

# Co-Driving *La Carrera Panamericana*

## Introduction

Co-driving (navigating) La Carrera is an enormous amount of fun. I've had the good fortune to compete in three events (2001 – 2003) in a Porsche 356 and 912. I've worked each event with two great drivers, each with different needs and styles.

La Carrera navigation is not difficult, but it is daunting to novices. I remember coming out of the navigator's meeting in 2001 rather shell-shocked. Fortunately, kind souls such as Andy Prill and Forrest Hatch took pity on me and gave me some help. In 2002, I'd forgotten everything I'd learned the year before, but after a few minutes in the navigator's meeting it all came back and I was actually able to help some novices get squared away. In 2003, I was able to help about 8 or 9 navigators, and decided to write a quick guide with examples – something that I would have benefited from that first year.. I hope that others can build on this rough document, and that even this preliminary version will reduce the number of navigators leaving the meeting with a perplexed and frantic expression on their face.

## The Time Card

The time card is one of two critical documents you will have during the event. A time card looks like this:



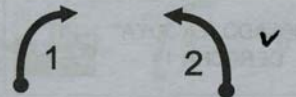
La Carrera Panamericana 2003 DIA 2, OAXACA - PUEBLA

PILOTO:	B FALLON			AUTO #	253																																										
NAVEGANTE:	✓ SIMONSON																																														
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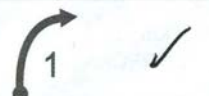


Only La Carrera officials may write on your time card, except for the designated areas (which I've lightened on this image) in which you are required to write certain information. You will get a new time card each day.

### The Route Book

The other critical document is your route book; take good care of your route book! A page on the route book is divided into a top section on the first page of any stage (speed or transit) and six columns. The first column (highlighted below) is the *partial* column, the distance (in kilometers) from the preceding instruction. Most TSD rallies I've been on refer to this as a *delta* distance.

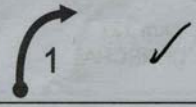
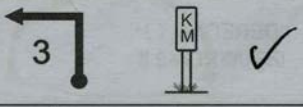

62 Oaxaca - Puebla Saturday, Day 2, Section 3					
PARTIAL	SIGNS	ACCUM	INDICATIONS	RETRO	REF
0.150		7.710	RIGHT 1 !	1.850	34
0.250		7.960	LEFT 3 !!! km 123	1.600	35
0.380		8.340	RIGHT 1 ! LEFT 2 !!	1.220	36

The second column is labeled *signs*, and it is the “gods-eye view” graphic of the instruction on the road. This is where I check off each instruction as we execute it, to keep track of where we are in the book. This column shows you what you are about to do, e.g., the first row in this example has you taking a *severity-1* right turn at kilometer 7.71, 0.15 km from the previous instruction.




62 Oaxaca - Puebla Saturday, Day 2, Section 3					
PARTIAL	SIGNS	ACCUM	INDICATIONS	RETRO	REF
0.150		7.710	RIGHT 1 !	1.850	34
0.250		7.960	LEFT 3 !!! km 123	1.600	35
0.380		8.340	RIGHT 1 ! LEFT 2 !!	1.220	36

Turns are shown as right or left with (in most cases) a severity rating. No severity rating number (e.g., just a “right”) means an easy turn. A “1” is a bit more difficult, a “2” much more difficult, and so on, all the way to “4” (very hard turn, hairpin). For one of my drivers, I call these as they are (e.g., “one-right”) in the book; the other driver prefers no numbers, just verbal descriptions (e.g.) “easy right”, “mild right”, “moderate right” through to “very hard right”. The third row in this example has two curves; I’d normally call this “one-right *into* two-left”. This means these turns are so close as to be linked. Some instructions have as many as four linked turns; I usually give the driver only two at a time. The official’s logic in writing turns as linked or not-linked often escapes me, as there are instructions separated less than 150 meters (and in reality, less than 75 meters) that are not linked, and other instructions for linked turns that are really separated by quite a distance. So as co-driver, you need to keep an eye on the route book and all of its columns, the odometer, and the road. Your eyes and your occipital lobe will get a good workout.




The third column is the accum (accumulated distance) column. This is the total distance, in kilometers, since the last T, A, or D control at which you zero’d your odometer. The value in column three, row three is the sum of the values in column three, row 2 (the previous accum distance) and column one, row three (the current partial distance).

62		Oaxaca - Puebla		Saturday, Day 2, Section 3		
PARTIAL	SIGNS	ACCUM	INDICATIONS	RETRO	REF	
0.150		7.710	RIGHT 1 !	1.850	34	
0.250		7.960	LEFT 3 !!! km 123	1.600	35	
0.380		8.340	RIGHT 1 ! LEFT 2 !!	1.220	36	




The fourth column is labeled indications, and is a verbal form of the instruction, and may also contain additional information (e.g., a ravine on the inner edge of the corner, possible rocks in the road, rough road, etc.). It is easy to focus on just columns two and three, and miss important information in column four. Since column four can contain important information, read through the book the night before and use a yellow or pink highlighter to mark columns 1-3 if column 4 contains information you think is critical for your driver. That way you won’t miss it during the “heat of battle”.

62		Oaxaca - Puebla		Saturday, Day 2, Section 3	
PARTIAL	SIGNS	ACCUM	INDICATIONS	RETRO	REF
0.150		7.710	RIGHT 1 !	1.850	34
0.250		7.960	LEFT 3 !!! km 123	1.600	35
0.380		8.340	RIGHT 1 ! LEFT 2 !!	1.220	36

The fifth column is labeled retro, and is simply a countdown distance to the end of the section. While this can be helpful (e.g., we've got 3 minutes and 12 seconds to go the final 4.68 km) in practice I've rarely used it.

62		Oaxaca - Puebla		Saturday, Day 2, Section 3	
PARTIAL	SIGNS	ACCUM	INDICATIONS	RETRO	REF
0.150		7.710	RIGHT 1 !	1.850	34
0.250		7.960	LEFT 3 !!! km 123	1.600	35
0.380		8.340	RIGHT 1 ! LEFT 2 !!	1.220	36

The final column in the route book is the ref column, and is simply a sequential instruction number for that book section on that day.

62		Oaxaca - Puebla		Saturday, Day 2, Section 3	
PARTIAL	SIGNS	ACCUM	INDICATIONS	RETRO	REF
0.150		7.710	RIGHT 1 !	1.850	34
0.250		7.960	LEFT 3 !!! km 123	1.600	35
0.380		8.340	RIGHT 1 ! LEFT 2 !!	1.220	36

The top section of the first page of any control where you zero your odometer



looks something like this:

9		Tuxtla Gutiérrez - Oaxaca		Friday, Day 1, Section 1	
<b>TUXTLA GUTIERREZ - OAXACA</b>				Starting Time	
<b>SECTION: 1</b>	<b>LENGTH: 7.800 km</b>			New Time	
From: Starting Arch at the Belisario Dominguez Blvd. To: km 144 Tuxtla - Ocozocoautla bypass <b>First car starts at 8:00</b>				Section Time	00:10' 00"
Special Stage: 0.000 km	Transit: 7.800 km			Accumulated Time	

I've lightened three important areas. First, in the upper-right corner, is the place where you write in your starting time, as given to you by officials. Note also below that, the "section time". This is the amount of time you have to complete this section, including any speed sections, gas stops, transits etc. In the lower-left you have the distance in this section for special (speed) stage and transit. In this example, you have no special stage, but you do have a transit of 7.800 km, and you have 00:10'.00" (ten minutes, zero seconds) to complete it. Of course always make sure you are on the right section (duh...) and the night before, be sure to check that all the pages for the day's sections are in your book (the printer can make mistakes!) and that everything is legible and makes sense. Also, do be aware that there are mistakes – this year a hard right was labeled as an easier left (or was it the other way around?) that you won't catch until you are on the road.

I usually wear nomex driving gloves during speed stages. I like the extra safety. However, it can be difficult to turn pages, as the gloves just don't grip well consistently. So I've taken to folding over about an inch of each right-hand page. These pop up and provide a great little handle, so I can be sure to get each page separately – you do not want to turn to the wrong page during the event, and especially not during a speed stage. Alternatively, you can crumple pages and get a bit better grip.

## **Control Types**

You will encounter six (6) types of controls in La Carrera.

Your first control type is the **T control**. This is the starting arch; it is usually a "symbolic start", meaning you don't have to leave at your exact starting time, nor in your correct starting order. Be careful so as to not block a competitor that should be leaving ahead of you, as he may be trying to leave on time. It is also unwise to leave late, because you will need to make up any lost time. We usually left a bit early, and would often use the extra time to stop and gas up at a Pemex station. Also, it can be a bit complicated getting out of some of the Mexican cities, so having a little time in hand to accommodate any off-course excursions is a good thing.

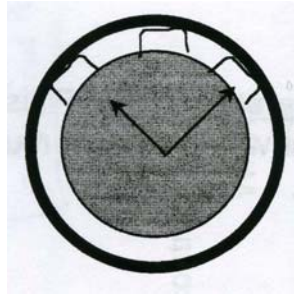
At the T control, you'll stop and wait to be flagged off. You may get some last-minute updates from an official. There are usually a lot of spectators crowded around, and these morning starts are usually showy and popular.

The morning T control/arch departures are usually mass confusion. They're held in cramped (but beautiful) *zocalos* (town squares) with competitors crowded together. The first thing to do, after finding a reasonable parking place for the car, and sending your driver off to the head, is to find the La Carrera officials near the arch. There you want to do three things.

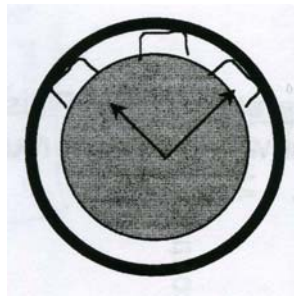
1. **Get your timecard for today's sections;** one of the officials will have it for you. It will have your car number and starting time on it. Hang on to this – do not lose it!. Write your driver's name in the appropriate slot, and your name in the navigator slot. Don't write anywhere else (but see #3 below) on the time card.
2. **Synchronize your watch, to the second, with the official time on the official clock.** The official clock is either in an official van near the starting arch, or it is hanging around the neck of the official who gave you the time card.
3. **Get the official starting order list.** The officials may have sheets to hand out, or you may have to copy from a posted list. You need the car numbers (and I recommend the car model as well) as you have to know – and write in the designated area on the time card – the 5 cars preceding yours in starting order, and the 5 cars following yours (in order of course).

Now go back to the cars, walk around and locate at least the 2-3 cars ahead of you and a 2-3 cars behind you (if you're really ambitious locate all 5 before and after your starting position). You want to be able to recognize these cars on the road and at the rest of the controls for today's sections. Go back to your car and relax. Keep your driver happy. Make sure your rally odometer (if you have one) is set up correctly. Find a *sanitarios* (you don't want to need one during a stage). Don't let your route book out of your hands. Have your driver get in line for the starting arch when it is getting near your start time (You did keep track of your driver, right? They tend to get lost when left to their own devices, attracted by all the shiny pretty things...).

After the leaving T control, follow route instructions to complete the day's first transit. A **Z control** is an "end-of-transit" control. You need to enter a Z control at an exact time (we'll go over that a bit later). There will usually be several cars waiting outside the control zone. Try to fit into the line of cars in the correct order. Leave space for the cars you know need to be ahead and behind you if they are not already there (i.e., try to maintain car start order). Three signs mark Z controls. The signs are may be located on the right-hand side of the road, but are more commonly on the centerline of the road. They are about 3 feet high by 2 feet wide white signs. The first sign will have a yellow clock face on it.



This is the entry to the control zone. **DO NOT ENTER** the control zone (don't pass the sign with the yellow clock) until you are ready to be timed, and don't block other cars. Remain by the right side of the road outside the zone (try to maintain correct car order) until about 30-60 seconds prior to your calculated, correct arrival time. Once you enter the control zone, do not reverse your car, and do not stop and work on your car. Proceed or wait as necessary so you can reach the second sign at your correct arrival time. This second sign is another clock face, but red rather than yellow.



Stop at this point and hand your card to the official. He or she will mark your in-time. You should arrive exactly on time, but you can be up to 59 seconds late before incurring a penalty. Do **NOT** arrive early – there are much bigger penalties for an early arrival than for a late arrival. Once you get your card back, proceed past the third sign – a black circle with diagonal lines through it –

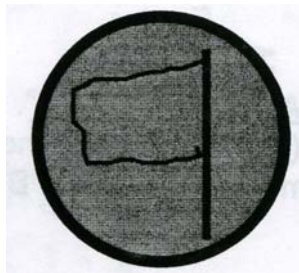


which marks the end of the control zone. Do not stop between the red clock and black circle signs! If your car quits, get out and push it past the black circle sign before trying to fix it.

If you are in a line of cars waiting outside the control zone so you can arrive on time, and find that you are blocked, or that there are lots of cars ahead of you, you can unbuckle, get out of the car, and run up to the official, arriving on time by foot and requesting your arrival time on the card.. This is acceptable, and necessary if some people have not paid attention to maintaining car order.

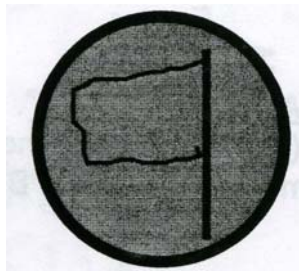
Once past the Z control, you usually need to prepare for an A control. Get your suits zipped, snapped, and velcro'd closed, helmet on, gloves, etc. on. Snug your belts down tightly. Failure to do any of this may result in huge penalties. If you have a rally odometer (Terratrip, Alfa, Timewise), zero it and put it in park, and get in line for the A control you will shortly encounter.

The **A control** (marked by a sign with a red flag)



is the beginning of a *velocidad* (speed stage). When you come up to the line, you'll stop and hand your time card to the official (wait to get it back!). He or she will write a start time on it. While they are doing that, take your rally odometer out of park (or have the driver zero the car's original odometer if you don't have a rally odometer), get your card back from the official. Quickly write the start time in the appropriate box in your route book, and stow the time card, and get set to start calling the stage for your driver. You've got at most 15 seconds from the time you get your card until you have to start. If you are timing your stage with a stopwatch, start the watch as the official flags you off. Make sure your driver doesn't start before being flagged off by the officials.

The **B control** (a sign with a green flag)





marks the end of a speed stage. Between A and B, you and your driver are going as fast as you can. As you cross the B control (do **NOT** stop!) try to get a lap split with a rally odometer/clock unit, or stop your stop watch. It is useful to have a time to compare to that recorded by the officials (they can make mistakes). Do **NOT** zero your odometer. Slow your driver down, as you are approaching a C control where you will stop. Also, it is embarrassing to crash in a non-competitive part of the event, and it is good to cool the brakes and engine a bit.

Following the B control is a **C control**,



usually within a few hundred yards. At the C-control, stop and hand in your time card. The official will enter your time on your card and give it back. Check the “official” time against your time. Note any discrepancies on the **BACK** of the card. Proceed until you are at least past the next sign (a black circle with diagonal stripes). If you have no more nearby speed sections, you can take off your helmets, and loosen your suits. You now need to follow route instructions to get to the Z (or D) control that follows, and need to arrive on time as before.

A **D control** is either a service break (a chance to fuel the cars, fix them, and a break for the driver and co-driver) and may also be a display of the cars for a town along the way. You do not need to enter or leave a D control on time, but it is a good idea to avoid leaving late. **Be sure you check in with the officials!** They will mark your time card to verify you did make an appearance at the control. Also, ask if the time allowed at the D control is as in the route book – it can change. Most competitors leave early to ensure they are not late for the following control (which is usually a Z control).

### ***A day at the races.***

So how does this all fit together? Here's a typical race day, specifically day 2 of the 2003 edition of *La Carrera Panamericana*. The order of controls for that day was

T,Z,A,B,C,Z,A,B,C,D,Z,A,B,C,Z,A,B,C,Z,A,B,C,D,T,Z

The following figure shows our partially completed time card for that day. Note that it does not show C controls (point at which you stop and pick up your time for traversing the preceding A-B control pair), and it does not show the final Z control (which is really just the finishing arch).

PILOTO:		B FALLON		AUTO #		253	
NAVEGANTE:		J SIMONSON					
SECCIÓN	TIEMPO DE SECCIÓN	CONTROL TIPO	TIEMPOS H : M : S				
1	0:35'00"	T	8:30:30				
		Z	9:06:50				
2	0:25'00"	A	9:04:30				
		B	25:49				
		Z	9:34:30				
3	0:30'00"	A	39:30				
		B	46:42				
4	1:15'00" (SERVICIO)	D	Firma control				
5	0:20'00"	Z	11:44:31				
		A	46:00				
6	1:35'00"	B	54:15				
		Z	1:21:41				
		A	23:00				
7	0:50'00"	B	37:54				
		Z					
		A					
8	1:40'00"	B					
		A					
9	1:15'00"	T					


  

AUTOS QUE ARRANCAN ANTES		CARS STARTING BEFORE	
5	317	JAG	
4	277	MORRIS	
3	106	STUDE	
2	361	CHEV	
1	409	BUICK	
CARS STARTING AFTER		AUTOS QUE ARRANCAN DESPUES	
	367	FORD-1	
	111	BUICK-2	
	275	MORRIS-3	
	119	FORD-4	
	433	FORD-5	





There are only three places you (the navigator) can write on this time card. First, you need to write in the names of the driver (*piloto*) and co-driver (*navegante*). Second, you need to write in the car numbers (in order) of the 5 cars ahead of you in the official starting order and the 5 cars behind you. I like to add in the car type as well, to help me identify them. The third place on the card on which you can write is the back – for comments and complaints, notations of problems (e.g., being blocked at a control or on the road, timing deviations, etc.). The time card lays out the day’s schedule nicely. I always go through the route book and verify that the time card and route book show the same duration for each section. If there is a discrepancy, bring it to the attention of an official immediately.

When you get your card at the arch in the morning prior to the start, it will have your starting time entered next to the initial “T” control’s slot. In this example, our starting time was 08:30.30. Copy that value into your route book as in the following figure. This time is your official “out time”, but is not necessarily the time you actually pass through the arch. However, your calculations are based on this number, not the actual time you leave.

<b>OAXACA - PUEBLA</b>		Starting Time	<b>8:30.30</b>
<b>SECTION: 1</b>	<b>LENGTH: 37.400 km</b>	New Time	
From: Starting Arch at Oaxaca's main square To: km 159+350 Oaxaca - Huajuapán		Section Time	00:35' 00"
<b>First car starts at 8:00</b>		Accumulated Time	
Special Stage: 0.000 km	Transit: 37.400 km		

PARTIAL	SIGNS	ACCUM	INDICATIONS	RETRO	REF
0.000		0.000	<b>STARTING ARCH</b> MAIN SQUARE OF OAXACA (AV. HIDALGO)	37.400	1

While I'm sitting waiting to go, I can also calculate the time I need to arrive at the next Z control. In this example, I know I am leaving at 08:30.30, and that the section time is 35 minutes. Adding 08:30.30 + 00:35.00 I get 09:05.30. So I know I need to be 37.4 km down the road at the Z control at that time. Flip to that page of the route book, and write that down:

PARTIAL	SIGNS	ACCUM	INDICATIONS	RETRO	REF
0.100		37.100	Road sign "HUAJUAPAN ↑ "	0.300	33
0.300	  	37.400	<i>37.56</i> <b>"Z" CONTROL</b> <b>MANDATORY STOP</b> HAND TIME CARD TO OFFICER	0.000	34



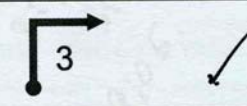
DISTANCE TO THE NEXT "A" CONTROL 70 m

*target 8:30.30*  
*35.00*  
*9:05.30*

*F: 9269.4*  
*control be reset to 9225*

I've also noted here some information related to the correction factor for my rally odometer; you can ignore that for now. I also periodically note what the odometer reads (in this case 37.58) next to the official measurement (in this case, 37.400). I'm looking for drift in a constant direction. The distance measurements in La Carrera are usually good, but I've noticed at times my odometer don't always agree, in that sometimes I'm high and sometimes I'm low; if that is occurring, then their measurements are probably inconsistent. By the way, in the USA, don't trust typical mile markers on the highway – they are put it close to the correct location, but usually not quite the exactly correct spot. The highway crew tends to put them where they can drive them in the easiest. It is the same in Mexico for kilometer markers.

So now that you've made it to your first Z control (you didn't enter the area between the yellow and red clock signs too early, did you?) gotten your arrival time entered by the officials (check it against your arrival time indicated on your clock), get ready for your first A control and speed section. Helmets on, zero the odometer at the A control, etc. When you get your card back with the starting time, quickly jot down the start time

51		Oaxaca - Puebla		Saturday, Day 2, Section 2	
<b>OAXACA - PUEBLA</b> <b>SECTION: 2</b> <b>LENGTH: 26.750 km</b> From: km 159+420 Oaxaca - Huajuapán To: km 132+650 Oaxaca - Huajuapán Special Stage: 22.070 km      Transit: 4.680 km				Starting Time	9:09.30
				New Time	
				Section Time	00:25' 00"
				Accumulated Time	
PARTIAL	SIGNS	ACCUM	INDICATIONS	RETRO	REF
			ALTITUDE: 1,734 m LATITUDE: 17° 17.090' LONGITUDE: 96° 54.614'		
0.000		0.000	<b>"A" CONTROL (HELMETS)</b> START OF SPECIAL STAGE LEFT	21.310	1
0.450		0.450	<b>RIGHT 3 !!!</b>	20.860	2

in the appropriate space in the route book, and stash your time card. Note the check marks next to each instruction – I do that to help keep track of which instruction I'm on.

So our start time for this section is 09:09.30, and I've got 25 minutes to get through the speed section and the following transit. Once we get through the speed section, I'll take a few seconds to calculate the correct arrival time (09:09.30 + 00:25.00, or 09:34.30) and write it down in the route book by the




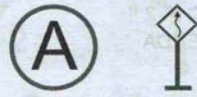
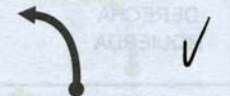
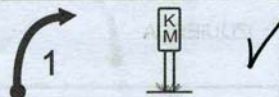
appropriate Z control:

58		Oaxaca - Puebla		Saturday, Day 2, Section 2	
PARTIAL	SIGNS	ACCUM	INDICATIONS	RETRO	REF
0.120		20.950	RIGHT 3 !!! LEFT VILLAGE "EL MARQUEZ "	0.360	82
0.360		21.310	<i>2.70.30</i> <i>A: 2.5</i> "B" CONTROL END OF SPECIAL STAGE km 137 LEFT  ALTITUDE: 2,265 m LATITUDE: 17° 12.862' LONGITUDE: 97° 01.210'	0.000	83
0.130		21.440	RIGHT 2 !! LEFT	0.000	84
0.150		21.590	RIGHT LEFT	0.000	85
0.260		21.850	LEFT	0.000	86
0.220		22.070	"C" CONTROL MANDATORY STOP	4.680	87
0.220		22.290	km 136	4.460	88
1.980		24.270	km 134	2.480	89
1.950		26.220	km 132	0.530	90
0.530		26.750	"Z" CONTROL MANDATORY STOP	0.000	91
DISTANCE TO THE NEXT "A" CONTROL 60 m					
END OF SECTION					

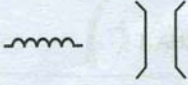
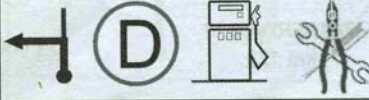
*Handwritten notes:*  
 4:04 9:09.30  
 0:25.00  
 9:34.30



In this section, the transit from the C control to the Z control was not very long, about 4.68 km. Notice that I wrote in my B control readings for time (09:25:48) and distance (21.30) to compare to the official values. This is a good practice. The officials can make a mistake, especially if two cars arrive at the B control at about the same time. The Z control is handled as before. Check your distance against the official distance, and in this case, prepare for another speed section.

59		Oaxaca - Puebla		Saturday, Day 2, Section 3	
<b>OAXACA - PUEBLA</b> <b>SECTION: 3</b> <b>LENGTH: 38.480 km</b> From: km 132+730 Oaxaca - Huajuapán To: Service at Nochixtlán at the gas station on km 92 Oaxaca - Huajuapán (km 178 of the Oaxaca - Tehuacán toll road) Special Stage: 10.080 km      Transit: 28.400 km				Starting Time	9:39:30
				New Time	
				Section Time	00:30' 00"
				Accumulated Time	
PARTIAL	SIGNS	ACCUM	INDICATIONS	RETRO	REF
			ALTITUDE: 2,287 m LATITUDE: 17° 14.033' LONGITUDE: 97° 02.768'		
0.000		0.000	"A" CONTROL (HELMETS) START OF SPECIAL STAGE	9.560	1
0.110		0.110	LEFT	9.450	2
0.100		0.210	RIGHT 1 ! km 131	9.350	3

So our start time was 09:39.30. Again, get the card back from the official, quickly (remember, you're off on a speed section in less than 15 seconds!) jot the start time in your route book and stow the time card. At the end of the speed section, once you've cleared the C control area, calculate your correct arrival time at the subsequent Z control – except in this case, you will first arrive at a D control, at 09:39.30 + 00:30.00, or 10:09.30. It is not critical to enter the D control on time; you can be early or late. Then you need to add in the time for the service stop (01:15 hours in this case, or 11:24.30), and the transit time allowed from the D control to the Z control (00:20.00). This results in an on-time arrival of 11:44.30 at the Z control. At the service stop, make sure you and your driver hit the head, get a drink of water, and maybe a little snack. Make sure you check oil and other fluids, check to see you have enough gas for the next sections, tires have air, nothing is coming loose, etc.. You can leave the D control early, and it is a good idea to do so. You only need check in upon arrival, and at that time, make sure the duration of the service stop hasn't changed.

PARTIAL	SIGNS	ACCUM	INDICATIONS	RETRO	REF
7.350		38.160	SPEED REDUCTOR BRIDGE "LA COMISION"	0.320	45
0.320		38.480	LEFT TO THE SERVICE "D" CONTROL PEMEX (PREMIUM)	0.000	46

APROXIMATE TIME FOR SERVICE 1:15

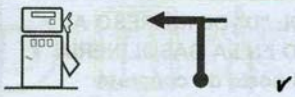

9:30  
 30:00  
 10:00  
 11:15.00  
 11:24.30  
 0:20.00  
 11:44.30  
 bygn  
 service  
 transit  
 2 target

The D control departure section in the route book follows. Note the "starting time" entry I made.

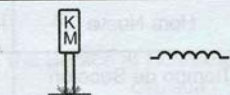
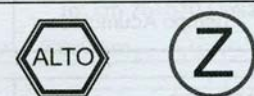


65		Oaxaca - Puebla		Saturday, Day 2, Section 5	
<b>OAXACA - PUEBLA</b>				Starting Time	11:24, 30
<b>SECTION: 5</b>		<b>LENGTH: 17.850 km</b>		New Time	
From: The Service at Nochixtlán at the gas station on km 92 Oaxaca - Huajuapán				Section Time	00:20' 00"
To: km 75+870 Oaxaca - Huajuapán				Accumulated Time	
Special Stage: 0.000 km		Transit: 17.850 km			






  

PARTIAL	SIGNS	ACCUM	INDICATIONS	RETRO	REF
0.000		0.000	EXIT THE GAS STATION LEFT TO HUAJUAPAN	17.850	1
0.900		0.900	BUMP TO THE LEFT TO HUAJUAPAN	16.950	2

Here is the route book section for our arrival at the next Z control (stop, hand in card, get official time entered, etc.).

66		Oaxaca - Puebla		Saturday, Day 2, Section 5	
PARTIAL	SIGNS	ACCUM	INDICATIONS	RETRO	REF
0.580		16.980	km 75 SPEED REDUCTOR	0.870	11
0.870		17.850	"Z" CONTROL MANDATORY STOP	0.000	12
DISTANCE TO THE NEXT "A" CONTROL 140 m					
<i>target 11:44, 30</i>					

You should be able to see by now that the calculations are not that difficult. Get set for your next speed section

67		Oaxaca - Puebla		Saturday, Day 2, Section 6	
<b>OAXACA - PUEBLA</b> <b>SECTION: 6</b> <b>LENGTH: 100.560 km</b> From: km 74 Oaxaca - Huajuapán To: km 92+770 Huajuapán - Tehuacán Special Stage: 12.410 km      Transit: 88.150 km				Starting Time	11:46.00
				New Time	
				Section Time	01:35' 00"
				Accumulated Time	
PARTIAL	SIGNS	ACCUM	INDICATIONS	RETRO	REF
			ALTITUDE: 2,169 m LATITUDE: 17° 31.976' LONGITUDE: 97° 20.950'		
0.000	 	0.000	<b>"A" CONTROL (HELMETS)</b> START OF SPECIAL STAGE km 74	11.810	1
0.060	 	0.060	SLOPE, STRAIGHT	11.750	2








Again, quickly enter the official start time and stow your time card. When you're clear of the following B-C control pair, do your calculations to get your arrival time at the next Z control (IMPORTANT: don't get so busy with calculations that you forget to give the driver route instructions!) which is 11:46.00 + 01:35.00 or 13:21.00.

Keep track of your progress along the route on transits; make sure you are not falling behind. While the officials assure competitors that there is "adequate" time on transits, we've found that you really have to hustle to cover the distance given terrain and traffic conditions. It is better to arrive early and wait outside the "yellow clock sign" zone than it is to arrive late in a flustered panic. You want your driver calm, focused and collected at the beginning of any speed stage.

Note also that I was not satisfied with my odometer correction factor and adjusted it when we had completed this Z control.

I could continue with the day's remaining sections, but, during the transit following the next speed section (section 7, which was criminally rough during the 2003 event) the oil sump drain plug on our car broke (yes, we had a stainless steel pan to protect the underside, and yes, we had the plug safety-wired) and we lost all of our oil. Despite shutting the car off within a few seconds of losing oil pressure, the bearings were cooked and the crank damaged. Our race was over for 2003. The remaining stages and calculations are pretty much as shown here, though, and if you understand these calculations and procedures, you shouldn't have any trouble with any La Carrera stages. At the final control of the day, the finishing arch, be sure to hand in your time card (they will keep it) and

get your finisher's medal. And on the last day, collect your frosty Corona!

72		Oaxaca - Puebla		Saturday, Day 2, Section 6	
PARTIAL	SIGNS	ACCUM	INDICATIONS	RETRO	REF
0.970	 	92.830	BUMPS (3) km 99	7.730	57
4.960		97.790	<i>98.09</i> km 94	2.770	58
1.860		99.650	BUMPS (3) (MILTEPEC)	0.910	59
0.910	  	100.560	"Z" CONTROL MANDATORY STOP	0.000	60

DISTANCE TO THE NEXT "A" CONTROL 230 m

*11:46.00*  
*1:35.00*  


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*target 12:81.00*  
*13:21.00*

*2h 21:21.41*  
*old finish 9269.4*  
*new finish 9241.0*  
*reset to 9242.0*



## **General tips**

There are a few key rules for teams running La Carrera

1. Have fun!
2. Shiny side up, greasy side down.
3. Stay on course.
4. Stay on time.

If you have a choice between staying on course and on time, stay on course. If staying on course means you might not keep the greasy side down, then don't make the heroic effort to stay on course. It doesn't matter if you're on course if you are upside down. For navigators especially,

1. **Never, ever let the route book out of your hands!** This is the best souvenir anyone can get, and it will grow legs and walk away if you set it down even momentarily. We've had our tire valve caps taken as souvenirs; a route book is to die for. Of course, if you don't have a route book, you're done with the event, so make sure the book is worth more to you than the souvenir hunters.
2. **Keep your driver happy.** Make sure he/she is fed, watered, drained, and comfortable.
3. **Call route instructions in a way that works for the driver.** Solicit feedback from your driver during breaks to improve your route instruction calling.
4. **What goes on in the car stays in the car.** You will make mistakes (it is easy to lose your place in the book on *mil cumbres*, for example). Your driver will make mistakes (overcook a corner, enter a control area too soon). Your tempers may flare, you may be frazzled. Remember, this is a seven-day, 3300km event. Mistakes are part of the noise; stay calm, appreciate your driver (and drivers, appreciate your navigator), and keep the signal-to-noise ratio good and you'll do well over the seven days.

Getting in and out of large Mexican towns can be difficult. The event organizers can be quite good about providing police to direct and even escort you, but don't count on it. The maps provided in the route book are lousy; so get your own good maps as a backup. Our experience has been that some maps look good until you actually try to use them. The parts of the cities you will be traveling through can be crowded, with heavy traffic and few street signs.

We have also found that unless the arch is at your hotel, getting to the hotel (and back to the start in the morning) is one of the most difficult parts of the event. If you get lost, the best thing to do is to flag down a cab, and let the cab driver know where you want to go. The navigator goes in the cab, with the driver in the

racecar following (make sure the cab driver knows the race car has to be able to follow). If you and the driver have cell phones or FRS radios, you can keep in touch (the race car and the service vehicle should probably have phones, so you can hook up in the event of a break-down during the event). The cab ride almost always costs 50 pesos, and is well worth the money. Tuxtla is the exception; it is quite easy to get around in Tuxtla. As for the remaining cities – well, I have a deep appreciation for the skills/knowledge of the Mexican cab driver.