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# The Perfect Corner: A Driver's Step-By-Step Guide To Finding Their Own Optimal Line Through The Physics Of Racing (The Science Of Speed) (Volume 1)



## Synopsis

For a preview of The Perfect Corner as well as our further motorsport education titles please visit us at [www.paradigmshiftracing.com](http://www.paradigmshiftracing.com) Kindle version available to paperback purchasers for \$0.99 through Amazon's Matchbook program. We will take you through a fun and intuitive lesson in the physics of racing and then we'll apply it as you learn to optimize your driving technique. We will look at real-world racetracks and provide an exact procedure to find the ideal approach all from the driver's-eye point of view. Regardless of your current level of driving experience, you can apply these techniques today and remove any doubt about what you should be doing on track for good. TOPICS COVERED INCLUDE: Line Theory Vehicle dynamics simplified Corner exit power application The myth of the super late apex Using the Euler Spiral on track Spiral variables Beginner vs advanced driver spirals Car and track effects on spiral shape The "artist rendition" line compared Circular entry compared Myth of the corner exit speed - A check The physics of trail braking Determining brake points The infinite straightaway problem Low vs high acceleration arcs Optimizing entry and exit together Advanced corners Full throttle into the spiral Braking or deceleration? Real world considerations The necessity of mistakes The driver's eye view Force direction real world examples Bonus section: Advanced racing physics

## Book Information

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## Customer Reviews

From [www.paradigmshiftracing.com](http://www.paradigmshiftracing.com) THE SCIENCE OF SPEED Welcome to the next generation of

racecar driver education. Many people don't realize, but for a given car, setup, and conditions there is in fact a singular optimum way to navigate a racetrack in the minimum time possible. A set of fundamental physics based rules exist that can guide you in your never-ending pursuit of speed. While a driver will never be able to achieve a truly perfect lap in reality, there is one place an actual perfect lap can exist. It can exist in the mind and give a driver a goal they can always strive to reach. That is what we teach in our program. A set of rules that take a physics based approach to finding an optimal solution on track and distilling it into an intuitive way of driving that racers at any level can begin to apply. You will no longer have to try to mimic the laps of faster drivers. Instead, you will be able to watch their laps and identify where they are losing time. You will have a solid goal to focus on as you reach ever closer toward perfection.

**HOW OUR PROGRAM WORKS:** Our Science of Speed Series books are designed to be an easy-to-follow guide that will provide all the tools a driver will need through their racing career. It is our primary goal to educate drivers to essentially become their own driving coach. The books can be approached in any order, but we recommend you start with *The Perfect Corner*. These can be purchased through our website or at major retailers such as . A purchase through our website will also gain you access to our Ask-a-Driver Coach service. You will be able to send in specific questions and we have racing coaches specializing in road course racing, karting, autocross, and sim racing who can answer. For those drivers looking for more personalized attention, we also offer further coaching services ranging from one-on-one calls to trackside coaching support. Please contact us for details and pricing.

--This text refers to an out of print or unavailable edition of this title.

To be quite honest, I found *The Perfect Corner* to be decently written. I also was interested in the unique way it intended to describe cornering. But I disagree with it being able to help a driver a step by step optimal line through any corner. In fact, I was so confused by the book's methods that I honestly have a hard time understanding what the author's intention was. The idea of using an astronaut to illustrate turning rates just ended up confusing me more and I continued to struggle with why the concepts were so confusing. Admittedly, the unique explanations of this book may be a challenge to get my head around because, even as the author admits, the book is written to turn common knowledge on its head. However, just because it's a novel approach doesn't mean it is better. In my case, I put it on the shelf immediately and tried to untie my confusion by looking at Carl Lopez's approach in *Going Faster*. I'm certain the author has the best of intentions but I fail to see how he improves the conversation from other efforts more credentialed drivers have made previously. The entire 30ish page book was, for me, a clunky way of rephrasing concepts that

Taruffi explained more eloquently in 1959. Buy the Taruffi book instead...and if that doesn't work, Fred Puhn or Carl Lopez.

This book explains the physics behind optimal cornering in a detailed but intuitive way, but the physics isn't simple, so be prepared to \*study\* the book and read it multiple times (I have a good physics background and substantial track experience). Based on the premise that minimizing lap time involves balancing both reduction of distance and increasing average speed, simply trying to increase speed at particular points on a track may be counterproductive and actually \*increase\* lap time. Instead, reduced lap time is achieved by always using the maximum force the tires are capable of generating in order to move the car in the desired direction, which generally means slowing the car during corner entry and accelerating the car down the track during corner exit. This is something you need to both visually see through spatial awareness and also feel kinesthetically - the 'Universal Cue'. The book of course expounds on these points in considerable detail. Overall, this is an outstanding and important book which takes a sophisticated physics-based approach to optimizing driving. But it's essential that readers also move on to the second and third books in the series, which pick up where this book leaves off and take the reader's understanding to a more comprehensive level.

Awesome read with Zero fluff! A logical approach to finding the fastest way around a track without the meaningless overly used rhetoric.

I'm on the fence about his book. It does present the complex topic of high performance driving from a different perspective and, for that, I applaud the author. As an advanced driver, I was able to piece together the concepts being presented. I think someone with limited experience is going to struggle. I don't think there's enough here to help a driver systematically progress without coaching and many hours of very expensive seat time, which is what the authors intent may be (to drive traffic to a coaching program). One thing missing are credentials. This author has very little in that respect. Maybe it's the old credo "Those who can do. Those who can't teach". The author seems to have some experience at the amateur level in Spec Racer Ford (SRF) but that's all I could find. There's no "About the Author" in the book, nor on and nothing about the author on his website. Curious. I have been able to directly apply techniques from other books on the subject. The content of this book is a little harder to translate into actions.

The concepts were hard to absorb in one reading. Requires going back over the text and graphics multiple times to achieve even a basic understanding.

I landed on the page for this book from one of the suggested items that was below another book I was looking at (can't remember which one) and the reviews were very compelling so I decided to take a chance since it was relatively inexpensive. I really enjoyed the book and felt like I got a lot out of it. On a recent track day at Roebling Road Raceway I was able to use the techniques in this book (and book 3 that deals with more complex corners like double apexes) to shave some time off in turns 4 and 5. Coincidentally? I also attended a Ron Zitza track walk that same weekend and, in two corners especially the line he recommended for more advanced drivers (the "Hurley" line through 4) was a match to the guidance in this book and in book 3. In turn 5 the guidance (from both the book and the track walk) had me driving a decreasing radius as I went through the turn, setting it up so that I could go full throttle by the apex. A lot of folks make a short straight through 5a/5b at this track and then late brake/rotate the car to power out, and I used to be one of them. Comparing my fastest laps using that approach with my fastest laps using the guidance from the book, I am .43 seconds faster in that corner following the approach in the book, and the corner felt much better as well. So far applying the principles in this book and book 3 (Perfect Corner 2) have been working out for me and I will continue to apply the ideas and guidance and see where it takes me.

The math-oriented driver will get a lot out of this, making it obvious why some commonly-held nuggets of wisdom are right and others are wrong.

The book provides methods to recognize when your line through a corner is not the correct line and how to work towards the correct line. When I took a bad line through a corner before reading the book, I recognized that the line was bad but didn't know what the correct line was. This book's instruction helped me interpret "this line is bad" into "alright, I need to do x,y, and z to fix it".

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