is qualified to provide the Medically Necessary treatment." Notice that transportation is only provided if your life is at risk and then only to the nearest "qualified" hospital which might still be in some foreign country. You do not get to determine if or where you will be transported. Cost depends upon age, the dollar limit on coverage, and the amount of deductible that you will pay. As an example, for someone 60-64 years old, with $100,000 limit and $250 deductible, 30 days of coverage costs $143 per person or $286 per couple.

Emergency Evacuation Providers

The two primary companies that actually provide emergency evacuation appear to be MedjetAssist and Global Rescue. Here's a brief summary of the services provided by each of these companies:

MedjetAssist: Here's what the MedjetAssist website says about their coverage: "If you are hospitalized virtually anywhere in the world, simply call MedjetAssist, and a specially equipped aircraft with a medical team can be dispatched to bring you to your home hospital or hospital of your choice, so you can be treated by your personal physician and be close to your family. MedjetAssist transports members without regard to medical necessity. There is no limit on the cost of a medical transport." Note here that MedjetAssist provides hospital to hospital transportation. You must be in a hospital before you are covered by the MedjetAssist plan so the cost of transport to the first hospital must be added to the cost of the MedjetAssist plan. The cost for 30 days of coverage is $150 for an individual and $275 for a family.

Global Rescue: Global Rescue provides several services in addition to air evacuation. "Wherever you are, whenever you call, Global Rescue has paramedics and physicians standing by to assist you." They have on-duty doctors and an exclusive relationship with Johns Hopkins to provide consultation services to you or to your local attending physician to be sure that you get the treatment you need at the best hospital available. This is particularly important when you need to decide which hospital you want to be transported to. Your first thought might be to go to the hospital nearest your home, but that might not be the best choice from a medical point of view. The medical staff doctors at Global Rescue and the specialists at Johns Hopkins will review your medical data to determine the nature and extent of the problem and then advise you of the best treatment and hospital to treat your particular injuries or illness. You then get to make an informed decision about where you want to go.

Another significant difference is that Global Rescue will transport you from any location. You don't have to be in a hospital. If you are in a remote location or your condition can best be helped by staff personnel, Global Rescue will even send a medical team to your location if necessary.

The coverage provided by Global Rescue is more complete than that provided by MedJetAssist. Of course, for this increased security, the cost is higher. The cost for 30 days of coverage is $229 for an individual and $389 for a family.

The costs for MedjetAssist or Global Rescue are both pretty small when compared to the potential cost without "insurance". You can pick the appropriate length of coverage. If you are going to make multiple trips during a year it's more cost effective to buy a year's worth of protection rather than multiple shorter periods.

Here are the websites where you should do your own research:

www.travelguard.com

www.medjetassistance.com

www.globalrescue.com

Here's My Opinion

On Emergency Evacuation

by George Root

I think that the BAC Board should require every participant on an overseas trip to buy emergency evacuation "insurance". By requiring all participants to do this, it would be possible to negotiate a "group rate" that would bring the cost of coverage down to a small percentage of the total trip cost. Everyone gets valuable coverage at a reduced cost and the BAC avoids any possible liability should a member get injured.

That's my opinion. What's yours?

Recent Board Activity

BAC Board Adopts a New Club "Image"

by George Root

I have tried to think of something nice to say about this "image", but the only word that comes to mind is "boring". If this is the best design offered by our "image consultant", the others must have been truly pathetic. What do you think?

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eBulletin Editor

George Root
BAC_Editor@Comcast.net

Minutes of Board Meeting

The last Board meeting was on February 25, 2006. The Minutes of that meeting start on page 13 of the Spring 2006 issue.

Next Board Meeting

November 11, 2006
Location to Be Determined

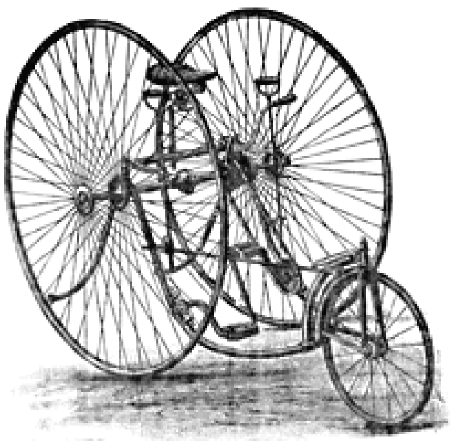
Next Annual Meeting

Spring, 2007
Location to Be Determined

Next Issue of the eBulletin

Fall 2006 Edition - Volume 3 Issue 3
September 1, 2006

Deadline for Submissions August 18, 2006



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Tips for maintaining, adjusting, or modifying bicycles or any related parts are offered as suggestions only. The author, the BAC and its Board assume no liability for damage nor injury related to any of these suggestions. You retain sole responsibility for judging the applicability and safety of any suggestion you choose to use.

"Letters to the Editor" and other submissions for publication may be edited for content or length. Letters will be published on a "space available" basis. Letters containing remarks denigrating any person, ethnic group or religion will not be published. Political statements will not be published. The Editor is the sole judge of what will be published. Submissions will not be acknowledged nor returned.

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The Bicycle Adventure Club
PO Box 23998 San Diego, CA 92193
Phone: (858) 715-9510
WebSite: www.BicycleAdventureClub.org