



SAE Milwaukee Newsletter

September 2012

www.milwaukeesae.com



FORD GT



Hiller Ford

Wednesday September 12, 2012

Franklin, WI

Vehicles, Dinner, and Technical Presentation

History of the Ford GT40

The **Ford GT40** is a high performance British-American sports car and winner of the 24 Hours of Le Mans four times in a row, from 1966 to 1969 (1966 being the Mk II, 1967 the Mk IV, and 1968-1969 the oldest chassis design, the Mk I). With this car Ford became in 1966 the first and so far the only American constructor to win overall at Le Mans. In addition to that, the Mk IV became in 1967 so far the only racecar built entirely in the United States to win overall at Le Mans, whilst in the previous year Ford won with a British-built chassis and only an engine came from America. The car was named the **GT** (for Grand Touring) with the **40** representing its overall height of 40 inches (1.02 m, measured at the windshield) as required by the rules.

In the spring of 1963, Ford reportedly received word through a European intermediary that Enzo Ferrari was interested in selling to Ford Motor Company. Ford reportedly spent several million dollars in an audit of Ferrari factory assets and in legal negotiations, only to have Ferrari unilaterally cut off talks at a late stage due to disputes about the ability to direct open wheel racing. Ferrari, who wanted to remain the sole operator of his company's motor sports division, was angered when he was told that he would not be allowed to race at the Indianapolis 500 if the deal went through since Ford fielded Indy cars using the company's engine, and didn't want competition from Ferrari. Enzo cut the deal off out of spite and Henry Ford II, enraged, directed his racing division to find a company that could build a Ferrari-beater on the world endurance-racing circuit.

www.wikipedia.com



GT40 Mark I



Mark II



Mark III Road Version



Mark IV

A little information about our host, Hiller Ford, Inc.....

Ken Hiller opened the doors to Hiller Ford on May 1, 1954. Originally called Hales Corners Motors, the dealership was located in the village of Hales Corners. In the summer of 1959, Ken moved the dealership to its current location on Highway 100. As Franklin, Hales Corners and the rest of the area grew, so did Hiller Ford. Today, Hiller Ford is one of the largest Ford dealerships in the state of Wisconsin. We are the largest Ford dealership in Wisconsin to ever win Ford's prestigious President's Award for customer satisfaction and sales leadership. In 2008 we won it for the 9th time. No other dealership our size in Wisconsin has ever won it once.

Presenter Scott Ahlman

Scott Ahlman, President Ahlman Engineering, Inc, holds an undergraduate degree in Mechanical Engineering from the University of Wisconsin – Madison, which included being Co-Captain of the Formula SAE Team. Scott also received a masters degree in System Design and Management from the Massachusetts Institute of Technology.



Scott has worked in all aspects of high-performance chassis/vehicle dynamics design and development throughout his career. Early on at Ford Motor Company in 1995, Scott was the first to lead chassis design and development for the Ford teams in the NASCAR Craftsman Truck series. Scott's strong performance in the Craftsman Truck series moved him up to ChampCar in 1996. He was chosen to be the Team Rahal Resident Vehicle Dynamics Engineer in CART, where Scott led vehicle dynamic tools, methods, metrics development and application for race setup. From 1996-2001, Scott contributed to 9 CART wins including 2nd in the Championship, supporting drivers Rahal, Herta, Papis and Brack. Scott followed by further supporting Ford Racing Vehicle Dynamics in Formula 1, CART & NASCAR.



Perhaps one his greatest career accomplishments came as the start to finish Ford GT Chassis Design and Release and Vehicle Dynamics Engineer. Scott led overall vehicle targets, chassis system targets and the functional requirements cascade. Scott led vehicle dynamics analysis and design philosophy, and co-led chassis architecture definition. He designed the GT's final suspension geometry and bushing settings along with design and release for control arms, bushings, tires, bars, springs, shocks and bump stops. He finished with ride and handling development, an enjoyable way to send each GT off to its owner.

In 2006, Scott left Ford to start his own company, Ahlman Engineering, focusing once again on racing with chassis/vehicle dynamics engineering support in the Indy Racing League for Rahal Letterman Racing. In his year in the IRL, Scott led vehicle dynamics analysis and application, including shock optimization, that improved Indianapolis lap speed average 1 mph, which was the largest single gain at Indy for the team in 2006.

Over the last 5 years, Scott has been the Roush-Fenway Racing Sprint Cup Chassis/Vehicle Dynamics Engineer. In his current role, Scott has made a significant contribution to 28 NASCAR Sprint Cup Wins including two 2nd place finishes in the Championship, winner of the 2007 "Jack" Roush MVP Award, and placing 1-2-3 at the Dover Race in September 2008. Scott originated and led the "playbook" approach and application for each race including setup and adjustments recommendations. He leads vehicle dynamics analysis/simulation tools, methods, metrics development and application. He also leads the team's road course program including chassis design, track testing, analysis and recommendations.

Aside from racecars and anything involving speed, Scott has a passion for hockey and woodworking. In his spare time, Scott has designed and built a sustainable home with his wife, Angela, and their two children, Madison and Max. Scott is a two-decade SAE member, and a VERY proud Wisconsin Badger.



Presentation Topic 2005 Ford GT

As one of the lead chassis design and development engineers for the 2005 high performance supercar, the Ford GT, Scott Ahlman's presentation will cover GT program targets and capabilities, a chassis design overview, and some of the program challenges. The 2005 Ford GT is visually based on the historical and 1966 LeMans winning Ford GT Mark II cars (nicknamed GT40 due to its height), but the rest of the car has very little relation to the original. The 2005 version of the GT started as a concept car, but was turned into a full production program in 2002, one year before the Ford Motor Company's Centennial celebration. 4,038 of the originally planned 4,500 Ford GT's were produced over a 30-month period with completion in 2006. The 2005 Ford GT made the front cover of over 30 magazines nationally and internationally due to its rare combination of high performance, beauty, craftsmanship and reliability. The Ford GT dominated its class of car in nearly every respect, and was often compared to cars well above its price range. The GT's rarity and demand for the car has actually caused current sale prices of the 7-year-old car to rise 20%+ over the original list price of \$139,995. Please join us for Scott Ahlman's presentation, which will cover many of the lesser known details of the famous Ford GT.

Some of the featured vehicles that may be on display...



Jerry Ritzow's 2005 Ford GT



Milwaukee SAE would love to show a 1st Generation GT40. If you know of anyone who may be willing to showcase their GT40, please let us know.

Please contact Wayne Richter at richterway@sbcglobal.net

--- **EVENT AGENDA** ---

Registration: 5:30 - 6:30 pm

Dinner: 6:30 - 7:00 pm

Presentation: 7:00 – 8:00 pm

Meal: Sub Sandwiches, Chips, and Beverages

--- **DINNER** ---

DINNER PRICES

SAE Members/Spouses	\$10.00
Retirees	\$10.00
Guests/Non-members	\$15.00
Students	\$5.00

REGISTRATION

Registration:

Only pre-payments made with a charge card can be completed online via <http://www.milwaukee.sae.com>

Registration Deadline: Monday September 10, 2012

Maximum Attendance for this event is 150

Registration can be completed online via <http://milwaukee.sae.org> Or by phone at 414-587-8855 (Josh Rayeske)

Meeting Location

Hiller Ford

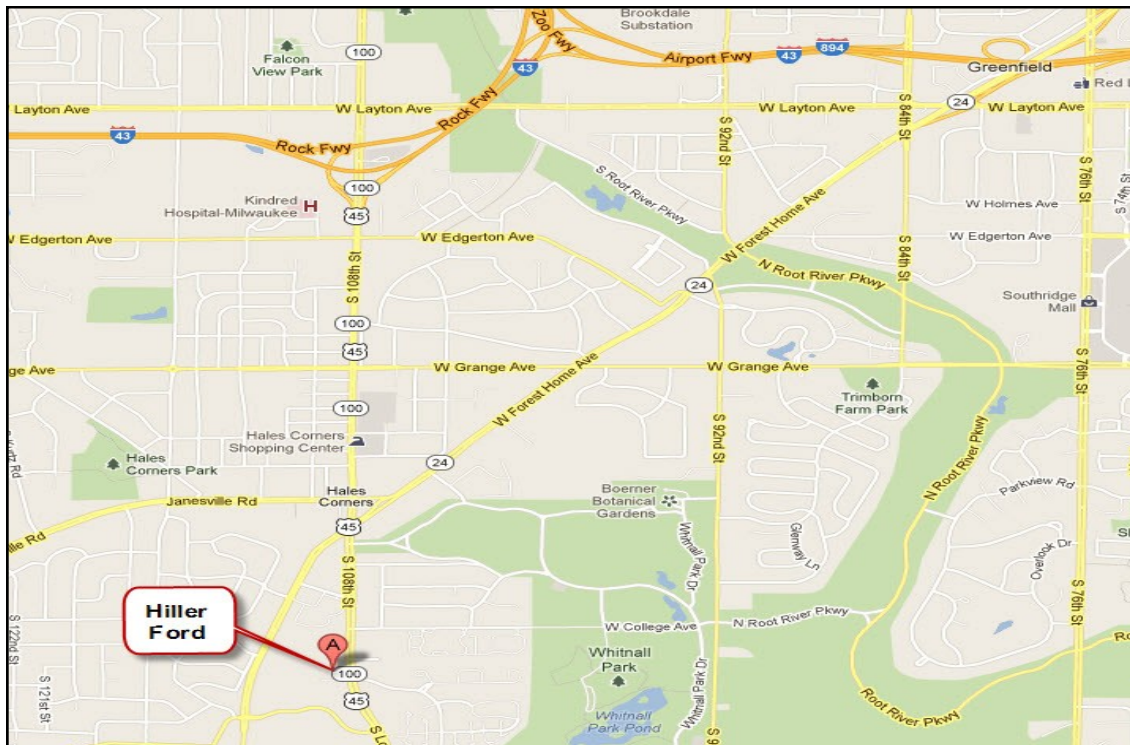
6455 South 108th St

Franklin, WI 53132

Directions:

-Take I43 South to Hwy 100.

-Go South on Hwy 100 to Hiller Ford



Upcoming Meetings and Events

Commercial Vehicle Engineering Congress “ComVec”
Donald E. Stephens Convention Center Rosemont, Illinois, USA

October 2-3, 2012

"Total Vehicle Integration"

With the recovery in the commercial vehicle market it is now more important than ever before to develop innovations in safety, fuel efficiency and engine emissions while **integrating** customer needs, internal and supplier capabilities and regulation driven systems.

The SAE Commercial Vehicle Engineering Congress (ComVec) is the source for information and resources to aid in the development of these innovations. ComVec brings together a global assembly of both on- and off-road professionals, providing solid, profitable interaction with engineers, supply managers and executives. The event features:

- Forums, presentations, and discussions by commercial vehicle industry leaders and innovators, focusing on global issues relative to technology, business, processes and challenges facing our industry today and tomorrow.
- Cutting-edge technical sessions for engineering professionals to learn, discuss, and benefit from the latest trends, technologies and potential solutions.
- *Networking opportunities and special events designed to promote professional interaction and collaboration*

Prior to ComVec, SAE 2012 Heavy Duty Vehicles Symposium - Technologies for High Efficiency & Fuel Economy

September 30 - October 1, 2012

This symposium will explore cost-effective technologies capable of delivering quantifiable improvements in vehicle efficiency - a critical priority for the medium- and heavy-duty vehicle industry in light of pending fuel economy/GHG regulations and the volatile cost of fuel.

The program will kick off with a high-level overview session exploring the regulatory outlook for fuel economy and GHG emissions of medium- and heavy-duty on- and off-highway vehicles. Technical sessions will address the following major topic areas:

- Internal Combustion Engine Technologies
- Hybrids (both electric and hydraulic)
- Vehicle Technologies (electrification, cooling systems, low rolling resistance tires, aerodynamics, etc.)
- Intelligent Transportation Systems

Plan now to join the discussion with peers and industry experts at this unique symposium addressing new and emerging technologies to increase HD vehicle efficiency and decrease emissions for a wide range of vehicle applications.

Small Engine Technology Conference “SETC” October 16-18th.

Madison, WI

Milwaukee Section 2012-2013 Governing Board

CHAIRMAN:

James Ryan—Caterpillar
jim.ryan@cat.com

VICE CHAIRMAN:

Garret Herning—Power Test Dynamometers
garretth@pwtst.com

SECRETARY:

Doug Kautzer—Briggs & Stratton
kautzer.douglas@basco.com

TREASURER:

Mitch Crawford—UW Milwaukee
msc@uwm.edu

PAST CHAIRMAN:

Bernard Krauska—DRS-PCT
bkrauska@centurytel.net

HISTORIAN:

Wayne Richter
ritcherway@sbcglobal.net

AWIM/EDUCATION:

Frank Poradek—Fastek International
fporadek@fastekintl.com

WEBMASTER:

Cara Kazda—Kuss Filtration
Cara.kazda@kussfiltration.com

MEMBERSHIP VICE CHAIR:

Dale Wiza—Professional Engineering Placements
dale@engineeringplacements.com

COMPANY REP:

Tony Grant—Castle Metals
tgrant@amcastle.com
Wayne Richter
ritcherway@sbcglobal.net

COLLEGIATE RELATIONS:

Mike Krauski—UW-Milwaukee
krauski@uwm.edu

STUDENT ACTIVITIES:

Randy Hoffman—WCTC
rhoffman@acscm.com

CARRER DEVELOPMENT:

Dale Wiza—Professional Engineering Placements
dale@engineeringplacements.com

SENIOR ADVISORS:

Amy Adams—Kohler Engine Division
Kurt Person—HB Performance Systems

SOCIAL MEDIA MANAGER:

Drew Boyer—Modine
a.m.boyer@na.modine.com

NEWSLETTER EDITOR:

Matt Anderson—Briggs & Stratton
anderson.matthew@basco.com

STUDENT REPRESENTATIVES:

Marquette—Bryan Adams
MSOE—Charles Scanlon
UWM—Ethan Gaynor

Dear Members and Section Friends,

We missed you during our summer break, but we're excited to launch another prosperous year of SAE activity! Our expectations have grown after achieving record attendance levels at last year's section meetings. The meeting attendance over the previous 5 years averaged 55 people per meeting. Last year's excitement raised our average to 94 people per meeting! We aim to continually exceed your expectations and grow our membership.

I'm proud to announce several new additions to our Section governing board. Garrett Herning (Power Test Dynamometers) has accepted the position as Vice Chairman. Drew Boyer (Modine Mfg.) will pioneer a new initiative as Social Media Manager. Matt Anderson (Briggs & Stratton) is a new addition to the board as Newsletter Editor. And finally, our new student representatives are also engaged: Bryan Adams (Marquette University), Charlie Scanlon (MSOE), and Ethan Gaynor (UW-Milwaukee).

Many thanks to board members Wayne Richter and Dale Wiza for planning our September kickoff meeting on the Ford GT. We're planning an exciting program lineup this year, including an electric vehicle series including Johnson Controls (battery technology), Tesla model S or Chevy Volt electric car, and Sonics electric aircraft. Visit our website to learn more about the upcoming section activity at, www.milwaukeeesae.com. Click on board meeting minutes.

I thank you for your continued involvement with our Section. Let's have another record breaking year of activity!

Best regards,

Jim Ryan

Chairman – Milwaukee Section

Section Sponsors



Hiller Ford

This newsletter printing and distribution brought to you by...

Ken Cook Co.

Partners in Product Documentation

Ken Cook Co.'s mission is to support client customers by developing and distributing client product operating, service and parts information worldwide. Ken Cook is known worldwide for the production of quality technical support documentation in electronic and printed formats and in most languages. Web design, ISP hosting, e-learning, e-business and internet communications are available to our customers.

www.milwaukeeaes.com