



TSD Road Rally Rallymaster Guide

January 2021

NOTICE: Events in 2021 will continue to comply with the [Cascade Geargrinders Coronavirus Message](#). Online registration is required. There will be no on-site registration or drivers meeting - no on-site organizer presence at the start. Although a mid-rally break may be included, no interaction between contestants or organizers will be required or encouraged. There will be no end-of-rally gathering. Event results will be emailed to contestants.

This guide has not been modified to reflect the coronavirus restrictions. Modify the following accordingly.

The goal of this guide is to ensure all Cascade Geargrinder road rallies:

- Are designed to be as safe as possible for all participants.
- Are free from errors and ambiguities that may unintentionally confuse or misdirect.
- Challenge experienced ralliers, while safeguarding novices.
- Are fun for all participants – including administrators.

The Rallymaster Liaison will guide and oversee development of Cascade Geargrinder road rallies by working with rallymasters throughout event development. The Geargrinders Chair delegates to the Rallymaster Liaison authority to make road rally event-related decisions. (If there is no designated Rallymaster Liaison, the Geargrinders Chair assumes these duties.)

Goals

As the Rallymaster, your goal is to present an event in which contestants can compete safely and fairly.

- Ensure that every aspect of the event strictly adheres to the Road Rally Rules governing the event.
- Set average speeds at or below the posted speed limit, appropriate for conditions.

- Every car should find the finish.
- Set approximately equal penalties for all traps in the rally. (Target: 15 to 30 seconds.)
- Scores should reflect the general experience level and equipment class of the contestants.

Schedule

Weeks before event:

6	review course concept, identify area and ending location (for promotion)
4	route instructions drafted and control locations selected, review of course
3	course measured and calculated, route instructions completed, final drive through
2	final pre-event checkout (guinea pig)
1	correct any route instruction errors identified at pre-check. Do a final drive-through, checking every sign, every reference, confirming calcs.

The Rallymaster Liaison has an event ready which will be used if this schedule cannot be met (at Rallymaster Liaison discretion).

Event tasks

The Geargrinders Chair has responsibility for the Cascade Geargrinders road rallies and takes care of most tasks related to the events. Your responsibilities, as the Rallymaster, are to:

- Name your event. Provide general information for advance publicity. (In what area does the event run? Is there an interesting stop during the event? Where does the event end?)
- Develop the route. Schedule reviews with the Rallymaster Liaison.
- Make ending location arrangements.
- Measure your course and calculate event length. (Target: >3 and <4 hours.)
- Write route instructions and calculate leg times (Excel).
- Enter the GPS passage control locations/leg times in the Richta Checkpoints Rallymaster app (in coordination with the Rallymaster Liaison).
- Schedule and conduct event checkout (in coordination with the Rallymaster Liaison).
- Get the route instructions printed.
- Put up and take down course markers if used.
- Conduct participants' meeting at start.
- Be first to arrive at the finish; answer contestants' questions.
- Award event trophies.
- Thank your workers. Ensure worker hours are reported to the CSCC Pointskeeper.
- Write a post-event article for the newsletter (optional).
- Turn in receipts for rally-related expenses for reimbursement.

Help is available for any of these tasks. Just ask.

Safety

Safety is the highest priority. Emphasize the importance of safety to all participants. Safety is your primary concern when developing the event.

- Use signs that are clearly visible at rally speed. Do not use a hard to see sign for course following or as the basis of a trap.
- Avoid residential areas.
- Avoid using or crossing busy highways.
- Try to use only paved, relatively smooth roads. Avoid use of unpaved roads. If unpaved roads are used, mention in advance publicity, and set the CAST slow enough to permit safe passage.
- Set the CAST with potential rally conditions in mind – icy bridges, roads covered with wet leaves, children and animals in the road.
- Include adequate pauses for signals, busy stops, and other likely delays.
- Use transits where traffic or road conditions make it difficult or dangerous for contestants to safely stay on time.
- Remind participants they should use Time Allowances rather than speeding to make up time.

Roads

Select rally roads that are:

- Rural.
- Lightly traveled during the event time frame.
- Free of delays, signals, parades, construction, ferries.
- Reasonably close to the start location.
- Paved and reasonably well maintained.
- Near you (you will visit them many times).
- Fun, unique, special, scenic.
- Lead to the ending location.

Event development

- Plan for appropriate event length (75 to 90 miles, 3 to 4 hours) including a break.
- Decide which geographic areas to use and an ending location. Confirm usability and availability of ending location. Make the reservation as soon as possible.
- Plan a general route linking the areas.
- Explore roads in the vicinity of the planned route until you find a course you like.
- Drive the course and write rudimentary instructions that include:
 - Mileage (from your car's odo).

- for every instruction (NRIs and Notes).
- for course breaks and re-joins.
- for passage control and CZT (time-of-day restart) locations.
- Direction and reference (note direction and hard reference).
- Speed limit.
- Estimated CAST (two methods: guess or calculate).
- Drive the course again and start polishing the instructions. Check for:
 - Occurrence and spelling of references.
 - Reevaluate CAST.
 - See rally pre-check items.
- Drive the course again during conditions similar to rally time – same day of week, same time window. Recheck everything, especially corrections.
- Measure the course, from start to finish, all in one run, in one day. Calculate official leg times.
- Drive the course again, running with a rally computer, and verify measurements and calculations. Recheck everything, especially corrections.

Route instructions

- Instructions should be neat and easy to read.
- Use a font, type size and line spacing that is readable in a moving car.
- When quoting signs, graphics should be unambiguous when compared to the sign.
- Use upper/lower case except for landmarks (4.4), signs (5.2), and glossary terms (6).
- Include columns for CZT, Official Mileage, Route Instruction Number, and the route instruction.
- Include ending location address and rallymaster phone number.
- Don't renumber route instructions after the rally pre-check. (Really, just don't.)
- Don't change anything after the rally pre-check, except the changes agreed upon at the pre-check. (Seriously, bad time to get creative.)

See example route instructions on page 6.

Rally pre-check (aka Guinneapig)

The rally pre-check will be held no later than one week before the event and will ideally occur two weeks before the event date. Route instructions should be as intended for the real event.

The rally pre-check will include a complete run through the course, with live passage control timing if possible. Make sure cell phone numbers are exchanged in case you need to communicate during the pre-check.

The rally pre-check crews should look for the following:

- Are the instructions written in accordance with the Road Rally Rules for this event?
- Are the passage control and time-of-day restart locations safe and appropriate?

- Are the speeds reasonable?
- Are adequate pauses provided where necessary?
- Are all signs clearly visible and represented correctly?
- Are instructions clear and unambiguous?
- Are all traps in accordance with the Road Rally Rules?
- Are all planned off course route possibilities protected by something other than an off course marker?
- Are all unplanned but predictable off course routes protected?
- Are leg distance measurements and time calculations accurate? (At least one computer car should run the pre-check.)
- Is the course of the advertised mileage and duration?
- Will the contestants feel satisfied at the end of the event?

Day of event

- Arrive at the start prior to registration opening.
 - Bring route instructions, calculations, and course map (optional).
 - Answer questions from contestants.
 - Conduct the participants' meeting.
 - Make a plan ahead of time of what you want to cover.
 - Safety is the number one topic. Review Time Allowances.
 - Avoid giving information that could have been on the instructions.
 - Stress items that need emphasis.
 - Answer questions and make corrections.
 - Anticipate leaving the start location after the first car.
- Pace car (optional)
 - Bring emergency course markers, pen, mounting tape, stapler.
 - Follow the route instructions ahead of the contestants, verifying that all references are present and that all rally roads are open.
 - Put up emergency route markers if an error or missing reference is identified.
- Sweep car (optional)
 - Follow the route instructions after the last contestant, also verifying that all references are present and that all rally roads are still open.
 - Remove emergency route markers.

Measurements and calculations

Precise measurements

- Measure the entire on course route all in one day, from beginning to end. Then go back and measure off course from break to rejoin. (If you measure the planned off course route, you'll be able to calc the time difference between on and off course.)
- Record a mileage for every route instruction.
- Use pavement marking paint to mark checkpoint in and out points if there is no specific sign or landmark.
- Record mileage measurements to nearest thousandth.
- If using a wheel-driven measuring device, attach the sender unit to the driver's side non-driven wheel to reduce wheel spin error.

CZT and Official Mileage

- In the route instructions, clearly display Car Zero Time (CZT) and Official Mileage (OM) in columns to the left of the Numbered Route Instruction number.

CZT	OM	NRI	
10:00	0.00	1.	Begin odometer calibration zone at "STOP". You have 35 minutes to complete the next five NRIs.
	0.21	2.	RIGHT at STOP.
	0.30	3.	LEFT at SIGNAL.
	0.42	4.	LEFT at SIGNAL.
	2.10	5.	RIGHT at YIELD at SPRINGVILLE.
10:35	3.675/ 0.00	6.	End odometer calibration zone at "STOP". Then LEFT on KAISER.

- In the route instructions, clearly identify when Official Mileage reverts to zero. Official Mileage usually reverts to zero at each time-of-day restart location (CZT).

CZT	OM	NRI	
11:05	/0.00	33.	CAST 25 at "WASHINGTON COUNTY".

Speed Changes

- Speed changes should occur at a specified sign or landmark, or at an official mileage. Speed changes referenced to a sign or landmark are to be executed at the near edge of the referenced sign or landmark.
- Speed changes referenced to an intersection (such as SIGNAL or T) are to be executed at the leading edge of the intersection.

Accurate Calculations

- Accurate TSD calculations are absolutely essential. Use a computer spreadsheet.

NRI	Begin mile	End mile	Distance	Speed	Factor	Interval Time	Cumulative Time
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CP4 - 41	0.000	1.488	1.488	45	1.3333	1.984	1.984
41 - 42	1.488	3.010	1.522	33	1.8182	2.767	4.751
Pause NOTE F						0.250	5.001
Pause NRI 41						0.250	5.251
Leg 5			3.010			5.251	

- Verify spreadsheet calculations with a calculator. Example:
Factor = 60 divided by Speed 60 / 45 mph = 1.3333
Interval time = Distance times Factor 1.488 x 1.3333 = 1.984
- Recheck pauses and speed changes against the final version of the route instructions.
- Run through the event using a rally computer. You should zero every leg.

Common mistakes

- Renumbering and missing a numbered reference.
- Unexecutable instructions. LEFT at T, R ONTO “MAIN”, etc.
- Missing a required MBCU. S at outcone, LEFT at T, etc.
- Forgetting to cancel Notes.
- Not including the odometer calibration zone time and distance as part of leg one.
- Fixing errors with more errors.
- Missing pauses and/or speed changes in calculations.
- Missing speed changes, Notes, ONTOs, TOWARDS, etc., that carry through into the next leg.
- Misuse of capitalization. Stop is not the same as STOP or “STOP”.
- Posting an off course marker on a route that is on course later in the event.

Handshake agreements

Over the years, Geargrinders has accumulated a short list of unrecommended and highly discouraged, to the point of being disallowed, rally conditions.

- Do not introduce a vastly different format to a Cascade Geargrinders road rally. Stick to the lightly trapped TSD precedence established over the last many years, as reflected in the current Road Rally Rules. Avoid Supplemental Rules.
- Do not discover an entirely new interpretation of a rule. Imaginative creativity in interpretation of the rules does not usually work out too well.
- Do not take advantage of poorly defined areas in the rules. In the interest of simplicity and brevity, we know there are grey areas in the rules that are not quite black and white. Just don't go there.
- Do not exploit hard to read signs or extremely confusing intersections, where opinions may vary.

When things go wrong...

TSD road rally is a game of precision. Don't discount a contestant's claim that your measurements and calculations are incorrect; listen to their explanation. Have your original measurements and calcs with you at the end of the event. Be prepared to review your calcs for accuracy.

If it is determined that measurements or calculations are in error, if possible, correct the official leg times and rescore the event prior to issuing awards. If it is not possible to determine correct official time, consider discarding the leg.

If called upon to recommend a scoring decision, be fair and be generous to the contestants. Send them home happy and wanting to run your next event.

Geargrinders Chair has final authority over all scoring decisions.

Resources

Road Rally Rules and other resources, including this Rallymaster Guide, can be found on the Cascade Geargrinders website on the Resources page. <http://www.cascadegeargrinders.org/>

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