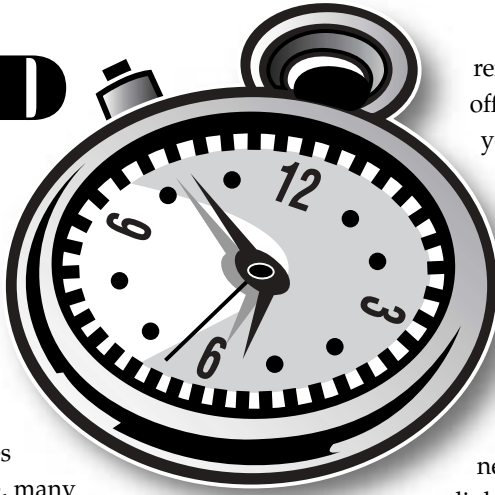


Basic TSD “Stock” Rallying

By Dennis Blevins



remember, the first rule is “don’t go off course”. It doesn’t matter how well you can keep time or calculate time-to-travel-distances if you’re on the wrong road!

Prepare ahead of time.

Register early, arrive early. Make sure your car is serviceable and topped up with fuel, oil, and coolant. (And make sure that you are relieved of excess liquids!) Basic needs are pens/pencils, at least one clipboard for the navigator and hopefully another mounted for the driver to use

Back when our little British cars were new, one of the popular weekend pastimes was road rallying. There was, and still are, many different types of rallies put on. The most basic were TSD (time, speed, and distance) events with “stock” equipment on the car, namely, the speedometer, odometer, and a time-piece. As competitors tried desperately for better and better scores, all kinds of devices were developed to assist in calculating perfect leg timing as you followed the course. These included standard slide rules, calculating wheels and drums (that work much like a slide rule), and variably adjustable speedometers and odometers. This has evolved to the point today that specially designed computers tied directly to one of the non-driven car wheels are used by the most competitive teams. Typically, these “equipped” teams can easily expect to run a 200 mile event with close to two dozen checkpoints with less than 10 one-hundredths of a minute error over the entire event!

Unfortunately, such fierce, precise competition has caused the “amateurs” to leave the sport to literally a couple of hands full of teams across the country. Fortunately, some local clubs such as our MGs of Baltimore neighbors still put on some events that all of us can compete in and have some fun. It does take a bit of work, but here are some pointers.

I. GENERAL ITEMS

Remember, the point of a time, speed, distance rally is to follow a course laid out by the rally master as close as possible to as the exact same time, speed, and distance as he set it up. There will be checkpoints along the way to see (score) how you are doing. Too fast is as bad as too late. Each leg (between each checkpoint) is scored separately - If you’re late on one leg, don’t try to make it up on the next one. Rallying is like golf, the lowest score wins, and like golf, it takes practice and preparation to win. And

• “hands free” - (more on this later), a simple four-function calculator (unless expressly prohibited to adhere to true “historic” conditions), and a time-keeping device that can be set to match the rally master’s clock. Currently, most rallies are timed to the one-hundredth of a minute instead of seconds. This makes it easier to score the rallies. • Unfortunately, unless you have clock or watch that keeps time in hundredths (and most of us don’t), a good thing to have is a sheet of paper with a table that converts seconds to hundredths and vice-versa (1 second = .016, 2 seconds = .033, 3 seconds = .05, 15 seconds = .25, etc.) Decide who is going to do what - on-course arguments never add to the fun, and divorce lawyers are rarely present at the finish. • Plan to work as a team and divide the duties. Ideally, for “stock” (or historic) class rallies, the navigator should be able to devote the majority of his attention on keeping track of where you are “time-wise”, this means that he’ll be spending a lot of “heads down” time with the calculator and pencil (Dramamine often becomes a necessity). That

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also means that the driver will need a set of route instructions placed somewhere where he can glance at them to follow the course. Often a clipboard can be placed near the center of the dash for this purpose. The majority of rally masters will supply each team with two sets of the route instructions just for this purpose. When not required to keep up with the math, the navigator should assist the driver in making sure that course following directions and speed changes are made at the proper times.

Once you are registered, you should obtain a copy of the rally's "General Instructions" (GIs). READ THEM. The GIs define the rally; what is expected, what abbreviations need defined, what specific "rules" apply (for example, oftentimes signs on the left hand side of the road are to be ignored, unless explicitly stated otherwise in the "Route Instructions" (RIs)). Now is the time to set your timepiece to match the rally master's "master clock". You will be given a car/team number. The Route Instructions will be written with all key times given for the imaginary "car zero". If "car zero" is to start the rally at 11:00 and you are car #1, you will be starting at 11:01. If "car zero" is to begin the timed portion of the rally (after the beginning odometer check) at 11:45, and you are car #21, you will begin at 12:06.

At some predetermined amount of time before each team's start time, you will be given your set(s) of route instructions. This is done so that no one team has the RIs for a longer period of time before they start than any other team. You should be given your RIs with plenty of time to review them; highlighting speed changes, possible delays (generally allowed for traffic signals, etc.), any untimed sections (free zones), etc. Highlighter markers are good for this. Be sure to note any pauses - they will be given in hundredths! - so "Pause 25" means

"pause 15 seconds". Hopefully, there will be enough time for the navigator to begin to calculate the perfect times required between each instruction.

Now you're ready to actually start the car and roll down the road!

Every rally begins with at least an odometer check.

Sometimes a "tire warm-up" section

is included before that. The purpose of these sections is to find out how close (or far off) your odometer is to the rally master's. These sections will cover 10 to 20 route instructions and a specified amount of miles (generally around 10) and you will be given plenty of time (30 to 40 minutes) to complete this. You will also be given a key time (car zero's time plus your car number) to actually begin the timed portion of the rally after completing the odo check. If allowed, many teams will leave the registration area early



and use all of their "wait time" at the end of the odo check. Be sure to zero (or note your mileage) when starting the odo run and note your ending mileage at the end of the check. Be sure to pull away from the end marker of the odo leg after you have recorded your mileage so that other teams can get their proper readings. Calculate your correction factor by dividing your actual mileage by the official mileage given on the RIs. For example, if your mileage was 8.45 and the official mileage was 8.1 miles, your correction factor is 1.043 (or 4.3%). You can use this factor now to match your odometer readings to the official mileages given on the RIs. Again, using the same example, if RI #18 says "12.8 miles, Turn Right", take 12.8 times 1.043 and you would expect to find the right turn at 13.35 miles by your odometer (as long as you haven't been off course!). Typically (but not always) your odometer and speedometer work in tandem, if your odo runs short, your speedometer runs slow too. If you know from experience that this is true for your car, using the same example correction factor of 1.043 and the RI says to travel at 35 mph; you will have to run at 36-37 mph to stay on time. Usually, since the tire warm-up and odo sections are not timed, the navigator can use this driving time to work ahead on calculating arrival times. The driver should zero the odometer and be prepared to leave the start marker at your designated time.



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When you start, get up to the designated speed as quickly as possible and maintain that - many a first check point is just three tenths of a mile down the road around that first blind turn!

II. TIME-TO-TRAVEL-DISTANCE CALCULATIONS.

On a straight-forward TSD rally each RI will give the total elapsed mileage (from the last time that you were told to zero your odometer), the delta mileage (mileage since last instruction), possibly a diagram of the intersection, and an instruction (or instructions) to follow. The speed that you are to travel is either given, or assumed from the last time that you were given a speed change. For example:

| RI# | MILEAGE | DELTA | NOTES | INSTRUCTION |
|-----|---------------|-------|---------------|--|
| 14 | 10.08 0.00 | .22 | ETZ CAS 45 | End Odo leg at “MILE 14”. Zero ODO. Start section 1. Keytime 04:00.00 |
| 15 | 1.00 | 1.00 | CAS 30 | R at “WHITES BOG VILLAGE” |
| 16 | 1.45 | .45 | CAS 20 | R at T |
| 17 | 1.92 | .47 | | L at first side road |

RI 14 tells us that we’re at the end of the odo check. We note our actual mileage (10.5, for example) and calculate our correction factor ($10.5 / 10.08 = 1.042$). We’re car #15 so our out time is 4:15. We’re going to go at 45 mph when we leave (47 mph, if we use the correction factor). Using our correction factor we can calculate that we should expect to come up on the “T” intersection for RI 16 at 1.51 miles on our odo and the side road for the left hand turn for RI 17 at 2.00 miles. We can calculate the time it takes to make each turn by using the formula $(\text{Distance} \times 60) / \text{speed} = \text{minutes}$. So the first mile for instruction #15, at 45 mph will take 1.33 minutes (add that to our start time of 4:15 to get 4:16.33), .45 miles for RI #16 at 30 mph = .90 minutes (4:17.23), .47 miles for RI #17 at 20 mph = 1.41 minutes (4:18.64 or 4:18:38 seconds). On RI 18 (not shown) we’d still be traveling 20 mph.

If a “pause” is included at any point, just add that in to your calculations. Remember, pauses are included to allow you time to get safely through a special situation, such as a traffic signal. If the light is green when you reach it and you can go right through, and you’ve been running on time, the driver may need to pull over and actually pause; if it takes you longer to get through the light than is allowed, you may have to run at a higher speed to get “back on time”. Regardless, you always add in the noted pause time to your calculations.

Sometimes the rallymaster will throw in a DIYC - “do it yourself checkpoint”. You are to calculate when you should have arrived there (since it will be marked in the instructions you can actually drive faster and get there early). Do this by using the calculations above for all of the RI’s from the leg start to the ending point and add the total time to your start time for the leg. Remember to add in any noted pauses (and be sure to do that in hundredths). Usually your out-time from a DIYC will be some amount of minutes added to your calculated arrival time.

Now you know how to calculate your perfect time through a straight-forward TSD rally. Since they’ve been presented in the same format, following the actual driving directions should not be a problem for those of you that have been running LANCO’s “Poker Runs”; now you’re just adding in the timing calculations to achieve a lower score. All it takes from here is practice; and a rally master who is not too sadistic! The first time you’ll get frustrated, but like good wine, you’ll get better with age.

