

Measurement News



March 2001

Issue #106



John Jewell and measuring bike. The bicycle belonged to Arthur Newton, noted ultrarunner of the early 20th century. John, more than any single person, was instrumental in bringing to us the methods we use today for measuring road courses.

MEASUREMENT NEWS

Issue #106 - March 2001

* * * * *

Chairman's Clatter - March 2001

From Mike Wickiser

The revised Measurement Certificate is beginning to show up as are a few course renewals. Back in December it appeared that phasing out renewed courses would be a smooth process. As I soon realized, a few questions needed to be answered. Bob Baumel requested a new certificate be issued for all renewals. Jay Wight asked for clarification on a number of items. Several certifiers wondered about whether a 2001 certificate expired 12/31/2010 or 2011. Looking back, a procedure should have been better defined. My apologies. The following questions and answers will hopefully clear up any issues.

- 1) What happens when a certified course is replaced, then the race director wants to use it again? Assuming it is within 10 years and the course hasn't changed.
Simply notify me or Karen to change the status of the original course. The status will be changed and the course moved from the Archive to Active list. The course will remain on the Active list until Dec. 31 after it's 10th year.
- 2) A new course certified in 1998 can be renewed in 2008 but only through Dec. 31, 2010. Is that correct?
Absolutely correct. Courses are renewable up to but not after Dec. 31, 2010.
- 3) A course is measured Feb. 4, 2001. The course paperwork is postmarked Feb. 11, 2001. When does the course expire?
Courses expire Dec. 31st, ten years after the original certification. In this case Dec. 31, 2011.
- 4) When is a course moved to the Archive list? Shouldn't these dates be the same?
Expiring courses are moved from Active to Archive when the course list is updated on or around the end of the year, effectively Dec. 31st after 10 years from certification. 1990 certificates were archived just last December. Courses are also moved to the Archive list when replaced or fail a validation measurement.
- 5) Let's say a certifier certifies 70 or 80 courses a year, most of the courses measured by three measurers. Without Adobe Acrobat the certifier has to start each certificate from scratch. Would it be OK to "adapt" the 2000 certificate so that it contains the same wording and looks like the new 2001 certificate but still be used with Microsoft Word?
Bob Baumel handles the Measurement Certificate template. It is nearly impossible for him to make it available for all the different word processors. Adobe is the best way to make the template available to just about everyone. Consistency is important. All certificates should look as though they are all from the same template. That can be accomplished in more than one way. I use a Word Perfect template myself. If a certifier can modify the certificate to his or her word processor and retain the original appearance all the better. While on the subject of the revised certificate, it is a good idea to review Bob Baumel's instructions on Filling out a Certificate. It is available to all certifiers and contains a load of useful information. Simply contact Bob Baumel for this.
- 6) Until now, when renewing a course, I've (Bob Baumel) simply added a note to the existing certificate saying that it is renewed. However, it seems that for all renewals between now and the end of 2010, we should ALWAYS WRITE A NEW CERTIFICATE (using the new form) .
This is an excellent idea. Wish I had hit upon it earlier. Thanks to Bob Baumel for the input. For all renewals, write a new certificate. Reuse the original number. Update race director information if it has changed and forward copies the same as any new certificate. Include a copy with the renewal form and original certificate. Don't renew any course without getting a copy of the original certificate along with the renewal form. It has not been uncommon to get a request for the map after a renewal has been sent in without the original certificate.

Well, I needed to change the font twice and fiddle with margins to fit all this info on one page so I guess I have 'clattered' long enough. Thanks to Jay and Bob for all their help.



John Jewell - the developer of modern course measurement in England

In June 1961, John Jewell wrote a seminal paper describing the process of road race course measurement in England. John reviewed the accuracy of the different methods of measurement then being used. He elaborated and refined in considerable detail the calibrated bicycle method, which was used by the Road Time Trial Council of British cyclists. Today's measurers will find that the procedures described by John in 1961 remain essentially unchanged today.

(Inset by Pete Riegel: John's 17 page paper, *Notes on the Measurement of Roads for Athletic Events*, is being prepared for electronic distribution)

The paper not only guided the development of current methods in the UK, but the methods which he described were to be adopted internationally. An important factor in this dissemination was John's freindship with the American ultra distance runner, Ted Corbitt. Around 1961, Ted had visited the UK to compete in the London to Brighton (which John had measured with great precision). In the 1960's Ted led the introduction of John's methods in the USA. Ted's work helped inspire Alan Jones to invent the "Jones Counter" in 1970. This counter removed the need for spoke counting described by John in his paper.

Today all measurers use the Jones counter or its current version, the Jones-Oerth counter.

John, a long standing member of the Road Running Club in Britain, was responsible for its programme of course measurement for many years. John was a member of the South London Harriers and he worked very closely with the Southern section of the Amateur Athletic Association. John's paper acknowledges the work done by A.J.C. Kendall, Hon. Secretary of the Southern AAA, who had recently made a survey of the methods being used to measure road courses in the South of England. In 1986 the RRC measurers became formally administered by the Amateur Athletic Association. John continued to handle RRC course difficulty adjustments (based on the measurer's reports) until he retired in 1992. He wrote to new measurers submitting reports welcoming their appointment, and I was honoured to receive such a letter when I qualified in 1991.

John now lives in retirement in Berkshire with his wife Joan.

Mike Sandford, SEAA Measurement Secretary



John Jewell presents the John Jewell Award to Liz McColgan, in recognition of her producing the most remarkable British long distance performance of the year.

Editor's note: John was instrumental in providing Ted Corbitt with inspiration, and, after corresponding with and interviewing dozens of people, Ted produced, in 1964, his 29 page monograph *Measuring Road Running Courses*. This document is available online at: www.rrtc.net.

INTERVIEW WITH JOHN JEWELL

by Andy Milroy

I have just conducted a short interview with the man himself.

He started running in his teens, but his running career really started when he was a student at Imperial College in London. John says that he was always a slow runner, and became interested in slow running. He was a friend of Arthur Newton, and became one of the early members of the RRC, being No 7. He was also a member of the famous South London Harriers. It was this club which put on one of the earliest ultra races, the SLH 30 miles held from the 1940s onwards.

He took over as editor of the Road Runners Club Newsletter in the early 1960s and was to remain so until 1992. The publication under his editorship was renowned for its excellence and coverage of the world distance running scene. John exchanged newsletters and correspondence with a huge number of runners across the globe, and pored over foreign running magazines to produce a detailed digest of results in each issue. Jim Shapiro told me in the 1980s that he regarded the RRC Newsletter as the finest publication of its kind in the world. Primarily because of the Newsletter, the British RRC had numerous members across the world.

John Jewell was also a member of the RRC Records Committee and for many years oversaw the checking of lap sheets and other documentation. He did much to establish the rigorous necessary requirements for best performances on the track, and was meticulous in his checking of record documentation. He however remained very sceptical of the whole idea of world and national road records!

John Jewell had a scientific background, he was a chemist in the Oil Industry all his working life. Thus it was not surprising that the question of the measurement of road running courses drew his attention. He was the driving force behind the investigation into the various methods of measurement of road courses, and in 1960 produced a report which recommended the use of the calibrated bicycle. John always maintained that producing the report was the easy part. Lobbying the British Federation and the IAAF to accept this method took a long and determined effort, and I believe Harold Abrahams, the 1924 Olympic 100 metres champion, and subsequent athletic administrator, was instrumental in pushing for this as well.

In 1962 John married his wife Joan and they have now been married 38 years.

When John eventually retired as editor of the RRC Newsletter in 1992, the RRC decided to award the annual John Jewell Award to the British runner who had produced the most remarkable long distance performance of the year. The photograph shows John presenting the award to Liz McColgan for 1992 at the pre-London Marathon press conference in 1993.

On a personal note, it was John Jewell I wrote to in 1973 when I was first investigating ultra distance performances. It was he who suggested that I join the RRC, and that in 1980 I should join the RRC Records Committee. In 1984 he encouraged me to become RRC Statistician, primarily because I had been working with him on ranking lists for the RRC Newsletter since the mid 70s.

I am sure Ted Corbitt has many more memories of John.

Find attached the photo of the 1992 John Jewell Award presentation. Jim Shapiro's book ULTRAMARATHON has a photo of John with Arthur Newton's bicycle which he [John] used to measure road courses. Page 59. (ed note: the photo is on the cover of this issue)

On Measuring Timetrial Courses

The following article, which is based on the report of a select sub-committee and the opinions of other experienced course measurers, is published on the authority of the National Committee.

Each District Council is required to set up one or more measuring standards as a basis for Course Measurement.

No reliance should be placed on information regarding distances supplied by Local or County Authorities or by the Police, as such information is often inaccurate and the methods of measuring employed are very rarely to the high standard of accuracy required by the R.T.T.C. Neither should any reliance be placed on milestones, as they are often inaccurate.

The minimum distance acceptable for a Standard is One Mile. This should be measured along a good-surfaced straight road, preferably with a kerb, and the terminal points must be clearly and permanently marked.

The measuring must be done with a steel tape of not less than 100 ft. Such a tape may be obtained on loan from the National Competitions Secretary. The tapes when new are accurate at 68 degrees Fahrenheit. The tapes are checked from time to time and borrowers will be informed of any corrections which may have become necessary. When the standard is laid down at temperatures other than 68 degrees Fahrenheit an allowance for expansion or contraction of the tape must be made by subtracting from or adding to the distance laid down in accordance with the following table:

Between degrees F.	Correction per mile	Between degrees F.	Correction per mile
80-78	deduct 4 ins.	56-54	add 5 ins.
77-75	" 3 "	55-51	" 6 "
74-72	" 2 "	50-49	" 7 "
71-70	" 1 "	48-46	" 8 "
69-67	no correction	45-44	" 9 "
66-65	add 1 ins.	43-42	" 10 "
64-62	" 2 "	41-39	" 11 "
61-59	" 3 "	38-36	" 12 "
58-57	" 4 "	35-33	" 13 "

A Fahrenheit thermometer is issued, on loan, with each of the tapes.

Apart from carefully handling the tape to avoid scratches and kinks, the following should be borne in mind.

(a) The measurements on the tape are from the outside edge of the handle.

(b) The tape must be inspected each time it is laid down to ensure that it is not twisted, and is laying perfectly flat on the ground.

(c) After pulling the tape tight, the 100 ft. point must be marked accurately, each time making use of the metal marking plates provided.

Four or more people are needed and one of them should be responsible for adjusting the marking plates and keeping count. The tape must be carried, not dragged along the road surface.

Even when the utmost care is used, absolute accuracy cannot be achieved. A small safety factor of about four inches, to ensure that the Standard is not short, should be added.

A precise description of the Standard must be prepared for record purposes and for circulation among interested people. The following is an example:

Manchester D.C. Standard

A Standard was set out, on February 3rd, 1962, on the Cheadle By-pass (A.34) between:

(a) An arrow marked on the kerb opposite the Bar-door of the Gateway Hotel, and

(b) a similar mark between lamp-standard L.3194 and L.3193, 57 ft. 7 ins. short of the nearest edge of the next drainage grid.

The distance between these marks, along a line 18 ins. from the east kerb is established at One Mile.

Course measurements are calculated from the recorded revolutions of a cycle wheel. The recording is done automatically by a revolution-counter with a five point star wheel actuated by a striker attached to a spoke. District Council Secretaries have a limited number of revolution-counters for official use; but many measurers prefer to have their own. Information about supply can usually be obtained from local officials.

It is an advantage if the striker is so fixed that it has just cleared the star wheel at the moment when the valve is nearest to the ground. The rim can then be graduated in tenths, taking the valve as zero, and readings taken to the first decimal place as a matter of routine.

Before starting to measure it is necessary to find the Constant of the wheel to be used.

The Constant is the number of revolutions needed to cover a Standard Mile. It will be about 790 for a 26 in. wheel, or 760 for a 27 in. wheel. It is obtained by riding over a Standard Mile a number of times and averaging the readings which should not vary more than one-tenth of a revolution from the mean. The following is an actual instance where six readings were taken:

1st, 786.8; 2nd, 787.3; 3rd, 786.7; 4th, 786.7; 5th, 786.6; 6th, 786.7.

The second reading was discarded as an obvious inaccuracy and the Constant taken as 786.7.

Having established the Constant, the bicycle is ridden over the route to be measured, and readings taken at appropriate places. To avoid later confusion readings should be recorded at specific points, e.g. "Florida island, A.580/A.58 opposite centre of south bollard", not simply "Florida island".

Converting wheel-revolutions to distances is a matter of arithmetic. Wheel revolutions, divided by Constant, equals distance in miles and decimals.

A tried method of setting out the results systematically is shown below:

Constant from the Wire Standard Mile: 788.5

Measuring Point	Readings	Revolutions		Distance (miles)	
		Inter	Total	Inter	Total
Gayton island island, N.-side	24466.0	—	—	—	—
Simpson, opp. "The Rinnell"	25349.2	883.2	883.2	1.1201	1.1201
Two Mills c-r N.E. Tr. light	29396.0	4066.8	4950.0	5.1323	6.2524
Tel-pole 74, nr. "The Yacht"	30005.1	609.1	5559.1	0.7725	7.0249
Parigate island south bollard	30844.5	839.4	6398.5	1.0645	8.0894

It must always be appreciated that accuracy of calculated figures is affected by a multitude of very small errors. In view of this it is advisable to set the finishing point of a scheduled course somewhere beyond the calculated terminal. The extension, which need never be more than one yard per mile, ensures that in any circumstances the course to be ridden is not short.

On Timekeeping Procedure

The following article, written after consultation with a number of experienced timekeepers, is published to meet a generally expressed desire that an approved form of procedure should be set out. It is authorized by the National Committee.

The purpose of this article is to set out a routine procedure, for the observance of minimum standards and as a guide to newly appointed timekeepers.

Before the event the timekeeper should compare his watch with correct time of day (B.B.C. or "TIM"). Whilst it is desirable that the timekeeper's watch should agree with the time signal, this is not essential. The important point is that "timekeeper's time" should not be "fast", i.e., in advance of the correct time of day; otherwise a competitor arriving a few seconds late would have grounds for complaint.

The chronograph movement should be started precisely on the hour (or half-hour). This ensures that "timekeeper's time" is not lost if the chronograph movement is accidentally stopped. An assistant timekeeper, appointed to start riders from the latter part of the card, should bring his minute hand into agreement with the principal watch and will start his chronograph movement to synchronize with the principal watch. He should make a note of the precise variation in time between his time-of-day seconds hand and the chronograph hand. Each timekeeper should carry a second watch. Ideally, both watches should have current R.T.T.C. certificates; but in an emergency an uncertificated watch might be brought into use as an alternative to abandoning the event. Should this happen the District Council Hon. Secretary must be notified.

Timekeepers should undertake no other duties during the progress of an event except for identifying competitors by name before despatching them.

The responsibility for inspecting competitors' machines and clothing, to ensure that they do not infringe the Council's Regulations, as well as the notification of revised handicap allowances, should be performed by other officials.

The standard routine at the finish of an event is for the timekeeper to begin with a blank sheet of paper, clipped or pasted on a board; and to record the time of day, in hours, minutes and seconds, in order, as the riders finish.

Where a watch has only a single centre-second hand (as opposed to a "split") it is helpful to count the last few seconds aloud, as the rider approaches the line. It is most important to keep a continuous check on the reading of the minute dial. This can be done by writing down in columnar form, each minute as it is reached on the watch.

If there is no arrival in the minute it is crossed out and the next minute written down. If there is an arrival the seconds and the number are recorded as detailed in paragraph 9.

All times should, in the first instance, be recorded in the timekeeper's own handwriting. The practice by which a timekeeper gives watch readings, by word of mouth to a clerk, without himself recording them, is not recommended. Errors, both of omission and mis-understanding, are easily made; and, once made, will often pass undetected.

An official number-taker is essential at the finish of an event. He must have paper and pencil and keep a written record of the riders' numbers in the order in which they cross the finishing line. This is very important when several riders finish close together.

The timekeeper builds up his record as follows:

When the first rider is expected the timekeeper writes down the time of day in hours and minutes, at the top of his column and checks it for accuracy with both his watches. He announces the time to the recorder and then proceeds as follows:

The first rider is expected at 7.01 enter 7.01. He does not arrive in the minute, which is crossed out as it passes. The next minute is recorded and announced 7.02. The rider arrives. His seconds are recorded as he finishes and announced and his number entered on the left of the time, after consulting the number taker if necessary.

The arrival time then appears as

5 7.02.03

The next rider appears, the minute is recorded and the time completed as he finishes

1 7.02.47

There is a gap and each minute is recorded as reached and crossed out as it is completed without an arrival.

03

04

05

Three riders appear and the minute is entered three times in preparation. The seconds are entered as they finish and the numbers as soon as possible.

2 7.06.05

3 7.06.11

6 7.06.29

Whenever the opportunity occurs, the timekeeper will work out the actual riding times and check them with the recorder.

The timekeeper's sheet will then appear as follows:

	7.01	
5	7.02.03	57.03
1	7.02.47	1. 1.47
	03	
	04	
	05	
2	7.06.05	1. 4.05
3	7.06.11	1. 3.11
6	7.06.29	1. 0.29

These figures are then passed to club officials who make what arrangements they choose for displaying the result.

After the event the timekeeper checks all the recorder's times and the number taker's list against his own manuscript recordings, and signs the official finishing sheet. In events eligible for the British Best-all-rounder competitions he will sign a special certificate.

AN APPRECIATION OF EMIL ZATOPEK

Dear Pete,

As you will note from the attached pages, I went to Emil Zatopek's Memorial service last month. It was a 'one-off' and I cannot think of another sports-person in the world who would command such a send-off. Of course, we weren't just celebrating an athletic life but a man of principles and a patriot.

This 'appreciation' was published in "Athletics Weekly" but I can't find the magazine now - so all I have is my type-script - in case you thought this piece worthy of inclusion in MN?

"s panem EMILEM ZATOPEKEM"

"It was my privilege to witness Emil Zatopek's last public appearance. As in life the 'stadium' was packed full, in this case, the National Theatre in Prague

The one thousand mourners, led by Dana Zatopekova, listened to the eulogies, quietly sang Moldavian folk-songs and cried. It was Juan Antonio Samaranch, when awarding the I.O.C.'s Gold Medal to Emil's widow who remarked that it was strange not to hear the roar "Zatopek, Zatopek, Zatopek" echoing around the seats. But the occasion was too poignant for chants - the Czech people were not just saying farewell to an athletic hero but a patriot, too.

When Dana had taken her place in the auditorium the curtains were drawn back to reveal the coffin draped in the red and white Czech flag lying on a simple plinth. On the plinth was Emil's photograph. The stage was full of wreaths with messages in many languages, including English - one from the London Marathon. Perhaps the messages were best summed-up by the text from Austria which read "Danke fur Alles".

There were four addresses - each representing a part of Emil's life - the Athletic Federation, the Czech Olympic Committee, the Army and the State. Between them were folk-songs and music from Emil's home region.

I sat next to Alain Mimoun, now nearly eighty, smaller than I remember him but with the same penetrating eyes. On my other side was Lasse Viren, representing Finnish athletics, who would have been three years old when Zatopek, Mimoun and Herbert Schade swept around the last bend in the Olympic 5,000m in Helsinki, leaving a fallen Chris Chataway on the kerb and Gordon Pirie still on the back straight. Alas only Mimoun and Chataway are still alive.

The ceremony over, the curtains shut and soldier pall-bearers carried the coffin outside where several thousand people were waiting. The soldiers fired a volley of salute, the crowd quietly clapped and Emil, modest as ever, slipped in the waiting hearse to be buried at a private service in his home village."

John Disley



Here is Jean-Francois with his measuring bike.

A CHRISTMAS PRESENT FROM JFD

In December I received a nice package from Jean-Francois Delasalle. He wrote:

"Dear Pete,

Here is a gadget for your measuring bike.

A French measurer makes them (Régis Stark).

The vertical tube can be used as a pencil holder or a chalk holder as well as a sight for the markings on the road.

Happy Christmas and new year."

The short vertical tube has clear plastic at the bottom, with black crosshairs, much like a gunsight.



The handlebar display. Calculator and notepad arranged in a convenient way. The round object is a thermometer.



View from the front. Note the official sign. The vertical tube may be seen behind the sign.

ONE MEASURER'S STORY

I am, I suppose, a relative newcomer to the measurement game. I measured my first course, a local 5km, back in 1988 because the race director was a friend. It was another five years before I did my next course, then two more until the third. It wasn't until 1997 that I really became active, and began to consider myself a real measurer.

Sometime around then I became aware of *Measurement News*, and contacted Pete Reigel, who sent me a few back issues. I was hooked, subscribed, and the rest, as they say, is history. After a year or so Pete asked me to manage the online adjunct to the publication, *Measurement News Forum*, and I've been happily at it ever since. Certainly the high point of my career thus far was participating in the group pre-validation ride of the 2000 Men's Olympic Trials Marathon course in Pittsburgh.

Through MNF, and numerous emails with Pete, I've been able to increase my knowledge, and, I would hope, my expertise as a measurer. Some of my questions must seem awfully mundane or obvious to the real veterans like Pete, Bob Baumel, Wayne Nicoll, *et al*, but for an English major whose most advanced math course was 11th grade algebra, these were assuredly not trivial inquiries.

To continue filling in the blanks in my measurement knowledge I asked Pete if I could peruse some of the first issues of *Measurement News*. *Measurement News*, and a few days before Thanksgiving I received an early Christmas present, a box containing issues #1 through 75.

To be sure, there were plenty of good technical tips in this trove (offset cal courses,), some of which I think would be worthwhile repeating for us second generation measurers. But what I found most interesting (perhaps due to my minor in history) was the evolution of the measurement process and system in the U.S.

Most of us today take the current setup for granted and as gospel, like tablets handed down from the measurement mount. That wasn't always the case, and much of what is second nature now evolved over the course of months, sometimes years, of experimentation and discussion.

The import and impact of these evolutions is now, through the long range perspective of history, quite obvious, but at the time I wonder if those responsible recognized that, or were simply creating as the need arose. Their actions might well be compared to those of Franklin, Jefferson, and the other Founding Fathers of the country, who realized their creation might not have been perfect (as the recent electoral college contemps proves) but was a damn sight better than the one they were living under.

I suppose what I have done here is script a paean to those pioneers of measurement's early days, men whose work is largely taken for granted and virtually unknown outside the small and close-knit society of measurers. No profiles carved in a granite mount for them; rather, their lasting legacy is a body of accurately measured courses, silently benefiting runners the nation and world over.

—Jim Gerweck

SURVEYORS' SUPPLIES

Check out: www.SurveyorsSupply.com for an online catalog of good stuff.

If you prefer a printed catalog, write to:

Surveyors Supply Co.
P. O. Box 809
Apex, NC 27502

I got a catalog in the mail, and found PK nails, upside-down spray paint, shiners, notebooks, steel tapes, measuring wheels - all sorts of good stuff.

LAST MONTH'S PUZZLE

Last month's puzzle asked readers to find the error in Don Shepan's map of the venue for the USATF measurement-by-pacing contest.

There were no winners, but one loser. That was your editor, who spotted an error where none existed, thus creating a bad puzzle. My apologies to all.

Sidebar

New Finish Line Provisions

USATF approved two new rules regarding finish lines at the recent USATF Convention. The text of the two new provisions is as follows:

New Rule 134.1: (d) The finish line in off-track long distance running events should be a line of width 15cm (six inches) in a color contrasting the running surface and of a material which will adhere to a fixed position on the running surface. The exact finish line shall be clearly marked and stated in competitor instructions in order to eliminate confusion with designs on or adjacent to the running surface near the finish line. The use of a tape, held by individuals not serving as judges, may be used to help identify the location of the finish line.

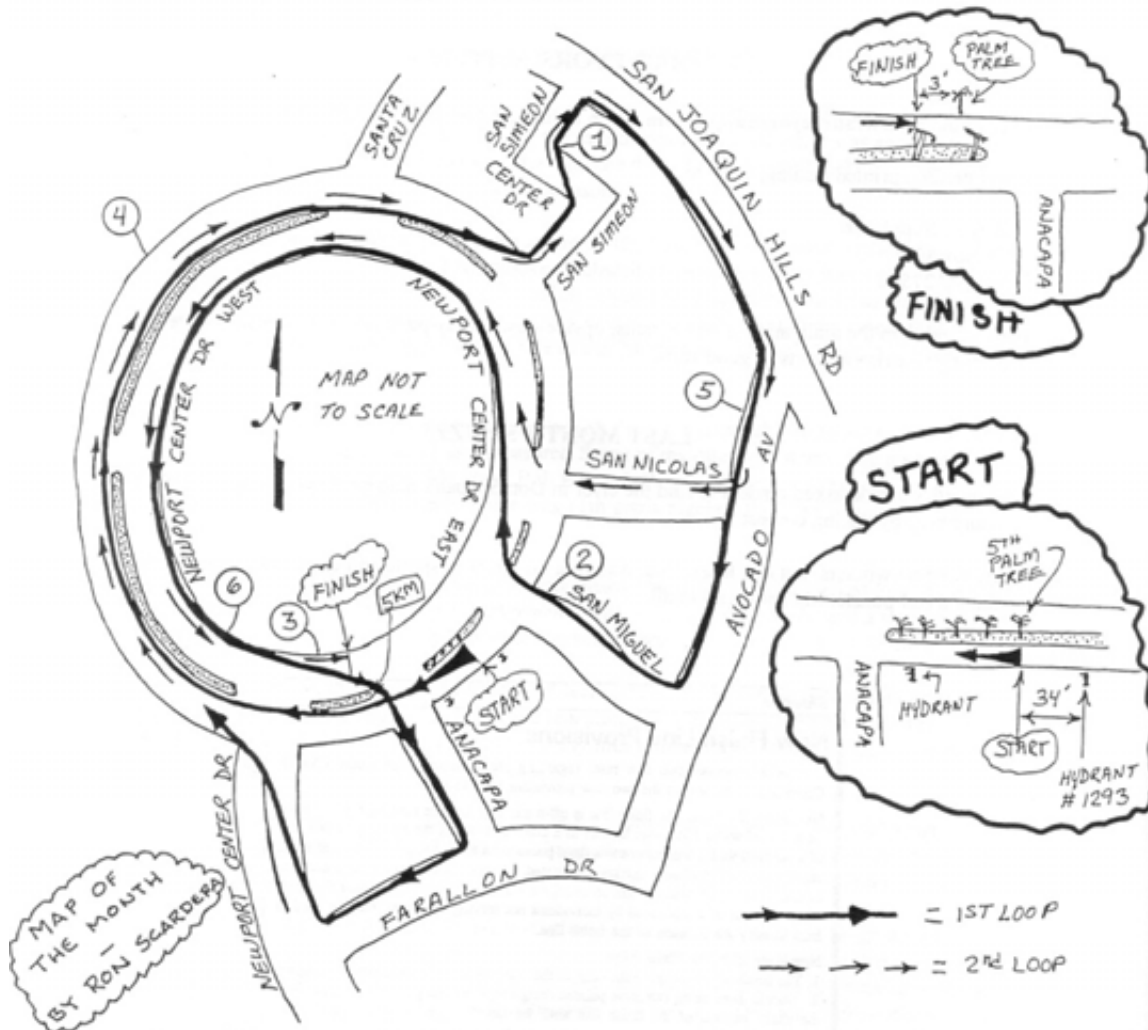
New Rule 135: The Finish Line

1. The finish of the course is the edge of the line closest to the approaching runners.
2. Should there be an extensive painted design adjacent and prior to the finish line, the exact location of the finish line shall be clearly stated in instructions to all competitors.
3. A tape may be held above and parallel to the finish line and at right angles to the course by individuals who are not serving as judges. The individuals holding the tape shall be positioned so they do not interfere with the view of the judges. This tape is not itself the finish line, but is there only to indicate the approximate location of the actual finish line to approaching runners.
4. In events using transponder timing mats, the mat shall be placed so that the edge of the mat closest to the approaching runners is the finish line and that at least 15 cm of the mat be of a color in contrast to the running surface to indicate the finish line.
5. Races may use separate points along the finish line as the crossing location of the first men's and first women's finishers.
6. In addition to an authorized finish line imaging system, an officially designated video or photograph may be used to review the order of finish. ■

From Road Race Management, December 2000, with permission

2001 SPIRIT RUN 10KM

Newport Beach, CA Certification CA01004RS



Start	On Newport Center Dr East, even with the 5th palm tree in the center island counting east from Anacapa and 34' west of hydrant #1293.
Mile 1	On Center Dr, at the NE corner of San Simeon.
Mile 2	On San Miguel, 20 yards east of Newport Center Dr East.
Mile 3	On Newport Center Dr East, across from "Body Design" 100 Newport Center Dr East and 28 yards east of Newport Center Dr.
5KM	On Newport Center Dr East, at end of center island at Anacapa.
Mile 4	On Newport Center Dr West, 15 yards north of Santa Maria.
Mile 5	On Avocado, 18' south of driveway at 1601 Avocado Av.
Mile 6	On Newport Center Dr West, 27 yards east of the east crosswalk line at El Torito.
Finish	On Newport Center Dr East, even with the 2nd lightpole in the center island counting west from Anacapa.



Course Measurement: Looking back at 2000...

and forward to 2001

January 5, 2001

The holidays are behind us, so spring (and course measurement season) cannot be far behind. So while all that dirty white stuff is still obscuring the Shortest Possible Route (and while I can still use my supply of 33 cent stamps), what follows is an update on the world of course measurement, specifically as it applies to those who measure and administer courses in Illinois and Wisconsin.

This letter is being sent to measurers who have submitted a course for certification during the past few years and running organizations in Illinois, Wisconsin, and adjacent areas of surrounding states.

But first, let's dispel some common **Course Measurement Myths**:

Myth 1: Course measurement is time-consuming.

Truth: An experienced measurer can usually measure and permanently mark a 5K course in a morning. Completing the Application for Certification and drawing the course map takes another 2-4 hours, depending on how you go about it. As certifier, my goal is to review all applications and either issue certificates or requests for further information within a week. So you'll at least know where you stand in not much longer than that.

Myth 2: Course measurement is complicated.

Truth: Nothing more complicated here than addition, subtraction, multiplication, and division. No calculus. No trigonometry. Nothing like that. Just ride the bike, fill out the forms, draw the map, and send it to me. It's not much more complicated than that, and help is available if you run into snags.

Myth 3: Course measurement is expensive.

Truth: You can have a fee measurer measure a 5K course for \$150 or less, including the USATF certifier's fees. Or you can purchase the two items you don't already own or have access to, which will probably be the Jones/Oerth Counter and a good quality steel measuring tape, for about the same amount, and measure as many courses as you like. The list of items you will need and the step-by-step instructions on how to measure a course using the Calibrated Bicycle method (as well as all of the necessary forms) are online at www.rtc.net. You probably have most of it or can locate it easily and purchase it inexpensively. Once you have the equipment, each certification costs you only \$20- the USATF certifier's fee- which remains unchanged in 2001.

Myth 4: Records aren't going to be set on my course, anyway.

Truth: OK, but do serious runners run on your course? If so, doesn't it make sense for the distance to be what you advertise it to be, and the intermediate split points to be the correct distance from the start, finish, and each other? And who knows whether an age group record holder is going to show up at your race?

Myth 5: Certified courses are long.

Truth: Maybe. It is true that USATF mandates the addition of a 0.1% "Short Course Prevention Factor" (SCPF) to all certified courses. So if a course is PERFECTLY measured, it is probably long by that amount. Very few courses are perfectly measured, even by experienced measurers, and most common measurement errors tend to make the course short. The SCPF provides a cushion to insure that the course is at least the measured distance. Thus a 5K race may be as much as 5005 meters long. A runner running a 7 minute mile covers 3.83 meters per second, so adding those 5 meters to the course would add 1.3 seconds to that runner's time.

Myth 6: A measuring wheel is just as good.

Truth: We don't think so. Why?

Measuring with a calibrated bicycle is much faster than walking behind a measuring wheel

The bicycle is calibrated before and after each measurement. The measuring wheel is calibrated at the factory, and usually never again

If the measuring wheel wears, its circumference decreases. That means you're not going as far as you think you are, and that makes the course short, and you don't know it.

Measuring wheels have a greater tendency to leave the ground and spin (adding distance that's not there) than does a bicycle with a rider on it.

Myth 7: Only a certifier can measure a course for certification.

Truth: In the USA, ANYONE can measure a course for certification. It must be measured in accordance with USATF procedures, and submitted on USATF's forms. The certifier's role is to review the submission and determine if the procedures were followed, based on the information included in the application submitted.

Statistics for 2000:

77 courses certified in Illinois (measured by 10 measurers)

8 courses certified in Wisconsin (measured by 3 measurers)

Changes for 2001:

The biggest change is that courses certified after January 1, 2001 cannot be renewed. Previously, a certification could be renewed if someone involved with the event (such as the race director or the original measurer) completed a form stating that the course had not changed since it was measured. Because people involved with events change, in many cases those people were no longer available and RRTC was not comfortable extending the certification on courses with so little "institutional continuity". Thus:

Certificates for courses certified in 2001 will expire on December 31, 2011 and cannot be renewed.

Certificates for courses certified before 2001 may be renewed, but those certificates will expire on December 31, 2010.

The Measurement Certificate form has been redesigned to reflect this, so the certificates you receive in 2001 will look somewhat different than they have for the past few years. Additionally, a new certificate will now be issued for renewed courses reflecting the old course number but any updated information on the front of the certificate, and the December 31, 2010 expiration date.

Experience shows that it is a rare course that survives 10 years without something happening that requires that it be re-measured, so the inconvenience caused by this change should be minor.

Contacting me:

Address: 4556 Opal Drive
Hoffman Estates, Illinois 60195-1185

Telephone: 847-359-4598

Fax: 847-359-4448

E-mail: Jaywight@earthlink.net

E-mail correspondence usually elicits the quickest response. Applications for Certification are best sent by mail or fax. The fax is always on but it shares the telephone line with the modem so it may be busy from time to time.

I serve as the certifier for the states of Illinois and Wisconsin but can certify courses in any state. If your course is in another state and you would rather work with that state's certifier, a list of certifiers is available at www.rrtc.net or contact me and I'll put you in touch with your state's certifier.

Course maps:

In a few cases in 2000 I re-drew the measurer's course map based on information provided to me by the measurer. I'll be much less inclined to do that this year, simply because it is very difficult to draw an accurate map of a course you've never seen. A well-drawn course map should allow someone who has never before seen the course to locate the start and finish and navigate the route between them. The best course maps:

Are drawn on one 8.5" x 11" page

Are drawn in one color, suitable for photocopying

Depict the streets, paths, etc. on which the course runs by parallel lines and the path measured by a single, unbroken line, and show the approximate locations of intermediate split points.

Include the name of the race, the city, state, measurer's name, and date(s) measured

Include a north arrow

Include, on the one page, descriptions of the start, finish, and any turnaround points, with distances to landmarks, and sketches if appropriate.

Identify, by name (or description) EVERY street or path the course uses.

Include (especially for 10K and shorter) descriptions of intermediate splits, including metric splits in multiples of 5 km.

Include distances from the start to turnaround points, and, if a loop course, the length of the loop, in both miles and meters.

When I receive a course map that is more than one page I take it to a photocopier and reduce it and paste it together until it and the necessary narrative fit on an 8.5" x 11" sheet. If I can do it, so can you. If the course is long or complicated, try drawing the map on a larger sheet and then reducing it.

Elevation Data:

Elevation data is necessary because the drop from the start to the finish of a course determines whether or not it's record eligible. The best source for this data is USGS topographic maps, which are generally available at local libraries. Another source is www.topozone.com, a web site that has patched together almost 59,000 USGS topographic maps and is definitely worth a look.

Document Flow and Fees:

Your application should include:

Application for Certification of a Road Course (2 page form)

Bicycle Calibration Data Sheet (one for each measurer)

Course Measurement Data Sheet

Course Map

Application for Certification of a Calibration Course (if applicable)

Calibration Course Map (if applicable)

Certifier's review fee of \$20 per course (no fee for calibration courses). Checks should be made payable to Jay W. Wight, and all documentation should be sent to me at the above address.

Additional resources:

JONES/OERTH COUNTER: The Jones/Oerth counter is the newest model of the Jones counter.

Counters can be obtained from:

Paul Oerth

2455 Union Street- Apt 412

San Francisco, CA 94123

Phone: (415) 346-4165

Fax: (415) 346-0621

E-mail: Poerth@aol.com

Price: \$65 for the 5 digit model, \$75 for the 6 digit model, postpaid

In Conclusion:

As in past years, I will attempt to answer any questions you have about course measurement and certification and give you as much help as possible as you work through the process. The goal is simple- have as many races run on certified courses as possible. I will continue to work to turn around applications within a week wherever circumstances allow.

Please contact me with your questions and comments. Have a happy and prosperous 2001. I look forward to working with you in the coming year.

Sincerely,

Jay Wight
National Certifier USATF/RRTC

A QUESTION FROM A MEASURER

Dear Peter:

The x-country, they have a loop course of a little over 1 km with a fixed finish line. depending on the category they will have different distances for the race ex. 2km. 3km. 4km. up to 12 km. They want me to find each starting line for the distances with a fixed finish point.

Pls. let me know how to go by.

Pedro

ONE ANSWER TO THE QUESTION

Dear Pedro,

Measure one lap, two measurements. Use the smaller measurement as official.

As an example. Let us say you obtain measurements of 1322.1 and 1322.9 meters.

Official length =	1322.1 meters			
1 lap =	1322.1	2 km start is 677.9	meters before finish	plus 1 lap
2 laps =	2644.2			
3 laps =	3966.3	4 km start is 33.7	meters before finish	plus 3 laps
		5 km start is 1033.7	meters before finish	plus 3 laps
4 laps =	5288.4			
5 laps =	6610.5			
6 laps =	7932.6			
7 laps =	9254.7	10 km start is 745.3	meters before finish	plus 7 laps
8 laps =	10576.8			
9 laps =	11898.9	12 km start is 101.1	meters before finish	plus 9 laps

You can fill in the rest.

Once you have figured where each start goes, you can lay them all out in one circuit of the track. Calculate the starts for the distances you want. Arrange them in order with smallest addition first. Ride the course backwards, starting at the finish line, and lay out all the starts in one ride. Ride backwards again and check the locations of the start lines.

For example, if you wanted the distances shown above, you would ride the course backwards, stopping at the following places.

4 km start is	33.7 meters before finish	plus 3 laps
12 km start is	101.1 meters before finish	plus 9 laps
2 km start is	677.9 meters before finish	plus 1 lap
10 km start is	745.3 meters before finish	plus 7 laps
5 km start is	1033.7 meters before finish	plus 3 laps

Recalibrate. Then you can figure any needed adjustments.

If you have more questions, ask. I am happy to help.

Best regards, Pete



The World's Best 10k, held on the Teodoro Moscoso Bridge in San Juan, Puerto Rico, attracted a strong field. Here we see the lead pack rounding one of the first turns.



Pedro Zapata, technical director of the World's Best 10k, and also its measurer, installs carpeting over a bridge joint at the finish line.



When they start the World's Best 10k, they make sure everybody hears the signal. Here two officials display the start cannon.



Hugh Jones and Pete Riegel riding the press truck.



Why it's fun to get mail from George Tillson. George collects stamps, and uses surplus as regular postage. Many of the stamps he puts on the letters are older than the postman.

Web site brings world together—on the map

By Stephanie Stoughton

The Boston Globe

In his decades-long affair with maps, Ed McNierney has scoured library-book sales for yellowed charts, covered walls with maps and even surveyed the hiking trails near his Groton, Mass., home.

But when the 40-year-old software developer brought thousands of the most detailed maps to the Web, he stumbled on a solution to the woes of outdoor enthusiasts and others who follow the nation's charted territory.

McNierney's brainchild, Topozone.com of North Chelmsford, Mass., has stitched together seamlessly 58,938 oddly sized topographic maps produced by the U.S. Geological Survey.

Widely used by hikers, surveyors and geologists, the federal agency's maps provide information on elevations, positioning and landmarks such as old schoolhouses and cemeteries. But as users jump from map to map, they quickly discover that the edges often don't line up.

"If you bought all of the USGS maps, laid them out on a football field and tried to tape them together they wouldn't fit," said McNierney, executive vice president of Maps a la Carte Inc., which owns Topozone.com.

The tiny firm's technology has attracted the attention of Mapquest.com Inc., an online mapping site that has become a favorite of Road Warriors. Mapquest.com gives visitors free access to street maps and offers specific directions, including the "fastest" and "shortest" routes between two points.

A few companies, including map giant DeLorme Publishing Co., offer topographic maps on CD-ROMs that cost up to \$100. But Topozone.com may be the leader in its niche, according to several U.S. Geological Survey and industry experts.

Though Topozone.com isn't the only site that offers topographic maps, the quality of its maps and site search tools appear to be more advanced, they said. At Topozone.com, users can search for maps by longitude and latitude or by plugging in the names of towns, cemeteries, mountains or even geysers.

"I can't find anything else quite like it," said David Terrell, marketing manager for the U.S. Geological Survey data center in Sioux Falls, S.D.

Executives at Maps a la Carte likely will find a formidable rival in Maptech Inc., which has included topographic maps on its site. But Maptech's online strengths tend to be in the nautical area, so it may be a better bet for boaters than hikers, said Matt Rosenberg, a geographer who writes for About.com.

McNierney and his chief executive, Bill Everett, are former executives at Eastman Kodak Co.'s software subsidiary in Billerica, Mass. McNierney left in 1998, and Everett followed a year later.

As late as last September, the two executives weren't sure whether their love of maps and McNierney's "nooding" on the computer would translate into a viable business. "It wasn't until we got it working that we convinced ourselves," McNierney said.

But since the Topozone.com site opened last November, it has drawn hundreds of thousands of visitors, including a few who have surprised the executives. The odd mix has included cemetery associations as well as hobbyists searching for old railroad tracks and radio towers.

Even the experts at the U.S. Geological Survey are tickled.

"Whatever they want to do is fine by us," said Terrell, of the Geological Survey. "If the opportunities make some people rich, that's fine."

That hasn't happened to McNierney and Everett. The business has brought \$50,000 in revenue, mainly from advertising and licensing fees. But the executives hope to expand the company now that they have \$500,000 in seed funding and another \$1 million investment from Navitrak International Corp., a Canadian mapping company.

Executives say they do not plan to charge consumers to print out screen maps displayed on Topozone.com. Instead, they plan to charge consumers for software that can be used to access better quality maps from the site (without the banner advertisements that show up on the screen printouts).

Everett says Topozone's business model lets customers access the most recent maps available, without having to pay for updates, as they do with maps on CD-ROM.

They may have caught giants Maptech and DeLorme by surprise, but they wonder who's mapping the next technology.

"I probably worry more about the next two guys working out of their garage," said McNierney.