Measurement News

July 2003 • Number 120

The yardstick template is mounted to the outside wall of Greenwich Observatory. In old times these templates were publicly mounted in various places so that people could make their own yardsticks and have them all be the same size. Just cut it a bit oversize, then shave bits off the end until it fits just right between the end stops on the template. This was an early and effective way to achieve standardization of common measures.

MEASUREMENT NEWS

#120 – JULY 2003

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ABOUT MEASUREMENT NEWS

Measurement News (MN) is the newsletter of the Road Running Technical Council (RRTC) of USA Track & Field (USATF). MN is our way to talk to one another, so that we all know what's going on.

MN is also sent to many foreign measurers associated with AIMS and IAAF, who are also invited to participate in the dialogue.

MN is published bimonthly beginning in January (six issues per year). MN is sent free to RRTC officers and certifiers, and AIMS/IAAF measurers. Others may obtain MN by sending $20 (for a one year subscription - six issues) to the editor.

If you wish to reproduce or report on anything in MN, go ahead, but an attribution would be appreciated.

MN wants to make road course measurement as good as it can be. All opinions and grievances are solicited. No cows are sacred. If you have a new measurement technique, or if you think things should be done differently, send in your contribution to MN. Your opinion will be given space. Nothing changes until somebody tries!

Electronic copy or clean typed material is most welcome, but send what you can.

Deadlines: Material intended to be included in the September 2003 issue must be in the Editor's hands by August 24. Next issue will be mailed in early September.

ROAD RUNNING TECHNICAL COUNCIL

Visit the RRTC website at:

http://www.rrtc.net

A complete list of certified courses may be downloaded from this site.

A complete USATF measurement book can be downloaded from this site.

ONLINE MEASUREMENT FORUM

All it takes to become a subscriber is access to email. Simply send to **mnforum-request@rrtc.net** with “subscribe” as the subject (to unsubscribe, use “unsubscribe” as the subject).

To post messages to the list, send email to **mnforum@rrtc.net**. Please keep your comments in the body of the email (no attachments please). Also, please send only plain text; i.e., avoid formatted (HTML) messages (If you use HTML formatting, the formatting will be removed).

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Chairman's Clatter - From Mike Wickiser

It seems like I just received *Measurement News* and it is already time to update the course list and Clatter once again. Wait a minute, I did just receive MN a week or so ago. Add to that this is vacation season; the deadline is moved up a couple weeks. Hence the present timeframe crunch. *Measurement News* has been slow in getting printed of late. Jim Gerweck and I are working diligently to improve this and get back on track the way Pete always kept it. *MN* printing and distribution through the USATF national office has proven to be a disappointment. It seems they can do the work with decreased expense and less work for the editor but they have a serious backlog problem and even getting the files to them for printing earlier than normal hasn't achieved a timely distribution. Jim has agreed to try a local printer for this issue in effort to improve and each recipient should be getting this newsletter early July as it should be. I was the person who suggested using the USATF office service so it is only fitting that I be the one to apologize for the lack of timeliness. Measurement certificate review and distribution timeliness is and always has been a requirement for certifiers and the RRTC newsletter is accordingly deficient when not timely.

With summer vacations, the course map online project will be slowing down due to the rush of summer activities. For those who are using the course search feature, all active certificate maps back to 1995 are complete. There still remains about half of the 1993/94 certs to scan and post. Once the 93/94 certs are done the remaining renewed certificates will need posting.

Doug Loeffler has scheduled the validation of the Men's Olympic Trials Marathon for the weekend of August 16 & 17. Amy Morss will be scheduling the Women's Trials validation for mid-September. Interested measurers should contact Doug or Amy soon to join in.

The National Convention has in recent years seen fewer of the RRTC officers in attendance for several reasons. Day jobs being one of the more important comments for missing the convention of late. Currently we are working on getting together as a group sometime near Labor Day to discuss what would normally be agenda items for the convention. Meeting in this way will allow the greatest RRTC officers' attendance and provide for direct discussion of measurement topics. The agenda is open at this time and topics are open solicited.

IAAF INTERNATIONAL MEASUREMENT SEMINAR

* * * Grenada * * *

May 23 & 24, 2003

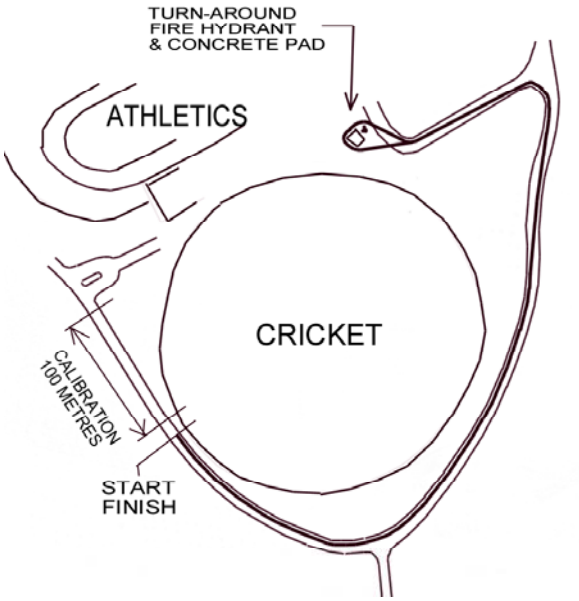
Organization of the Seminar

Early this year I was contacted by Lenford Levy of the IAAF Regional Development Centre, San Juan, Puerto Rico. He asked whether I was free to conduct a measurement seminar in May. I responded with an enthusiastic "yes." Lenford put me in touch with Conrad Francis, Secretary of the Grenada Athletic Association, who was responsible for the general organization of the seminar. Conrad contacted several Caribbean federations, and 11 participants registered for the seminar. Aruba, Barbados, Dominica, Grenada, St. Kitts and St. Vincent were represented.

The Venue

The seminar was held at the Grenada National Stadium Complex, near St. George's. Roadways surrounding the athletics and cricket stadiums provided a reasonably secure place for the participants to measure. A nearby gravel-mining operation, and nearby residential neighborhoods, put some traffic on the roads, but it was not heavy.

The course was approximately 1.1 km in length, with a 100 metre straight portion available for the layout of a calibration course. While greater lengths were desirable, the venue represented a safe alternative to more heavily-trafficked areas on the island, and the stadium offered convenient classroom space.



Preliminary Preparation

Before the seminar a general outline of the work and a statement of requirements was sent to Conrad. When I arrived everything was ready. Conrad had arranged for 8 bicycles to be made available for use of the students. He had also purchased a dozen 5-digit Jones/Oerth counters to be distributed to students. I came to Grenada a day early, visited the venue, determined a suitable area for measurement, and prepared a map and data sheet for students to use during the work.

Conduct of the Seminar

Day 1 - Friday, May 23 - Off-island participants assembled at the Grand View Inn, where we were domiciled, and were picked up and taken to the Stadium Complex. Grenada students arrived on their own. I was introduced, made some preliminary remarks, and showed students copies of *Course Measurement Procedures*, the US measurement manual. I explained that we would lay out a calibration course of 100 metres length. I explained that this length was suited to the venue and for instruction, but that 300 metres was the minimum acceptable for real-world measurements.

Taping the calibration course

We left the classroom and went to the road. With the assistance of students, I laid out a calibration course on the stadium side of the road. I deliberately left the length a bit short of 100 metres. When this was done I crossed the road and put down marks that were approximately opposite those previously established. I wanted to have parallel calibration courses so that we would have one-way traffic on each calibration course. I explained that in normal measurement, a single calibration course was generally used.

I then had the students break into two groups, and asked them to measure both courses using steel tapes. The two groups each measured both sides of the road, and each used both tapes during the exercise. The three measurements of each course were averaged, and the necessary correction was added to make each calibration course 100.00 metres in length.

I did not discuss temperature correction, as all participants lived in the tropics, and were quite unlikely to experience problems due to thermal tape contraction. I explained that the temperature correction procedure could be found in the book, and advised them to study it.

Mounting the counters to the bikes

Calibrating the bicycles

Once the calibration courses had been marked with a PK survey nail at each end, we returned to the Complex and assembled the Jones/Oerth counters on to the bicycles, and stopped for lunch.

After lunch we returned to the road, and calibrated the bicycles. I asked the students to follow me, and to observe how I rode on my first measurement of the course. This done, the students were sent off to do their own measuring. Because the test course was not long, students did two measurements of the course, then recalibrated. When all had completed the riding, we went to the classroom where the measurers did their calculations. I answered questions and generally guided the group through the calculations.

As each measurer completed his work, he was asked to write his result on the bulletin board. As instructor, I had the shortest measurement, and I explained how adherence to the *Shortest Possible Route* was the way to get similar results. I collected all the data sheets for use in preparing this report.

Day 2 – Saturday, May 24 – We again met at the Complex, and I explained that today would be easier, as now we all had experience. I laid two London Marathon t-shirts on the table, and explained that the best ride of the day would have his choice, and second place would have the other. This seemed to provide cheerful motivation. The mood this day was much less nervous than on Friday. The measurers were more sure of themselves, and the measurement results showed a great improvement. The spirit of competitiveness was present, and people appeared to be taking pleasure in the exercise.

With measuring done, we went to the classroom and calculated results. Based on each measurer's calculation, first place winner was Cyril Cox, with Andre Browne second. Subsequent recalculation done in preparation of this report showed that Browne had made a small miscalculation. With correct calculation these two would have exchanged places, with Browne first and Cox second.

All but one showed significant improvement of the first day's measurement, indicating that they had a better understanding of how to follow the *Shortest Possible Route*.

After lunch we enjoyed free-flowing discussions of various measurement topics, followed by a closing ceremony and presentation of certificates attesting that the participants had earned IAAF "C" level measurement status.

Discussion of Results

Results of the measurements are presented in this report. Included are:

1) List of measurers
2) Measurement of the calibration course
3) Measurement results from day 1
4) Measurement results from day 2

On return home, I used the data provided by each measurer to correctly calculate the course length, using a computer. Sometimes the computer value does not agree with the length calculated by the measurer. In these cases, either the student or I made a mistake. Each student's data sheet will be included with this report so that they may see their mistake or inform me of mine. Some common mistakes were:

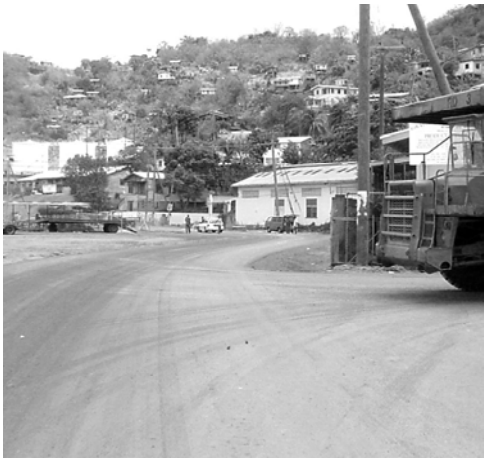
- Loose riding – failure to follow the *Shortest Possible Route*
- Transposing numbers or incorrect reporting
- Rounding off calibration figures prematurely
- Incorrect calculation of calibration figures
- Incorrect calculation of distances

Each student should study his numbers, and compare them with the computer calculations. Where there is a difference, checking will discover the reason.

What was the length of the course? – No one can say with certainty, but my estimate is about 1100 metres. There is no clearly-defined way to calculate course length when many measurements exist. One method is to throw away the obvious outliers and use the median measurement of the rest. This is generally reliable. Other methods have been proposed, but ultimately some judgement must be used.

Most of the measurers had numbers in reasonable agreement with the above. The rest will improve with more practice. **In only one day we saw an enormous improvement – more riding practice will certainly improve each measurer's riding.**

The test course was almost entirely curved, with one tricky spot where the road took an s-bend. As a result, measurements had more variation than would be the case if there had been more straight parts. The students did well to get their results.



S-curve in the course

All students have now learned the most important part of course measurement – the riding of a tight, correct line, following the *Shortest Possible Route*. All the calculation in the world cannot correct the results of a bad ride. The students are ready for more measurement work. And all are now officially proclaimed as IAAF Measurers, grade "C."

Upgrading from "C" to "B"

Six measurers (one from each country) were given copies of *Course Measurement Procedures*. The others will receive their copy with this report. In this book are instructions and forms. Students are encouraged to submit measurements to me using these forms and procedures. When all is correct, I will issue a USA Track & Field Certificate of Accuracy for the course. After a student has successfully applied for and been granted 4 or 5 USATF certificates, I will recommend them for upgrading to "B" level.

A Personal Note

I had a wonderful time conducting this seminar. All of the students were enthusiastic and eager to learn, and many perceptive questions were asked. This is a good sign – an inquiring mind will learn quickly. The improvement between day 1 and day 2 was impressive. I was very happy to see it. I am confident that as the measurers work in their countries they will improve. In several cases, little improvement is possible, as results showed they are already well along.

My thanks to Lenford Levy and Conrad Francis, without whose work this seminar would not have happened. I would have hated to miss it.

Peter S. Riegel
IAAF "A" Measurer
IAAF Measurement Instructor
May 29, 2003

Copies of this report sent to:
All Seminar Participants
Lenford Levy, IAAF RDC, San Juan
Conrad Francis, Grenada Athletic Association
Pierre Weiss, IAAF
IAAF Measurement Administrators
- Bernie Conway
- Dave Cundy
- Jean-Francois Delasalle
- John Disley

Hugh Jones – AIMS Secretary

Grenada National Stadium Complex

Layout of parallel calibration courses

Two calibration courses were laid out on the peripheral road of the complex. One was on the stadium side of the road, and the other was on the opposite side. Pete Riegel, as head tapeman, laid out a length which he measured at 3 x 30 metres plus 9.858 metres, on the stadium side of the road. Total length 99.858 metres. Pete then placed pieces of masking tape approximately opposite, on the water side, and marked them.

The group was divided into two teams, each using one of Pete's 30 metre steel tapes. One tape was divided into millimetres. The other was divided to centimetres. Each team measured the marks. They then traded places and tapes and each checked the other side of the road. Measurements were as follows:

Stadium Side	99.88	**Opposite Side**	99.467
	99.856		99.493
	99.88		99.464
Average	99.872	Average	99.47467

An amount was added to each course to bring it to an even 100.00 metres, as follows:

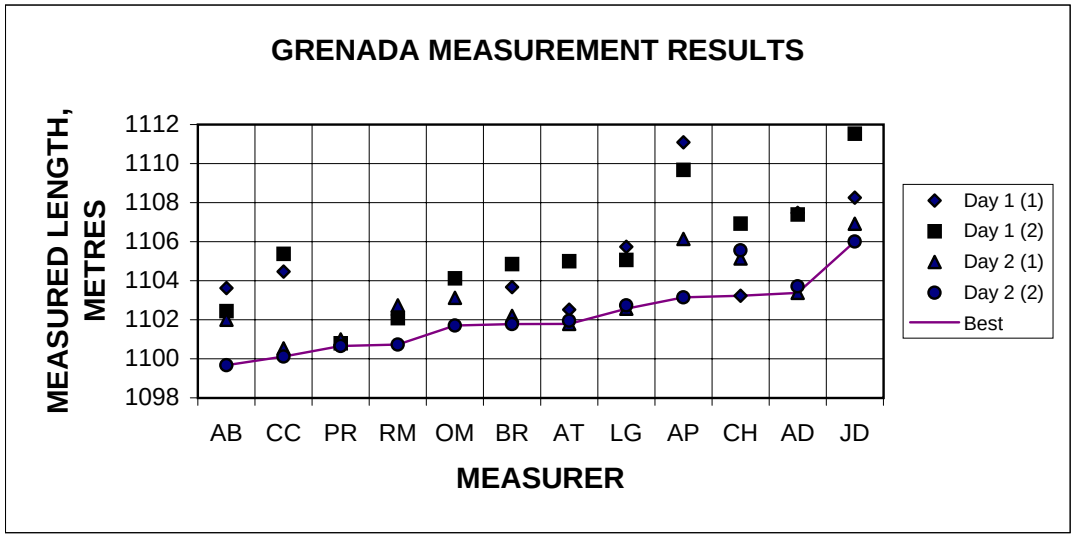
Stadium Side	0.128	**Opposite Side**	0.525
Final Length	**100.000 metres**		**100.000 metres**

No temperature adjustment was made, as temperatures in the area almost always exceed 20C, and Pete felt it would only add confusion at this early stage of learning. In general, in the tropics, temperature adjustments may safely be ignored.

RESULTS OF ALL MEASUREMENTS OF THE COURSE

Measurement results in metres

		Day 1 (1)	Day 1 (2)	Day 2 (1)	Day 2 (2)	Best
Andre Browne	**AB**	1103.62	1102.44	1102.00	1099.67	1099.67
Cyril Cox	**CC**	1104.46	1105.38	1100.53	1100.11	1100.11
Pete Riegel	**PR**	1100.71	1100.79	1100.99	1100.65	1100.65
Rawlson Morgan	**RM**	1102.25	1102.08	1102.74	1100.73	1100.73
Orville Maynard	**OM**	1134.31	1104.12	1103.13	1101.70	1101.70
Benny Rowe	**BR**	1103.67	1104.85	1102.20	1101.78	1101.78
Angel Tromp	**AT**	1102.52	1105.00	1101.78	1101.95	1101.78
Leo Garnes	**LG**	1105.74	1105.07	1102.57	1102.74	1102.57
Abrel J. Patrick	**AP**	1111.09	1109.68	1106.14	1103.15	1103.15
Cedric J. Harris	**CH**	1103.23	1106.92	1105.14	1105.56	1103.23
Anthony Davis	**AD**	1107.48	1107.39	1103.38	1103.71	1103.38
Juan Dake	**JD**	1108.26	1111.53	1106.91	1106.01	1106.01



GRENADA MEASUREMENT SEMINAR **Grenada National Stadium Complex**

Calibration course = 100.00 metres

RAW MEASUREMENT COUNTS FOR ALL PARTICIPANTS - May 23, 2003

Measurer	CH	AP	JD	LG	RM	OM	AD	BR	AB	AT	CC	PR
Bike No	8		2	4	5	6	3	4	2	7	1	6
Precal 1	1163	1203	1100	1184	1194	1191	1181	1184	1102	1188	1201	1189.5
Precal 2	1162	1199	1099	1182	1196	1190	1179	1184	1100	1187.5	1204	1188.5
Precal 3	1163	1200	1100	1182	1195	1193	1179	1183	1101	1187	1203	1189
Precal 4	1163	1198	1099	1181	1195	1188	1180	1184	1100	1187.5	1202	1189
S/F (1)	24704	74580	25457	15850	27547	66285	26575	50169	81533	25075	26000	17170
S/F (2)	37546	87907	37642	28944	40721	79811	39648	63244	93685	38186	39300	30265
S/F (3)	50431	101217	49863	42030	53893	92977	52720	63322	105824	51326.5	52611	32700
S/F (4)								76411				45796
Postcal 1	1169	1196	1097	1185	1192	1192	1178	1184	1099	1189	1206	1188
Postcal 2	1157	1198	1097	1182	1193	1191	1180	1183	1100	1188	1202	1188
Postcal 3	1163	1196	1097	1184	1193	1192	1178	1183	1098	1189	1204	1188
Postcal 4	1163	1196	1098	1184	1194	1193	1179	1183	1100	1188	1202	1188

CALCULATED RESULTS - May 23, 2003

Measurer	CH	AP	JD	LG	RM	OM	AD	BR	AB	AT	CC	PR
Precal 4-ride average, counts	1162.75	1200	1099.5	1182.25	1195	1190.5	1179.75	1183.75	1100.75	1187.5	1202.5	1189
Postcal 4-ride average, counts	1163	1196.5	1097.25	1183.75	1193	1192	1178.75	1183.25	1099.25	1188.5	1203.5	1188
Precal constant, counts per metre	11.63913	12.012	11.006	11.83432	11.96195	11.91691	11.8093	11.84934	11.01851	11.88688	12.03703	11.90189
Postcal constant, counts per metre	11.64163	11.97697	10.98347	11.84934	11.94193	11.93192	11.79929	11.84433	11.00349	11.89689	12.04704	11.89188
Day's constant (average) counts per metre	11.64038	11.99448	10.99473	11.84183	11.95194	11.92441	11.80429	11.84684	11.011	11.89188	12.04203	11.89689
Precal 4-ride variation, counts	1	5	1	3	2	5	2	1	2	1	3	1
Postcal 4-ride variation, counts	12	2	1	3	2	2	2	1	2	1	4	0
Course length (1), counts	12842	13327	12185	13094	13174	13526	13073	13075	12152	13111	13300	13095
Course length (2), counts	12885	13310	12221	13086	13172	13166	13072	13089	12139	13140.5	13311	13096
Course length (1), metres	1103.229	1111.094	1108.258	1105.741	1102.248	1134.312	1107.478	1103.67	1103.624	1102.517	1104.465	1100.708
Course Length (2), metres	1106.923	1109.677	1111.532	1105.066	1102.08	1104.121	1107.394	1104.852	1102.443	1104.998	1105.378	1100.792

RAW MEASUREMENT COUNTS FOR ALL PARTICIPANTS - May 24, 2003

Measurer	CH	AP	JD	LG	RM	OM	AD	BR	AB	AT	CC	PR
Bike No	4	8	2	8	5	6	3	4	1	7	1	6
Precal 1	1183	1171	1100	1163	1193	1193	1180	1185	1202	1188.5	1205	1189
Precal 2	1184	1168	1099	1163	1193	1191	1181	1185	1200	1189.5	1204	1190
Precal 3	1182	1167	1096	1161	1193	1190	1180	1185	1203	1189.5	1203	1188.5
Precal 4	1185	1165	1099	1160	1194	1190	1180	1184	1202	1189.5	1203	1189.5
S/F (1)	31358	18283	20096	80587	16479	7706	68612	80490	74632	66798	14550	48300
S/F (2)	44449	31217	32269	93413	29663	20856	81649	93560	87883	79912	27815	61408
S/F (3)	57545	44116	44432	106241	42823	33989	94690	106625	101106	56	41075	74512
S/F (4)										13172		
Postcal 1	1183	1168	1099	1162	1193	1191	1180	1184	1200	1189	1205	1190.5
Postcal 2	1184	1170	1099	1163	1204	1192	1181	1184	1201	1188.5	1205	1189
Postcal 3	1182	1167	1099	1161	1199	1190	1180	1184	1200	1189	1203	1189
Postcal 4	1184	1169	1098	1164	1186	1190	1181	1186	1202	1189	1205	1189.5

CALCULATED RESULTS - May 24, 2003

Measurer	CH	AP	JD	LG	RM	OM	AD	BR	AB	AT	CC	PR
Precal 4-ride average, counts	1183.5	1167.75	1098.5	1161.75	1193.25	1191	1180.25	1184.75	1201.75	1189.25	1203.75	1189.25
Postcal 4-ride average, counts	1183.25	1168.5	1098.75	1162.5	1195.5	1190.75	1180.5	1184.5	1200.75	1188.875	1204.5	1189.5
Precal constant, counts per metre	11.8468	11.6892	10.9960	11.6291	11.9444	11.9219	11.8143	11.8593	12.0295	11.9044	12.0495	11.9044
Postcal constant, counts per metre	11.8443	11.6967	10.9985	11.6366	11.9670	11.9194	11.8168	11.8568	12.0195	11.9006	12.0570	11.9069
Day's constant (average) counts per metre	11.8456	11.6929	10.9972	11.6329	11.9557	11.9207	11.8156	11.8581	12.0245	11.9025	12.0533	11.9056
Precal 4-ride variation, counts	3	6	4	3	1	3	1	1	3	1	2	1.5
Postcal 4-ride variation, counts	2	3	1	3	18	2	1	2	2	0.5	2	1.5
Course length (1), counts	13091	12934	12173	12826	13184	13150	13037	13070	13251	13114	13265	13108
Course length (2), counts	13096	12899	12163	12828	13160	13133	13041	13065	13223	13116	13260	13104
Course length (1), metres	1105.14	1106.14	1106.91	1102.57	1102.74	1103.13	1103.38	1102.20	1102.00	1101.78	1100.53	1100.99
Course Length (2), metres	1105.56	1103.15	1106.01	1102.74	1100.73	1101.70	1103.71	1101.78	1099.67	1101.95	1100.11	1100.65

Measurement of the Month

Jim Gerweck

WESTON MEMORIAL DAY 5K

WESTON, CT **19 MAY 2003**

About 10 days before this year's race (which is actually held the Saturday before Memorial Day) I received a frantic email from the race director, Julie Sidhu. The last half of their course, which I had measured five years ago, was being repaved by the town. The road surface had been scarified, leaing big ruts, but would not be repaved until after the holiday. A quick run over the roughened surface by Julie convinced her that the many young children and parents with Baby Joggers would not be able to get by this section, which totalled nearly a third of the course, safely.

I told her I would measure an alternate route before the race, but the rainy spring that had bedeviled New England continued until a week before the race. The day before, Carol Kane had driven several alternatives and come up with an out and back layout that she felt would be just about the correct distance. The turnaround would be near a cul-de-sac at the end of a dead end road, where the water stop could be located without interfering with traffic.

I met Carol the Monday morning before the holiday weekend and we calibrated out bikes, then met Julie at the high school, where the race would start and finish. We arbitrarily measured from the old start point along the old route, then turned down the dead end. Reaching the cul-de-sac, we determined the best location for the turnaround point (before the runners entered the actual cul-de-sac) and did some quick calculations. Riding loosely, the distance came out to a bit under 2,500 meters. I knew this would result in the start/finish being closer to the school, which was actually a desirable change. In addition, since the race was Chip timed, it would allow the finish mats to also record the runners' starts and generate net times. This was impossible on the old layout since a complete loop was slightly more than 5,000 meters.

It was quite easy to figure out the kilometer splits, which would be the same on the way out and back. The miles took slightly longer to calculate, but once they were done we did the ride, noting the location of all split points. The start/finish came out just about where I figured it would be; as it turned out, this was right in front of where the announcer was stationed on race day, allowing him to call out runners' names as they approached the finish line.

The actual running of the race turned out better than anyone could have anticipated a week earlier. By keeping the runners in a corral to force them to cross the Chip mats, it was possible to keep the young kids near the back, thus preventing them from bolting out in front then slowing and interfering with the other runners, which repeatedly occurred in the past. Some of them protested at being "stuck behind" at the start but were appeased when informed their time wouldn't start until they crossed the mats.

Organizers are still getting feedback from the runners, but early returns indicate that this "temporary" emergency course change may become permanent after all.

Bicycle Calibration and Course Measurement Data Sheet

Weston Memorial Day 5k 2003 Measured: 19 May 2003

Length of Calibration Course = 300.1 m
Measurements Computed using LARGER Constants INCLUDING 1.001 factor

Name of Measurers: Jim Gerweck Carol Kane

Pre-Calibration: (9:55 a.m., 68o)

Start	Finish	Counts	Start	Finish	Counts
34645	38299	3654	3040	16544	3504
38299	41957	3658	16544	20047	3503
41957	45609.5	3652.5	20047	23552.5	3505.5
45609.5	49265.5	3656	23552.5	27058	3505.5

Working Constant: 12191.869793 counts/km 11689.4518 counts/km

Post-Calibration: (11:50 a.m., 78o)

13448	17099	3651	88930	92434	3504
17099	20751.5	3652.5	92434	95938	3504
20751.5	24401.5	3650	95938	99441	3503
24401.5	28054	3652.5	99441	02940.5	3499.5

Finish Constant: 12179.778407 counts/km 11683.1977 counts/km

Constant for Day: 12191.869793 counts/km 11689.4518 counts/km

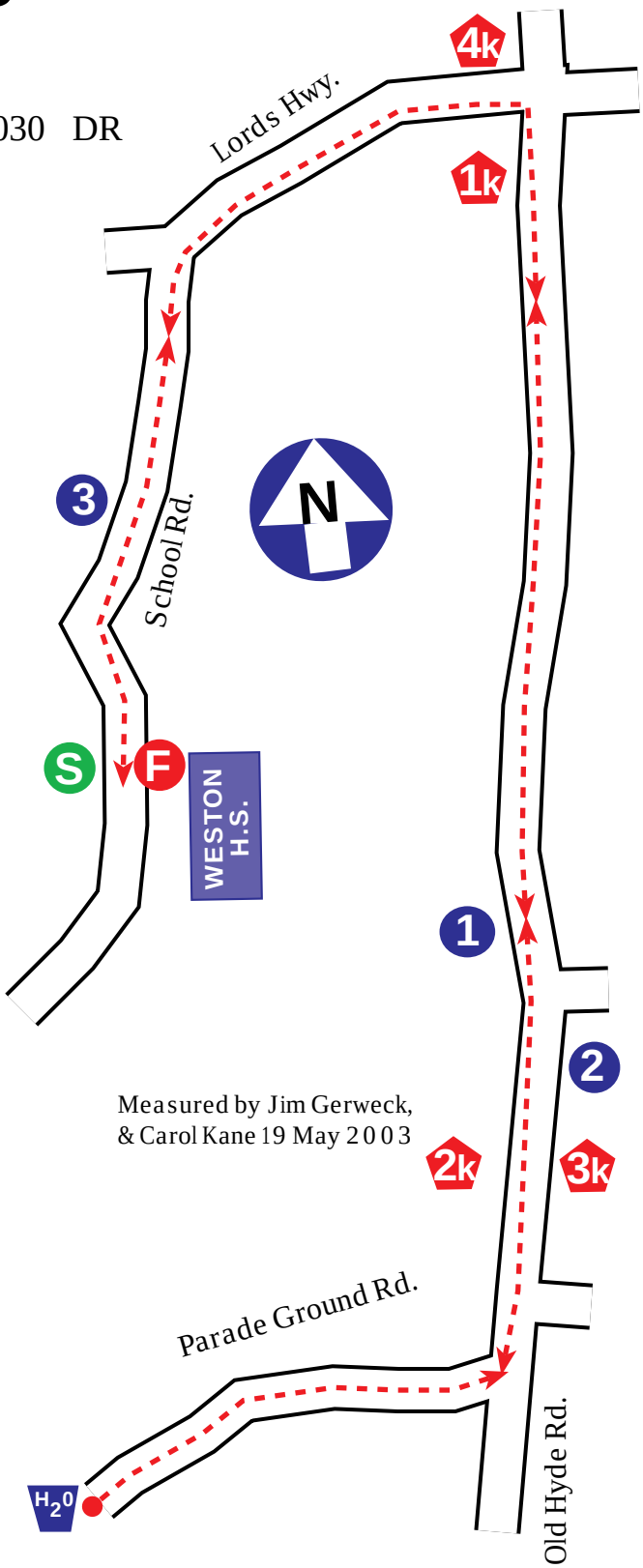
Course Measurement: (11 a.m., 75o to 11:30 a.m., 77o)

	Counter Reading	Interval (counts)	Interval (meters)	Counter Reading	Interval (counts)	Interval (meters)
TA	81500			58230		
S/F	11980	30480.0	318.61	87514	29284.0	2505.16
Totals:		30480.0	2500.02		29284.0	2505.16

(Sum of Shortest Splits = 2500.02 meters)

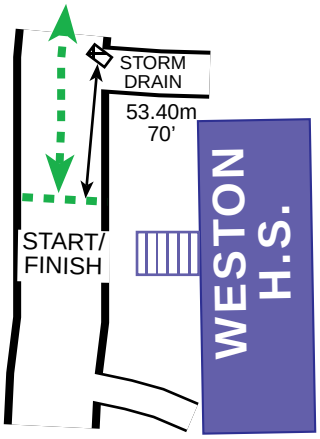
WESTON 5 km '03
5 km,Weston, CT

Certified CT030 DR

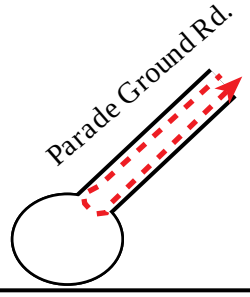


START/FINISH DETAIL

START: Even w/ "No Parking" sign, 53.40m South of storm drain on HS service road; 104.30m North of Finish.



TURNAROUND DETAIL



A SKIPPING COUNTER

By Pete Riegel

A puzzled measurer wrote. He had measured a marathon course and laid out all the splits. He then took a second ride, divided over two days. On the first day he rode from the finish line to mile 17, and achieved close agreement with his previous work.

On the second day, he rode from the start to mile 17. Everything seemed OK to 4 miles, but then his readings became increasingly wrong, and at mile 17 he was off by a third of a mile! His postcalibration showed an enormous change of constant.

What happened? He thought the likely problem was the counter skipping counts. I agreed that the data looked that way, since the second day's calibration change was huge, and in the wrong direction to be caused by air leakage. Also, the measurer is a steady rider, yet on his second day's postcal he had a four-ride span of 8 counts in 500 metres. His normal variation is 1 to 2 counts over that distance.

As I had never actually seen a skipping counter, I asked him to send me his counter so I could see what I could see. I wanted to mount his counter on the left side of my front wheel, and a proven counter on the right, and see how the two compared. But when I got the counter I was shocked at its condition. It showed lots of wear, and exhibited a tendency to stick when rotated by hand. It was possible to make it skip just by gentle hand rotation. I decided that a side-by-side comparison was not necessary. Instead I dissected the counter.

The photos show what I found. Severe wear was everywhere present. I asked the measurer for an estimate of the counter's usage. He told me he had used it for over 100 courses totalling 2900 km or 1800 miles of counter operation.

CALIBRATION - FIRST DAY - CAL COURSE 500 M

	Precal	Postcal
	5676	5669
	5674	5670
	5674	5668
	5674	5668
Average =	5674.5	5668.75
Counts/km =	11360.35	11348.84
Counts/mile =	18282.71	18264.18

MEASUREMENT - DAY 1 - Using Larger Constant

	Reading	Counts	Miles
Finish	75000		
Mile 17	243533	168533	9.218163

Compares well with 9.21875 desired.

CALIBRATION - SECOND DAY - CAL COURSE 500 M

	Precal	Postcal
	5675	5529
	5674	5521
	5674	5523
	5675	5529
Average =	5674.5	5525.5
Counts/km =	11360.35	11062.05
Counts/mile =	18282.71	17802.65

MEASUREMENT - DAY 2 - Using Larger Constant

	Reading	Counts	Miles
Start	297000		
Mile 17	601741	304741	16.66826

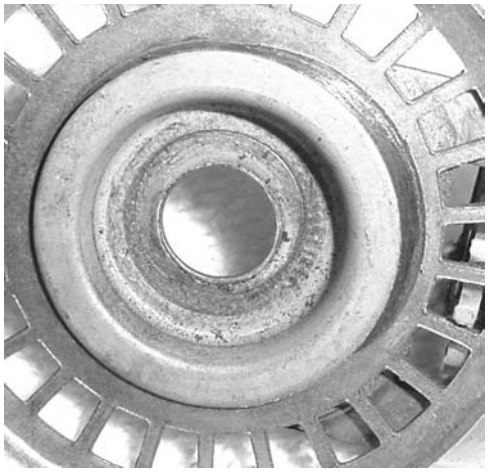
??? This is supposed to be 17 miles!

Using average constant it comes to:
16.89 Miles. Still way off.

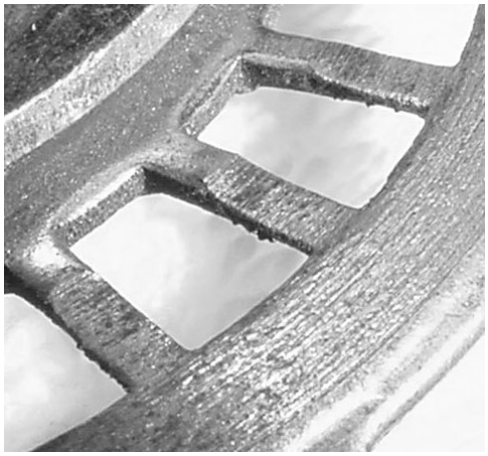
Given the appearance of the counter, I was astounded that the measurer had dared to use the thing on its last several measurements. Its gear drive was totally shot, and looked it. It did not reach its sorry state on the last day's ride. Its poor condition must have been obvious to anyone who paid attention. Because of his inattention to his equipment, the measurer now has another day of work to do to tie down that start-to-mile-17 stretch.

The Jones/Oerth counter is a marriage of a finely crafted precision device (the Veeder-Root counter) with a cheaply-made consumer product (the gear drive). The counter is expensive, and intended for various industrial uses, where initial cost is less important than trouble-free operation. The gear drive is part of an inexpensive bicycle speedometer/odometer. The counter I examined appeared to be in very good condition, with no sign of malfunction or rough operation. However, as I did not disassemble it, I cannot be sure of its true state.

The eccentric wear apparent on the drive gear was likely caused by the use of only a single driving tang hitting the spokes. The counter has two driving tangs, but many people, myself included, use only one of them. I have found that it is common for the tangs to not quite engage the spokes, and have bent one tang closer to the gear, so that it more fully engages the spokes. Using two tangs reduces the wear on the central retainer, and should promote longer counter life. I intend to do so in the future. I was impressed at the long service that this counter gave before finally expiring. At an operating cost of less than a dollar per course it did its job cheaply and well.



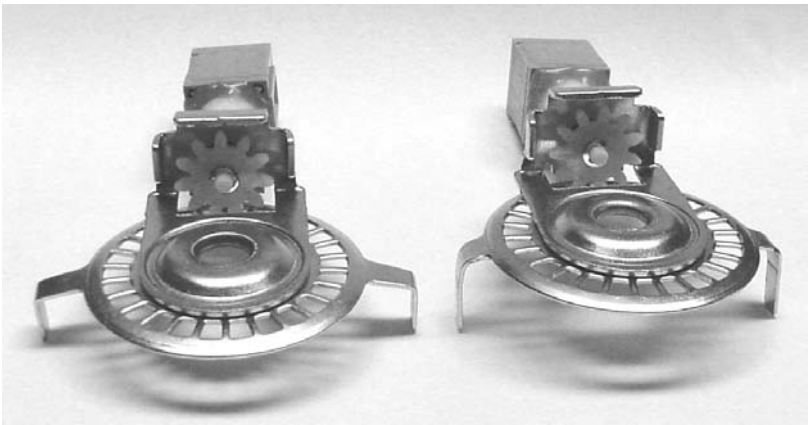
Here is the counter before disassembly. Note the eccentric wear pattern on the gear disk, to the right of the central retainer.



Here we see severe wear on the surface of the drive gear. The metal is worn through half of its thickness.

The drive gear after disassembly. Note the eccentric central hole. Measurements show the large diameter to be 2.650 cm, and the smaller diameter 2.535 cm

Here we see a side view of the central retainer. Note the groove worn all around the center by the drive gear, almost halfway through the metal. This is certainly one likely cause for sticky and jammed operation.



Here are two counters, representing the counter before and after tang modification. On the left is a JO counter as received from Paul Oerth. On the right we see that the driving tangs have been straightened, then rebent to achieve greater penetration between the spokes.

Use of two driving tangs, rather than one, reduces wear at the center of the drive gear and operates more smoothly.

From MNFORUM

BOSTON CHIP MATS

I noticed while watching the telecast of Monday's Boston Marathon that there are essentially two starts: One for the elites, then another, at least 20m further back, for the masses. This is probably a good idea as it keeps the latter group from trampling the top runners in the downhill opening yards.

However, I also noted that the starting timing mats were placed in front of the mass runners' start. Also, probably no problem as the elites are going to be scored using gun time, and, assuming the elite start is the actual start line, the mats are behind it, off the course, as they should be.

My question is about the distance they are placed behind the start. It seems their placement means the mass runners are covering MORE than 42,195m, and being timed for the extra distance as well. Obviously anyone who is not in the front of the first corral is going to run extra, but one would think that their Chip timing clock shouldn't start until they cross the actual start line.

Also, there were reports that an inordinantly high number of runners failed to receive Chip or net times, and that the organizers later went back and assigned these people the average net time for their corral. Sounds like there was a problem with the mats at the start.

Comments from Chip system users invited.

Jim Gerweck
zgerweck@optonline.net

BOSTON MATS

I did not hear of anything from Boston as we were not there.

I saw the start on TV and it does look like the back of the pack run about 40m extra than the Elites.

No sure why they don't put the mats at the actual start of the race as it would give them a more accurate CHIP time.

Marc Roy
Sportstats
info@sportstats.ca

BOSTON MATS

The start mats at Boston are indeed placed several yards prior to the actual
start line. However, the race is scored on gun time. The BAA does use the chip times for qualifying times.

Mike Proctor
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TIMING MAT PLACEMENT AT LONDON MARATHON

ChampionChip timing mats at Flora London Marathon were placed after the start (at the blue start line) and after the finish, . I did not notice the red and green start placements.

Pete Riegel
riegelpete@aol.com

ELECTRONIC CYCLOCOMPUTERS AS
ALTERNATATIVES TO THE JONES METER

Paul Hronjak:

I am sending you by US mail a submission for certification of the "New Run for Records" where measurements were done simultaneously on a Jones Meter and two models of electronic cyclocomputers. The cyclocomputers performed flawlessly and I can give you a demonstration in Durham on 11 May at the NCUSATF meeting. I should like you to arrange time on the agenda of the Greensboro meeting in December for me to give a presentation of my results with cyclocomputers as an advantageous alternative to the Jones meter.

Electronic cyclocomputers have the following advantages:

1. Excellent readability: This makes it much easier to judge desired stopping points. Lighting specifically for cyclocomputers can be purchased for low light conditions.

2. Instant zeroing: Much data recording and many calculations are avoided and this should reduce the chance of error and speed up the work.

3. Low cost: One excellent model cost me only $11.

4. Noise and dragfree operation

5. Much mounting and demounting avoided if the bicycle is used for other purposes

6. No wheel backlash

I have found that electronic cyclocomputers give precisely the same accuracy as that of the Jones meter, and this is no coincidence because I essentially use them both as reliable whole revolution counters. I derive partial revolutions by reference to the spokes on the wheel. I have a deep grey rim and have numbered my spokes 0 to 31 in 0.5-inch numerals with a felt-tipped pen. Starting with zero spoke at its lowest, I can read a partial rotation as units of 1/320 of a full rotation or better than 0.1 count.

I set up an electronic computer by setting the circumference to 2500 mm and place four bar magnets around the wheel adjacent to the spokes. After exactly one rotation of the wheel, the computer is tricked into thinking the bicycle has traveled 10.00 meters and increments the trip distance by 0.01 km, which can be read as one revolution. I easily syn-

chronized the cyclocomputer within one degree of rotation from when spoke zero reaches its lowest point by placing one of the magnets on spoke 18. (I place spoke zero on the left-hand side and the sensor on the left inside of the fork.)

Of course measurers need not commit to the cyclocomputer initially, but could run it simultaneously with the Jones meter and still enjoy the advantages of readability and instant zeroing.

NEVILLE WOOD
nevillefw@hotmail.com

Unless there is a new kind of cyclometer I'm unaware of, Advantage #6 really isn't true. In fact, the major drawback of electronic cyclometers has been that their wheel magnet sensors make no differentiation between forward and backward rotation. Thus, it would be possible to wheel a bike backwards 100m and the cyclometer would INCREASE its distance by that amount. While not preferred practice, it is possible to do that with a J/O Counter and still maintain some degree of accuracy.

Also, there is no absolute guarantee that the electronic sensor won't "skip" at high speeds - the rider would have no way of knowing it.

Jim Gerweck
zgerweck@optonline.net

CYCLE COMPUTER MEASUREMENT

Neville Wood's note in the last MNForum deserves careful evaluation. It's quite clear to me that he understands the subject and that what he has done results in a workable measurement tool. Questions of "skipping" and inadvertent rolling backwards (thus getting spurious "forward" counts) remain to be addressed.

With regard to the counter "skipping," it must be said that we do not have total assurance that a standard Jones/Oerth counter does not skip. I sent an article concerning an actual skipping counter to Measurement News late last year, but it has not yet been published. One would expect that skipping, if it occurred, would be detected in the calibration process, as we do 8 rides, and one full revolution missed in any of them would stick out like a sore thumb.

Wood's device resembles to a high degree the old "star wheel" counter. Used before the Jones counter was invented, this counter was mounted on the front fork, and had a star-shaped wheel attached to its shaft. A striker was mounted to a convenient spoke. The counter recorded one count each time the striker hit the star wheel, rotating it. Fractions of wheel revolutions were accomplished by counting spokes.

The star wheel worked just fine. If I am not mistaken, Rick Recker used one years ago. Perhaps he still does. Perhaps he can shed light.

Great care must be taken when using a device like Wood's to avoid rolling backward, and also to avoid stopping with one of the magnets standing adjacent to the sensor, as a small rocking back and forth may cause extra counts to be registered.

I think the idea has great merit, but it must be checked out before we think of it as a reliable replacement for the JO counter. It does have the advantage of being cheap and available - much more so than is the JO counter.

A disadvantage is that the person who submits the data for certification must be able to show clearly how he set up the device for operation. We have a clearly-stated set of instructions for the JO counter, and we have none for this new thing. Certifiers would need to absorb this new technology.

15 or 20 years ago I received a long article from someone (I forget who) who had a similar idea. He soldered thin wires into the circuitry of a small electronic calculator, such that contact caused the "=" (equal) key to operate. By setting up a suitable magnetic pickup on the spoke and fork, and programming the calculator, it could be caused to read out directly in distance measured. I thought the idea had merit, and went so far as to wire a calculator, but discovered that my calculator would not accept rapidly-delivered impulses - it missed counts. I abandoned the idea.

Years later I gave the wired calculator to Laurent Lacroix, as he is of an inquiring nature, in the hope that he might fiddle with it. I can hardly fault him for not doing so, as I myself did nothing.

I hope to rig my own cycle computer in a similar fashion to see what I can learn.

I think this would be an excellent subject for discussion at RRTC portion of the USATF annual Meeting. Also, an article and pictures for publication in Measurement News would be of interest to us all.

Pete Riegel
riegelpete@aol.com

I hope comments from me will not seen as being self-serving — but perhaps they are.

I agree with Jim Gerweck the main problems with the proposed method are: One would get extra counts if one backed up to recover a mark. One could have a magnet slightly out of position with the result that it would record most, but not all, counts.

I would add that another is working with partial wheel revolutions. When I invented the Jones counter, one of the big advantages was not having to deal with fractions of rotations. At first Ted Corbitt thought this a disadvantage. He later came around. The counter then in use counted complete revolutions. One then had to count the number of spokes past the last click and work with fractions. For exam-

ple, 543 revolutions plus 13 spokes on a 32-spoke wheel means 543 + 13/32 = 543.40625 revolutions. This introduces an additional place to make errors as opposed to working with counts which can be read directly from the counter.

Ted also didn't like the idea that measurers would be working with much larger numbers. Luckily, this was in the early 1970s and the hand-held calculator was just then being introduced.

Alan Jones
AlanJones@stny.rr.com

ELECTRONIC BICYCLE MEASUREMENT

One of the chief virtues of the Jones counter is that it is firmly linked to the wheel throughout a measurement. Every movement of the wheel, forward or backward, is recorded, with little interaction required between user and equipment. All you have to do is stop and read.

Data are generally reviewed by a certifier. Care must be taken to provide data that are comprehensible to the certifier. It's not enough that the user know what he is doing - he must pass along a clear description of what he has done.

I've reviewed around 1500 courses for certification, and have often found it useful to look at the stream of counts. With a complete record available, anomalies sometimes jump out. "What was the guy doing between finish and recalibration - these counts show he rode 15 miles! What was he doing?"

I agree with Neville that spoke-counting is more precise than using Jones counts. However, the increase in accuracy is doubtful, as the difference is masked by riding errors and calibration change. Still, more precise is better.

The things that seem to concern critics of the electronic method include:

1) Rolling backwards and getting forward counts
2) Possible extra counts when a stop leaves a magnet adjacent to the sensor
3) Making the resulting stream of data credible to a data reviewer.
4) Proper initial setup of the magnets and marking of the rim.

While the electronic option can be used successfully by someone who is careful and knows what he is doing, its success is less certain when used by untutored beginners. Our system of measurement relies on people to learning to measure by reading a book and following directions. As it is, people make mistakes. If it is made more complicated, more mistakes can be made.

While I agree with Neville that the electronic method can be accurate for course measurement, I also feel that it lacks the robustness of the JO counter.

Pete Riegel
riegelpete@aol.com

STAR WHEEL COUNTER

My experience with this type of star wheel counter when I first did some measurements was it jumped several counts if hit too hard when the bicycle was going fast. I think the limitation for sure single counts was under 15 mph. Also, my recollection was that the star wheel didn't produce a count until the star wheel made a complete revolution. On another note, the Veeder-Root counters used in the old bicycle cyclometers also had internal gearing so that it took a large number of turns of the star wheel before 0.1 mile was registered.

Bob Langenbach
boblang@wolfenet.com

MEASUREMENT WITH ELECTRONIC COMPUTERS

The Jones meter is a remarkably rugged device, but it is nonetheless astonishing that in this era of rapid technology change that it has remained the prime method for course measurement for over thirty years. To this day it still possesses unique areas of strength, but it does have some weak characteristics that are not a problem with electronic cyclocomputers.

One criticism of the electronic method has been that if one of the four magnets gets out of position, impulses would be lost without the measurer knowing about it. This is not a valid criticism, because the measurer would be immediately aware that the precise synchronization of the meter with the zero spoke would have been lost.

I have not found that stopping a magnet over the sensor is a problem, even if travel is resumed without zeroing the meter. Of course if the wheel is rocked backwards and forwards spurious impulses will be generated that may affect the meter readout. Synchronization would also be destroyed so the rocking should not go undetected. In any case after stopping one would usually wish to take advantage of the easy zeroing of the meter.

In recovering from overshoot of a mark by backing up the bicycle, the electronic meter gives the same accuracy as that of the Jones meter. I would expect that this problem to happen less frequently using the electronic meter because of the superior readability and the fact that one usually uses the same goal distance repeatedly instead of a list of different ones. However when overshoot does happen, using the Jones meter is simpler.

I tried out a simulated overshoot by riding my bicycle over a calibration course. After riding up to a marker nail I noted that the Jones read 80818.0 and the electronic meters 55 rev and 29.3 spoke div. I pretended I was planning to place a mark at the latter distance, but had overshot through inattention to the meter . I therefore rode forward until I got precisely 60 revs and while still seated backed up the bike until I saw 65 rev. Rolling forward to the nail I got 80818.0 on the Jones and 29.3 on the wheel rim for a successful recovery of the desired point by all meters.(Probably with a lot of luck for this accuracy!)

I think that there is a lot less opportunity for error in taking readings with the electronic meters than with the Jones. There does not have to be a “fraction problem”. In less than ten minutes one can mark a wheel rim with a felt-tip pen into 10 divisions of 0.1 rev such that wheel rotation can be easily read to 0.01 rev. (I do not like to see the term “spoke counting” for describing the process of reading a marked rim.) A rev of 0.01 is equivalent to 0.2 counts on the Jones and is more accuracy than really needed. Thus, a trip of 543.41 revs can be read as 543 on the electronic meter and 0.41 with a glance at the wheel rim. (I find I do not make errors in recording five digits in this way, but in extracting six digits from the Jones I occasionally miss recording one.) Because of the inability to do much in the way of zeroing, with the Jones it is necessary to read the meter twice and perform a subtraction: eg in the above example 23,213.8 minus 12,345.6 equals 10868.2. I find reading the small digits on the Jones sideways is not easy, and almost impossible without moving the bicycle when the meter is halfway between two digits.

Pete Riegel feels that a stream of data is desirable for use by the reviewer of a submission and this is not normally generated on an electronic meter while taking advantage of the easy zeroing. However, a measurer could be requested to read the odometer for total distance on the meter at certain points.

In setting up an electronic meter I prefer the neat little bar magnets from Sigma and snap them onto the spokes right up against the nipples on the left-hand side at positions 2, 10, 18, and 26. Close alignment with the sensors is done by simply twisting the magnets on the spokes. I have not been using the metal sleeves that come with the magnets, but these would make the mounting more secure. I tape sensors onto the left upper inside of the fork. Exact synchronization with the zero spoke is achieved in this way without effort. (The two sensors I am using appear to be of different sensitivity because even though one is in front of the other, they both are precisely synchronized to the zero spoke.)

As I have said before, one can continue using the Jones but mount an electronic meter alongside to enjoy many of its advantages.

NEVILLE WOOD
nevillefw@hotmail.com

1) Neville knows what he is doing. I would be happy to accept and review electronic measurement data from him or anyone else who demonstrated the same level of understanding.

2) We are all used to using the Jones/Oerth counter, and we trust its robustness and simplicity. Only Neville has used the electronic version. I am certain that if I rigged my bike as Neville has that I would soon find that the electronic version could be used with confidence. I think most of us would.

3) This said, it’s clear to me that the electronic method, while reasonably useful in the hands of an expert, would be difficult to use for beginners. Some of the beginners demonstrate a supernatural propensity for getting things wrong. While reading the electronic device is simple, setting up the bike is less so, and many beginners would be put off by it. The Jones/Oerth counter is simple to mount, and if it works at all it works right. The installation is almost impossible to get wrong. I doubt whether a skipped count would be noticed by people who are already confused by the process of measuring for the first or second time.

4) A skipped count amounts to about 2.5 metres. We do two or more measurements. I expect that any serious problem with skipped counts would show up when the two measurements are compared. Badly-recorded data, which we already have to deal with, can cause the same sort of problems.

5) I don’t see the electronic version as a universal replacement for the Jones/Oerth counter, but I think that its use should not be excluded. This needs to be handled on a case-by-case basis until more data are available.

I hope Neville will put together an article, with diagrams and pictures, for Measurement News.

Pete Riegel
riegelpete@aol.com

I totally agree with Pete.Use the the KIS approach because simple results in less errors on the part of the measurer and the certifier.

Larry Baldasari, NJ Certifier
Larsurf@aol.com

ELECTRONIC BICYCLE MEASUREMENT

Neville has certainly gotten us going with discussion.

I agree it is possible to get an accurate measurement with an electronic bike calculator but it is also easy to goof up with one. Over the years I have used up several bike computers. They work great but have a few failings. Some of the problems I have experienced are; Magnets or the pick up move due to being bumped. Speed and distance indicated come and go from time to time.

The contacts where the computer mounts to the handlebar bracket are very susceptible to corrosion and moisture. I have had them die while riding for no obvious reason.

Additional concern is that the magnetic pick up only measures one way. It is not readily possible to back up if a mark is missed. I have to back up to locations more often than I care to admit. Using a bike computer would be a problem.

I admire the use of a bike computer with several magnets to fine tune the accuracy.

Some years ago I validated a couple courses in Minnesota. Rick Recker uses a veeder root counter mounted to his bike and a single arm on a spoke to actuate the counter. Spokes are numbered and he counts readings in wheel revolutions and partial spoke counts. Rick uses this method with great skill and success. Riding at any speed you can hear him coming from the counter being hit and it is really noticeable when riding over 15 mph. Rick's counter is a bit unorthodox but it works! His data matched mine with a Jones Counter. He could back up as long as it was a short distance with no problem. The counter was easier to read since it changed at 1/20th the speed of a Jones counter. When not measuring he simply moved the arm on his counter up and out of the way so it didn't make contact.

I don't want to shoot any method of measuring down that accurately does the job. It is necessary though to measure accurately and be able to convey the measurement method for later review and reference. We may be using bike mounted computers in the future to measure courses. A few things need to be resolved before that happens though.

Mike Wickiser
mikewickiser@neo.rr.com

MEASUREMENT WITH ELECTRONIC METERS

I agree with Pete and Mike that it is very early days to think about declaring electronic meters as worthy alternatives to the venerable Jones for standard use. After all, we only have the experience of one measurer over thirty days, whereas with the Jones we have that of an immense number of measurers over thirty years. I would caution that not all electronic meters may be suitable.

I plan to measure three more courses using the Jones and two electronic meters simultaneously by June 14, and hope to have an article for Measurement News by then.

I think I have revealed already most of what I know except for some details I have omitted in the interests of simplification. For instance, when I set the zero spoke at the starting point for measurement, one magnet is about 2 cm in front of the sensor. This is a satisfactory clearance for zeroing the electronic meter. However if the zero spoke is not quite vertical the magnet can lie much closer to the sensor and a spurious impulse will result after zeroing the meter. If unnoticed this would result in an error of 0.5 meters but it would easily be detectable if the synchronization of the meter with the zero spoke is checked during the slow final revolution to a measuring point. To avoid the problem altogether I therefore recommend setting the zero spoke to the starting point and rotating the wheel about 20 degrees forward before zeroing the meter. I know it goes against all intuition, but this procedure in no way affects the accuracy of the setting of the zero spoke to the staring point and its precise synchronization with the meter.

A C Linnerund also remembers using a mechanical revolution counter before the Jones, and that it skipped counts unless the bicycle was ridden very slowly. Skipping is bad enough, but I suppose this was compounded by the fact that there would have been no easy way of detecting that it had occurred.

Neville Wood
nevillefw@hotmail.com

MORE ON USING NON-REVERSIBLE COUNTERS

When I use either a Jones counter or a resetable counter giving 1 click/rev. I always lock the front wheel when I stop at the end of a calibration couse, pivot the bike on the front wheel 180 deg, line up the bike on the calibration line , release the brake and ride the cal course in the other direction. This procedure means that you do not have to interpolate the counter reading at the end of each run. I record and difference the readings at each end of the cal course to expose any really screwy runs.

When I overshoot a mark, I move the bike forward to get the next full unit on the counter, record the reading, lock the front wheel, pivot the bike 180 deg and go back to the intended mark. Pushing or riding the bike forward is more accurate than walking it backwards, where you tend to wobble if the overshoot is very much. After recording the reading at the mark or marking the pavement, whichever is appropiate, I unwind the Jones Counter to its intended reading, or, in the case of a nonreversible counter, I calculate the offset in the reading (twice the overshoot) and take it into acount for subsequent measurements. Of course, if you don't want to carry forward a cumulative count, you can reset the non-reversible counter and not have to carry forward the cumulative overshoot.

John Brennand
brennand@alum.mit.edu

RESETTABLE COUNTERS

Resettable counters save the experienced measurer a lot of mental effort. However, when one must review the data from a measurement, the picture is a lot clearer if an uninterrupted string of readings is available.

It's possible for reset-counter data to be well-organized, but in many cases memory has forgotten what was never written down.

Pete Riegel
Riegelpete@aol.com

EXPIRING CERTIFICATES

I am forwarding a recent exchange I've had w/Mike Wickiser about expiring certs. Think it'd make good MNF reading.

Scott Hubbard
runningshorts@aol.com

Mike,

I posed this question to you last week but you must've passed over it. I've not seen discussion of this on MN so don't know how to proceed. Is it the responsibility of all the RRTC regional reps to get in touch w/contacts of courses about to expire or have already expired?

I know it says on the certs that they'll expire and we might leave it to the course contact to take care of but...we know this will rarely occur. They don't read the small print, forget about it, leave it to others to deal with, new contacts come along and don't know anything about the expiration date, etc.

How to deal w/this? It'll cost money and time, lots of time, to take care of it.

Regards, Scott

Any way, it is not the responsibility of a certifier to notify race directors that their certification has or is about to expire. If they are sending results into the RRIC, a copy of the certificate is required and the certificates indicate expirations clearly.

Besides it would be nearly if not absolutely impossible to contact every race when the cert was about to expire. Director changes and races no longer being held would make it very time consuming as well.

For the courses that are concerned with reporting performances the expiration of certification hasn't presented a real problem.

Best,
Mike

Thanks for your reply. I still feel uneasy about expiring certs but know what you had to say about it not presenting a problem yet is true too. Maybe on a small scale among races I'm familiar with and know the contacts, I'll alert them of the expirations.

Scott

You are right on the mark. Let the races you are familiar with know if their current certification is about to expire. My guess is they may be aware already. In any event a reminder is a good thing and information for the uninformed will be a benefit.

Best regards,
Mike

Guys-

When your driver's license is about to expire, the state DMV sends you a renewal form (same w/ your car registration). On the other hand, I don't think USATF reminds you when your membership is running out there. The difference is probably due to money - much more to be made on cars than people.

From RRTC's standpoint, there isn't much financial benefit in renewing a course. On the other hand, a measurer might stand to make several hundred dollars when a course cert expires if he has to remeasure the course (personally, I wouldn't charge as much as the first time unless the course had changed drastically; the map from the original is probably still good, with perhaps some minor adjustments to the start/finish. Even the application info is basically the same.)

So perhaps the onus should be on the measurer to contact the race directors. Kind of like I get things in the mail from auto company suggesting it's time for a 50,000 mile tuneup, or the oil company informing me it's time to change the filters on my furnace. (I get notes from the septic tank company as well, but they just tell what I'm full of, which I hear every day).

Jim Gerweck
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EXPIRING CERTIFICATES

I read Scott Hubbard's posting with interest. I'd hate to have to chase down the race directors listed on each expired certificate. All through the certification process I deal with the measurer only. I correspond only with the measurer, not with the race director. I send two copies of the certificate to the measurer, not the race director. Some measurers prefer to pass on the certificate directly from themselves.

In short, unless the race director is also the measurer, I have no contact with him except in response to a message from him.

Pete Riegel
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USATF/RRTC CERTIFIED COURSE LIST
New Entries, May - June 2003

DISTANCE	COURSE ID	ST	LOCATION	COURSE NAME/RACE	m/km DROP	pct SEP	MEASURER	REPLACES
5km	AK03001FW	A	Anchorage	Seymour Fun Run	0	0	F Wilson	AK 91006FW
42.195km	AK03002FW	A	Hollis	Prince of Wales Intl. Marathon	2.95	68	W Harney	K00004FW
10km	AL03012JD	A	Daphne	Olde Town Rotary 10k Run	0	2.7	J Olive	
Cal	AL03013JD	A	Florence	Rushton St 500m Calibration	0	100	D Michael	
5km	AL03014JD	A	Saint Florian	Riverhill Run 5k	0	0	D Michael	
1mi	AL03015JD	A	Saint Florian	Riverhill Run 1-Mile	0	0	D Michael	
42.195km	AR03001DLP	A	Little Rock	Little Rock Marathon	0.36	2.2	J Curry	
5km	AR03002DLP	A	Alma	Alma Partners 5k Dog Run	0	0.01	B Torrey	
15km	AR03003DLP	A	North Little Rock	Burns Park 5k	0	0.4	J Curry	
10km	AR03004DLP	A	Conway	Toadsuck 10k	0	1.5	D Potter	AR00003DLP
5km	AR03005DLP	A	Conway	Toadsuck 5k	0	3	D Potter	AR00004DLP
10km	AZ03014GAN	A	Phoenix	RYKA 10k for Women	0	0	T Lablonde	
1mi	CA03017RS	A	Davis	Fleet Feet Davis Mile	0	1.9	D Thurston	
5km	CA03018RS	A	Mountain View	Trailblazer 5km	0	3	A Grossman	
5km	CA03019RS	A	Fresno	2003 Komen Race for the Cure	0	2	R Scardera	CA02012RS
10km	CA03021RS	A	Pacoima	Rotary Run 10km	0	0.75	R Scardera	
5km	CA03022RS	A	Pacoima	Rotary Run 5km	0	1.5	R Scardera	
5km	CA03023RS	A	Huntington Beach	2003 Surf City Run	-0.2	2.4	R Scardera	
5km	CA03024RS	A	Sacramento	Sacramento Race for the Cure	0.2	12	D Thurston	CA01030RS
5mi	CO03002DP	A	Denver	Cherry Creek Sneak	-0.1	3	B Finken	CO02004DP
5km	CO03003DP	A	Denver	Cherry Creek Sneak	-0.2	4	B Finken	CO02005DP
5km	CO03004DP	A	Denver	Heart Walk	0	1	D Poppers	CO00007DP
5km	CO03005DP	A	Denver	Heart Walk - Alternate	0	3	D Poppers	
5km	CO03006DP	A	Thornton	Cottonwood Classic	0	0	P Tanui	
5km	CO03007DP	A	Greenwood Village	1st American State Bank Fitness	1.8	37	D Poppers	CO01007DP
5km	CT03002DR	A	Orange	High Plains Community Center	0	3.7	B Stephans	
21.0975km	CT03003DR	A	Simsbury	Iron Horse Half Marathon	0	1	D Bolt	
15km	FL03017DLP	A	Jacksonville	Gate River Run 15k	0	4	D Aldred	
10km	FL03018DL	A	Naples	Hope for Children 10k	0	0.3	M Sonneborn	
5km	FL03019DL	A	Naples	Hope for Children 5k	0	0.3	M Sonneborn	
5km	FL03020DL	A	Pensacola	McGuires St. Pattys Day 5k	0	2.1	J Fornaro	
5km	FL03021DL	A	Tampa	RYKA Take Fitness to Heart 5k	0	2	A Singer	
10km	FL03022DL	A	Tampa	RYKA Take Fitness to Heart 10k	0	0.8	A Singer	
5km	FL03023DL	A	Wakulla Station	Rails to Trails 2003	0	0	B McGuire	
42.195km	FL03024DL	A	Cocoa	The New Space Coast Marathon	0	0	B Sher	
5mi	FL03025DL	A	Ft. Lauderdale	“Riverwalk 5 Mile “”B”””	0	1.4	J Musters	
5km	FL03026DL	A	Ft. Lauderdale	“Riverwalk 5k “”B”””	0	2.7	J Musters	
38.175km	FL03027DL	A	St. Petersburg	St. Anthony’s Triathlon - 2003	0	0	E McDowell	
Cal	FL03028DL	A	Naples	Trail Blvd Half Mile	0	100	M Sonneborn	
21.0975km	FL03029DL	A	Bradenton	Latin Classic Half Marathon	0	1.9	A Singer	
10km	FL03030DL	A	Melbourne Beach	Annual Pineapple 10k	0	3	B Dillard	
5km	FL03031DL	A	Deerfield Beach	Freedom Run 5k	0	3.9	G Witkowski	FL99029DL
1km	GA03004WC	A	Augusta	Riverwalk 1k	0	0	K Luoma	
5km	GA03006WC	A	Ft. Mcpherson	Annual Army Hooah	0.6	70	W Cornwell	
10km	GA03007WC	A	Ft. Mcpherson	Annual Army Hooah	-0.6	76	W Cornwell	
Cal	IL03002KU	A	Rock Island	18th Ave. 304.8 m Calibration	0	100	K Ungurean	
21.09795km	IL03003KU	A	Rock Island	Quad Cities Distance Classic	0.24	1.51	K Ungurean	
Cal	IL03004KU	A	Arlington Heights	Arlington Pk W. Service dr. 304.8m	0	100	K Ungurean	
21.0975km	IL03005KU	A	Arlington Heights	Arlington Park Run/Million	0	2.25	K Ungurean	
8km	IL03006JW	A	Chicago	Shamrock Shuffle	0	1.2	C Hinde	IL00002 JW
5km	IL03011JW	A	Palos Heights	Palos Lions 5k	0	2.4	C Hinde	

DISTANCE	COURSE ID	ST	LOCATION	COURSE NAME/RACE	DROP	SEP	MEASURER	REPLACES
5km	IL03012JW	A	Aurora	Rosary Road Scholars 5k	0	2.2	C Hinde	IL00084JW
5km	IL03013JW	A	Naperville	Gift of Life 5k	0	0.3	C Hinde	
5km	IL03014JW	A	South Barrington	South Barrington Foundation Run	0	0	C Hinde	IL02013JW
5km	IL03016JW	A	Deerfield	Judy's Day	0	1	C Hinde	
5km	IL03017JW	A	Hoffman Estates	Shoes for Children 5k	0.9	2	J Wight	
8km	IL03018JW	A	Saint Charles	Great Western 8k	0	0.6	C Hinde	IL01024JW
30km	IL03019JW	A	Saint Charles	Great Western 30k	0	0.6	C Hinde	IL99015JW
2mi	IL03020JW	A	Rockford	OSF Heritage Run	-0.3	0.6	N Yarger	IL93016JW
21.0975km	IL03022JW	A	Saint Charles	Fifth Third Bank Half Marathon	1.3	37.9	J Knoedel	
5km	IL03023JW	A	Chicago	Spring Fling Festival	0	6.8	C Hinde	
5km	IL03024JW	A	Wheaton	Convalescent Center Run	0	3	C Hinde	IL02070JW
5km	IL03025JW	A	West Chicago	Carelink 5k Run	0	1.5	C Hinde	
5km	IL03027JW	A	Chicago	Y-Me Run/Walk	0	1.2	C Hinde	
5km	IL03028JW	A	Wheaton	Galloping Ghost 5k	0	3.5	J Wight	IL01021JW
5km	IL03029JW	A	Hoffman Estates	Run for Hungry Children 5k	0	1.2	J Wight	
5km	IL03030JW	A	Chicago	Bucktown 5k	0	5.6	C Hinde	
5km	IL03031JW	A	Saint Charles	Fox Valley 5k	0	1	C Hinde	
10km	IL03032JW	A	Chicago	The Main Course	0	0	J Knoedel	IL99017JW
5km	IL03033JW	A	Palatine	Forest Gove Athletic Club 5k	0	0	J Knoedel	IL01025JW
21.0975km	IL03036JW	A	Highland Park	Club North Shore Half Marathon	0	0.4	C Hinde	IL99024JW
Cal	IL03037JW	A	Libertyville	River Road 300m Calibration	0	100	N Shapiro	
5km	IL03038JW	A	Libertyville	Making Exceptional Strides 5k	0	0.8	N Shapiro	
10km	IL03039JW	A	Libertyville	Making Exceptional Strides 10k	0	0.4	N Shapiro	
5km	IL03040JW	A	Chicago	Proud to Run 5k	0	1.5	J Knoedel	
10km	IL03041JW	A	Chicago	Proud to Run 10k	0	0.75	J Knoedel	
10.5488km	IL03042JW	A	Chicago	Chicago Quarter Marathon	0	0	J Knoedel	
42.195km	IL03045JW	A	Chicago	Lakeshore Marathon	0	0.5	J Wight	IL02023JW
10km	IL03046JW	A	Chicago	Run For the Zoo 10k	0	2	J Wight	IL02039JW
5km	IL03047JW	A	Chicago	Chris Zorich Run	0	2	J Wight	IL97041JW
5km	IN03002MW	A	Lagrange	Courthouse Classic 5k	0	2.4	S Coffman	
21.0975km	IN03026JW	A	Indianapolis	500 Festival Mini-Marathon	0.07	5.7	J Sauer	IN99004JW
5km	KS03013BG	A	Lawrence	Raintree Run	0.4	0.92	S Riley	KS 02003BG
21.0975km	KS03014BG	A	Lawrence	Raintree Run	0.1	0.22	S Riley	KS 02004BG
5km	KS03019BG	A	Lawrence	Hilltop Hustle	0.2	0.24	E Payne	
Cal	KS03020BG	A	Lawrence	Jayhawk blvd. 1000 ft.	0	100	E Payne	
5km	KS03021BG	A	Olathe	Heart & Sole Classic	0	0.4	R Collins	KS 02010BG
2mi	KS03024BG	A	Wichita	Run Wichita Memorial Run	0	1.9	C Miller	
15km	KS03025BG	A	Wichita	Run Wichita Memorial Run	0	0.2	C Miller	
Cal	KY03013PR	A	Mayfield	North 6th Street 1000 ft.	0	100	T Lavey	
4mi	KY03014PR	A	Mayfield	Do 4 for Freedom	0	0.94	T Lavey	
5km	MA03004RN	A	Franklin	HMEA's Independence 5k	0	0	R Nelson	
5mi	MA03005RN	A	Boston	Doyle's Road Race	1.5	8.7	S Vaitones	
5mi	MA03006RN	A	Attleboro	Runways RTM 5 Mile Road Race	0	1.94	R Nelson	
5km	MA03007RN	A	Chestnut Hill	Boston College MBA 5k	0	2.46	J Kuo	
5km	MA03008RN	A	Winchester	Big Steps for Little People	0	3.5	R Nelson	
Cal	MA03009RN	A	Swampscott	Beach Bluff Ave 1000 ft.	0	100	J Kuo	
5km	MA03010RN	A	Swampscott	Melanoma Awareness 5k	0	0	J Kuo	
5mi	MA03012RN	A	Revere	Revere Beach 5 Miler	0	6.2	J Kuo	
5km	MA03013RN	A	Boston	Oak Square YMCA-0.37	5.6	S	Vaitones	
5km	MD03016RT	A	Bethesda	Mark's Azalea Festival 5k Run	-0.6	3	R Thurston	
5km	MI03004SH	A	Grand Rapids	Fifth Third Riverbank	-0.6	4	R Dewey	MI 02010SH
25km	MI03005SH	A	Grand Rapids	Fifth Third Riverbank	-0.1	1	R Dewey	MI 02009SH
5km	MI03006SH	A	Lansing	Race for the Cure	0	1	S Hubbard	
5km	MI03007SH	A	Battle Creek	SW Michigan Race for the Cure	1.2	5	R Dewey	
5km	MN03000RR	A	Minneapolis	St. Patrick's Walk-Run	0.8	11	D Wright	
10km	MN03001RR	A	Minneapolis	St. Patrick's Walk-Run	0.4	8.7	D Wright	

DISTANCE	COURSE ID	ST	LOCATION	COURSE NAME/RACE	DROP	SEP	MEASURER	REPLACES
10km	MN03002RR	A	Minneapolis	Get In Gear '03	-0.2	1.4	D Wright	
5km	MN03003RR	A	Andover	Andover	0	4.4	S Sokolowski	
20km	MN03004RR	A	Rochester	Rochester	0	0	R Saxman	
5km	MN03008RR	A	Minneapolis	Torchlight	-0.4	5.7	D Wright	
21.0975km	MN03009RR	A	New Prague	New Prague '03	0	0.3	J Simota	
5km	MN03010RR	A	Minneapolis	Thai Two On	0	2	R Recker	
10km	MN03011RR	A	St. Paul	Kellogg Plaza	3.9	9	R Recker	
8km	MN03012RR	A	Janesville	Janesville	0	0.7	R Recker	
5km	MN03013RR	A	Bloomington	Normandale '03	-1	3.6	R Recker	
5km	MN03014RR	A	White Bear Lake	Bald Eagle	0	16.7	R Recker	
5km	MO03010BG	A	St. Louis	Spirit of St. Louis Mayor's 5k Run	4.4	4.9	T Eckelman	
42.195km	MO03011BG	A	St. Louis	Spirit of St. Louis Marathon	0	0.29	T Eckelman	
21.0975km	MO03012BG	A	St. Louis	Spirit of St. Louis Half Marathon	0	0.58	T Eckelman	
4km	MO03015BG	A	Joplin	Festival of the Four States	0	0	B Hoover	
8km	MO03016BG	A	Joplin	Festival of the Four States	0	0	B Hoover	
5km	MO03017BG	A	Kansas City	Amy Thompson Run to Daylight	-1.2	1.52	L Joline	
5km	MO03018BG	A	Independence	Truman Health Run	0	0.09	L Joline	MO 95018BG
5km	MO03022BG	A	Kansas City	Aids Run	-0.6	2.66	R Collins	
5km	MO03023BG	A	St. Louis	Race for the Cure	0.8	14.5	D Spetnagel	
Cal	NC03019PH	A	Greensboro	Benjamin Pkwy. 1000 ft. Calibration		0	100	P Hronjak
5km	NC03020PH	A	Greensboro	Police Memorial 5k	0	0.3	P Hronjak	
5km	NC03021PH	A	High Point	Open Door Run	0	0.5	D Forbis	
5km	NC03022PH	A	Davidson	Davidson Town Day	0	2.7	D Joffe	
10km	NC03023PH	A	Kernersville	Spring Folley 10k	0	4	WWalker	
5km	NC03024PH	A	Wilmington	Wilmington's Reason 2 Run	0	0	M Marion	
4mi	NH03001WN	A	Concord	Rock'n Race 2003	0	1.1	WNicoll	
5km	NH03003RF	A	Manchester	Catholic Medical Center Challenge	0	0	R Fitzpatrick	NH00018WN
21.0975km	NH03004RF	A	Manchester	Big Lake Half Marathon (#2)	0.14	3.8	R Fitzpatrick	NH 02002WN
21.0975km	NH03005RF	A	Manchester	Big Lake Half Marathon	0.14	3.8	R Fitzpatrick	NH 01015WN
5km	NH03006RF	A	Rye	Rye by-the-Sea 5k	0.3	0.7	R Fitzpatrick	NH 99001WN
10km	NH03007RF	A	Rye	Rye by-the-Sea 10k	0	0.15	R Fitzpatrick	NH 99002WN
42.195km	NJ03001DB	A	Long Branch	NJ Marathon '03	0	47	D Brannen	NJ 02001DB
Cal	NJ03001GAN	A	Ocean City	Fred Spano Ocean Dr. 1/4 mile cal.		0	100	G Newman
5km	NJ03004LMB	A	Edison	Edison Family Day 5k	0	0	L Baldasari	
5km	NJ03005LMB	A	South Orange	South Orange 5k	0.43	5.9	P Hess	
5km	NJ03006LMB	A	Plainfield	Cedar Brook Park 5k 2003	0.12	2.2	P Hess	
5km	NJ03007LMB	A	Bridgewater	Duke Island 5k	0	0	P Hess	
5km	NJ03008LMB	A	Jersey City	Greenpeace 5k	3.8	81	P Hess	
5mi	NJ03009LMB	A	Lower Township	Coombs-Douglas 5 Mile Mem.	0	1.01	G Hoopes	
5km	NJ03010LMB	A	Princeton	Merrill Lynch Corporate Campus 5k		0	1.9	L Baldasari
5km	NJ03011LMB	A	West Orange	Kilometers for Karen 5k	0	1.4	P Hess	
5km	NJ03012LMB	A	Princeton	Princeton Fete 5k	0	6.7	L Baldasari	
21.0975km	NM03001GAN	A	Albuquerque	Fleet Feet Memorial Day HMAR	0	11.5	B Newman	
5km	NM03002GAN	A	Albuquerque	Fleet Feet Memorial Day 5k	0	0	G Newman	
5km	NM03003GAN	A	Albuquerque	Race For the Cure	0	8	G Newman	
5km	NM03003GAN	A	Albuquerque	Race for the Cure	0	8	G Newman	
5km	NM03004GAN	A	Santa Fe	Rancho Viejo 5k	0	6	G Newman	
5km	NM03004GAN	A	Santa Fe	Rancho Viego 5k	0	6	G Newman	
10km	NM03005GAN	A	Santa Fe	Rancho Viego 10k	0	0.5	G Newman	
8km	NM03006GAN	A	Albuquerque	Jane's 8k Run	0	5.6	G Newman	
3km	NM03007GAN	A	Albuquerque	Jane's 3k Run	0	14.3	G Newman	
10km	NY 02056AM	A	Saratoga Springs	Saratoga Spa State Park 10k	0	3.6	J Gilmer	
1mi	NY03006AM	A	New York	NRRRC Backwards Mile	0	0	P Hess	
5km	NY03007AM	A	Buffalo	Louis J. Billitier Mem. 5k	0	0.1	J Grandits	
10mi	NY03008AM	A	Syracuse	Mountain Goat 10 Miler	0	0.9	D Hughes	NY 00008AM
4mi	NY03009AM	A	Tonawanda	Tim Frank Mem. Canal Fest 4 miler	0	0	B LaskowskiNY	98028AM
5km	NY03010AM	A	Buffalo	Envirun	0	1.1	J Grandits	NY 98003AM

DISTANCE	COURSE ID	ST	LOCATION	COURSE NAME/RACE	DROP	SEP	MEASURER	REPLACES
5km	NY03011AM	A	Williamsville	Barnett A. Slepian 5k	0	1	B Laskowski	
5km	NY03012AM	A	Solvay	Race for the Cure	0	0	D Hughes	NY 95009AM
5km	NY03013AM	A	Washingtonville	Washingtonville Scholarship 5k	-0.1	1.2	S Holmbraker	
5mi	NY03014AM	A	Congers	Rockland Turkey Trot	0	2.8	P Hess	NY 02048AM
10km	NY03015AM	A	Fayetteville	Fayetteville 10k Classic	0	0.1	D Oja	
1mi	NY03016AM	A	Fayetteville	Towne Center Mile	0	2	D Oja	
5km	NY03017AM	A	Buffalo	Ronald McDonald House 5k	0	3	B Laskowski	
5km	NY03018AM	A	Buffalo	Susan B. Komen Race for the Cure		0	6 B	Laskowski
21.0975km	NY03019AM	A	Buffalo	Nissan Buffalo Half Marathon	-0.2	53	J Grandits	NY 02021AM
5km	NY03021AM	A	Islip	Islip Buccaneer 5k Run	0	4.6	D Blomquist	
Cal	NY03022AM	A	Delhi	Delhi Rte. 10 - 1000 ft. Calibration		0	100	B Giambalvo
10km	NY03023AM	A	Delhi	Covered Bridge 10k Run	0	5.4	B Giambalvo	NY 94036AM
10km	OH03009RT	A	Marietta	Shamrock Classic 10k	0.15	4.3	J Corra	
5km	OH03010RT	A	Marietta	Shamrock Classic 5k	0.24	4.4	J Corra	
5km	OH03011PR	A	North Canton	Mercy Health Run Classic	0	0.99	J Wilhelm	
10km	PA03005WB	A	Chester	Barry Bridge 10k Run	-0.06	1.52	R Fitch	
5km	PA03006WB	A	Pittsburgh	Race for the Cure Walk Course	1.22	7.3	R Yurick	PA 02009WB
5km	PA03007WB	A	Pittsburgh	Race for the Cure Run Course	1.82	8.2	R Yurick	PA 02010WB
5km	PA03008WB	A	Chester Springs	Historic Yellow Springs 5km	0	2.62	B Belleville	
5km	PA03009WB	A	Philadelphia	University City 5km Run	0	0.38	B Belleville	PA 00005WB
5km	PA03011WB	A	Sayre	Guthrie Gallop 5k	0.06	3.87	B Belleville	
10km	PA03012WB	A	Sayre	Guthrie Gallop 10k	0	0.67	B Belleville	
21.0975km	PA03013WB	A	Allentown	Runner's World 1/2 Marathon	0.14	3.03	J Serues	PA 01003WB
5km	PA03014WB	A	Allentown	Runner's World 5k	0.61	12.8	J Serues	
5km	PA03015WB	A	Pittsburgh	UPMC City of PGH 5km	0	3.65	M Courtney	
42.195km	PA03016WB	A	Pittsburgh	UPMC City of PGH Marathon	0	0.43	M Courtney	
5km	RI03001RN	A	Wakefield	Red White & Blue Run	0.61	0.8	R Nelson	
10km	RI03002RN	A	Jamestown	Ali Dunn Packer Memorial 10k	0.06	9	R Nelson	
8km	SC03013BS	A	Pawlew's Island	Waccamaw Sdpring 8k	0	0.45	D White	
8km	SC03014BS	A	Greenville	Safe Harbor Road Race	0	1.56	D WhiteSC	02015BS
5mi	SC03015BS	A	Columbia	Carolina Women's Distance	2.7	7.4	T Rhodes	
42.195km	SD03015PR	A	Deadwood	Mickelson Trail Marathon	4.7	61	J Meyer	SD 02024PR
21.0975km	SD03016PR	A	Deadwood	Mickelson Trail Half Marathon	20.2	53	J Meyer	
8km	TN03009RH	A	Knoxville	Dogwood Classic 8k	0	2.3	A Morgan	
5km	TN03010RH	A	Memphis	Overton Park 5k	-0.3	5.18	R Hunter	
5km	TN03011RH	A	Johnson City	Blue Plum Festival 5k	0.3	0.73	D Rogers	
Cal	TN03012RH	A	Chattanooga	Chestnut St. 1000 ft. Calibration	0	100	D Pressley	TN 98028RH
5km	TN03013RH	A	Memphis	Firecracker 5k for St. Jude	0.3	5.5	R McCrarey	TN 99011RH
5km	TX03010JF	A	Pflugerville	Deutschen Pfest Pfun Run 5k	0	0	J Ferguson	TX 01003JF
5km	TX03011JF	A	Austin	Teddy Bear 5k	5	4	J Ferguson	TX 02011JF
5km	TX03012JF	A	Elgin	Sausage Stampede 5k	0	1.5	J Ferguson	
5km	TX03013JF	A	Austin	Diabetes Dash 5k	0	0	J Ferguson	
5km	TX03040ETM	A	Houston	Running With the Bulls II	0	2.6	E McBrayer	TX03031ETM
5km	TX03041ETM	A	Ennis	Polkafest 5k	0.6	4.5	C Clines	
10km	TX03042ETM	A	Tyler	Tyler Azalea Trail 10k & 2 M	0	0	K Ashby	TX 87077KL
1mi	TX03043ETM	A	Coppell	Coppell Classic 2003 8k & Mile	0	0	K Ashby	
8km	TX03043ETM	A	Coppell	Coppell Classic 2003 8k & Mile	0	1.3	K Ashby	
2mi	TX03043ETM	A	Tyler	Tyler Azalea Trail 10k & 2 M	0	2	K Ashby	TX 87077KL
5km	TX03044ETM	A	Victoria	Habitat for Humanity 5k	0	0.2	S Sockell	
5km	TX03045ETM	A	Freeport	Freeport Flapjack 5k	0	1	D Beatty	TX 98019ETM
Cal	TX03046ETM	A	Chandler	Chandler - Susie st. 417.88 meter		0	100	T Cherry
5km	TX03047ETM	A	Dallas	Rise & Shine 5k	0	3	M	Hutcheson
5km	TX03048ETM	A	Dallas	This One's fro Ed 5k	0	0	K Ashby	
5km	TX03049ETM	A	Dallas	White Rock Road Race 5k	0	0	K Ashby	
5km	TX03050ETM	A	Rockwall	Rockwall Fun Run 5k	0	0	K Ashby	
1km	TX03050ETM	A	Rockwall	Rockwall Fun Run 1k	0	1.4	K Ashby	

DISTANCE	COURSE ID	ST	LOCATION	COURSE NAME/RACE	DROP	SEP	MEASURER	REPLACES
5km	TX03051ETM	A	Lake Jackson	Brazosport Mem. Hospital Run 5k	0	0	D	Beatty
10km	TX03052ETM	A	McKinney	McKinney Family YMCA 10k	0.6	2.3	M Polansky	
5km	TX03052ETM	A	McKinney	McKinney Family YMCA 10k	0.6	3.9	M Polansky	
21.0975km	TX03054ETM	A	Dallas	North Trail Half Marathon	0	0.8	K Ashby	TX 20444ETM
1mi	TX03055ETM	A	Sugar Land	Sugar Creek Mile	0.66	95	E McBrayer	
1mi	TX03056ETM	A	Sugar Land	Sugar Creek Kids Mile	0	0.9	E McBrayer	
5km	TX03057ETM	A	Sugar Land	Freedom Run 2003	0	4	E McBrayer	TX 02029ETM
10mi	TX03058ETM	A	San Antonio	Fort Sam Houston 10 Miler	0	0.9	M Johnson	
5km	UT03002DP	A	Salt Lake City	Race For The Cure	1.2	11	L Smithee	UT 09905FH
42.195km	UT03003DP	A	Ogden	Ogden Marathon	7.8	85	L Smithee	UT 02004DP
5km	VA02049RT	A	Virginia Beach	Race for the Cure 5k	0	9.3	S Bartram	
10km	VA03001RT	A	Alexandria	George Washington Birthday	0	0	R Thurston	
5km	VA03002RT	A	Manassas	Shamrock 5k	0.4	1.7	R Thurston	
42.195km	VA03004RT	A	Virginia Beach	Shamrock Marathon	-0.02	1	J Corzatt	
8km	VA03005RT	A	Virginia Beach	Shamrock 8k	-0.12	6	J Corzatt	
10mi	VA03006RT	A	Reston	Reston Ten Miler	-0.1	1	R Thurston	
5km	VA03007RT	A	Reston	Reston 5k	0	2.9	R Thurston	
10km	VA03008RT	A	Alexandria	Run vs Row 10k Challenge	0	0.9	R Thurston	VA 02002RT
Cal	VA03011RT	A	Abington	Heritage Dr. 1500 ft. Calibration	0	100	M Studholme	
1mi	VA03012RT	A	Abington	Maniacs Mile	0	0	M Studholme	
5km	VA03013RT	A	Richmond	Race for the Cure 5k	0	0	M George	
21.0975km	VA03014RT	A	Hampton	POMOCO Running Crab HMAR	0.29	3	S Bartram	
0.69359mi	VA03015RT	A	Alexandria	Del Ray Neighborhood loop	0	0	R Thurston	
5km	WA03001BL	A	Sumner	Sumner 5k	0	0.2	D Mora	
Cal	WA03002BL	A	Sequim	Black Ave 999.85 ft	0	100	L Little	
Cal	WA03003BL	A	Port Angeles	Olympic Discovery Tr. 999.83 ft.	0	100	L Little	
42.195km	WA03004BL	A	Port Angeles	North Olympic Discovery Marathon		2.1	65	L Little
21.0975km	WA03005BL	A	Port Angeles	North Olympic Discovery HMAR	0	0	L Little	
8km	WI03012JW	A	Madison	Crazylegs Classic 8k	0.65	37.5	J Knoedel	
Cal	WI03014JW	A	Madison	Palmer Brothers Memorial Run	0	0	T Aten	
Cal	WI03034JW	A	Madison	Wingra Creel pkwy. 1000 ft. Cal.	0	100	K Gilgenbach	
5km	WI03035JW	A	Madison	Madison Race for the Cure	0	8	K Gilgenbach	WI 02044JW
10km	WI03044JW	A	Green Bay	Bellin Ten Kilometer Run	0	1	D Moore	WI 97004WG
20km	WV03001WB	A	Wheeling	Ogden 20k Classic	0	0	M Courtney	

Renewed

1mi	AL92005JD	A03	Tuscumbia	Eagle Run 1-Mile	0	0	J Condrey	
Cal	AR94001DLP	A03	Siloam Springs	Elm Street 366.78meter Calibration		0	100	G Lafarlette
Cal	FL86023BH	A03	Tampa	Louisiana Half Mile	0	100	R Piveril	
Cal	FL89004BH	A03	Pensacola	Woodchuck Half Mile	0	100	B Barley	
5mi	MA93030RN	A03	West Newbury	Apple Harvest Road Race	0	0.08	J Jerry	
21.0975km	VT90002WN	A03	South Hero	Green Mountain Half Marathon	0.29	1.5	B Everett	
10km	AZ94002KY	A03	Tucson	Tech Trek 10k	0	1.3	K Young	

Copies of these certificates available from:

Karen Wickiser - Course Registrar
2939 Vincent Road
Silver Lake, OH 44224-2916
Phone 330-929-1605 FAX 509-351-5383
mikewickiser@neo.rr.com
(Send course name & ID number and $3.00)

Each certificate includes a course map.
A complete listing of USATF Certified courses is available at:

www.RRTC.net

PUBLICATIONS AVAILABLE FROM RRTC

Printed Course Lists - A list of certified courses for any state is $2.00. (Free to RRTC certifiers). You will receive a list that is current as of the last published Measurement News. Courses can be sorted in a special way; otherwise it will be sorted by distance as it appears in MN. Other specially-sorted lists can be done - for instance, you might want to have all the 5k's in IL, IN, and MO. If you are online, lists can be sent that way. Contact Mike Wickiser at MikeWickiser@neo.rr.com

Web Page Access to Course Lists:The complete list can be downloaded from the RRTC website at **www.rrtc.net/download/** Also, try the new USATF Search Engine linked from **www.rrtc.net** or directly at **www.usatf.org/events/courses/search/**

Individual Certificates - These may be obtained by sending the course number and $2.00 per course desired. **SEND THE COMPLETE ID, INCLUDING PREFIX AND SUFFIX LETTERS**, i.e: CA 92057 RS. Send course name, length and location as well. If you are thinking of hiring a measurer, this is an excellent way to see the sort of work you can expect. In addition, you may wish to check out a course you intend to run. Bring the map to the course and see if the race director got it right!

Above material may be obtained from: Mike Wickiser - 2939 Vincent Rd. - Silver Lake, OH 44224-2906

Measurement Calculation Computer Program by Bob Baumel, version 1.2 for Macintosh or IBM PC. This software can be downloaded for free from the RRTC website at **www.rrtc.net/download/** or Bob will distribute it by email attachment (send requests to webmaster@rrtc.net) or on floppy disks (send blank, formatted diskette and stamped return mailer to Bob at: 129 Warwick Road, Ponca City OK 74601-7424). Be sure to specify Mac or PC version.

Electronic Certificate Templates (available to Certifiers only), in Adobe Acrobat forma. Requires Acrobat or Acrobat Reader 4.0 or greater (Current Acrobat Reader may be downloaded for free from **www.adobe.com**). The template allows you to fill in certificates on the computer and print them. Available in both FS and non-FS version. Distributed by Bob Baumel by email or diskette [same addresses as for Measurement software]. Bob can customize the template with certifier's personal info at the bottom to avoid re-typing it every time (Be sure to specify exact ID text desired when requesting a template).

Online course measurement book, edited by Bob Baumel. It's a revision of the one you can buy from USATF, but the basic procedures have not changed. Available at: **www.rrtc.net**

Course Measurement Procedures - the Bible of course measurement. Complete instructions for measuring courses for USATF certification. The same procedures are now used for IAAF and AIMS courses. $9.00 postpaid. Available from: USATF - Book Order Dept. - PO Box 120 Indianapolis, IN 46206

Course Measurement Video - a concise 17 minute introduction to course measurement, intended as a supplement to Course Measurement Procedures. See how it's done! Version 2 sells for $10 but there are still a few copies of the original version available for $7.50. Send to: Tom McBrayer - 4021 Montrose - Houston, TX 77006-4956.

Historical/Technical Material Available on CD

Measurement News Archive - Every issue of Measurement News from #1 (1982) to #115 (2002). Full of material describing measurement techniques, technical articles, and history, written by numerous people worldwide. Set of 2 CD's in pdf (Adobe Acrobat 5.0) format. Cost $10.00, postpaid.

Historical Archive - A collection of technical articles, measurement reports, seminars spanning the period 1963 to present. Includes detailed full reports of several group rides of Olympic Marathon courses. All on one CD in pdf format. Cost $5.00, postpaid.

The above two items are available from:
Pete Riegel, 3354 Kirkham Road, Columbus, OH 43221
email: riegelpete@aol.com

OTHER PUBLICATIONS AND EQUIPMENT

Road Race Management is a monthly newsletter providing race organizing ideas and news for race directors. $97 per year from: Road Race Management - 4904 Glen Cove Pkwy - Bethesda, MD 20816 Phone: 301-320-6865 Fax: 301-320-9164

Jones/Oerth Counters - Paul Oerth - 2455 Union St - Apt 412 - San Francisco, CA 94123. Phone: 415-346-4165 Fax 415 346 0621. Email: Poerth@aol.com. US Price is $70 for the 5 digit model, $80 for the 6 digit model, postpaid. Foreign price is $75/$85 plus postage. Foreign orders shipped by airmail. Visa, MasterCard, American Express cards accepted. Advance payment is required.

RunScore - The flagship of IBM-style finish line programs. For information contact: Alan Jones - 3717 Wildwood Dr - Endwell, NY 13760. Online at: **www.runscore.com**

Apple Raceberry JaM - Race management software for Macintosh and Windows. Online at **www.raceberryjam.com** or call Jack Moran at (952) 920-0558.

TOPOGRAPHIC MAPS

USA topographic maps are available from:

U. S. Geological Survey 303-202-4200
USGS Map Sales
PO Box 25286, Bldg 810
Denver Federal Center
Denver, CO 80225
Delivery will be made in approx. 4 weeks. Ask for latest price.
Maps can be located and ordered online at: **www.usgs.gov**
Maps can be obtained in just a few days from:
Map Express – PO Box 280445 – Lakewood, CO 80228-0445
1-800-MAP-00EX (1-800-627-0039)
Maps can be located and ordered online at: **www.mapexp.com**

Topo Maps on CD-ROM - 3-D TopoQuads includes authentic USGS 7.5-minute quadrangle maps, assembled into one seamless database
See an interactive online demo at **www.delorme.com**
Also - check out Street Atlas USA from the above – it's a seamless street map of the whole USA at a decent price.

USGS TOPOGRAPHIC MAPS ONLINE - FREE
Maps.Com has a section where you can click on to all USGS maps, free. This can be very handy for obtaining accurate elevation information.
Check out: **www.maps.com**

ROAD RUNNING TECHNICAL COUNCIL

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