

Brit di Resta wins DTM title

Next stop F1 for Merc's young gun

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SCHEDULE: 6 ROUNDS / 8 RACES

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February 12/13, 2011 - MMRT, Chennai (Madras)

October 29/30, 2011 - Jaypee International Race Circuit, Greater Noida, near New Delhi.

2011

FEATURES

- Status: Open Championship, with International participation.
- Concept: Arrive and Drive.
- Sponsor colour scheme permitted.
- Service supervised by foreign engineers.
- Grid: 15 20 cars.
- Deadline Entries December 31, 2010.
- Deadline Hospitality Package/Early bird entries: December 20, 2010.

ORGANISATION

Organised by: MMSC (Madras Motor Sports Club), Chennai.

Approved by: FIA ASN in India FMSCI

(The Federation of Motor Sports Clubs of India).



MMRT Chennai Circuit (3.72kms.)

Jaypee International Race Circuit,
Greater Noida, Near New Delhi (5.14kms)

AN OFFICIAL SUPPORT RACE TO THE 2011 FORMULA 1 GRAND PRIX OF INDIA

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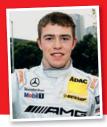
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"F1 is my dream and I'll keep working to make it happen"

PAUL DI RESTA MIGHT HAVE JUST WON THE DTM TITLE, BUT HE'S LOOKING AHEAD...

699

The number of laps, out of a possible 1029, led by Red Bull Racing drivers Sebastian Vettel and Mark Webber in 2010 – that equates to 62 per cent

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rubber for snowy victory **94 TOCA Support reviews**

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Champions 1988

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Marc Surer, European GP, Brands Hatch 1985 (below)



Well, at least the battle for fourth place was wide open.

This year AMG Mercedes C-Class drivers took first, second and third in the prestigious DTM, clinching a clean sweep. Mercedes-Benz has now won 15 out of 20 team championships since 1988. To find out more, visit mercedes-benz.co.uk/DTM





XAUTOSPORT

Tel: +44 (0) 20 8267 5804 Fax: +44 (0) 20 8267 5922 E-mail: autosport.editorial@havnet.com Website: www.autosport.com

EDITOR

Andrew van de Burgt andrew.vandeburgt@ haymarket.com ext.5974

AUTOSPORT.COM EDITOR Simon Strang simon.strang@haymarket.com

DEPUTY EDITOR
Charles Bradley
charles.bradley@
haymarket.com ext.5889

GROUP F1 EDITOR Jonathan Noble jonathan.noble@haymarket.com ext.5810

F1 EDITOR edd.straw@haymarket.com ext 5887

DEPUTY F1 EDITOR
Mark Glendenning
mark.glendenning@
haymarket.com ext.5801

AUTOSPORT.COM FEATURES EDITOR

Steven English steven.english@haymarket.com ext.5952

MANAGING EDITOR
Peter Hodges
peter.hodges@haymarket.com

WEB MANAGING EDITOR GRAND PRIX EDITOR

SECRETARY Joanne Grove joanne.grove@ haymarket.com

ext.5804 PHOTOGRAPHS LAT Photographi

Tony Watson AUSTRALIA Phil Branag AUSTRIA . Cuntschik Gerhard Kuntso BELGIUM Gordon McKay BRAZIL

Lito Cavalcanti FINLAND Esa III-GERMANY Rene de Boe ITALY Roberto Chinchero

Fax: +44 (0) 20 8267 5850 E-mail: autosport.ads@haymarket.com

Tel: +44 (0) 20 8267 5858

ments@ DISPLAY ADVERTISING

Karen Reilly, ext: 5576 karen.reilly@ haymarket.com

RALLIES EDITOR

INTERNATIONAL
EDITOR-AT-LARGE
Gary Watkins
AUTOSPORT TV EDITOR

Henry Hope-Frost henry.hope-frost@ havmarket.com ext.5835 **CHIEF SUB-EDITOR**

Marcus Simmons marcus.simmons@ howmarket.com ext.5807

NATIONAL EDITOR

Kevin Turner kevin.turner@haymarket.com

EDITORIAL ASSISTANT Ben Anderson ben.anderson@haymarket.com

NATIONAL EDITOR-AT-LARGE Marcus Pve

BTCC EDITOR Jamie O'Leary jamie.oleary@haymarket.com ext.5811

DESIGNERS PICTURE EDITOR

Peter Mills peter.mills@haymarket.com ext.5918

SPECIAL CORRESPONDENT Adam Cooper

Gregory Golyshe SOUTH AFRICA

SPAIN
Raimon Duran
SWEDEN
Tege Tornvall
USA
Jonathan Ingram, Bruce
Martin, David Phillips,
Diego Mejia, Robin Miller,

Michard Ashe SPAIN

CONSULTANT

TECHNICAL EDITOR NEWS GRAPHICS

Tel: +44 (0) 20 8267

SPECIAL PROJECTS DIRECTOR

LICENSING DIRECTOR

Caroline Fettiaiii, ext: 5823 caroline.feltham@ havmarket.com

DISPLAY PRODUCTION

5740 Fax: +44 (0) 20 8267 5320

PRODUCTION MANAGER

:: 3179 :iano.candilio@ vmarket.com

ONLINE ADVERTISING
Philippa Mathers.

Tel: 1-866-918-1446, Email: haymarket@imsnews.com Periodicals paid at Rahway, NJ. Postmaster please send address correction changes to AUTOSPORT, c/o Mercury International at above address

DIRECT MARKETING EXECUTIVE
Karen McCarthy, ext. 5658

DIGITAL PRODUCT MANAGER

SPECIAL EVENTS MANAGER

CIRCULATION TRADE ENQUIRIES

PUBLISHING DIRECTOR

SUBSCRIPTIONS
UK 08456 777 817
OVERSEAS +44 (0)1795 592 974
EMAIL autosport@servicehelpline

US & CANADA 1-866-918-1446 US & CANADA EMAIL haymarket@

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EDITORIAL DIRECTOR DESIGN DIRECTOR Paul Harnin

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POLE POSITION

Where Vettel won, di Resta could follow



THIS WEEK our team of experts reflects on a classic Formula 1 season, and in Sebastian Vettel and Red Bull the sport has worthy and exciting new champions. We look forward to saluting them at the AUTOSPORT Awards in London this weekend.

Our Teddington offices were graced last week by team principal Christian Horner, as he gave us the inside line

during our Motorsport Division's biannual get-together. Since being handed the keys to Jaguar Racing by Dietrich Mateschitz at the end of 2004, Horner and his lieutenants have turned a failed manufacturer team into a title-winning privateer outfit — no mean feat for F1's youngest team boss.

We must also congratulate Paul di Resta's considerable achievement in winning the DTM with Mercedes-Benz, ending a run of Audi success in Germany's premier series. Just as he did in 2006, when he beat Vettel to the F3 Euro Series title, di Resta has again demonstrated that he deserves an F1 race seat.

As Red Bull has shown, take a chance on youth and the payback can be rich.

Charles Bradley, deputy editor







Red Bull targets first test

Championship-winning team plans to buck its trend of giving rivals a headstart by wheeling its RB7 out for the first pre-season test of next year. By EDD STRAW

Red Bull has fired its first warning shot to its rivals for 2011 by revealing that it plans to have its new challenger ready for the opening pre-season test.

Over the past two seasons, Red Bull's cars have skipped the opening test to allow chief technical officer Adrian Newey extra researchand-development time before hitting the track. AUTOSPORT understands that the team is currently scheduled to appear at Valencia on February 1, and that a final decision will be made on the car's debut before Christmas.

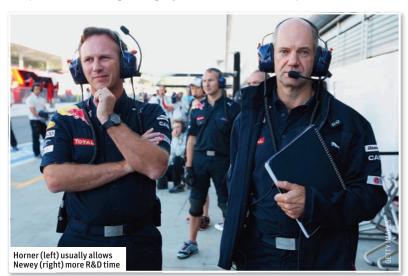
Whether or not it makes the first test, Red Bull is believed to be more advanced with work on its new car than in the past two seasons — in 2009 and '10, the team failed to take a podium finish in the first two races of the season.

Team principal Christian Horner is confident that the strain of this year's world championship fight has not affected the development of the Red Bull RB7.

"Inevitably, it puts pressure on a team that doesn't quite have the resources of some of the bigger teams, but we managed to balance that pretty well this year," Horner told AUTOSPORT. "The challenge of RB7 is greater due to the regulation changes and some long hours are going into it, but I'm confident that we will be in reasonable shape."

With rule changes next year, including the return of KERS, the new adjustable rear wing and the double-diffuser ban, pre-season test mileage is essential, but Newey could again opt for an extra week of research-and-development prior to the car making its debut.

If that happens, it is possible that this year's RB6 could run at Valencia to allow the team to work on understanding the new Pirelli control tyres.





ADAPTING TO KERS

Horner confirmed that Red Bull will use a Renault-based KERS next year, although it will integrate parts of its own system that was developed — but never raced — for the 2009 season.

Having not run a hybrid system before, Red Bull will be keen to maximise track time with KERS to understand the set-up implications.

"It's a collaboration with Renault integrating elements of our own development," said Horner. "There will be some circuits that it suits well and some that it doesn't suit so well. All of the frontrunners will have KERS at most, if not all, of the grands prix next year."

RENAULT ENGINE LOBBY

Red Bull engine supplier Renault is continuing to lobby the FIA for a break to improve its powerplant, which the team claims is 20-30hp down on Mercedes. Horner believes that little improvement can be made through changes to unfrozen elements of the engine system, such as the exhausts.

Despite the rule changes in 2011,

Red Bull's fundamental car concept will remain largely unchanged, and Horner believes that rival teams would be making a mistake to assume that Red Bull will slip back.

The ban on double diffusers could also play into the team's hands. Not only is Newey's understanding of the aero demands of an F1 car unmatched, but the team had the only single-diffuser car to win a race in 2009.

"We had a good performance level with the single diffuser before embarking on the double diffuser," said Horner. "That was a good starting point for development.

"We don't underestimate our rivals and, with the performance we have achieved this year, they would be foolish to underestimate us. We've had the fastest car during the past two seasons, but you need a lot of things to come together and there's a reasonable regulation change. We will be in good shape for the first round next season in Bahrain."





RED BULL'S BAD STARTS



2009

After opting to skip the first week of testing, Red Bull scores only 1.5 points in the first two races of the year. The 23.5 points lost to Brawn proves crucial as the gap at the end of the year is only 18.5.

DRIVERS' CHAMPIONSHIP (AFTER TWO RACES)

- 1 Jenson Button, 15 9 Mark Webber, 1.5
- 16 Sebastian Vettel, O

CONSTRUCTORS' CHAMPIONSHIP (AFTER TWO RACES)

1 Brawn, 25

7 Red Bull, 1.5



2010

Adrian Newey pushes the debut of the RB6 back to after the opening four-day test at Valencia. A spark-plug problem and a wheel-mounting failure cost team victories in the first two races of the year.

DRIVERS' CHAMPIONSHIP (AFTER TWO RACES)

- 1 Fernando Alonso, 37
- 7 Sebastian Vettel, 12
- 10 Mark Webber, 6

CONSTRUCTORS' CHAMPIONSHIP (AFTER TWO RACES)

1 Ferrari, 70

5 Red Bull, 18

AUTOSPORT SAYS...

EDD STRAW F1 EDITOR

edd.straw @haymarket.com



In the view of some in the Formula 1 paddock, there was once something crude and distasteful about Red Bull. Its big-spending party image drew derision and some scoffed at the idea of an energy-drinks brand building grand prix cars.

This year conclusively proved that Red Bull is now a serious team with serious success. With two championships and 15 wins under its belt, it now hovers just behind glorious names such as Cooper and Tyrrell in the record books. Soon Red Bull will surpass their achievements.

Far from being a disinterested absentee owner with little interest in F1, Dietrich Mateschitz is closer in style to an oldfashioned team patron. He's not a Frank Williams-style owner, but his continuing commitment and investment should not

be dismissed in an age of austerity when automotive companies, supposedly with racing in their blood, have cut and run. He may be watching from afar, but he is watching intently.



There's no reason why Red Bull's success should be a flash in the pan. Now battle-hardened by the successes and failures of the past two years, not to mention the confidence of winning the championships, and with a structure built around exploiting the genius of Adrian Newey, it may just become unstoppable. No wonder McLaren and Ferrari are awaiting the unveiling of the RB7 with baited breath.

REMEMBER WHEN...



...Red Bull had its best start to the season? Little was expected of Red Bull after taking

Little was expected of Red Bull after taking over Jaguar for 2005, but four points finishes in the first two races for David Coulthard and Christian Klien left the team third in the constructors' championship.



Pressure on Toro Rosso drivers

Deal for Red Bull young gun Daniel Ricciardo will keep STR's current drivers on their toes next season

aniel Ricciardo has made it a three-way fight to become Sebastian Vettel's long-term team-mate at Red Bull after Scuderia Toro Rosso confirmed that he will drive during Friday morning F1 practice sessions next season.

Mark Webber's one-year contract extension expires at the end of next season and although the team could still renew for 2012, there is the possibility of one of Red Bull's junior drivers being promoted.

Current Toro Rosso drivers Sebastien Buemi and Jaime Alguersuari will both be put under pressure by Ricciardo's presence, particularly after the Australian topped the times for Red Bull in the Abu Dhabi young-driver test last month.

Ricciardo said during the Abu Dhabi test that he felt he was "ready for F1". It is understood that Toro Rosso has committed only to starting the season with Buemi and Alguersuari and that the

obile STIVAL OF S D 111 ORT BOUVARD Ricciardo (l) joins race for Webber's RB drive

Australian could be promoted to a race seat in the middle of the year. STR has twice in its five-year history changed its line-up mid-year, and Red Bull young driver programme boss Helmut Marko is determined to have the best candidate available to step up should Webber not continue in 2012.

Buemi is considered to be in the most danger after a disappointing end to the 2010 season, although Alguersuari is under pressure to continue to improve. The presence of Ricciardo, who will replace each in FP1 on an alternating basis, will add intensity to their battle. However, despite the pressure, Buemi believes the pair did a good job in 2010.

"At the beginning of the season I did a very good job, but I was unlucky with the incidents that happened to me," Buemi said. "We could have got a few more points but we were where we should be in terms of performance."

TORO ROSSO SHOOT-OUT



SPEED Brisk, but he has yet to convince of his ultimate pace **EXPERIENCE** A consistent performer with two F1 seasons MOMENTUM Faltered in the closing stages of last year **PROSPECTS** Faces axe unless he stars in first half of 2011



SPEED Outpaced Buemi late last year and getting quicker **EXPERIENCE** Still playing catch up after premature promotion **MOMENTUM** Strong end to the season sets him up well for '11 **PROSPECTS** If learning curve continues he's on the right track



SPEED Clearly fast, but track conditions in test flattered him **EXPERIENCE** Good for a rookie with over 2000km in an F1 car **MOMENTUM** Good, but missing Renault 3.5 title was a blow **PROSPECTS** Question of when, not if, he makes his F1 debut

.....:

Force India 'to confirm di Resta'

NEWLY CROWNED DTM champion Paul di Resta is close to being confirmed as a Force India driver for the 2011 Formula 1 season.

AUTOSPORT revealed two months ago that the team had decided to promote the Scot to a race seat from his role as Friday driver in 2011 (see AUTOSPORT, September 23). But complications over the future of Adrian **Sutil and Vitantonio** Liuzzi, plus a string of potential pay drivers, has prevented it from finalising its line-up.

The Scot is likely to partner Adrian Sutil next year, with the German's faint chances of moving to either Renault or Williams now gone. However, Williams refugee Nico Hulkenberg remains a possibility as it is believed that team owner Vijay Mallya is unimpressed with Sutil's desire to move to a bigger team.

Team sources suggest that Liuzzi is unlikely to remain at Force India, although as he has a contract for the 2011 season that could require a pay-off. The team is evaluating whether to sign a new third driver for Friday practice running, although it could go into next year without one.

With Williams completing its line-up (see separate story) and Renault set to re-sign Russian Vitaly Petrov, there are now few slots remaining for 2011.

Among the other teams, HRT, Lotus and Virgin are the only ones not to have finalised their line-up.



THIS WEEK IN F1



McLAREN Former world champion Lewis
Hamilton made an appearance in last
Saturday's X Factor show on ITV. He was there
in support of girlfriend Nicole Scherzinger,
who was performing on the programme.



RED BULL Four-time world champion Alain Prost believes that Sebastian Vettel will become more consistent after the confidence boost of winning a first title. "Now he's got a title, he's going to see things differently," said Prost.



FERRARI Felipe Massa has hit out at reports that his Ferrari future is in danger. "In 2006, people said I would only last a year," he said. "I went on to stay for a long time more."



WILLIAMS Rubens Barrichello finished fifth out of 59 in last weekend's Granja Viana 500-mile kart race in Brazil. He shared with IndyCar race winners Tony Kanaan and Felipe Giaffone and ex-Williams driver Antonio Pizzonia.



RENAULT Robert Kubica and co-driver Jakub Gerber finished fourth in Sunday's Rallye du Var driving a Renault Clio S16. It was the Pole's third rally of the season.



FORCE INDIA Vitantonio Liuzzi believes the advent of the f-duct cut the straightline speed benefit that Force India had over the field in 2009. "We lost a bit of the advantage that we had last year," he said.



TORO ROSSO Seven-time world rally champion Sebastien Loeb has ruled out racing in F1 after his plan to contest last year's Abu Dhabi Grand Prix with Toro Rosso was shot down by the FIA's refusal to grant him a superlicence.



HRT Christian Klien is confident that Hispania can emerge as a competitive F1 team next year. "The team is on the brink of becoming a serious contender," said the Austrian, who is hopeful of remaining with the team next year after three outings in 2010.



SAUBER Kamui Kobayashi is determined to cut out errors next season after crashing out of three races this year. "My personal aim is to make zero mistakes," he said.



VIRGIN The team's second Formula 1 car – the VR-02 – is set to be ready for the start of pre-season testing in 2011. The team missed the opening test of this year, but was still the first of the new teams to run.

Maldonado in at Williams

GP2 CHAMPION Pastor Maldonado will race for Williams next season, the team has confirmed.

The Venezuelan tested for the team in Abu Dhabi last month in what the team described as a "driver evaluation". After impressing with his performance during an intensive day of development work, the team was only waiting on his financial package – believed to be worth around €15 million – to arrive to complete the deal (see AUTOSPORT, November 25).

"It's a pleasure to be at a prestigious team like Williams for my first year in F1," Maldonado told AUTOSPORT. "It's going to be tough because I'm a rookie, but I want to be competitive even at the tracks that I don't know very well."

As well as his day with Williams, Maldonado also completed three days with the HRT team in Abu Dhabi. He believes that the mileage will be crucial ahead of his maiden season.

"Those four days were important for me to see the difference between GP2 and F1," he said. "And I also drove on the new Pirelli tyres."

Ecclestone suffers attack and robbery

BERNIE ECCLESTONE escaped serious injury in a violent assault by thieves in London last week.

The Formula 1 supremo was knocked unconscious after being kicked in the head when he and girlfriend Fabiana Flosi were attacked by a gang of four after visiting a restaurant. Their assailants had yet to be apprehended by police as AUTOSPORT closed for press.

completely stupid and uncalled for. If they had asked for everything we had, I would have handed over everything."

• A new biography of

 A new biography of Ecclestone will go on sale on December 10. The book, entitled Bernie, is written by Prof Sid Watkins' wife Susan.

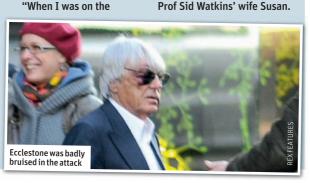
ground, I could hear Fabiana

screaming for help and I took

a kick or two in the head and

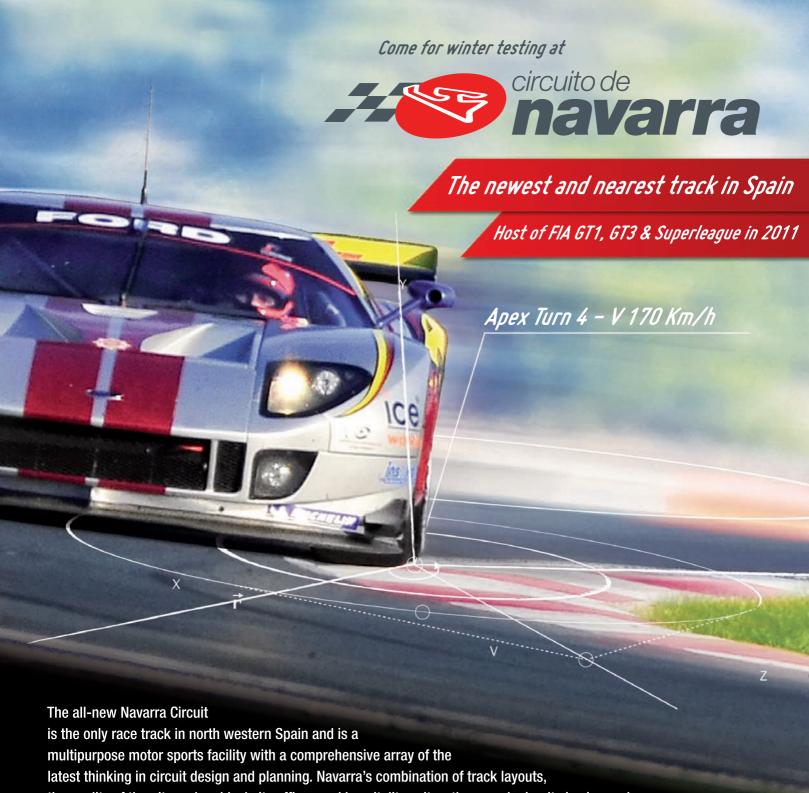
went unconscious," he told

The Daily Express. "It was



Christopher Hilton

Prolific motorsport author Christopher Hilton died last week. Hilton wrote the first biography of Ayrton Senna – The Hard Edge of Genius – and penned books on topics ranging from pre-war grand prix racing through to the present day.



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- FIM class B (Superbike races).

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Width of the track: 15 metres to 12 metres.

Main straight: 800 metres.

Corners: 15 (6 left-hand and 9 right-hand).

Paddock: 41,000 m².





MPH Mark Hughes

AUTOSPORT grand prix editor

F-ducts and double diffusers are on the way out, but you can guarantee that there will be new ways of exploiting the rules to achieve the same effects

Ithough the f-duct is banned for next year, it hasn't been uninvented. Ever since its ban was confirmed, you can be sure that scores of Formula 1 aerodynamicists have been tasked with coming up with a fluid switch to achieve an aero advantage, even if it doesn't any longer play upon the rear wing.

Similarly, although we're theoretically back to single-deck diffusers next year, just how certain can we be that some other fiendishly clever way will not be found to replicate the effect? Judging by Ferrari president Luca di Montezemolo's recent



comments regarding his fears about how the new moveable-wing regulations might be interpreted, there is an underlying nervousness.

McLaren engineering chief Paddy Lowe describes the dread he feels awaiting the launch of new cars from rival teams: "The big worry is always to see whether anyone has found a trick we've missed. Is there some angle we haven't thought of, some trick with suspension layouts or whatever?" It seems everyone is feeling it particularly keenly in anticipation of 2011.

Ruling the twin-diffuser interpretation as permissible in 2009 arguably made that season. in that it left usual big-hitters McLaren and Ferrari desperately trying to claw back an initial disadvantage to Brawn. But that wasn't the whole story. In readiness for the double diffuser being banned, Brawn had a single-diffuser version that the tunnel said was iust a few tenths slower. It would still have been significantly faster than a good conventional car like the Ferrari (though would almost certainly have been eclipsed by the Red Bull, which even in original single-diffuser form was almost as quick as the twin-diffuser Brawn, and significantly quicker than the twin-diffuser Toyota and Williams). The point is that the concept of the twin diffuser led the Brawn design team along a certain aerodynamic path — the concept of the front wing, the profile of the nose and sidepods – that proved fruitful regardless.

This illustrates a law that invariably applies in racing: the genie will not go back into the bottle once released. So might the fluid-switch principle that made the f-duct work be directed instead to stalling the airflow to the radiators at high speed to reduce drag, for example? The idea of active aerodynamics that physically moved a more aerofriendly surface ahead of radiators

at high speed has already been discussed as the basis for future permissible technology. But this would obviate that by achieving the same effect via the fluid switch. How easy would that be to accomplish? The fluid-switch principle – whereby the airflow is suddenly diverted in a completely different direction according to pressure – could potentially be used anywhere on the car, and need not necessarily involve the driver blocking/unblocking a hole within the cockpit. Could there be a way of advantageously using the principle in conjunction with the moveable rear wing?

Similarly, the effect of the double diffuser could be replicated by having other parts of the rear bodywork diverting air to the appropriate place, so that it scavenges the flow from the conventional diffuser ramp much more powerfully. The key to this would be in feeding these other bodywork shapes with a flow introduced from the floor when the previous loophole – that the transition from reference plane to step plane was not a transition, but two separate surfaces that could therefore have a gap between them - has been closed. But does that necessarily mean there is no way of getting flow through there? In this age of carbon with non-linear load deflections, might there not be some cunning way of getting around this without actually breaking the letter of the rules?

If there is, someone will figure it, it will be on their car and then the controversy kicks off. Round and round on the hamster wheel of F1. 80

"The law of racing is that a genie won't go back into the bottle"



Magnussen set for British F3

Second-generation Danish starlet tests for Carlin and aims to emulate father Jan by claiming UK crown

evin Magnussen, the son of 1994 British Formula 3 champion Jan, is set to follow in his father's footsteps by contesting the series next season.

The Dane, a member of the McLaren Young Driver programme, is understood to be close to a deal to race in Britain in 2011 after testing for Carlin twice in the past 10 days. A move to Britain for his second year of F3 would give him the chance to emulate his father's record-breaking 1994 campaign, when Magnussen Sr won 14 of 18 races on the way to the title with Paul Stewart Racing.

Magnussen Jr tested for Carlin at Donington Park last week, before completing further running at Brands Hatch on Monday.

Team boss Trevor Carlin said: "Kevin's still in the process of considering his options for next year, but we're very happy that Carlin is among those options.

"Kevin tested with us at Brands Hatch this week and completed a one-day test last week at Donington. He looks extremely comfortable in the car.

"Considering the extremely cold weather he's doing a great job. He seems to be able to get on the pace immediately and get the most out of the cold tyres - which was always his dad's speciality as well!"

Magnussen Jr, 18, won the Danish

Formula Ford championship in 2008 before finishing seventh in the '09 Formula Renault Eurocup and second in the North European Cup for Timo Rumpfkeil's Motopark Academy squad.

He graduated to Formula 3 with Motopark this season, taking three wins and finishing third in the German F₃ Cup. He also took a reversed-grid race victory on a one-off outing in the Euro Series at Valencia.

"The testing has gone well," said Magnussen. "They [Carlin] are good people and I'm very impressed with them. I think they can teach me a lot and I think I've been quite quick so I'm happy."



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More Asian races for DTM

THE ORGANISERS of the DTM race on the streets of Shanghai are keen to add a second event in another city in the future.

The German series held a championship round in China for the first time last weekend, as Paul di Resta snatched the title from Bruno Spengler. Despite several issues arising during the weekend, which led to hours of meetings on Saturday evening and Sunday morning, the race was declared a success.

Mercedes-Benz motorsport boss Norbert Haug said: "If we're already here, then it's not impossible to have another race close by. Racing in Asia is the right step. Things like this are the future. Why not go to places like Singapore and Malaysia as well?"

Problems with the track ranged from the position of walls, slippery and raised white lines, and the



locations of tyre barriers. The long, flat-out 180-degree final corner also raised safety concerns, which were highlighted when Timo Scheider crashed heavily there in qualifying. The teams suggested putting a chicane at the beginning of the corner, but that idea was

dropped because the track would have then lost its FIA licence.

Every session except the Sunday morning warm-up was red flagged. But the race itself went smoothly after drivers were given strict instructions not to turn the race into a farce by taking too many risks.

AUTOSPORT SAYS...

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ever has a DTM 'roll-out' session been watched with such intrigue. To clarify, 'roll-out' is a 30-minute non-timed session that takes place at the start of the weekend, which is essentially a shakedown. Bizarrely, the cars also have to run without front aero flicks and the main piece of the rear wing.

Hardly exciting stuff, but in Shanghai last week it made for captivating viewing as the drivers went out for their first tentative laps. One said that it was the first time he'd ever been genuinely scared in a race car, while another reported that he'd had to remove some stains from the back of his race suit overnight.

Why was it so terrifying? Not only was it seriously bumpy, but the white lines all over the roads were like ice and the positioning of some of the walls left many wondering how the track had been signed off. A quick YouTube search for 'DTM Shanghai 2010' will reveal a multitude of crashes from practice and qualifying.

Frantic work over the course of the weekend meant that by Sunday the track was in reasonable shape. The event should be fine next year, and the lessons learned last weekend mean that a second Chinese race (perhaps in Beijing) would probably have a smoother debut. But it still seems a shame for the loval German fans (and Bruno Spengler) that it will be the finale again.



Theissen hands over BMW reins

BMW MOTORSPORT boss Mario Theissen is to retire early as the company gears up for its DTM return in 2012.

The 58-year-old German, who would be forced to retire at 60 in August 2012, will step down next summer after working with his successor for the first half of next season. The move is intended to ensure a seamless transfer of powers to his successor, Jens Marquardt, in time for BMW's entry to the DTM.

Theissen said: "With the decision in favour of the DTM project, the path to a successful future on the race track has been mapped out. Now is also the best time to entrust the leadership of BMW Motorsport to new hands.'

After joining BMW in 1977, Theissen took on various roles in engine development. He took the helm of BMW Motorsport in April'99, leading the German manufacturer's F1, touring car and sportscar campaigns.

WHO IS JENS MARQUARDT?

THE 43-YEAR-OLD German cut his teeth

in motorsport with Ilmor Engineering. He joined the

British-based company from Mercedes in 1995, working first as a development engineer and then as a trackside support engineer in CART in the US. Marquardt moved over to Toyota Motorsport's engine department in 2000, moving up to manage its customer deals with Jordan and then Williams. He was subsequently promoted to F1 team manager in 2008.

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FORMULA NIPPON

Nakajima eyes FNippon seat

Lack of options in F1 leaves former Williams driver preparing for a season in domestic series

x-Formula 1 driver Kazuki Nakajima is set to race in Formula Nippon next season after testing for the frontrunning TOM'S outfit at Fuji this week.

The 25-year-old Toyota-contracted driver's priority is to return to F1. But as he has little chance of doing so next year AUTOSPORT understands that he is in the advanced stages of completing a TOM'S deal.

"Formula Nippon is an option

but my aim is to race in F1,"
Nakajima told AUTOSPORT. "I
am looking at various options in
Formula Nippon and GT racing
in Japan. There are only so many
options for a professional driver
and they are strong in Japan."

Nakajima remained on the sidelines in 2010 after being dropped by Williams and believes that it is essential for his career that he races next year. A season in his home country for the first

time since he finished second in Japanese F3 in 2005 would allow him to do so without bringing sponsorship to a team.

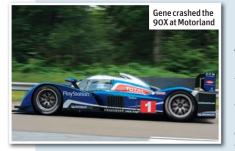
"The aim is to keep my skills sharp," said Nakajima of his test.
"I've been away from racing cars for almost a year. I enjoyed the test and the feeling of a Formula Nippon is like a GP2 car. The characteristics are different from an F1 car, but I still enjoyed it.

"This year was tough because I

was watching from the outside and training to be ready at any time to drive. It's not easy to keep the motivation, but there was a lot to learn by watching. I don't think it was a waste of time — it was a productive year for me as a human if not as a race driver."

Nakajima would dovetail a Formula Nippon season with a Super GT campaign. He demoed a Lexus SC430 during last weekend's Toyota motorsport festival at Fuji.





Gene damages Peugeot 90X in test

THE FIRST Peugeot 90X Le Mans 24 Hours challenger was badly damaged in testing at the end of last month.

The French manufacturer has revealed that the car was crashed by Marc Gene at Motorland Aragon in Spain. It would not comment on speculation that the first 90X was written-off in the shunt, but it

stated that the Spanish driver had been found to be uninjured after undergoing medical checks in hospital.

Peugeot refused to divulge further details of the accident.

A spokeswoman said: "We are not saying anything more. It was a private test. The accident is not a problem and

the programme will continue."

There was no comment on whether the mandatory shark-fin was implicated in the accident. Rumours that the accident was caused by a cross wind were dismissed by Nick Carpenter, who led the FIA aero study into fins. He said the fin would have a correcting effect.

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IN BRIEF



DAVISON SWITCHES COLOURS

Will Davison (above) will leave Holden Racing Team at the end of the V8 Supercar season and is expected to take Steven Richards' spot at FPR in 2011. James Courtney has been tipped to replace him.

OFFICIALLY DOUBLE R

Raikkonen Robertson Racing will be renamed Double R Racing as team boss Anthony Hieatt takes over full ownership of the British F3 squad.

IMOLA GETS AN ENDURO

Imola will host a six-hour race that will count towards the Le Mans Series and the Intercontinental Le Mans Cup on July 3. Petit Le Mans at Road Atlanta on October 1 has been confirmed as part of the ILMC.

CLIO'S SMITH SET FOR BTCC

Clio Cup racer Jeff Smith will race a Vauxhall Vectra for Eurotech Racing in the BTCC in 2011. Smith will drive the car raced by Pinkney Motorsport this year.

VILLENEUVE ON ICE

Jacques Villeneuve has been signed by Skoda for the 2010/11 Andros Trophy. The 2007 F1 world champion will suit up alongside Olivier Panis.



NACCAD

Radical overhaul for Hendrick team

NASCAR SUPERTEAM Hendrick
Motorsports will pair the struggling Dale
Earnhardt Jr with five-time champion
Jimmie Johnson as part of a radical
overhaul of the team's four-car line-up.

Team boss Rick Hendrick believes that Johnson's fifth straight title masked the fact that the 10-time Cup championship winning team was not at its best this year. While Johnson won the title yet again, none of Hendrick's other three drivers – Earnhardt, Jeff Gordon and Mark Martin – managed a race win. That comes just one year on from the team locking out the top three spots in the championship in 2009.

While Hendrick is a four-car team, its cars are then paired up in the factory.

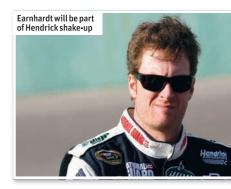
Until now, Johnson's crew had always been paired with that of his mentor Gordon. But as well as the drivers being paired up differently, Earnhardt, Gordon and Martin will all swap crew chiefs.

Hendrick said of Dale Jr's on-going struggles: "When your confidence is shaken and you get to the point where you need something to give you the feeling you can still do it, sometimes frustration sets in and it just can't work.

"I've seen this many times, you make a switch and you get a new lease of life which gets everybody excited."

But the veteran team boss also played down the significance of Earnhardt in the changes.

"In a nutshell, I think our whole



organisation got complacent after finishing 1-2-3," he added. "We were not where we needed to be this year, but these changes will make us better."

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NASCAR

Petty back in control of RPM

NASCAR LEGEND Richard Petty has regained full control of the Sprint Cup team that carries his name.

Richard Petty Motorsports confirmed last week that its future was secure for 2011, and it was announced on Monday that the 73-year-old has joined forces with a pair of investment companies to buy out former majority owner George Gillett. The deal means that Petty, who had remained a minority shareholder since his own team was sold to Gillett at the beginning of 2009, will go back to running the outfit on a day-to-day basis.

"This is a great day," said Petty.
"Our partnership will help take us to a new level, and I could not be more excited about the future."

DAYTONA 24 HOURS

Lizards take on Daytona 24

THE FLYING Lizards team, winner of four American Le Mans Series GT titles, will race a prototype for the first time next year when it returns to the legendary Daytona 24 Hours.

The Lizards, Porsche's factory representative in the ALMS, will run a Riley MkXI Daytona Prototype with a flat-six engine supplied by Porsche. The car, which is being leased from the Action Express team, is the same chassis with which Brumos won the 24 Hours in 2009.

Team principal Seth Neiman said: "We've always enjoyed competing at Daytona and we are looking forward to running a Daytona Prototype. One of our main areas of focus this year is the significant endurance races and this is a great place to start."

No drivers have been announced for

the car, which Lizards was due to test for the first time at Homestead this week. The team has mounted three previous campaigns at Daytona, all in the GT class, yielding a third overall in 2004 and second in class in 2009.





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WRC

Sordo closes on Mini deal



itroen refugee Dani Sordo is expected to sign for Mini's World Rally Championship squad before the end of the year after testing the Prodrive-built contender this week.

Prodrive confirmed that the Spaniard had taken part in a two-day test with the Mini Countryman WRC in Sardinia, but its managing director Richard Taylor denied that any deal had been done. However, AUTOSPORT understands that Sordo will be confirmed imminently to drive

alongside Kris Meeke for 2011.

Sordo, who tested for one day on asphalt and one on gravel, said: "I tested the car and that's all for the moment. The car felt good, nice; it's not bad for the start. I remember the [Citroen] DS3 was not at the top when I first started. There is some work needed in every area, but it's early and there is time.

"The Prodrive team is very motivated and David [Lapworth, Prodrive's technical director] has a lot of experience. I need to understand the car more, but for the start, it's good."

Meeke said he would welcome competing alongside Sordo.

"Dani is comfortably the second-best driver on asphalt in the world, so he would have a lot to offer the team," he said. "We get on really well; he's a good guy and we can work well together."

Meeke described last week's test as the most positive yet for the Countryman. The team worked extensively on the damper set-up of the car, while also completing its significant mileage on asphalt. Prior to Sardinia, the Mini's only asphalt running had been at Prodrive's Warwick test track and MIRA.

"The car feels very good [on asphalt]," said '09 Intercontinental Rally Challenge champion Meeke. "It's very neutral and well balanced at the crucial point where you come off the brakes and turn into a corner. I have to say, it felt fantastic; you know you're going to find out a lot about a car when you drive it on asphalt and it's all good news from this week."

WRC

No fears over Michelin punctures, say teams

TEAMS ARE confident that Michelin can solve the problems with its new World Rally Championship tyre ahead of the start of the new season.

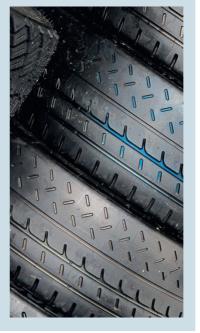
The French supplier – which will supply Citroen, Ford and Mini next year when the WRC becomes an open-tyre formula – has been hit by a spate of punctures during testing. The teams have been unable to comment on the problems because they are bound by contracts with out-going WRC supplier Pirelli until the end of the year.

One team source said: "It's true we have had a few punctures, but the tyres are pretty much where we expect them to be at this point.

"I'd be very surprised if we have any of these problems when we come to start the season next year."

Mini tested Michelin's asphalt tyres for the first time in Sardinia last week, with Kris Meeke giving positive feedback from his first running on the part-wet, part-dry tyre (pictured right).

Meeke said: "I was a bit wary when I first saw the tread pattern, but we had perfect conditions to test the tyre. We had heavy rain that dried out and then fully dry conditions, which meant we could run hard and soft compounds. I was surprised in the wet – you could really lean on the tyre."



MDC

Terrestrial TV return for WRC

THE WORLD Rally Championship is expected to return to UK terrestrial television next season on Channel Five.

The WRC's agreement with satellite channel Dave, on which the WRC has been shown for the past three years, is up at the end of 2010. Negotiations with Five are almost complete and would take the WRC back into every UK television-owning household for the first time since 2004.

The WRC would be shown in a regular slot, believed to be early evening on Mondays, with a magazine show planned for the weeks when there is no preview or review of an event.

WRC promoter Simon Long said: "We are at an advanced stage in negotiations with a significant terrestrial television channel."

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Horner and Newey saved team love-in for title win







Sebastian Vettel and Red Bull emerged as 2010 Formula 1 world champions after a frenetic, largely politics-free season in which intra-team dynamics played a fascinating part. By MARK HUGHES

t was a great year of Formula 1, no matter how it's dressed up. The closeness of the title fight lent the season a beautifully poised human drama. It was shaped that way by having five drivers from three teams, each with its own very particular set of dynamics, every race providing a new instalment and twist. The actual wheel-to-wheel racing had its moments, but it was more the tension of waiting to see what would give and how that would impact upon the fascinating narrative that really made it special. In contrast to recent years, the parking of the politics and bickering some place out of sight in the background made it actually feel like a *sport* for the most part.

In Red Bull we had team with a dynamite car but a delicate internal structure with some key fault lines. Think of the racing team – Adrian Newey and all - as being contracted in by the soft-drinks manufacturer to provide the marketing platform for the product. Think of the Red Bull drivers from two separate perspectives: the marketing pawns of the parent company providing the money and the supremely skilled athletes of the race team. Mark Webber had been hired long ago by the race team to help get it in a position where the parent company could really use it. At which point a more natural

marketing fit — someone younger, with more of that elusive of-the-moment dynamic quality — could be slotted in and be projected as the embodiment of the product: new, magical, fizzing, lightly brushed with the fairy dust of genius. Webber's grit and experience could then be used in support. Sebastian Vettel had selected himself for that starring role. But to the drivers that was just peripheral crap.

From a racing perspective, Vettel was a guy on a mission to the top in record time, Webber someone who'd waited way too many years to get his bum in a car as good as this, to prove all the disbelieving bastards wrong; two intense competitors fighting not just the others but each other. The racing team - a simple, efficientoutfit led by Christian Horner with none of the matrix complexities of structures of the established big teams - frequently found itself in the unenviable position of referee. It required a cool head and in Horner it had that, but the internal competition and the random interference from the parent company's representative Helmut Marko occasionally took the water above his nostrils.

In Ferrari we had the sport's legend reverting back to type so as to be easy in its skin: with a forceful personality taking the initiative from the cockpit, inspiring the team, getting it buzzing to his frequency, having it respond



like a horse that must be handled in a certain way to bring out its best. Fernando Alonso was that man and anyone who happened to be in the other car was just along for the ride. Felipe Massa didn't get to fully realise this until lap 41 of the German Grand Prix, but that in reality was the deal from the moment Alonso and Ferrari signed their pact. He is a force of nature and Ferrari happily surrendered itself to him. It may not have had quite the fastest car but it was close enough that Alonso's genius and the single-minded, simple focus of the task allowed it to apply huge stress on the delicate structure of Red Bull.

McLaren could do the same on occasion. This used to be a team of vast technical resource but a neurotic undertone. The calamities of 2007 and early '09 seemed finally to have annealed it, rid it of the stresses and aggravating factors while retaining the awesome depth of ability. Martin Whitmarsh's final flourish in the making of the post-Ron Dennis McLaren was the recruitment of the world champion Jenson Button to line up alongside the world's fastest driver, Lewis Hamilton. How they would compare lent the season yet another dimension of fascination, but as it turned out it was the easy dynamic of their pairing and how that shored up the strength of the team's challenge that was truly surprising. Their

diametrically opposed approaches seemed to give the team a huge bandwidth, a contributory factor in a serene surefootedness of operation. It did rather rely on this and the quality of its drivers in that the car was, on balance, only third quickest.

The McLaren MP4-25 did though introduce one of 2010's two key technical must-haves - the f-duct, giving the aerodynamic nirvana of much less drag for a given downforce with no moving parts. The other feature was the exhaust-blown diffuser introduced on the Red Bull RB6 in the final pre-season test. Both features, if fully exploited, were worth o.5sec per lap or more and as such the direction of everyone's development programmes were pre-defined. In this era of resource restriction there was insufficient capacity for all the other

Turkey collision changed Vettel/Webber dynamic

chased with the previous levels of Webber: big-budget-fuelled intensity and unsettled this low-hanging fruit became by Vettel/ everyone's preoccupation. relationship The banning of refuelling and voluntary dropping of KERS – both in the interests of lowering costs - and a front tyre made deliberately weaker by Bridgestone at the teams' request, actually had surprisingly little impact upon the conception of the cars. They were designed around the established precedent of the double diffuser and better configured to fulfil its potential. The key turned out to be maximising the

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There was a lot of talk that the new championship points system had been a great success in keeping the title fight open. Actually it was nothing to do with the change of scoring. Under the old system the final top three would have been covered by three points and we'd still have had a last-round, four-way showdown, with Vettel winning the title from Alonso. Under the old system it would have been Hamilton, Webber in third and fourth rather than Webber, Hamilton.

Having ex-drivers in the stewards room and losing the sense that the



governing body might use on-track incidents to meet a political agenda brought a very refreshing change to the racing. No longer did we wait in dread for how a natural racing incident might be penalised. Even the potential nightmare of having Ferrari's team orders incident interfere with the playing out of the championship was avoided though the ghost of Max Mosley appeared from the Senate to stick his oar in at the appropriate time, making things potentially awkward for new FIA president Jean Todt.

It seems Todt's hands-off approach to F1, and his

determination to do things his own way, disappointed the former president who had vigorously supported his election campaign last year. Before this year was out there was an element within the governing body briefing heavily against Todt's tenure. This was against a backdrop of Todt reportedly wanting to unstitch the infamous 100-year F1 commercial rights deal previously awarded by the FIA to Bernie Ecclestone, and the current Concorde Agreement ending after 2012.

The move to a no-refuelling format meant virtually no strategic variation. Variable weather, on-track incidents and the close title fight disguised the fact that not only was overtaking still limited but strategy had been all-but-standardised.

◀ diffuser's inlet length, so defining long cars with long, thin gearboxes. Those conservative on this Mercedes, Williams, Renault - had limited potential compared with Red Bull, Ferrari and McLaren. The MP4-25 was the most extreme in this, but that brought its own limitations.

Using the exhaust gas to energise the diffuser's flow was just the final flourish of Newey's RB6. It had an inherent aero superiority, probably borne of its continued use of pullrod rear suspension. Vettel was walking the first two races until mechanical problems intervened, allowing Alonso and Ferrari to pounce in the first instance, Button and McLaren in the second. A resounding one-two for Red Bull in Malaysia (Webber giving the race away to Vettel in the opening seconds through not being able to see out of his aero-appendage mirrors) looked like the beginning of a season of Red Bull dominance, but it never worked out that way despite the RB6 sitting on pole for all but four races. Changeable conditions in China paved the way for a Button win yet more brilliant than in Australia and while the full-attack Hamilton had already made something like 30 overtaking moves, the circumstances of the season's opening phase were suited better to Button's smart, unflustered application than to Hamilton's thrilling, on-the-edge red zone.

Lewis had begun the season in some turmoil, having made the decision to dispense with the managerial services of his father Anthony and within the

team Button's easy charm had enabled him to slot right in. It was almost as if Hamilton had joined Button's team rather than vice-versa. But as the season panned out, so Hamilton's savage pace would tell and he became once more the team's cutting edge, especially with a car with a tendency to be nervous on corner entry. Button showed remarkable equanimity in accepting this, but in the last 17 laps of China we had a straight wetweather contest between the pair and it was Button who emerged on top.

By stark contrast, returning legend Michael Schumacher was plain slow in the wet of Shanghai and the sight of him being bullied relentlessly by the new generation was rather poignant. He wasn't always so outclassed but was generally over-shadowed by Mercedes team-mate Nico Rosberg. There was no particular pattern of progress from Michael, though there were signs of a slight upturn in the last four races. It was odd seeing Michael as just one of the pack.

That the Mercedes was not the



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◀ ideal tool in which to make a comeback was made plain in the closing stages of the Spanish GP. Webber had dominated from the front while Vettel, having lost his second place to a cracked brake disc, was trying to nurse the Red Bull home. Seeing that the disc was showing signs of imminent failure the team urged him to back off further. So he resorted to using no brakes at all for the last few laps, just rolling into the corners using engine deceleration. Schumacher was the next car behind, running flat-out, trying to take advantage. The Merc was at this point only 1.4sec faster than the Red Bull...

Webber gave a repeat performance around the streets of Monaco seven days later, Vettel completely trounced and complaining of something amiss in the feel of his car. He was given a fresh one for Turkey and had established a small edge over Webber until final qualifying when his rear roll-bar mount broke, gifting Webber a third consecutive pole against the run of play. This and the menacing form of the McLarens laid the groundwork for the season's most controversial moment. It is possible that Webber had been trying to back Vettel into Hamilton once he'd been forced to switch to a more economical engine map, such was the pace that the McLarens had forced upon them.

On the lap in question Vettel made up 13 metres on Webber out of the chicane, way more than can be accounted for by either a higher

engine map or any difference in their abilities. Webber had no idea that he was expected to move aside, Vettel irritated that Webber seemed to be making him vulnerable to attack by Hamilton – assumed he would move aside. The actual collision though was 100 per cent initiated by Vettel. The whole world could see he had chosen to steer towards Webber, so when Marko stated quite baldly afterwards that it was all Webber's fault it laid out the Red Bull stall for all to see. It was the season's defining moment.

In the wake of the Red Bull incident Button had to be called off from racing Hamilton and there was certainly a suggestion of team orders about that. But it was handled adeptly by the management. There was no need for team orders as Hamilton led another McLaren one-two in Canada. Montreal perfect territory for the f-duct and punishing the Red Bull's lack of grunt. Vettel was dominant at Valencia as Webber went flying. Mark's heavy bruising from his terrifying accident there was hardly ideal preparation for Silverstone; neither was having his new-spec front wing removed and given to Vettel on the eve of qualifying. His righteous anger at this seemed to fuel his performance as he surged into a lead at the start he would retain to the end.

Ferrari hadn't really figured since that opening victory. But since launching its blown floor in Valencia, this was only circumstantial. In outright performance, it now nestled between the Red Bull and McLaren. Because it had started out with neither blown floor nor f-duct, its spec had remained static for quite a time while great work was going on at the factory. Even so it was somewhat startling to hear Alonso say after Silverstone that he was confident he would win this championship. He was at that moment 47 points adrift. All the more reason why Massa had to be moved aside at Hockenheim, but the way in which this was relayed to Felipe was heavyhanded and included the word 'sorry', an admission of the banned team orders. In reality that awkwardness

arose from the management being reluctant to discuss the matter beforehand, hoping a decision deferred would make it go away. Just as with Red Bull's Turkey incident, asking a driver's race engineer - his most trusted partner - to relay an unwelcome request had triggered a bad outcome. This really isn't their job.

Vettel lost a certain victory in Hungary through not knowing the safety car rules, handing the win to Webber and second to Alonso. In the low-downforce demands of Spa and Monza, Hamilton figured he saw a double victory as the only way of remaining in the title hunt. He achieved the first magnificently, but messed up qualifying in Italy, this the prelude to a silly first-lap collision and another Alonso victory.

Fernando won again around Singapore's streets, defeating the







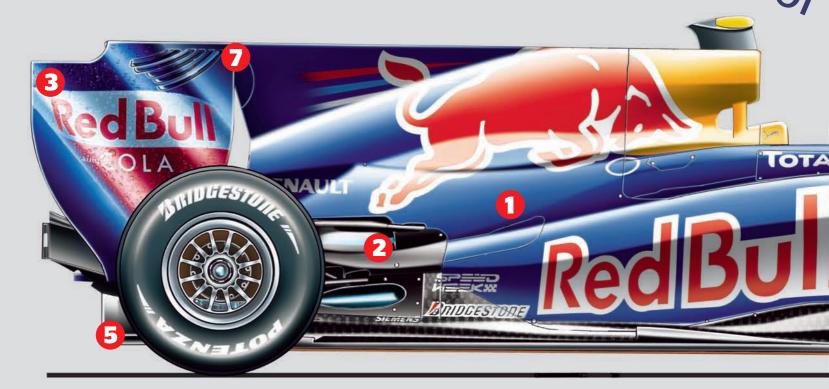
faster car of Vettel only through a small qualifying error from Seb. Around Suzuka, Vettel qualified 0.07sec faster than Webber, this deciding which of them won. Considering that Webber's 10kg extra weight meant he had no ballast with which to vary the car's weight distribution, such margins must have been galling. But Webber's dropping the car on that Korean wet kerb bore the hallmarks of someone mentally exhausted from fighting on two fronts - and it lost him the title. Alonso was the beneficiary not only of Webber's crash but also a gutting engine failure for Vettel while leading in magnificent style. Even another Vettel win in Brazil didn't stop the numbers heavily favouring Alonso going into the four-way showdown. But then a detuned Webber had a tyre problem, pitted early and panicked Ferrari into a disastrous strategic response.

As Vettel celebrated his title with the team, a disconsolate Webber sat drained in his room trying to make sense of the demented kaleidoscope of his season. But there is no sense, only racing. M

It was startling to hear Alonso say after Silverstone that he could win the title - he was 47 points adrift at that time



What made the **Red Bull RB6** one of



ADRIAN NEWEY, the design genius behind masterminding the Red Bull RB6, makes it sound so simple. There was no magic bullet, no one part of the car that was key to its incredible success. Like everything in modern Formula 1, it was about refining every last detail and making each part of the car work not only in isolation, but with the rest of the package.

"There's no one secret," says Newey. "The package worked, we got all

of the basics right and we were able to develop the car at a rate that more or less matched our competitors. And we had two drivers who pushed each other, and the car, to the limit."

Perhaps the real magic came from Newey himself, who has built the Red Bull design office in his own image and who remains one of the few still to favour the drawing board and French curves over modern CAD.

→ GARY ANDERSON ANALYSIS

THE NEWEY FACTOR

NEWEY'S GRASP of how a racing car works is incredible. Change the rules as the FIA did for 2009, and there's no one with a better vision than Adrian. It's impossible to understand everything about it absolutely, but his ability to extract every last fraction of a per cent out of the packaging is what gives the car its performance edge. He has set up Red Bull Racing to work the way he wants and has used that freedom to exploit the potential of the car to the nth degree. That's what produced a car that set the pace almost everywhere.



THERE HAVE been complaints all year that the Renault is down on peak power, and the lacklustre performance of the RB6 at Spa and Monza backs that up. But it's not just about peak power, it's also about the torque curve, fuel economy and heat rejection. On lap time, I'd be surprised if the Renault was at a significant disadvantage to Mercedes, a couple of tenths at the very most.

GEARBOX



NEWEY IS famous for his tight packaging and Red Bull had some problems with its gearbox technology early in his time there. Huge work went into making this unit more compact, which helps rear packaging and effectiveness of the pullrod suspension.

REAR WING



UNCOMPLICATED BUT effective design. Because of the well-managed airflow regime of the rest of the car, the wing is working more or less in isolation and produces plenty of efficient downforce.

CHASSIS V-SECTION



THE COMPLEX V-section is classic Newey, designed to get the best out of the airflow around the side of the chassis. This allows the front wing and under-chassis area to be scavenged better by the bargeboards. It adds up to a more consistent airflow regime that maintains the velocity, and therefore energy and downforce-producing ability. You can develop a big diffuser, but that's pointless if you don't have good airflow at the leading edge of the sidepod.

.....

20 PODIUMS

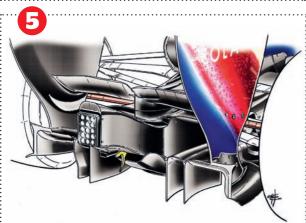
WORLD CHAMPIONSHIPS

498 POINTS



WHERE IT ALL STARTED

THE SUCCESS of the RB6 is rooted in that of last year's car, the RB5. The fundamental concept of the car suited the new-for-2009 regulations well, with the pullrod suspension and front-wing direction already well-established. Had it incorporated the double diffuser from the start, the RB5 would have been unbeatable.



DIFFUSER

AS WELL as incorporating the double diffuser from the start of the design process, rather than having to shoehorn the concept into an existing design, the RB6 was also built around an exhaust-blown diffuser. It's very neatly packaged with the suspension and produces plenty of downforce. Crucially, this downforce is very consistent and not so ride-height-dependent as other teams'.

FRONT WING



THISIS the most important single part of a car for aerodynamic performance. It dictates the airflow used, and therefore downforce generated over the whole car, not to mention the consistency of that airflow and how prone it is to separation. Red Bull has the most complex and effective front wing. It produces huge downforce and can manage the airflow separation to perfection. Medium-speed downforce is strong, counteracting understeer. At high speed the front-wing airflow separation optimises balance, giving greater driver confidence. As we saw mid-season, it takes full advantage of flexibility permitted in the rules.

F-DUCT



 $\label{lem:not_part} \textbf{NOTPART} \ \ \text{of the original design, but the concept was quickly and effectively incorporated into the car. Red Bull ended up ducting the airflow into the main plane of the rear wing. As with all of the RB6's features, the team optimised the wing design around increasing overall downforce when required, as well as a drag reduction on the straights.$



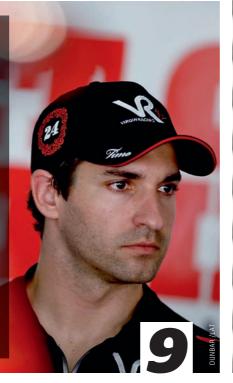
THE 10 **FORMULA 1 DRIVERS**

Our grand prix editor MARK HUGHES presents his top 10 drivers of the 2010 season. And you may be surprised at some of them...



Timo Glock

The guy who was taking podiums with Toyota two years ago was still very much present in the Virgin. His driving has a great terrier-like quality, his racecraft is outstanding and he'd frequently be ahead of the faster Lotuses once the race started. In terms of qualifying pace his advantage over his team-mate was bigger than anyone's. In the nightmare conditions of Korea he was halfway up the field when taken out by an errant Sebastien Buemi. Watch the opening minutes on a dusty track and he's invariably way further up than the car warrants. Team boss John Booth is convinced he's top-six and, while that may be hard to calibrate in a car so far off the front, there was absolutely nothing to suggest he wasn't performing to the impressive level he'd reached when in faster machinery.



Rubens Barrichello

Williams fell in love with Rubens. In the way he could quickly and accurately give good technical direction in this era of no testing, he was a godsend. He was also responsible for talking the team into a very significant change of emphasis in what characteristics were being chased in the windtunnel - to very fruitful effect. In between times he was as quick as ever and on occasion showed a taste for battle of someone half his age. The commitment he showed against Schumacher's ugly tactics in Hungary was remarkable and for almost all the first half of the season he was slightly quicker than the very gifted, hungry and focused rookie Nico Hulkenberg. There was still the occasional tendency to fade partway through a race though.



Nico Rosberg

In a Mercedes that was essentially half a second off the pace, he did all that could reasonably be asked. He had an unerring consistency and a way of minimising the car's weaknesses that left the returning Schumacher reeling and there were virtually no errors. He hates understeer just as much as Michael, but worked out rather better how to drive on these tyres, on this car. But not at any point did he flatter the car in the way of Kubica at Renault. He is a very good F1 driver indeed - adaptable, fast, and intelligent - but has yet to stake any obvious claim to greatness



Jenson Button

The perception is that he was much slower than Hamilton. Actually, looking at all 57 qualifying sessions, he averaged 0.16s slower than the world's fastest driver. He remains over-sensitive to imbalance, is incapable of taking it by the scruff of the neck, but it is his only weakness. He slid into this team and made it his own in a way that Alonso could not begin to understand. It was as if Hamilton had joined Button's team in the way they responded to Jenson, and those two early victories were classic JB. Once it became clear the title was out of reach, he began trying to develop a technical tweak, which gave him a stinker in Korea.

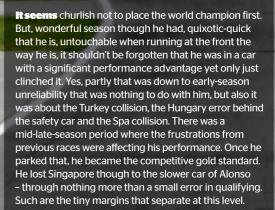


Mark Webber

It wasn't quite the Alonso-at-McLaren season, but there were certain parallels. No matter how equitably the race team ran things, the ownership favoured Vettel and Webber was at a psychological disadvantage. His victories in Spain, Monaco and Britain were magnificent, that in Hungary relying on luck but perhaps even better. His 10kg weight disadvantage over Vettel meant he had no ballast with which to vary the car's weight distribution and given that there were races where he was outqualified by hundredths - and where this decided which of them won - he can hold his head up. But in the end the internal struggle seemed to drain him of competitive juice, and that decisive Korea error seemed to come from mental exhaustion.



Sebastian Vettel





Fernando Alonso

Once it began to get important, and the taking of a title became tangible, Alonso reverted to being the truly great driver he is. He was relentlessly magnificent in his late chase and brief overhauling of the Red Bulls. Earlier in the year, he made a lot of errors: first-corner Australia, jumping the start China, twice wrong-footed in the traffic of Montreal, hitting the Monaco barriers in Saturday practice. The two halves should be considered as one, with neither having sway over the other, and as such his season was not quite as impressive as the two guys above him in this list. As ever, the way his warrior persona insists that a team gathers itself around him, and only him, created controversy. But actually this is precisely the sort of personality Ferrari needs. For them, he is closer to perfection than any other would be.



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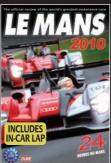
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AUTOSPORT TEAM BOSSES' TOP 10



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OTMAR SZAFNAUER **FORCE INDIA**



JOHN **BOOTH** VIRGIN



FRANZ TOST **TORO ROSSO**



BOULLIER **RENAULT**



TONY **FERNANDES**



LOTUS COLIN KOLLES



HRT **ROSS**



BRAWN MERCEDES



CHRISTIAN **HORNER RED BULL**

After a 2010 season as close as it was on track, it was inevitable that picking a number-one driver for the whole campaign was going to be just as tight.

Once again, though, AUTOSPORT went to the men whose influence carries the most weight in the paddock when it comes to rating drivers - the team principals.

Each of them was asked to secretly rank the drivers from one to 10 for the 2010 season, and the results were then collated using the F1 points system to find out who overall they rated as their best.

One team principal could only offer his top three, because he thought after this that performance was too dependent on cars, while Ferrari was the only squad that did not submit its list. Jonathan Noble

1. FERNANDO ALONSO LAST YEAR: 4th	204
2. SEBASTIAN VETTEL LAST YEAR: 1st	202
3. LEWIS HAMILTON LAST YEAR: 3rd	184
4. MARK WEBBER LAST YEAR: 6th	131
5. ROBERT KUBICA LAST YEAR: 9th	121
6. JENSON BUTTON LAST YEAR: 2nd	82
7. NICO ROSBERG NEW ENTRY	68
8. NICO HULKENBERG NEW ENTRY	16
9. RUBENS BARRICHELLO LAST YEAR: 5th	11
10. MICHAEL SCHUMACHER	10
<i>NEW ENTRY</i> & HEIKKI KOVALAINEN	10

NEW ENTRY







Wins

20 Podiums

15

Poles 6

Plenty of

energy means

loads of fizz

s the new boys at the front, Red Bull seemed to attract some resentment and suspicion from the established frontrunners about the stunning pace of the RB6.

In reality, the Adrian Newey-inspired car simply started from where his RB5 left off, retaining pullrod rear suspension to give an upper-body airflow way superior to anything else.

Unlike the RB5, it was conceived to take full advantage of the twindiffuser concept, meaning an extension of the diffuser's inlet and a clearing of its exit route by the respective expedients of lengthening the gearbox and moving it upwards. The final flourish was to scavenge the diffuser's airflow with exhaust gas.

The fastest car, with two intensely competitive drivers and differing aims between the ownership and the team management, made for a volatile combination and it was difficult not to regard the various campaigns against the car's legality by rivals as attempts

to further destabilise the team.

First of all, the Red Bull supposedly had some sort of variable ride-height control that allowed it to run low in qualifying and still not scrape its belly on the ground when loaded with 150kg of fuel for the race. Later its front wing and the floor's leading edge were so apparently flexible, they allowed the car to run with its nose 25mm closer to the ground than the minimum demanded in the static test, to great aerodynamic advantage.

There was no illegal rideheight control mechanism, and the front wing and floor passed all the required load tests. Yet the fact remained that the car could run very low in qualifying trim, despite no changes in set-up being allowed between low-fuel qualifying and full-tanks race start.

The ability to run its nose closer to the ground than any other appeared to begin at Silverstone. "Ten millimetres of ride height is worth around 10 points of downforce - or about a tenth of a second." pointed out McLaren's Martin Whitmarsh.



CHAMPIONSHIP POSITION

OFTEN UNTOUCHABLE

in qualifying, the German took 10 poles and won five races on his way to the title. Bounced back from a few blunders (Istanbul, Hungary, Spa) and some setbacks (63 points lost to reliability) to become F1's youngest champion.

MARK WEBBER



CHAMPIONSHII POSITION

IMPERIOUS ON some weekends (Spain, Monaco), but it was his failure to match Vettel in qualifying

- by the tiniest of margins
- that cost him the title. Korea crash left him playing catch-up in Brazil and Abu Dhabi







FIA technical delegate Charlie Whiting had the car's nose and floor stripped apart at Hockenheim and the Hungaroring, and was clearly tearing his hair out trying to understand how the magic was conjured. The wing and floor tests were increased in severity from Spa and Monza respectively - and the RB6 continued to be the fastest car in the subsequent events. It even visibly ran its nose anteater-close to the ground at Suzuka.

However Red Bull was doing it - probably via a breakthrough in the computing of carbon lay-up for load flexibility - it was brilliant. The car's aero superiority was enhanced by its slightly raked profile, yet the increased rear ride height did not induce the diffuser into stalling, helped as it was by all that over-body airflow capacity afforded by the rearsuspension layout. In compressing the airflow's path at the front and expanding it at the back,

it was as if the Red Bull was surfing a different fluid to the others.

Sebastian Vettel or Mark Webber sat on pole for all but the two long-straight/ stop-start tracks of Montreal and Monza, and compromised conditions of Interlagos. Even when Red Bull got its f-duct working the car's extra downforce seemed to come at a cost in drag, but Newey is quick to point out that acceleration zones and long straights punished what he perceived as a shortfall in the Renault engine's performance.

The longer and faster the turns, the more momentum that could be maintained, the bigger the car's advantage became. It was not as good in traffic as in clean air however, possibly because a greater proportion of its total downforce was derived from the more turbulence-afflicted over-body. Its superiority in race conditions was less than in qualifying.

Vettel was slightly

quicker overall than Webber, but by a much narrower margin than last year. Vettel continued to live easier with any instability on corner entry; Webber was more adept at driving in a way that initially maximised the blown diffuser.

But at Valencia Renault came up with the software that retarded the ignition off-throttle, the resultant heat generated keeping the diffuser energised. It wasn't used in a race on the Red Bull until Hungary, but it took away one area of Webber's advantage.

That was just one more little factor working against him, just as was having zero ballast with which to vary weight distribution from track to track because of the extra 10kg he carried over the far more diminutive Vettel.

As with Red Bull itself, Vettel used stunning performance to overcome occasional fragility. Both team and driver were worthy world champions.

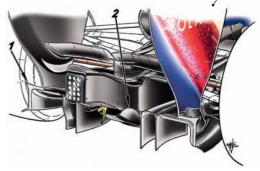
Red Bull's blown floor

Became one of the defining tweaks of the season. System allowed exhaust gas to pass through diffuser, offering increase in downforce, although fact that downforce gains were heavily throttlesensitive made it a challenge for others to emulate.

Rear-wing main-plane-blown f-duct

First used in Japanese GP, it allowed for a greater percentage of stall of airflow to the rear wing, creating a greater straight-line speed advantage.







2 Championship position

> **5** Wins

16 Podiums

1 Pole

6 FLs



Car and drivers take the rough with the smooth

n its first season since the 1990s as an independent, following Mercedes' withdrawal, McLaren exercised its formidable collective brain power in conceiving the car with which Lewis Hamilton and Jenson Button would put together titlecontending campaigns.

But ultimately the MP4-25 had a flaw in its basic conception that seemed to put a ceiling on its development potential. It was an innovative design, featuring as it did the f-duct, the adaptation of a piece of technology from cold-war aeronautics.

McLaren had considered applying this drag-reducing, wing-stalling device towards the end of '09 but figured it better not to give rivals a heads-up on the idea until the 2010 cars were launched.

Another key feature of the car was its extreme length. Tim Goss's design group had sought to maximise the twin diffuser's area above all else and optimise the airflow entry into the diffuser's inlet. This was the thinking behind an extremely long gearbox

and wheelbase — and also in moving the engine quite far forwards to clear a space for the diffuser's exit. This had the effect of bunching the fuel tank into quite a bulbous shape, perhaps a factor in the car's aero limitations.

On a smooth track the car was competitively quick and on a smooth track with long straights it was initially mightily swift, given that the Red Bull did not have a properly functioning f-duct until halfway through the year. But on a bumpy track it was a very difficult beast, in sharp contrast to McLarens of recent years that have always smothered bumps and kerbs beautifully.

Essentially the car had to be run very stiffly because its aero platform dictated that it must stay within a very narrow tolerance of ride height and pitch. Allow the rear ride height to increase too much and that huge diffuser would tend to stall, exacerbated by the upper-body airflow struggling to get around the bulky fuel tank area to give a helping hand.

The car's extreme length

ETHERI

JENSON BUTTON



CHAMPIONSHIP POSITION

5

SETTLED IN superbly at McLaren, winning in Australia and China early on after great tyre calls and pushing Hamilton hard. His second half of the year was a little patchy in qualifying, but he still turned in strong drives.

LEWIS HAMILTON



POSITION



LOOKED ON target to win a second world championship after his third win of the season at Spa, but clashes with Felipe Massa at Monza and Mark Webber in Singapore left him playing catch-up in a car that wasn't up to the task.







only made things worse, in that the longer the car, the greater an increase in rear ride height for a given angle of dive. All the inherent problems of an overly-stiffly suspended chassis were aggregated to those of its aerodynamic limitations.

It was better behaved when loaded up with a tankful of fuel than in qualifying trim and its great straightline speed made it very raceable. Combined with Button's cool calls from the cockpit in the tricky changeable conditions of Australia and China, this was enough to score two victories from the first four races.

The addition of Button to the mix brought a serenity to the team fully in keeping with the Martin Whitmarsh era of McLaren, in stark contrast to its high-tension former days. Far from recreating the turmoil of the Hamilton/ Alonso line-up of '07, Button's easy persona and way of working dovetailed

perfectly with Hamilton and the two enjoyed a genuinely friendly relationship. In fact it was sometimes as if Lewis found storm shelter within 'Camp Button', as if he found it less taxing than the days when the motorhome was host to a Hamilton posse.

The fact that he felt confident being inherently slightly faster than Button certainly helped maintain the equilibrium. But it would invariably be Button from whom the team's engineers took more of their direction on a Friday evening. The sensitivity that often prevented him grabbing the car by the scruff of the neck was also a valuable asset in analysing the most fruitful set-up direction to follow.

Hamilton took three victories, at his devastating best in pressuring the Red Bulls into disaster in Turkey, mind-blowing between the walls in Montreal and around the demands of SpaFrancorchamps. At Silverstone an attempt was made to introduce a blown diffuser but it was removed for qualifying and the race, reintroduced in improved form at Hockenheim, together with Mercedes engine mapping for off-throttle exhaust flow to the diffuser. Hamilton initially took to this feature more than Button, who later embraced it more fully.

Constant late-season development – the f-duct made to blow onto the main plane rather than the flap and an all-new front wing failed to leapfrog the car past the Ferrari F10, let alone the Red Bull RB6.

Key personnel moves during the season included chief engineer Pat Fry leaving for Ferrari while former Ferrari chief aerodynamicist John Ilev came the other way to head up an aero team tasked with conceiving a 2011 McLaren without any of the MP4-25's obvious limitations.

Intricate front wing - Singapore

McLaren introduced this extraordinarily detailed front-wing update in Singapore. It aimed to serve the dual purpose of creating a 'friendly' wake for the floor and diffuser while improving downforce levels and consistency.

McI aren's driver-controlled innovation guided air from a duct on top of the chassis, through the car, along the sharkfin and onto the rear wing, changing the airflow to reduce drag.





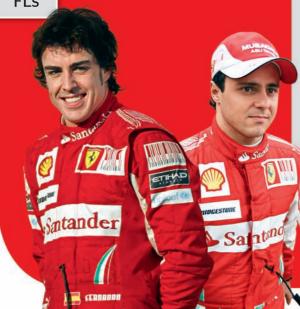


5 Wins

15 Podiums

> 2 Poles

> > **5** FLs



of a title

Alonso

Carries the
reds back
to the brink

The recruitment of Fernando Alonso in place of the rathermore-passive Kimi
Raikkonen transformed the energy of this team, made it much more like how it used to be in the Michael Schumacher era.
But the biggest improvement over 2009

But the biggest improvement over 2009 undoubtedly came from being able to properly configure the car around the legalisation of the double diffuser. The '09 machine was severely limited in this regard, whereas with the F10 the Aldo Costa-led design team went out of its way to maximise the diffuser's potential.

Like the McLaren and Red Bull it featured a long, slim gearbox to enhance the diffuser's inlet, and the long wheelbase this entailed fitted conveniently with the requirement to keep the sidepod area narrow, despite having to fit in a fuel tank with circa

150kg capacity. But where Ferrari really pushed the boat out in the car's design was in tilting the engine/gearbox upwards toward the rear by 3.5 degrees to give the diffuser a clearer exit.

It was a package that gave Ferrari what was generally the season's second-fastest car, and only the team's disastrous strategy error in the final round cost Alonso the world title.

"Fernando is faster than you" — engineer Rob Smedley's words to Felipe Massa at Hockenheim became a motif for how the team operated in the Alonso era. Massa's struggle to come to terms with his new team-mate's pace made it easy and obvious for Ferrari to structure itself around winning Alonso the championship, with Massa playing the supporting role.

The die was cast as early as the second race, in Melbourne. Despite a firstcorner tangle that had left him at the back, Alonso still had victory thoughts in his head as he made a great recovery drive. But then he came upon his team-mate, running in fourth position and way slower. They looked like they were in different cars, Massa's visibly lacking grip, understeering wide of apexes and twitchy on the exit, Alonso's balanced and grippy.

"I cannot get the hard



FELIPE MASSA



CHAMPIONSHIP POSITION

osition 6

COMPLAINED ALL

season about tyre-warm up problems and rarely got near Alonso in qualifying. Only finished on the podium five times and, other than at Hockenheim where he handed the lead to his team-mate, never looked like winning.

FERNANDO ALONSO



CHAMPIONSHIP POSITION



FERRARI RELATIONSHIP started

with a win in Bahrain, but went through some rocky moments with several costly mistakes before he really hit his stride from Monza onwards. Inspired late-season form took him to within a strategy blunder of the title.





tyres to work," was Massa's repeated explanation of his struggles this year and, although that doesn't appear to account for all of his deficit, it does hold some water.

He was unable to generate the tyre temperatures needed to switch them on, to trigger the bonding mechanism of their chemical grip. The more conservative the compound to the demands of the track, the more he struggled, and it would remain an issue for him throughout the season.

Alonso had no such problems but, despite several close squeaks as he tried to find his way by the other Ferrari on the greasy Australian surface, he remained trapped behind until the end.

Furious, he and his manager initiated summit talks with the team back at the factory. He pointed out in forceful terms that Ferrari had just denied itself a victory for the sake of not upsetting Felipe. Team chief Stefano
Domenicali agreed that
such a thing couldn't be
repeated. From this
moment on, this was
Alonso's team — but
no-one ever got around
to telling Massa until
mid-race at Hockenheim,
and even then he was
told by proxy.

In championship terms, it was urgently necessary by then to maximise Alonso's scores. He'd fallen 47 points behind (about 19 in the old money), but the car was quick. Ever since it received its blown diffuser in Valencia it had leapfrogged the McLaren and, on the stop/start tracks at which it had always excelled through its great braking and traction, it was a match for the Red Bull. Developing both f-duct and blown diffuser while Red Bull and McLaren had only needed to develop one had left Ferrari behind after a strong beginning, relatively little appearing on the car between the start of the season and Valencia.

A three-piece front wing from Silverstone coincided with an almost Red Bull-like ability to run the nose low but, like the RB6, it passed all tests.

Once it had these features, so Alonso had a tool with which to inflict some serious damage, aided further by the team being unambiguously behind him and only him. A bigger diffuser from Spa and the use — in qualifying only — from Singapore of off-throttle ignition retard kept the car in play.

In the season's closing stages Alonso and Ferrari looked like the hunters, Red Bull the fragile prey. But in the heat of the moment in Abu Dhabi, with contradictory messages flying at the pitwall from all directions, it was Ferrari that was panicked into making the wrong call.

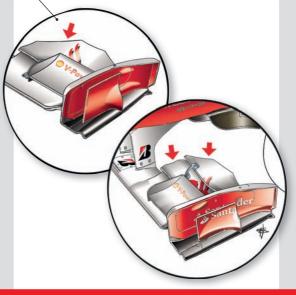
Much though it looked more like the Schumacher/ Brawn-era Ferrari this year, the emotion of emergency triggered that crucial stumble.

Tilted engine

The Ferrari F10 wasn't the first F1 car to use a tilted engine – Arrows did it in 1979. But in Ferrari's case, the 3.5-degree angle was aimed at allowing better packaging around the rear of the car to maximise the double diffuser.

Three-piece front wing

Introduced at British GP (right), it improved airflow to leading edge of sidepods and underfloor, allowing diffuser to work more aggressively, with small loss in front downforce.







Wins

Podiums

O **Poles**

FLs



he conjuring trick that was Brawn's 2009 Formula 1 World Championship became properly apparent as the team made the transition to Mercedes works team in 2010.

The German manufacturer effectively transferred its allegiance from McLaren to the former independent team it had earlier helped rescue from the ashes of Honda's F1 project. But in its Brawn guise the team had been hurting behind the scenes of its on-track glory, and this was reflected in the conservative configuration of the 2010 Mercedes MGP Wo1. This was the slightly unfortunate backdrop of seven-time world champion Michael Schumacher's muchanticipated and fanfared comeback season.

The car was conceived with a staff that had suffered a savage 40 per

cent cutback in numbers as the team had adapted to life as an independent after years as a factory squad. Ross Brawn was

furthermore negotiating with Mercedes, trying to secure the team's future at the time, as well as trying to win the 2009 championship!

"The car was basically constrained by the layout of the transmission," says Brawn. "We were too conservative with that and it limited us with what we could do aerodynamically.

"When you lose 40 per cent of your staff it takes a while to settle down, and you don't feel confident about taking on anything that's too ambitious. You don't feel you have the engineering back-up to support good new ideas, whereas the year before we did do some fairly ambitious things.

"Basically I didn't put in place a robust enough engineering group and we ended up with an okay car rather than a great car. The difference between the two is about half a second per lap and that's about what we were lacking."

With too short a gearbox to fully exploit the potential of the twin diffuser, the car was aerodynamically limited. Thought was given





CHAMPIONSHIP POSITION



DISAPPOINTING ON

his comeback, but you have to take into account that returning after three years away with little testing was a big ask. The middle of the season was tough, but a stronger finish is positive for 2011.

NICO ROSBERG



CHAMPIONSHI POSITION



FAST, CONSISTENT and

the only team-mate ever to defeat Schumacher over a season, Rosberg convinced a lot of doubters that he was a class act in 2011 and, in a good car, capable of winning races. Came of age this year.







to designing and manufacturing a new gearbox, and Brawn admits that had the team been fighting for the championship it probably would have gone ahead with that. But, given where the team was in the competitive order, the finite resources were better allocated to the 2011 car, a design that Brawn says is going to be much more aggressive.

The car was generally the fourth fastest, an average of 0.3s adrift of the identically-powered McLaren. It achieved one front-row start, when Nico Rosberg strung together a great wet-weather lap in Malaysia, but was generally in an ebb-and-flow pattern with Williams and Renault for the lower Q₃ positions.

Both Rosberg and Schumacher reported it to be lacking front-end grip, particularly in high-speed bends, a trait the veteran found particularly hard to adapt to after three years out of the cockpit. For the

Spanish GP the wheelbase was increased by the simple expedient of changing the angle of the front wishbones.

This was to move the weight-distribution range rearwards, to take load off the overworked weaker front Bridgestones of 2010. It improved the car, but left it further from the pace as the frontrunners developed faster.

A distinctive feature of the car was its razor-edged engine cover, designed to enhance flow to the rear wing in yaw. But this was conceived before the concept of the f-duct first broke cover on the McLaren. The shape of the engine cover mitigated against a conventional f-duct, and instead a tortuous route was found that ran along the floor from the cockpit, and up through hollow endplates.

This was on the car by the Turkish GP and took time to get working properly, but by the end of the year was one of the most efficient systems of all. Uniquely it was activated by the driver's left foot, a far more ergonomically satisfactory solution than the various hand, arm and leg-operated systems of its rivals.

Coming up with an effective blown diffuser proved rather more difficult. The first version was fitted for Valencia but was not reliably operating until the Hungarian GP - and even then was not finding the car as much lap time as on others.

"There were things we would like to have done with the blown diffuser that would have involved changes to the floor, which we couldn't do because the f-duct ran along there," admits Brawn. "Generally we got ourselves in a bit of a corner."

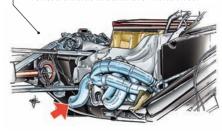
Which sort of neatly summarises the season the team has just endured. Much now depends on what the new Pirelli tyres have to offer, especially when it comes to Schumacher.

F-duct through the wing-endplates system

The version of the f-duct that Mercedes introduced at the Turkish GP was radically different from those of its rivals. Operated by foot, the duct ran through the floor and into hollow endplates on the rear wing.

Blown floor

Introduced at Valencia, with exhaust pipes rerouted lower to allow the gases to exit through the diffuser. The team attempted to counter the overheating problems with vented shields around the wishbones.









O Wins

5 Podiums

O Poles

2 FLs



ere was a team reborn. Under the new ownership of Genii Capital and the low-key direction of new team principal Eric Boullier, the Sword of Damocles was lifted from the workforce after several years of Renault threatening to pull out.

The departure of lead driver Fernando Alonso might have been a devastating blow were it not for the recruitment in his place of Robert Kubica, a driver who reminded all at Enstone of how good Alonso used to be back in 2003-05, when he was still hungry, when he didn't necessarily need the prospect of a world title to bring out his best stuff.

Kubica is a man totally besotted with racing, there being no other place he'd rather be than in the garage talking with the engineers and mechanics. Then he climbs in the car and drives the wheels off it. He's very demanding, but this is a team that responds to that.

The team's economic circumstances dictated Russian rookie Vitaly Petrov's place in the second seat but he showed well on occasion.

The core of Renault was relatively unchanged. James Allison was promoted to director of engineering in place of the departed Pat Symonds, Alan Permane was in charge of the on-track engineering, Rod Nelson returned after a sabbatical at Williams to head-up strategy, and Steve Nielsen was team manager. Bob Bell stepped back from the race team to run the factory but left in October.

The R30 qualified an average of 0.6s off the identically-powered Red Bull. It was conceived in the old windtunnel — a more sophisticated steel-belted one was fitted in November of last year — but its development visibly benefited from a massively upgraded CFD facility.

In concept it would have benefited from a longer transmission to more fully exploit the potential of its large twin diffuser, and its low, wide nose was against the prevailing fashion, but the car's development showed highly intricate work around the front wings in particular.

Although the team was



ROBERT KUBICA



CHAMPIONSHIP POSITION

C

ENSURED THAT

Renault didn't suffer from the loss of Alonso, and consistently got the best out of the R3O. Inspired in Monaco, where he might have won but for Webber's brilliant qualifying effort, and rarely got any less than the best out of the car.

VITALY PETROV



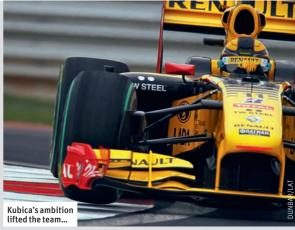
CHAMPIONSHIP POSITION

HIS PRE-SEASON was

blighted by bad weather, but this GP2 graduate had moments of promise in his rookie year, particularly in Hungary and Abu Dhabi, where he outpaced Kubica. Counterbalancing that were a propensity for errors, and not getting through to Q3 frequently enough.









one of the last to fit an f-duct, when it did appear it was perhaps the most efficient of all the systems, giving the car prodigious straight-line speed despite a suspected horsepower shortfall.

Kubica scraped the car into Q3 in all but the last race, and his maximising of the opportunities of Australia to take a superb second place was the beginning of a sequence of good points in the season's first half that flattered the car's level. The highlight was undoubtedly Monaco, where he slotted himself onto the front row. Back in his BMW days, Kubica had often watched from up close how hard Alonso seemed to be able to push his Renault and in the R30 he discovered why - it was fantastically driveable.

It lacked the ultimate in downforce, but he could access what was there at all times, its feedback giving him confidence, valuable around Monaco's streets.

Renault remains the only

team to use stiffening bars between engine and transmission, a tradition that goes back to the vibration problems of the 111-deg engine of 2001. It was discovered in '04 when they were briefly removed – that the bars had been contributing a great deal to the driver's feel for the car. Could these be the R30's secret driveability weapon?

The team was among the first to respond to Red Bull's blown diffuser. This was introduced at Valencia and was immediately effective and trouble-free, in contrast to the serious teething problems suffered by McLaren and Mercedes in adopting the feature. It was the only blown diffuser to be introduced with off-throttle ignition retard right from the start, this maintaining the downforce boost even under braking and into the corner. At first the drivers disliked the new characteristics it brought the car, but a definitive back-to-back in Hungary

free practice established once and for all that it brought a significant laptime improvement.

An early attempt at an f-duct, intended for British GP introduction, was shelved and the replacement didn't go on the car until the Belgian GP. Taking its cue from Force India's version, it blew direct onto the wing's main plane rather than just the flap and proved hugely effective, giving a benefit of more than 0.5s around the Belgian track and helping Kubica to qualify third.

It could even have been second had he not been thwarted from making a second Q3 run. A similar qualifying performance at Suzuka was wasted when his wheel came adrift early in the race through debris getting between the wheel hub and the wheel itself.

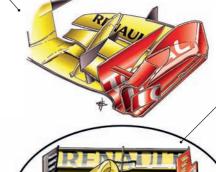
Renault squeezed all there was from this car. The challenge now, with its new windtunnel, is to create a car more worthy of the calibre of team and driver.

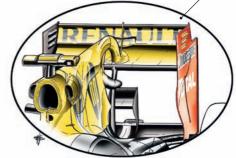
F-duct

Air ran from two inlets alongside rollover bar, through engine-cover spine and into rear-wing main-plane internal void. Its design allowed duct to be activated for longer - and closer to the braking areas than those of many other teams.

Front-wing endplates

These acted virtually as a continuation of the wing elements. They improved front-wing performance and airflow management to underfloor, and were modified constantly.









Championship position

O Wins

Podiums

1 Poles

O FLs Brazilian pole is the main highlight

at&t

XX RBS

X RB

illiams had yet another solid but not sparkling season, and it was largely because it was one of the teams to miss a trick in not specifying a sufficiently long gearbox to maximise the inlet to the double diffuser.

There was the highlight of Nico Hulkenberg's pole position in Brazil — the team's first for five years — but this was due to a specific set of circumstances and a great personal performance from the young German rather than any inherent frontrunning pace in the FW32, which averaged around 0.8s off the front through the season.

A return to Cosworth

with a reworked version
of its 2006 engine — after
three years with Toyota
meant a totally new
exhaust layout for
Williams to configure.

This had a significant run-on effect for the team, in that it was judged to be unfeasibly optimistic to get a blown diffuser on

the car from the start of the season.

Williams had been working on this concept during the off-season and had extensively developed it in CFD form. Like the system that first appeared on the Red Bull for the off-season's final test, this one blew into the central spat, potentially giving a more powerful effect than the side channel-scavenged versions that most teams subsequently developed.

Worth at least 0.5s per lap, had it been fitted from the season's beginning rather than from Valencia it would likely have given the team a competitive head start, potentially making it a second/third-row car in that part of the season rather than a marginal Q3 machine.

It was a choice that subsequently left technical director Sam Michael very frustrated: "Because we changed engines we had to release a new exhaust system around November for the start of the season.

"Because we had a lot of loading on the design office just because of the engine change, we postponed the

RUBENS BARRICHELLO



CHAMPIONSHIE POSITION

USUALLY GOT the best out of the car in qualifying, even when it was tricky to drive, and picked up windtunnel correlation problems that had hurt Williams over the past few years. Driving as well as ever – and perhaps even better – after 18 seasons.

NICO HULKENBERG



CHAMPIONSHIP POSITION

STRUGGLED EARLY

on, but once Williams got its act together he was rarely far off Barrichello. Incredible Brazil qualifying was the highlight of an impressive rookie season and only financial concerns cost him his seat.







blown-diffuser project and put it on the backburner, said 'let's just get out a top-exit exhaust', because we didn't have enough confidence to just go with a blown diffuser — we had no idea whether the bodywork temperatures would be insane and whether we could cope with them.

"If that had been the case, because we didn't have the capacity to give ourselves an alternative, it could have been a disaster for us."

Subsequent experience showed that the temperature control would have been perfectly manageable. Cosworth added off-throttle retard to improve the diffuser's performance yet further from the Belgian GP.

Along with Cosworth, another new feature for the team this year was Rubens Barrichello and, against the expectations of many, it made for a great marriage. The Brazilian veteran was instrumental in a fundamental change of philosophy in the characteristics that were being sought in the windtunnel.

This took effect from the Canadian Grand Prix onwards, and from there the car's development programme was noticeably more fruitful. In an era of no in-season testing, Barrichello's ability to quickly identify and give direction to technical paths was invaluable and he drove some excellent races too, the highlight result being his Valencia fourth place with a great defensive drive to keep Kubica at bay.

As well as the instantly effective blown diffuser, Valencia was also where the team's f-duct first appeared. This operated slightly differently to other teams' in that it used the lower air pressure of the cockpit rather than inlet

ducts to create the required variable pressure.

It required the driver to lift his leg away from the hole in the ducting in order to stall the wing — the opposite to how other systems operated.

Although quite aerodynamically efficient, it was not very driverfriendly and the longerlegged Hulkenberg found it particularly difficult to use.

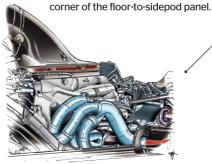
The young rookie was generally very impressive, running a couple of tenths slower than Barrichello for the first half-season but proving at least as fast in the latter half. His Interlagos pole was a peach, aided by the car being well-suited to the green track conditions of Q3's dying moments.

It is unfortunate indeed that financial considerations mean that Hulkenberg cannot be retained into 2011 to build upon what he learned this season.



Exhaust-blown floor layout

Williams ran its exhaust-blown diffuser for the first time at Silverstone. The exhaust outlets were moved to low down in the







O Wins

O Podiums

O Poles

O FLs

FISHER

COR



to Williams for sixth place in the constructors' championship illustrates the progress that has been made here in recent seasons.

There were none of the sudden giddy trips to the

isappointment at

narrowly losing out

There were none of the sudden giddy trips to the front row we saw in 2009, but overall the VJM03 was a more consistent performer than last year's car. Adrian Sutil was a Q3 regular early in the season, remained on the cusp of the run-off for a time afterwards, and it was only as Williams and Sauber made big development gains into the season's second half that Force India was left behind, a reflection of its smaller resources.

A second season with the Mercedes engine/
McLaren gearbox package enabled the team to concentrate solely on aerodynamic performance and, while the car retained a little of the VJMo2's bias towards

while the car
tained a little
of the VJMo2's
bias towards
low-downforce
circuits, it was a
more respectable
performer on
conventional

tracks. The McLaren gearbox determined a very long wheelbase but perhaps full aero advantage was not taken of the potential of this, with a team that numbered only 280 staff.

Sutil's Malaysian GP fifth place was taken on merit, and he repeated that result later in the season at Spa, where his wetweather skills were much in evidence. He took a good sixth at Valencia and, although that was flattered by the timing of the safety car, it also included a beautiful, wheel-locking pass on Sebastien Buemi.

Team-mate Tonio Liuzzi had a much tougher time of it, even after a problem was found with the floor of his original chassis several races into the season. He struggled to consistently achieve a good seal with the f-duct too, but the team could find no obvious cause for this. In the wet of Korea Liuzzi drove quite superbly, keeping the pressure on Kubica all the way and taking sixth place. This was in stark contrast that day to the performance of Sutil who, struggling with a brake problem, hit virtually



ADRIAN SUTIL



CHAMPIONSHIP POSITION

scored points in nine races and proved himself as a capable all-round performer in a midfield car. Unfortunately, as the VJM03 slipped backwards there were times when a couple more tenths in qualifying could have made a huge difference.

VITANTONIO LIUZZI



CHAMPIONSHIP POSITION

ON PAPER a dismal year, but probably suffered from more bad luck than the rest of the field combined. Most have written him off, but outstanding performances in Bahrain, Australia, Canada and Korea prove there's something there.



Sutil scored nine points finishes

ROSSER

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everything in his path. Overall though, Sutil had much the upper hand.

The aero team stole a good march in its adaptation of the f-duct principle, being the first to blow it onto the rear wing's main plane rather than the flap, a feature that was widely copied. Theoretically this gives a more powerful effect and, although it took a few races after its Valencia introduction before it was working reliably, it was thereafter very effective, enhancing what was already a quick-in-astraight-line car.

Adapting blown-diffuser technology proved not nearly so easy. Not only was its introduction at the the Belgian Grand Prix later than most others, but the feature was noticeably less effective than on rival cars, even with the Mercedes off-throttle ignition-retard system to maintain the downforce

boost under braking.

Head of track engineering Dominic Harlow believes they failed to discover the full potential of the concept: "We were disadvantaged later in the year when people started to really make their double diffusers work very well, and you saw some people with the top-end levels of downforce getting quite significantly higher at the Hungary/Singapore type tracks. Although we did a good job with the f-duct, we were much lower down on the learning curve with the blown floor."

Having two such major new technologies arriving out of the blue limited the little team's ability to do anything other than respond as best they could. Although there were seven floor specs and five different front wings, the development rate was noticeably slower than teams that had started on In Korea Liuzzi
drove superbly,
in stark contrast
to Sutil, who
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everything
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a par or even behind itnotably Renault,Williams and Sauber.

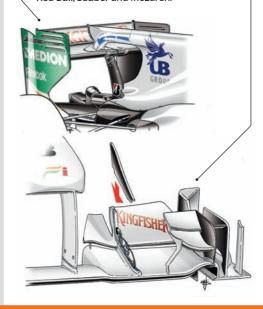
Early in the year, the team lost technical director James Key to Sauber and one of the things he immediately noticed on arrival at Hinwil was the vastly better simulation tools there. As the resource restriction bites further next year and brings everyone closer to Force India levels of staffing, it will be interesting to monitor the team's form, though it has suffered further losses - including technical director Mark Smith - to Lotus.

Two-piece front wing

Force India's two-piece front wing had a forward-upper two-piece winglet that contributed to downforce. The two vertical splitters under the main plane helped to control airflow separation.

Main-plane f-duct

Force India pioneered the idea of having the f-duct blowing onto the rear wing's main plane rather than the flap. Tweak introduced at British GP and later copied by Renault, Red Bull, Sauber and McLaren.



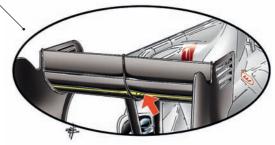






Rear-wing main-plane slot gap

This picture clearly shows the extra slot gap in the main plane of the rear wing, effectively making the wing into a three-element component that will allow a much more aggressive wing profile, creating downforce.



Last-minute team makes steps forward

PEDRO DE LA ROSA



Played key role in turning around Sauber's fortunes and was just getting into his stride when he was dropped after strong drives in Britain, Hungary and Belgium. Not bad for someone without a regular seat since 2006.

NICK HEIDFELD



Rejoined old team for a third stint and did his usual good job in final five races. Picked up a few points and did enough to remind that he is a capable pair of hands with a decent technical brain

KAMUI KOBAYASHI



Qualifying was a weakness, although this improved in the closing stages of the season Showed overtaking prowess, and there were relatively few mistakes for a rookie Capable of executing a race strategy to perfection, and could become Japan's first F1 race winner.

or a team that only got an entry at the last moment, BMW having failed to find a buyer for the squad at the time of the original deadlines, Sauber had a very positive season.

Its car was much faster at the end of the year than the beginning, and established a solid foundation for its new era as an independent.

Team founder Peter Sauber returned as owner following the collapse of an earlier sale, and ultimately BMW was helpful to the continued operation of the team in this transition year. At no point had work stopped on the C29 model, designed from the start to run with a customer Ferrari engine, and winter testing seem to suggest a very good basic pace. This turned out to be through nothing more than running lighter fuel loads than the competition - when the watches began clicking for real in Bahrain, the reality emerged of a car initially 2.4s off the pace. Drag levels were very high and drivers Pedro de la Rosa and Kamui Kobayashi complained of instability and poor traction.

Long-time technical director Willi Rampf stayed just long enough to see completion of the car before heading for semiretirement and the season was three races old by the time his replacement, James Key, arrived. Having been recruited from a similar position at Force India, he was well versed in allocating limited resource where it could most efficiently be used, but upon looking around at the fantastic facilities built up by Sauber and BMW over the years, his initial concern was that he didn't have enough staff to fully use them!

Key's experience with the aero-efficient Force India gave him the certainty that the C29's lift:drag numbers were uncompetitive. He began a two-pronged plan of attack; firstly to untangle the set-up corner the team

with cars that were simply way too stiff; secondly to reduce the drag and increase downforce, particularly low-speed downforce.

The team had been super-quick to get an f-duct on the car by race three, but it never got any further with a blown diffuser than the windtunnel. Key's aero programme began to pay back in the second half of the season, the team's facilities driving an impressive development rate. By the end of the year the car was only 0.9s off the front, good enough for Kobayashi to give several high-octane performances, though de la Rosa wasn't around to benefit fully, having been replaced for the last five races by Sauber old-boy Nick Heidfeld.







A GLOBAL PARTNER



VETTEL ENDS 2010 AS WORLD NUMBER ONE



Sebastian Vettel had even more reason to celebrate after his victory at the Abu Dhabi Grand Prix not only secured the F1 world championship, but also meant he ended the year on top of the Castrol Rankings.

The German driver began the race leading the Castrol Rankings but under pressure from fellow title contenders, Red Bull team-mate Mark Webber and Ferrari's Fernando Alonso. However Vettel's pole position and race win meant he won the F1 title and guaranteed number one spot.

Webber could only manage eighth place in Abu Dhabi and his Castrol Rankings score dropped after he failed to match his podium finish in the same race in 2009. However, it was still enough to secure the Australian second spot in the Castrol Rankings ahead of WRC champion Sebastien Loeb.

Geastrol - EDGE

WRC

Sebastian Loeb (3)

Loeb dominated the WRC in a similar manner to 2009, and will finish the year third, just as he did 12 months ago. His eight



victories ensured he consistently placed between second and fifth all year.

GP2

Davide Valsecchi (43)

Ended up as GP2's highestranked driver at 43rd, largely down to his Asia Series title. Main series champion Pastor Maldonado's avoidance of



the Asian campaign left him 35 places further back with five rivals in between.

www.castroldriverrankings.com



How Vettel came out on top in 2010



Expert performances of the season

SPRINT CUP

Jimmie Johnson (8)

Failed to dominate as in previous years, and dropped from fifth to eighth in the Rankings, but still added a fifth NASCAR Sprint Cup to



his trophy cabinet after overcoming both Denny Hamlin (12) and Kevin Harvick (10).

INDY CAR

Will Power (6)

The IndyCar runner-up climbed from 121st in January to finish 2010 in sixth. He finished ahead of champion Dario Franchitti in



the Rankings, taking more wins and poles than his rival – and also leading more laps.

Castrol Rankings DRIVER RANKINGS

1	Sebastian Vettel		F1	24,200
2	Mark Webber	∺ €.	F1	22,079
3	Sebastien Loeb		WRC	21,754
4	Fernando Alonso		F1	20,467
5	Lewis Hamilton		F1	19,217
6	Will Power	₩.	IndyCar, V8 Supercars	17,858
7	Jenson Button	X	F1	17,006
8	Jimmie Johnson		Sprint Cup, Grand Am	16,308
9	Dario Franchitti		IndyCar, V8, Grand Am	15,554
10	Kevin Harvick		Sprint Cup, N'wide, Truck	s 15,531
11	Felipe Massa		F1	14,918
12	Denny Hamlin		Sprint Cup, N'wide, Truck	s 14,467
13	Carl Edwards		Sprint Cup, Nationwide	13,957
14	Kyle Busch		Sprint Cup, N'wide, Truck	:s 13,798
15	Robert Kubica		F1	13,642
16	Helio Castroneves		IndyCar, V8 Supercars	13,639
17	Nico Rosberg		F1	13,505
18	Scott Dixon	*	IndyCar, V8, Grand Am	13,361
19	Sebastian Ogier		WRC, IRC	13,108
20	Jari-Matti Latvala		WRC	12,859

Castrol Rankings NATIONS RANKINGS

1	Australia	※	Webber, Power	39,937
2	Germany		Vettel, Rosberg	37,705
3	Great Britain		Hamilton, Button	36,223
4	France		Loeb, Ogier	34,862
5	United States		Johnson, Harvick	31,839

Mark Webber may have failed to win the F1 drivers' World Championship, but his points tally helped lift Australia to the top of the Castrol Nations Rankings. Webber's compatriot Will Power also scored highly in IndyCar, while Sebastian Vettel and Nico Rosberg lifted Germany to second. Great Britain's F1 pairing

of Lewis Hamilton and Jenson Button finished third.





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- *Price based on four people sharing a seven-berth 28-30' RV
- *Driver participation subject to change





















Pullrod rear suspension

2010

Toro Rosso followed big sister Red Bull's lead in adopting pullrod suspension, which was lighter and helped lower the car's centre of gravity. The challenge was making it work with the double diffuser.



Improvising their way to respectability

SEBASTIEN BUEMI



POSITION 16

Proved himself to be a capable performer in his second season of F1, although seemed to lose his way in the final third of the year under the intense pressure of Red Bull's expectation. Scored points four times, but too often couldn't quite make the difference between 10th and 12th.

JAIME ALGUERSUARI



CHAMPIONSHIP POSITION

Came of age in a wheelbanging scrap with Michael Schumacher in Melbourne, and by the closing stages of the season the Formula Renault 3.5 graduate was consistently getting the better of Buemi. Strong drive to ninth in Abu Dhabi sets him up perfectly for 2011.

f we'd finished eighth in the constructors' it would have been a miracle; if we'd been 10th we should have been shot!" This was the summary by technical director Giorgio Ascanelli of Toro Rosso's ninth place as it entered its first season as a bone fide constructor — at least since it used to go by the name of Minardi.

There was a lot of educated guesswork from Ascanelli in the conception of the car, taking last year's Red Bull-based machine as the starting point and adapting it to the no-refuelling/double-diffuser regulations. There is probably no-one better equipped for the sort of intuitive approach that was necessary for a tiny team entering a whole new scale of challenge.

A windtunnel in Bicester and a factory in Faenza wasn't the ideal combination, and several weeks were lost between the car's completion and the tunnel's readiness. A couple more were lost while the tunnel staff grappled with the numbers until Ascanelli turned up and

established by turning off the airflow that the tunnel's signal was drifting!

The Ferrari-powered STR5 was fashionably long and thin in body, but with a gearbox that was too short to maximise the diffuser inlet — in common with most teams. Given the circumstances of its creation it was a respectable performer. It began the year on the same pace as the Sauber — a car created with hugely better resources — but was around 1s behind the Swiss car by the end.

The car gained a blown diffuser for the Italian GP (designed completely in CFD), though without the

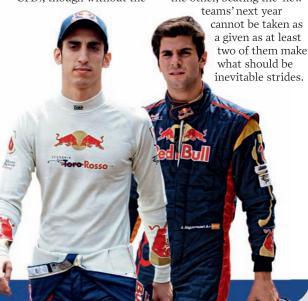
throttle-off ignition-retard feature. The f-duct proved problematical and was never raced, only practised.

SEASON REVIEW

Buemi started the season brightly

As the season progressed Sebastien Buemi was gradually caught and overhauled in performance by Jaime Alguersuari. Both showed a lot of spirit, flashes of speed and made occasional mistakes. Ascanelli rates them as 'good enough' but sees nothing to suggest they are the new Vettel. The highlight was Buemi's eighth in Canada.

In one sense the team's task may seem easier into 2011 as it builds upon its first-time experience. On the other, beating the 'new







O WINS

LOTUS





Sidepods

Bulbous, flat-topped sidepods were one of the T127's most distinctive features. The top surface is a critical part of the car to get right, as it is easy to inadvertently induce lift.



Lotus: plenty of esprit, and the elite of F1's new teams

JARNO TRULLI



POSITION 2

Was relieved to get the season over and done with and did not have a single weekend that wasn't hit by some kind of reliability problem (usually hydraulic). Asserted himself over Kovalainen late on after changing to a more responsive steering rack.

HEIKKI KOVALAINEN



CHAMPIONSHIP POSITION

All washed up after two years at McLaren that eroded his reputation and confidence, the Finn got his career back on track with a convincing season for Lotus. The best of the new-team drivers, he was quick and consistent all season.

eam Lotus returned to the Formula 1 tracks — in name at least — with the Mike Gascoyne-led, Tony Fernandes-backed new team operated from the former TOM'S base at Hingham, Norfolk.

With its emotive livery, high standards of presentation and impressive reliability, Lotus was the best of the new entrants. That said, the pace of the T127 was little better than that of the Virgin and only unusual circumstances allowed it ever to transcend Q1, even with a driver line-up of Jarno Trulli and Heikki

Kovalainen.
Although
no points
were scored,
Kovalainen's 12th
place in Japan
ensured the team
finished 10th in
the constructors'
championship, a position
with positive future
financial implications.

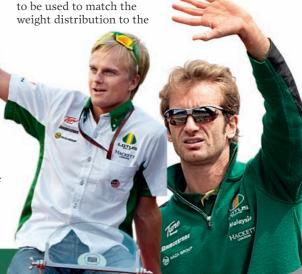
The Cosworth-powered car was super-conservative in concept, essential given

the tiny size of the team in its initial guise and the lack of data for fuel consumption, brake wear and cooling. It was essential that the car pass its crash tests and run reliably. Anything else was a bonus, and so a wide and short fuel tank pushed the radiators out and the car was generally a long way off the aerodynamic pace of those from established teams, the double diffuser in particular not producing the downforce expected.

An update for the Spanish Grand Prix, comprising lighter suspension and bodywork, shod 20kg from the car's weight, enabling ballast to be used to match the weight distribution to the

circuit. From this time there was usually a small performance margin over the Virgin. Reliability was very good and any non-finishes were invariably to do with the highly problematic gearbox hydraulics package.

It was this and the desire to build a pullrod-rear-suspension car for 2011 that led the team to the conviction that it needed a different transmission package, the Red Bull unit necessitating in turn a switch from Cosworth to Renault for engine supply.





2010 **SEASON REVIEW** Chandhok tried hard on and off track Yamamoto: not in F1 for talent

his half-season. Probably got out of HRT at the right time.

BRUNO SENNA

CHAMPIONSHIP POSITION

23

Character-building

season in which he didn't show as well against his team-mates as expected.

CHRISTIAN KLIEN

CHAMPIONSHIP POSITION

27

Underrated Austrian

showed well in his three outings and at least reminded the paddock of his existence.

SAKON YAMAMOTO

Exceeded

expectations, but those couldn't have been much lower. Enjoyed himself.

There's not much viva to Hispania on this evidence



ispania Racing **Team** limped into existence and continued limping all year.

Before the season began Jose Ramon Carabante took over ownership from Adrian Campos in order to protect his original investment, preventing the project from being stillborn. The Spanish businessman then hired former Midland team principal Colin Kolles to run the team for him. Former Williams, BAR and Red Bull man Geoff Willis was used as technical consultant.

Planned payments to Dallara for the design and

...while Glock was spectacular, and fast

build of the car were erratic. slowing its completion. The two cars of Bruno Senna and Karun Chandhok were still being completed as the opening practice session got underway in Bahrain and Chandhok's first drive of it was in qualifying!

In terms of packaging, the design was a long way from F1 standards. It had a basic understeer/ snap-oversteer/traction issue that no amount of set-up change would cure and there was no budget for any development. It was difficult to see what the team's aims were.







Di Grassi was solid,

he mating of John Booth's Manor Motorsport with Nick Wirth's Wirth Research gave us Virgin Racing and the first all-CFD-designed prop up the table Formula 1 car. Given the £60 million budget constraint, there was no way a windtunnel programme could have

been put in place anyhow. The resultant car, the VR-01, had no particular vices, just the overall lack of downforce inevitable under the circumstances

of starting a new, super-small (around 60 people) team

almost from scratch, with little design data to work from at the time of the car's conception. In its initial guise the car was probably slightly faster than the Lotus, but fell behind once that car was upgraded.

In the original plan, the Virgin would have got its aero upgrade at the same race, but the team had more than that on its plate by then. Even before the season had started it was realised that the original car's fuel tank would not be big enough for the high-consumption races later in the year. Wirth had been caught out by a decrease in permitted fuel density and by not realising the 2010

regulations would not allow the topping-up of fuel tanks on the grid.

A new monocoque, 13.5cm longer, had to be created. This was introduced at the Spanish GP and was initially a little slower than the first design. The originally planned aero update - new front and rear wings and floor – appeared on the car for the British GP.

Timo Glock regularly maxed the car out and was superb in the rain of South Korea before being taken out by Sebastien Buemi. Lucas di Grassi had a tough rookie season, rarely approaching Glock's pace, but his technical nous was very highly regarded by the team.

TIMO GLOCK

At times, when he wasn't demoralised by the struggles of the team, he was inspired - in Singapore

VIRGIN

and Korea, for example. But there were weekends where he understandably wasn't at his best. Still, did a great job for the team

LUCAS DI GRASSI

Rarely able to match Glock's pace, but often not running to the same specification, it was a long, hard season for the Brazilian. Strong on the technical side, he did little to change his reputation as a brilliant test driver and solid racer.







n terms of budget we are the most efficient team. We are world champions."

Fighting talk from the boss of a team that spent much of the season running around anywhere between four and seven seconds per lap slower than *actual* world championship winner Red Bull Racing, but then HRT's Colin Kolles is not one known for reticence.

An initial glance suggests that he might have a point. After all, if your rival is spending almost 800 per cent of your budget, then getting to within 107 per cent of their lap time

doesn't seem like a bad return. Formula 1 has never pretended to operate on a level playing field.

So if you take Kolles's stance to its extreme, then the simplest way to transform HRT into regular podium stalkers in 2012 would be to give it Red Bull's budget. Sadly, it's not that straightforward, as Red Bull team principal Christian Horner explains.

"If that were the case then Toyota would have been champions for multiple years!" he quips.

"We probably have the fourth-largest budget in Formula 1. So yes, you need a healthy budget, but it's about how you apply it. It's about bang for your buck, and knowing what gives you the best return for performance. And that's where we focused our resources over the past few years."

The gap between the frontrunners and the backmarkers is most obvious on the stopwatch, but it trickles right down through the fabric of how the teams function. Staff numbers are an obvious point of difference, with card-carrying Red Bull team members outnumbering their HRT counterparts

roughly four to one, although the exact sizes of both varies depending upon the time of year. Hispania more than doubles its manufacturing staff during critical points of the year, while the number of people whose energy is directed towards making the Red Bull quicker is equally flexible.

"Obviously at the beginning of the year it is intense with the new car, and then during the summer months we take on different projects," says Horner. "With Red Bull Technology we had projects we were working on this



RACE TEAM

45

HRT
45
(as per FOTA agreement)

FACTORY PERSONNEL

RED BULL

(Max. seasonal)

150

(Max. seasona

"You need a healthy budget but it's how you apply it. It's about bang for your buck" CHRISTIAN HORNER

ESTIMATED BUDGET

\$220m

HRT \$30m

RACE TEAM

PED BULL 9 wins 15 poles 498 points 151

in drivers' **and** constructors' championship

HRT
Best result
14th
O points
11th
in constructors'

in constructors' championship

OUTSIDE CONTRACTORS

RED BULL

Minimal

(85% of car built in-house)

HRT More **50**



year with the Red Bull Air Race, we do little bits of work for NASCAR — we conduct different research and manufacturing for other areas within the Red Bull business.

"But the number of people working on the team is becoming lower all the time," he continues. "I think with probably 300, 350 people — maybe even less than that — you could do a very good job. Force India has done an excellent job with a head count well below that."

Which leads us to the next difference. Hispania's smaller staff numbers are, in part, offset by extensive use of outside help.

"We are almost 100 people at the moment," says Kolles. "But you have to count that, in addition to this, we are working with a number of subcontractors. We are doing the same as a team like Force India, but we don't have these people on the payroll. The whole world has changed and even the car industry is changing

— it's not every manufacturer making every bit in-house, they are using subcontractors for this. It makes no sense to invest millions in machinery that you use full-time only for three or four months a year. I don't think that there are many teams in the paddock that build their own monocoque."

But some do, and one of them is located in Milton Keynes.

"We produce probably 85 per cent of the car internally — the gearbox,

chassis, suspension, is very much all completed in Milton Keynes," says Horner. "The young teams, I am guessing, are outsourcing a lot of that. It can be more expensive and lead times will inevitably be a bit longer, but then they haven't got the overheads of the machinery and the people if the infrastructure isn't in place. So it's always a trade-off. We've decided to have as much productivity internally and get the external spend as low as possible."

HRT crew has few new parts to fit during season

Ironically, the place where you'd have the hardest time differentiating between the upper and lower echelons of the grid is at the circuit (at least, until the timing screens kick in). Under a FOTA agreement, teams are restricted to 45 personnel working directly on the cars. Horner admits that scaling down has been difficult.

"It makes it more of a challenge," he says. "It means that you have to be more organised in that the cars have to leave [the factory] more complete. I think it's been a positive thing for all of the teams

this year, and it means that a team isn't taking 100 people to work on a car, so you know you've got parity."

What Horner doesn't mention are the people back at the factory analysing team data from the track in real time and feeding it back to their counterparts at the circuit. Kolles acknowledges that the parity is not all it might seem, yet doesn't feel it's the main issue.

"McLaren has more simulation programmes, it's more sophisticated," says Kolles. "But our major problem is not the number of staff. Our problem is that we have a car that is not competitive. You see how much others are spending on development of the car, and basically we had no development.

"We had certain developments to make the car more reliable, which also helps performance, but there was no innovative new stuff on the car."

Money is routinely trumpeted as the greatest gulf between the big teams and the small ones. If it were that easy, Kolles's job would be far more simple.



"Kobayashi's brilliant, isn't he?" So said Martin Brundle with a chuckle during the Abu Dhabi GP. And more and more agree. By EDD STRAW





THE GREAT ENTERNATION OF THE CONTROL OF THE CONTROL

apanese Formula 1 drivers are only one wheelbanging moment away from being branded for life as a kamikaze.

Like all national stereotypes, it's lazy and misleading. Kamui Kobayashi is the latest victim, earning a reputation as a do-or-die purveyor of touring car-style manoeuvres. Were Lewis Hamilton Japanese, he'd be labelled in exactly the same way instead of being regarded as the finest passer in F1.

The fact that you can mention Hamilton and Kobayashi in the same breath on that score tells you a lot about the impact the 24-year-old Sauber driver has had. That he so rarely crashes and burns, despite those attacking instincts, shows that there

is a lot more to him than a few flashy passes.

Leave aside the casual racism, for Kobayashi has had a mightily impressive 2010 season. After a disastrous GP2 campaign in '09, he resurrected the barely-glowing embers of his career with two eye-catching F1 drives for Toyota. He then took that momentum to Sauber this season and emerged as the highest-scoring rookie of the season. His late-race charges on option tyres at Valencia and Suzuka grabbed the headlines, but there's a far more interesting story to be told than a that of a few overtaking moves. Perhaps it's even a chapter in the tale of Japan's long-awaited first F1 winner.

First things first: debunking this kamikaze myth. Half of his eight retirements in 2010 were crash-related. In China, he was the victim of a Tonio Liuzzi mistake, in both Canada and Singapore he hit the wall, and in Australia he smashed into Sebastien Buemi after losing control because his front wing had become wedged under the front of the car. Not immaculate but, for a 19-race rookie season, far from ridiculous. Sauber technical director James Key certainly doesn't think there's a problem.

"He's not knocking off front wings or spinning all of the time," says Key. "Bravery is part of it, but he just overtakes. It's not do-or-die." As for Kobayashi, he is frustrated by the way that he has become a byword for overaggressive passing. As he says: "It's very strange that some people ask me this question about being dangerous. I feel that these guys didn't see the race. I had a couple of crashes on my own, but not with

anyone else, so I don't believe I'm dangerous. People talk about it, but it's not a problem."

For Kobayashi's part, his philosophy is simple. "If I have the chance to overtake, why should I wait?" he asks. Simple, effective and reminiscent of his compatriot Takuma Sato, most famous in F1 for improbably overtaking Fernando Alonso's McLaren in the 2007 Canadian Grand Prix in his Super Aguri. That comparison is fraught with the danger of misleading equivalencies, but both exhibited what appears to be a culturally Japanese approach to overtaking — the job is to race, their task is to pass, why overcomplicate it?

"Takuma and Kamui are very different characters," says Key, Sato's race engineer at Jordan in 2002.





Alonso ambush

"IT WAS ON THE LAST LAP
WHEN I WAS ON NEW TYRES
- HE'S A GREAT DRIVER
BUT HE WAS ON A
DIFFERENT STRATEGY.
IN MY JOB WE HAVE TO GO
100 PER CENT, NOT WAIT
FOR A WORLD CHAMPION!"

KOBAYASHI LINES HIM UP...

It's the final lap of the European Grand Prix in Valencia. Kobayashi, on his fourth lap on option tyres after a late pitstop, gets a run on Alonso on the long drag to Turn 17. He closes rapidly on the Ferrari driver as they approach the second-gear right hander.

...AND DIVES PAST

After tucking in behind Alonso's wing, Kobayashi dives to the inside at the last moment. He catches a slide shortly after turn-in and, after Alonso gives him space, gets the car stopped in time to hit the apex ahead of his rival. A few corners later, he would also pass Buemi.



is that they are both incredibly hard drivers — they can overtake in places where others don't even think of it. It's difficult to say it's a cultural thing, but the strong racing instinct is similar. They will go for it regardless of who is ahead."

But the overtaking isn't the most impressive thing about Kobayashi. What has grabbed the attention of those paying close attention is his ability to deliver. The bedrock of his late-race charge in Valencia was an outstanding long stint on prime tyres, holding third for over 40 laps before pitting with four laps to go. It was the same at Suzuka, where he passed both Adrian Sutil and Jaime Alguersuari early on after starting on the hard tyre. As Key puts it: "We know that we can rely

on him to pull it out of the bag when it matters."

Add that to his overtaking ability, some inspired first laps and the capacity to turn around a bad weekend — his ninth place from 23rd on the grid after struggling badly at the Hungaroring is testament to that — and you have many of the key ingredients of a genuine star. Next year will reveal whether he has the technical know-how to lead a team — and Key is

quick to praise how well he has progressed on that score — with rookie team-mate Sergio Perez taking the seat filled by old hands Pedro de la Rosa and Nick Heidfeld this year. There is also the question of whether he has the raw speed to be a star, the three tenths that separate the good from the great.

Dive on Barrichello

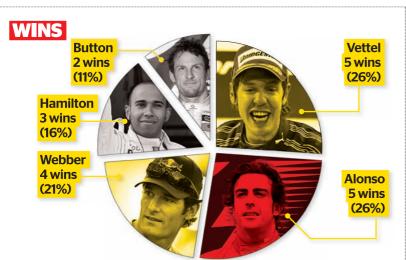
at home in Japar

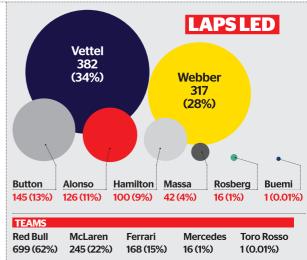
If he has that, then you might just have witnessed the genesis of Japan's first true F1 superstar.

Passing move at Turn 17

SEASON NUMBERS

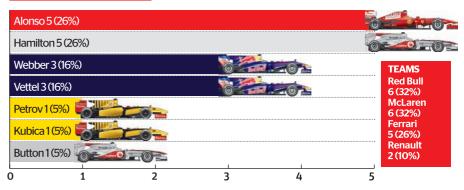
After 19 grands prix made up of 1129 racing laps, here's how F1 2010 unfolded. By ANDREW VAN DE BURGT

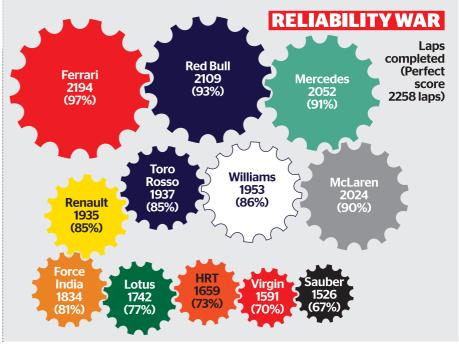




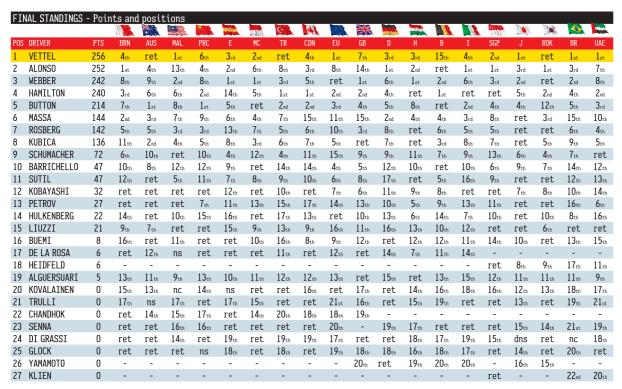
Vettel 10 (5%) Ferrari 2 (11%) Webber 5 (26%) Alonso 2 (11%) Hamilton 1 (5%) Hamilton 1 (5%)

FASTEST LAPS



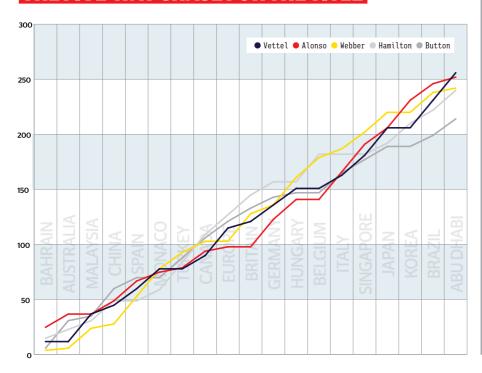


SUPER GRID



FI	NAL STANDINGS	- Poin	its and		tions																
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1	RED BULL	498	16	2	43	12	40	43	15	22	25	31	23	40	18	20	33	43	0	43	29
2	McLAREN	454	21	33	12	43	10	10	43	43	33	30	22	3	25	18	12	22	18	22	33
3	FERRARI	396	43	27	6	14	26	20	10	15	4	0	43	30	12	40	26	15	40	15	7
4	MERCEDES	214	18	11	15	16	12	6	22	8	1	17	6	0	14	12	10	8	12	14	12
5	RENAULT	163	0	18	12	16	4	15	8	6	10	0	7	10	17	4	6	0	10	2	18
6	WILLIAMS	69	1	4	1	0	2	0	0	0	12	11	0	9	0	7	10	2	7	4	0
7	FORCE INDIA	68	2	6	10	0	6	6	2	3	8	4	0	0	11	0	4	0	8	0	0
8	SAUBER	44	0	0	0	0	0	0	1	0	6	8	0	8	4	0	0	10	6	1	0
9	TORO ROSSO	13	0	0	2	0	1	1	0	4	2	0	0	0	0	0	0	1	0	0	2
10	LOTUS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	HRT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	VIRGIN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

THE FIVE-WAY CHASE FOR THE TITLE





8= Kovalainen 7.11

8= Button 7.11

10 Senna 6.72



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M1210P

AMBITION IS NO

McLaren AUTOSPORT BRDC Award winners Alexander Sims and Dean Smith received their

ormula 1 is an obsession to many young racing drivers. Even the first chance to test an F1 machine is the culmination of years of toil on the career ladder.

And for two decades the McLaren AUTOSPORT BRDC Award has been offering one British hopeful the chance to get their first taste of the pinnacle of the sport every year.

McLaren is pretty selective about who it puts in its cars, as you'd expect from a team that has won the constructors' world title eight times. Last month, on Silverstone's revamped Southern circuit, 2008 Award winner Alexander Sims and his successor Dean Smith got their first F1 runs, in the very MP4-23 used by Lewis Hamilton to win the 2008 British GP



DEAN SMITH - Silverstone, November 5, 2010

n a typically cold and damp Silverstone November day, Smith finally gets his first F1 chance. It might be grim, but the GP3 driver's family and friends still brave the elements to see the 22-year-old realise an ambition.

After a brief run, Smith asks for a set-up change, only for the rain to strike once again. Unsurprisingly, it doesn't seem to dampen his spirits. "Awesome, absolutely awesome — it's a monster of a machine," are among the first words he utters back in the makeshift garage.

"When I first got in I thought I was sitting a bit too low but it was fine — it's just awesome to be in the car."

Smith is soon able to get over his

excitement at driving an F1 car for the first time and get down to business.

"Straight away I just got my foot down on the straights to get the confidence and then every lap I just tried to go a little bit quicker," he says. "My approach was to do a good job and build my confidence. I didn't want to go too fast too soon."

Mark Williams, McLaren's head of vehicle engineering, is an Award judge and also oversees the tests. It's fair to say he is impressed — just over a year ago Smith was still a Formula Renault 2.0 driver, winning the UK title.

"Dean was very confident — he was very smooth, looked great on track, and built up to it nicely," says Williams. "He was a bit unlucky — he made a set-up change and then it rained."

It may be tempting to take lap times, but for Williams that's not the point of the tests. "We don't take any times," he confirms. "It's for them to experience the car and the family to see them in a Formula 1 car.

"Some of them will make it to F1, some of them won't, but they've worked hard through the Award to get there and it's so nice to make these people happy. Even though it's the day job, we know these young guys have dreamt about this moment since the first time they sat in a car.

"We need to put something back and it brings it all home to us why people want to watch F1 and why people want to go up the ladder in motorsport."



W REALITY



McLaren F1 prize tests at Silverstone. KEVIN TURNER reports

Sims presses on in ex-Hamilton racer





ALEXANDER SIMS - Silverstone, November 4, 2010

when you're getting your first experience of over 700bhp.

The F3 Euro Series frontrunner has driven a DTM Mercedes (in the Award tests) and a GT1 Aston Martin (an Award prize), not to mention a 600bhp 1970s F5000 Lola, and soon gets into the groove. "It felt like F3, just a step further in performance," he says calmly after climbing out. "It's a surprise when you first go out, but after three or four laps I started thinking about where I could brake later.

"I was braking in the same places as F3 but going 40-50mph quicker when I arrived. I hear lots of people say the braking is more impressive than acceleration. It was just bloody awesome – it does everything you want it to do, it's so refined.'

In true racing-driver fashion, Sims is soon frustrated by the 'demo' tyres he has to use, as he searches for more

performance. "The downforce was mega, but it was difficult because the tyre compound is so soft that on lap two or three the tyres started to grain up," he says. "I couldn't believe I was pushing hard enough to do that after three laps but they were graining!"

All too soon the run is over – the six 2010 finalists are waiting to get to grips with Formula 2 machinery for their evaluations and their chance to follow in Sims's wheeltracks - but the McLaren has left a deep impression. "It's mad," says Sims. "It's a spaceship turn it upside down and you'd fly!"

Fortunately, the driver has also sent the team the right signals. "Alexander was fantastic, he settled in really quickly," says Mark Williams. "He was an Award finalist in my first year as a judge so it was quite emotional for me."

This weekend – at the AUTOSPORT Awards at Grosvenor House in London the 22nd McLaren AUTOSPORT BRDC Award winner will be named, and another young British talent will get their first F1 chance.

.....



DEAN SMITH

AGE: 22

2010: Seventh in GP3 with Carlin **BACKGROUND:** Despite being a Formula BMW UK champion and runner-up in Formula Renault UK, Smith almost gave up on single-seaters in 2009. He started the year in the Porsche Carrera Cup, but switched back to FRenault UK with Manor in time for the second round. He went on to take the title before beating James Calado, Adam Christodoulou, James Cole, Callum MacLeod and Chrissy Palmer to the Award. He showed flashes of form in GP3 with Carlin this year and is now considering GP3, FRenault 3.5 and touring car options.

.....



ALEXANDER SIMS

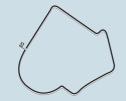
AGE: 22 2010: Fourth in F3 Euro Series with ART Grand Prix **BACKGROUND:** Sims was

selected for the 2008 Award after finishing a close second to Adam Christodoulou in Formula Renault UK, driving for Manor. He beat Christodoulou, future

F2 champion Dean Stoneman, Wayne Boyd, Jason Moore and Aaron Steele to the prize before graduating to Euro F3. A strong rookie year with Mucke led to a switch to the crack ART squad for 2010, but it was a frustrating year. Now looks set to race in GP3 or GP2.

SHANGHAI

CHINA November 26-28 Round 11/11



AT A GLANCE

- → Winner Gary Paffett
- -> Pole position Paul di Resta
- → Fastest lap David Coulthard





A perfect recipe from the HWA Mercedes squad meant that Gary Paffett won the race and team-mate Paul di Resta flew home with the championship



QUALIFYING

Spengler spoils it for himself, as Britons dominate



All four segments of qualifying were red flagged due to crashes on Saturday, so in the end the results of Q3, which was red flagged just as time ran out, set the grid. While Paul di Resta and Gary Paffett did their title chances a lot of good by locking-out the front row, championship

leader Bruno Spengler had a torrid time.

The Canadian crashed in free practice, and then hit the wall again in Q1. All drivers were allowed through to Q3 following the red flags, but when Spengler rejoined his car was pulling to the right slightly, leaving him down in a disastrous 17th place.

ercedes executed the perfect plan in Shanghai last Sunday. Gary Paffett took the final victory of the season, while Paul di Resta followed him home to take the title after Bruno Spengler threw it away.

When Spengler hit the self-destruct button on Saturday by crashing in free practice and again in qualifying, the door was open for Paffett and di Resta. The Scot only needed to make up a three-point gap to Spengler, while Paffett was nine adrift.

With that in mind, Mercedes came up with a gameplan to give both Brits the best chance of taking the title. It played safe with di Resta, while allowing Paffett a riskier strategy to chase the win.

A safety car start and orders to the whole field to take it easy in the early laps meant that di Resta didn't have much to worry about as he led from pole position. But a slow pitstop (his third of the year) plus some fast laps from Paffett meant that he had no chance of hanging on to the lead. Not that he was bothered.

"I played it safe today, and the strategy was designed for me to come second," admitted the new champion. "Gary needed to win the race so he had to be more aggressive. We had to stop early because there was a high chance of a safety car, so we wanted to be first to have stopped if that was the case. I didn't have to win the race today, I just needed the championship."

Di Resta brushed his race off as pretty straightforward afterwards, and that was no mean feat considering the circumstances. The bumps and slippery white lines of the track had caused problems all weekend, but di Resta never really put a wheel out of line, save for the odd slide that he had under control. He even felt happy in the closing stages, when the Audis of Timo Scheider and Martin

RACE RATING

Everyone was so afraid of it turning into chaos that it was actually quite tame in the end

"Mr Coulthard is in charge of the party, so I'm glad I booked a late flight for Monday!"

Paul di Resta hints at some pretty big championship celebrations

REPORT DTM SHANGHAI



Glenn Freeman reports

KEY MOMENTS

QUALIFYING Spengler crashes in Q1, leaving him 17th on the grid LAP 18 Di Resta has a slow stop, handing Paffett the lead LAP 33 Tomczyk/Green scrap leaves Scheider in clear third

Tomczyk closed in. He could have let them go, but didn't feel the need to.

"I wasn't worried about the Audis, I didn't think Timo was going to get by me," said di Resta. "I knew that he wouldn't do anything silly as well, so I felt comfortable with him behind me and I was in a good rhythm."

Scheider was on a mission after a monumental crash in qualifying that he felt cost him any chance of victory. But, in the end, di Resta didn't have to hold the outgoing champion at bay for too long, as a clash between Susie Stoddart and Mike Rockenfeller brought out the red flags with six minutes still on the clock. As di Resta celebrated his title, Paffett's victory was enough for him to overhaul Spengler for second.

"My weekend was all about aiming for the win,"





said Paffett. "When Paul pitted for the first time I pushed really hard to get in front. Once we were there it was just a case of doing enough to stay ahead. There were different circumstances for me and Paul today, and the team worked out the best strategies for each of us."

While it was all smiles at the front, Spengler finished the day 13th, and two places worse off in the title race.

"It was a terrible weekend really," said Spengler. "We all knew it was going to be a lottery here, so I don't think this was the right race to have as the final. But it was the same for everyone, and I made a mistake. It hurt my chances when they told us to be very careful, because I couldn't take many risks, and I knew there wouldn't

be crashes ahead of me."

Spengler lacked pace as well, as he battled an understeering car that he suspected was not 100 per cent after two trips into the wall on Saturday. And as he hobbled round in the middle of the race after gambling on pitting early, he inadvertently held up David Coulthard.

The ex-Formula 1 star looked strong all weekend, but he had to use all of his skill to avoid running into the back of Spengler when the Canadian emerged from the pits a lap down. After that, Coulthard was stuck behind an uncooperative Mercedes C-class, losing valuable time in his quest for some points.

Coulthard cost himself a couple more places by stalling at his second stop, meaning he rejoined the race in 10th. That became ninth when Oliver Jarvis got some debris stuck under his left-front wheel, and Coulthard then put a move on two-time champion Mattias Ekstrom at Turn 2 to steal his first DTM point.

"We've wasted some good opportunities this year, so to get a point in the last race is great," said Coulthard. "I was a bit frustrated with Bruno, and then [Miguel] Molina passed me into Turn 2. But if he could do it to me, then I knew I could do it to Ekstrom. Plus I think the team would have killed me for stalling if I hadn't got back in the points!"

Molina's move on the Scot was an opportunistic one, which summed up his race. He went for a very long first stint, which allowed him to jump Jamie Green and Markus Winkelhock. And were it not for delays in traffic, the Spaniard felt he could have been on the podium. After a rookie season like he's had, that's surely only a matter of time. M

DC took his first DTM point – and fastest lap

RESULTS DTM, Shanghai (PRC), November 26-28, round 11 of 11

GRID		Ш
1 DI RESTA		
58.937	2 PAFFETT	
3 GREEN	59.045	
59.218	4 SCHEIDER	Ι.
5 W'ELHOCK	59.277	
59.301	6 COULTHARD	١.
	59.322	١.
7 MOLINA 59.431		
37.431	8 TOMCZYK 59.483	Ι.
9 EKSTROM	37,403	
59.522	10 JARVIS	
11 S'MACHER	59.573	
59.678	12 STODDART	
13 R'FELLER	59.750	
59.763	14 LEGGE	١.
IF FHEFE	1:00.084	
15 ENGEL 1:00.114	16 CHENG	
	1:00.381	
17 SPENGLER 1:01.010		
1.01.010		

49 L <i>i</i>	APS, 75.052 MILES				
POS	DRIVER (NATIONALITY)	TEAM	CAR	RESULT	GRID
1	Gary Paffett (GB)	HWA	Mercedes C-class (2009)	51m57.657s	15
2	Paul di Resta (GB)	HWA	Mercedes C-class (2009)	+3.751s	1
3	Timo Scheider (D)	Abt Sportsline	Audi A4 (2009)	+4.212s	2
4	Martin Tomczyk (D)	Abt Sportsline	Audi A4 (2009)	+5.341s	10
5	Miguel Molina (E)	Abt Sportsline	Audi A4 (2008)	+16.306s	7
6	Jamie Green (GB)	Persson Motorsport	Mercedes C-class (2008)	+18.152s	9
7	Markus Winkelhock (D)	Team Rosberg	Audi A4 (2008)	+19.469s	12
8	David Coulthard (GB)	Mucke Motorsport	Mercedes C-class (2008)	+21.835s	3
9	Mattias Ekstrom (S)	Abt Sportsline	Audi A4 (2009)	+23.554s	6
10	Ralf Schumacher (D)	HWA	Mercedes C-class (2009)	+24.182s	16
11	Susie Stoddart (GB)	Persson Motorsport	Mercedes C-class (2008)	+35.086s	14
12	Mike Rockenfeller (D)	Team Phoenix	Audi A4 (2008)	+35.319s	4
13	Bruno Spengler (CDN)	HWA	Mercedes C-class (2009)	+36.120s	17
14	Katherine Legge (GB)	Team Rosberg	Audi A4 (2008)	+39.710s	13
15	CongFu Cheng (PRC)	Mucke Motorsport	Mercedes C-class (2008)	+47.386s	18
16	Maro Engel (D)	Mucke Motorsport	Mercedes C-class (2008)	+1 lap	5
R	Oliver Jarvis	Abt Sportsline	Audi A4 (2009)	+2 laps	8
NS	Darryl O'Young (HK)	Team Phoenix	Audi A4 (2008)	car damaged in qualifying	-

CHAMPIONSHIP TABLE								
POS	DRIVER	PTS						
1	di Resta	71						
2	Paffett	67						
3	Spengler	66						
4	Scheider	53						
5	Ekstrom	35						
6	Green	32						
7	Rockenfeller	22						
8	Tomczyk	20						
9	Jarvis	18						
10	Molina	15						

KEY R=Retired Winner's average: 86.663mph. Fastest lap: Coulthard, 59.189s, 93.160mph.

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Round 9/10

RACE RATING
★★★★★

Great racing featured superb pass by Negrao to secure deserved comeback victory





ome heroes
Enrique Bernoldi
and Xandi
Negrao gave the
Interlagos faithful
something to
cheer about with a storming
victory in the penultimate
round of the FIA GT1 World
Championship last Sunday,
bouncing back from a
qualification-race penalty.

Used to the intense late-November heat and the abrasive Interlagos asphalt, the local Vitaphone Racing Maserati MC12 pair was on course for victory in the qualification race until the mandatory pitstops. Darren

Turner had kept his Young Driver AMR Aston Martin in touch with early leader Negrao, and his crew sent team-mate Tomas Enge on his way ahead of the Brazilian-crewed Maserati.

Even worse than the slower pitstop, Bernoldi was given a drive-through penalty because one of his mechanics threw the old tyres into the pit box after the change, rather than placing them on the ground as per the regulations. Back in full-attack mode, the ex-Arrows F1 driver passed Dominik Schwager's Lamborghini for fourth at

Juncao, but ran out of laps and rubber to make the podium.

Enge finished nine seconds clear of Michael Krumm/Peter Dumbreck's Nissan and the Hexis Aston Martin of Clivio Piccione and Jonathan Hirschi.

Aware that the weather was even hotter for the main event, Vitaphone raised the rear ride height and softened the suspension to ease tyre wear. Enge held onto his pole-position advantage at the start, but couldn't get away from a chasing Dumbreck. After fighting hard early on with Piccione for third, Bernoldi opted to keep a watching brief in fourth, knowing that Negrao would enjoy new tyres for the second stint.

A slow tyre change from the Nissan crew dropped Krumm to sixth, promoting the Maserati to third. After two laps on his fresh rubber, Negrao passed Hirschi for second and chased down Turner. The Englishman held on for the next 11 laps, but couldn't hold Negrao at bay as he muscled past down the inside of Bico de Pato. The cars made contact, but the drivers agreed the move was quite aggressive but fair.

"I had no other choice as the Aston Martin was faster in the straights," said Negrao. "I saw the gap and went for it." Turner admitted: "It was a fair move. It's usual to have this kind of contact with such a similar performance from the cars."

The Phoenix-run
Corvette of Marc Hennerici
and Alex Margaritis
finished third, a good
comeback after the Greek
was spun around by Nicky
Pastorelli's Lamborghini in
the qualifying race.

Championship leaders
Andrea Bertolini and
Michael Bartels qualified
down in 19th, but came
through to finish ninth and
head to the final round in
Argentina with a 28-point
advantage. Enge/Turner are
now their nearest rivals
after Matech Ford driver

Thomas Mutsch suffered a fraught weekend, taken out by Frank Kechele's Lamborghini in the qualifying race and spinning to 14th in the main event.

• Lito Cavalcanti

RESULTS

QUALIFICATION RACE 1 Tomas Enge/Darren Turner (Aston Martin DBR9), 38 laps in 1h01m33.367s; 2 Peter Dumbreck/Michael Krumm (Nissan GT-R), +9.032s; 3 Clivio Piccione/Jonathan Hirschi (Aston); 4 Enrique Bernoldi/Xandi Negrao (Maserati MC12); 5 Dominik Schwager/Nicky Pastorelli (Lamborghini Murcielago R-SV); 6 Alex Margaritis/Marc Hennerici (Chevrolet Corvette C6.R).

CHAMPIONSHIP RACE 1 Bernoldi/ Negrao, 38 laps in 1h01m23.296s; 2 Enge/Turner, +2.348s; 3 Hennerici/ Margaritis; 4 Piccione/Hirschi; 5 Maxime Martin/Bas Leinders (Ford GT); 6 Dumbreck/Krumm; 7 Schwager/Pastorelli; 8 Neel Jani/ Nicolas Armindo (Ford); 9 Andrea Bertolini/Michael Bartels (Maserati); 10 Altfrid Heger/Alex Muller (Maserati). POINTS 1 Bertolini/ Bartels, 132; 2 Enge/Turner, 104; 3 Hennerici, 99; 4 Mutsch, 94; 5 Margaritis, 84; 6 Kechele, 83.





INTERNATIONAL **RACES & RESULTS**

RoC Nations' Cup Dusseldorf

QUICK RESULTS

- Winner Team Germany

Runners up Team GB
Semi-finalists Benelux/France

RACE RATING ****

No real 'racing' but plenty of action to keep the crowd entertained

NATIONS' CUP DUSSELDORF (D), NOVEMBER 27

Schuey is a winner again

fter Paris, Wembley and Beijing, the Race of Champions moved to a new home in Dusseldorf this year. Inevitably the event turned into a love-in between the local fans and Sebastian Vettel and Michael Schumacher, and everybody else was just the support act.

With the venue within easy reach of the home towns of both men, a noisy and partisan crowd was assured at the Esprit Arena, a football stadium with a handily retractable roof. And with the commentators stirring up the passion the two world champions delivered what was expected, giving Germany its fourth consecutive victory in Saturday evening's

Nations' Cup event.

The group stages whittled the teams down football style from eight to four contenders. The GB boys emerged top in Group A as Andy Priaulx won all three of his races, defeating among others Sebastien Loeb (in unhandy NASCAR stockers!), while Jason Plato chipped in by beating event newcomer Alain Prost. Despite losing both their contests with the Brits. Prost and French team-mate Loeb also went through, knocking out Nordic pair Tom Kristensen and Heikki Kovalainen on a tie-break of race times.

Group B was all about Schumacher and Vettel, although they didn't have it all their own way. The group was won by the surprise Benelux package of Jeroen Bleekemolen and Bertrand Baguette, chosen for the event by a public internet vote. The Indycar racer was particularly impressive, beating Schumacher after the German clipped a wall.

Incredibly, in his three races Vettel lost out to two X-Games specialists, the USA's Travis Pastrana and the All Star team's Tanner Foust, and yet Germany just squeezed out the Americans on the tie-break.

Team GB sailed through the first semi-final as Plato and Priaulx repeated their earlier wins by beating Prost and Loeb. Recovering from their wobbles in the

heats, the Germans then safely dispatched the Benelux boys.

So it was England (including Guernsey!) v Germany – in a football stadium - in the final.Schumacher beat Plato in the first leg, but Priaulx fought back to take Vettel in the second. So it was down to the last race of the night, the equivalent of a penalty shootout, between Priaulx and Schumacher.

Schumacher had the advantage of having driven buggies all night whereas Priaulx had chopped and changed. At halfway it was a dead heat, but Michael edged ahead to win and bring the house down.

Adam Cooper

IN BRIEF

BRAZILIAN GT3

Wagner Ebrahim dominated both rounds of the final Brazilian GT3 Championship meeting, held last weekend at Interlagos. Ebrahim waited until poleman Antonio Pizzonia pitted his Ferrari F430 for new tyres to jump into the lead, winning by over 8secs from the F430 driven by 2009 champions Rafael Derani and Claudio Ricci, a result repeated in race two.

SOUTH AFRICAN V8

Deon and Marc Auby, driving Holden and Jaguar respectively, were the winners in the final races of the season at Kyalami last weekend. New champion Brandon Auby skipped the event to compete in the visiting Superstars International series.

SA PRODUCTION

Third in the first sprint race was enough to give BMW 330i driver Anthony Taylor the title at the Kyalami finale. Hennie Groenewald (Subaru Impreza) won that sprint, with Reghardt Roets (BMW) winning the second sprint as well as the feature race.

NEW ZEALAND V8s

Leading Ford drivers Kayne Scott and Tim Edgell lost race victories at Ruapuna due to 10-second penalties for exceeding the 70km/h speed limit before the lights changed on the rolling start. Craig Baird inherited race one, John McIntyre took race two and Andy Knight (below) claimed the reversed-grid finale.







- 1 Sebastian Vettel <> 24,200
- 3 Sebastien Loeb

 ⇔ 21,754
- 4 Fernando Alonso <> 20,467
- 5 Lewis Hamilton <> 19,217

Ranking the world's best drivers

WHAT HAPPENED THIS WEEK

Gary Paffett's DTM win at Shanghai made him the big mover in the top 100 as he gained six places to lie 57th. Bruno Spengler's (54) disastrous weekend dropped him six spots while a World GT1 win for Xandi Negrao (530) at Interlagos elevated him 147 places.

To see the full list, visit castroldriverrankings.com

Race of Champions
Dusseldorf

QUICK RESULTS

- -> Winner Filipe Albuquerque
- Runner up Sebastien Loeb
- -> Semi-finalists Vettel/Priaulx

RACE RATING

More of the same only with a far more surprising winner

Loeb salutes surprise

winner Albuquerque

REPORTS WORLD OF SPORT

RACE OF CHAMPIONS DUSSELDORF (D), NOVEMBER 28

Albuquerque shock

hile everything went to plan on Saturday night as the German team won the Nations' Cup, there was a far from expected result in Sunday's individual event. Sometime Red Bull Formula 1 tester Filipe Albuquerque emerged from the obscurity of the Italian GT series to beat everyone fair and square, the Portuguese not putting

hile everything went to a foot wrong all afternoon.

There was drama in the very first heat of the day when Heikki Kovalainen had a huge crash in an Audi R8. He tapped the wall and his suspension broke just after he crossed the finish line behind Sebastien Loeb. The Finn was briefly knocked out (see News), and was thus out of action for the rest of the day.

With Kovalainen out, Loeb and Bertrand Baguette progressed from Group A. In Group B touring car hero Andy Priaulx added to his five wins in Saturday's Nations' Cup by winning all three of his heats, while Tom Kristensen joined him in the next round.

Albuquerque showed his hand when he won all of his races in Group C, inflicting a narrow defeat on Sebastian Vettel, but wins over Tanner Foust and Carl Edwards got the world champ through.

Schumacher won all three of his Group D races, including a contest with Alain Prost that was full of historical resonance as the holders of 11 titles competed against each other for the first time since Adelaide 1993. Alvaro Parente also made it through.

After a spectacular tyre-smoking demo in the Red Bull by Vettel revved up the crowd, the pressure was on for those in the suddendeath quarter-finals. Loeb just edged out Kristensen in the first, and then Priaulx beat Baguette in the second. An all-Portuguese contest in the third quarter saw Albuquerque ace Parente.

Vettel's failure to win his group meant that he met Schumacher prematurely in the quarters for what always going to be the big race of the night. Michael just led at the halfway mark, but the younger man edged clear to win.

In the first semi Loeb beat Priaulx before crashing his Audi after the line, albeit not as spectacularly as Kovalainen's earlier effort. And then in a superb effort Albuquerque pipped Vettel by less than a length, leaving the best-of-three final without a local hero.

The Portuguese driver's amazing progress continued as he won the first leg, only to lose by a few centimetres in the second. Incredibly in the deciding race he fought back to beat three-time winner Loeb.

Adam Cooper





Biagi maxes it as Herbert wins

talian Superstars champion Thomas Biagi added the International title to his 2010 collection as he and Johnny Herbert shared the race wins at Kyalami.

The former FIA GT champ had arrived in South Africa with a healthy 41-point lead over Luigi Ferrara, so eighth place in the rain-hit first race was enough to seal the crown. Biagi (BMW M3 E92) then celebrated in fine fashion with victory in race two.

Ferrara edged Herbert for pole as Biagi, hamstrung with 60kg of success ballast, was more than a second off the pace.

Race one started out dry and turned into a dice between Herbert's Chevrolet Lumina and the Mercedes C63 of Ferrara. But things turned in the ex-F1 ace's favour when a Highveld storm came along and soaked the circuit. Ferrara made a mistake and couldn't challenge Herbert.

Biagi's underwhelming first-race result conveniently earned him reversed-grid pole for race two, and the Team BMW Italia driver took full advantage as engine trouble forced Herbert's Chevy out of the race. Biagi had a poor start and dropped to fourth, but he picked off his countryman Max Pigoli (Mercedes) to win. Audi driver Alberto Cola then demoted Pigoli to a distant third.

South Africa's new V8 champion Brandon Auby skipped his own series' finale (which ran on the same bill) to join Herbert in the Motorzone squad. Auby qualified fourth but spun out of third in race one and retired from race two with gearbox trouble.

Richard Asher

RESULTS

Race 1 1 Johnny Herbert (Chevrolet Lumina CR8), 15 laps in 27m48.411s; 2 Luigi Ferrara (Mercedes C63), +2.286s; 3 Ermanno Dionisio (Audi RS4); 4 Francesco Sini (Mercedes); 5 Alberto Cola (Audi); 6 Max Pigoli (Mercedes). Race 2 1 Thomas Biagi (BMW M3 E92), 15

1 Thomas Biagi (BMW M3 E92), 15 laps in 28m08.340s; 2 Cola, +3.118s; 3 Pigoli; 4 Ferrara; 5 Luca Cappellari (BMW); 6 Sini. **Points 1 Biagi**, 170; 2 Ferrara, 132; 3 Pigoli, 115; 4 Cola, 109; 5 Fabrizio Giovanardi, 77; 6 Gianni Morbidelli, 174.





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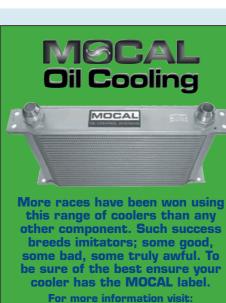












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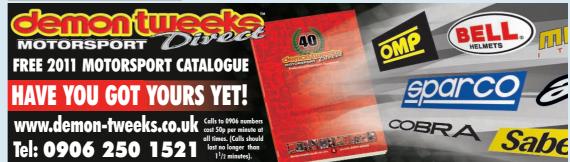
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You will be responsible for performing aerodynamic, cooling and heat management experiments on static rigs and test vehicles at McLaren Technology Centre and at test facilities around Europe. You will be involved in the selection of instrumentation, design of experiment, testing, analysis and reporting in close collaboration with aerodynamicists and thermodynamicists. Applicants will have experience of wind tunnel or thermal rig testing and associated instrumentation, along with a strong engineering degree in fluid mechanics/thermodynamics and be confident working remotely within a small team.

CONTROL SYSTEMS ENGINEER

You will be responsible for control systems strategy and implementation across McLaren Automotive's super-sports car projects. Candidates will be able to demonstrate an exceptional understanding of mechanics and dynamics having achieved a top class engineering degree and be proficient simulating complex systems in Matlab or similar in order to create robust control strategies and develop their calibration with extensive rig or vehicle testing. You will be willing to travel frequently to test sites across Europe and be confident working within a remote, focussed team.

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750 Motor Club launches new diesel Golf series, **p88**

Sports - X 16



Growing Classic Sports Car Club announces races for German cars of the 1990s

THE CLASSIC Sports Car Club will host more doubleheader meetings for 2011 after introducing another category, and deciding to split its burgeoning Swinging Sixties series.

The new Deutsche Marque Series will cater for cars from German manufacturers built after 1990, while the Swinging Sixties entry will be split over two races, for cars of over and under two litres, at most 2011 meetings.

The number of series, along with regular guest slots, means that CSCC events will now mostly take place over two days, instead of one.

Despite the difficulties experienced by some clubs, the CSCC attracted strong grids this season, and its membership increased by around a third, to over 800.

NEW INITIATIVES

Club competitions director Hugo Holder confirmed the Deutsche Marque Series has grown out of the successful Future Classics category, launched in 2007. "Future Classics has been a great success and we were continually receiving requests from owners of more modern cars to join," he said. "This wasn't possible, but we realised the vast majority of the requests were coming from owners of cars from German manufacturers so we have decided to concentrate on that."

The series will be split into three classes. Class A will be for normally aspirated entries below 2.5-litres, Class B will cater for 2500cc to 2999cc cars and turbocharged machines of under 2000cc, while larger cars will appear in Class C.

Races will be run over 40 minutes, with a pitstop, for one or two drivers.

Normal CSCC stipulations, such as the use of standard bodyshells and the banning of sequential gearboxes, will also apply. The original type of road engine must be retained and cars must run on List 1A or 1B tyres; slicks are not allowed.

The series will appear at most of the club's 2011 dates, including Snetterton 300 and Spa. The CSCC hopes to attract VWs, Porsches, Audi TTs and A4s,

BMW 3- and 5-series, and Mercedes.

Holder also confirmed that the club's established Swinging Sixties Series will get two races per weekend due to high entry levels. Certain smaller-capacity cars, such as the Marcos 1800GT, will be put into the larger-capacity group on performance grounds. Lotus 7 racers will also get an extra 30-second pitstop penalty as Holder believes they tend to allow faster stops than closed cars.

"Domination by one type of car, or one driver, is never good for a series," he said.

REASONS TO BE CHEERFUL

As well as keeping the rules simple, Holder believes there are two other reasons for the club's continued success: "The first is the type of racing we offer – 40min races give good track time.

"It's also value for money. We keep costs down and put money back for the competitors. We put on meetings that are a big draw, like Spa and the Nordschleife."

The new-for-2010 Classic K series has been the CSCC's weakest category, with grid sizes of around 20. Holder points to the restrictive FIA Appendix K rules, which are different to the more open regs of most of the club's series, but believes tight controls will attract more entries.

"People complain about cars that should be the same as theirs blowing past them in other series," he said. "We speak to our competitors and people are talking about coming with us."



THE CLASSIC Sports Car Club doesn't shout much. It quietly gets on with running popular meetings that attract an ever-increasing number of competitors.

Club competitions director Hugo Holder points to the track time and value for money on offer as two key factors behind the club's success. Listening to the drivers – and introducing a new series to cater for a desire that is there rather than coming up with an idea and then drumming up interest in it – must help as well.

The CSCC's approach to regulations is also one of its strengths. For most of its series, the rules are simple, covering the need to stick to original body shapes and engines, and avoiding slicks. It means a wide pool of cars is eligible, and there should be little bickering because it's easy to police.

Classic K is different. Cars running to FIA Appendix K regs are accepted everywhere, but some organisers allow competitors to stray further from the rulebook than others. By being strict about it, the CSCC hopes to attract some of those who can't or won't spend a fortune 'enhancing' their Appendix K machine. And that is surely a good thing.

While we're on the subject of success, congratulations to Stefaan Stouf for winning the seventh Roger Albert Clark Rally. We don't report on many club rallies, but the RAC is a bit special, so turn to page 93 to read David Evans' account of how the Belgian beat the favourites.

Extra contact details

Ben Anderson, editorial assistant ben.anderson@haymarket.com

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THE 750 Motor Club will launch a new one-make series for diesel-engined Volkswagen Golfs next season.

The Golf 175 GTD series will be the first in the UK dedicated entirely to diesel-motivated machines. The category will cater for Mk4 GTDI 130 Golfs, built between 1999 and 2003.

All cars will have to be fitted with a bespoke racing upgrade kit, including

Miltek exhaust, Revo Technik ECU, Bilstein suspension, cut slick tyres and safety equipment. The engine upgrade should take power up to around 200bhp and ready-to-race cars should be available for around £12,000.

The new series is backed by motorsport supplier Demon Tweeks on a four-year contract and will run for six races in 2010, starting mid-season. The Golfs will run initially on the same grid as the club's new BMW Z3 category. The cars will also be eligible for 750 Motor Club Allcomers events, which will return after a successful debut in 2010.

AHS boss Alan Harding, who also runs cars successfully in Formula Vee, is heading up the project. He said the club hopes this new series will fill the void left by the defection of John Hillon's Mk2 Golf GTI series to MSVR in 2010.

"Obviously we lost the Golf series,

which was very popular," said Harding. "But there is very little out there for the diesel [cars].

"I'm hoping it's going to be strong with the sponsorship we've got behind it. Pie in the sky would be 12 cars for next year that would be like winning the lottery.

"This will be true 750 Motor Club racing. If we can get rid of six [upgrade] kits by mid-season, I think that would be very achievable."

Ginetta GT Supercup

Foster eyes G55 move for 2011

FORMER AUSTRALIAN F3 champion Joey Foster is eyeing a move into the rebranded Ginetta GT Supercup in 2011.

The three-time Walter Hayes Trophy FF1600 winner has only raced sporadically since winning the Aussie F3 title in 2009, and contested an Allcomers Closed Wheel support race at this year's Walter Hayes meeting at Silverstone in a Ginetta G50.

Subject to sponsorship, Foster is planning to move into the marque's

BTCC-supporting one-make GT championship next season with a new GT3-spec G55 run by GCR.

Foster said: "It's still early stages. Ginetta G55s would be ideal but it's such a large amount of money to upgrade the car - it's a bit of an issue.

"If we're going to do it, it would have to be the G55s - it's just a question of making it happen."

 Underfunded G50 frontrunner Chris Dittmann is unlikely to return to the category as a driver next season, unless his CDR team finds a major sponsor. He will instead focus on running his team and cars in both the G55 and G50 sections of the Supercup.

Ex-BTCC champ Biela launches new Audi GT4 concept racer in China

1996 BTCC champion Frank Biela demonstrated a new Audi TT GT4 concept car at the Shanghai DTM race last weekend. Customer versions are planned for 2012



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Group C/GTF

Le Mans racer Meyrick to team up with dad in Spice Group C car

RISING BRITISH sportscar driver Andy Meyrick is set to make guest appearances in the Group C/GTP Racing series next year.

The 25-year-old Briton, who finished fourth on his debut in the Le Mans 24 Hours this year with the ORECA team, is looking at sharing the Spice-Cosworth SE88C Group C2 car his father, Peter, purchased last month. The SE88C was purchased new by the French Graff

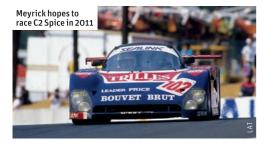
squad, and has been raced in historic events by Mike Jankowski.

Meyrick Jr, who has yet to fix his 2011 programme in international sportscar racing, said: "If there is the chance to do a couple of meetings that don't clash with whatever I'm doing next year, then I'd jump at it. I'd love to have a go in one of those cars.

"I've had a look at the car and it's a proper piece of kit, and it would be

good to race with my old man. We've been in the same race before, but never shared a car."

Historic single-seater ace Meyrick Sr is moving over to sportscars after winning the 2010 FIA Historic F1 crown. The March 761 he used to win the title is up for sale.



Formula Renault UK

Ford ace Ellinas eyes Renault

FORMULA FORD star Tio Ellinas is targeting a switch to Formula Renault UK for next year.

The Cypriot rookie won three races on his way to fourth in British Formula Ford with a JTR-run Mygale in 2010.

The 18-year-old tested with MTECH Lite, which is graduating to Formula Renault UK from the BARC series next year, at Donington Park last week.

Ellinas was supported by the Grand Prix Shootout in 2010 and the initiative's David Fleming hopes to continue assisting him in 2011. "We definitely want to do Formula Renault UK," said Fleming. "We want him to take a step up and for him to be in a seat where he can win the championship."

With fellow Ford ace Josh Hill having already made the switch to Formula Renault, and showing promise in the Winter Cup, Fleming believes that Ellinas can be competitive.

"We know where we are compared to Josh and he looked quite good at the end of the winter series," said Fleming, who confirmed Ellinas will test with other Renault squads in the coming weeks.



Porsche GT3 Challenge

Mini champ in switch to Porsche

SCOTTISH MINI champion Oliver Mortimer will contest the Porsche GT3 Challenge next season.

Mortimer secured his third Scottish Mini Challenge crown this year and has also taken two S Class titles in the England-based Mini Challenge. He will now make the step from front to rear-wheel-drive with the Tynecastle Racing squad, which ran him in Minis.

"I definitely want to do GTs - I've

been racing Minis for a long time now and I'm ready for a change," said the 27-year-old. "I'd love to do British GT and other two-driver stuff in future."

Although he will not start testing his 997 until January, Mortimer believes he can be a frontrunner in the GT3 Challenge. "I'd like to be on the podium for the first race, but I'm aware that we'll have quite a learning curve," he said.

MARCUS PYE

HUMBLE PYE

The voice of club motor racing



aving started my season in New Zealand, at Hampton Downs and Pukekohe, it was a delight to close it on the Tasman [Revival] trail, this time in Australia. My previous visit, in 2003, took me to the spectacular Phillip Island circuit outside Melbourne, but this time Sydney's challenging Eastern Creek course added another track to my log - now into the 70s.

While the Australian Racing Drivers' Club's home was not carved into Blacktown's hills in the Tasman Series' heyday (it's been open since the 1990s), many stars of the '60s and '70s celebrated at the invitation of the Historic Sports & Racing Car Association of New South Wales, which ran previous retrospectives in 2006 and '08.

Triple F1 world champion Sir
Jack Brabham and Ron Tauranac
were guests of honour who gave
entertaining interviews. With
dozens of his Brabham and Ralt
designs on track, Tauranac's genius
was self-evident. That he mingled
with owners, made razor-sharp
observations and offered friendly
set-up advice based on six decades
of experience made their weekends.

Niel Allen, Kevin Bartlett, John Goss and Frank Matich joined in as many great Australian drivers took part in Sunday's demonstrations. John Harvey's delight at being reunited with the Brabham BT30 he last raced in the 1972 GP at Sandown Park (the 2-litre Waggott engine will come later), courtesy of

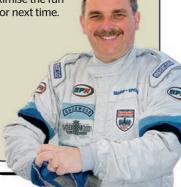
Mixing great sport with social occasions is something Antipodeans do better than anybody else"

American Bruce Hamilton III, was magical. As was the moment when Warwick Brown - the final Tasman champion of '75 - and Bruce Allison thundered onto the course in unison, in F5000 Lola T332s.

If there had been an award for superhuman effort, US engineer John Brundage would have been a unanimous recipient. His charge - Dudley Cunningham's car - was damaged too badly to continue in the second race and returned with a front corner badly savaged. Both wanted Brown to drive his old car - the prototype T332 run by Pat Burke Racing in period - but without a spare wishbone (a unique design) he faced an uphill struggle.

Extensive remedial work, coupled with borrowed parts and Aussie ingenuity – a fabricator cut, shut and remade the damaged part overnight – had the car ready for sub-race-speed action. And boy, did Warwick enjoy it. Both he and Bruce (in Stan Redmond's Tropicana Hotels car, which would win the afternoon feature) were instantly 'at home' in '70s pro-racing's 'blunderbusses' and alighted beaming. So enthused were they that there was talk of comebacks...

Mixing great sport with social occasions is something Antipodeans do better than anybody else. Note to self: send car and bring friends and family to maximise the fun factor next time.





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INBRIEF

GINETTA CHALLENGE champion George Murrells tested an Optimum



Motorsport G50 for the first time at Donington Park last week (left). "I'd like to race the new G55 next year and this

was an ideal starting point," he said.

FORMULA RENAULT Winter Cup champion Alex Lynn plans to contest New Zealand's Formula Toyota series over the winter. Lynn's Fortec FRenault team-mates Felix Serralles and Joseph Reilly tested a Barazi-Epsilon chassis for the first time at Donington last week.

RENAULT CLIO Cup racer Sam Tordoff tested one of Team Parker Racing's

Porsche Carrera Cup cars (right) at Donington, alongside ex-Formula Palmer Audi champion



Richard Plant. Tordoff is eyeing a switch after taking third in the 2010 Clio Cup.

vw GOLF racer John Mawdsley sampled a Ginetta G40 for the first time at Donington. Having raced in the CSCC Future Classics in '10, he is considering a move to the Ginetta Challenge.

FORMER SAXMAX champion Ollie White and his ex-team-mate Ryan Ratcliffe both tried a Ginetta G40 at Donington Park last week and are considering joining the Ginetta Challenge next year. White started this season in Castle Combe FF1600, while Ratcliffe contested Ginetta Juniors.

REBODIED BY Genoa Racing for Can-Am events in the US, the ex-Brian Henton 1979 F2 Ralt-Hart RT2 (left)



dominated last weekend's sportscar races at Eastern Creek in Australia, driven by engine builder Peter Larner's son Jamie.

MGB GTV8 racer Tom Stewart passed away last week, aged 52. The Sunderland native emerged from BRiSCA F2 stock car oval racing and drove various MGs before graduating to the V8 in which he won many races. During his illness he competed in the TVR club series.

CLUB RACERS will now be able to run at the Spanish Guadix circuit during the winter as part of a testing package. New company MotorProEsp.com can arrange collection, transportation and storage of cars. It will also provide mechanics and hospitality during testing.



Historic Racing Drivers Club

New series set to rival Masters

Top Hat founder launches tin-top initiatives to 'safeguard historic amateurs'

TOP HAT RACING founder Julius Thurgood has launched two new series in response to perceived increasing costs in historic motorsport.

Thurgood masterminded the Top Hat group of races, which included the Cloth Cap for pre-1966 sports and GT cars, and Oldies but Goldies for pre-1960 touring cars, until it was taken over by the Masters Racing Series ahead of the 2007 season.

He has now launched the Historic Racing Drivers Club Touring Greats for pre-1960 tourers, incorporating the 'XKteers' for Jaguar XK120 to 150 models, and HRDC Grand Touring Car Greats, which caters for under-1500cc pre-1966 production-modified historic GTs. Grand Touring Car Greats will also include the A-Series Challenge, for BMC A-Series-engined machines.

A club statement last week said: "In recent seasons there has been a downturn of entries in the middle sector of historic racing.

"This has been blamed by competitors on promoters' policy of charging ever-increasing race entry fees, leading to an inevitable alienation of their clients – the competitors.

"The concerns and welfare of the amateur historic racing driver need to be addressed in a knowledgeable and professional manner to safeguard the future of this category."

Masters boss Ron Maydon declined to comment on the HRDC, but confirmed Masters will push ahead with its own Top Hat series: "We are actively working on improvements and initiatives to position Top Hat as the place to race in 2011 and beyond."

Tasman Reviva

Ex-Hill Lotus 49 wins Aussie revival races

THE EX-Graham Hill Lotus 49 R8 won all four Pre-1970 races at last weekend's Lotus Sydney Tasman Revival at Eastern Creek.

Having bagged the opener easily in the Dawson-Damer family's car, local man John Smith overcame poor starts in the later races, using the Gold Leaf machine's DFV power to beat Briton Rob Hall (in Graham Adelman's ex-Chris Amon Ferrari Dino 246) and the Brabhams of ex-British F3 racer Chris Farrell (BT30) and former touring car ace John Bowe (BT23B).

The Formula 5000 races

were thinly supported, but hard fought. Australians Andrew Robson (ex-Brian Redman/Ken Smith Lola T330/332) and Bryan Sala (Elfin MR8) battled in the three preliminaries, but lost out to Stan Redmond's wet-tyred T332 in Sunday's rainy finale. Brit David Methley overcame a raceone punt to top FJunior.



BRSC

Anglesey meeting cancelled as cold strikes UK



FF1600s didn't get to fight for Moose Trophy

BAD WEATHER forced the cancellation of Anglesey's scheduled season-closing meeting last weekend.

The British Racing & Sports Car Club meeting was to have included the Moose Trophy for FF1600, as well as races for Sports/Saloons, Caterhamstyle sportscars and a 40-minute two-driver enduro. But cold weather resulted in the event being canned.

BRSCC competitions director Drew Furlong said: "We had to call the meeting off because of the low daytime temperatures. Although the track had cleared, the run-off areas were still frozen.

"With the further risk of overnight snow showers it was felt that the best option was to cancel. A replacement event in early spring at Anglesey is currently being considered."



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Skinny tyres help Stouf to succeed

FOR SEVEN years, the Roger Albert Clark Rally has sought heroes to emulate its name - and an event worthy of those three initials known and feared the world over: the RAC. When Belgian Stefaan Stouf reached the finish on Monday, both had been achieved. In spades.

Autumn turned to winter as soon as the cars arrived in Pickering for the start of this year's RAC last Friday. And, as the event progressed, it snowed some more. And Dunlop sold more super-skinny snow tyres. In the end, it came

down to the haves and have-nots. With their Escorts resplendent in Pirelli and DMack liveries. former winners Gwyndaf Evans and Mark Higgins might have had the edge on any other RAC, but not this one. Their narrowest gravel covers were no match for the 'bicvcle tyres that carved their way through the fresh powder and dug deeper to cut into the sheet ice.

The lead changed three times in the first four stages, but after two runs around Pickering Showground and a couple of runs at the shortened

Dalby test, it was Rob Smith's Vauxhall Chevette that arrived at the first overnight service leading.

Stouf halved Smith's eight-second advantage at the first shot at Oliver's Mount on Saturday morning. The Scarborough circuit stage had to be altered, with none of the crews rating their chances of stopping for, let alone getting around, the downhill hairpin. Smith held off Stouf through Langdale, but when the crews returned to Oliver's for two more stages, the Ford Escort MkI moved into the lead.

With much of the planned final day completely snowed in, once again the event

After dropping mileage on the opening day, the organisers ran Hamsterley twice on Saturday night to make the distances back up. Making the most of the first test, Nick Elliot powered his MkII through the six-miler, 13 seconds faster than anybody to leap-frog Andrew Haddon and Smith to second – just one second off the lead.

That was as good as it would get for Elliot, who slid off the road on Sunday morning's opener in Ae. Smith returned his Chevette to second and redoubled his efforts to catch the leader, despite the minute separating them. As darkness fell in the Borders, Smith was just 13sec off the lead after Twiglees. Unfortunately for him, a shortened Newcastleton stage wasn't quite short enough. He was caught out and he dropped the Chevette off the road, leaving Stouf with a two-minute lead.

organisers gave the rally world a lesson in thinking on its feet and re-routed two stages in Kershope. Stouf knew he just had to keep his nose clean to win, which he did. Behind him, the podium places were far from settled as the recovering Evans caught and passed Haddon for second – having made the most of a slightly drier Sunday. Paul Griffiths (Escort) turned in a Herculean effort to set fastest time on the event's last stage, taking 29sec out of Phil Collins to elbow the Opel Ascona 400 driver to one side and take fourth.

Behind Collins and rounding out the top six was early leader Darren Moon, who ended the event just two seconds ahead of seventh man home Higgins.

Arriving at the finish in Carlisle, the crews looked exhausted but elated. "It's incredible," said Stouf. "It was so close all the time with Rob [Smith]. Luckily we had enough tyres to last."

■ By David Evans



OGER ALBERT CLARK RALLY 1 Stefaan Stouf/Joris Erard (Ford Escort RS1600) 2h17m19s; 2 Gwyndaf Evans/John Millington (Ford Escort RS1800) +1m18: 3 Andrew Haddon/Mark Crisp (Ford Escort RS 1800) +1m43s; 4 Paul Griffiths/Sam Collis (Ford Escort RS1800) +2m46s; 5 Phil Collins/Nicky Grist (Opel Ascona

400) +2m59s; 6 Darren Moon/Malcolm Smithson (Ford Escort RS1800) +5m27s; 7 Mark Higgins/Dale Furniss (Ford Escort RS1800) +5m29s: 8 Russell Morgan/Martin Kenyon (Ford Escort RS2000) +8m15s; 9 Mark Barnett/Dylan Jenkins (Ford Escort RS1800)+9m52s:10 Charlie Taylor/Steve Bielby (Ford Escort RS1800) +10m36s



e might be perilously close to his first half-century, but Tim Harvey goes racing with an enthusiasm that most twentysomethings would do well to emulate.

And it was a couple of men from that age group — namely Tim Bridgman and James Sutton — who were the spur to Harvey digging deeper than ever to win this season's Porsche Carrera Cup GB.

"After racing against Tim and James [the champions of 2009 and '07 respectively], I had to find new ways to raise my game," explains Harvey. "When you've raced as long as I have, it's easy to keep doing the same things, because most of the time that's good enough. I worked on my driving, adapting to the new Michelin tyres — and we got a good handle on them very quickly."

Bridgman and Sutton moved on to underfinanced deals in continental Carrera racing, but both remained in the GB paddocks as young-driver mentors at Team Parker Racing and Redline Racing respectively. That left Harvey with the clear mantle of Redline's number one, and he carried it perfectly, bursting out of the blocks with a run of early victories that gave him a seemingly insurmountable advantage.

It is to the credit of Michael Caine

2010 PORSCHE CARRERA CUP FINAL STANDINGS			
Driver (Team)	Pts	Wins	
1 Tim Harvey (Redline Racing)	370	11	
2 Michael Caine (Motorbase Performance)	360	7	
3 Stephen Jelley (Team Parker Racing)	248	2	
4 Glynn Geddie (Team Parker Racing)	227	0	
5 Euan Hankey (Team Parker Racing)	210	0	

that he carried the title fight to the Brands Hatch finale. Caine had his best season yet as the spearhead of Motorbase Performance, which again enjoyed the magic engineering touch of Patrick de Groot (who assisted Richard Westbrook to much Supercup success).

Caine's late-season pace was enough to force Harvey, who largely self-engineered his car along with his mechanic, to draft in Konrad Motorsport man Chris Crawford, who has worked with Nick Tandy this season, for the Brands finale. Harvey clinched the title in the first race, then suffered his only non-score of the season (due to a puncture) in the second: perfect timing!

Parker Racing had a tough hangover season after Bridgman's 2009 success, but new recruit Stephen Jelley at last broke the team's '10 duck with a double win at the final round. The ex-BTCC racer did a late deal, but intelligently applied himself and his win was overdue.

Porsche scholarship winner Euan Hankey overshadowed team-mate Jelley early on, but a mid-season dip left him bewildered. After testing input from Bridgman at Knockhill in September he returned to the fore, and will do well if he stays on in 2011. Hankey was also beaten in the points by another Parker racer, Glynn Geddie. The Scot's exuberant driving style entertained, but perhaps did not suit the latest Michelin rubber, designed for the new-spec Supercup car, which is being introduced to the UK in 2011.

Hankey's fellow Porsche scholar Michael Meadows joined Redline and, after initially struggling with the new Michelins, he made strong progress. He finished behind Motorbase's Charlie Bateman, who returned after missing most of 2009 and showed well.

Both were beaten by Pro-Am 1 champion Ollie Jackson. The Motorbase man looks like a genuine talent and we might have seen more from him if he didn't have to focus on class points. Lithuanian Jonas Gelzinis — a newcomer to the UK if not Porsches — was Jackson's most regular challenger, while privateer Tony Gilham kept them in his sights.

DRIVER RANKINGS



1 Tim Harvey

Ten wins from the first 12 races broke the back of winning the title. He played a canny game when he lost pace advantage to Caine, and fully deserved his second Carrera Cup crown.



2 Michael Caine

Once Motorbase stumbled upon the best set-up for the new tyres in a mid-season test, he became the man to beat. His fightback wasn't quite enough, but he made it closer than expected.



3 Stephen Jelley

A late deal amid budget worries meant a rocky start. Just as in F3 and the BTCC, he diligently learned the craft of his new discipline before scoring two under-pressure wins.



ouis Walsh, the sawdustbetween-ears stooge of reality-TV svengali Simon Cowell, wouldn't have believed his luck. If the *X Factor* switched from contestants who can't sing in the same key for more than two notes to touring car wannabes, then Walsh would have been in clover with his mentoring of the over-28s. For this year's Renault Clio Cup was won by Dave Newsham, a 43-year-old from Inverness, and the runner-up was 36-year-old Yorkshireman Lee Pattison.

That's not to say that there was a shortage of young talent (although there was a worrying lack of cars overall). It's just that Newsham in particular showed the young 'uns (led by Sam Tordoff) how to do it.

If Cowell showed a hitherto latent appreciation of how to drive an underpowered, overgripped front-wheel-drive saloon, he might have said: "Dave, you're even older than Jason Plato, but what I like about you is your determination, your fantastic pace on cold tyres and your supreme racecraft. That was your best performance yet, and I see no reason why you couldn't be a hit in the BTCC".

Two years after his first foray into

•	-		
2010 RENAULT CLIO CUP FINAL STANDINGS			
Driver (Team)	Pts		
1 Dave Newsham (Team Pyro)	529	12	
2 Lee Pattison (JHR Developments)	431	2	
3 Sam Tordoff (Total Control Racing)	382	2	
4 James Colburn (Westbourne Motorsport)	345	0	
5 Mike Robinson (Total Control Racing)	344	0	
Other wins were taken by James Divon (Total Contr.	al Racir	ng) with	

two and **Paul Rivett** (Blue Square/Stancombe), with two

the Clio Cup, ex-Legends ace Newsham switched to Team Pyro, the same team that had taken Ben Winrow and Phil Glew to the 2008 and '09 titles, for his big crack at the crown. The average grid size plunged below 15, but Pyro team boss Mark Hunt reckons that should take nothing away from Newsham's achievement. "Look at Tordoff," he points out. "He won one race in 2009 and two in 2010 — and one of them was down to tyre choice. Winning is just as hard whether there are five or 35 cars.

"You only have to look at what Alex MacDowall [the 2009 Clio runner-up] has done in the BTCC this year. That proves that Dave should be there, along with Phil and Ben."

It was Pattison who unexpectedly led the pursuit of Newsham — a surprise if only because he signed up for a third Clio season just two days before the Thruxton opener! The winner of one race in his '08 rookie campaign, Pattison had a consistent season with JHR Developments.

Fellow Yorkshireman Tordoff remained with Lee Brookes's Birmingham-based Total Control Racing squad. Much was expected of the 21-year-old ex-karter, and on pace he was Newsham's closest challenger, but some non-finishes early in the season scotched his title attack almost before it had begun. Young Kent racer James Dixon joined TCR after missing a couple of early races and should star in 2011 if he can raise the budget. Mike

DRIVER RANKINGS



1 Dave Newsham

Danny Buxton, 'O2 Clio champ and Newsham's driver coach, warned us to look out for his man – and he was right. Fantastic campaign that netted 12 wins, a season record for UK Clio racing.



2 Sam Tordoff

Managed by ex-BMW/Toyota BTCC works driver Tim Sugden. Two early DNFs took the edge off Tordoff's year. Stayed fast, but knew he couldn't afford to lose more points through risky moves.



3 Lee Pattison

Only twice in top four in qualifying. But a very good racer, illustrated by his standout win in the most exciting race of the year – on Brands GP circuit in the wet – from ninth on grid.

Robinson stayed on and showed pace, but got caught up in some incidents.

Pyro ran some fast youngsters, in the form of MG graduate Jack Goff — expected to be a leading contender if he returns — and Jake Packun, who made a mid-year switch from Elite Motorsport.

Ahead of both was James Colburn, fourth overall in the points with the Ed Pead-managed Westbourne Motorsport squad. Colburn was fast, but seemed to lose out on the first couple of laps of a race. At the other end of the experience scale, former champ Paul Rivett proved that he and the Blue Square/Stancombe team still have the, ahem, 'X Factor' with two wins on Rivett's cameo appearances.

FINAL DRIVE LETTERS GEAR ON-TRACK ON-SCREEN PICS TECH ARCHIVE

YOUR SAY

What you think of the motorsport news of the past week



TV must capture essence of F1

We've witnessed some brilliant tussles in F1 this year, but we've also suffered some dire so-called races. Many readers bemoan the failures of the modern tracks. But even if we have to accept these, please someone focus on improving the TV camera positions.

The anodyne nature of Yas Marina rendered the spectacle of the last GP to something akin to Scalextric. Only the in-car shots gave any impression of speed — the track-side cameras struggled to impart how fast they were going. Where is the equivalent of the breathtaking head-on view at the swimming pool in Monaco? **David Craigen**, by email

EDITORIAL CONTACT mail@autosport.com

I was sorry to read about Bernie Ecclestone being robbed. Many people have negative things to say about the man, but he has created a wonderful spectacle for the fans to enjoy, and he has helped countless people on the way. And many charities have benefitted greatly from his contributions.

And let's not forget, although still the sharpest tool in the box, Bernie is 80 years old. The thugs who did this have no respect and deserve to be banged up. **Duncan Sabiston**

Didcot

After reading Edd Straw's column (Nov 25, p13), here's a couple of suggestions to help up-and-coming drivers and to move some of the 'bed blockers' in F1.

Bring back Friday drivers – make every team run a young driver in the Friday afternoon session (no point in it being the morning session as they'd just be used as 'track sweepers').

Add an expiry clause to superlicences – if a driver hasn't won a race within five years of coming to F1, or hasn't won race for three years, their licence expires.

Simon Roffey
By email

I'm sure that many of us agree that the biggest victory of 2010 was not Red Bull winning the constructors' title, or Vettel becoming champion (onnea Sebastian!).

The biggest winner was F1, thanks to this amazing Red Bull team which had the balls to let its drivers race, and even make mistakes right till the end.

It proved that you don't need stupid and illegal team orders in the middle of the season to take both titles! I just hope Ferrari will finally learn from this.

Ari Jakobson

Espoo, Finland

At the start of the season I wrote in to slate Renault for having few sponsors and hiring a virtually unknown Russian pay driver.

I said that Renault's only hope in 2010 would be the fuel efficiency of its engines. How it proved me wrong! The car is full of sponsors now and the appointment of Petrov has paid off. And to top it all its engine won the drivers' and constructors' championships.

Sorry guys, you got it right this year! **Brendan Budgen** Berks

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TOP FIVE ON OUR WEBSITE

1. ECCLESTONE INJURED IN LONDON MUGGING

- 2. TOST: TORO ROSSO FACING 'TOUGH' WINTER
- 3. BARRICHELLO EXPECTS 'AGGRESSIVE' DESIGN
- 4. BUTTON: KERS WILL BOOST McLAREN
- 5. MONTEZEMOLO FEARS WING RULE DISPUTES

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TOP STORY ONLINE

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ROAD ANGEL VANTAGE

This week's star letter will receive a Road Angel Vantage – a dedicated safety camera and blackspot locator that displays the legal speed limit of every road you drive, automatically and wirelessly updating its database every few minutes as you drive. For more details on Road Angel please visit www.roadangelgroup.com

Please ensure that your full address is included on all correspondence.

CORRECTIONS AND CLARIFICATIONS

● In last week's issue, the picture in the sidebar on p33 is captioned Daniel Abt – it's his team-mate Laurens Vanthoor; the FBMW Europe champion is Robin Frijns, not Robert Frijns (p51); and in the Next Week panel (p93), the line 'Sims and Stoneman get their McLaren chance' should be 'Sims and Smith...' It is the policy of AUTOSPORT to correct significant errors as soon as possible. Please note the Issue date and page number when contacting us on autosport.editorial@haynet.com

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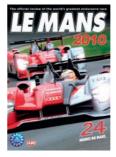
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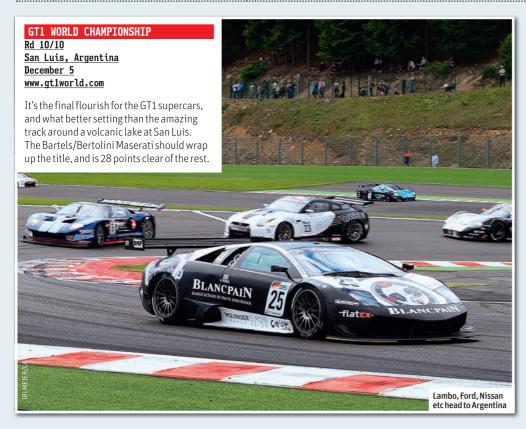
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WHAT'S ON...

Your guide to the best events taking place in the UK and around the world this week – plus TV and online





BRAZILIAN V8 STOCK CARS

Rd 12/12 Curtiba, Brazil December 5 stockcar.globo.com TC2000 Rd 13/13 San Luis, Argentina December 5 www.tc2000.com.ar



THE BROOKLANDS MUSEUM

THE JANUARY sales are the most overrated period on the calendar, apart from perhaps New Year's Eve itself, when pub landlords take it upon themselves to put their prices through the roof and charge you for the pleasure of entering their establishments.

If you're looking to avoid both, and start your year with some automobile-related fun, then consider a visit to the Brooklands Museum near Weybridge in Surrey instead. This nirvana of pre-war racing is hosting a New Year's Day vintage and classic car rally, and more than 400

vehicles are expected to attend from Bentleys to hot rods and classic motorcycles.

All the museum's regular displays - including Concorde - will be open. Make a bee-line to the 'Jackson Shed' for an array of eclectic racing machinery, including a McLaren MP4/6 (as well as a McLaren simulator) and Jordan EJ11, plus some fantastic vintage equipment such as a Cooper-Climax T43, a rare Assegai Alfa Romeo and a Jim Robbins Special Indycar. As you'd expect, there are lots of pre-war gems in there too.



Those arriving on the day in pre-1973 vehicles, via the Campbell Gate off Brooklands Road (postcode KT13 OQN for your sat-nav), will be given a £1 discount off normal prices. Brooklands Museum is

open from 1000 to 1600 every day apart from December 24-28 inclusive. Admission is £9 for adults, £8 for seniors, £5.50 for children (aged 5-16) and £25 for a family ticket.

through the cold

winter months

Television

THURSDAY DECEMBER 2

1015-1320,1700-2010 Motors TV

British GT: 2010 season review

1320-1350 Motors TV

Britcar: Brands Hatch

1455-1555 Motors TV

Ma5da MX5 Winter Cup

1555-1700 Motors TV

Lotus Cup Europe: Assen

1600-1700 Sky Sports 2

FIA GT1: Interlagos

Highlights of a thrilling weekend's racing around the classic Interlagos venue.

2115-0030 Motors TV

British Rallycross Review

FRIDAY DECEMBER 3

1425-1525 Motors TV

Mini Se7en & Mini Miglia

1525-1555 Motors TV

Britcar: Brands Hatch

1555-1625 Motors TV

Legends: Brands Hatch

1625-1700 Motors TV

WRC: Rally World

1745-2000 Motors TV

V8 Supercars: Sandown

Relive Paul Dumbrell's first win in 11 seasons of trying and a massive shunt for Garth Tander.

2255-2325 Motors TV

WRC: Rally World

SATURDAY DECEMBER 4

0400-0425 Five

Motorsport Mundial

0755-0855 ITV4

Motorsport UK

1400-1700 Motors TV

International GT Open: 2010 review

1800-2115 Motors TV

Race of Champions replay

2115-2325 Motors TV

V8 Supercars: Sandown 2325-0235 Motors TV

International GT Open: 2010 review

SUNDAY DECEMBER 5

1100-1200,2010-2115 Motors TV

Formula Ford Festival

1200-1330 ESPN LIVE

FIA GT1: San Luis qualifying race

From Interlagos (below), the final 2010 round moves to the hills of Argentina.

1300-1400 Motors TV

Lotus Cup Europe: Assen

1600-1700 Dave

WRC: World Rally 2010

1830-1945 ESPN

FIA GT1: San Luis

C. C.I.

 ${\it Coverage}\, of the \, main \, race.$

2115-2255 Motors TV

TC2000: Buenos Aires 200

WTCC aces Yvan Muller, Gabriele Tarquini and Alain Menu take on Argentina's top touring car drivers.



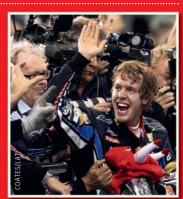
Online

WAUTOSPORT.COM

Coming up on the web this week

FORMULA 1 REVIEW

Check out AUTOSPORT.com for the beginning of the 2010 Formula 1 season review. This week we'll take you through the year race-by-race, analyse the performance of the three new teams, delve into the team-mate battles at the sharp end of the grid and bring you an exclusive post-season interview with Mark Webber. We also have the GP2 season review and live streaming of the last World GT1 race of 2010 at San Luis.





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REVVED UP OVER WHAT'S ON THE BOX

We cast a critical eye over the best and worst of this week's TV coverage



GIVEN THE chipper way he'd dealt with a comeback season that made you wonder whether it was brother Ralf driving his Mercedes, I'd warmed slightly to Michael Schumacher in 2010.

And then he went and spoiled it all by saying something stupid like: "What is more important is that Germany won against England again!" Ooooh, the smug satisfaction on his face as he played to the crowd made me want to reach through my TV and give him a slap.

Yes, it's Race of Champions time again, when some of the best drivers in the world in an amazing array of cars drive around in first and second gears through a series of bollards and bridges and hairpin bends for ages.

It was the turn of Germany and Dusseldorf to host the event, which this year was expanded to two days! Ye Gods, you really can have too much of a good thing.

Motors TV found room in its busy schedule of Build or Bust and Super Moto to show the whole thing live, and credit where it's due, it was a really well-made piece of telly. Martin Haven and John Hindhaugh showed limitless enthusiasm and considerable knowledge behind the mic, but they were sold short

by the organisers and their decision to make up the rules as they were going along.

Even the drivers had no idea what was going on, as Dave's WRC front man Neil Cole demonstrated when he confronted a baffled Schuey and Sebastian Vettel as they struggled to work out whether Team Germany had progressed from the group stage.

Cole is great in these time-constrained situations. In fact, ITV needs to get him to coach *X Factor* cul-de-sac Dermot 'You've had a tough week, how do you feel?' O'Dreary.

Travis Patrana, who's either Bill or Ted, and certainly has excellent adventures, was fitted with a head cam that quite literally took you everywhere with him.

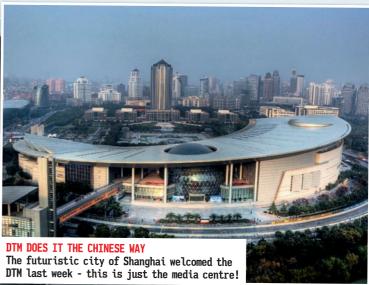
The on-board buggy stuff was amazing, the bathroom trip as unnecessary as the bland rock and anonymous Eurotechno that played in between races. Revved Up

"Even the drivers had no idea what was going on, as Cole confronted a totally baffled Schumacher and Vettel"

THE WEEK IN PICTURES

Shooting gallery, from Dusseldorf to Shanghai – via Abu Dhabi and Valencia







SUN SETS ON THE SECOND GENERATION OF GP2

The final GP2 test session for the second-generation (2008-2010) Dallara-built GP2 racer took place in Abu Dhabi last weekend





FROM THE ARCHIVE

First Race of Champions, Montlhery, 1988



TWO YEARS after the Tour de Corse accident that claimed the life of Henri Toivonen, Michele Mouton decided to organise an end-of-season competition in his memory. The Race of Champions was born.

The first event was run in 1988 at the Autodrome de Montlhery, a former grand prix track south of Paris – the venue recently used in current WRC star Ken Block's *Gymkhana 3* movie. Unlike the modern format, the first competition was only open to rally drivers.

At that time there were world champions aplenty: Stig Blomqvist, Hannu Mikkola, Ari Vatanen, Bjorn Waldegaard, Walter Rohrl, Timo Salonen, Miki Biasion and, of course, then two-time champion Juha Kankkunen. Kankkunen's title defence hadn't quite gone to plan that year: his switch from Lancia to Toyota had been dogged by a spate of retirements.

Kankkunen was pleased with the range of Group B machines on offer in year one of the RoC.

"It was beautiful to get back into those cars," he says. "I remember the first time I tested the Lancia after Group B ended. I thought, 'Bloody hell! This is going to be a long year.' It was great to drive the Audi Quattro for the first time at that event. I had driven other Group B cars, but not that one. I was really pleased as well - I beat Walter [Rohrl] in the semi-final, when he had much more experience than me of this car."

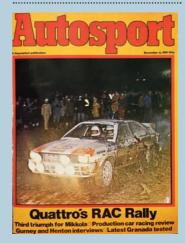
Kankkunen's most vivid memory of the event comes from that semi-final, and a mistake he feared might cost him his place in the final against Timo Salonen.

"I came from a corner in third gear and went for fourth gear in the Quattro," recalls the Finn. "But instead I got sixth gear. I thought, 'Fucking hell, that's not good!' But it didn't matter – the engine had so much power I could just leave it in sixth and still win the race. Incredible! That car was so powerful.

"It was nice to win the first Race of Champions. The circuit was wet, muddy and slippery, but the competition was good. All the time we were all there racing like hell. And it was good to beat so many world champions. Everybody was there: Vatanen, Mikkola, Salonen... but I won. It was very nice [to do it in] memory of Henri too."

Kankkunen's first and only rally win of 1988 ensured that his was the first name engraved on the Henri Toivonen Memorial Trophy. **26**

THIS WEEK IN...



DECEMBER 3, 1981

HANNU MIKKOLA won the RAC Rally for the third time in four years, driving the four-wheel-drive Audi Quattro (above). Despite rolling on the first day and losing a minute, Mikkola and co-driver Arne Hertz dominated proceedings on the Quattro's UK rally debut. Second place for Ford Escort driver Ari Vatanen was enough to crown him world champion for 1981.

US correspondent Gordon Kirby visited ex-GP racer Dan Gurney's All American Racers outfit in California (below). Gurney spoke of a renaissance at his team, after a promising season in Indycar for his Chevy-engined Eagles.

We also broke the news that Donington Park would host a non-championship F1 race in 1982, and hinted that Carlos Reutemann would return to F1 with Williams, despite recently announcing his retirement.





NEXT WEEK



We ask top designers to deliver their verdict

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PLUS

AUTOSPORT Awards; Bridgestone F1 retrospective; WRC & GP2 season reviews

MARC SURER

■ European GP, Brands Hatch ■ October 6, 1985 ■ Brabham BT54-BMW ■ Robbed of a podium place



I ALWAYS liked Brands Hatch, because it is a natural circuit. And I went there in 1985 with a lot of confidence, because I had a new Brabham chassis. Mine had been twisting so things hadn't been going well. But now I had Nelson [Piquet]'s old spare car, and as soon as I tested it I felt a lot better.

I qualified seventh, and after seven laps Nelson was out because he clashed with Keke Rosberg. I chose the hard tyres, because I hated pitstops. And I could never get the best out of new tyres - I was more of an endurance driver so I preferred to do the whole race on one set of tyres and get into a rhythm.

Before the race we set the turbo boost to a level that meant we could do the whole race without turning it down to conserve fuel later on. After a few laps I was catching people, so they obviously had to turn theirs down already.

I got up to third, and then I came up behind Ayrton Senna. I tried to pass him into Hawthorn Bend, like I had with the others. But I was not quite beside him,

"I was catching Nigel Mansell and thought I had a chance to go for the win. Then, out of the blue, the turbo went with 13 laps to go. It was the most terrible thing"

and I didn't know if he had seen me. When you have such a good car you don't want to risk it all, so I waited. Senna left me room, so he knew I was there but he just didn't want to make it easy.

I knew that the next time I could have a go, and two laps later I got into position. He braked really late as if to say 'come on!' but he just left room, so it was fair.

I was catching Nigel Mansell

a little bit, and I thought that maybe I had a chance to go for the win. Then, out of the blue, the turbo went with 13 laps to go. It was the most terrible thing. Later, the team said that in the warm-up the engine was switched off when it was too hot, but it was the mechanics that did that, not me.

I was so frustrated, but later on everyone was coming up to me like I had won the race. Even people that had never believed in me before were congratulating me. It still hurts that I never finished on the podium in F1, but at least I proved what I could do that day. Marc Surer was talking to Glenn Freeman

IN PROFILE



MARC SURER graduated to Formula 1 at the end of 1979 after winning the European Formula 2 title. His career at the pinnacle of the sport lasted until 1986, taking in stints with Ensign, ATS, Theodore, Arrows and Brabham. He also took high-profile endurance victories in the Spa 24 hours (for BMW) and the Monza 1000km (for Porsche). He retired after a huge crash in the 1986 Hessen Rally at the wheel of a Ford RS200. After recuperating he spent several years as head of BMW's motorsport programme and is now a Formula 1 commentator for German TV.





FEATURES

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