

# Rallying for Beginners.....and others

*By Harvey Cain*

Looking for a pleasant yet adventurous way for you and your Porsche to get away on a weekend? Try a rally. It's a great way to get to know both your car and the surrounding countryside.

## What Is A Rally?

A TSD (time-speed-distance) rally consists of a set of instructions specifying a route to travel, and a speed at which to travel. A team, consisting of a driver and a navigator, attempt to travel the specified route at exactly the specified speeds. A TSD rally is not a race. Traveling too fast results in penalties as does traveling too slowly and no rally will ever require you to drive in a reckless or illegal fashion. Arriving too early at a checkpoint hurts your score, as does arriving too late. You are scored on how closely to the correct time you arrive. The rally route generally takes you over lightly traveled rural roads in the scenic countryside.

Rallies are generally around 100 miles long and take about three hours to complete. Registration usually begins one hour before the rally. Driving to and from the rally can take anywhere from 30 minutes to 1 hour, depending on where it starts and where you live. The rally usually begins at a shopping center and ends at a restaurant. Eating with us is optional.

## The Basics of Rallying

There are six basic parts to rallying:

- starting,
- odometer calibration,
- course following,
- speed calculations,
- checkpoints, and
- understanding rally rules.

### **The Start**

At registration, each team is supplied with instructions defining the rally route and any regulations specific to the rally. Both team members should read everything carefully and ask questions. The rallymaster and others are very willing to provide explanations. However, if you ask questions specifically about the rally, the rallymaster may choose to answer with "yes", "no", or "does not occur". It is helpful to register early to give yourselves ample time to read the instructions and make sure that you understand everything.

You must set your watch to the official time of day. It is important that you leave the out markers at the official departure time. If your watch is off by 30 seconds, you may take the right amount of time to traverse a leg, but you will still end up with a 50-point penalty. An official clock will be available at registration. Once you have set your watch to the official time, you are ready to start the rally.

### **The Odometer Leg**

The first part of every rally is an Odometer check. This allows each team to correlate their odometer with the odometer used by the rallymaster. Even if your odometer is accurate, the rallymaster's may be significantly different.

An Odometer leg is about 10 miles long and is extremely simple. Before starting, you should zero your trip-odometer at the marker designated as the start of the rally. Compare your mileage at the end of the Odometer Leg with the official mileage given by the rallymaster to get a calibration factor.

The equation to use is:

$$\frac{\text{Your Mileage}}{\text{Official Mileage}}$$

If your odometer reads 9.60 miles at the end of the odometer leg, and the official mileage is 10.00 miles, your calibration factor is .96. This means if a route instruction is referenced to mile 2.00, you should execute that instruction when your odometer reads 1.92 (.96 x 2.00). You should also adjust your speeds by the same factor; if the given speed is 40 mph you would drive at 38 (.96 x 40). You should always try to read your odometer in hundredths of miles. Assuming you have a tenth-reading odometer, the accuracy with which hundredths can be guessed is surprising.

In the rally instructions, you will be told when to start the rally and how much time is allowed to complete the Odometer Leg. From this information you can determine what time you should leave the end of the Odometer Leg and start the competitive portion. For instance, a rally might start at 10:00 am plus your car number in minutes and require 20 minutes to reach the "End Odo" instruction. If you are car number 5, you would leave the Odo end at 10:25 am at the speed given in the instructions.

## Driving the Rally

At the start, you will be given a written set of instructions. These are referred to as Route Instructions. These instructions define the route and speeds the rallymaster wants you to follow.

A typical instruction will tell you what direction to go and when to apply the instruction.

For example:

25. Right at T.

[This means turn right when you reach an intersection that looks roughly like a T as you approach it from the base.]

26. Left at STOP.

[This means turn left when you encounter a stop sign along your route of travel.]

27. Straight at ``stop".

[This means go straight when you see a sign that has the word ``stop" written on it. This could be a stop sign, a bus stop sign, a sign that says ``Stop at Joe's", etc.]

1.63 28. Left.

[This means go left when you have gone 1.63 miles from the last time you zeroed your odometer. Remember to adjust the mileage by your odo factor. The mileage is written before the instruction number.]

The route instructions must be executed in ascending numerical order. Read all the route instructions at the start to insure the routes are printed in numeric order. More importantly, one instruction must be completely executed before the next instruction can be started.

Words that are quoted refer to signs. A sign may be quoted in its entirety, or only partially, but quoted words should be obvious. Capitalization and punctuation may be different than on the sign, but the spelling must be identical. In Zone 8, signs will be on your right (or overhead) unless instructed differently in the routes. Instructions with unquoted words refer to landmarks, like church, bridge, etc. Landmarks are generally listed in the route instructions in capital letters. Landmarks can be located anywhere on the rally route.

It is extremely important to read instructions precisely.

For instance,

5. Left at STOP.

may mean something different than

5. Left at ``stop".

The first refers to a stop sign that requires the rally car to stop. The second refers to any sign that includes the word ``stop" including stop signs.

Similarly,

6. Left after Smith Rd.

may mean something different than

6. Left after ``Smith Rd."

The first indicates that you should turn left after passing Smith Rd. The second requires you to make the first left after a sign that says ``Smith Rd." This may cause you to turn on Smith Rd. if the sign appears before the road at the intersection.

The Zone Rally Rules contains a glossary that precisely defines such words as ``at", ``before", ``turn", etc. These definitions must be followed precisely by the rallyist.

A route instruction may be referenced to an official mileage, noted in the left margin next to the instruction (see instruction #28 on page 2). These instructions must be executed within a tenth of a mile of the given mileage. (Remember that the mileage listed is the rallymaster's. You should adjust that mileage by the Odometer Factor you calculated on the Odo Leg.) Do not execute this instruction before you reach the mileage. If you are fairly confident that you have reached the mileage, but you cannot make the turn (e.g. you are not at an intersection) you are probably off course. You should retrace your steps looking for mistakes (see the section later in this article on off-course excursions).

The route instructions will also contain non-course-directing instructions. The most common of these specify speed changes (CAST instructions) and pauses. These will be described later, but for now, note that all non-course-directing instructions should be executed when their minimum conditions are met; if you are told to CAST 40 at ``Smith", change your speed at the sign, not at the next intersection.

## Course Following (main road determinants)

Route instructions make up only one part of course following. In addition, each rally lists main road rules that specify which direction to go at each intersection. Common sense might tell you to continue straight until an instruction tells you to do otherwise. But that is not necessarily true.

The Zone Rally Rules state that your direction of travel at each intersection is determined by using the first item in the following list that is applicable:

1. Execute a numbered route instruction
2. Execute a lettered route instruction

3. Execute a special route instruction
4. Follow the LINED road (FLR)
5. Follow the ONTO road
6. Proceed as straight as possible

The first three instances all execute instructions generally given in the Route Instructions. Occasionally you will receive lettered or special route instructions either at a Checkpoint or a sign posted by the rallymaster along your path.

### **Follow the LINED ROAD (FLR)**

Refers to staying on the road that has a center line separating traffic. At an intersection, your path will continue in the same direction as the center line.

### **Follow the ONTO**

If a route instruction tells you to follow a road using the term "onto", you must follow that road until a subsequent instruction of Straight, Left, Right, Turn or Follow. Watch for jogs to the left or right of the ONTO road.

### **Straight as possible**

The main road is the road that is most directly ahead.

It is very important to consider course following actions at each intersection, and to apply them in the order specified by the rallymaster.

Unless otherwise instructed, a course-directing route instruction that is not referenced to an official mileage may only be executed if it forces you to leave the main road. If a route instruction directs you in the same direction as the main road, then going through that intersection constitutes use of a course following action, not the route instruction. For example, if the route instruction was:

21. Right at "Smith", FLR
22. CAST 40 at JONES

Suppose the next route instruction is:

23. Right at "Stop."

You come to a T with a stop sign. The LINED ROAD continues to the right. Since the main road goes the same direction as RI# 21 specifies (FLR), you should use the course following instruction, not the next route instruction. Route Instruction 23 is redundant at this intersection since the course following instruction causes you to turn right. After the turn you are still looking for a stop sign at which to turn right. Now if you reach a crossroad with a stop sign, you should go right using the Route Instruction 23.

If an instruction simply says "turn", it means that you should leave an intersection on a road other than the main road. Thus, if you approach a T and have the instructions mentioned above, the main road goes to the right; to execute the turn instruction, you must leave the main road by turning left. You can execute a turn instruction only if there is a unique road to the left or right other than the main road.

### **Off-Course Excursions**

Even experienced rallyists occasionally find themselves off-course. For first time rallyists this may be their steady state. Not to worry! Once you realize that you are off-course, you should simply retrace your steps until you find your mistake or reach a point that you know is on-course.

How do you know that you are lost? Here are some hints:

1. You get to an intersection for which no course following action or route instruction is applicable.
2. You pass the mileage attached to an instruction without being able to execute the instruction.
3. You drive beyond a maximum mileage (if specified).

Do not get too discouraged when you get lost. This is normal for beginners and novices and even experts on occasion. As you run more rallies, you will become more familiar with the rules and will do better.

### **Speeds & Timing**

So far, I have only explained how to follow the rally route. To get good scores you also need to drive at the correct speeds. Speeds are usually specified in the route instructions with the CAST instruction (commence/continue/change average speed), but may also be specified on checkpoint slips. A CAST instruction simply tells you to start driving at a new speed. For example,

33. CAST 35 at "Yield".

[This means that you should Change Average Speed to 35 when you pass a yield sign.]

Another common timing instruction is Pause. The Pause instruction tells you to stop for a specified amount of time.

34. Pause 0.50 minutes at each "No Parking" in the next 1.0 miles.

[This means that you should stop 30 seconds at each no parking sign in the next mile. There may be zero, one, or more such signs.]

An important point missed by many first time rallyists, the time between two route instructions is calculated by measuring the distance and multiplying by the given speed factor. In other words, the given speed continues through stop signs, through traffic, and through corners. If you are traveling at 40 mph and encounter a stop sign, you can lose up to 30 seconds slowing down, coming to a stop, and reaccelerating back to 40 mph. This could make you 20 seconds late. There are several methods you can use to stay on time. First, by looking ahead you can speed up before getting to a stop sign. Or, drive faster than 40 mph for a short while after leaving the stop sign. Or keep track of the amount of time you have been slowed and reduce any future Pause instructions. (The rallymaster will generally place a Pause after a particular stretch of road where stop signs or signals may slow your progress). Another method used by many rallyists is to simply drive about 10% faster than the given speed.

The most important part of rallying, however, is staying on course. Points add up very rapidly if you fail to follow the course-directing instructions properly.

## **Checkpoints**

Checkpoints are locations where your arrival is timed and your score for an individual leg is calculated. There are two basic types of checkpoints: manned Checkpoints and Do-It-Yourself Checkpoints.

### **Manned Checkpoints**

At unidentified locations in the rally you will reach a timing control, known as a checkpoint. Your score at an checkpoint is the difference between the time it took you to reach the checkpoint and the time it should have taken you if you drove at precisely the specified speeds and stayed on course. A rallyist is penalized 1 point for each .01 minutes early or late, up to some maximum which varies, but is usually around 300-500 points (3-5 minutes). The goal is to get the lowest score. Each checkpoint is totally independent. Being late on one checkpoint cannot be made up by being early on another.

A Checkpoint is identified by a sign with the symbols for a check and a point (check-point, get it?). Just beyond such a sign a car will be parked on the shoulder of the road. You should drive past this point, pull onto the shoulder of the road, and walk back to the checkpoint with your Control Card. Please don't block the road at the checkpoint sign, as other cars will be entering the checkpoint. At the checkpoint, a member of the checkpoint crew will write your arrival time and assigned departure time on your Control Card. The departure time is the time you should leave the outpoint starting the next leg of the rally. A departure time is usually your arrival time rounded to an even minute, plus a few minutes. You should proceed to the outmarker and wait for your departure time. Again, do not block the outmarker; pull over either a short distance before or after the outmarker. In addition to writing your departure time on your Control Card, the checkpoint crew will give you a leg slip. The exact format of a leg slip varies, but an example follows (next page).

You should read this slip carefully before leaving the checkpoint. Most importantly, it will tell you the next instruction to execute. This may be different than expected, as cars, which fall for a trap, may use extra instructions to get to the checkpoint. The checkpoint serves to get everyone back to the same point in the instructions.

This leg slip is for leg 1 of the rally. The official mileage for the leg was 16.49 miles. It should have taken you 45.23 minutes to complete the leg. The next instruction to execute is number 22. The next leg begins at the next STOP sign. You should be driving 30 MPH when you leave the outmarker (the STOP sign). A special instruction indicates that FireHouse Rd. does not exist, so if you ever encounter FireHouse Rd. you should not consider it to be a rally road. Finally, there is a critique of the last leg indicating what the trap was.

*Example of Leg Slip:*

Leg 1

Leg Mileage: 16.49

Leg Time: 45.23

Next Instruction: 22

Outmarker: STOP

Cast: 30

Special Instructions:

Firehouse Rd. does not exist.

Critique:

A simple leg to get you started.

No course following traps, but

if

You took the pause in

instruction

#16, you were 2 minutes late.

## **Do-It-Yourself-Checkpoints**

Do-It-Yourself legs (DIYCs) are legs that do not end in a manned checkpoint. The instructions for a DIYC are identical to a normal leg, except for an instruction that says "End DIYC at..." You drive the leg following all the instructions and write the time you encounter the instruction which states "End DIYC." You enter this time as your in-time for that leg on your Control Card. The time is compared to the official time for the leg to get your score.

More experienced rallyists will maintain a log which shows the distance traveled for each given speed. With a little mathematics they then calculate the time to drive the leg. This requires staying on course, carefully recording your odometer reading at each instruction where the speed changes, and calculating and adding each elapsed instruction. And don't forget to apply your Odo correction factor to the final total! Rallymasters use DIYCs mainly due to a lack of people available to man a checkpoint.

In general, scores on DIYCs are very low. However, DIYCs may contain traps just as any other leg does. If you fall into a trap, you will travel the wrong distance and compute the wrong time.

You must give yourselves a departure time at the end of the DIYC. This time will be used as the start of the next leg. Your departure time is usually your arrival time plus one-minute and should be recorded as your out-time for the next leg on your Control Card.

It is important to fill out your Control Card at the end of each DIYC. If you enter the next checkpoint without having filled out your Control Card, you will get the maximum penalty for the DIYC.

## **Free Zones**

A free zone is a portion of a rally in which the rallymaster guarantees that there will be no checkpoints. A rallymaster identifies free zones by the instructions "Begin free zone" and "End free zone". The main reason for free zones is to allow the rallyists to drive the speed limit rather than a lower rally speed on major roads, and to compensate for traffic lights. It is a good idea to drive the speed limit through a free zone; when you reach the end of the free zone, calculate how long it would take you to drive it at the specified speed. You should stop at the end of the free zone and wait for the proper amount of time to pass before continuing.

## **The End**

Rallies usually end at a restaurant or pizza parlor. Many people stick around, rehashing the rally, while the scores are being totaled. Trophies are given out based upon the number of participants in each class. A few weeks later, each participant should receive the results in the mail containing the official scores and other information.

## **Why Rally?**

I have tried to lead you through what to expect at the start of a rally, how to follow the course at the correct speeds and what to do at checkpoints. There has been some basic information for beginners and some information of a more technical matter for the novice or expert rallyist.

But, I have not yet asked (or answered) the question Why Rally? I think there are really two answers based upon the expectations of the participant. The answer for the casual participant is rallying allows you to drive your Porsche over some great back roads that you may otherwise never have a chance to see. This is akin to a Sunday drive in the country joining with many of your Porsche friends (or friends to be) and enjoying the driving experience. This often leads to the second answer which is the participant is a competitive individual who not only enjoys driving, but also competing. Rallying can be very much like a puzzle. It is the participants' responsibility to read and know the rules and to explicitly apply those rules with each instruction given on the rally. This can be incredibly challenging and wonderfully rewarding for those who have mastered the art of rallying. It is easy to rally; it is difficult to run a rally well. There are two basic rules for running a rally well: one, learn the rules and two, practice, practice, practice.

## **Rally Rules**

I have mentioned several times about rally rules and the need to understand these rules. A set of the PCA Zone 8 Rally Rules is available to each rally participant at the start of each Porsche Club rally. The Rally Rules consist of four pages, which I think of as a dictionary defining everything you will need to know to run a rally. These rules are what the rallymaster uses in defining the correct route. Get a copy and read them. Use them during the rally to guide you through intersections, to help you correctly perform an instruction, and to stay on course. Rallymasters, generally being competitive, use these rules and the route instructions in an attempt to get the participant off course or off speed causing you to be either early or late to the checkpoint. When you receive your critique of the leg, use the Rally Rules to understand where you may have made a mistake. The better your understanding of the rules, the better your finish in the event.

## **Traps**

From the description given so far, rallies sound pretty simple. There are rules to learn, and that takes a few rallies, but then what? Well, things generally aren't that simple. The goal of a rallymaster is to write instructions that contain traps. A trap is an instruction that is easily misinterpreted. Some common traps are:

## **Timing Traps**

### **Starting time traps**

Watch for "Start at 10:01 plus your car number in minutes", rather than the more common 10:00.

## **Transit Zones**

Ignore pauses and gains within transit zones that give you a specified amount of time to reach the end. If you are told by instruction #3 to take 20 minutes to reach instruction #10 and instruction #5 is "pause 1 minute", you still take only 20 minutes to reach instruction #10.

## **Course Following Traps**

### **Spelling traps**

These are instructions in which words are quoted, but spelled differently than on the sign. For example, an instruction might say "Right at Murraysville." and you may first encounter a sign that says "Murrysville". Be patient, don't turn. You should later find a sign spelled the same way as the instruction.

### **Onto**

The road you are "onto" may turn to the left or the right, and you would be expected to turn to stay on the same road.

### **FLR**

This stands for Follow Lined Road. If you are instructed to FLR, you must do so until another instruction takes you off the lined road. To use the next instruction, it must change your direction of travel through an intersection.

## Overlap

An overlap trap occurs if you fail to complete one instruction before beginning the next. Instructions most likely intended as overlap traps usually say something like "CAST 30 for 1 mile." This instruction is not complete until after the one mile has been driven. Only then may you begin working on the next instruction.

## Addendum

You will frequently get additional instructions at checkpoints. These instructions are called addendum and can be a simple correction or new action. Many times a trap is built in so read the information given and follow the instructions.

## Landmark vs. Sign

In the route instructions, a word in quotes refers to a sign. Generally a sign is on the right (or overhead). A landmark is an object that is not quoted and can be either on the right or left. To use a landmark, it must be defined within the Rally Rules or identified by a sign. A typical trap would be a turn based upon passing a landmark with the sign identifying the landmark appearing before the object. Do not turn until after you have passed the landmark.

After reading this section, it may seem that a road rally could be extremely frustrating, and at times this is true! However, good rallies are constructed to be "fail-safe". This means that even if you fail to stay on course, you will still reach the checkpoint. Imagine having two paths that reach the checkpoint, one is correct. If you fell for the trap, the incorrect path would still take you to the checkpoint. In a "fail-safe" rally, you rarely realize you have made a mistake until you reach the checkpoint and see your score.

## Summary

### The Start

- Register early and pick up the rally instructions.
- Set your watch to the official time.
- Read the instructions carefully and ask questions.
- Prepare to run the Odometer Leg by driving to the start of the rally and noting your odometer reading.

### The Odometer Leg

- Note your odometer reading at the start of the rally.
- Follow the instructions to the end of the ODO Leg.
- Note your mileage at the end of the ODO Leg and find a good place to pull off the road.
- Determine when you must leave the END ODO (from the rally rules or instructions).
- Compute your Odometer Calibration Factor (yours/official) and adjust all official mileage and speeds.
- At the proper time, leave the END ODO, driving at the assigned speed.

### Course-Following -- at each intersection

- If the next route instruction is referenced to a mileage and you are at that mileage, execute the instruction.
- If the next instruction is applicable and does not follow the main road, execute the instruction.
- Continue on course via FLR or ONTO.
- Continue straight.

### Open Controls (Checkpoints)

- Drive beyond the checkpoint car and pull off the road.
- Take your score card back to the checkpoint car.
- Get your departure time and leg data slip from the crew.
- Proceed near the outmarker and pull off the road.
- Locate the next instruction to execute from the leg data slip.
- Read any additional instructions.
- Leave when your departure time arrives.

### DIYC Controls

Note your odometer reading at the start of the DIYC.  
Note your odometer reading at each speed change.  
Note any pauses or gains specified in the route instructions.  
At the end of the DIYC, compute the elapsed time based on your odometer readings.  
Compensate with your Odometer Calibration Factor.  
Add any pauses and subtract any gains from the elapsed time.  
Enter the elapsed time for the DIYC on your scorecard.  
Determine when you must leave the DIYC (from the rally rules or instructions).

Information for this article was borrowed from rally articles written by Mario Barbacci Richard A. Lerner, Barbara J. Staudt, and Chuck Weinstock.