

Rally Organizers Manual

Maple Leaf Rally Club

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TABLE OF CONTENTS

Title	Page
TABLE OF CONTENTS.....	2
HOW TO GET A ROUTE.....	3
MAKING INSTRUCTIONS.....	4
TIMING.....	5
DRAFT INSTRUCTIONS.....	7
PRINTING THE INSTRUCTIONS.....	7
MAKING CHECKPOINT KITS.....	7
RALLY GREENCREW.....	8
GETTING CONTROL MARSHALS.....	9
AT THE EVENT.....	9
REGISTRATION.....	9
CONTROL MARSHALS.....	9
NOTES FOR THE DRIVER'S BRIEFING OR BRIEFING SHEET.....	10
STARTING THE CARS.....	10
FINISH CONTROL AND SCORING.....	10

HOW TO GET A ROUTE

An amazing revelation to some is that the route to a rally can be set up in one trip to the country. That is, you can get all the information to do your instructions, do the timing and decide checkpoint locations on the first trip by following these few points:

A) Plan a route on a map

- 1) First of all, you will need to get a map of the area where the rally is to be run. If it is up to you to pick start and finish locations, remember to a) make the start location readily accessible from highways or major roads. b) make it an easy to find location, near obvious "landmarks" ie. ... the first Dairy Queen south of the McDonalds.... c) if you are using private property, such as restaurant, factory or plaza parking lots, be sure to get the permission to use their lot or make sure permission is available.
- 2) When you have your map (usually an MTC map of approx. scale 6km/in.) and a start location, you can begin. Locate the start on the map and begin to plot out a route, remembering these points:
 - a) get them to a major road or highway and out to the country (or at least away from populated areas) as quickly as you can.
 - b) of course it is an added benefit to know the area of the route, but you can generally avoid trouble by steering clear of the many little towns; avoid going through them or what you suspect or know to be a heavily populated area.
 - c) try to loop the route around on itself so that beginners, while being lost in the instructions, will not get too far away from the actual area the rally is run in. Also, by looping the route, you can make multiple use of checkpoint personnel and locations. However, be careful of road use ... do not use the road too much, especially if it is populated. Also, do not have rally traffic going in opposite directions on the same stretch of road at the same time.
 - d) Do not use the blacklisted roads or areas. Check the rule book for these areas.
 - e) *Name your rally! It's your rally, so you get to choose a name. Naming the rally allows you to refer to it specifically as you organise it. Come up with something that relates to the route, or concept of the rally. It could be funny, geographical, historic, serious, anything really, just use good taste.*

B) Going out to the route

- 1) When you set out travelling the route you have plotted on your map, translate this route, as you go, into distances (miles or kilometers, as long as you know which it is) with complete tulip diagrams for each intersection. By complete tulips, I mean for all intersections you pass through, you should have an accurate distance and a tulip that shows exactly what the intersection looks like and all the road signs at that intersection. All signs, STOP, YIELD, NO EXIT etc. and which way they face at each intersection should be marked. If roads don't meet straight on or they intersect at an angle, then indicate them as such. Also, you should be noting speed changes along the route. Gravel roads are 80kph (50mph) unless otherwise posted. If you turn onto a highway from a gravel road or visa versa, note it. If you encounter a speed change such as coming into or leaving a town, note the distance and what the speed has changed to. It is very important to note all these speed changes (and note road conditions as well) as you will need them later to do your timing. Also, an added help is to note major roads or town names as you cross them or turn onto them. This is a help for the lost beginner.
- 2) The odometer check. It is common practice to note a location in your route for an odo check about 15 km into the first section. Pick an obvious landmark, close to the 15 km point and note it in the instructions (eg. 15.25km Odo check at road sign "Sudbury 10km").

The odo check is where the competitor checks his odo readings with yours. Your distances must be within 2% of official statute kilometers (use radar marks on the highway to check your odometer). Also, you can not have a checkpoint prior to the odo check or within 5km of it.

- 3) If possible, divide your tulips into sections as you go. Sections should be about 15 – 20km in length; zero your odo as you start each section. Hence, having traveled about that distance, pick an end of section or EOS, zero your odo and start a new page of tulips starting with the last tulip of the section you've just ended. This becomes your 0.00 tulip. EOS's should be at a place that is easy to find on the map and rough compass directions should be given (ie. "You should be facing in a NW direction to start the next section.").
- 4) As you travel the route, you should be looking for good checkpoint locations. Pick one or two locations in each section except the first and last sections of the rally. By a good checkpoint location I mean: a) at least ¼ mile away, on each side, from any houses. b) look for little niches in the roadside or pull off areas on the side you are travelling on, or simply if the road is wide enough to park a car without obstructing traffic. c) make sure the location is safe. Do not put checkpoints just over the brow of a hill or too close to a railroad crossing, not on a bridge and not on paved or busy roads. When you have picked a location, note down the particulars of that location, such as section distance, next to a dead tree or a big rock or telephone pole #38675 or a sign "Rabbits for Sale" etc. Try not to put checkpoints at the end of sections as it is confusing for the novice.

So...you've got your route, got tulips of it all, noted some checkpoint locations and all the average speed changes...what happens now? How do we make a real rally out of it? Read on...

MAKING INSTRUCTIONS

It is fairly important to tailor your instructions to the type of competitors you expect on the event you are organizing. For instance, if doing a contract rally for truck drivers, do not give them a mirror image, sectional, reverse section straight line map. Out of order tulips will be of sufficient difficulty. One thing the novice organizer learns too late is that no matter how simple you think you are making the instructions, someone always gets lost. If you have a real fear that "everyone's going to zero it!", the rule of thumb is to keep the instructions fairly simple but make the timing a computer's nightmare!

With this in mind, you need to decide on what instructions you should use for which sections. The first section must be very plain and basic, generally just distances to turns. The take home (last) section is the same or is occasionally paragraph instructions. (At this time, I suggest you read the appropriate sections of the Rally Manual to get some ideas on various types of instructions).

When you've decided on what instructions you will use for which section, convert your rough notes to this type of instruction. Make sure your conversions are right, you have not left anything out and everything works, (of course, do not mark your checkpoint locations in the instructions just checking to see if you are awake!).

For most novice or beginner rallies it is a good idea to start section one with a glossary of terms and abbreviations (check the rule book for what is currently acceptable). The rest of your sections should start with a brief explanation of what the instructions are, i.e. "The following are tulip diagrams (a pictorial overview of an intersection). Enter by the dot and leave by the arrow." Remember, in each section, the first instruction should be the same as the last instruction in the previous section. This should be stated either at the start of each section or at the start of the rally. At the end of the instructions in each section, it is necessary to describe the end of the section location in words that

accurately describe the map location i.e. “EOS is on county road 14 in Snelgrove at the intersection of Hwy 10, facing in a SW direction.” Be sure to tell them where the finish of the rally is at the end of the last section so if they get lost, they at least can show up there.

TIMING

There are two types of timing 1) average speed and 2) elapsed time. Most rallies use a combination of the two. (Read the Rally Manual as background).

1) Average Speed

Let me be so presumptuous as to assume that most of you have seen the following equation:

$$\text{Speed} = \text{Distance} / \text{Time}$$

With this equation, the info you copied down while doing your route and a calculator, you can do your timing. Lets say, in your rough notes, you have the following timing info:

Section 2

0.00	L gravel road (80kph)
1.67	R
3.05	SA
4.48	Posted speed change to 60kph
5.92	L
6.10	R
7.87	CP #1
8.75	SA

Lets consider the most basic set-up. From 0.00 to 4.48km, the speed is 80kph as posted on the road. By CASC rules, rallies must run 10% below the posted speed limit and 20% near built up areas (check your rule books for specifics). In this case, the fastest speed you can use is 72kph from 0.00 to 4.48km. So, you can pick any speed up to and including 72kph to do your timing. Lets pick 68.3kph as the average speed here. Hence, by the equation, we know the average speed and the distance so we can calculate the time.

$$\begin{aligned} \text{Time} = \text{Distance} / \text{Speed} \quad \rightarrow \quad T &= 4.48\text{km} / 68.3\text{km/hr} &= 0.0656 \text{ hr} \\ &0.0656\text{hr} \times 60\text{min}/1\text{hr} &= 3.94 \text{ minutes} \end{aligned}$$

From 4.48 to 7.87 the posted speed is 60kph, hence we can use 54kph tops. Lets pick 53.6kph. This gives us a time of 0.0632 hours or 3.79 minutes. However, as we are calculating the time into a checkpoint, it must calculate to the top of the minute. You must adjust the speed so your accumulative time to the control is a whole minute. After a bit of trial and error, we find that 50.1kph gives us 4.06 minutes which gives us a total of 3.94 + 4.06 = 8.00 minutes to the control.

Instead of adjusting the speed to get a whole minute, we could have put in a pause. The pause would appear anywhere between 4.48 and 7.87km. So your instructions could appear either of two ways:

Section 2		or	Section 2	
0.00	L CAS 68.3kph		0.00	L CAS 68.3kph
1.67	R		1.67	R
3.05	SA		3.05	SA
4.48	CAS 50.1kph		4.48	CAS 50.1kph
5.92	L		5.92	L
6.10	R		6.00	Pause 0.27 minutes
8.75	SA		6.10	R
			8.75	SA

Both of these should give you an accumulated time of 8.00 minutes at the control at 7.87km.

Scored to the second controls are calculated in the same way except that the accumulated time falls on the 0, 6, 12, 18, 24, 30, 36, 42, 48, or 54th second mark (i.e. 0, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, or 0.9 of a minute).

2) Elapsed Times

This is the easiest form of timing, where you give them the ET from point to point along the route and it is up to them to determine their speed. The whole rally can be done this way if you wish.

ET's are calculated using the same equation as for average speeds only instead of telling the competitor the average speed, you tell them the elapsed time from point to point. So using our same example, it would read:

Section 2	
0.00	L
1.67	R
3.05	SA
4.48	ET 3.94min from start of section to this point
5.92	L
6.10	R
7.87	ET 4.06min
8.75	SA

Controls must be at an ET and not between ET's. As you can see, this form makes it rather easy to see where controls might be. ET controls must be located no further than 0.1km from where the calculated time/distance puts them. At ET controls, competitors may arrive early and ask for their correct time in.

Most rallies use ET's only at the beginning and end, and may appear as follows:

Section 1

Take 23.5 minutes to reach the odo check then CAS 52.3kph.

Or for the take home section

Section X (last section)

Proceed along the following route, taking 15.4 minutes to reach the finish where you may arrive early and ask for your correct time.

DRAFT INSTRUCTIONS

At this point, you should have an almost complete copy of your instructions. That is, your rough notes converted to the type of instructions you want for each section. You choose which of your many checkpoint locations you wanted, did your timing and added it all to your instructions. Here I would strongly advise that you go over your timing again and make a Master Timing Sheet. This is something you will need to do your checkpoint kits, so you might as well do it now and check your rally as well.

A Master Timing Sheet might look something like this:

Section	Section Distance	ET (Minutes)
1	0.00	
1	15.05	Odo check CAS 45.0kph
1	22.93	EOS #1 CAS 68.3kph
2	4.48	CAS 50.1kph
2	7.87	CP #1 ET 42.00 minutes
2	12.61	CAS 61.5kph
2	18.01	Pause EOS#2
3	0.98	CP #2 ET 12.00 minutes
Etc.		

A lot of people choose this point to make a sigh of relief and say "All done!". Sorry sports fans, your NOT done yet ... only about 2/3rds through. Some very important stuff still has to be worked on as follows (though not necessarily in this order).

PRINTING THE INSTRUCTIONS

If you have close to ten fingers, can see and read and can procure a typewriter, I suggest you try typing your own instructions either on stencils (for printing on the club machine) or on plain paper (if going to the printer). Early in the game, check which printing method is to be used and make sure you have enough stencils and correction fluid to do the job.

When typing, generally put one section to a page. But this rule is not carved in stone. If you have two small sections, put them together on the same page as long as they do not crowd each other. There is no need to scrunch things up as it just causes confusion; make it neat and easy to read. It should be the instructions themselves that are the challenge, not the reading them in a messy format.

MAKING CHECKPOINT KITS

Checkpoint kits require the following items:

- 1) Marshals log sheet
- 2) General map – this would be the same map the competitors get. It will be marked to show the marshals where in the world their control is located with respect to the start location.

- 3) Control info sheet – this is a standard form which can be used. If not available, the information it contains which is necessary to the checkpoint is as follows:
- Checkpoint number, ET from the last control, route location (section and distance)
 - Control opening time – 15 minutes prior to the first car ideal time of arrival (ITA) at that location.

First car ITA – this can be calculated as follows:

1 minute + time of day rally started + accumulative ET's of the rally to that control + 1 minute for each control prior to this one (because of competitor dead minute) = First car ITA. Eg. A rally starts at 6:00pm. Total ET to checkpoint #3 = 97 minutes. Therefore, first car ITA at checkpoint 3 = 1min + 8:00 + 1:37 + 2min = 9:30pm

Control closing time – this relates to the maximum lateness decided for the rally. Generally, it is 30 minutes accumulated lateness during the event and 60 minutes at the finish, based on X numbers of cars (tell them what X is). Hence for controls during the rally, based on 30 cars, the control closing time is one hour after the first car ITA. If less than 30 cars enter the event, the closing time can be reduced appropriately. It is advisable to make yourself a chart showing the following:

..... as an example if a rally started at 8:00pm

Control #	ET	Accum. ET	Open	1 st Car	Close(30 cars)
1	42	42	8:28	8:43	9:43
2	12	55	8:41	8:56	9:56
3	4	60	8:46	9:01	10:01
Etc.					

- An example of how the sticker is to be filled out (if being used).
 - A detailed drawing of the checkpoint location – this should be available to you from your rough notes for the route. Make a little drawing of the area, showing the road you are locating the control on, the next nearest intersections and their distance away from the control location. Show direction of rally traffic and which side of the road the control is located on and if the control is beside a landmark (tree, sign, big rock etc.) indicate this. Also indicate where North is.
- 4) (Optional) copy of the instructions – it is usually nice (if you have enough time) to give the marshals a copy of the instructions showing them where in the instructions they are located. This is a great help to the poor lost novice who stumbles on a control.

RALLY GREENCREW

Every rally requires a greencrew. No matter how smart you think you are or how experienced an organizer you are, your rally still has to be greencrewed. Anyone can make a copying or typing error. It is better to find out from a greencrew that you made a slight boo-boo than having competitors falling into Lake Huron because you made a mistake or worse, competitors trying to make your ears touch each other because they were a little upset at getting lost on your account. So, a greencrew is needed (the organizer can NOT greencrew his own rally, no ifs, ands, or buts). Make sure the greencrew know their duties as a greencrew, which are:

- Check for correctness of instructions. This relates to correctness as pertaining to CASC rules and correctness of the actual instructions of the route. If miles and kilometers have been converted one to the other, this should be checked as well.
1km = 0.621 miles
1mile = 1.609 km
- Check timing. This can be checked before or after driving the route.

- Check control locations. Controls must be in safe locations and at the proper location on the route and in the timing.

The greencrew must work from the final copy of the instructions as the competitors will receive them.

GETTING CONTROL MARSHALS

Check the arrangements for getting marshals. If it is up to you to get marshals, as most likely it will be, remember two things:

- DON'T wait until the night before the rally to start phoning, because you are guaranteed not to get anyone. Start well in advance (1 or 2 weeks) as soon as you have an idea how many marshals you will need. The night before, you might just want to confirm that those who said they were coming, still are.
- DON'T EVER have more marshals come out than you really need. If you ask people to come and they go to the trouble of showing up, then you better have something for them to do or they will NEVER help out again. If you are unsure of everyone showing up, then keep your mate or best friend as a reserve, but no more. Scrub some controls instead, if needed.

AT THE EVENT

Well, it is time to leave the house to go to the start of your rally. But before you go, did you remember everything you need? Use this handy checklist:

1. Entry Forms	7. Checkpoint Kits
2. Route Cards	8. Route Boards
3. Maps	9. Correct Time (CHU etc.)
4. Instructions	10. Master Timing Sheet
5. EOS Map	11. Results Sheet
6. Correction Sheet (if needed)	

REGISTRATION

It is probably best if you do not do this yourself as you will need to look after the control people. However, for whoever does it, probably the best way to keep control of things is to hand out entry forms and ask competitors to fill them in and bring them back. When they return, take their form with their money, assign their car number and give them their appropriate route card or competitor kit.

CONTROL MARSHALS

When you give the marshals their control info, make sure they are aware of how to run a control. Make sure they have a decent watch with official time. Marshals should NOT close their controls earlier than scheduled. Marshals have no official capacity to tell a competitor that he is over maximum lateness; this is something the competitor must decide for himself. It is advisable to put more experienced marshals on timed to the second controls. Make sure each control leaves with a route board.

NOTES FOR THE DRIVER'S BRIEFING OR BRIEFING SHEET

For rank beginners, it is a nice idea to make a briefing sheet which should contain a glossary of terms and abbreviations, a brief explanation of the instructions used in the event and correct control procedure (which is ... a competitor time is taken as they cross the control board. They should then park behind the control car, safely off the road).

If you do not have a briefing sheet and you know there are beginners in the crowd, it is advisable to mention the following at the briefing itself:

- 1) Correct control procedure. Explain here as well as what Time In and Time Out are.
- 2) Maximum lateness. Explain how controls are scheduled to be open only for a certain length of time ... not indefinitely! The competitors should be told the approximate time and length of the rally so that if they find themselves still thrashing around in the woods past that time, they should give up and go back to the finish so they will at least be classed as a finisher.
- 3) Explain how they can panic to the EOS's. Remind them to mark their maps like your EOS map posted at the start.
- 4) Make sure they have copied down all the corrections. The instructions should all be corrected for them, but in case they can't read the correction, they have something to fall back on.
- 5) If you have timed to the second controls, it is necessary, by the rules, to tell them which controls they are.
- 6) Remind them to get official time.
- 7) The odometer check. Many beginners think that at the odo check, someone stops you and checks your odometer. Please explain what goes on at that location.
- 8) Tell them where they should line up in numerical order for the start of the rally.

STARTING THE CARS

The cars are started at one minute intervals. As the car pulls up to the start, check what car number it is and make sure they are due out at the upcoming minute. At 30 seconds before they are due out, hand them their instructions and have them check that there is the correct number of pages at the stroke of 8:01:00, you let them go.

As you wave goodbye to the last car you may now breathe a sigh of relief ... ahh ... and then start hoping that sooner or later they will return to the finish!

FINISH CONTROL AND SCORING

Don't forget, someone will have to mark their route cards when they arrive at the finish. The cards are then kept for scoring.

You will probably need a couple of people to help you do the scoring (someone doing an early control?). It is helpful to make a Master Route Card showing the correct ET's between controls.

As competitors start coming in, start at the cards right away. If you have enough people, it is a good idea to have one person subtracting the competitors times from control to control (their ET's), one person scoring (comparing competitor ET's to the correct ET's on the Master Route Card) and one person checking both. Don't forget to remind the person doing the ET's that if no out time is assigned at a control, then the competitors automatic out time is the top of the next minute from their in time.

At timed to the second controls, the penalty is 0.1 point for every full six seconds late and 0.1 points for each part of six seconds early.

Seconds Early	Penalty	Seconds Late
	0.0	0 – 5
1 – 6	0.1	6 – 11
7 – 12	0.2	12 – 17
13 – 18	0.3	18 – 23
19 – 24	0.4	24 – 29
25 – 30	0.5	30 – 35
31 – 36	0.6	36 – 41
37 – 42	0.7	42 – 47
43 – 48	0.8	48 – 53
49 – 54	0.9	54 – 59
55 – 60	1.0	

At regular controls, the penalty is one point per minute early or late with a maximum time penalty of 20 points. Thirty points is assessed for each missed control.

So you think you've finished scoring, eh? Hold on a minute, you better have a quick look at the cards again and check for maximum lateness. If a competitor presents you with a route card that ends up looking like the following, is his score changed by maximum lateness?

	Times	Actual ET	Ideal ET	Score	Score corrected for max. lateness
S	8:01				
1	8:59:18	58	43	15	15
2	9:28:16	28	8	20	30M
3	9:45:32	16	9	7	30M
4	--		20	30M	30M
5	10:20:12	34	24	10E	30M
6	10:40:40	19	24	5E	15
F	11:15:00	34	31	3	3
	Totals			90	153

Let's consider the above example. If max. lateness is 30 minutes during the rally and 60 at the finish, then at control #2, the competitor has accumulated more than 30 minutes of lateness so the control is considered a missed. Hence, control #3 must be re-scored as if #2 was missed, so go back to the out time of #1 to the in time of #3. To score #3, add the ET's of #2 and #3. This would result in 28 minutes late at #3 (20 + 7 + 1 for the dead minute from #2). But as the competitor is still over max at #3, this is also considered as 30M. At #5, since he arrived early, he gains back some max lateness and also at #6. However he does not DNF at the finish as the max lateness there is 60 minutes. His final score has indeed changed and things look quite different!

When all the scores are done and checked for max. lateness and checked again, announce the winners. The scores will then have to be put on a results sheet and the results copied and sent to all competitors.

Are we done? One last note ...

If you have arranged the start and/or finish facilities, it is always a good idea to send a letter of thanks to the owner or manager. You never know when you might need to use that location again.

Ahh ... now we're done!