

# Media Information 2010

Firestone Racing  
and the IZOD IndyCar Series

**Firestone**  
Official Tire of the IZOD IndyCar® Series



**Produced by**

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**Firestone**  
*Racing*

# Media Information 2010

## 2010 IZOD IndyCar Series Schedule

Date	Location	Track Type	TV	Time
Sunday, March 14	Sao Paulo, Brazil	Street Course	Versus	Noon
Sunday, March 28*	St. Petersburg, FL	Street Course	ABC	3:30 p.m.
Sunday, April 11*	Barber Motorsports Park	Road Course	Versus	3 p.m.
Sunday, April 18*	Long Beach, CA	Street Course	Versus	3:30 p.m.
Saturday, May 1	Kansas Speedway	Oval	ABC	1:30 p.m.
Sunday, May 30*	Indianapolis Motor Speedway	Oval	ABC	Noon
Saturday, June 5	Texas Motor Speedway	Oval	Versus	8 p.m.
Sunday, June 20*	Iowa Speedway	Oval	Versus	1:30 p.m.
Sunday, July 4*	Watkins Glen International	Road Course	ABC	3:30 p.m.
Sunday, July 18*	Toronto, Canada	Street Course	ABC	12:30 p.m.
Sunday, July 25*	Edmonton, Canada	Street Course	Versus	5 p.m.
Sunday, August 8*	Mid-Ohio Sports Car Course	Road Course	Versus	2:30 p.m.
Sunday, August 22*	Infineon Raceway	Road Course	Versus	5 p.m.
Saturday, August 28*	Chicagoland Speedway	Oval	Versus	7 p.m.
Saturday, September 4*	Kentucky Speedway	Oval	Versus	8 p.m.
Sunday, September 19	Twin Ring Motegi, Japan	Oval	Versus	10 p.m.
Saturday, October 2*	Homestead-Miami Speedway	Oval	Versus	6 p.m.

ALL TIMES EASTERN

\*Includes Firestone Indy Lights event

# Media Information 2010

## Race Day Team – Management



**AL SPEYER**  
**Executive Director, Firestone Racing**  
**Nashville, TN**

Al Speyer has been a well-known face at tracks across the globe for nearly 30 years. Now a seasoned veteran of the motorsports industry, he began his career with Firestone Tire & Rubber Company after graduating from Syracuse University in 1974 with a B.S. in Mechanical Engineering.

During his early years with the company, he balanced weekday work with his weekend racing activities, competing in Sports Car Club of America (SCCA) competitions. In 1984 he was promoted from senior project engineer in the technical testing area to manager of race tire development.

In 1992, shortly after the Firestone Tire & Rubber Company was acquired by Bridgestone Corporation, and the U.S. operations were consolidated as Bridgestone/Firestone, Inc., he was named manager of motorsports for the company. The following year, the company announced it would end a 20-year hiatus from the top forms of open-wheel racing, and Speyer was tapped to manage the return.

Under his management, the Bridgestone Firestone Motorsports program quickly dominated in American open-wheel racing. That success on the track provided tremendous positive exposure for the Bridgestone and Firestone brands, driving sales and increasing market share. Speyer was promoted to Director of Motorsports, and in 2001 was named Executive Director of Motorsports for Bridgestone Firestone North American Tire, LLC (now Bridgestone Americas Tire Operations, LLC – BATO). In addition to directing the company's open-wheel racing programs, he also directs the company's motorcycle and karting activities, managing all aspects of the company's motorsports activities, including marketing and promotional activities.

Speyer currently serves on the Board of Directors for both CARA Charities and the Indy Family Foundation, Inc., as well as the Board of Trustees for the Motorsports Hall of Fame of America. He and his wife Jane reside in Hendersonville, Tenn., and they have one son, Erik.



**JOE BARBIERI**  
**Manager, Firestone Racing**  
**Nashville, TN**

Joe Barbieri is a native of Akron, Ohio, and began his career with Firestone Tire & Rubber Company in 1970. After holding various positions at the Akron Technical Center, he became involved in the company's racing program in 1987.

Initially, Barbieri assisted with tire development and provided site support for various series in which Firestone was involved, including SCCA Pro, IMSA and NHRA. His role with the company evolved to include sales and marketing of race tires, and in 1994, he became project supervisor for the Bridgestone Motorsport and Firestone Racing programs.

In 2004, Barbieri was promoted to Manager of Motorsports, and in his current role is responsible for developing and overseeing the motorsports budget, as well as negotiating contracts with race teams, leagues and venues. He can be seen at the racetrack on any given weekend coordinating interaction between the company and its many motorsports partners.

Barbieri resides in Franklin, Tenn., with his wife René.

# Media Information 2010

## Race Day Team – Management



**PAGE MADER**  
**General Manager**  
**Race Tire Development**  
**Akron, OH**

Page Mader is a career-long Bridgestone Firestone employee, having joined the company as a college graduate in 1972. After a short stint in the company's technical services department, Mader began his career as a tire engineer, designing passenger replacement tires for what was then known as the Firestone Tire & Rubber Company. After just four years, he made the move into race tire development and has served the company in that capacity for the past 29 years.

During that time, Mader has designed tires for a wide variety of racing series, including NASCAR modified, Champ Car, IZOD IndyCar Series, World of Outlaws, NHRA and IHRA, Trans-Am, IMSA, SCCA and Firestone Indy Lights.

In 2002, Mader became manager of race tire development and now oversees all development of race tires for the company. He heads a talented group which designs tires for some of the most demanding driving situations imaginable.

Mader and his entire race tire development team are based at the company's Akron Technical Center in Akron, Ohio. He resides in Medina, Ohio, with his wife Jean and their two sons, Charles and Henry.

## Race Day Team - Staff

**CARA ADAMS**  
**Engineer**  
**Racing – Product Development**  
**Akron, OH**

**LLOYD ATEN**  
**Senior Specification Technician**  
**Racing – Product Development**  
**Akron, OH**

**DENNIS BOLEY**  
**Senior Chemist**  
**Racing – Product Development**  
**Akron, OH**

**BARBARA BUTZ**  
**Chief Executive Officer**  
**Performance Tire Service Company**  
**Indianapolis, IN**

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## Race Day Team - Staff

**STEVE BUTZ**  
President  
Performance Tire Service Company  
Indianapolis, IN

**DARLA ELKINS**  
Manager, Motorsports & Product Public Relations  
Firestone Racing  
Nashville, TN

**DALE HARRIGLE**  
Senior Project Engineer  
Racing – Product Development  
Akron, OH

**DANA NICKERSON**  
Racing Programs Coordinator  
Firestone Racing  
Nashville, TN

**MARK ROBINSON**  
Public Relations Consultant  
MR Communications  
Indianapolis, IN

**CRAIG ROSS**  
Engineering Assistant  
Racing – Product Development  
Akron, OH

**BRETT SCHILLING**  
Senior Compounder  
Racing – Product Development  
Akron, OH

**KEITH SHRIEVE**  
Project Engineer  
Racing – Product Development  
Akron, OH

# Media Information 2010

## Firestone and the IZOD IndyCar Series – A Winning Partnership



Only one tire supplier has been there for every race, every turn, every pit stop and each and every nail-biting photo finish in the history of the IZOD IndyCar Series –

Firestone Racing. Building on a long and storied history that dates to the beginnings of the sport of auto racing in the early 1900s, Firestone Racing joined IZOD IndyCar Series competition at the inaugural event in 1996 and has been at every racetrack since. Following four years of competition with Goodyear, the Firestone brand has been the series' sole tire supplier since 2000. In 2002, Firestone Racing expanded its role as a key promotional partner by becoming Official Tire of the IZOD IndyCar Series and the Indianapolis 500 – cherished positions the company maintains to this day. In 2008, Firestone announced it would serve as title sponsor for the Firestone Indy Lights series, rekindling a tradition dating back to 1991 as the title sponsor of the IZOD IndyCar Series' official driver development series.

The relationship between Firestone Racing and the Indy Racing League extends far beyond the racetrack to print and television advertising, promotions at Firestone Complete Auto Care centers and more – even to the tires that might be on your passenger car. From “win ad” placement with prime print media outlets, to television advertising that has captured the rich history and tradition of the Firestone brand's involvement with the IZOD IndyCar Series and the Indianapolis 500, the partnership is as strong as ever. In 2010, the Firestone brand will serve as the title sponsor of the Firestone 550k at Texas Motor Speedway as well as the Official Tire of the Honda Grand Prix of St. Petersburg, the Indy Grand Prix of Alabama at Barber Motorsports Park, and the Toyota Grand Prix of Long Beach.

Firestone Racing's success on the track also transfers to our consumer tires. For our company's engineers and chemists, lessons learned at the track translate into innovations that can be applied to the design and manufacture of street tires – innovations such as wider tires for improved traction, lower aspect ratio tires for improved handling, new compounds for increased wear and better grip, and improved cord materials for more durable performance.

Through the years, many of these technological advances have made their way into the Firestone tires driven by consumers today, including those featuring UNI-T, the Ultimate Network of Intelligent Tire Technology. This unique technology provides drivers better performance through features such as longer tread life, resistance to hydroplaning, effective dry traction, enhanced grip and other benefits. Our company continues to develop and improve technologies with UNI-T as the base for all future products that focus even more closely on what the consumer wants.

In many ways, Firestone street tires showcase all that the men and women of our company have accomplished since the Firestone brand's first Indy 500 win at the inaugural race in 1911, and all that we will continue to accomplish together now and in the years to come. And when another driver takes the checkered flag and dons the Firestone hat in victory circle, it's not just another Firestone Racing win. It's the culmination of a successful partnership between Firestone Racing and the IZOD IndyCar Series.



# Media Information 2010

## Seeing RED – Firestone Racing’s Alternate Tire Program

### **BACKGROUND:**

- This concept was pioneered by Firestone Racing teammates (then operating as Bridgestone Motorsport) in Champ Car competition and first introduced at the 2004 Toyota Grand Prix of Long Beach.
- The program was adapted by our parent company, Bridgestone, for use in the FIA Formula 1 World Championship in 2007, and by the IZOD IndyCar Series in 2009.
- Alternate tires are identical in construction to the primary Firestone Firehawk racing radials, but they contain a softer tread compound.
- Softer tread compounds should produce quicker lap times; however, the softer tread compounds will not be as durable as the primary tires’ harder tread compounds.
- Alternate tires are identified by bright red sidewalls.



### **FOR IZOD INDYCAR SERIES IN 2010:**

- This initiative was driven by the IZOD IndyCar Series, and we complied with the request in the interest of creating even more exciting racing for the fans.
- Cars will receive six sets of primary and three sets of alternate tires for each road/street course race.
- Primary and alternate tires may be used by teams at any point during practice and qualifying.
- At least one set of primary tires must be used for at least two green-flag laps during a race.
- One unused, “sticker” set of alternate tires must be run for at least two green-flag laps during a race.
- If a race requires the use of wet tires, the alternate/primary tire required use rule is waived.

# Media Information 2010

## The Life of a Firehawk Racing Tire

The life of a Firestone Firehawk racing radial is brief – usually spanning less than a year – but it is a short-lived existence of great achievement, gritty determination and tender loving care.

A Firestone Firehawk race tire destined for use is first conceived on paper and in computer files in Akron, Ohio, home of the Firestone Racing engineers and chemists who design and develop the exclusive tires for competition in the IZOD IndyCar Series and Firestone Indy Lights. Utilizing the great minds on hand and the wealth of historical data gathered over decades of successful open-wheel racing and testing, Firestone Racing's race tire development group calculates the best formula for a tire to provide optimal performance on each particular racetrack.

In most instances, the formula for the four tire positions on a race car at any circuit will all vary in some aspects – be it in size, sidewall construction and/or tread compound – so that the tire stands up to the unique demands placed on it at that position of the car.



Once the compound/construction formulas are decided, the Firehawk race tires are physically born when meticulously produced at that same Akron facility. Even though every tire will have a set of perhaps 200 or more twins produced to the same exacting specifications for that particular race and position on the car, each race tire is also like a newborn baby given its own distinctive name in the form of an individual computer barcode. The

barcodes are very similar to those we're familiar with at all types of retail stores today. This way, Firestone Racing officials can monitor the tire throughout its entire life cycle and know its whereabouts at any time.

Once produced and barcoded, the tires are sent to Performance Tire Service Company (PTSC) in Indianapolis. PTSC is the outstanding service group that has mounted, dismantled, stored and transported every single Firehawk tire since Firestone Racing entered IZOD IndyCar Series competition at the very first race in 1996.

There they are stamped with the familiar "Firestone" and "FIREHAWK" labels on the sidewalls, and then are meticulously placed in storage until called upon for use at a race or test. When that time comes, usually within a couple months, they ride by tractor-trailer rig (and by air/ship in the case of Japan and Brazil) to their racetrack destination.

At the track, a barcode reader scans the tires out to a particular car, the car number is either stamped or written in permanent ink on the sidewalls and the tires are mounted and balanced by PTSC personnel.



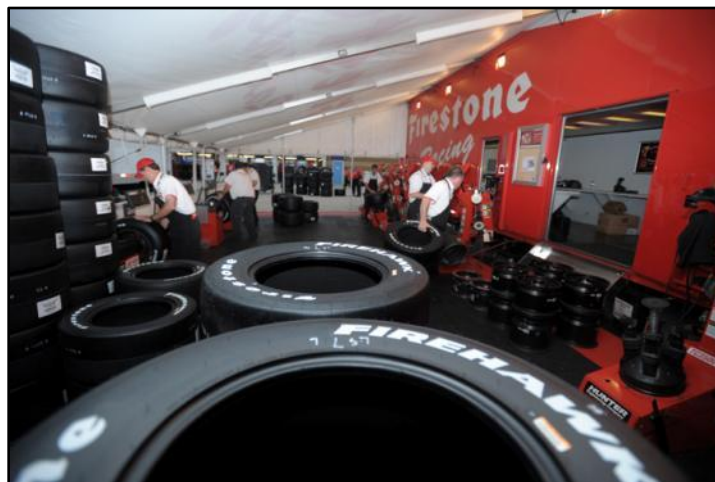
# Media Information 2010

## The Life of a Firehawk Racing Tire - Continued

It is at the teams' discretion how much or how little to use a set of tires on a race weekend, but teams work in close concert with the Firestone Racing engineers who are always on hand to offer their expert recommendations. Firestone Racing staffers monitor the performance of all tires on a race weekend, recording such data as laps run on each set, speeds achieved, wear rate, tire pressures used, tire temperatures and ambient weather conditions. All of the data collected for each set of tires is compiled on computer files that are crucial to post-race tire analysis and the continued development of future winning Firestone Firehawk race tires.

Once a race tire has been used on track, it is returned to the Firestone Racing compound, where PTSC personnel dismount it and scan it back into inventory. Firestone Racing engineers select a certain number of used tires at each event to be dissected in Akron for a more strenuous analysis of how well they performed. The remaining tires are shipped back to the Indianapolis storage facility, where they join other retired Firehawk tires that have seen the glory of active duty on a racetrack.

The used tires are then scanned out a final time when they are shipped to a facility to be used as tire derived fuel in a cement kiln. Firestone Racing has found this to be the most environmentally responsible way to dispose of the tires and ensure the proprietary technology they contain does not leave the company. And while they may be gone at that point, the legacy of millions of successful race miles and hundreds of Firestone Racing victories lives on forever.



# Media Information 2010

## Firestone Racing History

- 1909 Company founder Harvey Firestone puts a set of Firestone brand tires on a car driven by Barney Oldfield in the Indianapolis 300. During a test run for that competition, Oldfield told the assembled onlookers, "My only life insurance is Firestone tires."
- 1911 Riding on Firestone tires, Ray Harroun wins the inaugural Indianapolis 500 driving a Marmon Wasp.
- 1920 Gaston Chevrolet wins the Indianapolis 500, beginning a string of 43 consecutive victories for Firestone-equipped drivers that would last through the 1966 race.
- 1921 The season began a string of 152 consecutive Indy car wins for Firestone, from the Feb. 27, 1921 race in Beverly Hills through the race at Syracuse on Sept. 15, 1936.
- 1922 Jimmy Murphy gives Firestone its fifth Indianapolis 500 victory. He was the first person to win at Indianapolis from the pole position.
- 1927 George Souders gives Firestone its 10<sup>th</sup> win at the Indianapolis 500.
- 1932 Fred Frame gives Firestone its 15<sup>th</sup> win at the Indianapolis 500.
- 1936 Louis Meyer gives Firestone its 19<sup>th</sup> win at the Indianapolis 500 and becomes the first person to win at Indianapolis three times. In victory lane, he gulped a glass of buttermilk, establishing the traditional drink of milk for the Indy 500 winner – perhaps the symbol of victory most associated with the "500."
- 1937 Billy Winn is victorious at the Syracuse 100 on Sept. 12, 1937, beginning a string of 225 consecutive victories by Firestone drivers that would continue through the Springfield 100 on Aug. 17, 1963.
- 1937 Wilbur Shaw gives Firestone its 20<sup>th</sup> win at the Indianapolis 500. It marked the last Indianapolis 500 race in which a riding mechanic was required.
- 1939 Jimmy Snyder, on Firestone tires, is the first Indianapolis 500 driver to break the 130-mph barrier in a four-lap qualifying run.
- 1946 George Robson gives Firestone its 25<sup>th</sup> win at the Indianapolis 500.
- 1949 The Indianapolis 500 is televised for the first time. The race is won by Bill Holland on Firestone tires, giving the company its 28<sup>th</sup> Indy 500 win.
- 1949 Firestone driver Jim Roper wins the first NASCAR stock car event, held at Charlotte, NC, on June 19, 1949. Firestone drivers win all eight races in the first season of what is now Sprint Cup competition.

# Media Information 2010

## Firestone Racing History – continued

- 1951 Lee Wallard gives Firestone its 30<sup>th</sup> win at the Indianapolis 500.
- 1956 Pat Flaherty gives Firestone its 35<sup>th</sup> win at the Indianapolis 500.
- 1961 AJ Foyt Jr. gives Firestone its 40<sup>th</sup> win at the Indianapolis 500.
- 1963 Duane Carter is the first person to qualify for the Indianapolis 500 on the revolutionary new wide, low-profile Firestone tires.
- 1965 Firestone driver Mario Andretti is the 1965 Indianapolis 500 Rookie of the Year.
- 1965 Firestone tires make their first appearance in an FIA Formula 1 event, as Pedro Rodriguez wears them on his Ferrari.
- 1966 Graham Hill gives Firestone its 45<sup>th</sup> win at the Indianapolis 500.
- 1966 Firestone takes its first victory in FIA Formula 1 competition on Sept. 4, 1966, when Ludovico Scarfiotti wins at Monza in a Ferrari 312.
- 1967 Mario Andretti wins the NASCAR Daytona 500 on Firestone tires.
- 1968 Firestone driver Graham Hill wins the 1968 FIA Formula 1 driver's championship.
- 1969 Mario Andretti wins the Indy 500, giving Firestone its 46<sup>th</sup> win.
- 1970 Firestone driver Jochen Rindt wins the 1970 FIA Formula 1 driver's championship.
- 1971 Al Unser Sr. gives Firestone its 48<sup>th</sup> win at the Indianapolis 500, the last Indy 500 win before Firestone withdraws from major open-wheel racing competition.
- 1971 Firestone driver Mario Andretti wins the 1971 FIA Formula 1 season opener, one of four wins by Firestone that year.
- 1972 Firestone driver Emerson Fittipaldi wins the 1972 FIA Formula 1 driver's championship. His Sept. 10, 1972 win at Monza was the last FIA Formula 1 victory for Firestone.
- 1972 Firestone picks up its last win in NASCAR when Ray Elder wins the Riverside 400 on June 18, 1972. Between 1949 and 1972, Firestone-equipped drivers collected 568 victories and 16 driver's championships in NASCAR competition.
- 1974 Firestone withdraws from major open-wheel competition at the conclusion of the 1974 season. Al Unser Sr.'s win in the Michigan 250 on Sept. 15 was the last win of that era by a Firestone-equipped driver.
- 1974 Firestone driver Mario Andretti wins the 1974 USAC Silver Crown Championship.

# Media Information 2010

## Firestone Racing History – continued

- 1975 Firestone withdraws from FIA Formula 1 competition.
- 1975-1991 Though out of major open-wheel competition, the Firestone brand continues to appear in various forms of motorsport competitions across the globe, including SCCA, USAC Silver Crown and IMSA.
- 1991 Firestone tires make their initial appearance as the official tire of the Firestone Indy Lights Championship. Eric Bachelart was the first Firestone Indy Lights season champion.
- 1993 Bridgestone Firestone announces its return to Indy car racing, featuring the Firestone brand. The announcement is made in May 1993 at Indianapolis.
- 1994 The Firestone Racing program conducts Indy car racing tests at speedways and road courses, logging more than 12,000 miles. Scott Pruett handles most of the driving as the Firestone race tire development team works with Patrick Racing.
- 1995 Firestone returns to major open-wheel competition on March 5, 1995, at the Marlboro Grand Prix of Miami.
- 1995 In its first Indianapolis 500 appearance in 20 years, the Firestone Racing program sees two of its drivers (Scott Goodyear and Scott Pruett) running 1-2 in the closing laps. But victory eludes the Firestone drivers as Goodyear is penalized for passing the pace car under yellow while Pruett is involved in an accident.
- 1995 Scott Pruett's win for Pat Patrick Racing on July 30 at the Michigan 500 is the first Indy-car win for the Firestone Racing program since the company announced its return to competition.
- 1996 Firestone is there for the inaugural Indy Racing League race at Walt Disney World Speedway on January 27, 1996, equipping seven of the cars in the field, including winner Buzz Calkins' machine.
- 1996 Arie Luyendyk, on Firestone tires, sets a new qualifying speed record at Indianapolis (236.986 mph for the four-lap average speed; his fastest single lap was 237.498 mph). In practice, he sets the all-time fastest lap speed ever recorded at the track – 238.260 mph.
- 1997 Arie Luyendyk gives Firestone its 50<sup>th</sup> win at the Indianapolis 500.
- 1997 Firestone driver Mauricio Gugelmin sets a record for the fastest pole qualifying speed in CART history – 240.942 mph – September 27 at California Speedway in Fontana. During practice, Gugelmin sets the fastest closed-course lap in history – 242.333 mph.

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## Firestone Racing History – continued

- 1998 Bridgestone Firestone announces that it will feature its Dayton brand tires as the official tires of the Indy Lights championship.
- 1999 Firestone-equipped drivers capture the first 10 finishing positions at the May 29 Motorola 300 at Gateway International Raceway. It is the first time the Firestone program has captured the top-10 finishing positions since returning to CART in 1995.
- 1999 Following the 1999 racing season, Goodyear withdraws from CART and IRL competition, making Firestone the sole tire supplier for both series by default.
- 2000 Gil de Ferran, equipped with Firestone Firehawks, breaks Gugelmin's 1997 closed-course speed record when he qualifies on the California Speedway pole at 241.428 mph.
- 2001 Following the 2001 season, Firestone announces that the Firestone brand will no longer compete in the Champ Car World Series (formerly CART) and will be replaced by its sister Bridgestone brand beginning with the 2002 season.
- 2002 Firestone becomes the Official Tire of the Indy Racing League and the Indianapolis 500.
- 2002 In a ceremony at Indianapolis Motor Speedway on May 5, Firestone and IMS officials introduce the Firestone Firehawk Indy 500 street tire. It is the first functional automotive component ever manufactured bearing the name and logo of the Indianapolis Motor Speedway.
- 2002 Sam Hornish Jr. becomes the 100<sup>th</sup> Firestone-equipped driver to win a major series championship title.
- 2002 AJ Foyt IV becomes the first Infiniti Pro Series (what is now Firestone Indy Lights) driver to be awarded the Firestone Firehawk Cup as the series champion.
- 2003 Scott Dixon wins the IZOD IndyCar Series championship, becoming the 60<sup>th</sup> driver to win an Indy car championship on Firestone tires.
- 2004 Firestone joins the IZOD IndyCar Series in celebrating its 100<sup>th</sup> event, the Firestone Indy 225 at Nazareth Speedway, with specially lettered race tires. Firestone is the only tire manufacturer to have competed in every single IZOD IndyCar Series event since the league's inception.
- 2005 Firestone celebrates the 10-year anniversary of its return to open-wheel racing with festivities surrounding the Firestone Indy 400 at Michigan International Speedway July 29-31.

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## Firestone Racing History – continued

- 2005 Tony Kanaan wins the Argent Mortgage Indy Grand Prix at Infineon Raceway on August 28 to give Firestone its 100<sup>th</sup> IZOD IndyCar Series victory.
- 2006 Marco Andretti becomes the third generation Andretti to win on Firestone tires, following in the footsteps of his grandfather, Mario, and his father, Michael. Marco's first IZOD IndyCar victory comes at Infineon Raceway on August 27.
- 2008 IZOD IndyCar Series founder Tony George and Champ Car World Series co-owner Kevin Kalkhoven shake hands Feb. 27, signifying the official unification of the two series and a new beginning for American open-wheel racing.
- 2008 Danica Patrick, on Firestone tires, becomes the first female to win a major closed-course auto race with her victory at Twin Ring Motegi in Japan on April 20.
- 2009 Firestone Racing introduces the alternate tire concept to all road- and street-course events on the IZOD IndyCar Series schedule. Alternate tires contain a softer tread compound, which yields faster lap times at the expense of some tread compound durability. This encourages varying strategies among teams and enhances on-track overtaking opportunities.
- 2009 Helio Castroneves wins his third Indianapolis 500 on Firestone tires, while at the same time giving Firestone its 60<sup>th</sup> Indy 500 victory.
- 2010 Firestone Racing is proud to continue as the Official Tire of the IZOD IndyCar Series and Firestone Indy Lights.

# Media Information 2010

## Green Initiatives



As a very visible part of Bridgestone Americas and Bridgestone Americas Tire Operations, Firestone Racing has been looking at ways we can be more ecologically sensitive. The world of motorsports provides a great platform on which to put our company's principles into action. If these initiatives can work in the demanding racing environment, they can certainly work in our everyday lives.

### Non-lead wheel balance weights

In keeping with Bridgestone Corporation's "One Team, One Planet" program, Firestone Racing has adopted the non-lead 3M™ Wheel Weight System for balancing tires in all of its IZOD IndyCar Series and Firestone Indy Lights operations. Highlighting the great performance of non-lead wheel balance weights on these high-performance race cars will encourage everyone to use them on passenger cars. This season alone, Firestone Racing will go through roughly 1,600 pounds of wheel weights – that's the approximate weight of an IZOD IndyCar Series car!



### EPA SmartWay certification

The tractors that haul Firestone Firehawk racing radials to each and every IZOD IndyCar Series race and test have received SmartWay (SM) certification from the EPA. This means the EPA certified our trucks as being higher in fuel efficiency and tailpipe emissions. SmartWay (SM) is an innovative, voluntary partnership of the EPA that reduces greenhouse gases and improves fuel efficiency in the nation's trucks.



### At-track recycling

Firestone Racing implemented at-track recycling containers for plastic, aluminum and mixed paper to reduce our waste in every city we visit. On a long, hot race weekend, you can imagine how many bottles of water and cans of soft drinks our traveling crew of 30 can go through! We welcome fans and other teams to bring us their recyclables as well. In 2009, Firestone Racing recycled 1,775 pounds of paper, bottles and cans.

### Race tires used for energy recovery

Since the beginning of our motorsports program in 1995, Firestone Racing has shipped our used Firestone Firehawk racing radial tires to cement kilns, where they are used as tire derived fuel (TDF) to make cement. If the tires were not used, then the kiln would require more fossil fuels (coal, oil or natural gas) and more steel additives to make cement. Our company actually developed and patented, then gave to public use, the technology for feeding whole tires into cement kilns. This saves a lot of energy that is otherwise required to break-up/shred used tires.

### Electronic media guides

By placing its media information on reusable USB drives, Firestone Racing saves thousands of sheets of paper each season.

# Media Information 2010

## Frequently Asked Questions

### **Q: What is tire stagger?**

A: Stagger helps IZOD IndyCar Series cars turn more smoothly and naturally on oval tracks. It is created by making the sizes of the rear Firestone Firehawk™ tires slightly different. However, this concept can be a bit difficult to understand, so Firestone developed a patented device nicknamed the Staggeroller to demonstrate this phenomenon.

Two actual Firehawk racing radials are attached to an axle, the same as they would be on an IZOD IndyCar Series car. The tires are 27.27 and 26.84 inches in diameter, for a difference of 0.43 inches – barely noticeable to the naked eye. That equates to the right rear rolling just under 1.5 inches further than the left rear each time they rotate.

If we make one revolution with the tires, there is not much difference. But as we make more and more revolutions, the right rear is traveling a greater distance than the left and automatically pushes the apparatus (and the Indy car) toward the left, helping the car turn more smoothly in the corners.

In each turn at Indianapolis Motor Speedway, for example, the right rear tire will travel 21 feet more than the left rear. In one lap that equals 84 feet. Over the course of 200 laps in the 2007 Indianapolis 500, that means that the right rear tire will travel three miles farther than the left rear.

“How do they travel the same difference on the straights?” you might ask. Tires slip a little bit in relation to each other. Because the car wants to turn left, the driver actually turns the car a little to the right to make it go straight.

You might also wonder why Firestone Racing engineers do not put stagger in the front tires as well. The answer is, front tires are free-rolling, not driven. Tires have to be “driven” to get the effect of stagger.

Interestingly, none other than Mario Andretti helped Firestone Racing engineers discover the concept of stagger during testing in the late 1960s. Mario was so excited about the discovery that he begged Firestone to keep his “secret” for at least a couple of races!

### **Q: Why do Firestone Racing engineers take temperatures of the tires so often?**

A: Firestone Racing takes tire temperatures of every car when they pit at tests and on race weekends, primarily for safety reasons. If a tire is running too hot, it could lose durability and/or be damaged if adjustments are not made by the team. Those adjustments could include changing tire pressures or cambers, chassis adjustments or even changes in driving style.

Tire temperatures are also taken so that the teams can maximize their use of the tires. All four Firehawks are temperature probed at three spots (inside tread edge, center, and outside tread edge) for a total of twelve readings. Firestone engineers and team personnel can interpret the complete set of tire temperatures so that adjustments can be made, if necessary, to get the maximum contact area interacting with the track.



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## Frequently Asked Questions (continued)

Because teams are constantly making changes to the race car at a test or race weekend, Firestone Racing checks the temperatures of all four tires each time the car pits. This allows the team to see how the car and the tires reacted (positively or negatively) to the changes made.

Besides checking the tire temperatures, Firestone Racing engineers and team technicians also check inflation pressures and the wear rate of the tires at each stop. The wear is checked to make sure the Firestone Firehawks have continued running life or if they should be replaced.

**Q: What effects do temperature and time have on the track's surface, and how does that affect grip?**

A: Track surfaces depend on the ability of an asphalt binder to cement together aggregates of stone and sand. The asphalt makes up 5 percent to 10 percent of the road's composition. Asphalt is a thermoplastic material, meaning it softens when it is heated and hardens when it is cooled. Over time, asphalt loses its plasticity and hardens as it loses its volatile lower molecular weight constituents to oxidation. The higher the temperature is, the faster the oxidation. New asphalt will provide maximum track grip, especially in warm ambient conditions. Asphalt hardens in cooler conditions, resulting in a reduction of grip. As asphalt ages, oxidation and rain reduce its plasticity, hardening the asphalt and reducing grip.

**Q: What effect does other companies' tread rubber have on grip during a race weekend that features several different classes of racing?**

A: Not all "rubber" is the same. Tread compounds are comprised of polymers (SBR, natural rubber, isoprene, butyl, etc.), fillers (numerous grades of carbon black and silica), and oils (aromatic, naphthenic, paraffinic, etc.). While similar types of polymers interact well with each other, trying to adhere two compounds with different polymer types does not work as well. The same is true for rubber that is laid down on the track and the rubber on the tires. If they have vastly different compositions, grip will be compromised until track rubber is "cleaned off."

**Q: Why does Firestone test so often when the cars haven't changed?**

Firestone Racing engineers continually challenge themselves to develop better solutions. There's always something that can be tweaked when it comes to producing what we believe to be the best racing tires in the business.

Firestone Racing's suppliers constantly change and improve their products, and Firestone Racing has to incorporate these new components. Firestone Racing buys chemicals and raw materials from different suppliers, and all of those companies are trying to improve, just as we are. When they make their improvements, it leads to improvements in our tires, and it also leads to us testing to confirm what they're telling us is an improvement is actually an improvement for us.

During a tire test, engineers receive data from the onboard telemetry system and confer with the drivers individually as they work through the start-and-stop program. There are two aspects to what happens during tire testing. There's an objective aspect, which is the temperature, the data acquired from the car and the lap times. There's also a subjective aspect in driver opinions. We really want them to share the same opinion about a set of tires. That tells us that we're

# Media Information 2010

## Frequently Asked Questions (continued)

moving in the right direction. There is certainly still a subjective aspect to this. There is an art to building these tires as well as all the science behind it. There are too many variables not to test.

**Q: What is the process Firestone Racing undertakes to bring its Firestone Firehawk race tires to an event?**

A: First and foremost, we consider our past knowledge of a racetrack. Because the Firestone Racing program has an extensive history with most of the tracks on the IZOD IndyCar Series schedule, we have a wealth of data from which to base our decisions. For tracks new to the schedule, we take advantage of pre-event testing or rely on our experience from similar tracks in conjunction with simulated mockups of the new venue. We also take into account the type of course (road course, street course, oval), and its characteristics, including track length, surface type, degree of banking, angle of corners, straightaway lengths, elevation changes and other elements. These all affect speeds achieved, not to mention G-forces and loading exerted on the cars and tires. The goal is to find a tire compound/construction combination capable of providing the durability, heat resistance, proper level of traction, low rolling resistance and other qualities needed to be competitive.

**Q: So does Firestone Racing bring the same tire specification to all tracks?**

A: No, Firestone Racing engineers and chemists must develop tires in a broad range of compounds and constructions. And even within the same category of racetrack, those variations in track length, surface type, etc., make each race course unique. For instance, a long road course will typically generate higher speeds than a twisting street course, so the Firehawk tires for the road course will need to be more durable in both construction and compound than for the street course that demands more grip into and out of the many turns. We've been able to segment the Firestone race tires into "families" based on type of track and have a range of tread compounds and tire constructions from which to choose in each family. Keep in mind, however, that even within one tire specification for a particular track, all four car tire positions (right front, left front, right rear, left rear) may well vary in compound and/or construction to maximize performance from each.

**Q: The IZOD IndyCar Series also races in wet conditions on street and road courses. How does Firestone Racing develop its rain tires?**



A: Creating tires for the wet is one of the trickiest aspects of tire development for two reasons: 1) we rarely get the chance to test or run in the rain; and 2) the conditions are almost always changing in the wet and it's nearly impossible to develop a race tire that performs well all of the time, be it full wet, somewhat wet, drying or a combination of all over different parts of a course at the same time. That said, we've come up with a couple of rain tire specifications that have been proven reliable on those occasions where they're needed. The higher-grip rain tire is available for the street courses and slower road courses, with the more durable rains for the faster road courses.

Of course, there are always some great strategic moments in rainy conditions, when teams must decide when and for how long to use their wet tires. We always track with great interest when

# Media Information 2010

## Frequently Asked Questions (continued)

those decisions are made and, as with our dry-condition slick tires, analyze thoroughly the performance of the rain tires after any use to further their future development.

**Q: The work doesn't end for Firestone Racing once the tires get to the racetrack, does it?**

A: Hardly. A Firestone Racing engineer or technician works with each team throughout a race weekend to monitor the tires and suggest improvements that would aid both car and tire performance. We track every lap that a tire puts on it, logging such things as speeds achieved, number of laps completed on a tire or set, air pressures utilized, temperatures taken on tires when the car stops in the pits, and even ambient weather conditions. Our engineers also set aside a number of tires used on a weekend for follow-up dissection and analysis. We compile all of this information into a database that, combined with testing, helps us develop the next generation of Firestone Firehawk race tires.



# Media Information 2010

## Tire Regulations (excerpted from the 2010 IZOD IndyCar Series Rule Book)

### 13.13 Tires

**A.** Only tires provided by the tire Manufacturer and approved by IRL may be used. The tires must be used in the designated location. No Entrant may sell, trade or otherwise reassign tires to any other Entrant.

**B.** Each entrant will be permitted a maximum number of sets of tires for use in each Event as follows:

Open Tests: 3 sets per day

Oval Races:

33 sets – Indianapolis 500 Mile Race Event  
(full month program)

8 sets – Kansas, Iowa, Richmond, Kentucky, Chicagoland, Motegi and Homestead

9 sets – Texas

Road/Street Course Races

Wet tires: A maximum of 5 sets of “wet” tires (including 1 set transported by the Entrant). Wet tires may not be used prior to the Race without approval of the Senior Official.

9 sets – All Road/Street Course Events as follows:

6 sets of primary tires  
3 sets of alternate tires

1 set of new (sticker) alternate tires and 1 set of primary tires must be used during each Race prior to receiving the checkered flag. A Car must complete two green condition laps the second of which may be completed in pit lane even if the Car is pitted prior to the Start/Finish line. Any Entrant failing to comply with this Rule shall receive a minimum one lap penalty.

If conditions warrant changing to “wet” tires during an Event, this Rule no longer applies.

**C.** An additional replacement tire allotment equal to the total number of Races is available to be used as follows:

Primary – 2 tires per event maximum  
Alternate – 1 tire per event maximum (5 for Season)

# Media Information 2010

## Tire Regulations (excerpted from the 2010 IZOD IndyCar Series Rule Book) – continued

- D.** Unused replacement tires returned to the mounting area will be credited to the Entrant's allotment.
- E.** Tire warmers are not permitted.
- F.** No substance may be applied to the tires.
- G.** All tires must be returned to the tire Manufacturer at the conclusion of each Event. Tires not returned shall be deducted from the Entrant's allotment at the following Event.

# Media Information 2010

## Firestone brand passenger tires

Firestone Racing uses the motorsports world as the ultimate public laboratory, testing and perfecting newer and better technologies that improve every aspect of a race tire's performance. Through the years, many of these technological advances have made their way into the Firestone brand tires driven by consumers today, including those featuring UNI-T, the Ultimate Network of Intelligent Tire Technology. This unique technology provides drivers better performance through features such as longer tread life, resistance to hydroplaning, effective dry traction, enhanced grip and other benefits. Our company continues to develop and improve technologies with UNI-T as the base for all future products that focus even more closely on what the consumer wants, including Serenity Technology, which focuses on four key benefits that are paramount for consumers: quiet, comfort, wet performance and long wear.

Visit your local retailer to learn more about Firestone brand tires, including:

### **FIRESTONE FIREHAWK WIDE OVAL INDY 500 PASSENGER TIRE**



Launching in the second quarter of 2010, the redesigned Firestone Firehawk Wide Oval Indy 500 passenger tire is the new Firehawk ultra-high performance flagship for Firestone. This W-Speed rated tire is tuned for wet and dry handling, crisp response and powerful braking performance. The Firestone Firehawk Wide Oval Indy 500 tire will also have the distinction of carrying the Indianapolis Motor Speedway's centennial era logo on its sidewalls.

### **FIRESTONE FIREHAWK INDY 500® PASSENGER TIRE**

To honor its long-standing relationship with the Indianapolis Motor Speedway and "The Greatest Spectacle in Racing®," Firestone developed the *Firehawk Indy 500* tire for passenger cars and light trucks.

The *Firehawk Indy 500* tires were the first functional automotive component to bear the name and famous "Wing and Wheel" logo of the Indianapolis Motor Speedway. The Firehawk Indy 500® tire pays tribute to the performance of the Firehawk Indy Racing® slick. Engineered with UNI-T technology — adapted from some of the technology originally developed for professional drivers racing at speeds up to 200 mph. Excellent wet and improved dry handling make this S-Speed rated tire ideal for all-season driving. With its attractive tread and sidewall design, the Firehawk Indy 500® tire looks like it performs — like a champion.

### **FIRESTONE FIREHAWK GT PASSENGER TIRE**

This tire has a dual personality. On one hand, it's all racing-inspired in looks and performance, with a wider footprint that takes corners like a pro and traction technology that gives you rock-solid control on wet surfaces. On the other hand, an advanced technology called Veri-Pitch that minimizes pattern and road noises often found in performance tires. It doesn't get any better than that.

# Media Information 2010

## Firestone Firehawk Race Tire Specifications

<b>SUPERSPEEDWAY</b>	<b>LEFT FRONT</b>	<b>RIGHT FRONT</b>	<b>LEFT REAR</b>	<b>RIGHT REAR</b>
<b>Size</b>	10.0/25.8R15	10.0/25.8R15	14.5/26.8R15	14.0/27.3R15
<b>Weight</b>	18 lbs	18 lbs	21 lbs	21 lbs
<b>Pressure</b>	30-40 psi	40-50 psi	30-40 psi	40-50 psi

<b>OVAL</b>	<b>LEFT FRONT</b>	<b>RIGHT FRONT</b>	<b>LEFT REAR</b>	<b>RIGHT REAR</b>
<b>Size</b>	10.0/25.8R15	10.0/25.8R15	14.5/26.7R15	14.5/27.3R15
<b>Weight</b>	18 lbs	18 lbs	22 lbs	22 lbs
<b>Pressure</b>	25-35 psi	40-50 psi	25-35 psi	40-50 psi

<b>STREET</b>	<b>LEFT FRONT</b>	<b>RIGHT FRONT</b>	<b>LEFT REAR</b>	<b>RIGHT REAR</b>
<b>Size</b>	10.0/25.8R15	10.0/25.8R15	14.5/28.0R15	14.5/28.0R15
<b>Weight</b>	18 lbs	18 lbs	23 lbs	23 lbs
<b>Pressure</b>	22-27psi	22-27 psi	20-25 psi	20-25 psi

<b>ROAD</b>	<b>LEFT FRONT</b>	<b>RIGHT FRONT</b>	<b>LEFT REAR</b>	<b>RIGHT REAR</b>
<b>Size</b>	10.0/25.8R15	10.0/25.8R15	14.5/28.0R15	14.5/28.0R15
<b>Weight</b>	18 lbs	18 lbs	23 lbs	23 lbs
<b>Pressure</b>	24-29 psi	24-29 psi	20-25 psi	20-25 psi

<b>RAIN</b>	<b>LEFT FRONT</b>	<b>RIGHT FRONT</b>	<b>LEFT REAR</b>	<b>RIGHT REAR</b>
<b>Size</b>	10.0/25.8R15	10.0/25.8R15	14.5/28.0R15	14.5/28.0R15
<b>Weight</b>	22 lbs	22 lbs	30 lbs	30 lbs
<b>Pressure</b>	22-29 psi	22-29 psi	20-25 psi	20-25 psi

# Media Information 2010

## Performance Tire Service Company (PTSC)

Performance Tire Service Company (PTSC) has been warehousing and servicing race tires for Firestone Racing since 1985, and in that time more than 200,000 tires have made their way in and out of the company's doors.



The massive facility, located on the east side of Indianapolis, has the capacity to warehouse tens of thousands of tires. In addition to the thousands of tires that PTSC services for the IZOD IndyCar Series and Firestone Indy Lights every season, the company also oversees inventory and service for Bridgestone and Firestone brand tires used in competition across the country in a wide range of motorsports events. PTSC is

also responsible for maintaining the fleet of Firestone Racing service trucks used in IZOD IndyCar Series and Firestone Indy Lights activities.

PTSC is owned and operated by Steve and Barbara Butz, and they and their employees can be seen at each and every IZOD IndyCar Series and Firestone Indy Lights event. While their most visible responsibility on race weekends involves mounting and balancing and providing support to Firestone Racing's race tire development team on pit lane, PTSC's support for the Firestone Racing program extends far beyond servicing tires. PTSC personnel are involved in almost every aspect of Firestone Racing's motorsports activities – from hospitality to website maintenance, there is virtually no aspect of the Firestone Racing program that is not touched in some way by the outstanding PTSC team.

**Performance Tire Service Company**  
**9850 Park Davis Drive**  
**Indianapolis, IN 46235**  
**(317) 890-4500**



# Media Information 2010

## Glossary of Terms

**Air pressure:** Expressed in pounds per square inch (PSI), a measurement of the air pressure found within a tire. May vary from tire to tire on a race car, determined by the type of track and car set-up.

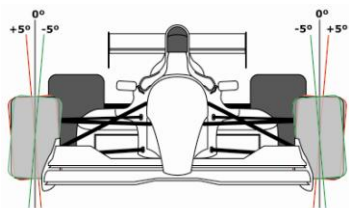
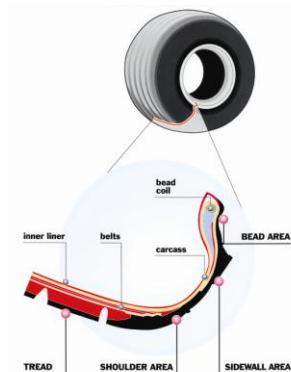
**Aspect ratio:** The ratio of a tire's height to its width.

**Balance:** Can refer to the set-up of a car, ensuring there is no understeer or oversteer so the car will go smoothly around the track. Can also refer to the balance of the race tire (which are spin balanced very similarly to street tires).

**Bead:** Serves as an anchor to hold the tire on the rim.

**Belts:** A core component of tires. They may be steel, nylon, polyester or other materials, and form a literal belt around the tire for strength and puncture resistance.

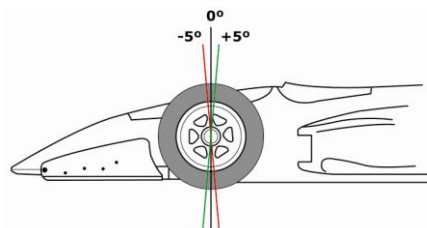
**Blister:** Usually the result of tires experiencing high internal temperature, blisters are more likely to occur on superspeedways where heat build-up in a tire can increase dramatically. Blisters are bubble-like in appearance and are found on the tread area of a tire.



**Camber:** The tilt of a tire, measured in degrees, inward or outward. An outward tilt is called positive camber; an inward tilt is called negative camber.

**Carbon black:** A molecular structure found in all racing tires manufactured today; it provides strength and also produces the familiar black color of tires.

**Caster:** The amount of tilt, forward or backward, of a tire in relationship to the steering pivot axis. Forward tilt is called negative caster; rearward tilt is called positive caster.



**Compound:** A mixture of various elements used by tire manufacturers to produce the surface layer of a racing tire. Compounds vary to meet different racing needs and track conditions.

**Flat spot:** A flat spot on a tire is created when a car skids or burns off a portion of the tread compound.

**Marbles:** Small bits of rubber that wear off the tires as part of their natural wear process and come to rest on the track, usually above or below the line of traffic.

# Media Information 2010

## Glossary of Terms (continued)

**Pick-up:** Refers to small materials adhering to the sticky surface of a racing tire.

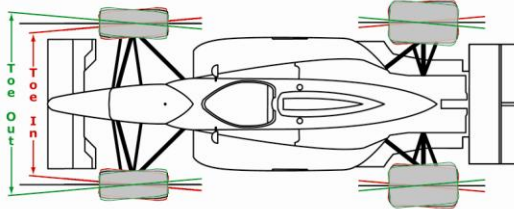
**Set-up:** The cumulative adjustments made to a car to prepare it for racing. Major elements of set-up include adjustments affecting shock absorbers, spring tensions, tires, gear ratios and wings.

**Slick:** A tire with no tread pattern, providing maximum contact with the track surface and superior traction on dry tracks.

**Stagger:** Helps IZOD IndyCar Series cars turn more smoothly and naturally on oval tracks. It is created by making the sizes of the rear Firestone Firehawk™ tires slightly different.

**Tire buster:** The Firestone Racing team members responsible for mounting, balancing and dismounting tires. They are also responsible for tracking the whereabouts of each tire using a barcode system that accounts for every tire that is leased to every team.

**Tire man:** The person responsible for monitoring tires for his/her racing team. In addition to overseeing changes, this person also obtains tires from the tire transporter and moves them to the designated team's position on pit row.



**Toe:** Refers to the direction the front tires are pointing. If the tires are pointing inward, the condition is called toe-in. If the tires are pointing outward, the condition is called toe-out. Toe-in or toe-out is used as a tuning aid for car and tire performance on turns and straights, and incorrect toe settings can cause tread to be scrubbed off.

**Transporter:** A large tractor-trailer rig used to move cars, tires and equipment from one location to another. It also serves as a garage at a race site. Most are configured with office and/or living space.

**UTQG:** An acronym for Uniform Tire Quality Grading, a system that gives tire buyers some indication of expected tread wear, traction and temperature grades.

# Media Information 2010

## Resources

### **FIRESTONE MEDIA GALLERY**

[www.firestonemediagallery.com](http://www.firestonemediagallery.com)

password: media

The Firestone Media Gallery contains useful race-related information and is updated following each day of IZOD IndyCar Series activities and after other special events as needed. Contents of the website include all of Firestone Racing's IZOD IndyCar Series press releases, high-resolution photos from each event available for editorial use, and head shots of each current IZOD IndyCar Series driver. A PDF version of this media guide is also available. The password for access to the site is "media."

If you would like to be added to the Firestone Racing distribution list for news and information related to our IZOD IndyCar Series activities, please email [elkinsdarla@bfusa.com](mailto:elkinsdarla@bfusa.com) or call (615) 937-3341.

**For information about all of Bridgestone Corporation's motorsport programs**

[www.bridgestonemotorsport.com](http://www.bridgestonemotorsport.com)

**IZOD IndyCar Series**

[www.indycar.com](http://www.indycar.com)

**For store locator and consumer information**

[www.bridgestonetire.com](http://www.bridgestonetire.com), [www.firestonetire.com](http://www.firestonetire.com)

**For more information on Bridgestone Corporation**

[www.bridgestone.com](http://www.bridgestone.com)

**For information on Bridgestone Americas, Inc. and its subsidiaries**

[www.bridgestone-firestone.com](http://www.bridgestone-firestone.com)

**For information on Bridgestone's motorcycle and kart programs**

[www.motorcycle-karttires.com](http://www.motorcycle-karttires.com)

**For information about the Bridgestone Winter Driving School:**

[www.winterdrive.com](http://www.winterdrive.com)

**For information about the Bridgestone Racing Academy**

[www.race2000.com](http://www.race2000.com)

# Media Information 2010

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