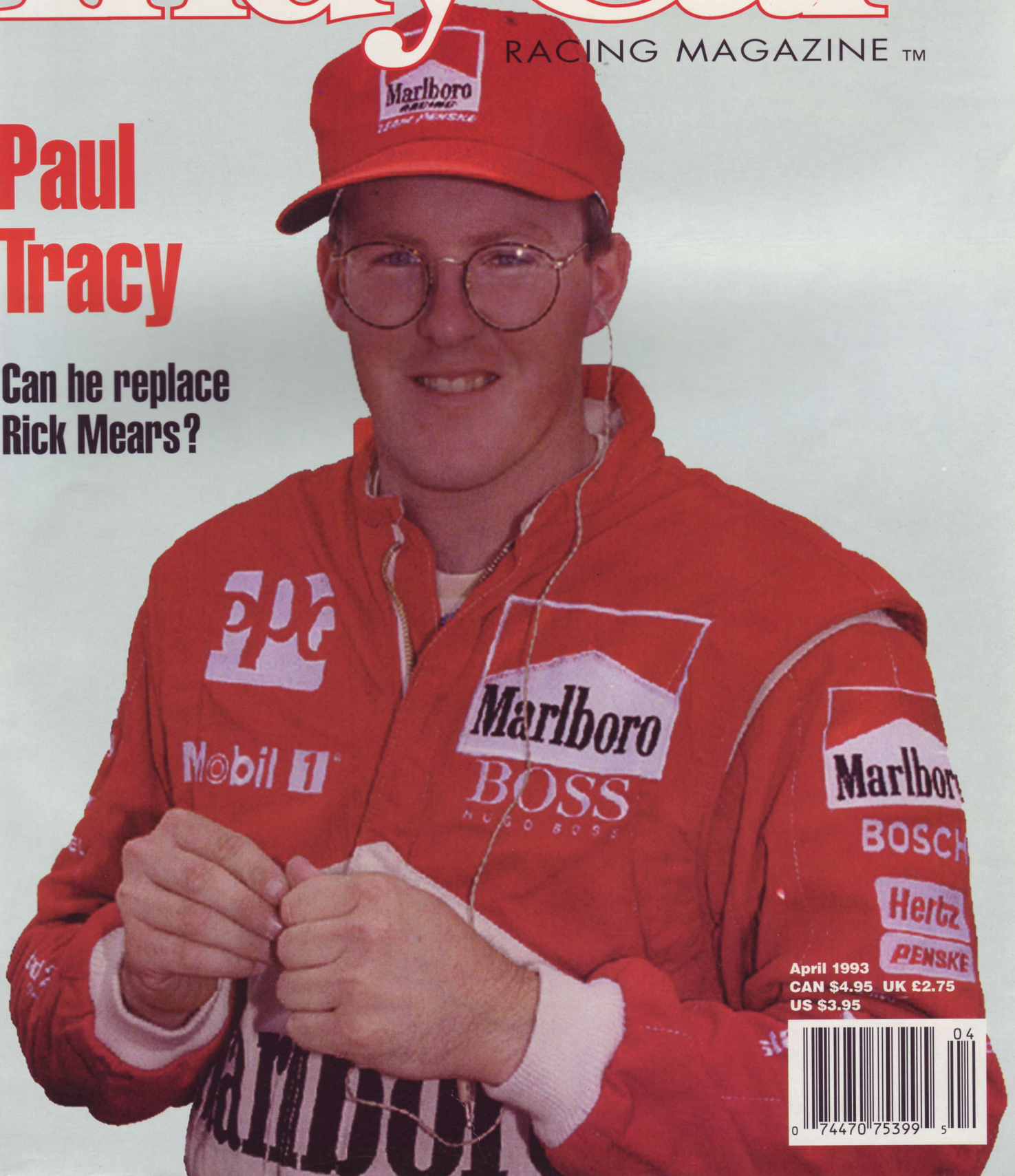


# IndyCar

RACING MAGAZINE™

## Paul Tracy

Can he replace Rick Mears?



April 1993  
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By **Debbie Wicker**

**T**he 1993 season is here and the pace is picking up not only on the circuit, but also at the offices of Indy Car Racing Magazine. We have had a busy off-season, preparing for this summer.

On Page 13, you will see that we are asking for volunteers to assist us in two key areas. First, we are organizing reader focus groups at several tracks to discuss topics pertinent to the magazine, including editorial content, promotional ideas, etc. Members of the ICR staff will head these meetings and want to know your thoughts. We are doing this to remain in close contact with you, our customer. Some of the best ideas we've received have been from fans. We want input so that we can continually improve the magazine.

Secondly, we are forming an ICR Track Staff, made up of volunteers who would be willing to help staff our booth at several tracks and help us distribute fliers.

Although we tried something similar to this last year, we have not attempted it on this large of a scale. ICR's Associate Publisher Mary Andrew, who has worked extensively with volunteers in the past, is in charge of this program. Please see Page 13 for more details and write to Mary if you are interested.

The '93 season is shaping up to be one of the best racing seasons ever with the addition of Nigel Mansell, Teo Fabi's return and both Stefan Johansson and Arie Luyendyk getting full-time rides. We've used the past months to speculate on who the 1993 PPG Cup champion will be. Once again, the staff makes their top ten picks in this issue. Because of the anticipated increase in competition, we had a difficult time picking because as many as 15 drivers could legitimately round out the top ten and take the championship. Check out Page 44 to see how our choices match up with yours.

One driver who made all of our lists is Paul Tracy. This month, ICR Editor Ned Wicker talks with Tracy about filling Rick Mears' shoes. Paul is one of the up and coming drivers on the Indy Car circuit and one you'll want to keep your eye on. Also, we preview the 1993 season. We've done our best to get as many photographs of the new cars as possible, but the torrential rains on the West Coast have hampered photographic efforts.

As part of our continuing 10th Anniversary celebration, Jan Shaffer took a look back at the 1983 season. It will be interesting to see how the 1993 season compares to what was happening 10 years ago in Indy Cars. Also, we recently received our new 10th Anniversary patch, which will be used as a premium this year when you renew your subscription. Be sure to ask for it when you call or write a note on your renewal card.

You'll also notice that the focus of the Exposure page has changed. With input from readers, we are renaming it "Tribute" and will take more of a historical look at Indy Car racing. This month we feature Bill Vukovich, one of the few drivers to win back-to-back Indy 500s. Next month will be a more modern look at Al Unser Jr.'s 1992 Indy 500 victory. We will try to establish a pattern of alternating historical photos with those of the modern era. We'd be interested in your comments concerning the change.

ICR recently participated in the Milwaukee Sports Show, in conjunction with the Milwaukee Mile, and had a great time. We'd like to thank the Mile for supporting us and allowing us to share their booth.

Our first track event will be the Indy 500 Expo, scheduled for May 27-30. If you'll be at Indy, stop by to see us. We also are planning booths at Milwaukee, Michigan, Road America, Mid-Ohio, Nazareth and Laguna Seca. We will have a larger display this year and we encourage you to stop by and visit us when you're at the track.

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### On the cover...

Paul Tracy is looking forward to filling Rick Mears' shoes in 1993.

COVER PHOTO BY LINDA McQUEENEY

# IndyCar

RACING MAGAZINE™

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## APRIL 1993

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Paul Tracy, 1990 Indy Lights Champion, was hired by Marlboro Racing Team Penske in 1991 as a test driver and part-time race driver. In 1993, he will step into a full-season of racing, filling Rick Mears' vacated seat.

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PHOTO BY CHERYL DAY ANDERSON



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INDY 500 PHOTO

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## New stars, new cars take some getting used to

By Ned Wicker

It's going to be hard to see Rick Mears at the Valvoline 200 at Buddy Jobe's Phoenix International Raceway and accept the fact that he isn't going to drive the Marlboro car. Last year's pole winner, Michael Andretti, will be driving the Marlboro car, not for Penske, but for McLaren in Formula One.

OK, so we've written about this before. It's just now beginning to sink in.

The sport is missing two of its greatest superstars, but there are those who will step up and take their place. That's the truth of it. There has always been, and will always be, others to come along and take the places of great stars. It is the proverbial passing of the torch.

A nice tradition of American sports is that we do not forget our heroes. A good thing about remembering our heroes is that they get better after retirement. Bench racers can now say Mears was a lock for five wins at Indy, or six or seven wins. But you don't have to embellish Rick's record, just like you don't have to exaggerate about A.J. Foyt's. In fact, all you have to do is recite Foyt's record, which sounds like a complete fabrication, and you'll probably start an argument. If it doesn't, bring up Mario Andretti's, too.

But the passing of the torch brings us new stars. Nigel Mansell is a great addition to the series. He is one of the most recognized superstars in the sport, and will cultivate tremendous interest around the world. Likewise, we anticipate great things from Lyn St. James, who drove hard to the "Rookie of the Year" title at Indy last year. This driver will break down some barriers. St. James is not a woman Indy Car driver—she's an Indy Car driver who happens to be a woman. Thumbs up to JCPenney for recognizing opportunity and to Dick and Dianne Simon for making it happen full time.

Some of the names are different, but the overall level of quality is higher than ever. Of course, the traditional powerhouse teams will be tough, but some new powerhouses are beginning to take shape. It's going to be interesting. In his interview this month Paul Tracy says six or seven guys will battle for the title. I agree with the six or seven he's thinking about, but the

field is deeper than six or seven—that is, as long as the money holds out.

Money is still a key issue this year, as the CART board is wrestling with cost-containment issues. Chairman Bill Stokkan said in announcing the new board last year at Toronto that he has three items on his agenda—cost, cost and cost. Containing the rising cost of speed may have been the underlying factor in CART changing the rules, which ultimately led to Honda putting its plans on hold and Nissan taking a longer look at its possible participation.

Some argue that Honda, Nissan and others would cause the costs to go through the roof. Others say that new engine manufacturers are needed to make the sport grow, perhaps even overtake Formula One in world-wide fan appeal.

But certainly a move to make Indy Car racing more like Formula One would forever change the series, and perhaps lead to its complete downfall. F1's plans look like an Indy Car program for the future as the money tree has finally withered. I prefer to see two distinctly different cars and never the twain shall meet. Indy Car racing has gotten rather exotic over the years, but it still hasn't lost all of its charm. However, that too is bound to fall by the wayside, unless the owners are successful in bringing the cost issues under control.

The cost issue is not going to go away. It's like President Clinton's economic plan—it's something that's going to take shape over the next few months and will hopefully have specifics from everyone concerned. I think the board has made progress, although it would be interesting to see just what that progress would look like if Bill Stokkan and Tony George had votes.

For now, you can be assured that the PPG Cup season ahead is going to be a dandy, so sit back and enjoy it.

The Indy Lights has graduated more drivers into the Indy Car ranks this year than ever before. 1992 champion Robbie Buhl, Mark Smith, Adrian Fernandez, David Kudrave and Marco Greco will compete in PPG Cup competition. Meanwhile, the Indy Lights Series will debut a new car at Phoenix and an

impressive international list of driving talent.

Still, the economy is taking its toll. I'd sure like to see a few more Americans in the Lights cockpits. Anytime a driver the caliber of Robbie Groff is walking around looking for a ride, there's something wrong.

This is the time of year when the ICR staff goes on record with its picks for the new season. We firmly believe, given the level of competition and the number of great drivers who can challenge for the title, that your guess is as good as ours, so a consensus fan pick is also included.

I have had a very poor track record for picking the PPG Indy Car World Series winner. I had Emerson Fittipaldi in tenth in 1989, and last year I picked Bobby Rahal for eighth. Fittipaldi said nothing that year, being the gentleman that he is, but Rahal took great delight, along with the sports marketing people at Miller Brewing, in giving me a thorough ribbing.

The last driver to win two-in-a-row was Rahal, and he did it after changing chassis. If history is going to repeat itself, it will be this year. Bobby, you are the champ, so you get my nod. But Bobby, like baseball great Satchel Page used to say, "Don't look back, 'cause somethin' might be gainin' on ya."

The Kmart Indy Car Radio Network keeps growing. Over 100 stations have joined the network this year, including some of those big 50,000 watt boomers. The radio anchors, Larry Henry, Lou Palmer and Paul Brian, will have new digs this year, as a new, portable, broadcast booth has been acquired. Radio will share the new facility with Brazilian television.

Last year radio experienced some interesting surroundings. Plywood and plexi-glass were slapped together overnight at Road America, Vancouver and Mid-Ohio. The Vancouver facility, dubbed "Casa de Kmart," was tiny—less than six feet wide by eight feet long. All three anchors, plus an engineer were shoehorned in. Even though it rained that day, Tom Michaels and I were truly thankful for being in the pits.

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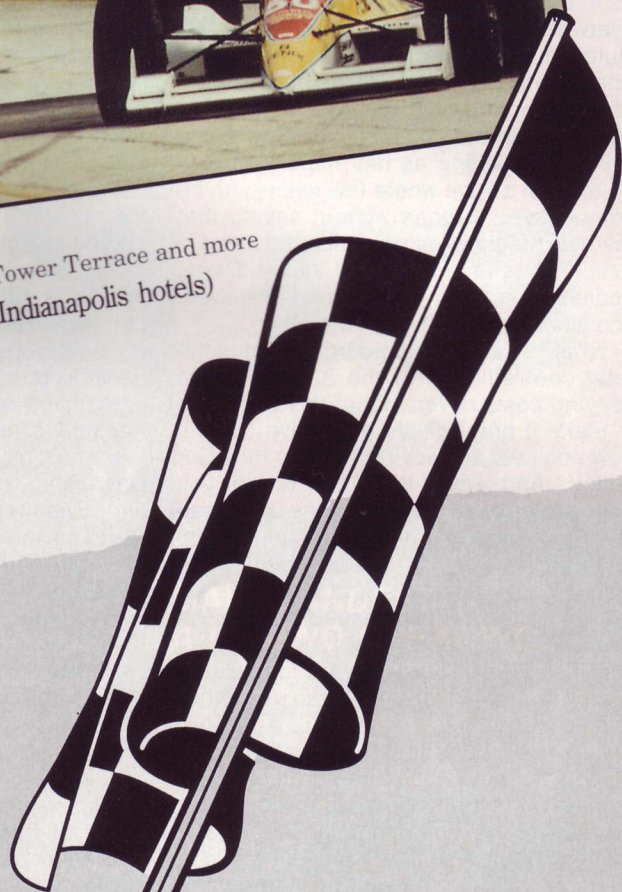
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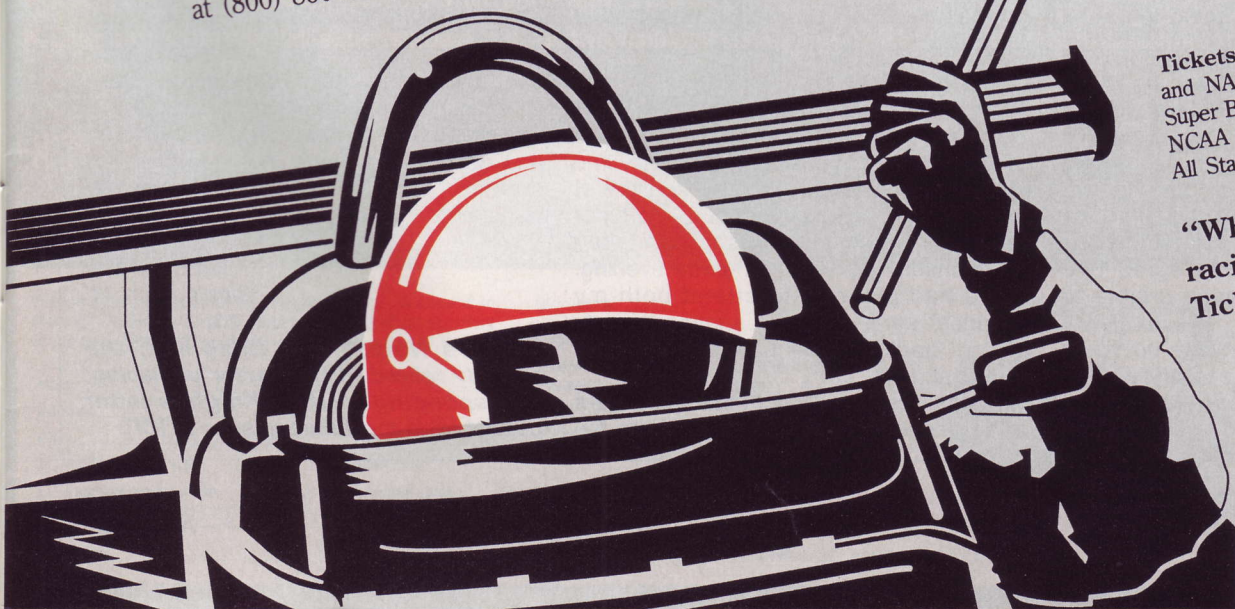
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— Antonio Ferrari



# LETTERS

## Write to ICR

ICR Letters, P.O. Box 14395, Milwaukee, WI 53214 or FAX to 414-774-6740

To be considered for publication, letters must be signed, typewritten and to the point. Opinions expressed in letters are those of the writer and do not necessarily express the opinions of the publisher.

*The following letter was sent to ICR as an open letter to Dale Coyne, Jim Hall, Carl Haas, Roger Penske and Derrick Walker.*

I am writing in response to your overwhelming vote of approval of the "3/2 Rule" to express my disappointment. In one breath you allege to being adamant about adopting new rules for safety and also to keep the costs of Indy Car racing from skyrocketing as has happened with F1 to such a level where few teams can be competitive. It goes without saying that the new safety rules were needed and the fans, friends and families of all the drivers appreciate it as do the drivers themselves. I commend you all highly for that.

What I would like to address here is the total contradiction of the 3/2 rule as to keeping costs down. What this rule does is make it prohibitively expensive for any new engine manufacturer to enter Indy Car racing. And, yes, it is a bit ironic that you adopted the new rule just as the Japanese were prepared to organize a team or two. Mr. Penske's and Mr. Haas' teams have enjoyed having first crack at anything new from Chevy to Ford, respectively. The Penske team has enjoyed, what I considered until Ford entered the picture, a very unfair advantage over any other team because of this situation.

I do understand that the long-term goal of this rule is to prevent an engine manufacturer from throwing millions at a program to win the championship and/or the Indy 500. Also, it will prevent any one team, as with the Penske/Chevy program, from dominating the competition and making races all but a bore. But this rule does not promote "new blood" in Indy Car racing as I thought I was going to see in

the future of Indy Cars. If anything it will scare them away, whether they be Japanese, European or whatever.

Both Ford and Chevy provided excellent engine packages for the 1992 season. This made for a very exciting and one of the most competitive seasons that we (the fans) have seen in a long time between two different engine manufacturers. With the addition of Honda and Nissan in 1994, and possibly Toyota at a later date, I think that would have provided Indy Car racing the respect it has tried so hard to receive under the high-tech European cloud of F1.

The rising interest in Indy Car racing and the fans filling the stands in record numbers should prove something. The added competition of Ford vs. Chevy, in addition to rooting for our favorite driver, has piqued our interest like never before. Adding Honda and Nissan to the Indy Car fold would have been such a boost for Indy Car racing, greatly widening the interest and diversity of the fans, and would rival anything that F1 could possibly attempt, especially with Indy Cars having the blessings of FISA to race in other countries in the future.

I highly recommend that this 3/2 rule be changed quickly. I have discussed with many other fans what I call the "1-2-3 Rule" where in the first year the manufacturer could supply just one car for one team. The second year the rule would be two cars/two teams and the third year would be three cars/three teams. I would also adopt a rule so that no one team can get any engine "tweaks" over any other team that the engine manufacturer supplies. Those "tweaks" should be available to all teams using that particular engine, and not as currently being done

where the Penske and Haas teams get them before any other Chevy or Ford team. But, if a team comes up with their own legal "tweaks" then that is what I consider fair racing. The fans I spoke with thought that this was a much better, more fair approach.

But, in spite of your newly adopted and unfair "3/2 Rule" the 1993 season will go on. I do hope that Honda and Nissan will enter the 1994 season, in spite of the rule changes, to further increase the competition and further pique the interest of the fans to where Indy Cars can finally lose the stigma of being what some call "primitive, low-tech racing." Nigel Mansell has been quoted to have said in comparing Indy Cars to F1 that "Indy Car racing puts the driver back in the car." He had also mentioned something during the 1992 F1 season to the effect, "You could put a monkey in this car (Formula One William's/Renault) and win races." Indy Car fans like the driver to drive the car and not some high-tech computer.

Indy Car racing is, what I consider, the most competitive open-wheeled racing in the world today, and I do, like you, want to keep it that way. But it should not be made virtually impossible for "new blood" to enter into the picture.

*Jim DeFord  
Vancouver, WA*

**Editor's Note: Mr. DeFord's reference to the 3/2 rule is CART's new rule requiring all new engine manufacturers to supply three cars across two teams in its first year with any new engine. See Page 56 for the latest developments on the rules.**

**Dear ICR,**

While I recognize that my very old and special friend, Mike Knight, was acting with the best of intentions when he chided some Indy Car drivers and others for not attending the "surprise" party honoring me in Monterey last October, I know that he was not aware of the apologies I've received from most of those unable to attend.

Most of the drivers who were not there voluntarily came up to me at the CART awards banquet in San Francisco the following Monday night to express their

regrets for not having joined the more than 500 people who were at the party. In most instances, they had either not been able to get out of the Laguna Seca track in time (remember the problem of getting out of there on Saturday, the night of my party) or had long-term commitments to be at their car sponsor's party on the same evening. Some had planned to attend both my "surprise" party and their sponsor's party but got back to their hotels too late to appear at mine.

Mike is undoubtedly right that there were some people who simply passed me by,

but in most cases I think there were extenuating circumstances.

Mike, God bless him, is my most favored and devoted advocate, but I did want to exonerate some of those he had chided in his letter to the editor in the January issue.

*Jim Chapman  
Birmingham, MI*

**Editor's Note: Mr. Chapman, the recently retired PPG Director of Racing, is responding to Mike Knight's letter published in the January issue of ICR.**



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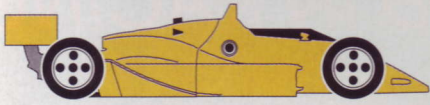
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# pit talk

A little news, gossip and commentary.

Nigel Mansell has been busy testing in preparation for his first Indy Car race. In a test on February 17 at Phoenix, Mansell completed a 200-mile simulated test.

"We wanted to give Nigel a good idea what a race would be like," said Newman/Haas team manager Jim McGee. "He did three parade laps and a 60-lap green-flag segment before a 14-second pit stop. We simulated some yellows, about 15 laps worth, so Nigel could do some restarts."

What did McGee say to the reigning Formula One champion after the test?

"Nigel, you won by four laps!"

Mansell's best lap at the one-mile oval was a 20.6 — an unofficial track record (Michael Andretti holds the current one lap record of 20.952 seconds).

...

Al Unser Jr. found some omens that warned him of imminent bad luck at his first Daytona 500.

"I went out the other day and there was bird do-do on my front hood," Unser said. "On the second day of qualifying, there was bird do-do on my shoulder. I just walked out to the car sitting on the grid before the race and there was bird do-do again on my hood.

"This is like a bad dream, but all nightmares come to an end and dreams begin."

...

The walls at Phoenix International Raceway have gotten a workout during winter testing activities.

Bobby Rahal lost control of his 1992 Rahal/Hogan car and hit the wall in late January. He was uninjured in the accident.

Teo Fabi had run about 60 laps at Phoenix on February 4 when he entered Turn One only to discover rain had fallen. He spun and hit the Turn One wall hard. The car was heavily damaged but Fabi was uninjured.

The week following his accident in the Daytona 500, Al Unser Jr. hit the wall at Phoenix after an O-ring broke in the engine, spewing water onto the rear tires. The car was sent back to the Lola factory in England for repair. Unser Jr. was treated at a nearby hospital for bruises to his legs before returning to his home in New Mexico.

Steffan Johansson hit the Turn Four wall hard and had to spend the night in a Phoenix hospital. He was released the following afternoon but his new Penske car suffered serious damage.

Mario Andretti spun in a recent test but was able to avoid hitting anything.

...

The Indy Cars may return to Miami in 1994. Veteran race promoter Ralph Sanchez has been negotiating with CART to host the season-opening race in February through the streets of downtown Miami. To that end, Scott Goodyear tested his Walker Motorsport/Mackenzie car at the circuit the day following the IMSA race in mid-February. Both Goodyear and team owner Derrick Walker said the course would play a good host to the Indy Cars.

Sanchez is working to complete a permanent road course/oval track by the 1995 season. If a deal can be worked out, the Indy Cars would run on the street circuit until the permanent location can be completed.

...

John Andretti reports that he has nothing to report. When asked about driving a drag car for Jack Clark, he said he couldn't say anything. He has had some opportunities to run at Indianapolis but is waiting until a top-notch effort comes along.

...

Extensive infield construction efforts at the Indianapolis Motor Speedway, centered around the renovation of the Speedway golf course, will provide dramatically improved vantage points for the general admission spectator's view.

A general admission spectator mound has been constructed along virtually the entire inside length of the back straightaway. The construction of the viewing mound will have only a minor effect on infield parking.

The spectator area at the south end of the straightaway, at the exit of Turn Two, has been designated as a "family area." As a result, alcoholic beverages will not be allowed in that area.

In reference to parking, cars will not be allowed to park on the infield golf course as in the past.

...

Indy Car rookie Robbie Buhl, the

reigning Indy Lights champion, got his 1993 season off to a winning start by being a part of the Jack Roush Racing Team's victorious GTS effort in the Rolex 24 Hours at Daytona. Buhl teamed with Tommy Kendall, Wally Dallenbach Jr., Mark Martin and Robbie Gordon. The team won its class, but was second overall, finishing behind Dan Gurney's GTP drivers Rocky Moran, P.J. Jones and Jim Dinsmore. Buhl now moves on to Indy Car competition in the Mi-Jack car for Dale Coyne.

...

There was some degree of panic among the Indy Lights ranks for a while when Lola was not sure if it could deliver a starting field of cars in time for the season opener at Phoenix. But all of that began to turn around in February, and by March, it looked like a full field of new Indy Lights was possible.

...

Check out the new Mario Andretti souvenir cards from Hi-Tech Cards. They're first class all the way. The printing is exceptional and all cards are UV gloss-coated. The set has 50 cards and among the sets there are 5000 gold-stamped cards (randomly inserted) which have Mario's autograph. There is also one certificate for an all-expense paid trip to this year's Indianapolis 500. This is a neat touch and adds some fun. For you collectors, the box comes sealed with poly-wrap, so there's another built-in bonus. But the best feature is that the set gives you a complete look at Mario's driving career, in several forms of racing. It's a project which has had Mario's personal input, which makes it all the more special. Call 1-800-643-4714 to order.

...

TNN's RaceDay returned to its Charlotte studios the first Sunday in March. The significance of this little note is simply that Pat Patterson and crew have been on the road every week since before the election. ICR Editor-In-Chief Ned Wicker will be covering the PPG Cup for RaceDay again this year.

...

The Indiana legislature has been discussing a one-dollar per ticket tax on Indy 500 tickets. Governor Evan Bayh has said he will not sign the bill into law if it comes to his desk.

# IndyCar

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## WINNERS CIRCLE CLUB

THE OFFICIAL FAN CLUB OF INDYCAR

### IndyCar Has The Best Television Schedule In Motorsports

By Molly Shierston

The much anticipated battle for the 1993 PPG Cup officially began on March 21, with the Australian F1 IndyCar Grand Prix, on the sun-drenched streets of Surfer's Paradise in Australia's Gold Coast. Although not everyone was lucky enough to be "Down Under," IndyCar's exciting television race broadcasts brought every action-packed lap of wheel-to-wheel racing right into your living room.

Once again, every lap of all 16 PPG Indy Car World Series events will be nationally televised. This year, IndyCar has the best television schedule in all of motorsports. Nine Indy Car races will be televised on ABC Sports, giving IndyCar more network event broadcasts than all other forms of auto racing combined! ESPN, America's premiere cable sports network, will broadcast seven rounds of the 1993 Indy Car series.

Race fans can expect to be brought directly into the middle of the high speed action, thanks to the creative use of in-car cameras, on-screen pit reporting, and IndyCar's knowledgeable and talented broadcast team. On ABC Sports, Paul Page is once again leading the play-by-play of each race, with color commentary provided by Sam Posey and three-time Indy 500 winner Bobby Unser. Veteran reporters Gary Gerould and the always colorful Jack Arute provide up-to-the-minute news from pit row. On ESPN

broadcasts, veteran Indy Car driver Derek Daly will join Paul Page in the broadcast booth to provide race analysis, with Jon Beekhuis and Gary Gerould in the pits.

The 1993 Indy Car season promises to be the most competitive and exciting in history. Thanks to a great television schedule, members of the IndyCar Winners Circle Club, and all race fans, can watch every exciting lap of this year's battle for the PPG Cup. Hope you tune in to all the races!!

For a listing of all television dates and times, refer to Page 63.

#### Club Activities

Don't forget that the first official gathering of the 1993 IndyCar Winners Circle Club will take place in April with giveaways of racing items at the Valvoline 200 in Phoenix on Saturday, April 3, and at the Toyota Grand Prix of Long Beach on Saturday, April 17. Both giveaways will be held at the PPG pace car display immediately after final Indy Car qualifying. At Phoenix, the display will be in the infield near Turn Four, but construction at Long Beach may force the pace car display to be relocated from the easternmost entrance to the Indy Car paddock. Regardless, both displays will be in a general admission area.

#### IndyCar Media Guide and Lapel Pin

Stay close to your mail box! Each

Winners Circle Club member will soon be receiving a 1993 IndyCar Media Guide and a specially-made IndyCar lapel pin. The media guide is overflowing with photos and information about all the Indy Car teams, drivers, sponsors, 1993 races, as well as loads of exciting historical information. This is the same media guide used worldwide by television and newspaper reporters covering the Indy Car series. The lapel pin is a collector's edition and will only be available to Winners Circle Club members.

#### Join The Winners Circle Club

You, too, can be a special part of Indy Car racing by joining the Winners Circle Club. For 1993, the membership fee is just \$20 per person. Additional family members can join for an additional \$5 each. All club members will receive the official 1993 IndyCar Media Guide, specially designed IndyCar lapel pin, and are invited to attend special meetings and giveaways scheduled for many 1993 Indy Car races.

Applications and additional information are available by contacting: Winners Circle Club, Championship Auto Racing Teams, 390 Enterprise Court, Bloomfield Hills, MI, 48302. Applications can also be requested by phoning (313) 334-8500, or by faxing your request to (313) 334-8560.

Come join the IndyCar Winners Circle Club, and be an Indy Car insider! ■

### 1993 IndyCar Winners Circle Club Activities Schedule

April 3	Phoenix	Giveaway	July 31	Michigan	Meeting
April 17	Long Beach	Giveaway	August 7	New England	Giveaway
<b>June 5</b>	<b>Milwaukee</b>	<b>Meeting</b>	August 21	Elkhart Lake	Giveaway
June 12	Detroit	Giveaway	August 28	Vancouver	Giveaway
June 26	Portland	Giveaway	<b>September 11</b>	<b>Mid-Ohio</b>	<b>Meeting</b>
July 10	Cleveland	Giveaway	<b>September 18</b>	<b>Nazareth</b>	<b>Meeting</b>
July 17	Toronto	Giveaway	<b>October 2</b>	<b>Monterey</b>	<b>Meeting</b>



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# CAM CORNER

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**S**ince this issue of Indy Car Racing Magazine features the season preview for the the PPG Indy Car World Series, the Firestone Indy Lights and the Player's Ltd./Toyota Atlantics, CAM decided to preview its 1993 season as well.

Because CAM is an association of the mechanics that make up the race teams, CAM Corner will explain all the little mechanical aspects of putting a car not only on the race track, but also in the winner's circle.

CAM's intentions are to make CAM Corner much more technical. CAM will explore the complicated systems that make the cars work as they do. Artwork and photos will be used to illustrate the stories.

However, because the stories will be more technical in nature, each point will be thoroughly explained in terms all fans can understand.

CAM understands that the mechanics often take things concerning the mechanical aspects for granted. So, if there is something that you don't understand, write to us in care of Indy Car Racing Magazine at 617 South 94th Street, Milwaukee, WI 53214.

Or, if you have a specific question you would like to have answered by a mechanic, write it down and send it to us at the above address. If we print a response to your question we will send you a CAM T-shirt.

For now, here's a list of things we will be covering in future issues. Of course, if major stories come up, we will cover them and return to the list the following month.

## **Aerodynamics**

The never-ending work of designing race cars to go faster has always included the laws of aerodynamics. Even early in this century, Indy Cars were tested in wind tunnels. In the next issue of CAM Corner, Bettenhausen Motorsports team manager Paul Diatlovich and engineer Tom Brown will explore the aerodynamics of Indy Cars and why it is a critical factor for both speedway and road course success.

They also will explain how the new Indy Car rules will affect the race car in

downforce and stability and what it might mean in related chassis adjustments.

## **Chassis**

After examining aerodynamics, we will move to the chassis. The aerodynamics of the car work hand-in-hand with the chassis.

In at least two issues of CAM Corner, veteran mechanic, crew chief and engineer Steve Erickson will explain suspension, steering and other chassis components of an Indy Car and how they inter-relate to make the car fast, yet driveable.

Erickson will examine the function of the tub, springs and shocks, pushrods, wishbones and tires as they work together to apply horsepower to the track while also allowing the race car to maintain directional control at high speed.

In addition, CAM Corner will cover steering and the effect various suspension adjustments have on the car's handling and tire stagger on ovals.

## **Engines**

There will be a battle for engine supremacy in 1993 between Chevrolet and Ford (and Buick at Indy). Thus, CAM Corner will cover the Indy Car power plant from installation to overhaul. Experts will discuss engine preparation, insertion, plumbing and warm-up, as well as what data they gather from the black boxes and what it means.

## **Fuel Systems**

Another topic for the future is methanol, what it is, why we use it to fuel race cars and where it goes once it leaves the pit tank. Did you know that Indy Car fuel tanks have doors? We'll tell you why. We will follow the methanol through the various systems, into the cylinder and through the exhaust. You'll hear how the computer communicates with the induction, injection, spark timing and turbo in order to accomplish the optimum power/economy balance.

## **Drive Lines**

An Indy Car's high horsepower must be transmitted to the wheels. This requires an efficient and reliable drive line capable

of miles of flawless operation. Otherwise, the car sits in the pits while someone else wins the race.

During the Indy Car season, CAM Corner will discuss what it takes to keep the wheels turning. Beginning at the clutch pedal, we'll follow the power through the various components until it reaches the rear wheels. CAM Corner will pick the brains of racing's best as we examine clutches, gear boxes, differentials, CV joints, drive shafts, uprights and much more.

## **Computers**

Computers have revolutionized nearly every industry. They have done no less in Indy Car racing. CAM will investigate data acquisition and why it has become such an important link in the chain of performance. With this particular story, we will display actual computer printouts and show you exactly how the drivers and engineers evaluate the performance of the car.

Computers are not only an important element at the track, but also in the design studio. We will take a look at how designers are using computers to build race cars.

## **Pit Stops**

Pit stops are probably the easiest way to pick up a few positions on the track. Easiest, that is, until you know what it takes for a really good one.

In an upcoming column, Bernie Myers, crew chief for Dale Coyne Racing, will tell us the secrets of a fast Indy Car pit stop. Myers will point out what to look for when you watch a team doing pit stops whether you're at the race or watching it on television. This particular CAM Corner should be entertaining as Myers shares the secrets of some of Indy Car's best tire changers, fuelers and jack men.

## **Technical Inspection**

Mechanics are always looking for ways to make cars go faster. But they always have the watchful eyes of the technical inspectors looking over their shoulders. How are cars inspected? What do the inspectors look for? Why is it an integral part of what we do? ■

# ICR WANTS YOU



**Indy Car Racing Magazine is looking for volunteers at many race venues in 1993.**

**Join the ICR staff in one of the following capacities and join the fun!**

**Volunteer  
Indy Car Racing Magazine  
Reader Focus Group**

Volunteer will share ideas about editorial content with ICR staff; discuss promotional items, likes/dislikes, etc., as well as any other topics pertinent to the magazine.

Volunteer must be ICR subscriber, possess good ideas to assist the magazine in developing future editorial content and promotions and must be willing and able to attend a brief meeting with a member of the ICR staff at one of the following '93 races: Milwaukee, Detroit, Michigan, New Hampshire, Road America, Mid-Ohio, Nazareth and Laguna Seca.

Interested subscribers should send a postcard with their name, address, daytime phone number, and which race(s) they will be attending to: ICR, Attn.: Mary Andrew, 617 S. 94th St., Milwaukee, WI 53214. No phone calls please.

**Volunteer  
Indy Car Racing Magazine  
Track Staff**

Volunteer will assist Indy Car Racing Magazine in staffing magazine's booth and distributing hand-outs at selected race venues in '93, including Indy Expo, Milwaukee, Michigan, Road America, Mid-Ohio, Nazareth and Laguna Seca.

Volunteer must be ICR subscriber, friendly and willing to help promote the magazine. Volunteers must be willing to work a minimum two-hour shift at some point during one of the aforementioned race weekends (Friday, Saturday, Sunday). Volunteers will not be asked to be at the booth during any Indy Car track activities. Interested subscribers should send a postcard with their name, address, daytime phone number, and which race(s) they will be attending to: ICR, Attn.: Mary Andrew, 617 S. 94th St., Milwaukee, WI 53214. No phone calls please.



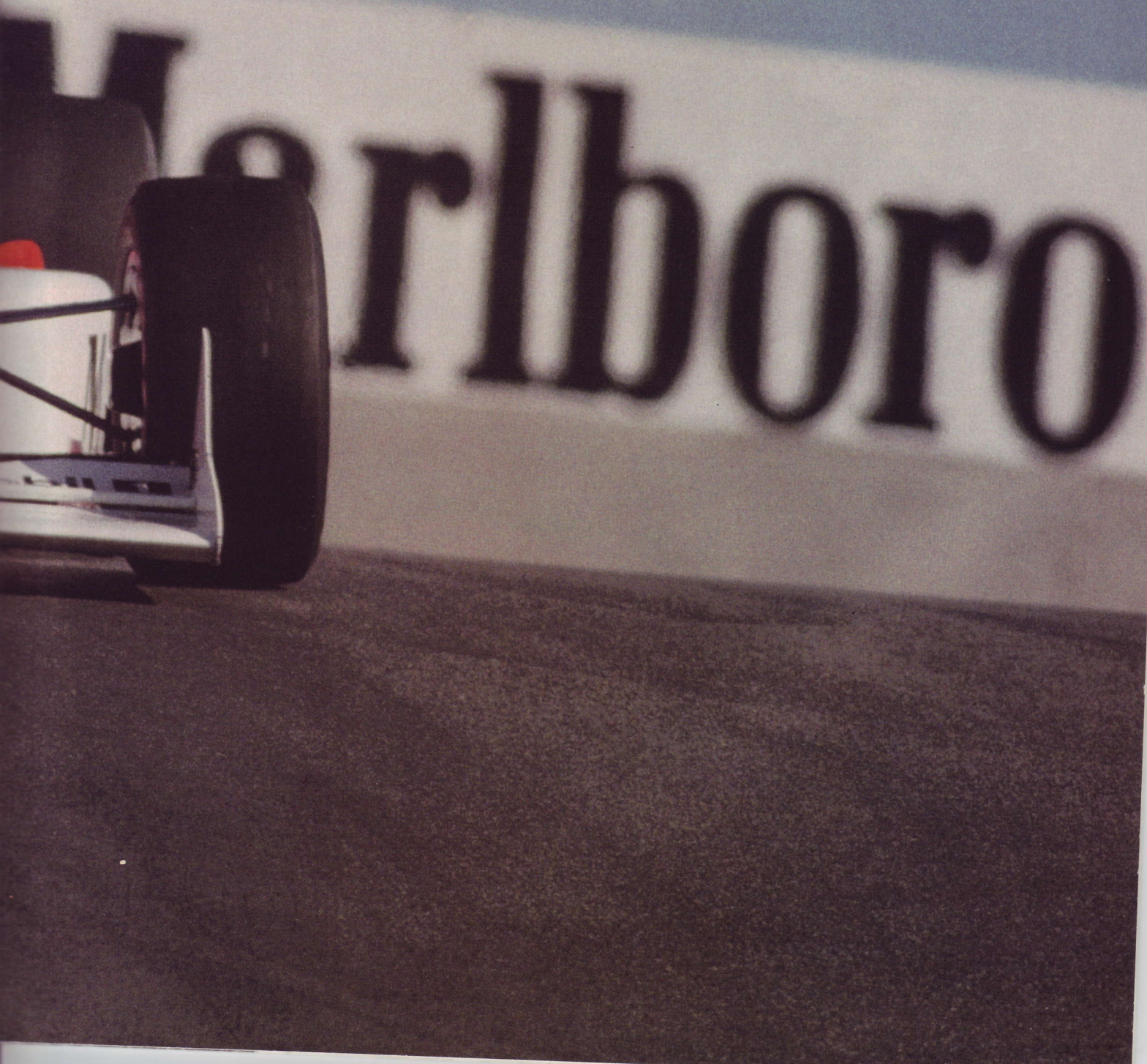
**Tracy had one pole position and two second-place finishes in 1992.**

PHOTO BY RON McQUEENEY



# PAUL TRACY

Can he replace Rick Mears?





**P**aul Tracy has been a winner at all levels of racing. He was the Canadian Formula Ford champion at age 16. He was the youngest winner of a Budweiser CanAm race when he was 17. He won his very first Indy Lights race when he was 18. He won the Indy Lights title when he was 21. Now at the ripe old age of 24, he is Emerson Fittipaldi's full-time teammate on the Marlboro Penske Team.

While making his drive to the Indy Lights title in 1990, Tracy turned heads by chalking up nine wins in 14 starts, a series record. He added eight poles during that run-away year. Keeping a watchful eye was Steve Horne, then president of Truesports, who wanted to add Tracy to the fold as teammate to Scott Pruett. At Nazareth that year, Horne signed Tracy to a 90-day option, but when sponsorship money did not come around, the young driver was on his own to pursue other opportunities. He got a ride from Dale Coyne, who put the Canadian ace into the cockpit for the Toyota Grand Prix of Long Beach in 1991. Again, Tracy turned heads. Even though a mechanical failure sidelined the car after 30 laps, it was obvious to many that Tracy was the genuine item and that his Indy Lights title the year before was no fluke.

It didn't take long for Roger Penske to notice Tracy and bring him to the Marlboro Team. The announcement was made at Milwaukee in June. He had been signed as the team's test driver, as Penske Racing was at the forefront of Chevrolet development. Tracy's first start came in the Marlboro 500 at Michigan International Speedway two months later, but youthful exuberance overshadowed racing judgment, and Tracy would up in the fence on the third lap. He sustained a broken leg. That may have been the most important turning point for "Mr. Excitement," as he had plenty of time to think about his racing career while sitting in the hospital.

"I took a long look at my career and re-evaluated what I was doing, where I was going," said Tracy at the 1992 Marlboro 500.

Although accomplished in the race car, Tracy may not have been prepared physically to handle Indy Car racing. He was pudgy, which is uncharacteristic for the Indy Car set. He took control of his career, hit the gym and lost 30 pounds. The new Paul Tracy came back at Nazareth and finished seventh.

Seeing part-time duty in 1992, Tracy seemed to bounce in and out of Penske's doghouse. A crash at Indy left the Captain fuming and Tracy in his hotel room with time to ponder the consequences of youthful mistakes. But the transition was taking place, as more and more, Tracy began to look like a Penske driver. When he was called upon to sub for the injured Rick Mears, he hustled the Marlboro car in fine fashion at Detroit, becoming the first Indy Lights graduate to lead an Indy Car race. He battled fellow countryman Scott Goodyear all the way to the checkered flag at Michigan International, nearly collecting his first win. Goodyear got the flag, and Canada went into Indy Car frenzy.

He made the Marlboro Challenge by earning pole rights at Road America, promptly crashing the car on the next lap after the flyer. The next day he was told to allow his teammate to get by, as Fittipaldi was in the championship hunt. After an accident at Vancouver, he sat out the final practice session, as his race car was actually Fittipaldi's backup.

But through it all, nobody denies that Tracy is a talent. Growing pains, after all, are usually temporary. He spoke with ICR Editor Ned Wicker about his 1993 season outlook and his position as a full-time Penske racer.

**ICR:** You logged countless testing miles for Penske Racing in 1992, and you're in the forefront of the testing this year. Give us a comparison of the two cars. Is there a lot of difference?

**TRACY:** There's more overall downforce and better handling characteristics. It's a little bit easier for the crew to work on. The shocks are on top of the tub, things like that. And, it has the new safety features. Just looking at the car, it looks a lot stronger. There's a first bulkhead, then a second bulkhead, which is about three inches thick, on our car. Then there's a third bulkhead before your feet, so there's three bulkheads before anything gets to your feet. It looks one hundred percent stronger.

**ICR:** For the benefit of we who do not know why that's important, explain the significance of the new configuration. Does it mean that drivers will sustain less injury?

**TRACY:** It's hard to say because every accident is different. You can just say this guy will hit the wall at this speed and not sustain any injury, but that guy didn't. Last year people hit the wall (at Indy) at 220 and got a broken leg, but Jovy (Marcelo) hit the wall at 180 and it took his life. You never know what can happen with any angle—frontal impact, side impact—all these different angles. But the cars are still safer.

**ICR:** Now that you have a full-time ride with Penske Racing, share with us your feelings about the upcoming season. Can you continue to run up front, like last year?

**TRACY:** I knew the car was capable of doing it. Earlier on in the season we didn't have the horsepower that we really needed. The chassis wasn't working the way we wanted. I was doing a lot of testing. We found some things at Mid-Ohio, in a test before Detroit, that made the car work really well. That's where we really started to get things going. I expected to at least be in the top five, which was one of the goals I set for myself...to be able to run in the top five comfortably. I wanted to be a factor at every race. I wanted to make the Marlboro Challenge, and I accomplished that. But running in the top five is pretty hard to do for someone who hasn't run a full season of racing. I've only done 13 races, so I think I've come a long way in that time.

**ICR:** Yes, but you have to credit Penske Racing, one of the greatest teams of all time.

**TRACY:** Yes. I knew I had the equipment, so it was all up to me to do my part. I wouldn't have been happy running around in 13th or 14th, and Ned, you know that's not the way I am.

**ICR:** Let's talk about your competitive spirit. When we first met, you said if you couldn't win, you didn't want to race. You were only 18 then, but does that hold true today?

**TRACY:** To a point, yes. I know that you have to go for points to win the championship. That's what it took to win the Indy Lights title in 1990. That's fine, but you still have to have that kind of mentality because winning is what really counts. That's the main thing. If you're not out there to win, you shouldn't be out there at all. That's the way I feel, but I know there are times when you have to go for points and there are times when you have to make the most of opportunities. But my main goal is still to win. But if I have to settle for second, third, fourth or fifth, that's what I'll do to achieve the ultimate goal, and that's the championship. Sure, winning races is nice, but if you're first one weekend and last the next, it doesn't help you out in the championship.

**ICR:** Now that you've been under Roger Penske's watchful eye for a couple of years, what has that done to your approach to the sport?

**TRACY:** I've changed. I don't think I've changed, personally. My attitude toward racing has changed. I'm a lot more focused on what I need to do now. You've known me since I first started—so you know I've changed a hundred percent since then. My physical conditioning and my attitude towards racing are different. Now, on the track, racing against other guys hasn't changed, but

Tracy has his sights set on winning races but also wants to win the PPG Cup.

PHOTO BY CHERYL DAY ANDERSON



everything else has changed. I've learned about working with the team and the importance of being in shape and getting the most out of the car instead of just hanging it out. My racing hasn't changed, but I think I've gotten smarter about things.

**ICR:** With that in mind, Paul, how do you see yourself in the chase for the PPG Cup? Where do you fit in? Would a Paul Tracy pick for the title be a long shot?

**TRACY:** I think that will be tough, but we have the capability of running in the top three every weekend and that's what it takes to win the championship. I shouldn't be favored as highly as Emerson Fittipaldi, Al Unser Jr., Bobby Rahal, but I think I'm definitely a possibility for the top five category. But I'm going out there to try to win the championship. I've never been as focused as I am now. That's what I'm gearing for, and that's what Roger is

great drivers who have really done well in Europe. You've got to look at the teams with the big budgets, that are capable of going the extra mile to do what it takes to win, whatever it costs, that's what we need to get. You know, Newman/Haas, Galles, Penske, Rahal/Hogan. In there are seven cars, seven guys who are the ones you have to concentrate on.

**ICR:** What about Rick Mears being with the team, in your pit, so to speak. That looks like a plus for a young driver like you.

**TRACY:** He hasn't said yes or no, but I'd like him to be on the headset during the races. He's one guy who can really talk to Roger, because sometimes other guys back off and say OK. Rick will say, "Wait a minute, maybe we should try this, or try that..." Rick will bring a lot to the team that way. He and Roger can talk.

**ICR:** You're following Rick Mears, a four-time Indy 500 winner



PHOTO BY LINDA McQUEENEY

▲ Tracy has been fortunate enough to have veteran engineer Teddy Mayer (right) in his Penske Racing pit.

gearing me for. He's hand-selected the crew on my car. We're ready to go. So, within our team, we have the capability to win.

**ICR:** The balance of power in this series is moving to the center. It's not just the same guys every time, but many teams with the ability to get the job done.

**TRACY:** I think so. You have to look at five or six guys that everything will be concentrated on. There's all kinds of guys who are capable of winning, but do they have the equipment, or whatever. There will be six or seven guys who will really compete for the championship.

**ICR:** Guys like Stefan Johansson and Raul Boesel can make your day rather long. These are guys you'll have to look for this year—guys who maybe you didn't have to worry about before.

**TRACY:** I know they're capable of winning, because they're both

and one of the greatest Indy Car drivers in history. Now that you've had time to think about it, what are your thoughts on following Rick in the Marlboro car and living up to the tradition?

**TRACY:** I've thought about that. Penske Racing has set the standard of what a championship-winning team is all about. The last couple of years the team has struggled a little, but hopefully, we'll bring that back up to Penske standards. The last couple of years Michael Andretti was the standard—the team and the car has set the standard. Roger's team has been there in the past and we want to turn things around and really have a strong year.

**ICR:** Tell me about your relationship with Emerson Fittipaldi, now that you're his full-time teammate.

**TRACY:** It's great! We get along really well. We drive quite a lot differently from each other, so it's going to be a little tougher to

work together without Rick there, because he's so smooth and he knows so much about what's going on with the car. I try to model my driving on ovals after him. A lot of the time I would work off of Rick's set-up. I'd go with what Rick had, then work on it. But this year I think we have a tremendous car. It's a lot better than last year's car, so I think that's going to take a lot of the guess work out of it. At times last year we struggled with the car, but I think we made a lot of improvements from the mid-point on. We were getting pretty strong.

**ICR:** Indeed. The Penske cars did come on after the mid-point, with Emerson winning several races. But this year there's a limitation on testing, which was a factor in your getting the car sorted out last year. Will that new rule hurt you?

**TRACY:** That's just something you have to deal with. I know Roger was in favor of the testing deal. We've done a lot of testing this year and we have a direction on which way we need to go, whereas last year we struggled with the motor, just trying to make power. We did a lot of engine work. This year, we know we have at least the same horsepower as the end of last year, and we're making improvements. We've been able to concentrate on the chassis more than we were able to last year. That helps.

**ICR:** You mentioned the power. Tell us about the Chevy/C engine. How's that different?

**TRACY:** It's not a lot different from the Chevy/B. I know it's pretty much a mix of the A, B and the C, with a different block. It's a smaller block. It has A pistons, B crank shaft, and so on. It's not like last year when everything was pretty much brand new. They've mixed a few parts in from the engine and made some new parts. It's not a brand new, new engine which needs to be developed. We went out and ran 500 miles at Nazareth right off the bat with the first motor. Last year, at the beginning of the testing, we weren't able to go 500 miles.

**ICR:** We all watch you during practice, changing this and that, working with the set-up, but an engine test is completely different. Tell us about that.

**TRACY:** It's boring. You drive around, and drive around, and drive around all day. We'll run at a race pace. If you're at an oval, you're about a second, a second and a half off the pole speed. Like at Phoenix, if the pole is 20.9, you run 21.9 or so. It's not that hard to do when the car is set-up to run 20.9. You drive around. You come in, they fill the thing up, look it over, put the engine cover back on, and you go back out and drive around. They download into the computer and take all the information from a 60 or 70-lap run and they go over all of that back at the office. One of the things they did last year was take the information from long runs and plug it right into the computer into the dyno. Then the dyno runs the engine at the rpm's it was doing on the track for a 200-mile race. They used Al Jr.'s information for Long Beach—what rpm it was doing in the turns and on the straights and ran all that on the dyno. That's one way of testing the engine without actually putting it in the car and going out.

**ICR:** The sophistication of the cars is remarkable. But how much is car and how much is you? Who gets the credit?

**TRACY:** Obviously, if the car is not set-up well enough, you don't have the handling. You can be the best driver and get it around the track, but not have what it takes to win a pole or a race. I think a lot of times it's 50/50. You have to have a good car, a good motor and good tires. You've got to be able to make the car work. A lot of people say it's 80/20 on an oval, but I say to even make the adjustments in practice and qualifying, to make the car quick, it's pretty much 50/50. You have to be able to tell the crew what needs to be done to the car to make it work, or else it's not going to work.

**ICR:** There has been a changing of the guard this year and really, over the last couple of years. You've come into the series, Eric Bachelart, and this year we'll see Robbie Buhl, Mark Smith, Adrian

Fernandez and David Kudrave. Many Indy Lights drivers are getting a look. Does that please you, as an Indy Lights champion?

**TRACY:** I've said all along that more teams need to do what Roger has done—bring in an Indy Lights driver. I'm glad to see that Rahal/Hogan has given Mike Groff an opportunity. Here's a guy who has struggled for four years trying to get a break. I was lucky. We only had to put our hat out on the line for one race, then we got picked up by Roger, but Mike has been here for three or four years trying to put a program together. That's taxing on a driver's confidence and on the family budget. It wears on you. All the time you're thinking, 'Is this worth it?' That's all you think about. Is it worth it? Is this what I want to do? Mike stuck it out and got a break. More of the bigger teams ought to pick up young drivers.

**ICR:** What are your thoughts on the new Indy Lights car?

**TRACY:** It's going to be good for the series and it'll attract people from Europe. It will make for a strong series. The car went really fast at Phoenix. Jimmy (Vasser) was just kind of driving it around. They didn't even put a set-up on it. The car got into the 24's pretty quick. They might want to tone that down. Wally (Dallenbach, CART chief steward) might say to tone it down because you've got guys who can't run that in the Indy Cars. It might make them look bad. When you get it dialed in on a road course, it could be pretty darned quick. The old Indy Lights cars were only five seconds slower than an Indy Car, so the new car, which could be a couple of seconds quicker, could be capable of qualifying for the Indy Car race. (laughing) They may not want to see that. You know what I mean?

**ICR:** The Indy Lights have come a long way, haven't they?

**TRACY:** For sure. I thought it was a big improvement when they brought in the new style engine cover. They've made good steps, but at the wrong time in terms of money availability. Sponsors just aren't out there. But they're trying to go forward and they're making all the right steps.

**ICR:** You and Scott Goodyear, and occasionally Ross Bentley, have carried the Canadian colors in the series. Scott nearly won the Indianapolis 500, then both of you went at it in the Marlboro 500 for a one/two Canadian finish. Has that carried over into this new year and is the excitement still at a high level?

**TRACY:** The interest is really high, yes. But it's a funny situation up here. There's a lot of interest in motorsports, but every series we have has dropped off—no more series. We used to have the Motomaster Formula 2000, the Players GM Series, the Porsche and the Honda-Michelin Series, and now we don't have any of them. Racing is dead in Canada, at the club level and the lower pro level. There's no more racing in Canada, except for the regional type of racing. Interest is at an all-time high, but nobody seems interested in backing a series or helping the younger guys come up, which is a sad thing. It's gone now. There's no racing for a guy who's trying to come up and move into a pro level, through the GM, the 2000 cars, before moving to the Atlantics and the Indy Lights. There's nothing in between, unless they come down to the States and go straight into Atlantics or whatever. And you know how much money that costs.

**ICR:** Has the higher profile you've received, as a result of driving for Penske, been OK with you? Do you like the attention?

**TRACY:** It's better than getting no attention (laughing). Sometimes it can be tough getting around. The worst place is Toronto (laughing). I can't go ten feet without getting stopped. At most of the tracks it isn't bad at all. That's part of it. The fans want to see me, shake my hand and get an autograph. I enjoy that.

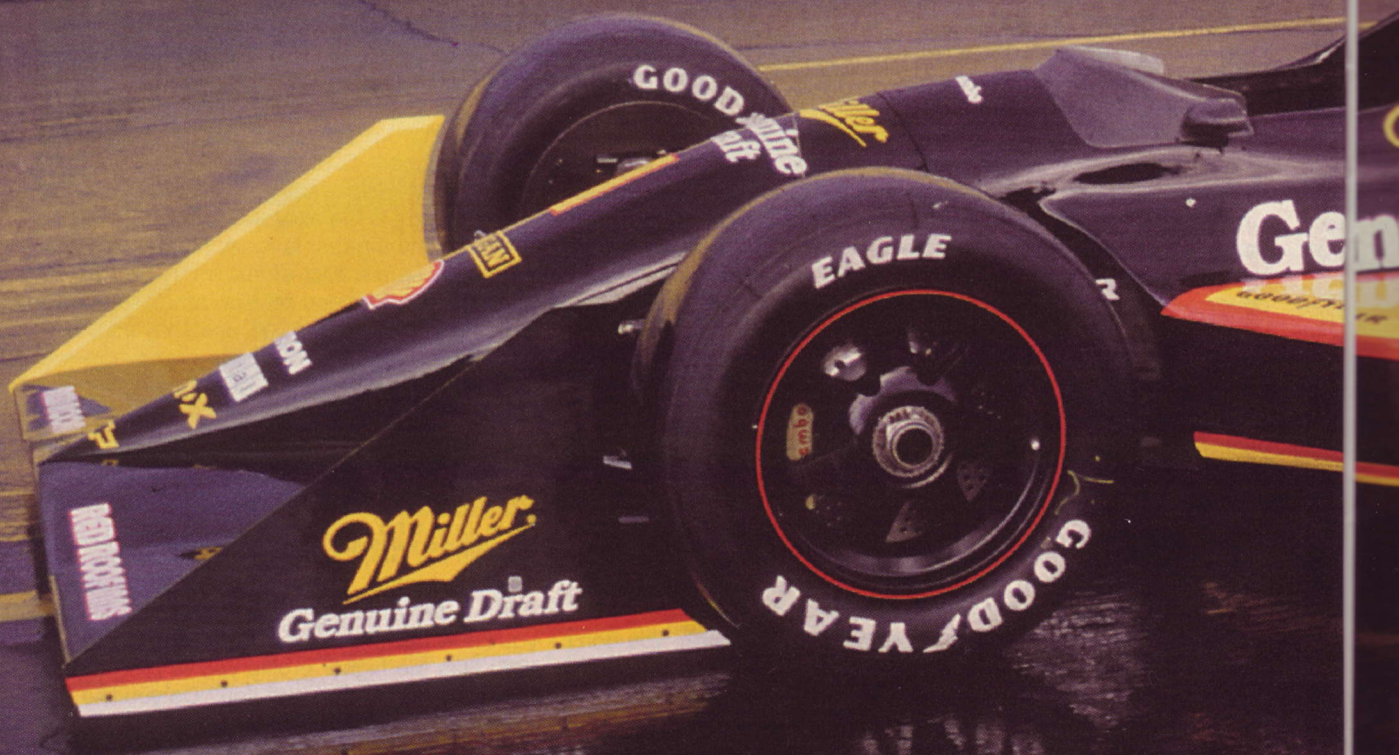
**ICR:** Any thoughts on the coming season of a personal nature, maybe something you feel is important?

**TRACY:** I hope everybody has a safe year and comes out with all their expectations. That's the main thing. I know I wouldn't be doing it if I wasn't having fun, and I hope everyone else is. ■

# the new & improved

By  
Ned Wicker  
and  
Bob Andrew

The Indy Car field looks strong for '93 as Bobby Rahal prepares to defend his title.





1992 PPG Cup  
Indy Car World Series

Miller  
Genuine Draft

1  
TEXTRON  
RED ROOF INNS

BOSCH digital The Dial Corp

rain-X  
Applicon  
FREIXE  
GOODYEAR

EAGLE  
GOODYEAR

Bobby Rahal is looking to defend his 1992 PPG Cup in the new RH/001.

PHOTO BY ART FLORES



As the old saying goes, the more things change the more they stay the same.

A decade ago, Indy Car racing was going through the changing of the guard as veteran drivers, who had enjoyed years of fame and stardom, were suddenly being pushed by the young lions, who wanted a piece of the pie.

The 1983 season was the "Year of the Rookie," as the established stars of 1993 were newcomers to the PPG Indy Car World Series back then. Al Unser Jr. and Michael Andretti saw their first races, while Teo Fabi nearly won the title, finishing just five points behind winner Al Unser.

Bobby Rahal, reigning PPG Cup champion, was only in his second season. Danny Sullivan, who ran three races in 1982, was off in Europe, doing Formula One.

1993 brings its own changing of the guard, as Michael has gone to Formula One, and the reigning Formula One World Driving champion, Nigel Mansell, is in the seat of the Kmart/Havoline Lola. Rick Mears has retired, giving way to a full-season for Paul Tracy in the Marlboro Penske. Stefan Johansson tried the AMAX Penske on for size last year and liked it, signing with Tony Bettenhausen for a full season. Raul Boesel will get a full-time ride in Dick Simon's Duracell car, while his new teammate, Lyn St. James, will do 15 races in the JCPenney Lola.

The rookie crop is exceptional. In addition to Mansell (and it's hard to call him "rookie") and St. James, the Indy Lights have fed the Indy Car ranks with several top performers.

Firestone Indy Lights champion Robbie Buhl will strap on the Mi-Jack/CompUSA entry for Dale Coyne, an effort which appears to have potential for long-term success. Mark Smith, the 1989 Super Vee champ, and a proven winner in the Lights, will drive the Craftsman car for Arciero. Adrian Fernandez, who won four Indy Lights races last year, will drive for Galles International. Marco Greco moves from Indy Lights to Sovereign Racing, headed by Dennis McCormack. David Kudrave will get an opportunity in the Fendi car for Antonio Ferrari's Euromotorsport Racing.

Second-year driver Robby Gordon will have a full ride, this time with A.J. Foyt. The legend decided to switch his cars to Ford Cosworth XB power this season, a plus for Gordon, as he worked with the Lola-Ford Cosworth XB combination with Ganassi last year.

In terms of the PPG Cup chase, Rahal will be making a bid to equal his own feat of 1986-87, and repeat as champion. He was the last driver to win two-in-a-row and remarkably did it in two different cars. Truesports switched from March to Lola after 1986, a move that proved to be astute, as the March 87C did not pick up from the successes of the '86 model. This year, Rahal switches again from the Lola to the RH-001, formerly the Truesports.

While Rahal has been getting good results from the new car, and an updated version is due in June, the chassis will still be the big question mark. It now appears as though the motor war will be more equal than it was in 1992, as the Chevy/C has the horses to run with the Ford Cosworth XB, which made a mockery of the track record at the Marlboro 500 and swept the two front rows.

Combining elements from the A and B engines, Chevrolet's task is not so much getting over the development curve, but just beating the Ford Cosworth XB. Rahal, however, did win it all with the reliable Chevy/A last year, but the A motor is now more common than the old Cosworth DFS, and of course, readily available.

Rahal has added the talented Mike Groff to his stable, a move to hurry along the development of the car. Groff will run several races, beginning in Milwaukee.

Rahal is still king of the hill, but the rush to the top of that hill to knock him off will be as strong as it's been in years. Al Jr. and teammate Danny Sullivan figure to be in the hunt, as well as Emerson Fittipaldi and Tracy, Mario Andretti and Mansell, Scott Goodyear, Arie Luyendyk, Fabi, Boesel and Johansson. Among these, the man to watch may well turn out to be Goodyear, who has shattered unofficial testing records this winter.

But there are some changes in the ranks worthy of note. Galles is using the Lola, as the Galmer is on hold. 1990 PPG Cup winner Unser Jr. made a run at the title a year ago and may get that extra nudge from the tried-and-true car. Sullivan, the 1988 titlist, will also benefit. Goodyear is also a Lola driver, but Walker Motorsport has switched to Ford Cosworth XB power this year, making Goodyear an even greater threat.

Fittipaldi and Tracy are spending their time working with the chassis, rather than Chevrolet development, which is showing results already as the Penskes are quick. Fittipaldi made a serious second half charge last year and should pick up where he left off. Tracy is entering his first full season in the PPG Cup, but has proven himself to be a thrilling charger with Michael Andretti's ability to bring a crowd to its feet.

Mario Andretti continues to be one of the top competitors in the sport. He might be one of the old guard, but Mario has the desire and enthusiasm of a rookie. He won pole honors at the Marlboro 500 and came close to winning several races. Look for

Andretti to challenge all the way this year. His teammate, Mansell, has adapted to the new car very well, quickly establishing himself as a threat. How Mansell will adjust to pit stops, rolling starts and heavy traffic remains to be seen, but count on top performances.

Another one of the solid contenders is Arie Luyendyk, a three-time PPG Cup race winner and the 1990 Indianapolis 500 champion. Luyendyk has been re-united with engineer Morris Nunn, a combination that could prove to be powerful with the Lola-Ford Cosworth XB equipment. Chip Ganassi should be smiling all year.

Teo Fabi is also back full time, this time driving Jim Hall's Pennzoil car. A nasty crash in early February set the team back a little, but Fabi is a solid veteran who can pick up right where he left off with other teams.

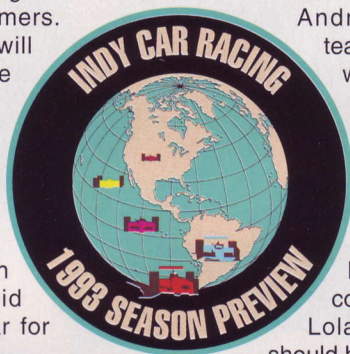
Roberto Guerrero is back this season in Budweiser red. It will mark his first full season since 1990, when he ran for Patrick Racing. Guerrero figures to be a threat, as car owner Kenny Bernstein has always fielded top cars wherever he races.

Boesel has a full season in Dick Simon's Duracell Lola. Simon also made the switch to Ford Cosworth XB. Boesel subbed for the injured Hiro Matsushita last year, then rolled into his own program. Simon was very confident during the off-season, even predicting a victory, which is something he has never done before. Boesel has all the tools to make it happen.

Other talented drivers who figure to be in the hunt include Eddie Cheever, who will work with Larry Curry at Turley Motorsports this year. Scott Brayton is back with the Amway gang at Simon, and looking to repeat his podium appearance at Milwaukee several times this year. Scott Pruett has a partial deal with Pro Formance Racing and will work with veteran John Dick.

The CART franchise teams number 24, which should mean 24 full-time, or near full-time, entries. In some cases, car owners will field more than two entries, meaning one of those entries will be a non-franchise player. If that keeps up, 1994 could be an expansion year for Indy Car.

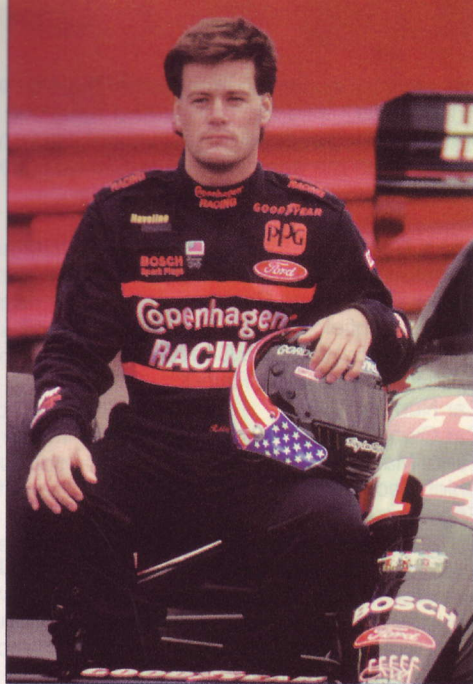
For now, though, here's a driver-by-driver look at the upcoming season.





Robby Gordon (right) is looking forward to driving A.J. Foyt's 1993 Lola Ford Cosworth XB.

PHOTO BY DAN R. BOYD

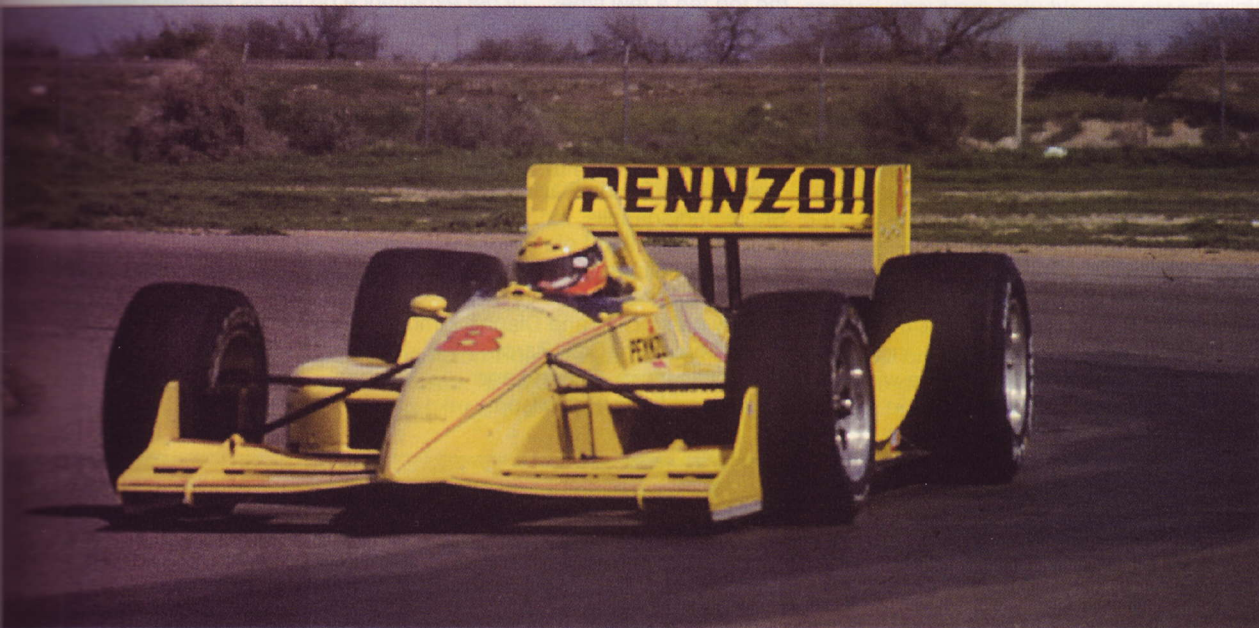


Arie Luyendyk (below) is looking forward to full-time status with Chip Ganassi Racing.

PHOTO BY ART FLORES

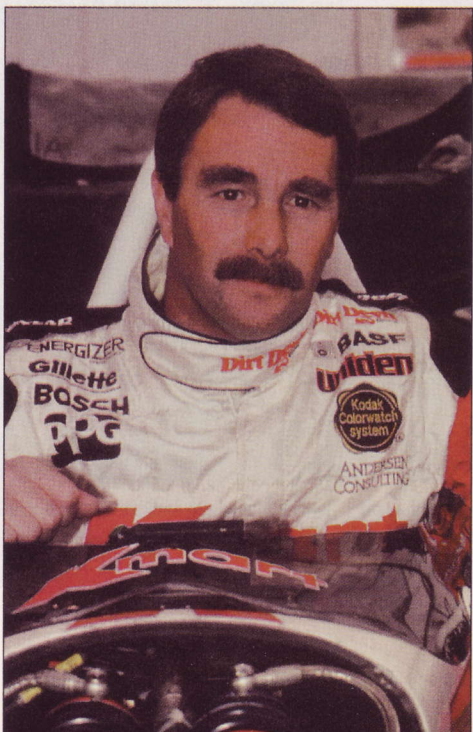


Teo Fabi (left) is looking forward to a full season with Hall/VDS Racing in 1993.



Nigel Mansell (right) is looking forward to his first season of Indy Car racing in 1993.

PHOTO BY RON McQUEENEY



Danny Sullivan (above) will be behind the wheel of a 1993 Molson Lola Chevy/C in 1993.

PHOTO BY RON McQUEENEY

### **Mario Andretti**

Hometown: Nazareth, Pa.  
Team: Newman/Haas Racing  
Shop: Lincolnshire, Ill.  
Car/Engine: 1993 Lola Ford Cosworth XB  
Sponsors: Kmart, Texaco/Havoline  
Car Number: 6  
Car Owners: Paul Newman, Carl Haas  
Team Manager: Jim McGee  
Chief Mechanic: John Simmonds  
Engineer: Brian Lisles

Andretti is entering his 30th year of Indy Car racing, his 11th with Newman/Haas Racing. He is hungrier than ever for victory and is looking forward to teaming with reigning Formula One champion Nigel Mansell.

"I've seen Nigel (Mansell) drive and he's always been quick, super quick, everywhere he's gone," said Andretti. "A driver just doesn't change. A quick driver is always quick in whatever car. If the car is anywhere close, he's gonna take it to the limit. He's not intimidated by anything."

### **Eric Bachelart**

Hometown: Brussels, Belgium  
Team: Dale Coyne Racing  
Shop: Plainfield, Ill.  
Car/Engine: 1992 Lola Buick  
Sponsor: The Marmon Group  
Car Number: 32  
Car Owner: Dale Coyne  
Team Manager: Bernie Myers  
Chief Mechanic: Bernie Myers, Doug Myers  
Engineer: TBA

Bachelart is coming off a rookie season in 1992 which saw him compete in 14 races. The fastest rookie qualifier at Indy last season, Bachelart plans to compete in 10 Indy Car races, including the Indy 500 where he will drive the Marmon Wasp II. He will also compete in the 1993 Belgian touring car championship.

"I am very excited to be a part of the Marmon Group's return to Indianapolis," said Bachelart. "I am looking forward to this year because of my experience last year. I am very happy to have Dale working with me again. I think we have a good opportunity for this year."

### **Ross Bentley**

Hometown: Vancouver, British Columbia  
Team: Dale Coyne Racing  
Shop: Plainfield, Ill.  
Car/Engine: 1992 Lola Chevy/A  
Sponsors: Agfa Film, Rain-X  
Car Number: 39  
Car Owner: Dale Coyne  
Team Manager: TBA  
Chief Mechanic: TBA  
Engineer: TBA

Bentley started his Indy Car career in 1990 by running his hometown race in Vancouver. He has now reached one of his goals by competing in a full season. He will run all 16 races in '93. He is looking forward to his best season of racing ever.

"This is my dream season," said Bentley. "I want to try to get into the top ten a few times. I'll get experience on tracks I haven't seen before. With upgraded equipment in '93 and the sponsorship, I've gotten the break I've always wanted. I'm happy to be working with Dale Coyne again. He's really a perfect fit for me now."

### **Raul Boesel**

Hometown: Curitiba, Brazil  
Team: Dick Simon Racing  
Shop: Indianapolis, Ind.  
Car/Engine: 1993 Lola Ford Cosworth XB  
Sponsors: Duracell, Mobil 1, Sadia  
Car Number: 9  
Car Owners: Dick and Dianne Simon  
Team Manager: Dick Caron  
Chief Mechanic: Gilbert Lage  
Engineer: Julian Robertson

## **The Chevy Indy V8/C**

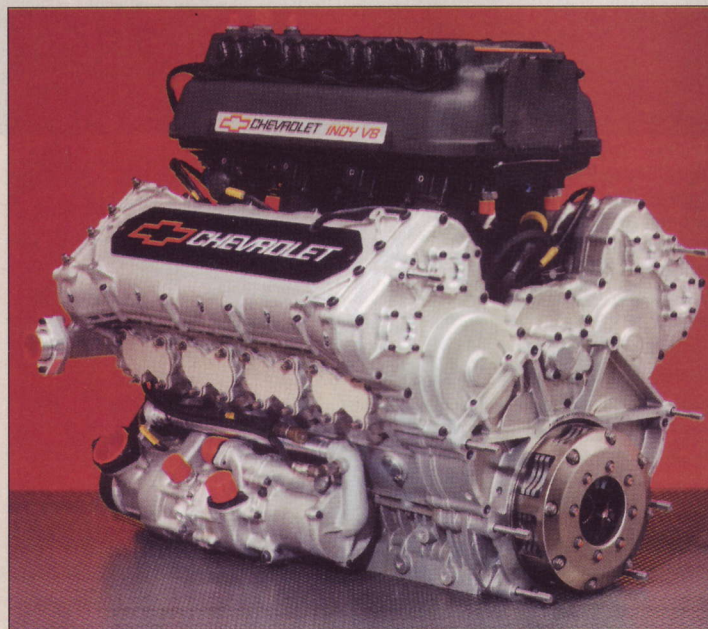
The newest Indy Car engine design to carry the Chevrolet nameplate has been designated the Chevy/C. Although bearing similar outward appearance to the B engine introduced in 1992, the C version is smaller, lighter and expected to be more powerful due to significant interior changes.

The Chevy Indy/C engine also incorporates a newly designed engine management system and software from Delco Electronics. Designated GEN-IV, the new system is built around a 32-bit microprocessor.

Like the A and B versions, the Chevy/C engines are designed and machined at Ilmor Engineering in Brixworth, England, and shipped in kit form to the two rebuild facilities — Penske in Reading, Pa., and VDS in Midland, Texas, for assembly and dyno testing.

The new engine first ran on the Ilmor Engineering dyno on December 9, 1992, and made initial track tests in Phoenix, Ariz., just prior to the holiday break. Extensive testing is currently underway.

The Chevy engine program has accounted for five consecutive PPG Indy Car World Series championships and five consecutive Indianapolis 500 race wins.



The Chevy/C, built by Ilmor Engineering, is the company's third all-new Indy Car engine.

Boesel competed in 13 races starting with Indianapolis in 1992. He posted a second at Detroit and a third at the Marlboro 500, serving notice that he is a consistent front runner. He has put together a full-season program for 1993.

**Scott Brayton**

Hometown: Coldwater, Mich.  
 Team: Dick Simon Racing  
 Shop: Indianapolis, Ind.  
 Car/Engine: 1993 Lola Ford Cosworth XB  
 Sponsors: Amway, Northwest Airlines  
 Car Number: 22  
 Car Owners: Dick and Dianne Simon  
 Team Manager: Dick Caron  
 Chief Mechanic: Mark Bridges  
 Engineer: Chuck Matthews

Entering his 13th year of Indy Car racing, Brayton is hoping to improve on his career-best finish of third place. He has long-time sponsor Amway back in his corner along with the Ford Cosworth XB engine. He may again switch to the Buick engine at Indianapolis.

**Robbie Buhl**

Hometown: Detroit, Mich.  
 Team: Dale Coyne Racing  
 Shop: Plainfield, Ill.  
 Car/Engine: 1992 Lola Chevy/A  
 Sponsors: Mi-Jack, CompUSA, Copper & Brass Sales, Racing for Kids, Hoechst-Roussel Pharmaceuticals  
 Car Number: 19  
 Car Owner: Dale Coyne  
 Team Manager: Bernie Myers  
 Chief Mechanic: Bernie Myers  
 Engineer: TBA

1992 Firestone Indy Lights champion Robbie Buhl is making the step up to the Indy Cars this season. He has brought his Racing for Kids program with him and thus plans to visit children's

hospitals around the country. Buhl becomes the third Indy Lights champion to make his Indy Car debut with Dale Coyne Racing, following Paul Tracy and Eric Bachelart.

"Dale is a highly regarded, conscientious owner who has a reputation of working very well with young drivers," said Buhl. "I'm looking forward to working with him. Our goal is to win 'Rookie of the Year' honors at the Speedway and through Indy Car. With the package that we have, we feel that that's possible."

**Eddie Cheever**

Hometown: Aspen, Colo.  
 Team: Turley Motorsports  
 Shop: Long Beach, Calif.  
 Car/Engine: 1992 Penske Chevy/B  
 Sponsor: TBA  
 Car Number: 69  
 Car Owner: Norm Turley  
 Team Manager: Larry Curry  
 Chief Mechanic: Bharat Naran  
 Engineer: TBA

Cheever, who drove for Chip Ganassi Racing in 1992, enters his fourth year of Indy Car competition this season. He is very excited about not only his new program, but Indy Car racing as a whole.

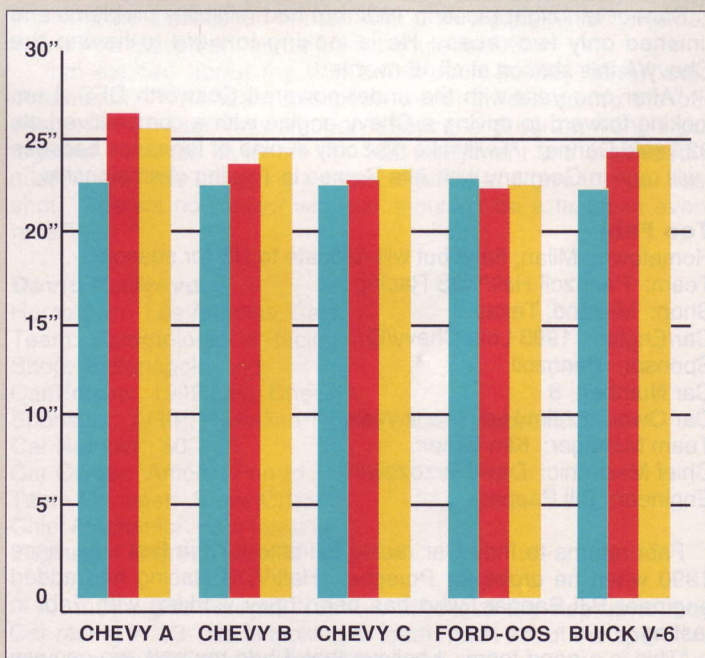
"This is going to be a great year for Indy Car racing as a whole. Our series is healthy and growing," said Cheever. "The attendance and television numbers prove that point. And those numbers will continue to increase because the competition is improving. I think we will again see several different teams win races this year, and the championship will not be decided until very late in the season. We have exciting races that make it interesting for the fans and for the people that work in this series.

"I also think that one of the biggest pluses this year will be Mansell's presence. What he is doing is a pretty brave move. Leaving Formula One at his peak to drive a car that is very different on oval circuits is a bold step. And I'm sure Nigel is going to do well. People will see what a great driver he is. I am looking forward to competing with him."

**Technical Specs**

- |                   |   |
|-------------------|---|
| Type              | • 80-degree V8  |
| Displacement      | • 2.65 liters/161.5 cu. in.                                     |
| Compression Ratio | • 11.0:1  |
| Engine Management | • Delco Electronic GEN-IV System                                |
| Fuel System       | • AC/Rochester high-pressure fuel injectors                     |
| Valve System      | • Dual overhead camshafts                                       |
| Valvetrain        | • Four valves per cylinder                                      |
| Crankcase         | • Sand-cast aluminum alloy with wet liners                      |
| Cylinder Heads    | • One-piece, sand-cast aluminum alloy                           |
| Crankshaft        | • Flat 180-degree forged alloy steel, five main-bearing caps    |
| Pistons           | • Forged aluminum alloy   |
| Connecting Rods   | • Machined alloy steel  |
| Ignition          | • Delco Capacitive Discharge individual cylinder ignition coils |
| Turbocharger      | • 7.4 psi/45 inches (mercury) intake manifold pressure          |
| Oiling System     | • Dry sump, 68 psi oil pressure system                          |
| Cooling           | • Water cooled, dual-outlet centrifugal pump                    |
| Length            | • 561mm/22.0 in.  |
| Width             | • 560mm/22.0 in.  |
| Height            | • 580mm/22.8 in.  |

**Relative Engine Sizes** Length Width Height





# Season Preview

## Andrea Chiesa

Hometown: Milan, Italy  
Team: Euromotorsport Racing, Inc./EAI  
Shop: Indianapolis, Ind.  
Car/Engine: 1992 Lola Chevy/A  
Sponsor: Andrea Moda  
Car Number: 42  
Car Owner: Antonio Ferrari  
Team Manager: Steve Chassey  
Chief Mechanic: John Weland  
Engineer: Andreas Leberle

Chiesa will be a rookie in Indy Car racing in 1993 but has much racing experience. He plans to compete in six races in 1993 as a learning opportunity.

"Last year, I raced in F1 with Fondmetal Team," said Chiesa. "I'd like to have one year of experience in Indy Cars only on road courses, so next year I hope my sponsors will help me with a full season. I will compete in six races, but I would like to complete the season."

## Christian Danner

Hometown: Munich, Germany  
Team: Euromotorsport Racing, Inc.  
Shop: Indianapolis, Ind.  
Car/Engine: 1992 Lola Chevy/A  
Sponsors: AGIP, Hawaiian Tropic, Andrea Moda, IEMA  
Car Number: 50  
Car Owner: Antonio Ferrari  
Team Manager: Steve Chassey  
Chief Mechanic: Paul Murphy  
Engineer: Andreas Leberle

Danner ran eight races in 1992 but had reliability problems and finished only two races. He is looking forward to having the Chevy/A this season at all 16 events.

"After one year with the under-powered Cosworth DFS, I am looking forward to driving a Chevy engine with a competitive Lola 92," said Danner. "I will take part only in nine or ten races because I will race in Germany with Alfa Romeo in Touring championship."

## Teo Fabi

Hometown: Milan, Italy, but will relocate to US for season  
Team: Pennzoil Hall/VDS Racing  
Shop: Midland, Texas  
Car/Engine: 1993 Lola Chevy/C  
Sponsor: Pennzoil  
Car Number: 8  
Car Owners: Jim Hall, Franz Weis  
Team Manager: Kim Green  
Chief Mechanic: David Brzozowski  
Engineer: Bill Pappas

Fabi returns to Indy Car racing full-time for the first time since 1990 when he drove for Porsche. Hall/VDS Racing has added engineer Bill Pappas, who has been busy working with Fabi in testing.

"This is a good team. I believe that if I do my part, we can win races this year."

## Adrian Fernandez

Hometown: Mexico City, Mexico  
Team: Galles Racing International  
Shop: Albuquerque, N.M.  
Car/Engine: 1993 Lola Chevy/C  
Sponsor: TBA  
Car Number: 11  
Car Owner: Rick Galles  
Team Manager: TBA  
Chief Mechanic: TBA  
Engineer: TBA

Fernandez, 1992 Indy Lights rookie of the year, moves up to the Indy Car ranks in '93. He is schedule to compete in six races and to carry out testing for the Galles team.

Galles hopes to add another driver to this effort to make it a full-schedule team.

## Emerson Fittipaldi

Hometown: Key Biscayne, Fla./Sao Paulo, Brazil  
Team: Marlboro Racing Team Penske  
Shop: Reading, Pa.  
Car/Engine: 1993 Penske Chevy C  
Sponsor: Marlboro  
Car Number: 4  
Car Owner: Roger Penske  
Team Manager: Chuck Sprague  
Chief Mechanic: Rick Rinaman  
Engineer: Grant Newbury

Fittipaldi has been testing the new Penske car since December and is very excited about its possibilities. If he can put together some good races in the early part of the season, he will be a contender for the title.

"For sure, I am really looking forward to this year," said Fittipaldi. "We had a strong second half of the season in '92 and many times in my racing career I have seen that go over to the next year. The new car is beautiful and the Chevy/C for sure has more power. I am really excited that we started testing so early. It shows how strong the preparation is at Marlboro Penske Racing."

## Scott Goodyear

Hometown: Toronto, Ontario  
Team: Walker Motorsport  
Shop: Warrington, Pa.  
Car/Engine: 1993 Lola Ford Cosworth XB  
Sponsors: Mackenzie Financial, Valvoline, Bosch, National Rental Car  
Car Number: 2  
Car Owner: Derrick Walker  
Team Manager: Steve Fusek  
Chief Mechanic: Buddy Lindblom  
Engineer: Tim Wardrop

Coming off his best season of Indy Car racing to date, Goodyear is excited about 1993. For the first time in his Indy Car career he has a solid testing program, which should pay big dividends.

"I am looking forward to having a great season," said Goodyear. "Having the best engine and chassis with a testing program, I'm sure we are going to have a great season. Mackenzie Financial is back again, and it's great to have their continuing support."

### **Robby Gordon**

Hometown: Orange, Calif.  
Team: A.J. Foyt Enterprises/Copenhagen Racing  
Shop: Houston, Texas  
Car/Engine: 1993 Lola Ford Cosworth XB  
Sponsor: Copenhagen Racing  
Car Number: 14  
Car Owner: A.J. Foyt  
Team Manager: John Anderson  
Chief Mechanic: Craig Baranouski  
Engineer: Kenny Anderson

Gordon competed in seven races in 1992 for Chip Ganassi Racing Teams but got the call from A.J. Foyt for the Copenhagen car in '93. Gordon showed flashes of brilliance last year and is looking forward to Foyt's experience at Indianapolis.

"I'm really looking forward to my first full season in Indy Cars," said Gordon. "I'm real hungry and I can't wait to learn a lot from A.J. I think we can win a race."

### **Marco Greco**

Hometown: Sao Paulo, Brazil  
Team: Sovereign Racing  
Shop: Indianapolis, Ind.  
Car/Engine: 1992 Lola Chevy/A  
Sponsors: International Sports Ltd, Team Losi, Alfa Laval  
Car Number: 30  
Car Owners: Chip Ganassi, Dennis McCormack  
Team Manager: Dennis McCormack  
Chief Mechanic: Steve Farkly  
Engineer: Phil Harris

Greco tied Mark Smith for seventh in the 1992 Indy Lights point standings. He will compete in all 16 events and is looking forward to his rookie Indy Car season.

"It is exciting to think that I will be driving in the 1993 Indy Car season," said Greco. "It is good that the US has a program like Indy Lights that drivers can work their way up to the rank of Indy Car professional. I also am thrilled to be driving for Sovereign Racing and working for a proven organization of dedicated individuals who care about the driver as well as a high level of craftsmanship."

Sovereign Racing is new in name to the sport but has veteran Dennis McCormack running the operation. Ganassi has joined McCormack and the team will use Ganassi's second CART franchise throughout the season.

### **Mike Groff**

Hometown: Los Angeles, Calif.  
Team: Rahal/Hogan Team Miller  
Shop: Hilliard, Ohio  
Car/Engine: R/H-001, Chevy/C  
Sponsors: Miller Genuine Draft Light, Shell, Red Roof Inns  
Car Number: 26  
Car Owners: Bobby Rahal, Carl Hogan  
Team Manager: Jim Prescott  
Chief Mechanic: Larry Ellert  
Engineer: Tim Reiter, Ray Leto

Groff made six starts in 1992 for Walker Motorsport and A.J. Foyt Racing but joins Rahal/Hogan for six events in 1993 in addition to hundreds of miles of testing and development. Groff will race at Milwaukee, Detroit, Portland, Cleveland, Mid-Ohio and Laguna Seca.

"This is the biggest opportunity of my career. Being associated with a championship team like Rahal/Hogan is every driver's dream," said Groff. "I've been working for 20 years to reach this level. Now I have to make the most of my chances. Working with a driver like Bobby and a top team will give me a big boost in my learning curve in Indy Car racing."

### **Roberto Guerrero**

Hometown: San Juan Capistrano, Calif.  
Team: Budweiser King Racing  
Shop: Indianapolis, Ind.  
Car/Engine: 1993 Lola Chevy/C  
Sponsor: Budweiser  
Car Number: 40  
Car Owners: Kenny Bernstein, John Dangler  
Team Manager: Peter Scott  
Chief Mechanic: Chris Griffis  
Engineer: John Travis, Ian Ashdown

Guerrero returns to the sport full-time for the first time since 1990. The single and four-lap record holder at Indianapolis will be looking to add to his two victories and six career poles in '93.

"I think that 1993 will be an extremely competitive season for Indy Car racing," said Guerrero. "I'm very excited about the program that Kenny Bernstein and Budweiser put together for me. I feel that we have the capability of winning every race. It's not going to be easy because there are a number of competitive teams and drivers, but if we work hard, the Budweiser King will have a very successful season."

### **Stefan Johansson**

Hometown: Monte Carlo, Monaco  
Team: Bettenhausen Motorsports  
Shop: Speedway, Ind.  
Car/Engine: 1993 Penske Chevy/C  
Sponsor: AMAX  
Car Number: 16  
Car Owner: Bettenhausen Motorsports, Inc.  
Team Manager: Paul Diatlovich  
Chief Mechanic: Rick Duman/Steve Ritenour  
Engineer: Tom Brown

Johansson came to Indy Car racing at Detroit last year and immediately established himself with a third place finish. He has brand new equipment and a full-schedule for '93.

"I'm excited about my first full season in Indy Cars," said Johansson. "The team has been working hard during the off-season and I can't say enough about the program Tony's put together. He has given me the best equipment and organized a super team. We are going to work together and give this our best shot. There's no reason why we shouldn't be a factor in every race."

### **David Kudrave**

Hometown: Los Angeles, Calif.  
Team: Euromotorsport Racing, Inc.  
Shop: Indianapolis, Ind.  
Car/Engine: 1992 Lola Chevy/A  
Sponsors: AGIP, Hawaiian Tropic, Andrea Moda, IEMA  
Car Number: 50  
Car Owner: Antonio Ferrari  
Team Manager: Steve Chassey  
Chief Mechanic: Paul Murphy  
Engineer: Andreas Leberle

An Indy Lights veteran, Kudrave will make the step up to Indy Car racing in '93. He is looking to learn much about the sport this season with a full-effort planned for 1994.

"This year I understand more about Indy Cars after some Indy



Raul Boesel (below) and the Dick Simon team have been busy preparing for the 1993 season.

PHOTO BY TIM REMPE



Emerson Fittipaldi (right) is looking forward to driving the 1993 Marlboro Penske Chevy/C.

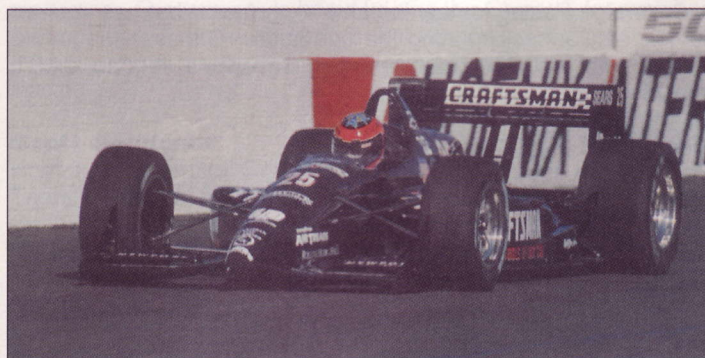


Roberto Guerrero (left) is back full-time in 1993 with Budweiser King Racing.

PHOTO BY LORNE TREZISE

Paul Tracy (right) will drive the Marlboro Penske Chevy/C full-time in 1993.

PHOTO BY JONATHAN EXLEY



Mark Smith (above) moves up to Indy Car racing from Indy Lights in 1993 with Arciero Racing.

PHOTO BY LORNE TREZISE

Lights seasons," said Kudrave. "I will be at Phoenix, Long Beach, Portland, Vancouver, Loudon and Nazareth. I will be available any time Euromotorsport will need a driver."

### **Buddy Lazier**

Hometown: Vail, Colo.  
Team: Leader Card Racing  
Shop: Indianapolis, Ind.  
Car/Engine: 1991 Lola Chevy/A  
Sponsor: Viper  
Car Number: 21  
Car Owner: Ralph Wilke  
Team Manager: Bob Lazier  
Chief Mechanic: TBA  
Engineer: TBA

Lazier returns to Leader Card Racing after running 15 races with the team in '92. He hopes to have updated equipment by the early season if additional sponsorship can be found. He will have a Buick engine at the Speedway.

### **Arie Luyendyk**

Hometown: Rosmalen, Holland  
Team: Chip Ganassi Racing Team  
Shop: Indianapolis, Ind.  
Car/Engine: 1993 Lola Ford Cosworth XB  
Sponsors: Target, Scotch Video, Rayovac, Diet Pepsi, Dial, 7-Up, Teledyne Waterpik, Planters Peanuts, First Alert, ShopVac, Krylon Paint  
Car Number: 10  
Car Owner: Chip Ganassi  
Team Manager: Tom Anderson  
Chief Mechanic: Mike Hull  
Engineer: Morris Nunn

Luyendyk is back in '93 with a full-time effort after sitting out most of the '92 season. He is looking forward to re-uniting with engineer Mo Nunn, with whom he won two races in 1991.

"This is a whole new beginning for me," said Luyendyk. "It's like starting all over again, and I'm very pleased to be with Chip and the entire Target Scotch Video Team. We have been doing quite a bit of testing in preparation for the '93 season, and I'm quietly confident about our chances this year. It is good to be back with Morris Nunn and the changes within the team are in the right direction. I'm looking forward to the upcoming season."

### **Nigel Mansell**

Hometown: Clearwater, Fla./Isle of Man  
Team: Newman/Haas Racing  
Shop: Lincolnshire, Ill.  
Car/Engine: 1993 Lola Ford Cosworth XB  
Sponsors: Kmart, Texaco/Havoline  
Car Number: 5  
Car Owners: Paul Newman, Carl Haas  
Team Manager: Jim McGee  
Chief Mechanic: Tom Wurtz  
Engineer: Peter Gibbons

Mansell's switch from Formula One to Indy Car racing has caused quite a stir in the international racing world. The reigning Formula One champion has been busy testing and is looking forward to the challenges of Indy Car racing.

"My comfort zone in the team and Mario being with the team, setting the car up and all the work, is 100 percent," said Mansell. "I don't think I could contemplate a season of Indy Car racing if it wasn't for the team. They've given me the confidence."

### **Hiro Matsushita**

Hometown: San Clemente, Calif.  
Team: Walker Motorsport  
Shop: Warrington, Pa.  
Car/Engine: 1993 Lola Ford Cosworth XB  
Sponsor: Panasonic  
Car Number: 15  
Car Owner: Derrick Walker  
Team Manager: Steve Fusek  
Chief Mechanic: Laurie Gerrish  
Engineer: Rob Edwards

After being injured most of the '92 season, Matsushita has changed teams and is looking for good results in '93. Solid testing has given the 1989 Toyota Atlantic champion reason for optimism in '93.

"My goal for the '93 season is to place tenth in the points standings," said Matsushita. "I must work very hard with Derrick, Scott Goodyear and the entire team this season. Our plan is to run consistently in the top ten event after event."

### **Scott Pruett**

Hometown: Crystal Bay, Ore.  
Team: Pro Formance Motorsports  
Shop: Chandler, Ariz.  
Car/Engine: 1991 Lola Chevy/A  
Sponsors: Pro Formance Driving Events/Tobacco Free America  
Car Number: 45  
Car Owner: Tim Duke  
Team Manager: John Dick  
Chief Mechanic: Randy Bain  
Engineer: John Dick

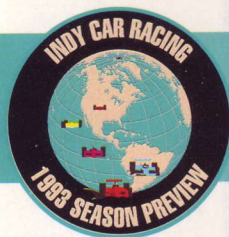
Scott Pruett was quiet most of the winter but landed a ride with Pro Formance in the early days of March. Current plans call for the team to participate in nine events (Phoenix, Long Beach, Indianapolis, Detroit, Cleveland, Michigan, Vancouver, Nazareth and Laguna Seca).

### **Bobby Rahal**

Hometown: Dublin, Ohio  
Team: Rahal/Hogan Team Miller  
Shop: Hilliard, Ohio  
Car/Engine: R/H-001 Chevy/C  
Sponsors: Miller Genuine Draft, Shell Oil, Textron, Red Roof Inns  
Car Number: 1  
Car Owners: Bobby Rahal, Carl Hogan  
Team Manager: Jim Prescott  
Chief Mechanic: Larry Ellert  
Engineer: Tim Reiter, Ray Leto

If Rahal can defend his 1992 PPG Cup championship in '93, he will become the first driver to win the coveted PPG title four times, as others have multiple national championships under the USAC and AAA sanctions. If history is any indication, he may just do so because he won back-to-back titles in 1986 and '87. He will be driving an updated version of the car Scott Pruett drove last year with an all-new Don Halliday design under him by June. The last time Rahal won the title he also switched chassis, moving from March to Lola.

"It will be an intriguing year for our team with a new chassis and new Chevy engine," said Rahal. "It's a contrast to last year when we went with the "tried and true" combination. But I'm confident we are moving in the right direction with our own chassis. Don Halliday's new design is very exciting, too. I'm ready to defend our title."



# Season Preview

## Lyn St. James

Hometown: Daytona Beach, Fla.  
Team: Dick Simon Racing  
Shop: Indianapolis, Ind.  
Car/Engine: 1993 Lola Ford Cosworth XB  
Sponsors: JCPenney "Spirit of the American Woman",  
New Essentials, Jantzen  
Car Number: 90  
Car Owners: Dick and Dianne Simon  
Team Manager: Dick Caron  
Chief Mechanic: Tony Von Dongen  
Engineer: David Cripps

St. James is looking forward to building on her Indy 500 rookie of the year honors in '93 by running a full schedule with the exception of the Australian race. She has had some very successful tests during the off-season in preparation for the season.

"We're looking forward to the best racing season ever with the best equipment and best team yet," said St. James.

## Mark Smith

Hometown: McMinnville, Ore.  
Team: Arciero Racing  
Shop: Anaheim, Calif.  
Car/Engine: 1992 Penske Chevy/B  
Sponsor: Craftsman  
Car Number: 25  
Car Owner: Frank Arciero  
Team Manager: Mark Weida  
Chief Mechanic: Bob Sprow  
Engineer: TBA

Smith is making the jump from Indy Lights to Indy Cars in '93. He is doing so with Arciero Racing, which has moved back to its headquarters in California. With Arciero Racing, Smith is with a team that fielded back-to-back Indy 500 rookie of the year winners with Randy Lanier in 1986 and Fabrizio Barbazza in 1987.

## Danny Sullivan

Hometown: Aspen, Colo.  
Team: Galles Racing International  
Shop: Albuquerque, N.M.  
Car/Engine: 1993 Lola Chevy/C  
Sponsor: Molson Breweries, U.S.A.  
Car Number: 7  
Car Owner: Rick Galles  
Team Manager: Ed Nathman  
Chief Mechanic: Paul Harcus  
Engineer: Ed Nathman

Sullivan is looking forward to having '93 Lolas and Chevy/C engines this season. Despite winning at Long Beach in '92, Sullivan has not had optimum equipment since he left Penske Racing in 1990. He has been busy testing in preparation for what he believes will be his best season in a while.

"This will be the first time in three seasons that I'm not in an experimental car or engine," said Sullivan. "Alan Mertens and his design group put a tremendous amount of themselves into the Galmer, but we just didn't have the time or the resources to fully

develop the car and it showed as the season progressed. Now, with the Lola, we know we are in the ballpark. We'll be working the finer points of the car set-up and handling and tailoring it to match our style. With several other teams having similar packages, the pressure will be on to wring every last drop out of the car to gain any advantage we can."

## Paul Tracy

Hometown: West Hill, Ontario  
Team: Marlboro Racing Team Penske  
Shop: Reading, Pa.  
Car/Engine: 1993 Penske Chevy C  
Sponsor: Marlboro  
Car Number: 12  
Car Owner: Roger Penske  
Team Manager: Chuck Sprague  
Chief Mechanic: Tim Bumps  
Engineer: Nigel BeresFord Cosworth XB

Tracy is no substitute driver in '93. He has full-time duties for the first time in Indy Car racing. He showed flashes of brilliance in '92 and is looking to establish himself as a championship threat.

"I'm really looking forward to running my first full season with Marlboro Racing Team Penske," said Tracy. "I've spent a good deal of time during the off-season testing the new car on both ovals and road courses and it's performed very well. Nigel (Bennett) has built an outstanding car and combined with the new Ilmor-designed Chevy Indy V8C engine, I feel we've got a competitive package for '93.

"Having the best equipment available, a talented crew and the opportunity to work with Emerson (Fittipaldi) and Rick all add up to a strong team for '93. Personally, I've been working out twice a day to prepare myself physically and I'm ready to go out and put some numbers on the board."

## Al Unser Jr.

Hometown: Albuquerque, N.M.  
Team: Galles Racing International  
Shop: Albuquerque, N.M.  
Car/Engine: 1993 Lola Chevrolet C  
Sponsor: Valvoline, Inc.  
Car Number: 3  
Car Owner: Rick Galles  
Team Manager: Ed Nathman  
Chief Mechanic: Owen Snyder  
Engineer: Alan Mertens

Al Unser Jr. is back in a Lola after winning the '92 Indy 500 in a Galmer. Though he challenged for the championship late in '92, he is hoping to repeat his 1991 PPG Cup title performance in '93. Al Jr. still has Formula One aspirations and may make that move if the opportunity arises.

"We're looking forward to the season," said Unser Jr. "I'm ready to go and my team is ready to go. It should be a real good year for the Indy Cars. Nigel Mansell has brought a lot of attention to our series and to American racing. I think that's great. Bobby (Rahal) is the defending champion, Emerson (Fittipaldi) and Paul (Tracy) are back, and Mario's still real strong. Hopefully, Michael (Andretti) will show the Formula One people that American racing is serious stuff. I truly believe he will."



**Jimmy Vasser**

Hometown: Discovery Bay, Calif.

Team: Hayhoe/Simon Racing

Shop: Indianapolis, Ind.

Car/Engine: 1992 Chevy/A

Sponsors: Kodalux, STP

Car Number: 18

Car Owners: Jim Hayhoe, Dick and Dianne Simon

Team Manager: Dick Caron

Chief Mechanic: Phil Casey

Engineer: Steven Newey

Vasser's car owner Jim Hayhoe has decided to join forces with Dick Simon Racing for '93. Vasser made 10 starts in his rookie season last year and is hoping to improve on his career-best finish of seventh.

**Indy Only**

Jeff Andretti will compete at Indy with Pagan Racing in a 1992

Lola Buick. He is looking forward to coming back from a serious injury suffered at Indy last season.

Jim Crawford will return to Indy with Budweiser King Racing in a 1993 Lola Chevy/C. The '93 "500" will mark the first time Crawford will not be in a Buick-powered car since 1985, his rookie year at the Speedway.

Al Unser will drive for Budweiser King Racing in a 1993 Lola Chevy/C. Unser has not had a ride at Indy prior to the start of practice since 1990.

Kevin Cogan, who had to sit out at Indy last year due to an injury suffered there in 1991, will be back in 1993. He is scheduled to drive a Consecco-sponsored 1993 Lola Chevy/C for Galles Racing International.

Gary Bettenhausen will return to Team Menard in a 1993 Lola Buick. He will likely be joined by Nelson Piquet, who crashed last year at Indy. Piquet has reportedly dropped his law suit again team owner John Menard and will also drive a 1993 Lola Buick.

\* Other "Indy Only" entrants are forthcoming

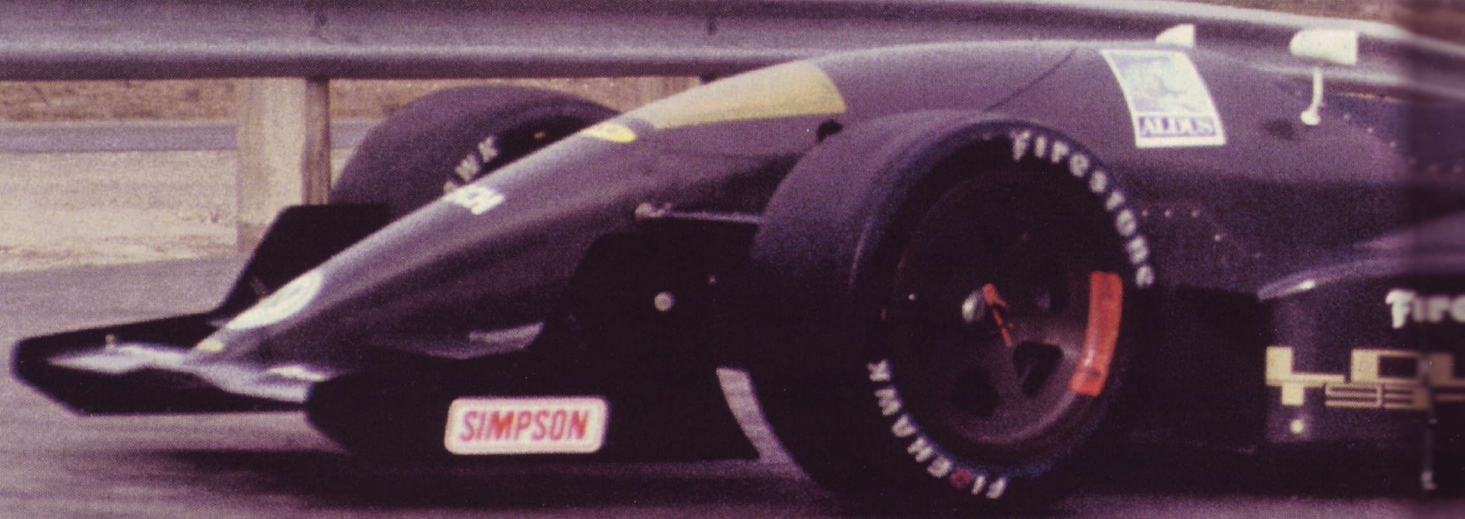
# 1993 PPG Indy Car World Series Entry List

No.	Driver	Sponsor	Chassis	Engine	Entrant
1	Bobby Rahal	Miller Genuine Draft	RH-001	Chevy/C	Rahal-Hogan Team Miller
2	Scott Goodyear	Mackenzie Financial	Lola T-93/00	Ford Cosworth XB	Walker Motorsports
3	Al Unser Jr.	Valvoline	Lola T-93/00	Chevy/C	Galles Racing International
4	Emerson Fittipaldi	Marlboro	Penske 93	Chevy/C	Marlboro Racing Team Penske
5	Nigel Mansell	Kmart/Havoline	Lola T-93/00	Ford Cosworth XB	Newman/Haas Racing
6	Mario Andretti	Kmart/Havoline	Lola T-93/00	Ford Cosworth XB	Newman/Haas Racing
7	Danny Sullivan	Molson-STP	Lola T-93/00	Chevy/C	Galles Racing International
8	Teo Fabi	Pennzoil	Lola T-93/00	Chevy/C	Pennzoil Hall/VDS Racing
9	Raul Boesel	Duracell	Lola T-93/00	Ford Cosworth XB	Dick Simon Racing
10	Arie Luyendyk	Target/Scotch	Lola T-93/00	Ford Cosworth XB	Chip Ganassi Race Teams
11	Adrian Fernandez		Lola T-93/00	Chevy/C	Galles Racing International
12	Paul Tracy	Marlboro	Penske 93	Chevy/C	Marlboro Racing Team Penske
14	Robby Gordon (R)	Copenhagen	Lola T-93/00	Ford Cosworth XB	A.J. Foyt Ent./Copenhagen Rcg.
15	Hiro Matsushita	Panasonic/Sega	Lola T-93/00	Ford Cosworth XB	Walker Motorsports
16	Stephan Johansson	AMAX	Penske 93	Chevy/C	Bettenhausen Motorsports
18	Jimmy Vasser	STP/Kodalux	Lola T-92/00	Chevy/A	Hayhoe/Simon Racing
19	Robbie Buhl (R)	Mi-Jack/Racing For Kids	Lola T-92/00	Chevy/A	Dale Coyne Racing
21	Buddy Lazier	Viper	Lola T-91/00	Chevy A	Leader Card
22	Scott Brayton	Amway	Lola T-93/00	Ford Cosworth XB	Dick Simon Racing
23	Gary Brabham (R)		Lola T-92/00	Ford Cosworth XB	Dick Simon Racing
25	Mark Smith (R)	Evergreen Aviation	Penske 92	Chevy/B	Arciero Racing
26	Mike Groff	Miller Genuine Draft Light	RH-001	Chevy/C	Rahal-Hogan Team Miller
30	Marco Grecco (R)	Int'l Sports Ltd.	Lola T-92/00	Chevy/A	Sovereign Racing
31	Eddie Cheever		Penske 92	Chevy/A	Turley Motorsports
40	Roberto Guerrero	Budweiser	Lola T-93/00	Chevy/C	Budweiser King Racing
42	Andrea Chiesa	Andrea Moda	Lola T-92/00	Chevy/A	Euromotorsports Racing
45	Scott Pruett	Tobacco Free America	Lola T-91/00	Chevy/A	Pro Formance Motorsports
50	Christian Danner	Fendi/AGIP	Lola T-92/00	Chevy/A	Euromotorsports Racing
	David Kudrave (R)				
90	Lyn St. James (R)	JCPenney/Revlon/Jantzen	Lola T-93/00	Ford Cosworth XB	Dick Simon Racing
<b>Indy Only</b>					
	Kevin Cogan	Consec	Lola T-93/00	Chevy/C	Galles Racing International
32	Eric Bachelart	Marmon Wasp II	Lola T-93/00	Buick	Dale Coyne Racing
51	Gary Bettenhausen	Glidden	Lola T-93/00	Buick	Team Menard
60	Jim Crawford	Budweiser	Lola T-93/00	Chevy/C	Budweiser King Motorsports
80	Al Unser	Budweiser	Lola T-93/00	Chevy/C	Budweiser King Motorsports

# The New Road to Indy

New cars, top drivers and strong sponsorship call for big excitement in 1993.

By Adam Saal



**T**he Firestone Indy Lights Championship, presented by PPG and powered by Buick, enters its eighth year of operation in 1993 with an all-new look.

New cars, top international drivers, a strong sponsor lineup and a three-year agreement of support from the CART sanctioning body have reinforced the FILC as the nation's premiere proving ground for Indy Car-bound drivers.

The 1993 line-up includes a list of young talents likely to join the PPG Cup circuit sometime soon.

France's Franck Freon, who captured three wins and a series-leading four poles in 1992, returns for his third year of Indy Lights competition. He joins John Martin Racing with sponsorship from Aldus Pagemaker and Entrepreneur Magazine. One of Freon's four pole positions was earned at Phoenix last year.

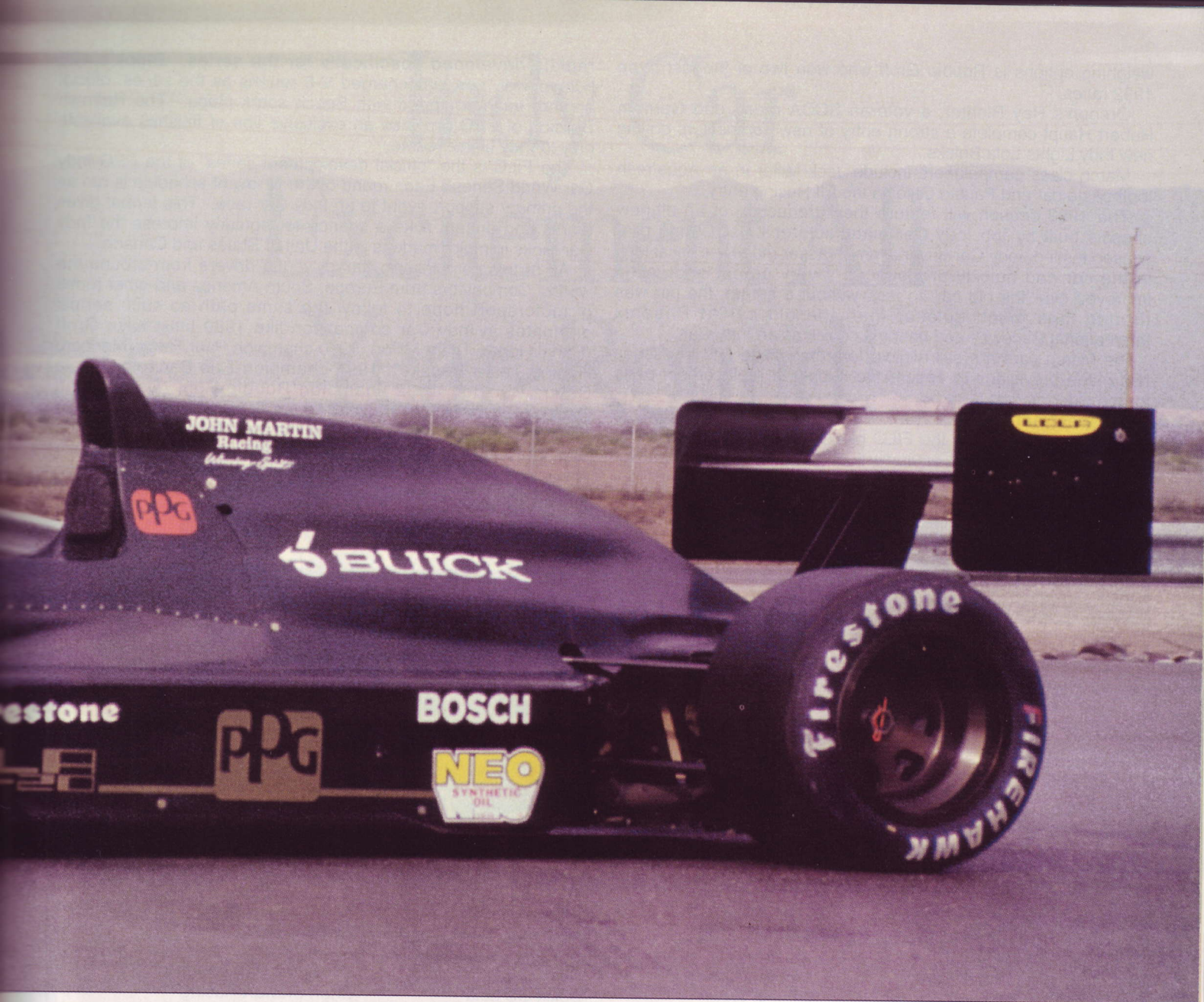
Mexican Formula 3 veteran Cesar Jimenez, of Monterrey, brings his team to Indy Lights in 1993 with help from Dave Conti and Carroll Smith. The team is based out of Conti's shop in Indianapolis.

Robert Amren of Sweden continues the tradition of ZereX Saab champs in Indy Lights by signing with the multi-national New

Zealand Challenge/Swedish American Racing entry. The 1992 Saab champ hopes to follow in the footsteps of reigning FILC titlist and 1989 ZereX Saab champion Robbie Buhl.

Brian Stewart has regrouped what formerly was the highly successful Landford Racing team with a strong three-driver effort under the banner of Brian Stewart Racing. The lineup includes Pedro Chaves of Portugal, the 1990 British Formula 2 champion, who has had experience with the Coloni Formula One team. He will be joined on that team by British Formula 3 star Oswaldo Negri of Brazil. Negri took one win and four poles en route to third overall in the 1992 F3 battle in England. The team's lone American is second-year driver Sandy Brody who has paced the team in testing in his Exide/Rent-Ruan entry.

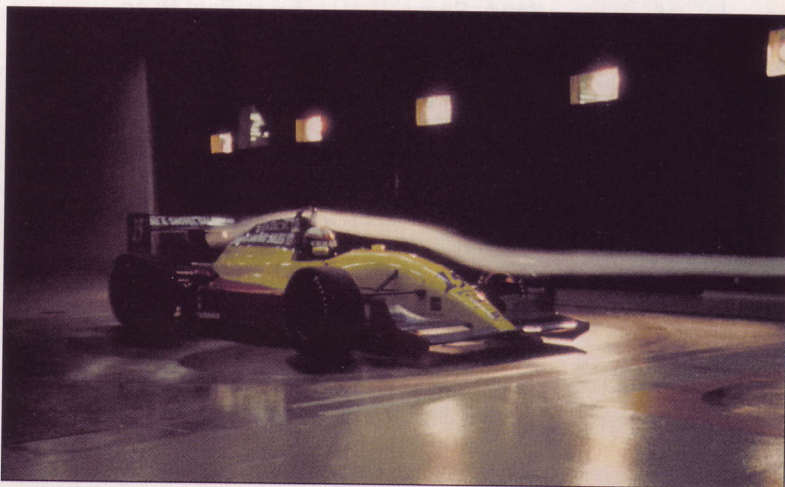
Steve Horne's Tasman Motorsports Group has also grown to a three-car team since its introductory announcement last September. Initial driver Bryan Herta has been joined by British Formula 3000 veteran Steve Robertson and experienced road racer Harald Huysman of Norway. Huysman has extensive Group C sportscar, Super Vee and Player's Ltd./Toyota Atlantic experience.



Defending champions Leading Edge wear their number "1" with motocross superstar Jeff Ward who is committed to his first full year of four-wheel competition. Sponsorship comes from Kawasaki, Nature's Recipe and Oakley Eyewear, while Newport Blue returns as a Leading Edge team sponsor. A second driver is likely to be announced in the near future.

Greg Moore, USAC F2000 champion, will run a Viper Auto Security-backed car as the youngest competitor in the series. He will not be 18 years old until the year's third race at Detroit, but special arrangements have been made to allow him to compete in the opening pair of West Coast races.

Phil Creighton's Trans Atlantic outfit has taken delivery of a new Indy Lights Lola Buick for former IMSA champion Scott Schubot. Joining them as veteran entrants with new cars are Dorricott Racing with Bob Dorricott Jr., behind the wheel of the Sunnyvale Valve car and Brad Calkins Bradley Food Marts Team which may have two cars. Drivers for the Bradley effort are being finalized. Driver announcements are also pending from the respective teams of Indy Car owner Dick Simon and veteran Indy Lights engineer Brian Murphy. Among the top driving talent still



▲ Tasman Motorsports took one of its new Lola Buick GS Indy Lights cars to the wind tunnel for testing.

weighing options is Robbie Groff who won two of the last three 1992 races.

Oregon's Ray Richter, a veteran SCCA racer, and German Hubert Haupt complete a strong entry of new competitors driving new Indy Lights Lola Buicks.

March class campaigners include Jack Miller in an Aquafresh toothpaste car and Fausto Galdi in the Elf Racing entry.

The 1993 season will feature the introduction of an all-new chassis built by top Indy Car manufacturer Lola. During pre-season testing, Indy Car driver Jimmy Vasser made the initial laps in the car and quickly pronounced it very proper and vastly improved over the old car. In fact, without a set-up, the car was turning laps much quicker than the old car at Phoenix International Raceway and nearly as quick as an Indy Car.

The March cars are still eligible for competition and the series has made provisions to ensure the supply of replacement parts for the older models.

A "spec" series (cars from a single manufacturer built to identical specifications), the FILC places the emphasis on driver skill rather than superior equipment. Identical cars ensure driver talent is the major factor in determining who makes it to victory lane in Indy Lights.

Firestone provides, for the third season, 15-inch Firehawk racing

radials developed specifically for the series. Buick's 425 horsepower, non-turbocharged V-6 returns as the series' official engine, each equipped with Bosch spark plugs. The Refinish Division of PPG provides an exclusive line of finishes available only to Indy Lights teams.

The FILC is the "official development series" of the PPG Indy Car World Series. Each round of the 12-event schedule is run as the primary support event to an Indy Car race. This format gives teams and drivers alike a chance to regularly impress the Indy Car ranks in major markets in the United States and Canada.

All of this combines to attract young drivers from around the world. Competitors from Europe, South America and other forms of motorsport hope to follow the same path as such series' graduates in Indy Car competition like 1989 titlist Mike Groff (Rahal/Hogan Team Miller), 1990 champion Paul Tracy (Marlboro Racing Team Penske), 1991 champion Eric Bachelart (Dale Coyne Racing), 1992 champion Robbie Buhl (Dale Coyne Racing), 1992 rookie of the year Adrian Fernandez (Galles Racing International), and 1990 rookie of the year Mark Smith (Arciero Racing). Other Indy Car drivers who first made it to victory lane while competing in the FILC include Ted Prappas, 1987 champion Didier Theys, 1988 champion Jon Beekhuis, Brian Till and Jeff Andretti. ■

### 1993 Firestone Indy Lights Schedule Of Events

April 4	Phoenix International Raceway	July 18	Molson Indy Toronto
April 18	Toyota Grand Prix of Long Beach	Aug. 8	New Hampshire International Speedway
June 6	Milwaukee Mile	Aug. 29	Molson Indy Vancouver
June 13	Detroit	Sept. 12	Mid-Ohio Sports Car Course
June 27	Portland International Raceway	Sept. 19	Nazareth Speedway
July 11	Cleveland	Oct. 3	Laguna Seca Raceway

### 1993 Firestone Indy Lights Entry List As Of March 5

No.	Driver	Sponsor	Car	Team
1	Jeff Ward	Kawasaki/Oakley	Buick GS Lola	Leading Edge Motorsports
2	Pedro Chaves	Mateuse Wine	Buick GS Lola	Brian Stewart Racing
3	Franck Freon	Entrepreneur/Aldus	Buick GS Lola	John Martin Racing
5	Sandy Brody	Exide/Rent-Ruan	Buick GS Lola	Brian Stewart Racing
10	Ray Richter		Buick GS Lola	RaysCar
14	TBA		Buick GS Lola	John Martin Racing
15	Bryan Herta		Buick GS Lola	Tazman Motorsports Group
16	Steve Robertson		Buick GS Lola	Tazman Motorsports Group
17	Harald Huysman		Buick GS Lola	Tasman Motorsports Group
20	Fausto Galdi		Buick March 85B	Elf Racing
23	TBA		Buick GS Lola	Dick Simon Racing
25	Hubert Haupt		Buick GS Lola	A.L. Motorsports
26	TBA	Bradley Food Marts	Buick GS Lola	Bradley Motorsports
27	TBA	Bradley Food Marts	Buick GS Lola	Bradley Motorsports
31	Robert Amren	Team Enza	Buick GS Lola	Swedish American Racing
32	Bob Dorricott Jr.	Sunnyvale Valve	Buick GS Lola	Dorricott Racing
33	TBA		Buick GS Lola	Brian Murphy Racing
44	Cesear Jimenez		Buick GS Lola	
47	Scott Schubot		Buick GS Lola	TransAtlantic Racing
61	Jack Miller	Aquafresh	Buick March 85B	Miller Racing Systems
97	Oswaldo Negri		Buick GS Lola	Brian Stewart Racing
99	Greg Moore	Viper Auto Security	Buick GS Lola	Moore Racing

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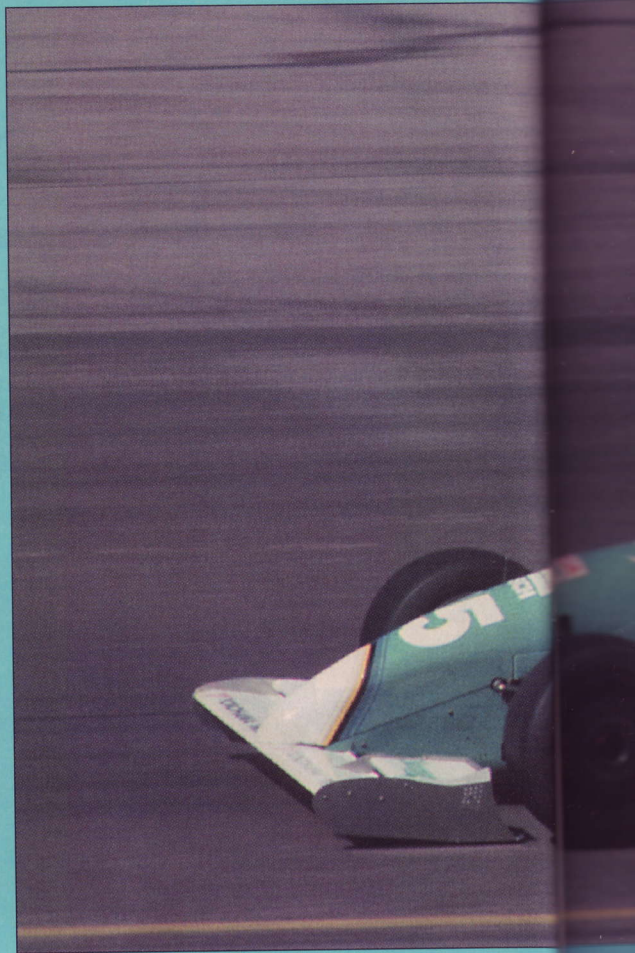
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# following in the footsteps

**Player's Ltd./Toyota Atlantic drivers  
are ready to follow names like Andretti, Goodyear,  
Till and Vasser into the Indy Cars.**

**By Dan Layton**



There are lots of other careers with higher success ratios than professional racing drivers. For every 100 aspiring Michael Andrettis out there, pounding around in Formula Fords, midgets or karts and dreaming bigger dreams, less than one percent will ever draw a regular paycheck as a driver, and still fewer ever achieve the success and income levels of the stars of the sport.

It's not easy. You have to have talent, funding (your own or the ability to raise it from others), commitment, the right team and other support people and at least a little bit of luck. Even then, success and a championship on your resume is no absolute guarantee that you will reach your goal.

That's because only a few Indy Car seats are available each year, a result of the big increases in safety (and longer careers for current drivers), costs (making sponsor-hunting even more important relative to racing ability) in the past decade and international exposure (the more popular Indy Cars become, the more "Name" drivers from other premier series are attracted to it).

Still the hopefuls come. Every season, this year more than ever, the Player's Ltd./Toyota Atlantic Championship has drawn professional racers from four continents and more than a half-dozen countries—all seeking to be the next Andretti, or Scott Goodyear, or Brian Till or Jimmy Vasser—Atlantic graduates who have gone on to Indy Cars.

This is shaping up to be one the best Atlantic seasons in the 20-year history of the series and certainly the most competitive, with more than a dozen drivers who can win.

One of those drivers is former series champion Mark Dismore, who returns to Atlantic competition on a full-time basis for the first time since winning his title in 1990. As the winningest driver in Atlantic history, Dismore is a recognized talent and was part of Dan Gurney's winning Toyota Eagle team at this year's 24 Hours of Daytona. However, he's still waiting for the break into Indy Cars following a crash at the Speedway in 1991.

Dismore again will be driving a Swift DB-4 for the works P-1 Racing team, as the California-built machine enters its sixth

season of competition pitted against much newer designs from British marquees Ralt and Reynard.

The Swift is still quick, as Dismore aptly demonstrated by posting three wins in just four starts last year, but is nearing the end of its development cycle. And while Swift may once again be the most popular chassis, many of the top talents in the series have opted for one of the newer designs.

One of those is three-time 1992 race winner Russell Spence of England, a veteran and race winner in both Formula 3 and F3000. The official works Reynard 93H test and development driver, Spence led the championship early before a string of mechanical DNFs took him out of contention. He would like nothing better than to finish the job this year.

Spence and Dismore are two sides of the same coin. The American quiet and reserved out of the car, the Briton outgoing and always enthusiastic. Both have repeatedly demonstrated that they have the skill to move up, but will once again have to prove themselves against new rivals.

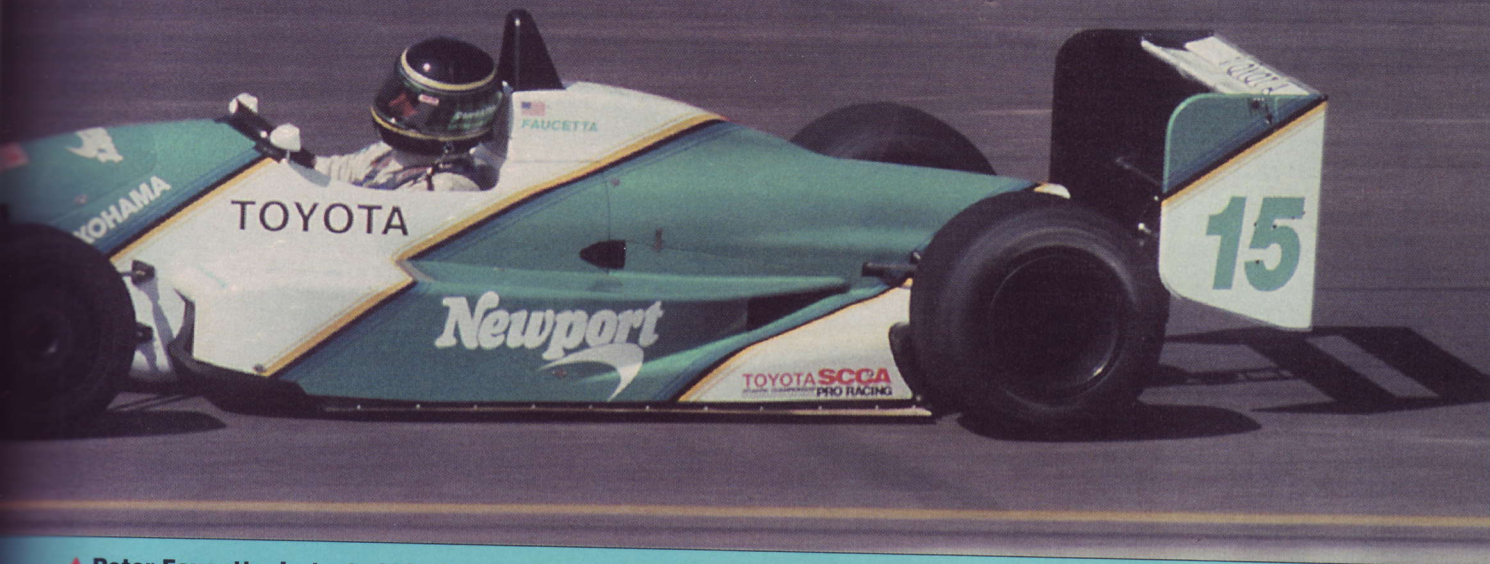


PHOTO BY LORNE TREZISE

▲ Peter Faucetta Jr. tested his Stuart Moore Racing/Newport Reynard 93H at Phoenix International Raceway recently.

One such rival is Patrick Carpentier, the latest Quebec rising star and a race winner in 1992, his first season of Atlantic competition and only his third year of racing.

Other Reynard-mounted drivers will include 1992 championship runner-up Steve Cameron, SCCA FF2000 champion Greg Ray, former Brazilian Formula 3 champion Affonso Giaffone and fellow Brazilian Jose Cordova, coming to America from the highly competitive worlds of British and Japanese Formula 3.

Speaking of the Japanese series, one name you're sure to see again and again this year is that of Jacques Villeneuve, the 22-year-old son of the revered Formula One star Gilles and Japanese F3 championship runner-up last year with three victories.

Villeneuve made a one-off appearance at the Trois-Rivieres event last year, and finished an impressive third in his first time out in an car with much more power, yet much less grip, than his normal Formula 3 machine. Villeneuve will be partnered with fellow French Canadian Claude Bourbonnais, who already has four Atlantic

wins to his credit, as well as experience in Formula 3000 and sports prototypes.

The Bourbonnais/Villeneuve Ralt RT-40s will be fielded by Forsythe-Green Racing, the team that brought Teo Fabi to Indy Car prominence in the mid-1980s. Now veteran team manager Barry Green and businessman Jerry Forsythe have rejoined, backed by series co-sponsor Player's Ltd., and with ambitious plans that include Atlantic competition this year, followed by a move up to Indy Cars on a full-time basis in 1993.

1990 SuperVee champion Charles Nearburg, too, can be quick on his good days.

Yet another rising Canadian star, David Empringham, won twice last year in seven starts and now ups the ante with Motomaster/Canada Tire Suburban Toronto as a new Ralt chassis. Many tip the 28-year-old from Toronto as a favorite for the championship as his Kevin Baltimore-led Canaska Racing effort continues to improve on all levels.

Oldsmobile Pro Series champion Tony Ave, bringing a standout record of sports racing and snowmobile competition, has

put together a program to at least start the season in a Swift DB-4 fielded by High Bridge Racing, while Steve O' Hara, an Atlantic rookie standout in '91, is now returning to the series with Willy Oppliger, who guided Chris Smith to the title last year.

As for the defending series champion, 25-year-old Smith has been offered and accepted a salaried drive in the Mexican Formula 2 series, and also hopes to contest as many as a half dozen Indy Lights races in a Dave Conti-prepared Lola. With a decent budget, Smith has the ability to soon join the ranks of Indy Lights front runners, the next step toward Indy Cars.

With new series co-sponsor Player's Ltd. of Canada joining Toyota Motor Sales U.S.A., and continuing support from Yokohama Tires in both countries, the Player's Ltd./Toyota Atlantic Championship is now the richest open wheel road racing series in North America outside of Indy Cars, with a \$75,000 (US) per race purse and \$150,000 in bonus points funds, combining for a season total of nearly \$1 million. ■

## 1993 Player's Ltd./Toyota Atlantic Schedule Of Events

April 3	Phoenix International Raceway	August 7	New Hampshire Intl. Raceway
April 18	Toyota Grand Prix of Long Beach	August 15	Player's GP de Trois-Rivieres
May 9	Road Atlanta	August 28	Molson Indy Vancouver
June 5	Milwaukee Mile	September 11	Mid-Ohio Sports Car Course
June 12	Circuit Gilles Villeneuve	September 18	Nazareth Speedway
June 20	Mosport Park	October 2	Laguna Seca Raceway
July 11	Moosehead Grand Prix	October 3	Laguna Seca Raceway
July 17	Molson Indy Toronto		

## 1993 Player's Ltd./Toyota Atlantic Championship Line-Up As Of February 19

No.	Driver	Chassis	Team
3	Stuart Crow	Ralt RT-40	BDJS/Ralt America
4	Lee Parente	Swift DB-4	Phillips Motorsports
6	Frank Allers	Reynard 93H	Johnston Engineer
7	Charles Nearburg	Ralt RT-40	BDJS/Ralt America
8	Steve O'Hara	Swift DB-4	Willi Oppliger
9	Claude Bourbonnais	Ralt RT-40	Forsythe/Green
10	Jacques Villeneuve	Ralt RT-40	Forsythe/Green
11	Russell Spence	Reynard 92H	3001 North America
12	TBA	Reynard 92H	3001 North America
14	David Empringham	Ralt RT-40	Canaska Racing
15	Peter Faucetta Jr.	Reynard 93H	Stuart Moore Racing
16	Tommy Hornovitis*	Reynard 92H	Competition Prep
16	Dave Martinez**	Ralt RT-40	Dave White Motorsports
17	Jose Cordova	Reynard 93H	Stuart Moore Racing
19	Jeff Barker	Ralt RT-40	Della Pena Motorsports
20	Mark Dismore	Swift DB-4	P-1 Racing
21	Steve Collias	Swift DB-4	RMR Motorsports
23	John Marconi	Reynard 93H	U.S. Racing
27	Gary Peterson	Swift DB-4	Wilbur Bunce Engineering
28	Joe Sposato	Swift DB-4	Hertfelder Racing
34	Jon Miranda	Swift DB-4	TBA
35	Affonso Ciaffone	Reynard 93H	Genoa Racing
36	Greg Ray	Reynard 93H	Genoa Racing
38	Steve Cameron	Reynard 92H	Cameron-McGee Mtspts.
39	Gene Pope	Reynard 93H	Cameron-McGee Mtspts.
40	Billy Roe	Swift DB-4	Champ Racing
43	Peter Carpentier	Reynard 93H	RDS/Ethnic Ad
49	Freddy Rhemrev*	ComPrep XFR93	Competition Prep
50	Colin Trueman	Ralt RT-40	Truesports
54	Carl Liebich*	Swift DB-4	Liebrau Racing
59	Tom Meyer*	Reynard 92H	Equipe Tech
77	Swegei Szortyka*	Swift DB-4	J&J Racing
73	David Myers*	Swift DB-4	Steve Dreizler Racing
99	John Brooks	Swift DB-4	Desert Formula Racing
	Joe Anderson*	Swift DB-4	Anderson Technology
	Richard Eames*	DB-4	Eames Racing
	Larry Dunn	Reynard 93H	Motorsports Concepts
	Annemeike Aardoom	Reynard 93H	Motorsports Concepts
	Richard Dean	Reynard 93H	Cobra Motorsports

Trevor Seibert, Walter Kohler, James Ward, Carlos Bonetti, Jamie Galles, Bert Hart, Calvin Fish, Jeremy Cotterill, Tony Ave, Chris Miles, Keith Reber, James Ward, Robin Buck, Kenny Wilden, Richard Spenard and Rob Fellows are other possible drivers in 1993.

\* Eastern-based schedule (1-8 races)    \*\* Western-based schedule (1-8 races)





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ICR PRESENTS

# ten years ago

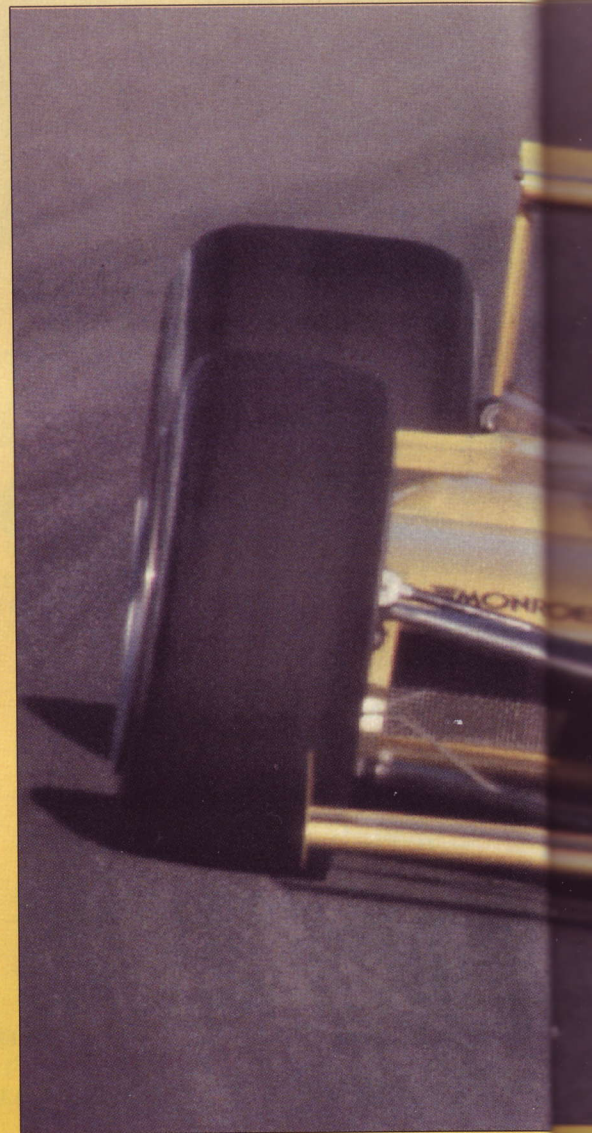
**The 1983 season  
was one of the most fascinating  
in CART history.**

**By Jan Shaffer**

It doesn't seem like ten years ago. The Indy Car season of 1983 was one of the most fascinating in the history of Championship Auto Racing Teams. Strangely, the people involved don't look any different today...they don't look 10 years older, they don't seem 10 years older.

It was a year of progress, although the significance of some of the innovations, some of the steps taken, wasn't fully understood at the time.

Some were very small, very simple thoughts. Take one small safety measure at the Budweiser Cleveland Grand Prix, for example.



It was the second year of the race, and the heat was scorching on the shores of Lake Erie at Burke Lakefront Airport.

Dr. Virginia Ellis, who served as the track physician at Cleveland, had seen it coming. Her medical staff had come up with the idea of using golf carts on pit road, carrying primary emergency first-aid supplies, in case of need.

As the race evolved, the heat took its toll. Crewmen and drivers alike felt the effects.

Howdy Holmes pulled in and sat on the pit wall for a lengthy period before returning to the track. Eventual winner Al Unser drove past his pit, lap after lap, patting the top of his helmet indicating he wanted a relief driver. But he hung on to win.

It was the first Indy Car race for female driver Desire Wilson, who debuted with the Wysard team. Car owner Rose Wysard was concerned and was lining up so many relief drivers that she couldn't keep track of them.

Drake Olson, who missed the show in qualifying in a bid for his first Indy Car start, stood at one point in the Wysard pit, helmet in hand. When asked if Drake would be the relief driver, Wysard looked at him and replied, "Who's he?"

Bill Alsup dropped out early and Rose asked Bill to be ready. "Bring your seat, bring your seat!" she implored. "Oh, our (caboose) are about the same size, I'll use hers," Alsup shrugged.

Kevin Cogan dropped out early. He took a relief seat for Tony Bettenhausen, and as he exited the pits, the car caught fire. - It was quickly extinguished by CART official Bill Luchow. "That has to be the shortest relief driving career in history," Cogan mused.

Both during and after the race, pit road looked like a war zone because of the intense heat. Desire Wilson finished a respectable 10th, lasting to the finish, and

drew considerable attention.

Al Unser's victory, ending a personal 0-for-37 winless streak, overshadowed a Cinderella story, with Pete Halsmer driving an Arciero car to second place. But for problems on the last pit stop, Halsmer might've posted his first Indy Car victory. The runnerup finish is still the best for Halsmer or the Arciero team in Indy Car racing.

But behind the scenes, Ginny Ellis and her medical team were busy treating people for heat-related health problems, shuttling bags of ice, fluids and paramedics up and down pit road with their three golf carts.

In 1984, and to this day, CART's safety team has what it calls an "MR-10," a modified golf cart, complete with paramedic, gurney and supplies, that is a staple behind the wall on pit road at all Indy Car races. From those beginnings in



**Al Unser won the 1983 PPG Cup by five points over Teo Fabi.**

INDY 500 PHOTO

Cleveland with Dr. Ellis, the MR-10 has been a significant and worthy safety addition to the Indy Car program.

The year was a season of vastly increased participation in the series, possibly the most cars showing up at the Indy Car venues around the country in CART history. "Promoter's option," the CART-devised method of adding to the field, was used frequently.

New stars were born, like Teo Fabi. Fabi came out of Italy largely unknown to Indy Car people. He drove for the Forsythe team, which had started its fling at the sport the previous year with Danny Sullivan aboard for three races.

The diminutive Fabi didn't know anything about ovals and spoke little English at the time, so few got to know him at the season opener at Atlanta. He dropped out after 41 laps because of suspension failure, so he was a non-story there.

But at Indianapolis, he came out of obscurity to chalk up a record qualifying average of 207.395 mph to steal the pole position for the world's greatest race. A fuel filter parked him early on race day, but he had served notice.

At Milwaukee, he was still learning ovals. In the first practice, he tried a high line on the flat Milwaukee Mile. CART Director of Competition Wally Dallenbach told him after the session, "If you don't bring that car down, you're going to hit the wall and possibly take somebody with you."

Fabi nodded his head. In qualifying, he drove the car on a different, lower line and promptly took his second straight pole.

In all, Fabi had the most wins—four, including the Domino's Pizza 500 at Pocono—and most poles with six in the series. He finished second to Al Unser in the PPG Cup standings.

It was a year of the rookie. In addition to Fabi, Al Unser Jr., and John Paul Jr. made their marks.

Unser Jr. drove the Galles entry to second-place finishes at Elkhart Lake and Pocono and was seventh in PPG Cup points. He outqualified his dad at Indy as they became the first father-son combination in that event's 67-year history.

That combination set up a well-remembered Indianapolis 500. Al Unser was leading the race and his son was several laps back. But Tom Sneva was closing in. Al Jr., made it a chore for Sneva to get past and challenge his father. Sneva passed both to win his first "500," but Unser Jr., was accused of running "blocker" for his father. He admitted it.

Later, at charity roasts of Sneva at Michigan and Phoenix, Unser Jr., read a purported newspaper story telling the "real

truth" about it...that he was just showing Sneva the way around because Sneva had lost his way. Something that could've become an issue turned to laughter.

Paul Jr., made history in one of the wildest finishes in Indy Car history. It happened in the Michigan 500.

He was walking to and from his car on crutches from leg injuries suffered at Indy and qualified a respectable ninth in a year-old Penske chassis, the PC-10.

The PC-10, for a year-old car, was making a good account of itself during 1983 as a hand-me-down in the hands of Paul Jr., Halsmer, Josele Garza, Roger Mears and others. Later in the season, the Penske team itself discarded its new PC-11 for the proven PC-10.

At the closing stages of the Michigan 500 unfolded, Paul Jr. found himself chasing down Rick Mears for the lead. Paul Jr. knew his crew wanted him to pass Mears, but he didn't know why. And chief mechanic Phil Casey wasn't telling him on the radio.

On the final lap, Paul Jr., caught Mears as Mears went underneath Chris Kneifel in Turn Three. Paul Jr., made it three-wide on the bottom of the track and passed both. As Mears tried to recover in sloppy air, he and Kneifel crashed.

And John Paul Jr., had won his first Indy Car race.... without knowing it.

Kneifel was a welcome addition to the sport, providing it with a colorful character. He had run two races in 1982 but scheduled a full season in '83. He was only 22 years old, stood six feet, six inches tall and drove a car called a Primus, which was a March modified to accommodate his height inside the cockpit.

He was brash... and funny. In fact, Lynda Havens, the team's press chief, conducted an informal contest among media representatives to see who could get the best Chris Kneifel quote. His goal in life was to be the first athlete ever to win the Indianapolis 500 and play in an NBA championship game.

He came as close as anyone probably ever will, finishing 12th at Indy, playing summer ball with several members of the Chicago Bulls and getting a brief look by two NBA teams.

After the Michigan crash with Mears, Kneifel showed up at Riverside with a T-shirt on, showing the Pennzoil machine under a "Ghostbusters" slash. Everybody but one laughed.

At the season closer in Phoenix, the track area was infested with gazillions of tiny red bugs. You could kill thousands by running your hand down your arm.

Kneifel walked into the press room with

an answer, wearing a surgical mask with a huge cigar hanging out of the middle of it.

It was a year when many new drivers tried their hands at Indy Car racing. Supermodified stars Doug Heveron and Chuck Ciprich, Peruvian sportswriter and rally driver Jorge Koechlin and road racers Olson, Jeff Wood and Randy Lewis also took their first Indy Car flings.

Another driver made his Indy Car debut that year, a name that would become prominent to this day and beyond. The Andretti family decided that, rather than wait until 1984 for Michael to launch his Indy car career and shoot for Rookie of the Year honors, he would run the last three races in Electrolux/Kraco colors as a teammate to Geoff Brabham.

Although he was sidelined by mechanical failures in Las Vegas and Laguna Seca, Michael finished a credible ninth at Phoenix in the season closer.

A new team with a veteran driver also made itself known in 1983. Carl Haas and actor Paul Newman teamed to field a car for Mario Andretti, who rewarded them with a win at Las Vegas and third in the PPG Cup standings in their maiden voyage.

Haas' return also signaled the return of the Lola chassis to Indy Car racing, and it would challenge and eventually outlast the venerable March in the years to come.

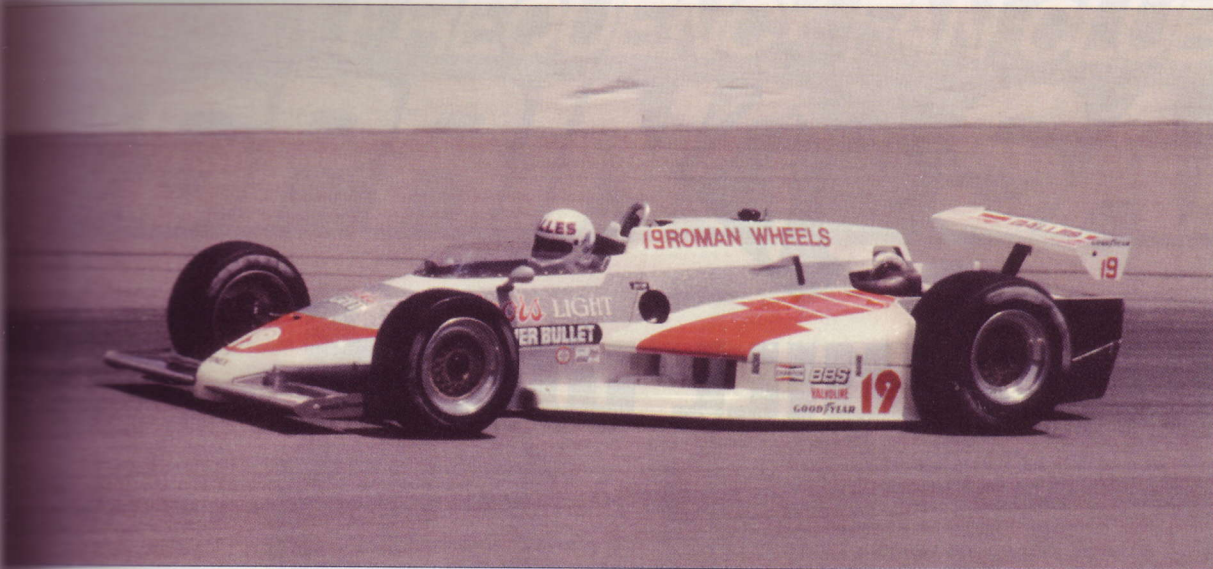
Rick Mears finished only sixth in the point standings, but etched another notch in Indy Car history by winning the fastest race ever run (at the time), the Detroit News 200, by averaging 182.325 mph.

Off the track, for the first time, every Indy car race was televised through CART's TV contract with NBC Sports. The first CART Radio Network was born as the MIS (for Michigan) Radio Network and aired the 500-milers at Michigan and Pocono. Mid-Ohio, Caesars Palace and Laguna Seca hosted Indy Car races for the first time.

More than \$6 million was paid to competitors, up some \$1.2 million from 1982.

The post-season launched another feverish round of growth. New races were signed at Long Beach, Portland, Sanair in Quebec and the Meadowlands in New Jersey. PPG upped its contribution to almost \$1.5 million.

Also in the off-season, Indy Car Racing Magazine was launched by Griggs Publishing in Concord, N.C., as an expansion of its other Winston Cup publications. Today, ten years later, ICR Publications of Milwaukee, Wis., is celebrating a decade of service to Indy Car racing fans, from a birthplace in one of the sport's greatest growth periods...and heady times. ■



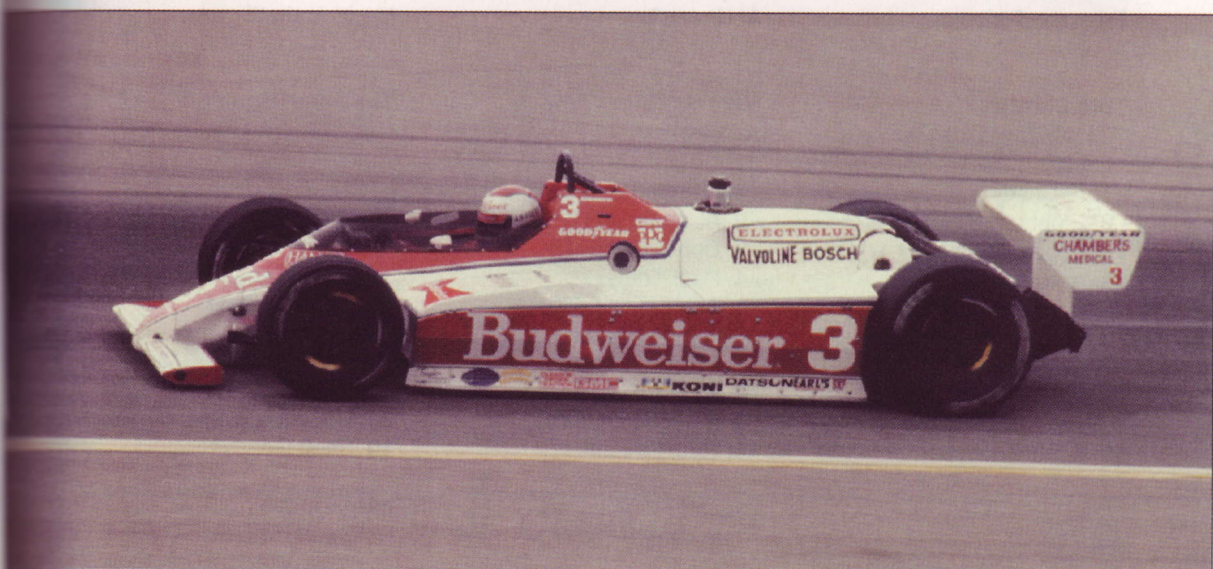
**Al Unser Jr. ran well in his rookie year at the 1983 Indy 500 before running out of fuel to finish tenth.**

INDY 500 PHOTO



**Rick Mears finished third at Indy and won the Michigan 200 for Roger Penske (left) in 1983.**

INDY 500 PHOTO



**Mario Andretti finished third in the 1983 PPG Cup for the then-new Newman/Haas team.**

IMS PHOTO BY MARK REED



# WHO WILL WIN?

**The ICR staff and readers go out on a limb.**

Without a doubt, picking the winner of the 1993 PPG Cup is a nearly-impossible task. Any one of the drivers on the following lists are capable of winning the coveted title. And it's entirely possible that the 1993 champion is not even a part of the following lists.

Nevertheless, the staff made their selections, but also solicited the help of our readers in the February/March issue. We were overwhelmed with the response and have averaged the readers' picks into the "Fans' Choice."

When the checkered flag falls for the final time in 1993 at Laguna Seca, we'll look back to see who had enough foresight and luck to choose the champion.

Who will win? Only time will tell.

**Ned Wicker**  
*Editor-In-Chief*

1. Bobby Rahal
2. Emerson Fittipaldi
3. Al Unser Jr.
4. Paul Tracy
5. Scott Goodyear
6. Danny Sullivan
7. Arie Luyendyk
8. Nigel Mansell
9. Mario Andretti
10. Stefan Johansson

Indy 500 Winner:  
Bobby Rahal

**Debbie Wicker**  
*Publisher*

1. Emerson Fittipaldi
2. Al Unser Jr.
3. Bobby Rahal
4. Scott Goodyear
5. Nigel Mansell
6. Arie Luyendyk
7. Paul Tracy
8. Mario Andretti
9. Roberto Guerrero
10. Danny Sullivan

Indy 500 Winner:  
Emerson Fittipaldi

**Mary Andrew**  
*Associate Publisher*

1. Emerson Fittipaldi
2. Al Unser Jr.
3. Bobby Rahal
4. Scott Goodyear
5. Mario Andretti
6. Arie Luyendyk
7. Paul Tracy
8. Danny Sullivan
9. Roberto Guerrero
10. Teo Fabi

Indy 500 Winner:  
Al Unser Sr.

**Bob Andrew**  
*Managing Editor*

1. Emerson Fittipaldi
2. Bobby Rahal
3. Arie Luyendyk
4. Al Unser Jr.
5. Scott Goodyear
6. Paul Tracy
7. Mario Andretti
8. Danny Sullivan
9. Nigel Mansell
10. Stefan Johansson

Indy 500 Winner:  
Mario Andretti

**Kevin Kelly**  
*Director of Sales & Marketing*

1. Paul Tracy
2. Al Unser Jr.
3. Emerson Fittipaldi
4. Nigel Mansell
5. Bobby Rahal
6. Danny Sullivan
7. Scott Goodyear
8. Teo Fabi
9. Mario Andretti
10. Arie Luyendyk

Indy 500 Winner:  
Roberto Guerrero

**Tom Ceretto**  
*Advertising Manager*

1. Al Unser Jr.
2. Emerson Fittipaldi
3. Bobby Rahal
4. Arie Luyendyk
5. Danny Sullivan
6. Nigel Mansell
7. Mario Andretti
8. Raul Boesel
9. Paul Tracy
10. Scott Goodyear

Indy 500 Winner:  
Al Unser Jr.

**Mike Saridis**  
*Art Director*

1. Emerson Fittipaldi
2. Al Unser Jr.
3. Bobby Rahal
4. Paul Tracy
5. Arie Luyendyk
6. Nigel Mansell
7. Mario Andretti
8. Danny Sullivan
9. Scott Goodyear
10. Raul Boesel

Indy 500 Winner:  
Al Unser Sr.

**The Fans' Choice**

1. Al Unser Jr.
2. Emerson Fittipaldi
3. Bobby Rahal
4. Nigel Mansell
5. Arie Luyendyk
6. Danny Sullivan
7. Paul Tracy
8. Mario Andretti
9. Roberto Guerrero
10. Scott Goodyear

Indy 500 Winner:  
Emerson Fittipaldi

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# FROM CONCEPT REALITY

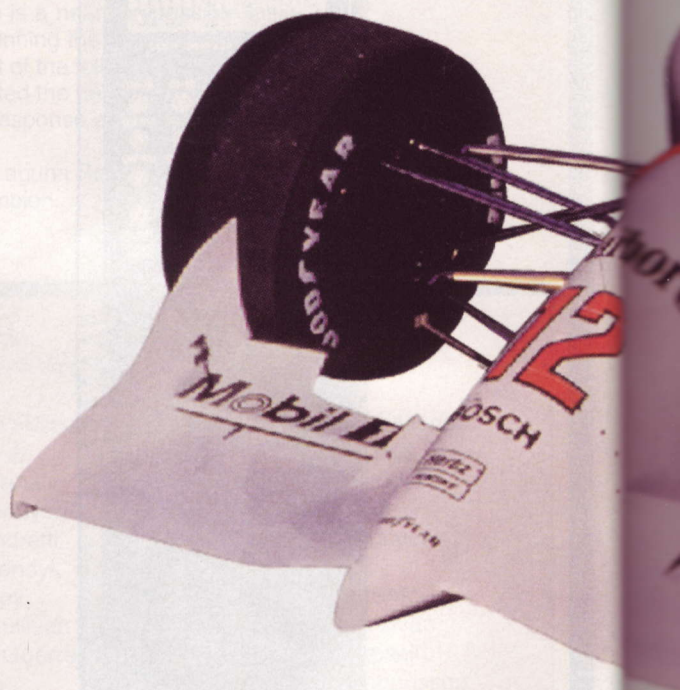
**Penske Racing has been busy building the Penske Chevy 93.**

**By David Peever**

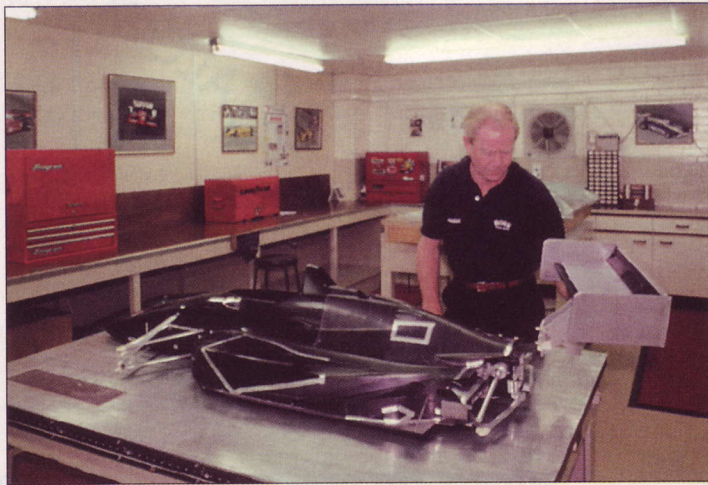
**W**hen the Penske transporter pulled into the parking area in Reading, Pennsylvania, on Christmas Eve, the car it was carrying had just completed an 11,000-mile international trip in only six days.

The car in question was the first of the new Penske PC22s, which was designed and built in Britain at the Penske plant in Poole, Dorset. In those six days, the car traveled from Poole to London Airport where it was then flown to Los Angeles. The American team picked up the car at 6 p.m. and then drove through the night to Phoenix, where they arrived for a very early breakfast at 4 a.m.

Another truck and crew was waiting at the Firebird track and they immediately began to set the car up for its first test run. By 2 p.m., Sunday, Dec. 20, Emerson Fittipaldi was lapping the new car. The main purpose of the day was to do back-to-back comparisons with the 1992 car. That day they ran until dark and then made a thorough check. There were virtually no problems, the car had effectively run "out of the box", and at nearly a second a lap quicker than the 'old' car.



▲ The building process begins in the design room. Here Nigel Bennett (center) works with the design staff.



▲ John Youngman, head of the model shop, prepares a 40-percent wind tunnel model of the '93 Penske.

PHOTO BY LGARY GOLD

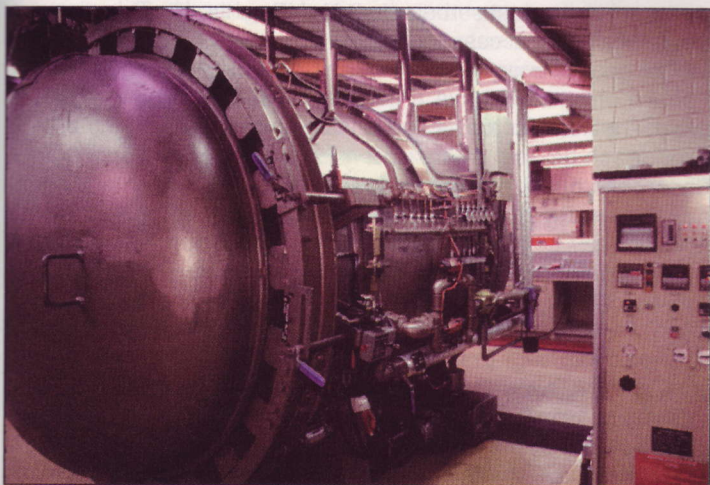
PHOTO BY GARY GOLD



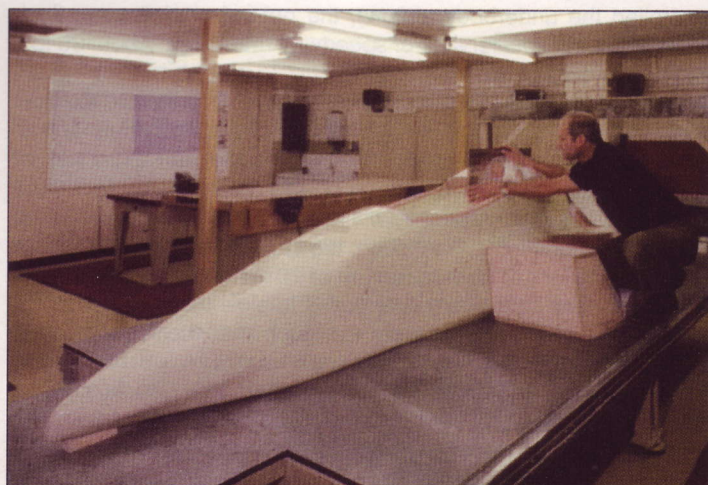
# TO



▲ The 1993 Penske chassis is an all-new design built around the new Chevrolet Indy V8/C engine.



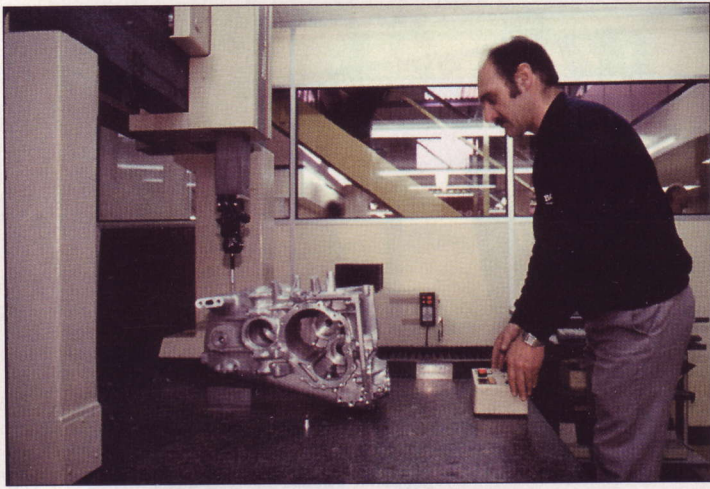
▲ The carbon fiber parts such as the tub must be placed in the autoclave (oven) for baking and curing purposes.



▲ Barry Sweetland of the pattern shop works on a full-scale model of the new Penske car.

PHOTO BY GARY GOLD

PHOTO BY GARY GOLD



▲ Chief inspector Jeff Purvis inspects all of the cars' pieces. Here he is inspecting a gearbox housing.

That night the engineers made the necessary changes (suspension, shocks, gearing etc.) to the car in order for it to run the following day at the one-mile oval on the other side of town. By 3 p.m. Monday, the car was lapping the oval with Emerson again at the wheel. The next morning Paul Tracy took the new car through its paces until lunch time. Both drivers commented that the new car had better grip and balance than the PC21. With 200 miles on the clock, the team packed up and started the long drive back to Pennsylvania where they arrived at midday on Christmas Eve, just in time for a well-earned Christmas break.

So, what is it about the new Penske that makes it a second faster in a back-to-back test with the previous car on its first test run? That's quite a feat when you consider that the new rules set out to make all 1993 Indy Cars slower than last year's models. We went to Penske design and manufacturing headquarters in England to find out.

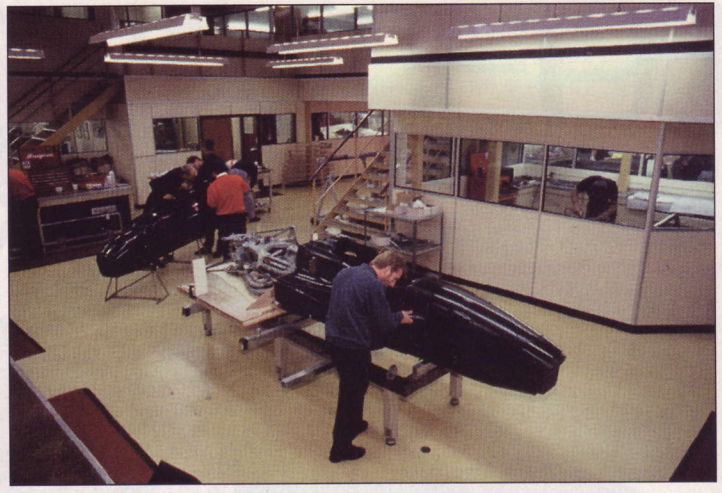
#### What the new rules mean

The new Penske, once again designed by Nigel Bennett, is effectively a completely new car. The rule changes, a new engine and the normal improvements and developments that all design teams make, gave Penske the opportunity to develop this new car, the PC22.

The rule changes have affected the aerodynamics by removing the underbody tunnel splitters and fences (which channeled and controlled the underbody airflow), the outlawing of running flush wheels and the smaller size of speedway rear wing. About 25 lbs. has been added to the weight due to the thicker chassis construction required and the thicker 'skins'. A further 20 lbs. has been added by choice to strengthen various components and in the improved cooling system. In fact, Penske ran extra ballast throughout last year to put the car on the weight limit. The effect of the changes mean that they will now run less ballast for 1993 to reach the weight limit. In addition, the cars have to be a minimum of five inches longer (to a maximum of 10 inches).

The idea behind the rule changes is to slow the cars down, but competitive race car designers are such that they immediately begin to work out how they can achieve performance improvements within the new rules. But even so, it can be argued, the rules do put a 'notch' in the advancement curve. The cars just won't be quite as quick as they would have been if the changes hadn't been made.

The effect of the rules concerning underbody splitters and fences has been to reduce the downforce at 225 mph by an



▲ A PC22 is under construction in the car assembly area. This is the car's final stop before heading to the US.

estimated three percent. The outlawing of flush wheel trims at the Speedway will give another one percent reduction in speed. What the effect of the smaller rear wing will be is less clear. Although it has a narrower chord, the wing angle can probably be set up on the car to give a similar performance to the unrestricted one it replaces.

The overall effect of the changes is that they have knocked off five percent of total high speed performance, so if the designer is able to achieve an overall improvement greater than that, his car will be quicker.

Without the rule changes, Penske would probably have opted for a development of the PC21, but with so much to change it was decided to design a completely new car. The design team had to allow for the fact that the new Chevrolet C is a smaller engine than its immediate predecessor, the B, and is similar in size to the Ford Cosworth XB. Thus, this smaller engine necessitated a redesign of the rear chassis.

#### The major changes

"The new PC22 is the biggest change from one to another that we have ever made," said Bennett. "We have a new transverse gear box, which gives us a big gain because we have been able to achieve a much better aerodynamic shape than last year. The rear suspension has been revised accordingly. The front suspension has also been changed, we have now mounted the springs and shock absorbers on top of the chassis. This gives us easier and faster access."

The gear change mechanism has also been changed so that Penske drivers will have a motorcycle-style mechanism. This avoids the need for a gate and is faster to use.

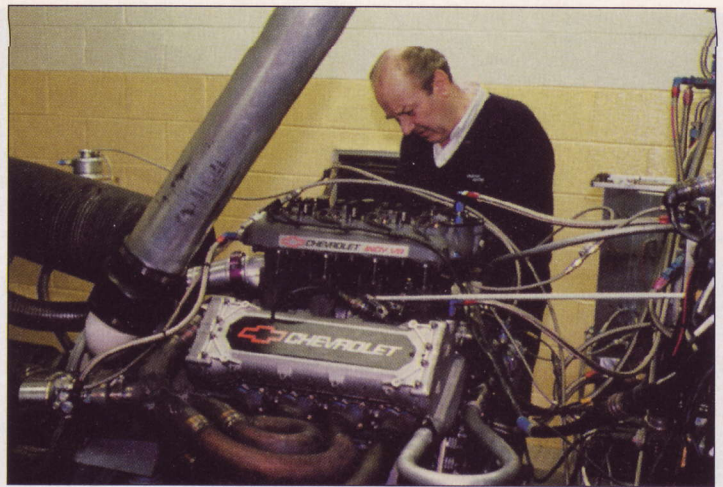
#### Six cars to build

This year Penske will be building six cars, four for themselves (more if they bend them) and two for Tony Bettenhausen. The Bettenhausen car will be driven by ex-Ferrari driver Stefan Johansson. The last time they provided new cars to another team was in 1989 when Patrick Racing went on to win the championship with Emerson at the helm. Bettenhausen has a good act to follow!

The cars themselves, as mentioned above, are all designed and manufactured at the company's high tech premises in England. There they have the latest machine tools and related equipment that would be the envy of many a manufacturing plant in other industries.



▲ The cars arrive at Penske Racing headquarters in Reading, Pa., for final assembly and preparation.



▲ The shop in Reading has a complete engine dynamometer for engine testing.

The chassis of the new PC22 is an all carbon fiber fabrication that is made in-house. The technique of manufacturing these modern chassis is to lay down many layers of different fibers, but in a precise manner into the mold. For example, the chassis top on the new Penske is composed of over 50 different layers, each of which has to be of a particular type of fiber, and laid in a specific direction.

At various stages in this process, the layers are "cured" under vacuum and external pressure in an autoclave. A further complication is that the laydown of the fibers also has to allow for the inclusion of various metal inserts to take fittings such as engine mountings, seat belts, radiators, etc. This process, clearly dependent on highly skilled people, can take two men a week to complete. Think of that the next time you see a car hit the wall!

In the center of the factory at Poole sits, rather symbolically, the prototype of the new car. This will remain there until October and is used to make sure that all components on subsequent cars are an exact fit - body panels, machined items, etc. The result of this is that all parts and panels will fit any of the current cars throughout the season.

#### Hands across the sea

But not all of the parts for the car are made in England, and the manufacture of the Penske cars is very much a matter of cooperation with the racing team, which is situated some 4,000 miles away in Reading, Pa. Here they are responsible for adding the telemetry and electronics, the shock absorbers (from Penske Racing Shocks, of course), some of the gear box items, the exhaust system, and the paint work.

The cars are shipped from England in two forms: the first one or two models are assembled in England so that the design team can ensure that everything is as it should be (in this case, Reading ships its parts to the UK for assembly). Subsequent cars are shipped from Poole as kits, which are then assembled in Reading.

"This year we had an additional item to consider which was the new Chevy engine," said Chuck Sprague, team manager for the Reading-based operation. "With this new engine, we obviously needed to know that everything worked before the car left Poole, so we actually fired up the engine at the factory just to make sure! That is really unusual."

#### Testing, testing and yet more testing

In the weeks before the first race, Penske, like other teams will

be doing two types of testing - endurance and durability testing and car chassis testing.

Penske has the benefit of the one-mile oval at Nazareth, which he owns, being close to their home base, so this is the preferred avenue for getting early miles on the clock. This is an essential element of the early car testing to ensure that everything on the new car is performing as it should. When the team is satisfied that this is the case, Sprague and his team start learning as much as they can about the new car and how it will perform in different circumstances.

"We go out and drive," said Sprague. "Try this roll center, try that roll center. Which gave the most grip? OK. Then let's try a little more tire pressure, more camber, less camber..."

"The next morning we look at what we've achieved. That setting looked good, let's try that with a lower tire pressure, and so on. It takes a lot of miles, each time making minute adjustments to learn more about the car."

This 'data base testing' takes a great deal of professionalism and patience by the driver and crew, track conditions need to be consistent, as does the consistency of the drivers. But, the end result is a book of tricks that Penske can work throughout the season.

The number of miles the team will run during this period is considerable, and this also enables them to test components such as the brakes, the new gear change and fuel pick up for endurance and durability.

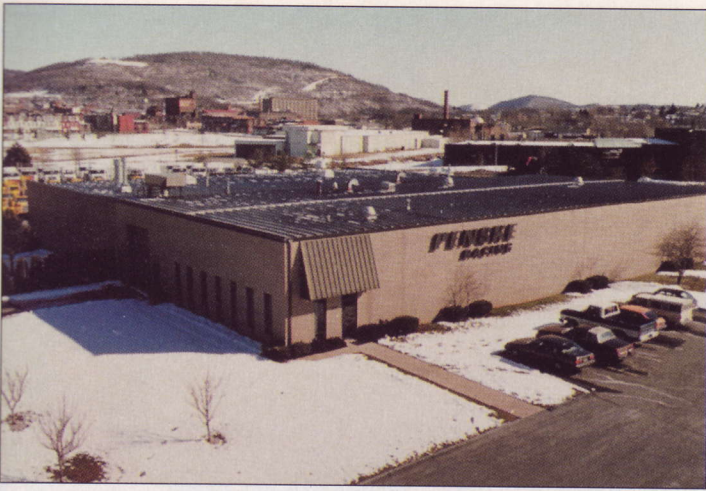
"But no amount of testing can actually match the testing in a race," added Sprague. "It is probably the case that a racing driver gives 50 percent of his effort to run a 95 percent lap time, and that final five percent takes another 50 percent of effort. And it's in this final five percent under racing pressure that most of the problems occur, both for the car and the driver."

A classic case of this happening was in Formula One a couple of seasons ago. It was generally agreed that the Williams team had won the 'championship for winter testing,' but it was the McLaren team which won the championship that year. It was all in the final five percent.

By the time Penske cars arrive in Australia for the opening round both they and Bettenhausen will have done many miles and learned a great deal about the car, but the most important test miles will be the 200 around the streets of the Gold Coast in Surfer's Paradise.

Will the team be able to do what they did last year and win the race the first time out with a new car and a new engine? ■





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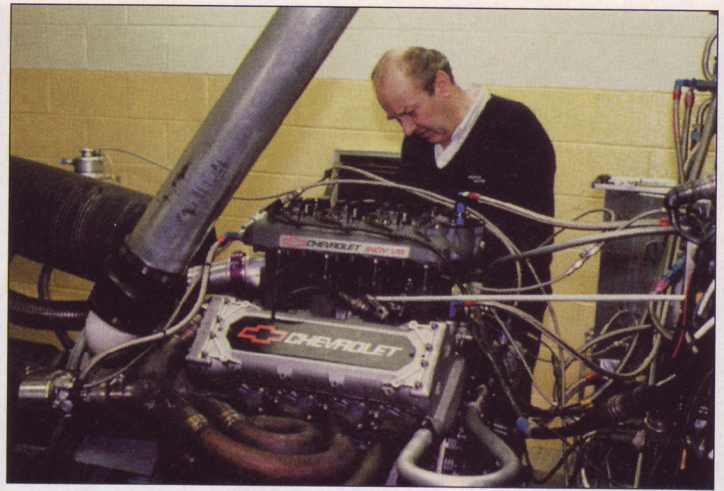
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**Al Jr. and wife Shelley were relaxed prior to the start of the '93 Daytona 500.**

PHOTO BY GENE SWEENEY JR.

# RACING IS RACING

**Al Unser Jr. takes on the good ol' boys at Daytona.**

**By Bruce Martin**

Al Unser Jr., came to Daytona in search of his dream vacation. But the racing veteran didn't come to Florida to visit "The World's Most Famous Beach," but rather to win the world's most prestigious stock car race — the Daytona 500.

At times, Unser's dream vacation looked more like a nightmare, but in the end, his greatest performance of the week, an outstanding run in the Daytona 500, ended in a crash in Turn Four on the 157th lap of the race.

The defending Indianapolis 500 winner overcame adversity in his NASCAR Winston Cup debut, and before he tangled with Dale Earnhardt and Bobby Hillin Jr., in the wreck that put him out, Unser had driven his Valvoline-sponsored Chevrolet Lumina from 40th starting position to fifth place.

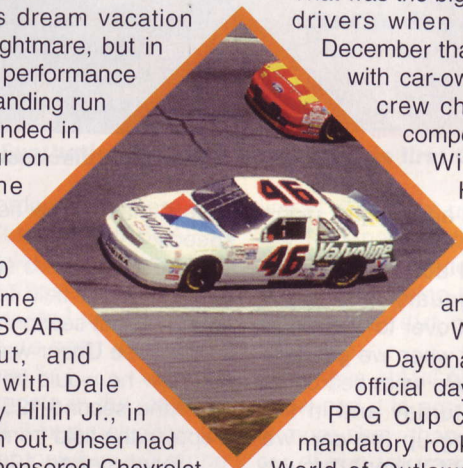
After experiencing stock car racing at its best, Unser earned the respect of many of NASCAR Winston Cup's best drivers. But Earnhardt, who is not called "The Intimidator" without good reason, was one driver who would have preferred that Unser wasn't in the race.

"Al's a great guy and a great driver, but I'd just as soon he stayed in his own backyard," Earnhardt said. "He's the one Indy Car driver that might come down here and beat us at our own show."

That was the biggest fear of many of the drivers when it was announced in December that Unser would team up with car-owner Rick Hendrick and crew chief Waddell Wilson to compete in his first NASCAR Winston Cup event.

Hendrick also owns the NASCAR Winston Cup teams of Ricky Rudd, Ken Schrader and rookie Jeff Gordon.

When Unser arrived at Daytona on Feb. 5 for the first official day of practice, the 1990 PPG Cup champion attended a mandatory rookie meeting along with World of Outlaws sprint car champion Steve Kinser, and 1993 NASCAR rookie of the year contenders Jeff Gordon, Kenny Wallace and Bobby Labonte. The rookies had to watch a 20-minute film narrated by Darrell Waltrip, stressing racing protocol at Daytona International Speedway. Following the film, Ken Schrader and Winston Cup director Gary Nelson spoke with the rookies.



"You wouldn't think a meeting with Al Unser Jr., Steve Kinser, Jeff Gordon, Kenny Wallace and Bobby Labonte would be a rookie meeting," Schrader said. "I know Rick Hendrick tried to hire three of them to replace me, and here I am leading their rookie meeting. I was thinking, 'Something is wrong here.'"

Unser's willingness to ask questions and learn more about NASCAR Winston Cup racing is one reason he impressed many of the top stock car drivers on the circuit.

His enthusiasm quickly turned into frustration on qualification day. When the 49 cars ran for the pole on Feb. 6, Unser was the 38th fastest with a disappointing time of 184.468 mph.

"The air got a little bit heavy and it got a little bit cold," Unser said. "The engine

speed is very, very difficult.

"NASCAR has welcomed me with open arms. I have had a good time here, but I'm a little bit disappointed in the aspect that I didn't feel I was fast enough."

Because of Daytona's unique qualification process, Unser took another qualifying attempt on Feb. 8, and improved his speed to 186.749 mph, which was 36th fastest. However, that did not guarantee him a position in the race. Only the front row is determined by qualifications at the Daytona 500, which meant pole-winner Kyle Petty and Dale Jarrett were the only two drivers assured of their starting position.

Two 125-mile qualifying races held the Thursday before the Daytona 500 determine positions 3-30, with the final 10

that problem at the end of that lap.

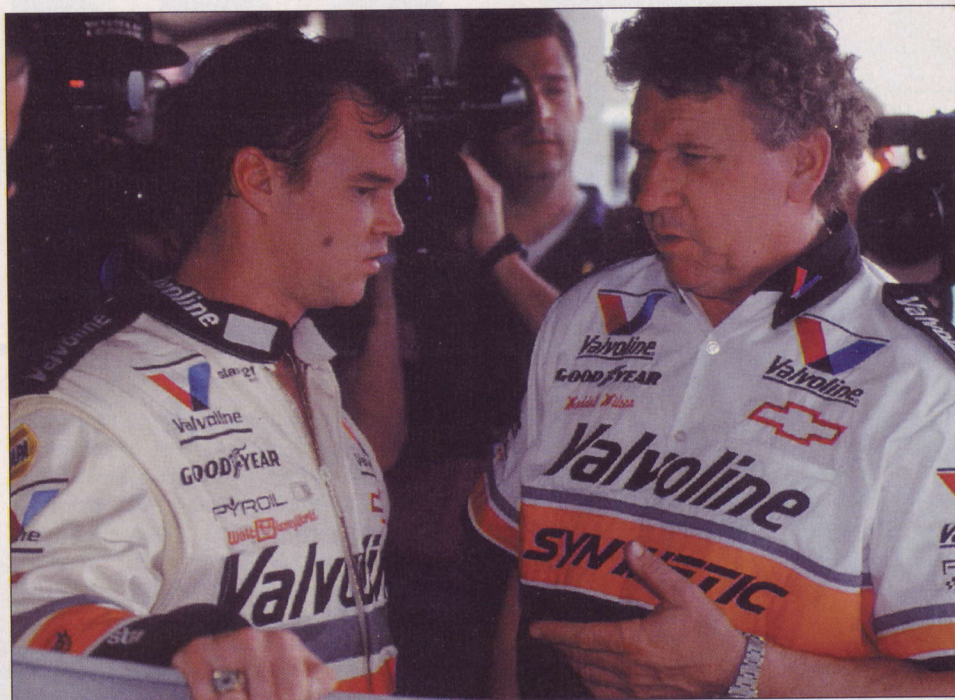
Earlier in the race, Unser tried to drive through a crash in Turn Four that included the cars of Wally Dallenbach Jr., and Jeff Purvis.

"I guess I was going through the wreck, and I split the two cars," Unser said. "I touched both of them on both sides of the car. It knocked my left rear quarter-panel in, and it chewed up the tire once I got back to speed.

"I didn't think it would end up like this. It smoked a little bit at first down the straightaway, but then it went away. In the corner, it was smoking a lot. I saw it, I knew what was going on, but I was just hoping the tire would knock it out just enough that it would start clearing itself. It rubbed it out and finally it poked a hole in it.

**"I love NASCAR because it is a good show and it is good racing, but it definitely is more show than performance of the car. If you talk race cars and performance level of the cars, no, I do not like NASCAR. But when you talk about getting on the race track and rubbing elbows with a bunch of brilliant drivers, then I love NASCAR."**

— Al Unser Jr.



▲ Unser Jr. discussed his crash with veteran chief mechanic Waddell Wilson.

didn't get warm enough, and we just didn't have enough ponies.

"It's been an up and down battle. We came down here in January and had a good test. Then we went over to Talladega and had a good test, but when we got here I had engine problems. We were searching for speed again on Saturday and in the rush of things, in setting up the car, we didn't get the set-up right. I went through the tech line and I was a little bit too low. The ride height on these cars is very, very critical for speed and I needed to raise the car up in order to get through tech.

"We slowed the car down quite severely at that point. Then we worked to get the set-up back and we did. We went back out and ran almost seven-tenths of a second quicker than I ran on pole day. Finding the

drivers making the field through qualifying speeds.

Traditionally, two spots are held open at the end of the field for provisional starters based on last season's point standings.

Because Unser was part of a new team, he knew he would have to finish in the top 15 of the second 125-mile qualifier or earn a spot in the field from his qualifying speed.

Unser started 19th in the second 125-mile qualifying race and was running 14th before disaster struck. On Lap Nine, the left rear tire on Unser's Chevrolet started smoking after the rear quarter-panel had been pushed in during the race. One lap later, the tire blew up, sending Unser into the Turn Two wall and destroying his car. Ironically, Unser's crew was prepared to have their driver make a pit stop to correct

"Racing is racing, but if you had this problem at Indianapolis, you would have probably spent the night in the hospital," said Unser, who was not hurt in the collision. "I love the Daytona 500, but I've struggled the whole time down here. I thought we had a pretty good race car today, but again, it was just bad luck. Every time I've gone out, I've had bad luck."

Unser had to agonize through the remainder of the 50-lap race to see if he would make the field. His chances weren't helped any when Rusty Wallace and Morgan Shepherd, two drivers with faster qualifying speeds who were strong shots to finish in the top 15 of the qualifying race, dropped out of the race and out of the top 30 in the Daytona 500 field.

But after the qualifying race ended, one

of Al Unser Jr.'s racing dreams came true as he made the field for his first Daytona 500.

Barely.

In fact, the Indy Car driver was the last competitor to gain entry into the Daytona 500 based on his qualifying speed of 186.749 mph. Unser started 40th in a 41-car field, and because his car was damaged beyond repair, Schrader gave Unser his backup car, which had finished second to Earnhardt in the 20-lap Busch Clash on Feb. 7.

"The record book will show that I started 40th and barely made the show by the skin of my teeth," Unser said. "I did wish that race would end so I could find out if I was going to make the show or not. There were some tense moments, sure. Waddell and I

"I learned a big lesson in my first IROC race at Daytona in 1986," Unser said. "When you come off Turn Four, don't correct the car. I corrected and hit the wall head on."

Unser survived and went on to become one of the greatest drivers in IROC history. But the racer from Albuquerque, N.M., wants to drive in as many different forms of auto racing as he can before his career is over.

"I want to go F1 really bad and I want to run Daytona really bad," Unser said. "I want to run this year at Indianapolis really bad. I want to go racing. You can't do them all at one time, but you can sure do them all."

"God's eyes are shining on me. I'm very lucky and fortunate to come into the Daytona 500 as my first NASCAR race. I

When Unser defeated Scott Goodyear by .043-seconds for the closest finish in Indianapolis 500 history last May, he was very emotional when he pulled into victory lane.

"You just don't know what Indy means," said a choked-up Unser as he was handed the traditional bottle of milk at Indianapolis.

To second and third-generation NASCAR Winston Cup drivers such as Davey Allison and Kyle Petty, a trip to victory lane in the Daytona 500 would probably equal the emotion Unser felt in winning the Indianapolis 500.

But Unser admitted that he would probably feel strong emotion if he joined Andretti and Foyt as the only Indianapolis 500 winners ever to win the Daytona 500.

"If I won the Daytona 500 someday, it



▲ Unser Jr. drove the No. 46 Hendrick Motorsports Valvoline Synthetic Chevrolet Lumina in his first Daytona 500 start.

were both sweating it out and I was extremely happy when we finally made the show."

When it comes to racing, there aren't many types of cars that Unser hasn't driven. He won the Can-Am championship in 1982 before getting his first Indy Car ride in 1983.

"Most of the people who come to Indianapolis nowadays came up through Formula Fords," Unser said. "I drove sprint cars for three years. The first stock car I ever drove was in an ASA (American Speed Association) race at Milwaukee. After that, I've driven IROC (International Race of Champions)."

Unser proved his ability to drive a stock car by winning IROC twice and finishing second three times.

worked real hard in order to get here and do this. Maybe I didn't work in NASCAR to get here, but I drove a lot of sprint cars and race cars since I started to get here.

"But I've always wanted to race in the Daytona 500 because it's been a dream of mine for quite some time."

The chance to compete in the Daytona 500 came true, and if it had not been for the late-race crash that took him out of the event, Unser may have finished in the top five or top 10.

His experience in the Daytona 500 has only made Unser's urge to come back again that much stronger. He has already added his face to the Borg-Warner Trophy at the Indianapolis 500, joining his father and uncle on the most famous award in racing.

would rank right up there next to winning the Indianapolis 500 because I grew up watching the Daytona 500," Unser said. "I grew up watching my dad race stock cars, Indy Cars, dirt champ cars, midgets, whatever."

"I love NASCAR because it is a good show and it is good racing, but it definitely is more show than it is performance of the car. If you talk race cars and performance level of the cars, no, I do not like NASCAR. But when you talk about getting on the race track and rubbing elbows with a bunch of brilliant race car drivers, then I love NASCAR."

"The Daytona 500 ranks right up there with everything as a big, important race. It would mean a lot to be able to win that race someday." ■



# HEATING UP

A flurry of activity as the 1993 season draws near.

By  
Ned Wicker  
and  
Bob Andrew

After an unusually quiet off-season, a sudden flurry of activity hit the PPG Indy Car World Series.

The series got three more full-time drivers for 1993. Lyn St. James signed with Dick Simon Racing, Ross Bentley signed with Dale Coyne Racing and Marco Greco with Sovereign Racing.

After an 82-year absence, Indy will have another Marmon Wasp car...this time it will be Eric Bachelart's 1992 Lola Buick. Jeff Andretti also announced that he will be back behind the wheel at Indy with Pagan Racing.

On the political side, the CART Board of Directors re-confirmed its position on requiring engine manufacturers to supply a certain number of engines to teams.

## Lyn St. James Signs With Dick Simon Racing

Lyn St. James, 1992 Indianapolis 500 "Rookie of the Year," has thrown her hat into the Indy Car Rookie of the Year battle.

She made her 1993 plans official when she announced that she will compete in the Dick Simon Racing-prepared JCPenney Lola-Ford. The car will have associate sponsorship from the Revlon Department Store Group and Jantzen. St. James will strap in for the Valvoline 200 at Phoenix and do every PPG Indy Car World Series race from that point on.

"We're actually going to try and beat Nigel Mansell," said car owner Dick Simon, who brought St. James to the Speedway last year.

Simon tested St. James in February and was pleased with what he saw in his new chauffeur.

"She gave me every indication she is going to be very good this year," said Simon.

The car has been named "The Spirit of the American Woman" by JCPenney in the company's ongoing effort to bring focus to the lifestyle of women in the 90's.

"The women of the '90s are courageous, they're daring and they're successful," said Gale Duff-Bloom, JC Penney senior vice president. "She is changing history with her futuristic, quick thinking and ability to analyze a problem and strategize the solution. We at JCPenney believe that Lyn St. James epitomizes the 90s woman."

Highly successful in other forms of motorsport, St. James came to Indy last year with specific goals and met those goals. She quickly put aside the novelty of being the second woman to ever run the Speedway.

"For 1993 the goal is to run for rookie of the year honors and to earn as many points as possible to earn that right," St. James said.

## Ross Bentley Gets Full-Time Ride

Vancouver native Ross Bentley will run the full schedule of races for Dale Coyne Racing in 1993. Bentley joins Paul Tracy and Scott Goodyear as Canadians racing full time in the PPG Cup series.

"I'm really looking forward to the upcoming season with Dale," said Bentley, who ran seven races in 1992 for Coyne. "Each year since I started racing Indy Cars, we've progressed. And this will be the most competitive program I've ever had."

"We sat down and worked out a long term program and running a full season was our first goal. It's great to have reached this goal with such momentum. With the car and the team we have this year, I'm confident about our program."

Thanks to major support from Agfa Film and Rain-X, Bentley knows for the first time in his racing career that he has the budget to compete in every race.

The team plans to announce another major sponsor by the beginning of April. Associate sponsors also named include Hankook Tire, Leone and Maxwell Energy.

"I'm excited at the prospect of working with Ross for the full season," said Coyne, who is one of five directors on the CART board. "Having worked with Ross over the last two years, I'm convinced of his ability. This is the opportunity he needs."

Bentley will drive a 1992 Lola with a Chevrolet A engine. He began testing March 6-7 at Big Springs Raceway in Texas, with further testing March 26-27 at Phoenix International Raceway.

## Eric Bachelart signs with Dale Coyne Racing as Marmon returns to Indy

It's been 82 years since Ray Harroun won the first Indy 500 in the Marmon Wasp, but in 1993 the Marmon name will return.

1992 Indy 500 rookie of the year Lyn St. James will run full-time in 1993.



# Honda Signs With Rahal

By Bob Andrew

Honda officials announced on March 17 that Bobby Rahal will begin testing the new Honda Indy Car engine in April. The agreement is for testing only during the 1993 season and does not extend into 1994. Rahal will use the Chevy/C at all of the races in 1993.

"It will be an exciting challenge," said Rahal. "Honda is the preeminent engine manufacturer in the world, so we have every reason to believe that in-car testing will be successful. Still, it is a new engine, so we are approaching it as a development program."

Honda announced its intentions to participate in the 1994 PPG Indy Car World Series earlier this year but put those plans on hold after learning that they would be required to supply three cars across two teams in its first year of participation. Honda maintains that requirement is too costly.

"We are thrilled to be teaming up with Rahal/Hogan," said Tom Elliott, president of Honda Performance Development, Inc. "Due to the new engine supply rules adopted by the Indy Car series, we are still not sure whether we will be able to compete in 1994, but we think it is important to continue to develop the Honda Indy Car engine through in-car testing. We feel no one is better qualified in this area than Bobby Rahal and Rahal/Hogan."

A Honda spokesperson said the company remains hopeful that CART will change its distribution requirement. If so, the company says it will compete in 1994.

In a related matter, the United States Auto Club (USAC), sanctioning body of the Indianapolis 500, has adopted a set of guidelines for new engine manufacturers to follow at Indy.

USAC will label new engines as "developmental" and place no distribution requirements on manufacturers with such designation. Once the "developmental" engine meets performance criteria, it will be labeled "race proven" and will have distribution requirements.

"Developmental" engines will receive "race proven" status once they are utilized in a car:

- 1) posting a Top 10 practice speed of any practice period;
- 2) qualifying in the top nine positions;
- 3) leading at least 25 green flag laps; or
- 4) finishing in the Top 10 within at least two laps of the race winner.

Once engines are "race proven," they must be distributed to at least four car/driver combinations. Six car/driver combinations must be supplied in subsequent years. All engines will be labeled "developmental" at Indy in 1993.

In a move to keep the cost of new engines in check, "race proven" engines must be available for purchase at no more than 110 percent of the average cost of other "race proven" engines.

"We have made a strong effort to come up with a set of rules that encourage the participation of new engine manufacturers in the Indianapolis 500," said Johnny Capels, director of competition for USAC. "We have tried to come up with a fair and equitable set of rules. Our technical and executive branch put a lot of thought and research into these rules."

Capels indicated the response from manufacturers, competitors and fans has been excellent.

1991 Indy Lights Champion Eric Bachelart has signed with Dale Coyne Racing to drive the Marmon Wasp II at Indianapolis.

"We're very pleased to be bringing the Marmon name back to the Indy 500," said Robert A. Pritzker, president and chief executive officer of The Marmon Group, Inc. "It is the 40th anniversary of The Marmon Group. Many of our companies are involved with automotive-related industries. Therefore, it seemed appropriate to sponsor a car at Indianapolis."

The Marmon Group had proposals from many teams but decided to go with Coyne.

"After reviewing many teams, we determined that Dale Coyne Racing and Eric Bachelart represented the type of individuals we wanted to be associated with for the return of the Marmon Wasp to the Indy 500," said Pritzker.

Bachelart, 32, was the highest-starting rookie at Indy last year but dropped out after only four laps with a blown engine.

"To be a part of the Marmon Wasp history is an incredible opportunity for myself and the team," said Bachelart. "Each year at Indy, so much history is made and to be associated with the name of the first Indy winner 82 years ago makes me proud to be involved with such a reputable organization like The Marmon Group."

The Marmon Group is an international association of more than 60 independent member companies with combined revenues of \$4 billion. The Marmon Group member companies involved with the Indy project are Albion Industries, EcoWater Systems, Fontaine International, Getz International Travel, Long-Airdox, Marmon/Keystone, McRobert Springs, MicroAire Surgical Instruments, Triangle Auto Spring Co., and Wells Lamont.

Bachelart has signed to run the Belgian saloon car championship with Peugeot. Because of that, he will participate in only 10 Indy Car races in 1993.

"I am looking forward to driving in Belgium," said Bachelart. "Back when that opportunity came up, I did not have anything in Indy Cars. This program with Dale Coyne came after I already signed with Peugeot. I will have a lot of jet lag this season going back and forth to each event."

Bachelart will drive a 1992 Lola Chevy/A in all of the races except Indy, where he will have a Buick engine program. The team has purchased '92 Lolas from A.J. Foyt Racing and Hall/VDS Racing.

## Ganassi & McCormack join forces to form Sovereign Racing

Chip Ganassi, owner of the Chip Ganassi Racing Teams, and Dennis McCormack have joined forces to create a new team, Sovereign Racing, that will compete in the 1993 PPG Indy Car World Series. Indy Car veteran Dennis McCormack will operate the team from his Indianapolis McCormack Motorsports facility.

Brazilian Marco Greco will pilot Sovereign Racing's Lola T-92/00 Chevy/A with sponsorship from International Sports Ltd. for the entire 16-race season.

"I feel it is important to give something back to the sport," said Ganassi in late February. "I wanted to help Dennis and his team with a sound financial foundation so that they can ascend to the top levels of the sport. I'm impressed with Dennis and his operation and feel they can do a good job for Marco this season."

"I'm excited about my new association with Chip and the coming season," said McCormack, who most recently ran Frank Arciero's race team. "We have an exciting package for '93 and feel that with Marco we can run competitively and build a solid platform for the future."

Marco Greco competed in the Indy Lights series in 1992 and took seventh in the season standings. He has an extensive background in single seaters, having competed in Formula Three and Formula 3000. He was also a test driver for a Formula One team in 1991.



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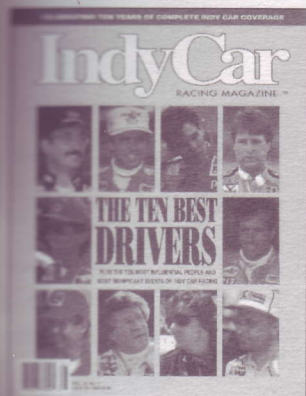
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▲ **Eric Bachelart and Dale Coyne (middle two) posed with Marmon Group member company presidents in Chicago.**

**Jeff Andretti back behind the wheel**

Jeff Andretti broke Rick Mears' Michigan International Speedway unofficial oval track record of 233.8 mph while testing at Texas World Speedway on February 23.

Andretti turned a 234.5 mph lap on only his eighth circuit of the test in a 1992 Buick Lola Indy Car which was recently purchased from King Motorsports, Inc. This was only his second day of testing since his accident at Indy last year. Furthermore, Andretti broke the Texas World Speedway's unofficial track record of 233.17 mph held by his brother, Michael.

"This is a glorious day and it feels great to be back in an Indy Car," said Andretti, who won 1991 rookie of the year honors at Indy. "I'm looking forward to the month of May."

Andretti is scheduled to drive at Indy for Pagan Racing of Corpus Christi, Texas.

**Nissan suspends Indy Car plans**

After a thorough study that weighed the pros and cons of establishing an Indy Car program, Nissan officials announced on February 26 that the company would not expand its racing endeavors.

A difficult business environment and a need to focus its resources on its core automotive business were the main reasons cited by Nissan for its decision.

"We are continuing to support our defending champion IMSA GTS and GTU teams," said Frank Honsowetz, manager, motorsports. "But in the current business climate, we can't justify the financial commitment required to field the type of Indy Car program befitting Nissan's racing heritage."

**Dick Simon and Pagan Racing file first Indy entries**

Dick Simon Racing filed the first seven entries for the 77th Indianapolis 500 less than 24 hours after invitations were mailed. Ten first-day entries were received.

Simon's representative arrived at the Indianapolis Motor Speedway offices at 8:03 a.m. on February 9 with the entries for Dick Simon Racing, Dick Simon/Jonathan Byrd Racing and Paragon Motorsports/Dick Simon Racing, all of Indianapolis. Allan Pagan of Pagan Racing in Corpus Christi, Texas, filed three

entries 40 minutes later for the May 30 classic.

It is the fourth time in five years Simon has been first to enter. Hemelgarn Racing beat him to the Speedway offices last year.

The Simon stable listed rides for 1992 Rookie of the Year Lyn St. James, 1992 seventh-place finisher Raul Boesel and veteran Scott Brayton. Jeff Andretti is listed as driver of the Pagan entries.

Simon entered two 1993 Lola Ford Cosworth XBs called Duracell-Mobil 1-Sadia Lolas with Boesel, 35, of Curitiba, Brazil, as the driver and Gilbert Lage as chief mechanic.

Simon entered a 1992 and a 1993 Lola Ford Cosworth XB named JCPenney-Nike Spirit of the American Woman. St. James, 45, of Daytona Beach, Fla., is listed as the driver and teams up with Tony Van Dongen as chief mechanic.

Two 1993 Lola Ford Cosworth XBs called Amway-Jonathan Byrd's Cafeteria-Bryant Heating and Cooling Specials were entered for Brayton. Mark Bridges is listed as chief mechanic.

Simon entered a 1992 Lola Chevy/A with no other information listed.

Pagan entered a pair of 1992 Lola Buicks for Andretti, 28, of Nazareth, Pa. Pagan also entered a 1993 Lola Buick with no driver listed. John Barnes is the chief mechanic on all three cars.

A few days later, Mark Smith became the first rookie driver entered at the Speedway for 1993. Barry Brooke is listed as chief mechanic for a pair of Craftsman/Arciero Racing Penske Chevy 92s.

**David Kudrave passes CART rookie test**

David Kudrave passed his CART road course rookie test Friday, Feb. 5, at Putnam Park's 1.8-mile circuit in suburban Indianapolis. Kudrave plans to run six races in 1993 for Euromotorsport Racing. He will compete at Phoenix, Long Beach, Portland, New Hampshire, Vancouver and Nazareth.

Kudrave logged 80 laps under the watchful eyes of Derek Daly and Steve Chassey.

"I want a progressive learning curve without mistakes and some top ten qualifications and finishes," said Kudrave on his plans for the season. "I have essentially run sprint races in my career so I have to adapt to longer races and learn strategic tactics like pit stops. This is something that I have looked forward to all of my life and I want to maintain staying power." ■



PHOTO BY LINDA McQUEENEY

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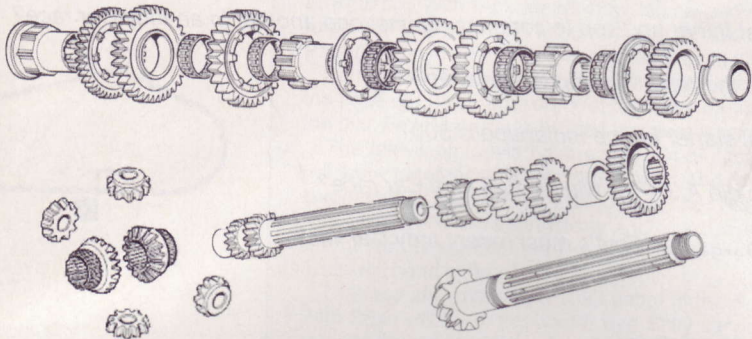
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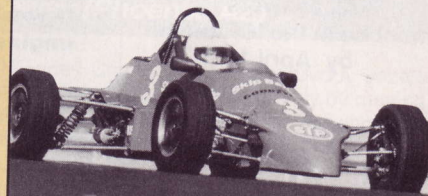
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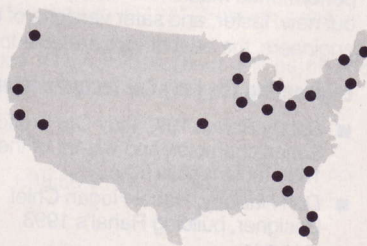
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3. Who is the official starter for the Indianapolis 500?
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5. Where and when was A.J. Foyt's most recent Indy Car win?

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**Answers to February/March Quiz:**

1) Rick Mears, Danny Sullivan and Al Unser sat on the front row at Indy in 1988 for Penske Racing; 2) Al Unser won at Sacramento, Calif., 1970; 3) Ted Horn won three consecutive national championships in 1946, '47 and '48; 4) Jerry Grant qualified at 201.414 mph at Ontario in 1972; 5) Mario Andretti (1969), A.J. Foyt (1968) and Al Unser (1970) each won a road course race, a dirt race and a paved oval race in one season.



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# Engineering The Indy Car

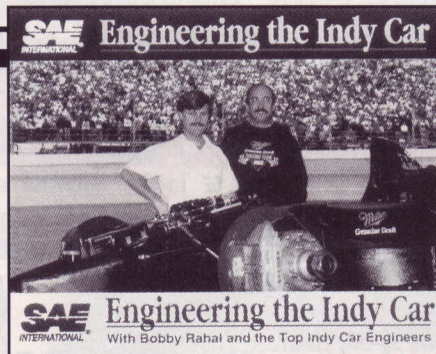
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- **Alan Mertens**, Galles-Kraco Chief Engineer, designer of Al Unser Jr.'s 1992 Indy 500 winning car
- **John Dick**, Arie Luyendyk's race engineer for his 1990 Indy 500 victory
- **Bruce Ashmore**, Lola Chief Indy Car Designer, responsible for designing Luyendyk's 1990 Indy 500 winner
- **Nigel Bennett**, Chief Designer for Penske Cars Ltd.; his designs have won three Indy 500s — 1988 and 1991 (Rick Mears) and 1989 (Emerson Fittipaldi)
- **Edward Keating**, Chevrolet Indy V-8 Program Manager
- **Donald Hayward**, Ford Indy Car Program Engineer

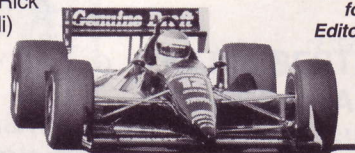


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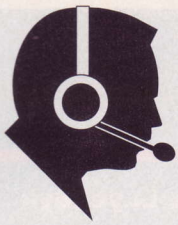
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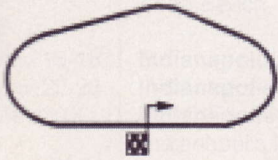


# on the air

## A look at Phoenix and Long Beach

### Valvoline 200 – Phoenix International Raceway (Phoenix, AZ)

#### Track Layout 1-Mile Oval



The first major testing ground for early favorites in the PPG Indy Car World Series is Buddy Jobe's Phoenix International Raceway. Teams can get an idea of how the car is going to handle at Indy by running at Phoenix. With Rick Mears now retired and Michael Andretti in Formula One, who will be the dominant force at Phoenix? Nigel Mansell has been quick in testing, but a host of cars and drivers will challenge for Phoenix honors. It will be Mansell's first oval, which is a big story in itself.

Controversy has followed this race for the past couple of years, as front runners have been caught out by the pace car under caution. Watch for the on-track position of the leader as the PPG pace car comes out of the pits. Rick Mears was burned last year when he ducked into the pit area quickly after a yellow appeared.

The television crews have a new set of circumstances, as Ohlmeyer Communications and ABC Sports will work together to bring you the fast and furious action of this one-mile oval. It will mark the return of commentator Sam Posey, who joins anchor Paul Page and Indy Car great Bobby Unser in the booth. Page, who usually sits between Posey and Unser, says he might move over this year, electing to stay out of the line of fire, as some of the Posey-Unser exchanges in the past have been classic. Gary Gerould and Jack Arute will handle the pits.

The race also marks the 1993 debut of the Kmart Indy Car Radio Network. Larry Henry, Lou Palmer and Paul Brian will be in the booth, with Sally Larvick and Ned Wicker handling pit reporting chores. Over 100 stations have been cleared for the new season, making the radio side very strong.

#### Track Records

Qualifying	1992	Michael Andretti	20.952 • 171.825 mph
200-mile race	1987	Roberto Guerrero	1:26:56.620 • 138.020 mph

#### Race winners in the last five years

1992–Bobby Rahal • 1991–Arie Luyendyk • 1990–Rick Mears • 1989–Rick Mears • 1988–Mario Andretti

#### Television Schedule

April 4 • 4-6:00 PM • Live • ABC (Check local listings for times and stations)

#### Radio Schedule

April 4 • 3:30-6:00 PM • Live • Kmart Indy Car Radio Network (Check local listings for times and stations)

### Toyota Grand Prix of Long Beach – (Long Beach, CA)

#### Track Layout 2.793-Mile Street Course



The course has changed over the years, as well as the race distance, but the one thing that hasn't changed over the years is the strong entertainment appeal of Chris Pook's Toyota Grand Prix of Long Beach.

Will Al Unser Jr. return to victory circle? He had four straight wins to his credit (1988-1991), and had a fifth win in sight, when his teammate, Danny Sullivan, hit him from the rear late in the race and took the Valvoline car out of contention. Sullivan went on to win, and Al finished fourth.

Long Beach Teleproductions will handle the broadcast of the race, as the ABC announcing crew shifts gears one more time before Indy. The Indy Car race will be the last event in a five-day list of activities this company is covering. Page, Posey and Unser will be in the booth, with Gerould and Arute in the pits.

The track modifications have made for a quicker, more exciting race, but look for passing in Turn One. Another aspect of this race which has created excitement and controversy in the past is the narrow pit lane. Michael Andretti and Emerson Fittipaldi made heavy contact in the pits in 1991. Position swapping in the pits might add a dramatic touch to the race.

The same radio crew will handle the Long Beach event. Station XTRA in San Diego will be on line to blast the race into the Los Angeles market.

#### Track Records

Qualifying	1992	Michael Andretti	53.872 • 106.251 mph
181.545-mile race	1987	Danny Sullivan	1:48:56.715 • 91.945 mph

#### Race winners in the last five years

1992–Danny Sullivan • 1991–Al Unser Jr. • 1990–Al Unser Jr. • 1989–Al Unser Jr. • 1988–Al Unser Jr.

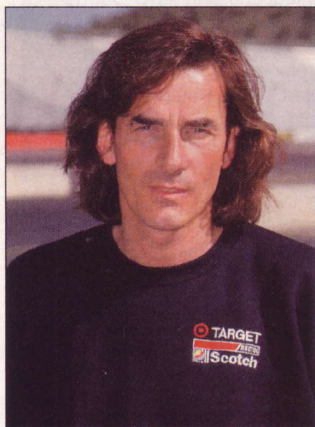
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ICR brings you **up close**  
**& personal** with Arie Luyendyk



**Arie Luyendyk's first Indy Car win came at Indianapolis in 1990!**

**Full Name:** Arie Luyendyk  
**Birthdate:** September 21, 1953  
**Birthplace:** Sommelsdyk, The Netherlands  
**Wife:** Mieke  
**Children:** Arie (age 11), Maida (age 4)  
**Wedding Date:** March 20, 1981  
**Height:** 5'11"  
**Weight:** 165 lbs.  
**Residence:** Scottsdale, AZ  
**Business Interests:** Arie Luyendyk Motorsports Gallery in Indianapolis  
**Hobbies:** Collecting model Ferraris, Art, and Indy Car driver's memorabilia  
**Personal Vehicles:** Ferrari Testarossa, Corvette Convertible, Ford Explorer  
**Favorite Music:** Various; Light & Hard Rock; U2, Michael Bolton, Guns-n-Roses, INXS, and Depeche Mode  
**Favorite Books:** Autobiographies  
**Favorite TV Show:** In Living Color  
**Favorite Food:** Italian  
**Racing Hero:** Jim Clark  
**Favorite City on Indy Car Schedule:** Phoenix  
**Favorite Restaurant on Indy Car Schedule:** Casanova, Carmel  
**Most Memorable Racing Achievement:** Winning Indy  
**Best Advice From Parents:** Stay yourself, respect others  
**What You Admire In Others:** Honesty, determination  
**Greatest Influence On Your Life:** Arie Jr., Maida  
**What Drives You Crazy:** Traffic jams, delayed flights, people who talk too much  
**Advice To Young Drivers:** It's not going to be easy, so prepare yourself for a struggle and don't give up.  
**Best Part of Job:** Driving the race car  
**Worst Part of Job:** Crashing  
**Goals:** To win races and the championship



# 1993 Race Schedule

Date	Race/Track/Location	Track Length/Type	Television/EST	Status
March 21	<b>Australian Indy Car Grand Prix</b> Surfer's Paradise (Queensland, Australia)	2.793-mi Temporary Circuit Tickets: 0116175708888	ABC 2-4:00 PM	Delay
April 4	<b>Valvoline 200</b> Phoenix International Raceway (Phoenix, AZ)	1-mi Oval Tickets: 602-252-3833	ABC 4-6:00 PM	Delay
April 18	<b>Toyota Grand Prix Of Long Beach</b> Long Beach, CA	1.676-mi Temporary Circuit Tickets: 213-436-9953	ABC 4-6:00 PM	Delay
May 15-16 May 22-23 May 30	<b>Indianapolis 500 Qualifying</b> <b>Indianapolis 500 Qualifying</b> <b>Indianapolis 500</b> Indianapolis Motor Speedway (Indianapolis, IN)	2.5-mi Oval Tickets: 317-241-2500	ABC/ESPN ABC/ESPN ABC 11AM-3:30 PM	Live
June 6	<b>Miller Genuine Draft 200</b> Wisconsin State Fair Park (West Allis, WI)	1-mi Oval Tickets: 414-453-8277	ABC 1-3:00 PM	Live
June 13	<b>ITT Automotive Detroit Grand Prix</b> Belle Isle Park (Detroit, MI)	2.1-mile Temporary Circuit Tickets: 313-259-7749	ABC 3-5:30 PM	Delay
June 27	<b>Budweiser/G.I. Joe's 200</b> Portland International Raceway (Portland, OR)	1.922-mi Road Course Tickets: 503-236-8006	ESPN 4-6:30 PM	Delay
July 11	<b>Cleveland Grand Prix</b> Burke Lakefront Airport (Cleveland, OH)	2.359-mi Temporary Circuit Tickets: 216-781-3500	ABC 1:30-3:30 PM	Live
July 18	<b>Molson Indy Toronto</b> Exhibition Place (Toronto, Ontario, Canada)	1.78-mi Temporary Circuit Tickets: 416-595-5445	ABC 4-6:00 PM	Delay
August 1	<b>Marlboro 500</b> Michigan International Speedway (Brooklyn, MI)	2-mi Oval Tickets: 517-592-6671	ABC 1:30-5:00 PM	Live
August 8	<b>New England 200</b> New Hampshire International Speedway (Loudon, NH)	1-mi Oval Tickets: 603-783-4931	ESPN 3:30-5:30 PM	Delay
August 22	<b>Texaco/Havoline 200</b> Road America (Elkhart Lake, WI)	4-mi Road Course Tickets: 1-800-365-RACE	ESPN 2-4:30 PM	Live
August 29	<b>Molson Indy Vancouver</b> Pacific Place (Vancouver, BC, Canada)	1.704-mi Temporary Circuit Tickets: 604-280-INDY	ESPN 4-6:00 PM	Delay
Sept. 12	<b>Pioneer Electronics 200</b> Mid-Ohio Sports Car Course (Lexington, OH)	2.25-mi Road Course Tickets: 419-884-4000	ESPN 1-3:30 PM	Live
Sept. 19*	<b>Bosch Spark Plug Grand Prix</b> Pennsylvania International Raceway (Nazareth, PA)	1-mi Oval Tickets: 215-759-8800	ESPN 9-11:00 PM	Sept. 20
October 3	<b>Toyota Monterey Grand Prix</b> Laguna Seca Raceway (Monterey, CA)	2.214-mi Road Course Tickets: 408-648-5100	ESPN 9-11:00 PM	Delay

\* T.V. coverage will be delayed on Sept. 20th. \*\*Air dates and times subject to change. Check your local listings.

**Coming in  
the May issue  
of ICR**

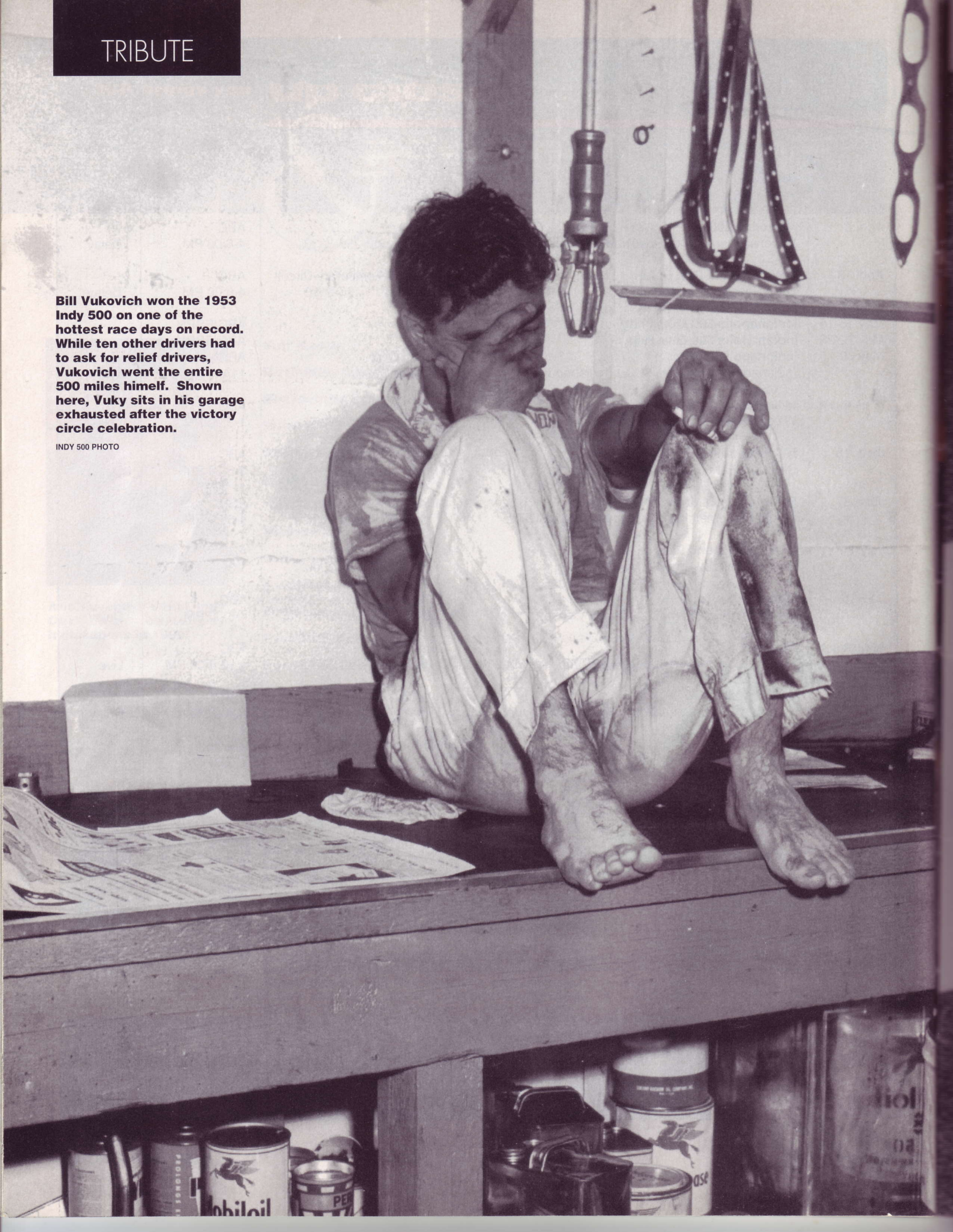
**Indy Preview**  
Is 235 mph a possibility? Who should you be watching? Plus a complete entry list and more!

**Interview**  
Al Unser Jr. will look back on his first Indy 500 victory.

**Feature**  
Scott Goodyear...a year after finishing second by .043 seconds.

**Bill Vukovich won the 1953 Indy 500 on one of the hottest race days on record. While ten other drivers had to ask for relief drivers, Vukovich went the entire 500 miles himself. Shown here, Vuky sits in his garage exhausted after the victory circle celebration.**

INDY 500 PHOTO



*"A Return to Tradition"*

# June 5-6

## The INDYCARs Are Coming To Milwaukee



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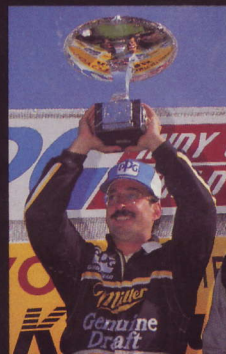
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1992 PPG Indy Car  
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