



DANIEL RICCIARDO INTERVIEW

RISKING IT ALL

New team, new start, new drive. But is he throwing his career away?

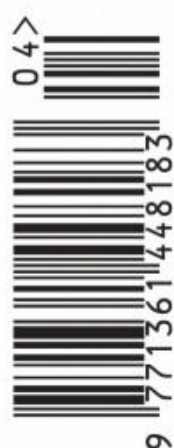
INSIDE

NEW CARS
ANALYSED
LEARN THE
SECRETS OF
F1'S NEW
TECH WAR

HAS FORMULA 1
BROKEN BRITAIN'S
BEST TEAMS?

PLUS **1000**
RACES SPECIAL
Incredible shots
from THE F1
archive

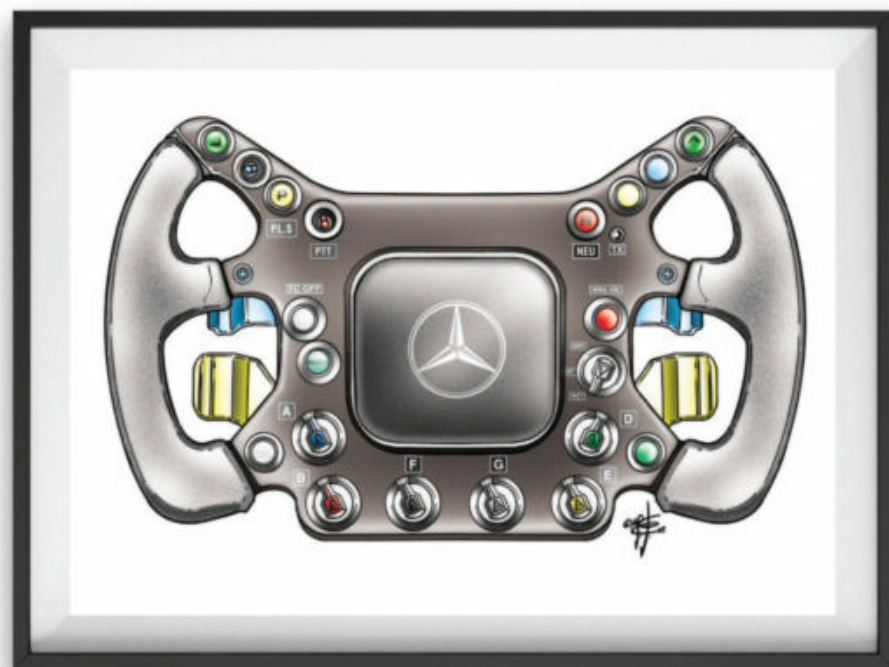
No 278
UK £5.99
April 2019



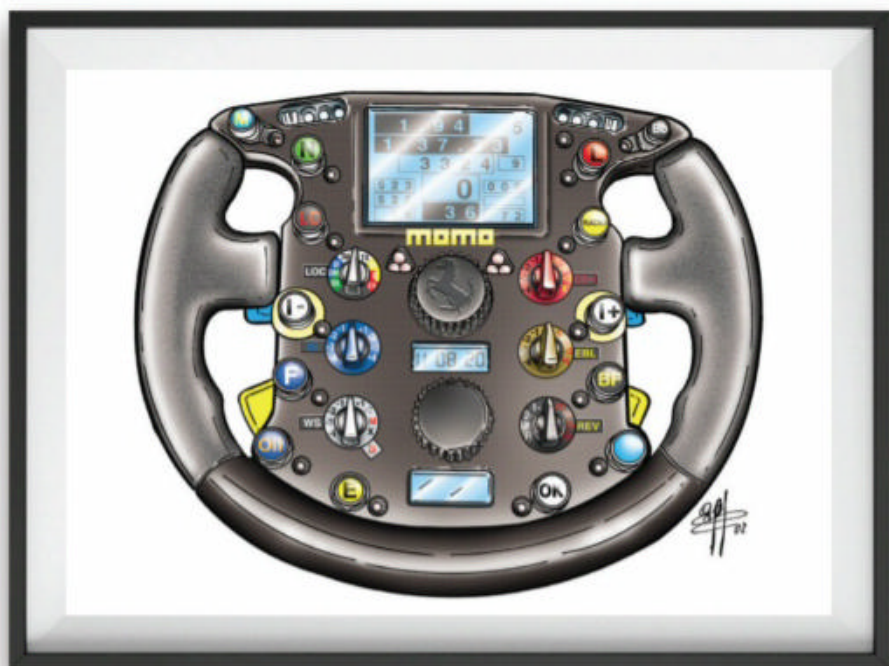
NIGEL ROEBUCK
ON FORMULA 1'S
BIGGEST MISTAKES



McLAREN MP4/16 - 2001



McLAREN MP4/17 - 2002



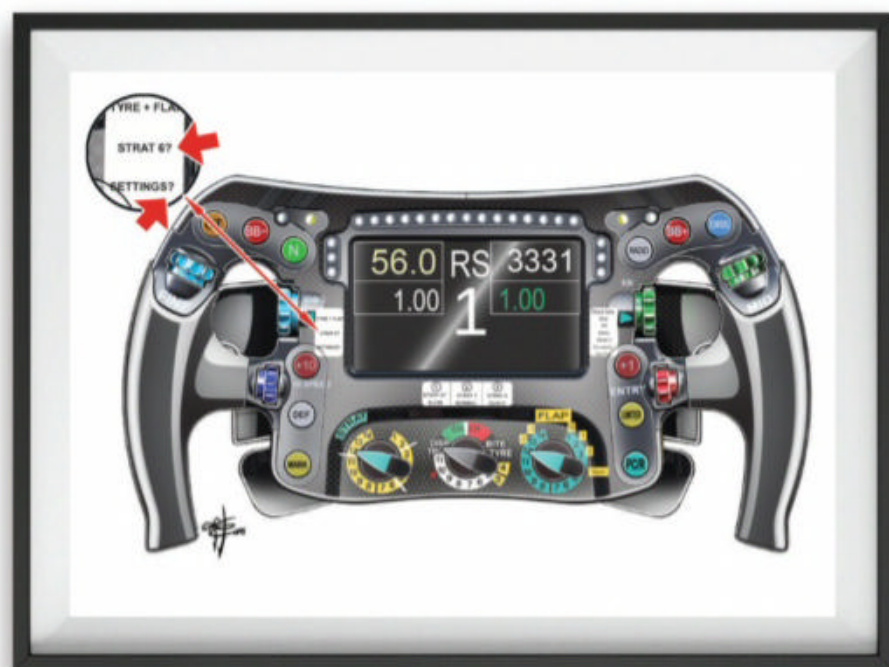
FERRARI F2002 - 2002



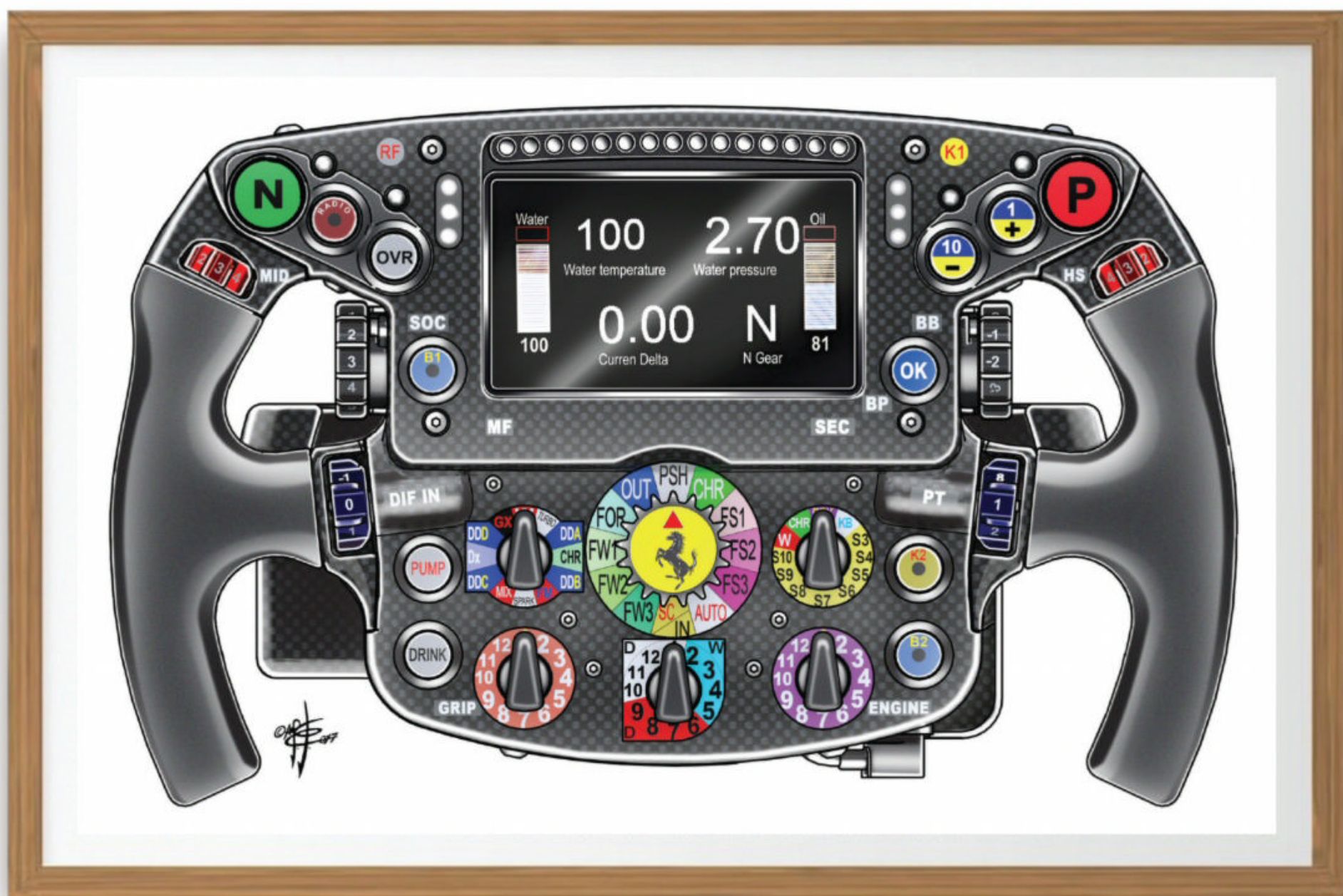
WILLIAMS FW26 - 2004



MERCEDES F1W04 - 2013



MERCEDES F1W07 - 2016



FERRARI SF70H

THE ART OF



RACING

RICHARD MILLE

A RACING MACHINE ON THE WRIST



TOURBILLON G-SENSOR
RM 36-01 SEBASTIEN LOEB



1 ETON STREET, RICHMOND,
LONDON, TW9 1AG, UK

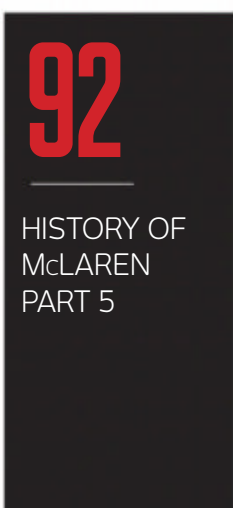
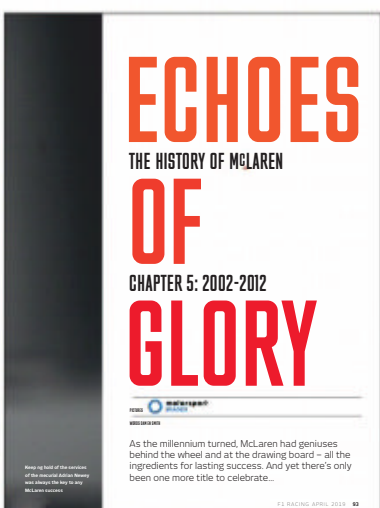
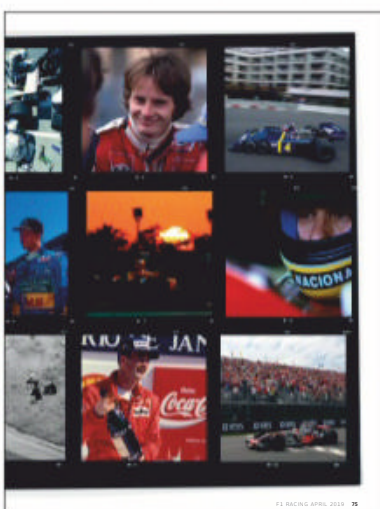
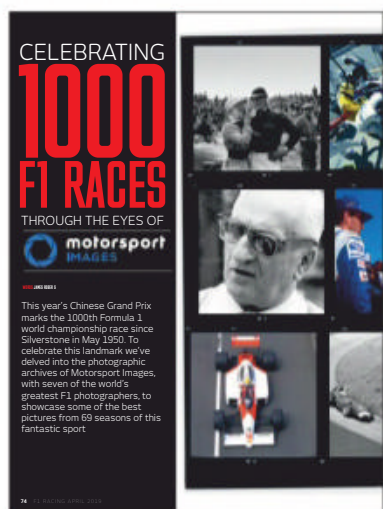
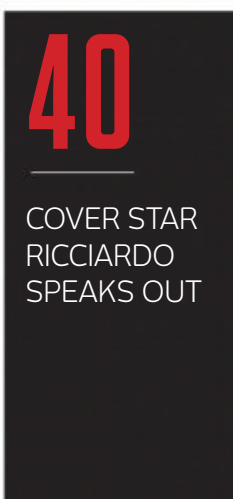
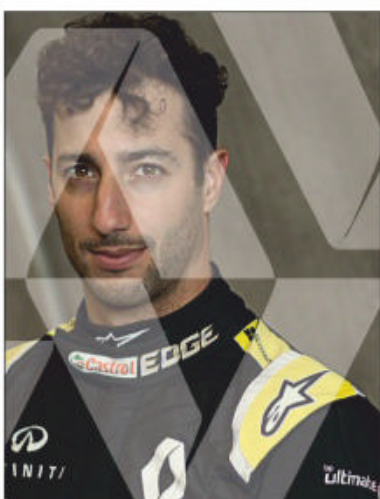


SECTOR 1

- 6 IGNITION**
Will Ricciardo still be smiling after Renault move?
- 8 PARADES**
The best images from Australia
- 18 F1 INSIDER**
Expansion plans for Racing Point and Lowe's woes
- 24 F1 ANALYST**
Edd Straw on the remarkable Robert Kubica
- 26 UNDER THE HOOD**
Pat Symonds on the intricacies of F1 suspension

SECTOR 3

- 100 SUBSCRIBE**
Get 3 issues of *F1 Racing* for just £5
- 103 INBOX**
What's on your mind this month
- 110 TRAVEL GUIDE**
Our guide to Montréal and the Canadian GP
- 112 PRODUCTS**
Reviews of the best F1 gear
- 114 FLAT CHAT**
Stuart Codling dispels a few Brawn GP myths



CONTENTS

APRIL 2019

SECTOR 2

- 34 CHARLIE WHITING: 1952-2019**
We pay tribute to the life and career of FIA F1 race director Charlie Whiting
- 40 RICCIARDO ROLLS THE DICE**
Daniel Ricciardo explains why he moved from a race-winning team to one that is a work in progress
- 50 GIVE ME WINGS**
An in-depth analysis of the new technical trends that emerged under F1's new 2019 rules
- 58 CHARLES LECLERC**
We shadow the Ferrari new boy at the Australian GP as he makes his debut for the Scuderia
- 66 NO LONGER BEST OF BRITISH**
Has Formula 1 finally broken Williams and McLaren, Britain's most successful F1 teams?

- 74 1000 UP**
As F1 prepares to celebrate 1000 GPs, we delve into the Motorsport Images archives to bring you the best pictures from seven decades
- 90 NIGEL ROEBUCK**
Formula 1 has lost its way as it approaches 1000 races and remedial action is needed

- 92 McLAREN HISTORY**
The blocks were in place for F1 domination but, 2008 success aside, the returns were patchy

F1 RACING PRO

- 31 STRAIGHT TALK**
Mark Gallagher on Rich Energy
- 32 PROFILE**
Infiniti's Tommaso Volpe



Ben Anderson

[@BenAndersonAuto](https://twitter.com/BenAndersonAuto)
facebook.com/flracingmag
instagram.com/fl_racing_mag

Can Ricciardo keep on smiling?

Daniel Ricciardo's sunny disposition and sharp sense of humour is always a welcome breath of fresh air for a Formula 1 paddock in which the collective mood can often be weighed down by the stultifying pressure of the need to always succeed.

In that context, Ricciardo's winter move from Red Bull to Renault remains a puzzling one. Why give up a proven race-winning team to join one firmly planted in the midfield, albeit with ambitious plans to escape? In this month's cover story, Dan properly explains the rationale behind throwing his lot in with the French manufacturer.

Ricciardo is adamant he wasn't 'running from a fight' with Max Verstappen. He simply needed a change of scenery in order that he may continue to enjoy F1 to the maximum and therefore operate at his best. With no option to go to Ferrari or Mercedes, and not much faith Honda's engine would come good, Renault was his next best bet.

Honeymoon period or no, it must have been difficult for Ricciardo to maintain his perma-grin in Australia as Verstappen scored Honda's first F1 podium since 2008, while Ricciardo's battered Renault was retired before reaching half distance.

Even had Ricciardo enjoyed a stellar weekend in front of his home crowd, he wouldn't have been anywhere near his former Red Bull team-mate on track. The best midfield car (Romain Grosjean's

Haas) was 1.3s off the pace in qualifying and almost four tenths slower than the worst of the 'big three' runners (Charles Leclerc's Ferrari) in Q3. Renault was more than 1.5s off the pace in Q2, almost a second down on Verstappen's Red Bull-Honda. Already it seems Ricciardo's best hope of winning a race again with Renault won't come until the massive rules overhaul forecast for 2021, so that's at least two seasons of simply biding his time.

Others counting on a Liberty Media revolution to get them back on the right track include the beleaguered McLaren and Williams teams (see page 66). There is perhaps no sadder sight in F1 today than that of the once great Robert Kubica – as heroic as his comeback from serious injury no doubt is – slowest of all, four seconds off the pace, 1.7s slower than his rookie team-mate, and Williams more than a second off the back of the pack. Williams is now unquestionably F1's worst team, a frightening fall from grace considering it also remains the championship's third most successful.

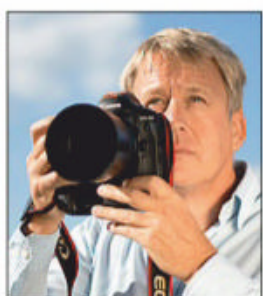
There was, of course, one thing sadder than the plight of Williams as the 2019 season got underway – the unexpected passing of F1 race director Charlie Whiting in the build-up to the Australian GP. We at *F1 Racing* pay our own tribute to one of F1's great unsung heroes on page 34. He was one of the paddock's true good guys, and will be sorely missed.

Contributors



JAMES ROBERTS

Roberts interviewed Dan Ricciardo for our cover feature (p40) and visited Racing Point for an exclusive look at its future plans (p18)



STEVEN TEE

Steven will be in China to shoot the 1000th GP, while his father Michael shot the first race in 1950. Turn to p74 for a celebration of 1000 GPs



BEN WRIGHT

This month's cover star Daniel Ricciardo was photographed at the Renault factory by the talented Ben Wright. See page 40 for the pics



JAKE BOXALL-LEGGE

Our new technical editor, Boxall-Legge was at both pre-season F1 tests seeking out the latest technical innovations. See p50

Team principals

Editor
Ben Anderson

Editor in chief
Andrew van de Burgt

President, Motorsport Network
James Allen

Pit crew

Group managing editor
Stewart Williams
Executive editor
Stuart Codling
Associate editor
James Roberts
Art editor
Frank Foster
Principal photographer
Steven Tee
Technical editor
Jake Boxall-Legge

Columnists
Edd Straw
Pat Symonds
Mark Gallagher
Nigel Roebuck
Photo agency
Motorsport Images
Group publishing manager
Sunita Davies
Production controller
Ben Webster

Office manager
Joanne Grove
Editorial tel
+44 (0)20 3405 8100

Advertising UK sales manager
Ben Fullick

Subscriptions

Email: help@asm.secureorder.co.uk
Customer hotline/back issues 0344 848 8826

Digital marketing manager
Kaye Benfield



Our partners



F1 Racing is published monthly in the above territories. Formula One, Formula 1 and F1 (trademarks of Formula One Licensing BV, a Formula One Group company) are used under licence

Circulation queries Seymour Distribution Ltd, 2 East Poultry Avenue, London EC1A 9PT. Tel: +44 (0)20 7429 4000. Fax: +44(0)20 7429 4001. Email: info@seymour.co.uk. ISSN 13614487. EAN 07713614480012. Printed by William Gibbons & Sons Ltd, 28 Planetary Road, Willenhall, Wolverhampton WV13 3XT. © 1996 Autosport Media UK

Reproduction in whole or in part of any photograph, text or illustration without written permission from the publisher is prohibited. Due care is taken to ensure that the content of *F1 Racing* is fully accurate, but the publisher and printer cannot accept liability for errors and omissions. *F1 Racing* is a member of the Audit Bureau of Circulations.

Thanks to Tim Clarke, Lucy Genon, Clarisse Hoffmann, Will Hings, Darren Jones, Andy Stobart, Mark Sutton, Tim Wright, Kevin Wood

Subscriptions *F1 Racing* subscriptions, Autosport Media UK, 3 Queensbridge, Northampton, NN4 7BF, UK. Email: help@asm.secureorder.co.uk. Tel: 0344 848 8826. Overseas Tel +44 (0)1604 251 454. *F1 Racing* (ISSN number 74597X) is published monthly by Autosport Media UK, 1 Eton Street, Richmond, TW9 1AG, UK. Airfreight and mailing in the USA by agent named Air Business Ltd, c/o Worldnet Shipping Inc., 156-15, 146th Avenue, 2nd Floor, Jamaica, NY 11434, USA. Periodicals postage paid at Jamaica NY 11431. Subscription records are maintained at Autosport Media UK, 1 Eton Street, Richmond, TW9 1AG, UK. Air Business Ltd is acting as our mailing agent. We abide by the Editors' Code of Practice and are committed to upholding the highest standards of journalism. If you think we haven't met those standards and want to make a complaint, contact 0203 405 8100. Autosport Media UK Ltd is a part of Motorsport Network LLC



IS POWERED BY





ventus S1evo³

Powerful performance
and superior handling for luxury vehicles



BE ONE WITH IT

Be one with your tyres, and the road will be one with you.



Global
Partner



Hankook Tyre UK Ltd
Fawsley Drive, Heartlands Business Park
Daventry, Northamptonshire NN11 8UG
Tel: +44 1327 304 100 Fax: +44 1327 304 110

Ticker tape parade for reborn Bottas

The opening round of the world championship in Melbourne is one of the highlights on the F1 calendar. And each year I'm among the few photographers that gets special access to a ledge above the podium.

Along with a couple of TV cameramen, there are also a couple of VIPs who have managed to get access, so the secret is to get there early.

The key to this shot is to fire off a series of pictures as soon as the cannons shoot the ticker tape into the air and grab a pic before the view is obscured.

Despite it being St Patrick's Day, the confetti is green mixed with gold to represent the national sporting colours of Australia.



Photographer
Steven Tee

Where Melbourne, Australia
When 5.51pm, Sunday
17 March 2019

Details Canon EOS-1DX MkII,
22mm lens, 1/500th @ F5.6





Vettel blurs the lines in Melbourne

After spending the first part of Friday's opening practice at Melbourne inside the Racing Point pits, I then headed to the photographers' tower on the outside of Turn 2 for the remainder of FP1.

After shooting at a fast shutter speed, I then started to slow to a 15th of a second to induce a touch of motion blur to capture the cars accelerating along the straight to Turn 3.

With just two minutes of FP1 remaining, I decided to have some fun with a half-second shutter speed — and this image was the result. Just in time, as this was Sebastian Vettel's last flying lap of the session.



Photographer

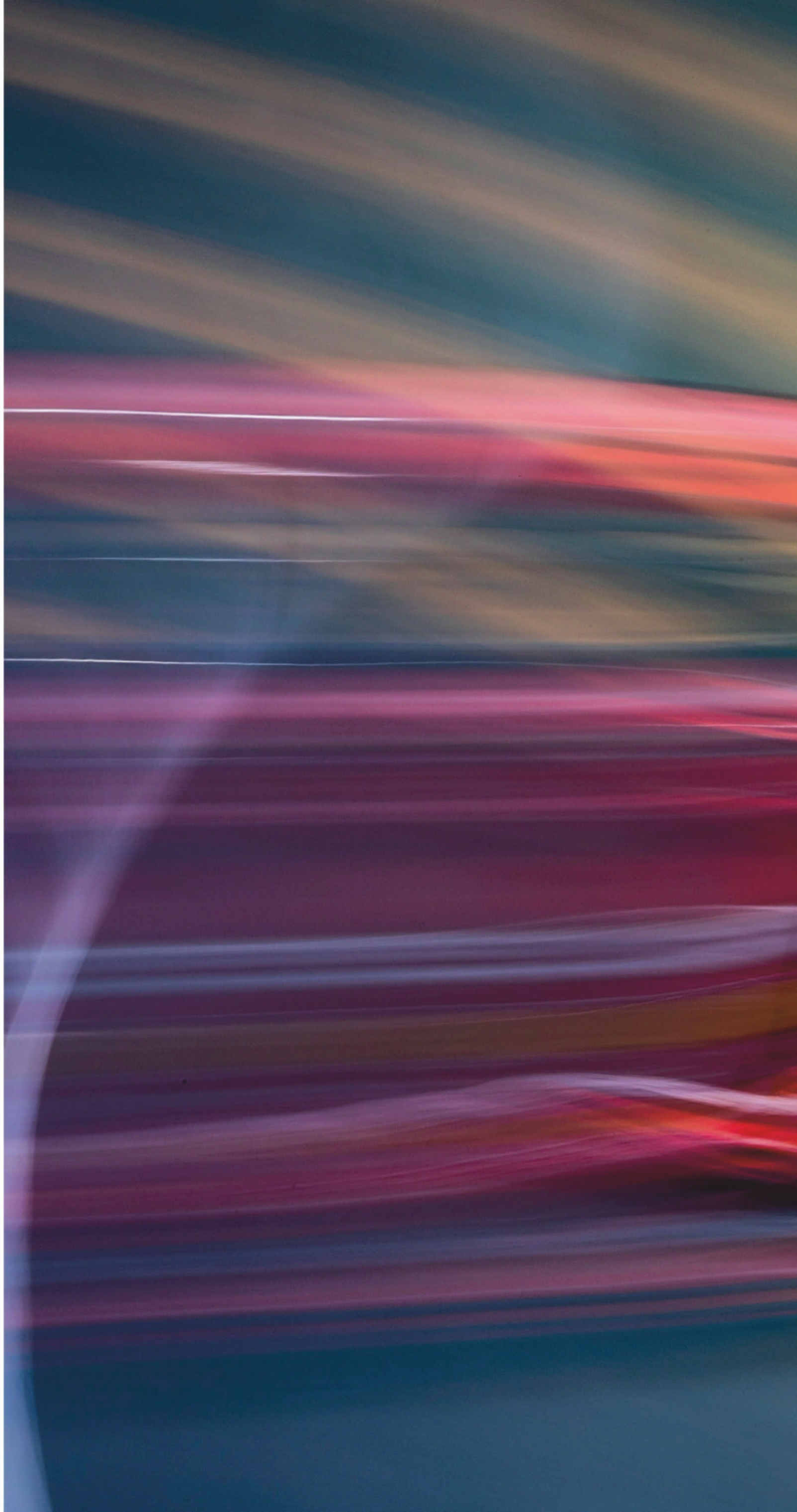
Glenn Dunbar

Where Melbourne, Australia

When 1.30pm, Friday

15 March 2019

Details Canon EOS-1DX MkII,
600mm lens, 1/0.5th @ F25









Two Mercedes in a league of their own

After eight days of pre-season testing, the data from the teams suggested Ferrari had the quickest car and would be the team to beat this season.

But after qualifying in Australia, the second-placed Mercedes of Valtteri Bottas was 0.592 seconds faster than Sebastian Vettel's Ferrari, while Lewis Hamilton was a further 0.112 seconds in front.

Right at the end of the session, I'm the only photographer allowed to stand on the grid to shoot the drivers celebrating in front of the fans.

As I took this shot of the two Mercs, there is no sign of Vettel – who has yet to round the final corner – leaving the silver cars in a league of their own.



Photographer
Steven Tee

Where Melbourne, Australia

When 6.01pm, Saturday
16 March 2019

Details Canon EOS-1DX MkII,
70mm lens, 1/1000th @ F5

A bright spark out of the shadows

Turn 6 at Albert Park is not only a tricky corner for the drivers – coming down two gears and braking to 96mph – but also for the photographers because of the shadows cast by the overhanging trees.

Towards the end of FP1, I noticed the Red Bulls were the cars most prone to kicking up sparks as they swept across the bumps on the track. Presumably they were running light.

The best way to extrapolate the shower is to shoot on a slow shutter speed. With this particular shot, the timing had to be spot on to shoot the RBR crossing the track for turn-in, just as it was emerging from one of the shadows cast by the trees. This was my first attempt and the only frame where Max Verstappen's helmet is sharp.



Photographer

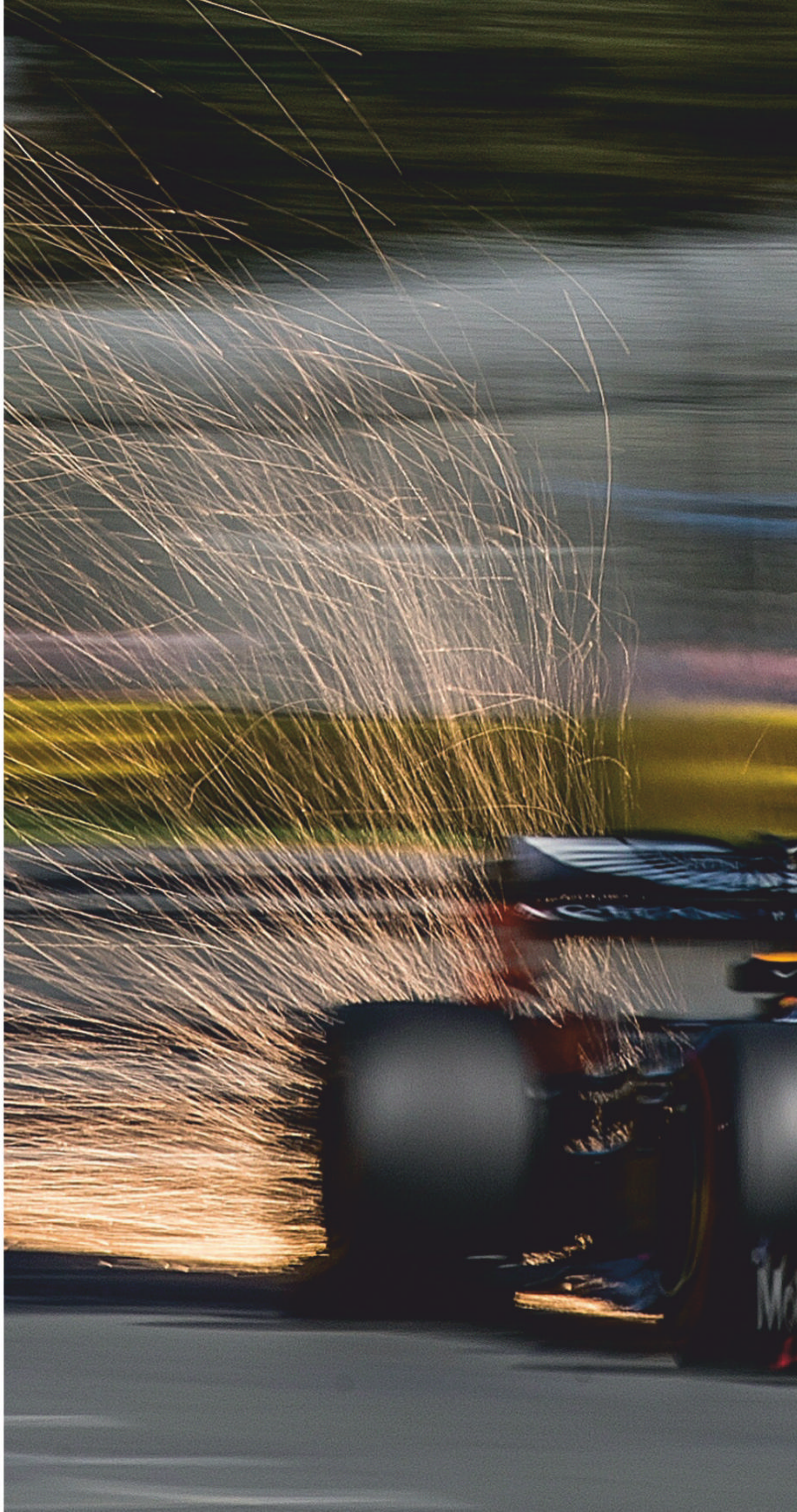
Sam Bloxham

Where Melbourne, Australia

When 1.25pm, Friday

15 March 2019

Details Canon EOS-1DX MkII,
600mm lens, 1/8th @ F14





Lewis is far from the madding crowd

Thankfully, the weather in Australia this year was perfect for photography, as it can be common to experience four seasons in one day in the city of Melbourne.

On Saturday afternoon, I headed out to the back of the circuit and to the right-left kink before the cars accelerate onto the back straight along the lake.

Perched in the photographers' tower overlooking Turn 9, the usual shot here is looking down at the braking zone. But this shot of Lewis Hamilton is him accelerating out of Turn 10.

You need to have a decent-sized crowd in the foreground to make the picture work, hence waiting until Saturday as it can be rather sparse on Friday.



Photographer
Glenn Dunbar

Where Melbourne, Australia
When 2.50pm, Saturday
16 March 2019

Details Canon EOS-1DX MkII,
265mm lens, 1/15th @ F9





AMBITIOUS NEW FACTORY FOR RACING POINT

01

Racing Point plans to move to the front of the Formula 1 grid through fresh investment that will include an entirely new factory – pictures of which have been revealed exclusively to *F1 Racing*.

The team will file its application for planning permission this month and hopes to be able to start building later this year. The plan is to have construction complete in time for the 2021 F1 season.

“This is a new chapter, the dawn of a new era, and there is huge energy from the shareholders to invest and help the team become a regular podium contender in the future,” said Racing Point team principal Otmar Szafnauer. “The team has never been more stable or in better hands and this project aims to attract and retain the best staff in F1.”

Racing Point's current factory is based opposite the gates to the Silverstone grand prix circuit, covering an area of three acres. It was originally built for the Jordan squad's F1 debut in 1991 and has housed the various iterations of the team since then, including Midland, Spyker and Force India. But the factory has long outgrown the staffing levels required for a modern F1 organisation and is in critical need of redevelopment.

Over the past decade the team's headcount has grown substantially. Last August, when Racing Point took over, staffing levels had increased to 405 from 280 in 2009. Since then the team has added another 20 employees and plans to expand by an additional 180 over the next two years as it seeks to achieve better performance.

When the consortium headed up by Canadian billionaire Lawrence Stroll took over Force India last summer, one of the priorities was to look at developing the Dadford Road base. Since then a deal has been struck to purchase the land around the site to increase the size of the Racing Point HQ ten-fold, to 30 acres.

There is a two-stage redevelopment of the site planned, and the first phase is already underway. At present an overspill of 125 employees are based at a second location in Brackley, but they are being moved into Dadford Road with rented Portakabins housing staff in the car parks around the factory. Warehouse space is also being rented for the team's simulator and race operations room in the industrial units close to its current base.

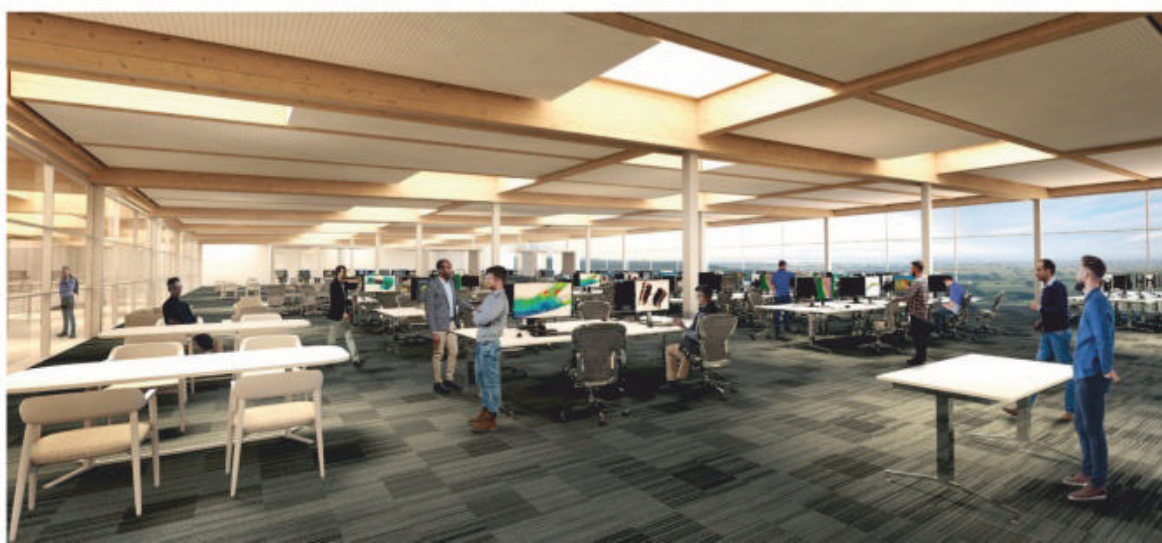
The team's modus operandi has been to out-source much of the construction of its chassis, but the plan for the new facility is to create a manufacturing centre of excellence to bring car build in-house. The ratio of

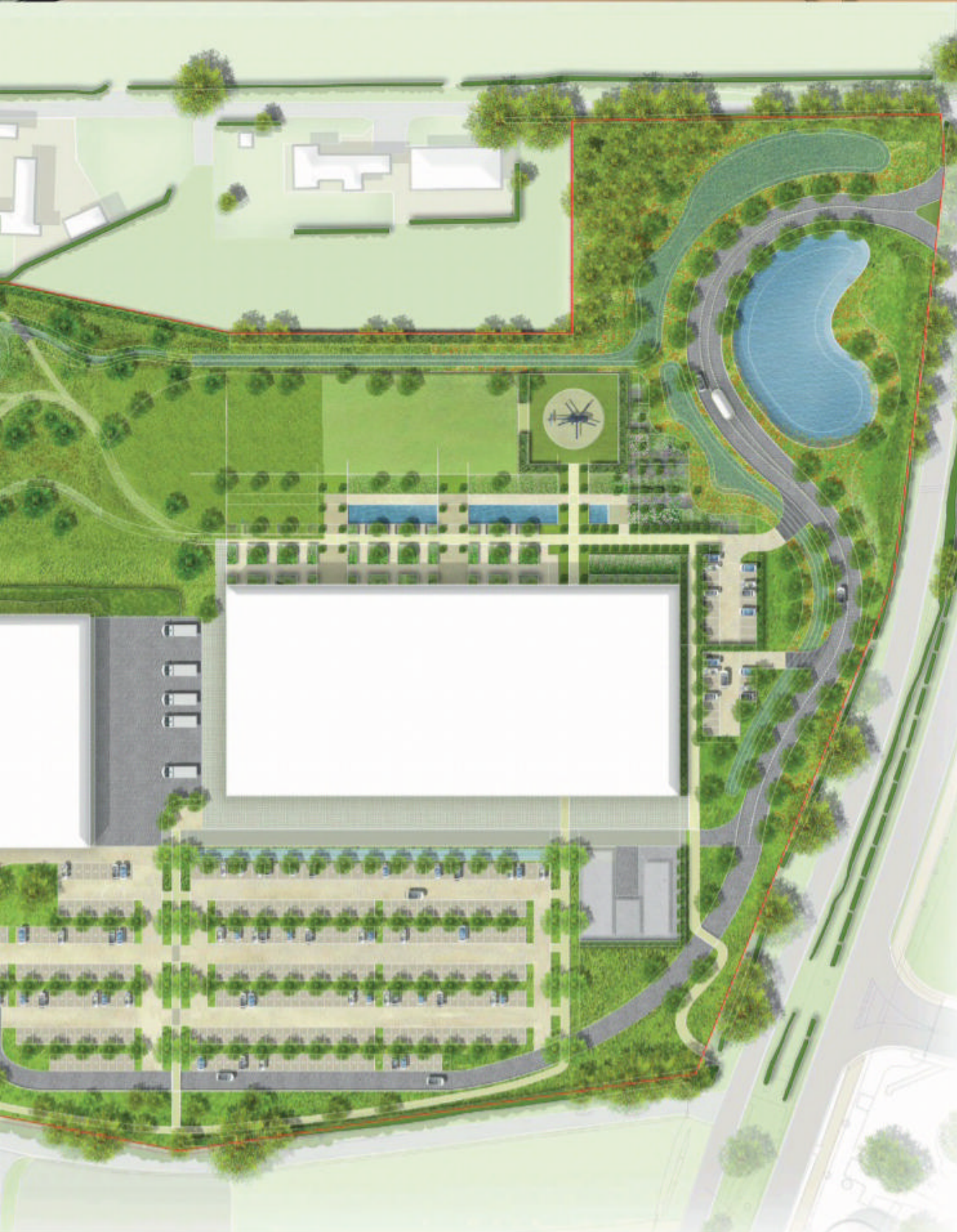
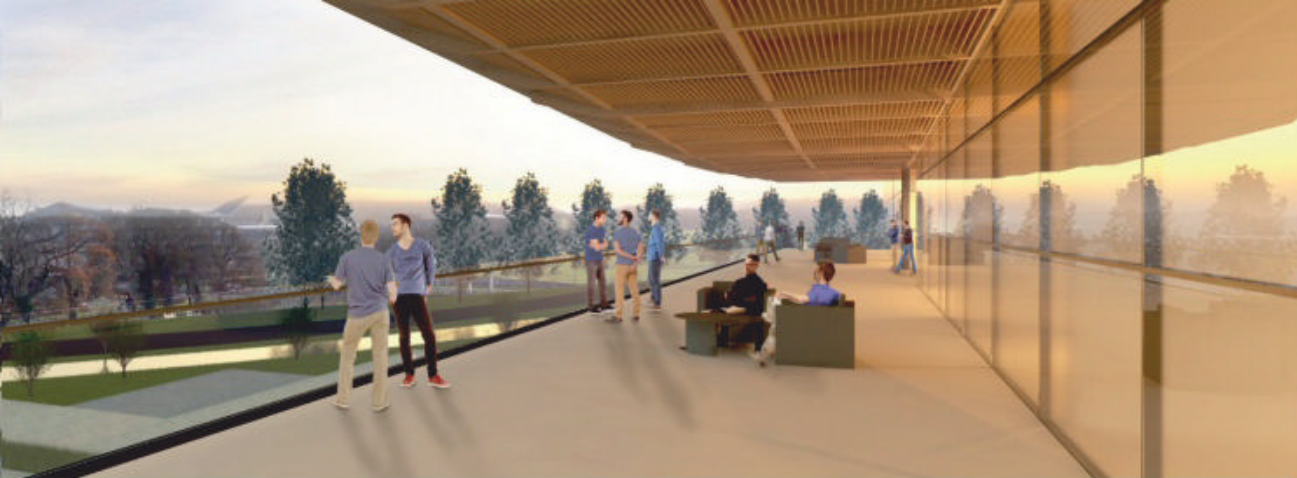


The proposed new 30-acre site (above) will bring all of the team's staff under one roof

personnel employed between the design office and manufacturing will be determined by the make-up of the 2021 regulations – which have yet to be finalised by the sport's governing body.

“Our new facility will be able to house the expansion we have planned of increasing staffing levels to around





PICTURES: RACING POINT

02

PADDY LOWE

Williams technical director on leave of absence following winter chaos

and the team rebranded to SportPesa Racing Point F1 Team. The plans to upgrade its factory to a new state-of-the-art, sustainable building is an indication of Stroll's long-term commitment to Formula 1 and a boost to the Motorsport Valley economy around Silverstone and in the UK – particularly in the present uncertain political landscape.

The purchase of more land will give Racing Point the option to futureproof its investment, taking into account unforeseen changes in the direction of Formula 1 regulations, as Szafnauer explains: "Let's say in the future windtunnels come back into vogue and the regulation says you can use them 24/7. In that scenario we wouldn't be able to share another team's tunnel [it currently rents time, along with other teams, at Toyota's windtunnel in Cologne]. What we would have to do then is build our own windtunnel. Or we might need a greater area for simulation or create a new CFD [Computational Fluid Dynamics] hub. We have the option to do all of these things, because we can expand with the land we have bought. Right now, we don't know where the sport is going in the future – but we're prepared for it."

A new regulatory, sporting and commercial regime is due to come into effect in 2021, but the details are still being negotiated by the principal stakeholders – F1, the FIA and the teams. Among the changes being sought are a budget cap and a more equitable distribution of income, which should offer a fairer playing field for the less opulently funded outfits. Like many of the midfield, that would offer Racing Point the best chance of taking regular podium finishes and even race wins.

Racing Point has been able to retain key personnel through the transition to new ownership, including technical director Andrew Green, chief race engineer Tom McCullough and sporting director Andy Stevenson – their efforts in the past few seasons have consistently put the team in the 'best of the rest' slot outside the top three, despite limited resources.

In both 2016 and 2017 it finished fourth in the constructors' standings, ahead of teams with much larger budgets. According to Szafnauer, any future regulations must favour a meritocracy and allow teams like Racing Point to flourish.

"There's a lot of talk about prescribed designs and single-supply parts, but what I would like to see for 2021 is a budget cap and technical freedoms underneath that cap," he said. "It would be easier to police if you have a single supplier for a gearbox or a driveshaft, but to me that's isn't the F1 of the future. A budget cap would help economics but with technical freedoms it means the smart guys can still outdo the not-so-smart guys."

Since it forfeited points scored before the buy-out Racing Point slipped to seventh in the constructors' standings last year. That means despite the investment from the new Stroll-backed consortium, 2019 will be a consolidation year while the team reorganises its ►

600," Szafnauer told *F1 Racing*. "We need everyone under one roof, we want to expand our manufacturing output, create a nice canteen, some office space, meeting rooms and a gym for our employees – everything we don't have at the moment. But we don't plan for it to be too opulent. We still need to retain our DNA and our racer's ethos, so it will be purpose-built for performance."

"There is no financial constraint on making the building help the performance of the car, but if you have gold taps and fancy wooden structures – that won't make the car go quicker. So there has to be a balance."

Canadian businessman Stroll took over the ailing team from previous owner Vijay Mallya after it was put into administration last summer and has started the process of investing heavily in the squad. At the Toronto Autoshow in February, a new title sponsor was unveiled

“OUR NEW FACILITY WILL BE ABLE TO HOUSE THE EXPANSION WE HAVE PLANNED”
OTMAR SZAFNAUER



infrastructure. Slowly, money is reaching areas of the company that had been in need of attention for some time.

“We have a great driver-in-loop simulator,” said Szafnauer. “But we haven’t had all 21 tracks – now with an influx of money we’ve been able to buy the circuits we’ve been missing. Everyone here is working on Medion laptops that are ten years old [Medion was a sponsor brought to Force India by former driver Adrian Sutil]. They haven’t broken down but we haven’t been able to afford new ones. When the consortium took over, the priority was performance to make the car go quicker, but now we’re looking at updating all

Racing Point hopes to have its new facility ready for the start of 2021

of our tooling and infrastructure.”

Up to 95% of the 2019 car was designed and 40% manufactured before the takeover, so the team isn’t expecting huge benefits immediately. But unlike in previous years, it can now afford more updates.

“A few years ago we had a B-spec car because we had to keep pushing back the upgrades because we couldn’t afford them. Updates to the car planned for Bahrain, Barcelona and Canada didn’t materialize, so by the time we added them altogether – it was essentially a B-spec car. We will no longer have that problem, so we aim to be more competitive as the season develops.” ▶

F1 DIGEST THE MONTH’S BIG STORIES AT A GLANCE

12.02.19 McLaren confirms managing director Andreas Seidl will start his new role on 1 May

13.02.19 Former Haas and Sauber F1 driver Esteban Gutierrez secures a 2019 development role with Mercedes

18.02.19 Ferrari’s Sebastian Vettel dominates the first of eight days of pre-season testing in Barcelona



19.02.19 The FIA issues an invitation to tender for a common F1 gearbox for 2021–24

22.02.19 Former McLaren boss Eric Boullier gets a new role on the organising committee of the French GP

27.02.19 Russian driver Sergey Sirotkin rejoins Renault as its reserve driver for this year

06.03.19 Williams announces chief technical officer Paddy Lowe is taking “a leave of absence” from the team



11.03.19 F1 approves ruling to award an extra point for fastest lap for a driver finishing in the top ten

14.03.19 FIA F1 race director Charlie Whiting dies on the eve of the Australian Grand Prix

PICTURES: RACING POINT; GLENN DUNBAR; ANDY HONE;

FORMULA 1
SINGAPORE AIRLINES
SINGAPORE GRAND PRIX
2019
MARINA BAY STREET CIRCUIT
20-22 SEPTEMBER



2019 EARLY BIRD TICKETS NOW ON SALE

**UP TO 28%
SAVINGS**

3 DAYS OF NON-STOP RACE ACTION + PERFORMANCES BY

FRI

SAT

SUN

**SWEDISH
HOUSE MAFIA**

MUSE

**RED HOT
CHILI PEPPERS**

FRI & SUN

SAT

SAT & SUN

SUN

**TOOTS &
THE MAYTALS**

CARDI B

**FATBOY
SLIM**

**HANS
ZIMMER**

**DJ LIZZY • FFION • GLEN WEE • GYM AND SWIM • J.S. ONDARA • JUPITER & OKWESS
LARKIN POE • MANTRAVINE • NJWA • PAREKH & SINGH • RAJA KUMARI
SWOON! • TEXAS • TROY • WOLFGANG FLÜR (EX-KRAFTWERK)**

OFFICIAL WEBSITE

WWW.SINGAPOREGP.SG

**AVAILABLE THROUGH ALL AUTHORISED
TICKETING PARTNERS**

PHONE BOOKING

+65 6738 6738

HOSPITALITY ENQUIRIES

+65 6731 5900

HOSPITALITY@SINGAPOREGP.SG

*Artiste line-up subject to change. Visit the official website for artiste performance timings, zones and stages.
The F1 FORMULA 1 logo, F1 logo, F1, FORMULA 1, FIA FORMULA ONE WORLD CHAMPIONSHIP, GRAND PRIX
and related marks are trademarks of Formula One Licensing BV, a Formula 1 company. All rights reserved.



WILLIAMS LOOK TO FERRARI

02 The struggling Williams team may try to emulate Ferrari's management model as it tries to recover from a catastrophic start to the season.

Williams arrived late to testing because the new FW42 wasn't built on time, then a lack of spares forced an early conclusion to running in Barcelona. Shortly after the test, Williams announced technical director Paddy Lowe had taken a 'leave of absence', but the likelihood is that he will not be returning to the team.

Ahead of the Australian GP the team was instructed by the FIA to change a number of design elements that it deemed illegal, including the mirrors and parts of the front suspension. In Melbourne, drivers George Russell and Robert Kubica qualified and finished last, during a compromised weekend in which they ran conservatively for lack of spares.

Before his departure Lowe insisted it would be a mistake to scapegoat individuals for the team's problems.

"What I've observed over many years in F1 is there's quite often the habit of changing the people when things don't

work," he said. "Stronger teams are the ones who do exactly not that. The way to solve your problems in F1 is not to run around firefighting, and rushing into doing the wrong things, it's about building a winning system. But F1 has a habit of being impatient and you've got to constantly fight that because if you put all the attention around that impatience you actually end up doing all the wrong things. And if you do all the wrong things you go backwards."

While Williams will not be drawn on its plans until it knows exactly what is happening with Lowe, the likelihood is that it will not be looking for a big star technical chief as a replacement. Instead, it will empower the staff it feels are strong enough to push the project forwards.

As Ferrari found when Mattia Binotto assumed the role of technical director in 2016, empowering staff to encourage creativity – while stripping away any blame culture – can produce rapid improvements. Binotto disassembled the management structure that had been in place before, and instead wanted more of a say to be given to individuals in the various departments.

But curing the overweight, downforce-light FW42 will not be the work of a moment. Russell has alluded to a "fundamental" problem with the design: "To change something so fundamental will take months of development, and that is what needs to be done."

Paddy Lowe is currently on a 'leave of absence' from Williams



BEFORE HIS DEPARTURE LOWE INSISTED IT WOULD BE A MISTAKE TO SCAPEGOAT INDIVIDUALS FOR THE TEAM'S PROBLEMS

F1 MASTERMIND

Your chosen specialised subject: the world's greatest sport

- Q1** The Chinese GP will be the 1000th world championship F1 race, but when was the 500th: Britain 1990, Australia 1990 or Monaco 1991?
- Q2** Which current driver made their F1 debut in the 2009 European GP at Valencia?
- Q3** What significance did the number 158 have for Robert Kubica at the Australian GP?
- Q4** How many races did Ricky von Opel, Liechtenstein's only F1 driver, start: 10, 15, or 20?
- Q5** Which driver completed the fewest race laps in the 2018 season?
- Q6** In 2018, how many races did NOT have a Safety Car or VSC period?
- Q7** Who completes this list of Tyrrell race winners: Jackie Stewart, François Cevert, Jody Scheckter, Patrick Depailler,...?
- Q8** Which driver holds the record for the number of consecutive race starts?
- Q9** True or false: Estoril held more world championship F1 races than Brands Hatch?
- Q10** Ferrari, Mercedes and Red Bull all managed front row lock-outs in 2018. In what year did three different teams last achieve this feat?



1 Australia 1990 **2** Romain Grosjean **3** The number of races since he last started a GP **4** 10 **5** Nico Hulkenberg (936) **6** False **7** 2 **8** Lewis Hamilton (229) **9** False **10** Brands Hatch 14 to Estoril's 13 2012 (McLaren/Mercedes/Red Bull)



TOM HARTLEY JNR

EXQUISITE CLASSIC & PERFORMANCE CARS

A HANDPICKED SELECTION OF OUR CURRENT STOCK



1987 FERRARI F40 PROTOTYPE

1 of only 8 factory prototypes, some of which were destroyed for crash testing and others later converted for racing. Many features not seen on the production models, gifted as a bonus by Enzo Ferrari to a VIP within Ferrari. Arguably the most important F40 in existence **£POA**



2006 BUGATTI VEYRON

Delivered new to Switzerland, only 7,879m & 2 owners from new, always serviced throughout its life at the factory until its most recent service by Bugatti London in Dec 2018, totally as new throughout **£1,250,000**



2015 PORSCHE 918 SPYDER

Delivery miles from new, optional extras include stone guard film, fire extinguisher & electric seat height adjustment, complete with all its factory accessories, 1 of only 918 examples ever produced **£1,100,000**



2004 PORSCHE CARRERA GT

Only 2,669m & 1 owner from new, a UK supplied example that's complete with all its factory accessories including dedicated luggage plus its original handbooks, indistinguishable from new throughout, a very special car..... **£895,000**



2011 FERRARI 599 SA APERTA LHD

Car no. 04 of only 80 examples ever produced, a huge spec car with options that include; water resistant leather, full electric seats, carbon zone with LEDs, many special features, only 961m from new, complete with all its books etc **£995,000**



2001 FERRARI 550 BARCHETTA

1 of only 448 examples ever produced, a RHD UK supplied car with only 8,877m from new, recently serviced & complete with its original handbooks, pouch, soft-top & history file, presented in fantastic condition throughout **£349,500**



Tel: +44 (0)1283 761119

www.tomhartleyjnr.com





THE F1 ANALYST

EDD STRAW

[@eddstrawF1](#)

[facebook.com/f1racingmag](#)



sharp than his right was in his younger days, he's still unavoidably unbalanced as a driver.

Within that context, what Kubica has done in making his way back into F1 is almost unfathomable. He's undergone multiple surgeries and recoveries, constant pain, the inevitable psychological impact of having to re-adapt to life and coming to terms with what he has lost while on the brink of a move to Ferrari in 2012. There will have been dark times for a man who lives and breathes motorsport, and still does despite what it has done to him. The sheer grit, determination and passion he's shown are exactly the qualities that could have, *should have*, made him a world champion had fate not intervened.

Watch the onboards and what he describes as "my limitation" is clear. The right hand doesn't grasp the wheel, it cups it. The left is doing most of the work – not just the usual demands of steering input and receiving feedback, but also the complex and constant settings changes. He is a completely different driver. While Williams has made

tweaks to his steering wheel to make it as easy as possible, the lack of a second set of nimble fingers is something he must work around.

What Kubica has done is adapt brilliantly. At first, it's inevitable he will have driven like someone trying to do what he used to do but in limited circumstances. Now, he's learned how to deal with the limitation, so every action and movement will be buried deep in the unconscious processing of his brain. He's now had the mileage to do that, hence he really is a completely different driver. If Kubica had not done that, he wouldn't be as quick as he is.

But this isn't the only challenge Kubica is battling. Even without the damage he's suffered, Kubica has been missing from F1 for seven full seasons. In that time, he has competed in rallying, but the Australian Grand Prix was due to be only his third race start since Abu Dhabi 2010. That was a different era, one before Pirelli tyres, DRS, Max Verstappen and several major rule changes.

F1's transformation makes it a double whammy for Kubica. Frustrating as it was to miss out on a 2018 Williams seat, it gave him a year of occasional testing and FP1 outings to sharpen his skills. Even so, after Williams had a difficult time during pre-season Kubica declared himself only "20 per cent ready" for Melbourne. Setting aside his limitation, coming back successfully after such a long absence is a formidable achievement.

That Kubica can drive an F1 car at pace at all is a minor miracle; that he's managed to get back into a race seat and hold his own is a massive one. While the other 19 drivers on the grid have to scrap for all their worth to prove

FOR KUBICA COMING BACK IS ONLY THE START

Robert Kubica has never been an ordinary Formula 1 driver. He wasn't the first time around, when he demonstrated the qualities required of a champion and might have had a serious shot at the 2008 world championship had BMW not refocused its efforts on the ill-fated '09 car. He isn't this time around either, even though he must be regarded as a very different prospect. The Australian Grand Prix was the grand prix debut of a new Kubica, a pseudo-rookie despite having 76 Formula 1 starts and victory in the 2008 Canadian Grand Prix on his CV.

Kubica wants to be judged on the merits of what he does behind the wheel, and so he should be. It's a familiar demand from those who have suffered life-changing injuries. Both Alex Zanardi and Billy Monger have asked for the same thing and refuse to use their condition as an excuse. It might seem strange to put Kubica in the same bracket as these double amputees, but while the injury to his right arm is very different it has also had a profound impact on his life both on and off track. All three are serious drivers, not novelty acts.



Kubica's return in Australia marked the beginning of a new and very different part of his Formula 1 career

Kubica's condition is not obvious. When he crashed his Skoda Fabia on the Ronde di Andora Rally in February 2011, the leading edge of a barrier sliced into the front of the car, through the engine bay and beyond. The desperately unfortunate Kubica was in its path, and his right arm and hand sustained horrific injuries. Today, the right arm is weak, limited in movement and the hand lacks the dexterity and control it once had. As he puts it himself, he now drives "70% left-handed". That might even be an understatement. But while his left hand and arm are now more responsive and

themselves every weekend, Kubica merely doing a decent job and being a credible F1 driver is a triumph in itself.

But a competitive beast won't see it that way and Kubica is not in F1 to make up the numbers, or simply satisfy himself by completing a moving personal journey back to grand prix racing. He's a focused and determined driver, one who will not allow himself to accept simply being there as enough.

It's deep-rooted in the psyche of every driver that they are there to win. While Kubica is pragmatic enough to realise the title that once seemed more likely than not won't come, he will be desperate to get some top results – within the limitations of what the Williams FW42 will let him do.

Given Williams starts 2019 in a class of its own, 'Class C' if you like, Kubica's main challenge is establishing himself as the lead driver at the team. Against a classy, well-rounded rookie in George Russell that's a significant battle in itself. And even if Kubica prevails, unless Williams makes dramatic strides forward there's not much to fight for

other than results in the teens and, on a lucky day, the odd point. That's not what he has come back for.

But hard as it will be, we cannot lose sight of what Kubica is achieving just by being in F1. There were times when a racing comeback seemed an impossible dream and that the best thing he could have done was to let go of it. By returning, proving he can still cut it, he's achieved the impossible.

That won't comfort him if he's struggling in an uncompetitive car, but it makes him more than just another driver on the F1 grid.

Can he make the most of this opportunity and have a successful second F1 career? It looks like a long shot. But this is Robert Kubica, a man who specialises in doing the impossible and must never, ever be underestimated.



It will be a difficult but Kubica's primary goal this season has to be beating rookie team-mate George Russell

“AFTER WILLIAMS HAD A DIFFICULT TIME DURING PRE-SEASON KUBICA DECLARED HIMSELF ONLY ‘20 PER CENT READY’ FOR MELBOURNE”





UNDER THE HOOD

PAT SYMONDS

@F1Racing_mag

facebook.com/

f1racingmag



be made by computer simulation. Equations will be written which describe the motions of the chassis on its suspension when subjected to inputs either at the wheel – typically bumps – or at the body – typically aerodynamic loads. The simulation will determine what are known as the transfer functions of the suspension, which is essentially a measure of how the suspension transmits forces and accelerations from the road to the hub and from the road to the chassis at different frequencies.

One particular challenge in F1 suspension design is that the vertical stiffness of the tyre is similar to that of the suspension. In other words, if a load pushes the car 20mm closer to the ground then

around 10mm of that compression will be in the tyre and 10mm will be in the suspension springs. This problem here is the tyre acts as a very under-damped spring – something that's very obvious when you see slow-motion footage of a car landing after leaping off a kerb. What physical damping there is in the suspension can only apply to the movement of the spring itself.

In an F1 car this damping usually takes two forms. The first is a conventional hydraulic damper similar to those found on any road car, and which provides a damping force proportional to the speed at which the spring is being compressed. The second is an inerter which provides a restoring force proportional to the acceleration the spring experiences between its two ends. ▶

KEEPING THE WHEELS ON THE GROUND

When evaluating a high-performance car's suspension, road testers usually discuss the compromises that must be made between ride and handling. Strictly speaking they should add mechanical grip to that discussion, because a vehicle can handle well but have very low grip – or be well endowed with grip but have dynamics that make it difficult to exploit that grip.

It would be easy to regard ride as the domain of road cars, but while F1 designers aren't quite as concerned about occupant comfort as Rolls Royce might be, it would be wrong to say they dismiss it.

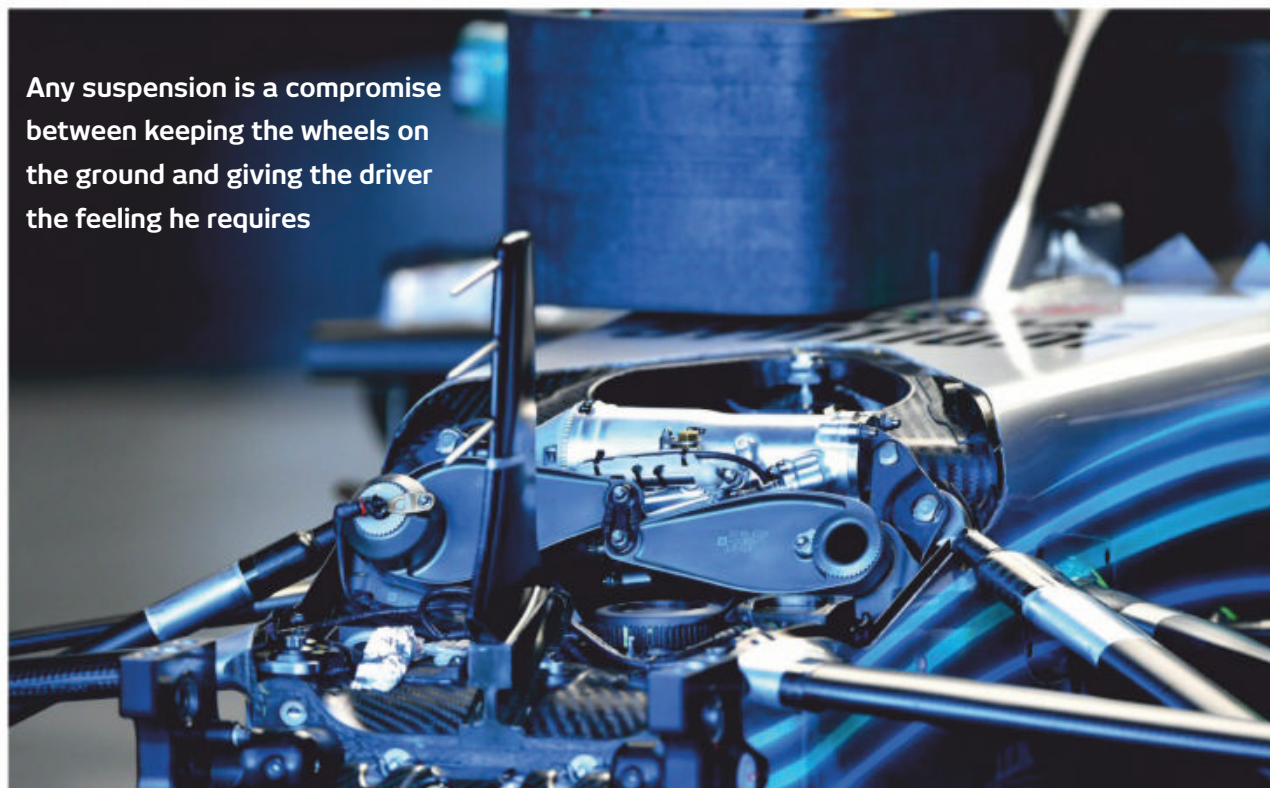
It might sound obvious to say a tyre can only grip the road when it's in contact with the surface, but what's less obvious is that the tyre can only produce good lateral or longitudinal grip when it's not just contacting the road but contacting it well. Generally speaking this means having a relatively soft suspension – but soft suspensions not only lack the fast response and instant feedback that an F1 driver demands, they're also incapable of supporting the enormous aerodynamic loads

experienced by an F1 car at speed. At the end of a 200mph straight those loads are around three and a half tonnes, or the equivalent of six polar bears deciding to hitch a ride.

As always, compromises have to be made. The engineers will try to find a happy medium which keeps the wheels on the ground, gives the driver the feel he requires, and yet doesn't allow the car to be driven into the ground at high speed. Also, any movement of the chassis on the springs needs to be well damped so the car doesn't continue oscillating once it has hit a bump or a kerb.

The first iterations of this compromise will

Any suspension is a compromise between keeping the wheels on the ground and giving the driver the feeling he requires



PICTURES: MARK SUTTON; JERRY ANDRE; ILLUSTRATION: BENJAMIN WACHENIE

canepa

00.1.831.430.9940
CANEPA.COM



Canepa Motorsports Museum



Collector Car Sales & Services



Concours Restoration Services



Vintage Race Preparation

Quality isn't Expensive, it's Priceless



1979 Porsche 911 Turbo
100% original California car with 1,704 miles. Immaculate and unrestored. Rare Paint to Sample Anthracite Metallic. Has original window sticker, purchase contract, sales brochure and CA license plates.



1973 Porsche 911S
Very original 55,299 mile 911S Coupe. Paint-to-sample Champagne Yellow. Matching numbers engine and transmission. Original interior. Includes original books, tools, jack and spare.



1982 Porsche 935
Bob Akin's famous Le Mans car of 1982, the "Super GTP 935" was one of the wildest and fastest 935s in the era. Fully inspected and detailed by Canepa. Eligible to compete with most all vintage race groups in the world.



1959 Lister
BHL 121 is the prototype and first Costin-bodied Lister. Raced at Goodwood in its 1959 debut, it has been completely restored by Canepa and race prepped. Has FIA Historic Technical Passport.



1973 Porsche Carrera RS
Early second series RS with a Monte Carlo and Tour Auto racing pedigree. Documented racing and ownership history. Includes large collection of period racing photographs.



Shelby Cobra 427
Indy 500 winner Dario Franchitti's personal Cobra. Extremely period-correct, aluminum-bodied example of Shelby CSX4000 series. Original 427ci side-oiler V8 engine. Stunning.

Want to learn more?

To find more pictures and information on our inventory above and to see the rest of our collector vehicles for sale, please visit our website at canepa.com or give us a call at 00.1.831.430.9940.

4900 Scotts Valley Drive, Scotts Valley, CA 95066



Max Verstappen gives his Red Bull some air and the car's suspension a lot to cope with

The inerter is a relatively new device. It generally takes a mechanical form, where the restoring force is generated by spinning a small flywheel with a lead screw, rather like a child's spinning top. Alternatively, it can rely on the inbuilt inertia of a column of fluid which is moved by the suspension.

Many designs have done away with metallic springs and use gas springs instead. These have many advantages. Firstly they can be mounted remotely, perhaps in the sidepod, a distinct advantage in the tight confines of an F1 car. Secondly, if they are remote they can be connected with a fluid coupling which acts as the inerter, in effect using one component to serve two purposes.

Finally a gas spring is by the physics that govern it a non-linear device. That means that the first 100 Newtons of load on the spring will compress it far more than the final 100 Newtons of load. This means the spring can remain relatively soft at low speeds and loads while having the strength to resist high loads at high speed. There are disadvantages. Gas springs are sensitive to temperature and so their rate changes as they heat up. This can be compensated for but it's easier just to allow for it. Physics will predict the change.

Even with the non-linearity of a gas spring

“WHILE F1 DESIGNERS AREN'T QUITE AS CONCERNED ABOUT OCCUPANT COMFORT AS ROLLS ROYCE MIGHT BE, IT WOULD BE WRONG TO SAY THEY DISMISS IT”

it's often necessary to add additional stiff springs to the system that will only engage above the speed of the slow corners. These are equivalent to road car bump rubbers which only engage in extreme conditions and provide a 'helper spring' function.

On top of the ride elements of suspension design, load transfer has to be considered. Many elements handle this as well as the springs, but the primary conduit is the anti-roll bar. As its name

Suspension design is a crucial part of a car's aerodynamics



suggests this combats the tendency of the car to roll in a corner, but perhaps more importantly it determines how the loads associated with cornering are distributed between the front and the rear of the car. Since the tyres are very sensitive to vertical load, this roll stiffness distribution has a fundamental bearing on whether the car understeers or oversteers.

Suspension design is also fundamental to the car's aerodynamics: the position and shape of the wishbones themselves play a part in the total airflow management around the car, and the stiffness of the front and rear suspension will determine both how it pitches and migrates through the complex multi-dimensional maps that describe the car's aerodynamic performance. Perhaps more than any other factor, it's the imperatives of maintaining a stable aerodynamic platform that drive the key decisions in both suspension design and car set up.

GRAND PRIX GUIDE



THE MOST INNOVATIVE AND COMPREHENSIVE PLATFORM FOR FORMULA 1 DATA & STATISTICS

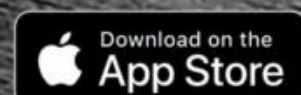
DESIGNED FOR **iOS** AND **ANDROID** MOBILE & TABLET PLATFORMS



NEWS : LATEST GLOBAL FORMULA 1 NEWS
SEASON SUMMARY : EVERY SEASON SINCE 1950
WORLD CHAMPIONSHIPS : EVERY ONE SINCE 1950
DRIVERS : 980+ DETAILED PROFILES
CONSTRUCTORS : 200+ DETAILED PROFILES
GRAND PRIX : 990+ DETAILED RESULTS
CIRCUITS : 70+ DETAILED PROFILES
ENGINES : 100+ MANUFACTURER PROFILES
TYRES : 10+ MANUFACTURER PROFILES
STATISTICS : 150+ AUTO UPDATED TABLES

MOBILE.GPGUIDE.COM

GPGUIDE IS AN EXCLUSIVE PRODUCT OF RKADIA PARTNERS, LTD
COPYRIGHT © 2019 - ALL RIGHTS RESERVED
FORMULA ONE LICENSING BV OWNS THE FORMULA ONE TRADEMARKS



AVAILABLE IN 6 LANGUAGES





Find your dream job

Here at Autosport we've been helping people find great jobs in motorsport for over 60 years. Today we're launching a new global motorsport jobs site, where you can:

- Find the latest jobs in motorsport
- Apply for a job with just one click
- Upload your CV and let recruiters find you
- Set up job alerts - don't miss out on your dream move

Register at motorsportjobs.com today

**motorsport**
NETWORK

Motorsport Jobs
- A Motorsport
Network Company



STRAIGHT TALK

MARK GALLAGHER

@_markgallagher
facebook.com/f1racingmag

Except it didn't quite work out that way. The problems included production, distribution, marketing and sales. In other words, everything. Getting retail outlets to stock it in the face of withering competition was difficult and ultimately terminal.

It was tough then, even more now that the market has matured. Ask Bertrand Gachot, owner of Hype Energy, sponsor of Racing Point. It's taken the former F1 driver years of graft to make a success of it.

Into this arena has arrived London-based Rich Energy. That it has chosen to become title sponsor of Haas is good news. Furthermore, it is a multi-year agreement. The company's spectacularly bearded chief executive William Storey does not want for confidence. Rich Energy apparently has billionaire investors and, at the livery launch in London's RAC Club, I met Jack Sullivan, MD of West Ham United Women's Team, coincidentally sponsored by Rich Energy. Jack is the 19-year-old son of David Sullivan who, along with David Gold, bought West Ham in 2010. Gold, along with brother Ralph, owns

businesses including Ann Summers, run by David's daughter, Jacqueline. An impressive network.

Storey is forecasting 2019 revenue of nine figures, with distribution and sales focusing on clubs, casinos and hotels. High street retail distribution is set to follow. Describing Rich Energy as a British-owned premium competitor to Red Bull, Storey is setting out to put a big dent in the energy drinks market.

Whether you view this as bullish confidence or utter bullshit is for the energy drinks market to determine and, given the nature of this cut-throat industry, it shouldn't take long to find out. Storey is nothing if not ambitious and Haas must hope he succeeds, because that will ensure the money keeps flowing. For any F1 team that's all that matters.

RICH ENERGY: CAN IT SUCCEED?

Jürgen Rauch remembers the first time Dietrich Mateschitz turned up at their factory in Rankweil, Austria, asking his father if they would be able to facilitate a small production run. The Rauch family business had been in operation since 1919 and was renowned for its fruit juices.

Switching production lines over to a low-volume run of Mateschitz's new product, something called an energy drink, seemed like a risk. In the end Rauch Sr agreed and when, not long after, Mateschitz came back to place a second order, the family's decision to supply the ambitious young entrepreneur was vindicated. As sales of Red Bull gathered momentum at home and expanded across Europe, production soared.

In January 2005 Peter Huls and Roland Concin showed me around the facility. Huls was the winemaker whom Mateschitz had employed to help develop the flavour of Red Bull. Concin, the head of operations, was tasked with getting it produced.

As we stood in front of one of the mesmerising production lines, Concin explained that it was producing 90,000 cans of Red Bull every hour. There were four such lines. One hundred cans of Red Bull every second – packed, palletised, sent to

the warehouse and then onto trains heading to Hamburg and Bremerhaven for shipping.

Four years previously I had sat in meetings at Jordan Grand Prix listening to plans for the team to diversify into energy drinks. EJ10 was the product, and the gentleman employed to oversee it at the behest of the team's private equity investors was predicting annual revenues of \$250m. The team, he forecast, would become self-funding.

Rich Energy has entered F1 as title sponsor of Haas and aims to shake up the energy drinks market led by Red Bull



PICTURE: JERRY ANDRE. ILLUSTRATION: BENJAMIN WACHENIE

THIS MONTH

Tommaso Volpe

Director Global Motorsport and Performance Projects, Infiniti Motor Company

Having worked with both Ferrari and Lotus, Tommaso Volpe is now in charge of motorsport operations at Infiniti, Nissan's luxury vehicle division. He explains how Infiniti's relationship with Renault has developed into a partnership for hybrid performance technology and also a very important and forward-thinking proving ground for young engineering students

CV

2017-present

Director Global Motorsport and Performance Projects, Infiniti Motor Company

2014-2017

Director Global Motorsport, Infiniti Motor Company

2009-2014

Head of Marketing and Retail Merchandising, Lotus Cars

2008-2009

Marketing Manager, Ferrari

2005-2008

Trade Marketing Manager, Johnson & Johnson

2001-2005

Senior Consultant, KPMG

F1 Racing: How successful has Infiniti found Formula 1 as a marketing platform for a global automotive company that doesn't race in it?

Tommaso Volpe: We've discovered that most of the Formula 1 audience is focused on the racing activities and the drivers, but that's just the tip of the iceberg. F1 is at the pinnacle of many things. It's the pinnacle of research and development and hybrid technology, plus a lot of other areas of science such as composite materials.

It's also at the pinnacle of safety and data transfer and in many ways at the pinnacle of marketing. There are very few platforms where a brand can have global exposure every year in 21 different countries.

The complication is to activate in a consistent way, to generate value, but understanding the differences in the diverse markets – that's the tough challenge with F1.

F1R: After the departure of Lotus from F1, you had an opportunity to work with Infiniti, first with its sponsorship programme with Red Bull – can you tell us how the partnership with Renault began?

TV: With Infiniti it had a very successful relationship with Red Bull Racing. The brand awareness increased, especially in territories where Infiniti was not as strong, such as Europe, Mexico and Canada.

After five years there was a desire to have a more meaningful connection with Formula 1. So I took a big risk. Either the company left the sport, or found a more meaningful way to promote our brand, because Infiniti is not a bank, it is a car manufacturer.

The first conversations were with our core business partner, Renault, which at the time was the powertrain supplier to Red Bull Racing. Then we started to see how Infiniti could have an active role. This was an exciting task because the Renault-Nissan-Mitsubishi alliance is one of the largest automotive groups in the world, and it became about how we worked with this relatively new brand, Infiniti, to have a strategic influence in motorsport.

INTERVIEW JAMES ROBERTS

F1R: How did that manifest itself?

TV: Infiniti was one of the first brands in the auto market to use hybrid as a *performance* technology, many years before F1 introduced it. We agreed with Renault that we would have a group of our hybrid expert engineers relocated from Japan to France to help develop the technology. So we began a technical partnership derived from the Renault-Nissan alliance.

But it didn't stop there. Since then we've also launched the Project Black S, our new coupé which uses this same technology, directly linking our engineering expertise in F1 and transferring this to the road.

This partnership is a pillar of our strategy since by 2021 the Infiniti portfolio will be fully electrified. Every new product will either be electric or hybrid, but they will always be performance related. Our involvement in F1 is not just sponsorship or a sticker on the car, it's part of the strategy of the core business of the brand.

F1R: In addition you are five years into the Infiniti Engineering Academy. Can you explain how that works?

TV: All our activation in F1 is about how this sport is becoming more relevant for automotive companies – and this is where our Infiniti Engineering Academy comes into it, because this is an exchange of talent, not just technology. We came up with the idea of a work placement for engineering students, where they spend six months in Formula 1 – at Enstone with Renault – and six months with Infiniti's technology centre in Cranfield.

We find students from seven areas around the globe to cover all our markets: Mexico, US, Canada, Europe, Middle East, China and Asia-Pacific. It's important that we do this for students and not professionals. It's a once-in-a-lifetime experience for students to get the chance to work in the car industry and F1 – and when many of them have finished their studies, they have secured contracts at either Renault or Infiniti. It's a forward-looking inspirational exercise to find the best students who will become the talent of tomorrow.



CHARLIE WHITING

1952 - 2019

Charlie Whiting, who died unexpectedly aged 66 in the build-up to the 2019 Australian Grand Prix, was a *giant* of Formula 1. In his professional capacities as a race mechanic, and latterly as a key figure within the FIA, he attended over two thirds of the world championship grands prix – and didn't miss a single event from the 1978 French Grand Prix until his untimely death four days before this year's season-opener in Melbourne.

Like many people who work within F1, Whiting was passionate about the sport and an enthusiast above all else. He grew up in West Kingsdown in Kent, near Brands Hatch, and his first experience of top-level racing at the age of 11 would define the course of his life.

"I was well into cars and followed Formula 1 as best I could back in the days when you'd struggle to find anything about it in the newspapers," he said in an interview with *F1 Racing* in 2012. "When the British Grand Prix – actually it was called the European Grand Prix then – came to Brands for the first time in 1964, I dutifully sneaked over the fence, as you do, to watch the race. That was it for me; I just wanted to be involved in Formula 1 after that."

In the early 70s Whiting spent five years at Borough polytechnic earning a Higher National Diploma in mechanical engineering ►

WORDS STUART COOLING







Spannering for Galica (far left), with Professor Sid Watkins (left) and as F1 race director with team bosses Flavio Briatore and Jean Todt in 1997



while helping to maintain his elder brother Nick's race cars in rallycross and Thundersaloons. The older Whiting was already a wheeler-dealer, and in '76 he came to an arrangement to run Divina Galica in a Surtees TS16 in the Shellsport International Series – essentially a Formula Libre championship – with Charlie on spanner duty. They also entered the British Grand Prix but Galica failed to qualify the ageing Surtees, which had hardly been a flier when new.

For '78 Galica took Charlie into F1 with Hesketh, but the team was on the ropes. "That didn't last very long," he recalled. "She didn't qualify and then I think we ran Eddie Cheever for one race and Derek Daly for another. After the Belgian Grand Prix, Hesketh folded. Beaky Sims, who was the team manager, told me that Herbie [Blash, team manager at Brabham] was looking for someone. I went for a chat. They wanted a number three mechanic on the T-car, and I was that man."

It was at Brabham that Whiting blossomed, rising from entry-level mechanic for the spare car to chief mechanic within three seasons. Under Bernie Ecclestone's ownership, and with Gordon Murray at the drawing board, Brabham was a major force during these years as well as a

persistent thorn in the side of rule-makers. Whiting experienced the nuts and bolts of all manner of innovative dodges while assembling cars for the likes of Niki Lauda and Nelson Piquet (twice a world championship winner at Brabham), and this would set him in good stead for the next phase of his career. Having been promoted to race engineer in '85, Whiting changed roles again as Ecclestone stepped back from the day-to-day running of Brabham in favour of his growing role as F1 'ringmaster'.

"Bernie was finding there was too much of a conflict of interest between the FIA – or FISA as it was then – and the teams, so he gave up [running a team]," Whiting said. "He offered to keep me on, doing whatever he could find for me. It was his idea that I could perhaps work for FISA. Having been on one side of the fence, he thought I'd perhaps be good at catching the buggers from the other side! That's how it all started. When Max Mosley became FIA president at the end of '91, he promoted me to technical delegate. My next milestone was 1996 when I was given the job of starting the races. In 1997, I became race director."

As poacher-turned-gamekeeper, Whiting found himself on the front line of regulatory defence during an era of unprecedented innovation.

Inevitably, as rising performance was seen to correlate with increasingly dangerous on-track incidents, his role as safety delegate grew in scope, importance – and scrutiny.

"As things evolved," he said, "we had a few big issues arising in the early 1990s with fuel, for example, and then with active suspension. We had some big fights on our hands. Then it all became far more complicated, so I had to bring in a few experts. In 1994 there was the traction-control saga and then, of course, the whole business with Ayrton [Senna]'s death at Imola

and all the changes that were needed as a consequence of that. We needed to get more and more specialised to try to keep pace with the technology."

Over the following two decades F1 evolved to an extent that nobody could have anticipated. Massive investment by sponsors and car companies yielded a concomitant rise in competitive pressures. Whiting's role made him a pivotal figure in the often fraught relationships between the rule makers and the rule takers. Teams and drivers built an implicit faith in his ability to enforce the regulations without fear or favour. He also – perhaps unfairly – became a lightning rod for criticisms those rules were becoming too complicated and prescriptive.

"What happens typically is that questions are asked of you all the time," he explained in an *F1 Racing* 'They Ask The Questions' feature. "Some result in clarifications that get sent to all the teams and these ones usually find their way into the rules. It isn't a matter of taking words out, it's a case of adding more in to cover things we hadn't really thought of."



Posing (second from the right) with his fellow Brabham mechanics in Argentina in 1980 (left) and with Bernie Ecclestone in 1986 (below left)




“HE WAS A PILLAR OF OUR FORMULA 1 FAMILY” TOTO WOLFF



are able to check the cars with the level of precision they require – and that’s where things get complicated. Things where it previously may have been alright to say: ‘That’s okay, don’t worry about it, it’ll be fine,’ now require absolute precision – hence the rules have to be more precise. They’ll never get smaller as far as I can see.”

In a sport with so much at stake, both competitively and financially, it’s remarkable so many large (and competing) organisations placed so much faith in one person’s capacity to play fair. And yet Whiting’s word was always law, whether he was presiding over the legality of complicated aerodynamic components or whether a driver gained an advantage by cutting a corner. His passing leaves a vast gulf that will not be easy to fill.

“He was a pillar of our Formula 1 family,” said Mercedes’ Toto Wolff, “balanced in his approach, subtle in his understanding, and always with the interests of F1 as his main focus. Charlie was a fantastic ambassador for our sport and a true guardian of its best interests; all of us who were lucky enough to know him will miss his ready smile and gentle humour.”

F1 Racing extends its deepest sympathies to Charlie’s family and many friends in the Formula 1 community. 

Don’t forget the rules are discussed by all the teams: we have working groups and everyone sits down together and it gets discussed.

“Inevitably, there are increasing demands to make sure Formula 1 is tightly controlled. Everyone wants things to be perfect; they demand perfection of themselves. So, we have to do our best to make sure that we



IMAGINE
MOTOR SPORT

ALL HOLIDAYS INCLUDE
**FLIGHTS, TRANSFERS,
HOTEL & TICKETS**



GRAND PRIX HOLIDAYS

FROM AN
AMAZING

£899^{PP}

**EXCLUSIVE MARTIN BRUNDLE
EVENT AVAILABLE AT THE
SINGAPORE, CHINESE AND
MONACO GRANDS PRIX**

Upgrade your amazing Formula 1 holiday by adding an exclusive event with racing legend Martin Brundle. Held in iconic locations, these events offer the chance to meet Martin while he answers questions about all things Formula 1 and gives his expert insights into the upcoming races.

**UPGRADE
INCLUDED ON
SELECTED GRAND
PRIX HOLIDAYS**



VISIT US ONLINE FOR MORE GREAT HOLIDAYS:

IMAGINEMOTORSPORT.COM/GB/F1RACING

CALL ONE OF OUR EXPERTS

0800 031 6654

OPENING HOURS:
MON TO SUN: 9AM - 8PM

SINGAPORE GRAND PRIX

FROM ONLY
£1,499 PP

4 NIGHTS / DEPARTING 19 SEPTEMBER 2019

DEAL CODE
GPX7229

- 4 night hotel stay in Singapore
- 3 day Grandstand ticket to the Singapore Grand Prix including:
 - Friday 20th September 2019 (Practice Day)
 - Saturday 21st September 2019 (Qualifying Day)
 - Sunday 22nd September 2019 (Race Day)

UPGRADES AVAILABLE: 7 night hotel stay in Bali
+ **Martin Brundle Event** (Call or go online for further details)



SINGAPORE

CHINESE GRAND PRIX

FROM ONLY
£1,499 PP

4 NIGHTS / DEPARTING 11 APRIL 2019

DEAL CODE
GPX7234

- 4 night hotel stay in Shanghai
- 3 day Grandstand ticket to the Chinese Grand Prix including:
 - Friday 12th April 2019 (Practice Day)
 - Saturday 13th April 2019 (Qualifying Day)
 - Sunday 14th April 2019 (Race Day)

UPGRADES AVAILABLE: 6 day fully escorted China Tour
+ **Martin Brundle Event** (Call or go online for further details)



SHANGHAI

MONACO GRAND PRIX

FROM ONLY
£2,699 PP

4 NIGHTS / DEPARTING 23 MAY 2019

DEAL CODE
GPX7233

- 4 night hotel stay in Nice
- 2 day Grandstand ticket to the Monaco Grand Prix including:
 - Saturday 25th May 2019 (Qualifying Day)
 - Sunday 26th May 2019 (Race Day)

INCLUDED WITH YOUR HOLIDAY ON FRIDAY 24TH MAY 2019:
Champions Club at La Maree Restaurant in Monaco with
Martin Brundle including gourmet food and drinks



MONACO

ITALIAN GRAND PRIX

FROM ONLY
£899 PP

4 NIGHTS / DEPARTING 5 SEPTEMBER 2019

DEAL CODE
GPX7237

- 4 night hotel stay in Milan
- 3 day ticket to the Italian Grand Prix including:
 - Friday 6th September 2019 (Practice Day)
 - Saturday 7th September 2019 (Qualifying Day)
 - Sunday 8th September 2019 (Race Day)


UPGRADE AVAILABLE: 3 night hotel stay in Lake Garda
(Call or go online for further details)



MILAN



FREE ANNUAL
SUBSCRIPTION TO F1
RACING MAGAZINE
WITH EVERY BOOKING!*



A gambling man

Daniel Ricciardo has given up a race-winning F1 seat to throw his lot in with an ambitious but (so far) firmly midfield team. We dropped in to Enstone to ask him the *real* reason for ditching Red Bull in favour of Renault and why he thinks this strange career move will pay off

WORDS JAMES ROBERTS PICTURES BEN WRIGHT



Castrol EDGE



FINITI

BANK



bp Ultimate



GETTING A FORMULA 1 DRIVER TO POSE FOR THE CAMERA

can often be as hard as extracting blood from a stone, but Daniel Ricciardo is finding it tricky to keep a straight face. Glaring into the lens is causing fits of giggles. “I can do fake laughing instead,” he says to our photographer, bursting into guffaws.

Unless they are doing what *they* want to do, most F1 drivers can best be described as irritable away from the track. If they’re not behind the wheel, then life suddenly becomes a bit of a chore. *Has someone remembered to pick up my bag? Does this decaf coffee contain almond milk? Is my PS4 controller charged?*

Other drivers struggle to have a conversation beyond what they ate for breakfast. But none of the above apply to Danny Ric. He acts and thinks differently to his fellow racers. He likes a joke, isn’t afraid to speak his mind and doesn’t believe self-centeredness is a virtue. He even considers Monaco to be a bit “meh”.

On this early spring morning, Ricciardo is honest and open about his surprising career switch from Red Bull to Renault – a team, remember, that hasn’t won a race since 2013 (in its previous guise as Lotus). He bounces into the Enstone factory with a purposeful stride and charismatic zeal. Every request is greeted with zero hassle. And yet, one of the most wearisome phrases you hear is, ‘he’s too nice to win’ or he lacks ‘killer instinct.’ Seven grand prix victories and a reputation as one of the best overtakers in the business belittles that argument. Don’t be fooled. The laidback, happy-go-lucky demeanour isn’t indicative of indifference. There is a ruthless, competitive spirit burning inside the man from Perth and he’s deeply passionate about winning.

“There were times last year I thought, ‘I just want to get out of here’,” he says frankly, about his final season at Red Bull. “I got frustrated and I had to ask myself why, sometimes, do I hate it so much? But the reason is because I care. If Formula 1 meant nothing to me, then I would just shrug my shoulders, walk away and go and party with my friends. But I believe I belong in F1, and belong at the top.”

As soon as the flashbulbs have stopped firing, the 29-year-old sits down at a table overlooking the Oxfordshire countryside and opens-up about the real reasons for ditching the company that guided his career for nearly half his life. He also explains rationally, the thinking behind a move to Renault, a decision that was criticized for many reasons. Why drive for the manufacturer that was to blame for many of the engine failings Red Bull suffered since the start of the hybrid era in 2014, when Ricciardo first emerged as a topline F1 driver? Why leave a race-winning, top-three side for a team that hasn’t won in six years? Was it just for the money? And after being out-qualified by Max Verstappen in the past two years, why – in the words of Red Bull boss Christian Horner – was he “running away from the fight?”

“He’s wrong, but I will defend people’s opinion because he hasn’t pulled that from nowhere and he’s not the first person to say it,” states Ricciardo, calmly and assuredly. “Is there a parallel to what Seb [Vettel] did when I came into Red Bull and beat him [in 2014] with him trying to escape? It’s an opinion, but that’s not the reason. There were a lot of little factors for me to move on – but it wasn’t about Max. I’ve always wanted a fight and although it sucks being out-qualified by Max, I feel that having a competitor like him does get more out of you.

“I always want to see how good I am, so I always want a strong team-mate. If I do get beat fair and square, then so be it. ▶

“
IF FORMULA 1 MEANT NOTHING TO
ME, THEN I WOULD JUST SHRUG MY
SHOULDERS, WALK AWAY AND GO
AND PARTY WITH MY FRIENDS.
BUT I BELIEVE I BELONG
IN F1, AND BELONG
AT THE TOP
”

I'll either learn and get better from it or I'll just accept I'm not the best in the world. I've never had a problem with losing. I've never run away from that – so it wasn't about moving on from Max.

“Then everyone says I struggled with Renault for so many years and with Honda coming on board there was a chance to get out of it – why would I choose to go back in? But I thought Honda has had a few years at it and they still have a lot of work to do. Renault has work to do also, but they have a few more years advantage. It feels like they could get to that place quicker. If it didn't work with Honda at Red Bull, then what? So actually, it felt like there was a lot more risk staying at Red Bull...”

At the start of 2018, Ricciardo knew he was going to be out of contract at the year's end. Red Bull had already re-signed Verstappen on a big money, multi-year deal (making him the third best-paid driver in F1) and were keen for Ricciardo to remain as his team-mate. After Monaco, Ricciardo had won two of the first six races and in his words thought he had “every option under the sun,” until he admits: “Ferrari and Mercedes went on a different path...”

After his manager, Glenn Beavis, spoke with the remaining teams, it came down to a straight choice: stay at Red Bull or make the jump to Renault. Dan's decision surprised many, but dig a little deeper and Ricciardo admits it was a personal decision that reflects his time of life (he turns 30 in July) and his love/hate relationship with Formula 1.

“Yes, it was more of a personal risk for me,” Dan admits. “I felt last year there were a lot of highs and lows. You will have seen some post-race interviews where I was pretty down and at times unhappy...”

One example was Baku, where he and Verstappen were criticised for their on-track collision that eliminated them both from the race. Another occasion was the hydraulic failure that ended his Mexican Grand Prix, coming a day after a brilliant qualifying session where he beat his team-mate to pole position by just 0.026 seconds. Afterwards he described the car as “cursed.” It was just a week on from an electrical shutdown in Austin which prompted the Australian to punch his fist into the wall of his room at the track.

“Austin and Mexico last year really got me down,” he adds. “I had some of my best friends at both of those races and if I didn't care, I would have gone out both Sunday nights and would have thought, it's fine – I'm just getting paid to race cars. But they had to drag me out of my hotel room because I was just miserable. It hurt because I care.

“Some days I think, why the f**k did I choose this sport? When you look at tennis, players very rarely lose a game because of their racket. They beat their opponent because of their performance on that day – it's not the same with racing cars. At Red Bull, I felt that if it continued to be a couple more years of frustration, in the same environment, then I was going to end up getting frustrated with the sport and I might just say ‘I'm done with this’, so I needed a new environment. Period.” ▶

“I'VE NEVER HAD A PROBLEM LOSING – SO IT WASN'T ABOUT MOVING ON FROM MAX”



PICTURES: MARK SUTTON; JERRY ANDRE



Ricciardo had a solid pre-season and Dan spent time trackside with Alain Prost, who admitted signing the Australian had given the team a huge boost

THE HÜLKENBERG CONUNDRUM

If there's one driver on the grid who understands the inequitable status between talent and results in F1, it's Ricciardo's new team-mate Nico Hülkenberg. As a Formula 3, A1GP and GP2 champion, plus Le Mans 24 Hours winner, how is it that he has not a single F1 podium to his name in his eight seasons and over 150 starts?

"When I moved to Europe in 2007, he was one of the young drivers making a name for himself," says Ricciardo. "I knew straight away he was very good and people who follow racing recognise he is one of the top drivers – he's just never been in a winning team to get the podiums he deserves.

"I think the rivalry we'll have will be really strong," Dan continues. "They'll be no BS. We'll push each other and our experience should help the team grow. People will look at the stats and say: 'well he has no podiums so Ricciardo will beat him easily'. Actually, it's his real chance to prove people wrong and beat a race-winning driver to remind people how good he is.

"This year should bring the best out of him and that excites me because I think we'll get the best Nico we have ever seen. If I can beat him that puts me in a good light and if he beats me then it's going to make people think of him higher – I'm excited by that challenge."

EGGS. THE YOLKS ARE MORE YELLOW IN THE COUNTRYSIDE,

according to Dan, as he contemplates breakfast. While watching the spring lambs on the rolling Cotswold hills, he knows it'll be the last chance he'll get to enjoy the daylight today. In the hours to come he'll be confined to the windowless simulator room.

He's revelling in his new environment at Enstone, which is in a very different location to the industrial estate of Red Bull's Milton Keynes base. And talk of eggs is apt, as they have long represented a new beginning. A rebirth, for driver and team.

"Three years to reconstruct, three years to challenge," said Renault's tech boss Marcin Budkowski at the RS19 launch. That's been Renault's mantra since they returned full-time at the start of 2016. This year marks a mid-way point and a switch in focus. Building work has expanded Enstone. Staff numbers have nearly doubled – to 700 – and according to team boss Cyril Abiteboul, virtually every single area of the company has "improved or completely transformed".

"From windtunnel instrumentation, milling machines, manufacturing, composites, race bays, we have improved to compete against the best," says Abiteboul. "In Viry-Châtillon (the Parisian power unit HQ) there have been further improvements. We have commissioned a brand-new engine dyno, fully compatible with the proposed 2021 engine regulations and the foundations are in place for a new engine workshop. With clear leadership, we plan to turn all of these ingredients into a race-winning structure."

The regeneration of Renault has taken the team from ninth to sixth to fourth in the constructors' standings, and the goal now is to close on the top three. With greater investment and a core group of staff that tasted championship success in the past with Fernando Alonso (in 2005 and 2006) and a handful still there from Benetton's Michael Schumacher title-winning years of '94 and '95, Renault has the best chance of the chasing pack to make in-roads into the top three.

Talk at the mid-February car launch was bullish and engine boss Rémi Taffin described the winter as the "best for five years". The belief is Renault has found an extra 45bhp in qualifying mode and 27bhp for the race mode of its power unit. The final piece in the French firm's jigsaw was hiring a proven race winner to pilot one of its cars. "When we announced

we had Daniel, the reaction inside the factory was unbelievable," says Alain Prost, a special advisor to the *Régie*. "They were very happy and now we need to do the job for him."

"When someone like Daniel wants to race for you, it feels good for everyone in the team," adds Budkowski. "We're on to something here. We're building a project and we believe in it. A few of us met Dan in the summer to convince him to come on board and Cyril [Abiteboul] said that we shouldn't bullshit him. We don't want him to come here for the wrong reasons – we want someone who wants to be part of our project. We were honest about the plan we have."

Ricciardo made his decision to switch teams at the start of last year's summer break, on a flight to the west coast of America. His holiday gave him clarity of thought, and he hasn't regretted his decision, dismissing the suggestion it's a gamble. When he first toured Enstone alarm bells didn't ring with regards to what he expected to see from a team vying for victories. There was no concern that areas of manufacturing or machining needed fixing.

"Even before I signed, I saw this team meant business and they are not here just to be on the grid to show their brand: they want to win," says Ricciardo. "I'd seen their trajectory in the last few years and with their infrastructure here, and also in Viry – I know that Rémi was buoyed by the pre-season – that it was the right time to take on this challenge."

"For a driver it's not the easiest thing to think long-term because we want to win today, rather than tomorrow. So, that's a different kind of mentality."

"At Red Bull, there was always the expectation that we were 'going to win this year', then having that come up short was always a bit wearing."

"Don't get me wrong, I don't think coming here is going to be an easier thing – it will be a bigger challenge [being in the midfield] – but being part of the process and *progress* will be more rewarding. Yes, I want to win every race, but if you change your level, it's all relative. I still feel being here will get me the quickest success in the shortest amount of time."

The other dynamic in Ricciardo's defection to Renault has been the sting that

“
WHEN WE ANNOUNCED WE HAD DANIEL,
THE REACTION INSIDE THE FACTORY
WAS UNBELIEVABLE”

ALAIN PROST

“WHEN SOMEONE LIKE DANIEL WANTS
TO RACE FOR YOU, IT FEELS GOOD
FOR EVERYONE IN THE TEAM,
WE'RE BUILDING A PROJECT
AND WE BELIEVE IN IT

MARCIN BUDKOWSKI



presented by



mastercard.

4 – 7 JULY



goodwood.com/fos



THE BIG CHANCE THAT NEVER CAME

After Ricciardo won last year's Chinese Grand Prix via a series of notable on-track passes on Lewis Hamilton, Sebastian Vettel and Valtteri Bottas – his stock was sky high. There followed speculation that a pre-contract agreement had been made with Ferrari.

Although he grew up in Western

Australia, Dan's father Joe was originally from Italy and during his career, Ricciardo Jr has never shied away from talking about what it would mean for him to drive one of the red cars.

"There were stories at the beginning of last year and even Christian [Horner] asked me about

it," says Ricciardo. "They thought [the Ferrari deal] was serious and I'd love to say it was and I was close, but it was all rumours. I did speak to nearly every team on the grid, but even with Ferrari there was never a contract in front of me."

With Mercedes extending deals with both Hamilton and Bottas,

that too became an avenue quickly closed off to Ricciardo. While the door is shut on the top two teams for now, you do wonder whether one-day, post Vettel, Ferrari is still in his sights. As Nico Rosberg said last season when the rumours first appeared: "A decent Italian driver – at Ferrari – that would be so big."

Red Bull boss Christian Horner felt in losing a prized asset to his bitterest rivals. As a dissatisfied Renault engine customer, Horner was critical of the French manufacturer. In the recently-released Netflix F1 documentary, Horner can be seen asking Abiteboul how he'll pay for engine development now all his money has been spent on Ricciardo. But at Renault's 2019 launch, Abiteboul said securing the Dan's services was a statement of intent, and he shoulders the responsibility for the recruitment.

"How could I stand in front of the factory and try to motivate everyone if there is one of the best drivers out there and we don't go for him?" said Abiteboul. "What does that mean? It means you don't believe in yourself. We couldn't let that opportunity pass."

While Ricciardo has admitted his frustrations were mounting at Red Bull, he has to be careful the new ride doesn't emulate Fernando Alonso's McLaren experience – a talented race winner stuck in the doldrums of the midfield who becomes disenchanted with F1.

"The best way we are preparing for that is to be extremely transparent," says Abiteboul, when quizzed on managing Ricciardo's expectations. "I've not made any personal commitment that we'll be

**"THE HONEY BADGER
ISN'T FADING AWAY.
THIS WILL SPARK
ME TO KEEP DOING
WHAT I LOVE"**

able to race for wins. He knows that, but he also knows that his job is not just necessarily to drive a car to win, but to build an organisation that will be capable of winning, if possible, next year. If not, the year after. He knows that and he likes this challenge."

2021 will be the final year in Renault's six-year – reconstruct and challenge – plan and the hope is Dan will continue beyond his two-year deal into the new F1 era for '21. With the championship owner's aim to rein in budgets and level the technical playing field, it might be Ricciardo's best chance of ultimate success in F1, which he admits can be unfair. Tennis, it ain't.

"If I left F1 today, I'd be quite disappointed with my career because I wouldn't have got that which I believe I can get – which is world titles," he says, as his time to drive the simulator nears. "If we can close the gap this year, get podiums in 2020 and then in 2021... I've got to wait a few years to really win, but this is by no means a backwards step and I'm not settling now and taking a pay cheque just to drive around every second weekend."

"It's not as if the honey badger is fading away – if anything this will spark me for the next few years to keep doing what I love."

By his own admission, Ricciardo needed to break free from Red Bull to prevent him becoming jaded with F1. But he needs Renault to be successful to avoid falling into the same trap again. He's motivated by the challenge and can see Renault has the resources and people to push for wins in the future. But to help, F1 needs to be fairer to ensure stars like Ricciardo don't walk away disheartened, just as Alonso did. Ricciardo's sunny demeanour is too valuable an asset for F1 to lose. **F1**

MOTORSPORT TRAVEL, RACE TICKETS, HOSPITALITY

Travel the World with our Escorted Tours and UK Travel Team

Select Motor Racing.com



ESCORTED TOUR PACKAGES
TO ALL FORMULA ONE EVENTS



2019 BOOK NOW

- ◇ By Air with Airport & Circuit Transfers
Extended holiday options
- ◇ Holiday Coach Tours
- ◇ Team Factory Tours
- ◇ Select VIP F1
Track Experiences
- ◇ F1 Testing
Team Packages

TRAVEL WITH SMR Join the family!

Run by **Fans** for **Fans**

WE OFFER TRAVEL PACKAGES TO

ENDURANCE RACING

- ◇ Le Mans 24hr
- ◇ WEC Spa 6hr
- ◇ Blancpain Spa 24hr
- ◇ WEC 1000km - Sebring 12hr
- ◇ Indy 500

HISTORIC RACING

- ◇ Mille Miglia
- ◇ Spa Classic
- ◇ Goodwood Festival of Speed
- ◇ Goodwood Revival
- ◇ Monaco Historic
- ◇ Le Mans Classic



Call your UK Travel Team: +44 (0) 1451 833 721
Book Online enquiry@selectmotorracing.com



WINGING IT

F1 has introduced a revised set of aerodynamic regulations for this season, aiming to slash downforce and improve racing. The result is a different breed of car visually, new opportunities for engineers to find performance, and a new set of design secrets to uncover. This is your guide to F1 2019's crucial off-track development battle

There was something of a contradiction the last time Formula 1 introduced a new wave of technical regulations two years ago, making changes to the aerodynamic formula to slash lap times and targeting a four-to-five second decrease over the previous generation of cars. Previous changes to the rules have, firstly, tried to reduce speeds in the interests of

safety, and secondly, tried to improve the chances of cars racing closely to create a greater level of excitement for viewers. The 2017 rules were designed to do the opposite of slow the cars down, and arguably made racing much more difficult.

The changes to the 2019 formula seek to address that, in a move that Paddy Lowe (now on a leave of absence from Williams) labelled “directionally correct” in improving the way drivers are able to challenge each other on the circuit. The front wings are now 200mm wider, and all of the turning vanes and vortex tunnels have been culled. Meanwhile, the endplates have been restricted to minimise the outwash (air being directed around the outside of the car) effect of the front wings – deemed detrimental to the racing product by F1's in-house technical research team.

There's also larger rear wings to link up with the front and increase the effectiveness of DRS, while the bargeboards have been brought forward and shortened. Together, this

has redefined the way engineers have sought to create and maintain downforce, having lost several tools and exploits available to them previously. Now the latest generation of F1 cars have finally hit the track in anger, we can see with our own eyes how the rules of the game have changed. ▶

PICTURES 
WORDS JAKE BOXALL-LEGGE

CONVENTIONAL



MERCEDES



HAAS



WILLIAMS

HALF WAY HOUSE



McLAREN



RACING POINT



RENAULT

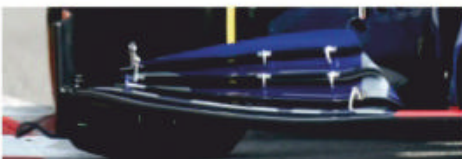
EXTREME



ALFA ROMEO



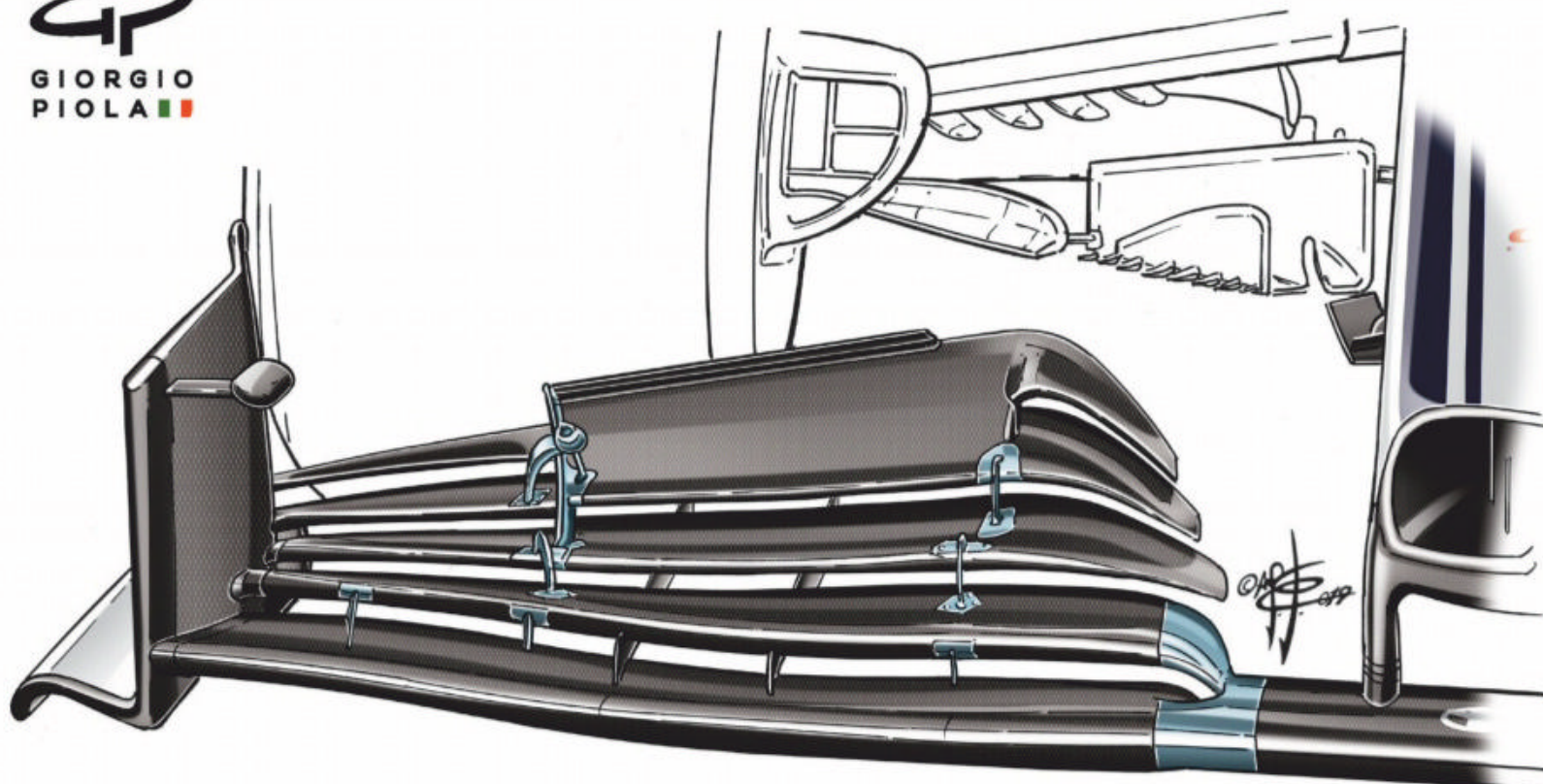
FERRARI



TORO ROSSO

RED BULL





THE NEW WINGS

...are wider and simpler, hoping to boost the element of close racing between competitors by reducing front wing sensitivity

THE MAIN EVENT

Think of the aerodynamics of an F1 car as a costly and elaborate relay. The front wing picks up the baton first, passing it to the bargeboards, sidepods and rear of the car, and so needs to get its team off to the best possible start in working the airflow efficiently and effectively. If the front wing design doesn't set the rest of the car up as it should, then the components further downstream have much more work to do to salvage any lost performance.

The game has changed for this year with a new approach required to the front wings. Previously, teams could shunt a colossal amount of outwashed air around the car, and use the inboard vortices propagating from the inside of the front wing to pen in the tyre wake, reducing its size and keeping it away from the floor's opening. That way, the floor churned out masses of downforce without being interrupted by the tangled mess of wake shed from the rotating front wheels.

There's inherently less scope to do that now, with less furniture turning airflow outboard, so the teams have had to get creative to claw it back. Although the spirit of the regulations was probably developed to nullify those effects, engineers can't be expected to forget the things they've

learned – especially in something so beneficial.

There seems to be three distinct schools of thought in developing 2019 front wings, each one a trade-off between pursuing direct front end downforce and recouping the outwash factor.

In the “conventional” corner, we've got two heavyweights, a midfielder and a tail-ender – perhaps demonstrating this to be a rather broad church. Mercedes, Red Bull, Haas and Williams comprise the first group, and these are the poster-children for what the new rules probably intended. Of course, all have their own interpretations, and Mercedes is the only one of the three to use a detached second element, while the remaining three teams have theirs as a continuation of the main plane.

These use as much of the dimensional limitations of the rules – known as the ‘bounding box’ – as possible, employing a more consistent level of camber across the wing to create a stable level of downforce at the front end. While the overall shaping of the elements hints at the introduction of an outwashing effect, these wings rely more on the shaping of the endplate and the strakes underneath to develop that.



Mercedes (left) has been conservative with its 2019 front wing design, whilst Ferrari has gone down a more extreme route

In the other corner, we've more extreme interpretations. Rather than use the full space available in the regulatory bounding box, these arrangements are a more blatant attempt to send plenty of airflow outboard. At the point where the wing elements are mounted to the endplate, they're positioned as low down as possible to let the air encountering the middle section of each flap to slide down and turn outwards.

Ferrari is the lead proponent of this sub-group, joined by Toro Rosso and affiliate team Alfa Romeo. Ferrari and Toro Rosso employ distinct twists in wing elements, using the maximum space at the inboard section, but sharply slanting down in an anhedral fashion to develop greater outwash. Alfa's gambit (pictured opposite) is to separate the wing using the flap adjuster, positioning the small outboard flaps low down and fusing the top two adjustable main flaps together to eke out some extra downforce. By twisting the elements into those with a lower angle of attack, the design loses downforce at the outboard ends of the wing – sacrificing the output at the front end for greater gains further along the car.

The remainder of the grid fits into a "halfway house" bracket, attempting to bridge the gap by pinching up the outboard elements slightly, but compromising less with the amount of downforce produced. McLaren's design follows a similar concept to Alfa Romeo's use of the flap adjuster to separate elements, but the short-span elements are positioned higher up.

Renault and Racing Point complete that final group.

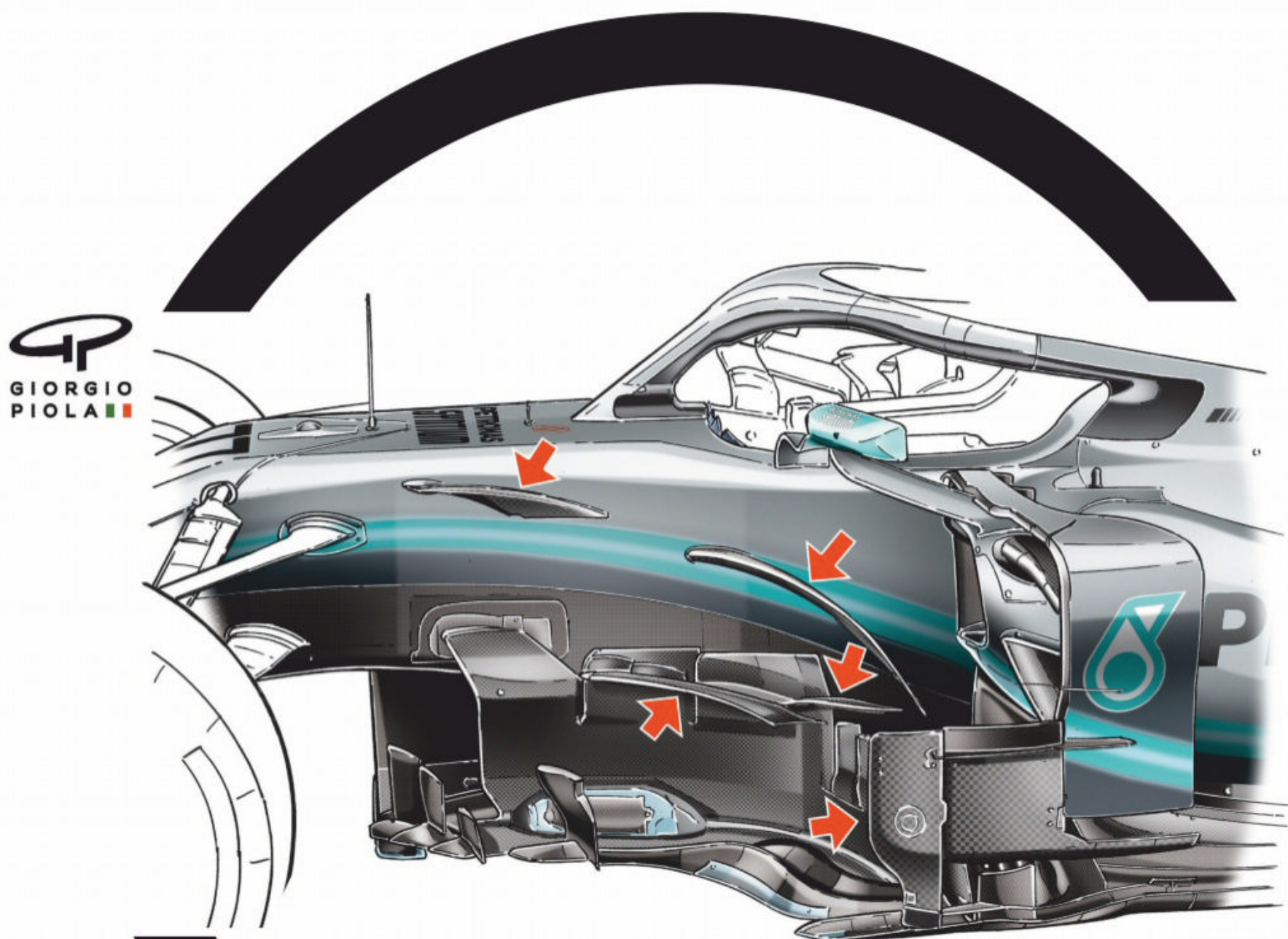
There's already been some development in the endplate area despite the restrictions. Mercedes trialled an in-washing variant in the first week of testing, but this was discarded. Small cut-outs have also been tried, allowing the airflow direction to be a little more flagrant.

THE SIDE SHOW

The redefinition of the bargeboards was done – primarily, at least – for commercial reasons, to lend sponsors greater incentive to slap their respective logos and bon mots on the chassis flanks of the cars. The height was slashed by 100mm and the front edge of the bounding box brought further forward in recompense.

With the front wing restrictions, the bargeboards must be more aggressive in managing airflow, pulling it from the front end and off of the tyres, then down the side of the car. The overall complexity has skyrocketed compared with how they looked at the start of 2017. Racing Point technical chief Andy Green suggests that, under last year's formula, the bargeboards contributed to about a quarter of the car's performance, while 2019's packages have "probably got to be worth around a third. If you took them off you'd lose seconds – it's massive".

If there's a huge amount to be lost, then there's also a huge amount to



THE NEW BARGEBOARDS

...are lower down for largely commercial reasons but, with the absence of complex front wings, have more work to do to keep the car producing plenty of downforce

IN GENERAL PACKAGING TERMS, RED BULL IS LEADING THE WAY. IN FACT, IT EMERGED IN TESTING SO CORSET-TIGHT THAT THE TEAM HAD TO DIAL IT BACK TO GIVE THE HONDA POWERPLANT A LITTLE MORE BREATHING ROOM



be gained. Like the front wing geometry, there's some clear differences between the bargeboard arrangements being run for this season. The 'big three' of Mercedes, Ferrari and Red Bull all use small pick-up fins at the front portion of the bargeboard assembly to get the ball rolling, beckoning air to the main piece and shuttling it around the side of the car.

Mercedes has opted for more intricacies than perhaps Ferrari and Red Bull, using an extensive array of slots, cuts and turning vanes to work the airflow behind the tyre hard. That suggests the team is having to harangue the tyre wake a little more than its rivals, as the bargeboards must produce a consistent level of performance at different levels of turn-in. As the wake either shifts inboard or outboard, the range of steering angles used must be catered for.

Ferrari seems to have fewer issues here. There's a lot less furniture in this area of its car, suggesting the extreme front wing geometry has been effective in trimming tyre wake. The Scuderia has also persisted with a similar formula for its sidepod turning vanes – redressed for the new regulations – to clean up the turbulence directly when running in a straight line.

A giant 'boomerang' element features on Red Bull's arrangement to link up to the vertical bodywork on the front of the sidepod, edged forward to pick up tyre wake and push it past the vane mounted to the side crash structure. There's a large zone between the bargeboard and the undercut of the inlet, presumably to ensure there's enough space for clean airflow to make its way under the floor.

In general packaging terms, Red Bull is leading the way. In fact, it emerged in testing so corset-tight that the team had to dial it back to give the Honda powerplant a little more breathing room. The team's philosophy – instigated by Adrian Newey, who else? – has always been to explore the boundaries of how a car can be packaged in the pursuit of aerodynamic

gains, and the RB15 is no exception with its super-tight rear end.

One of the gradual trends in sidepod packaging has been the high positioning of the inlets. Pioneered by Ferrari in 2017, it's something that every team on the grid – save Mercedes – has now incorporated, minimising the disruption from the suspension components ahead of it and opening up a larger undercut at the front of the sidepod. This year, the inlets have become even smaller thanks to advances in engine cooling as the turbo-hybrid formula enters its sixth season – barely with enough room to squeeze a letter through.

It's easy to forget the vital elements under the skin, especially as aerodynamics offer so much reward, but there's a further battle for supremacy here. Advances in fuels and lubricants have helped grease the wheels in finding extra efficiency from the engine. Simply put, the more energy the powertrain can extract from the fuel on board, the less fuel there is sloshing about in the tank at the start of a race, adding unnecessary weight and simply slowing you down.

THE ENCORE

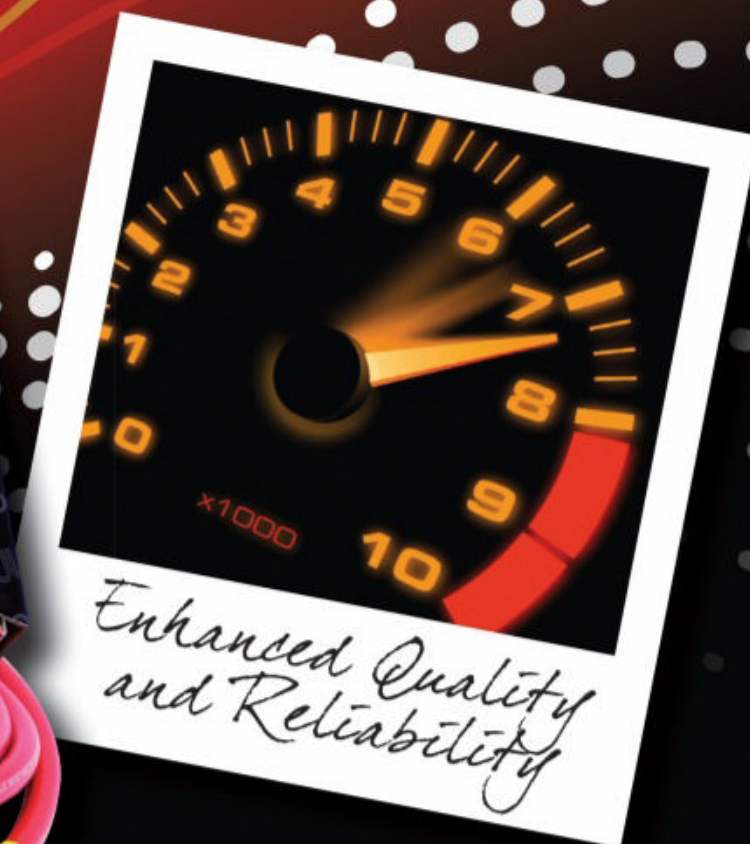
To work in tandem with the new front wings in the hope of developing a more exciting, enticing on-track product, the rear wings have been beefed up for this year. When activated, the top flap opens by an extra 20mm, meaning the DRS boost down the straights is much more powerful. However, this is probably a bit of a kick in the teeth for 'purists' who just don't like the system in any format.

The rear wing endplates have been simplified, ostensibly in the interests of advertising space, but the near-overlap with the rear tyre has encouraged the majority of teams to include strakes at the point at which the endplate flares outward, tidying up some of the air flung off of the wheel.

10 Year Guarantee

www.magnecor.co.uk

Technically Advanced Ignition Leads for Race & Road...



...for professionals, enthusiasts and consumers

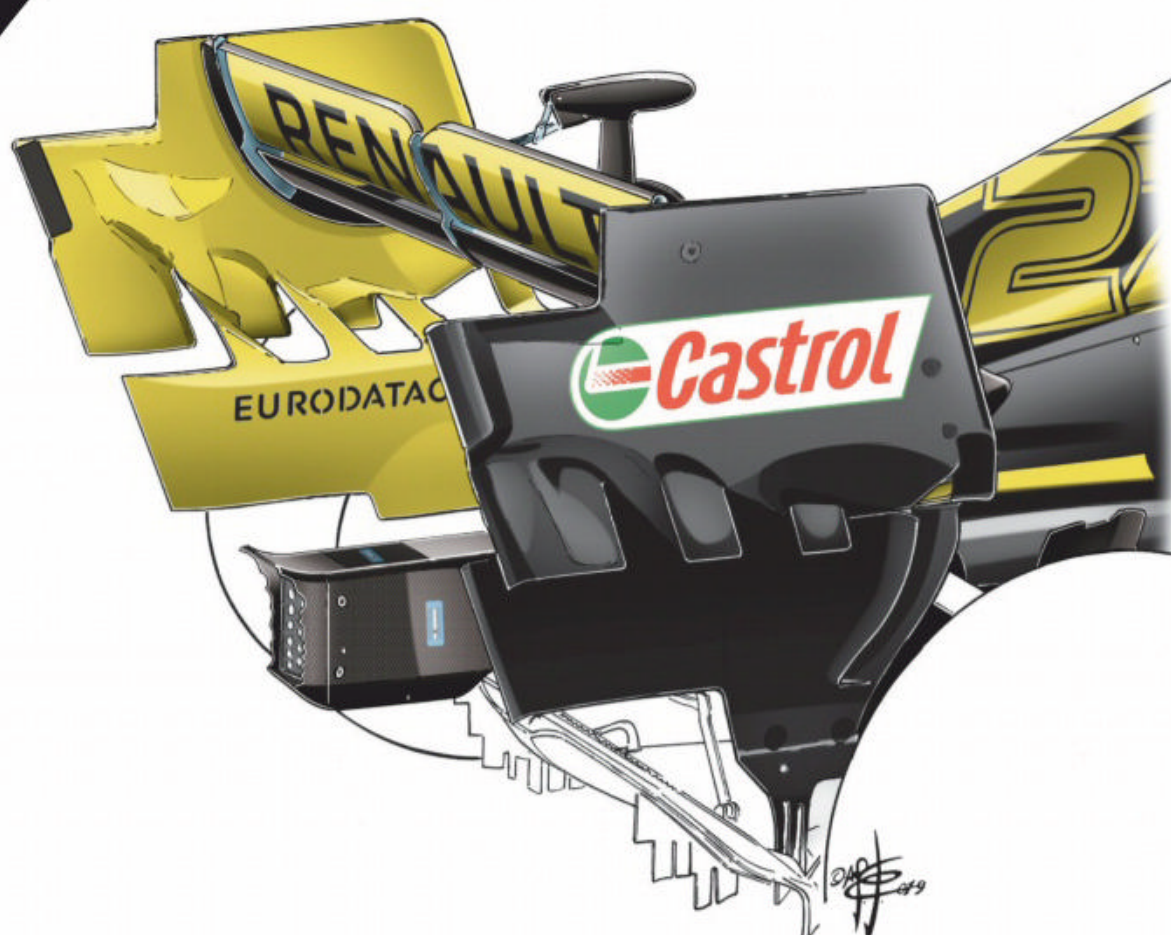
Join the 1000's of other happy Magnecor customers worldwide. Check out our website for more information and a list of our dealers & stockists worldwide.



MAGNECOR®

MAGNECOR 'LEAD' WHERE OTHERS FOLLOW





...is taller, wider and deeper to link up with the redefined front wing of the following car, while the top wing flap opens up by 20mm more - making DRS more powerful in 2019

UNDARY AREAS

The image displays three technical diagrams of a Formula 1 car, illustrating the boundary areas defined in the 2017 FIA Formula One Technical Regulations. The diagrams are labeled 3.6.2a, 3.6.2b, and 3.3.1.

Diagram 3.6.2a: This diagram shows the front view of the car, highlighting the boundary area for the front wing and the front suspension. The area is defined by a green outline. Key dimensions include a total width of 1050mm, a front wing height of 650mm, and a front suspension height of 600mm. The diagram also shows the front wheel and the front suspension components.

Diagram 3.6.2b: This diagram shows the front view of the car, highlighting the boundary area for the front wing and the front suspension. The area is defined by a green outline. Key dimensions include a total width of 1050mm, a front wing height of 650mm, and a front suspension height of 600mm. The diagram also shows the front wheel and the front suspension components.

Diagram 3.3.1: This diagram shows the front view of the car, highlighting the boundary area for the front wing and the front suspension. The area is defined by a green outline. Key dimensions include a total width of 1000mm, a front wing height of 300mm, and a front suspension height of 75mm. The diagram also shows the front wheel and the front suspension components.

Everyone's trended towards 'swan-neck' wing mounts, fitted to the top of the rear wing mainplane to maximise the suction surface area on the underside. Between these, a collection of T-wings and monkey seats have been added – applying the 'every little helps' adage to downforce creation.

Although there may be some degree of convergence towards different front wing geometries – gravitation to the aforementioned ‘conventional’ or ‘extreme’ camps wouldn’t be entirely unexpected – there should be plenty of development potential in the inboard section. Here, the emphasis should be to energise the vortex created in this area (known colloquially among aerodynamicists as the ‘Y250 vortex’, a truly loathsome term) to pen in the tyre wake further, giving the teams more options in the bargeboard area.

That's going to draw plenty of focus as teams turn their attentions on an area that can offer plenty of performance yield, especially when it comes to salvaging tyre wake into something useful. There's also going to be tweaks under the skin as teams squeeze more components into ever-tighter packaging. There's always much to be gained from a new aerodynamic formula, and if someone turns up with a real gamechanger, everyone's going to copy it. The new battle of F1's drawing boards is well under way. 🏁

EMPIRE RV

Living the high life



Europe's sole Winnebago and Fleetwood RV dealership

- The largest exclusive fleet of 7 star RV and American Motorhomes in Europe.
- RV supplier of choice to leading F1, Le Mans, British GT, BTCC BSB and motorsport riders, drivers, teams and fans!
- Empire RV are your total American Motorhome solution, whether you want to rent, buy or sell a motorhome.



■ **Empire RV**, The Old Quarry, Wells Road, Emborough BA3 4SD

■ Tel: +44 (0) 1761 300 489 ■ info@EmpireRV.co.uk

■ **www.EmpireRV.co.uk**

*Contact us now to
discuss your individual
requirements*

SALES ■ CORPORATE RENTALS ■ VEHICLE MANAGEMENT ■ SERVICING



CHARLES
LECLERC

Making his mark

Ferrari endured a surprisingly difficult first race of 2019. But despite the Scuderia's baffling inability to translate pre-season testing form into tangible results in Melbourne, the stellar performance of new boy Charles Leclerc should give the team cause for celebration

WORDS SCOTT MITCHELL PICTURES





Hope is dangerous because it confuses desire with probability. Assessing Charles Leclerc's chances of a first Formula 1 victory on his Ferrari debut seemed a little more clear cut after pre-season testing. It felt like a very, very good prospect in fact. Then he finished fifth, almost a minute behind Mercedes' race winner Valtteri Bottas.

German philosopher Arthur Schopenhauer's (slightly paraphrased) idea of hope was not

exactly applicable in Leclerc's situation, though. Ferrari's slump in the Australian Grand Prix shocked the team, its drivers, its chief rival Mercedes and the rest of the opposition. The nimble, responsive and ultra-compliant SF90 of pre-season testing was replaced by an inconsistent, poor relative in Melbourne.

We were right to expect big things of Ferrari and Leclerc, who admitted at the start of the weekend that he was excited. "I don't really

think about the emotions or the expectations, I just focus on the job," he said. "The excitement is taking the biggest place in my head at the moment, just wanting to be back on track."

By Sunday night, excitement was replaced by confusion. Ferrari's performance and confidence had gone, and its performance emphatically extinguished any chance of Leclerc immediately setting out the legacy so many wish to see him create in Ferrari red. ►

PICTURES: ZAK MAUGER





PICTURE: ANDY HONE

**Leclerc's trickiest moment
in Australia was at the start
when he and Vettel wanted the
same piece of track at Turn 2**

The good thing is Leclerc's so darned level-headed that this is unlikely to worry him. He'd already dismissed the notion he was feeling any pressure to succeed with this team, knowing how much signing a 21-year old meant Ferrari was banking on him being an immediate hit.

"I'm focusing on my job, what I need to do in the car and out of the car with engineers," he said. "I'm pretty sure if we are all doing a good job the results will come. It's obviously very nice to hear that they think they have made the right choice. Now it's my turn to show them that they did on the track."

The big takeaway from Australia was that Ferrari flopped, and that detracted attention from what was quite a fine debut from Leclerc, in more trying conditions than he would have anticipated. The Maranello team's muted performance, to put it generously, was not for a lack of trying from Leclerc. So, did he pass the first test in showing the team it made the right choice?

"I'm happy," was Ferrari team principal Mattia Binotto's verdict. "I'm happy the way he's behaving as a team player. Not only as a driver. He's very helpful, he is very involved trying to do his best, pushing the engineers hard to try to get even them to improve themselves and to have a better car. If we judge his entire weekend it's a pretty strong one."

This is a big early tick for Leclerc, whose challenge should not be underestimated. Moving from Sauber (now Alfa Romeo) to a team like Ferrari presented a very different pre-season challenge to the one Leclerc faced in his rookie campaign. He had to learn new people, and a far greater number of them too. Partnering Vettel put the onus on Leclerc to make the transition as seamless as possible.

"I did many weeks in Ferrari to try and get to know as much as possible the team," said Leclerc. "We also did a small team-building weekend just before coming here, which has been very helpful to know those new faces."

This did not translate into immediate glory but it sets an important tone. It also meant Leclerc was better-equipped to handle the difficult nature of the weekend. Making your first appearance for Ferrari with a difficult car is troubling, doubly so when there's so much expectation on the team following its much-hyped winter testing performance. ►

Leclerc coped well with the extra attention that was thrust upon him because he is now a Ferrari driver

Leclerc coped admirably in the circumstances, with a very impressive second stint hauling him onto four-time world champion Vettel's coat-tails. Only a Ferrari team order stood between Leclerc and beating Vettel at the first attempt.

That was massively impressive, but Binotto was also right to flag Leclerc's early qualifying efforts within his overall performance as well. "His qualifying wasn't perfect, he's aware of it, but I think he drove well in Q1 and Q2," said Binotto. "Maybe not perfect in Q3, but generally speaking he had a good weekend. I'm happy with the way he approached the first race and it's a good starting point."

Comparing the pace of every team-mate pairing across the entire weekend reveals Leclerc and Vettel were the two most closely matched at 0.046s in Leclerc's favour, even though he qualified behind his team-mate in the crucial Q3 session. Even if you eliminate their Q1 lap times from that analysis, as Leclerc had a second run, Leclerc finds himself barely a tenth slower than Vettel overall.

There are different factors behind every performance but it serves to highlight how difficult it is to thread together every single session. Leclerc's weekend was not perfect but, as Binotto put it, it was a very good start.

That is made more apparent if you compare Leclerc's effort with that of another young gun in a big team, Pierre Gasly. It's harsh to be too critical of Gasly, who was stitched up in qualifying by only completing one flying lap and got knocked out in Q1 as everyone else made massive improvements. However, his race was uninspiring, and it undid the good work of practice when he grew to become a match for Max Verstappen on pace.

Leclerc went the other way, fumbling his

qualifying sim in FP2 but otherwise showing excellent pace compared with Vettel, ending on a high in the race. He also outpaced Vettel in Q2.

It should be noted Leclerc failed to replicate that pace when it counted, and it cost him a place on the grid to the Red Bull of Verstappen. It continued a trend from 2018, when Leclerc would often not string together his best sectors in Q3. The differences are not massive, but this

nature of the Albert Park circuit condemned Leclerc to feeding off scraps. He tried to tough it around the outside of Verstappen and Vettel into Turn 1 but got forced onto the dirt by his team-mate, which allowed Verstappen back ahead. Leclerc had a trip through the Turn 1 gravel early in the race, but extended the stint and used the tyre advantage to gradually catch Vettel in the second half of the grand prix. He asked Ferrari



COMPARING THE PACE OF EVERY TEAM-MATE PAIRING ACROSS THE ENTIRE WEEKEND REVEALS LECLERC AND VETTEL WERE THE TWO MOST CLOSELY MATCHED, AT 0.046s IN LECLERC'S FAVOUR

is elite sport. They don't have to be to have a big impact, and there is still more for Leclerc to do to make full use of Ferrari's resources.

"I'm still young but you always learn with our sport," Leclerc said. "It is evolving quite quickly, so there's always things you can do better. On the feedback side, there's a lot of things I can learn, from Seb especially. Because he's very experienced, and very strong on that point. I've got a good example next to me and will try to get better as quickly as possible."

But what of Leclerc's first race itself? He started fifth and the



motorsport.tv

NOW, WATCH MOTORSPORT.TV FOR FREE

FUEL YOUR PASSION FOR SPEED



125+
SERIES

1000+
STREAMING
EVENTS

3000+
HOURS OF
VOD

WEC
FIA WORLD ENDURANCE
CHAMPIONSHIP

24h
LE MANS

BLANCPAIN
GT SERIES

FORMULA
SUPER

LEMANS
EUROPEAN
SERIES

SBK
SUPERBIKE



AVAILABLE ON **firetv**

Chromecast built-in

GET IT ON
Google Play

Download on the
App Store

WWW.MOTORSPORT.TV



PICTURES: GLENN DUNBAR, SAM BLOXHAM

Although he qualified behind Vettel, Leclerc's speed in Melbourne was impressive

what he should do, and was told not to attack.

Seeing team orders employed immediately frustrated some onlookers, but it was only exactly what was promised by Ferrari in certain scenarios. Binotto later explained it was because there was "no reason" to take a risk by letting them race over fourth place. Telling Vettel to move aside would also have constituted a team order, leaving Ferrari damned in the court of public opinion either way.

Leclerc might have been denied a couple of extra points but it shouldn't disguise the impressive way he salvaged his grand prix. Ending the race right behind Vettel, closer to his team-mate than any other driver managed, should be considered a strong result in the context of Ferrari's weekend. It sent another message to Vettel – not that he needed one.

"He's done really well from what I've seen so far," said Vettel. "He will put a lot of pressure on me the whole season, I'm aware of that and I think it will be very close.

"He's very talented. I'm sure we'll have tough and tight battles this year, but more than anything I hope we have a lot of fun together."

There is little reason to expect animosity between Vettel and Leclerc but it is tough to see the relationship developing into something hugely pally. Leclerc is an extremely hungry, focused young driver. He is much more likely to pose Vettel a major problem than he is to play second fiddle for too long.

"HE'S VERY TALENTED. I'M SURE WE WILL HAVE TOUGH AND TIGHT BATTLES THIS YEAR, BUT MORE THAN ANYTHING I HOPE WE HAVE A LOT OF FUN TOGETHER"

SEBASTIAN VETTEL



Leclerc's got the mentality for the fight, of that there is no doubt. He reckons he is "more mature" than in his impressive rookie season in 2018 and his mindset within Ferrari is the right one. The more he learns, the more consistent a threat he will become. What is so encouraging for him is how quickly he has started life as a thorn in Vettel's backside.


Another factor is that while Leclerc won brownie points for adhering to Ferrari's request not to attack Vettel, he had made it clear earlier in the weekend that sitting back was not something he planned to do in the long-term.

Addressing Binotto's pre-weekend comments that Vettel would be the number one driver if the situation called for one, Leclerc said: "I completely understand the decision, as in any team there needs to be a number one and a number two in a 50-50 situation. On my side it's my job then to turn things around. It's not going

to be easy, I have a lot to learn but I'll push for that."

The fact Leclerc got so close to Vettel in Australia was evidence he isn't just going to sit there and rack up points in a secondary position. He had to ask Ferrari what to do. He forced Ferrari to make a call. On this occasion, Binotto said Ferrari faced no "difficult" decision. Next time – and there will be a next time – perhaps Leclerc will be free to

race, if there's more to play for. Only Ferrari will know that for certain.

Australia made one thing clear though: Leclerc is already impressing. That means he is already causing problems, and that the probability of success with Ferrari is just as likely as it was before its Australian slump. Leclerc is not the finished article yet. But he is the real deal. 

"...this is a game worth checking out."

Operation Sports

"...more than enough to please any racing fan."

MyGamer.com

"NASCAR Heat 3 is easily the best stock car racer we've seen in years."

SportsGamersOnline.com



NASCAR HEAT 3™

NASCARHeat.com

FREE TRIAL OUT NOW!



NASCAR® is a registered trademark of the National Association for Stock Car Racing, Inc. and used under license. All other car, team and driver images, track names, trademarks and other intellectual property are used under license from their respective owner. © 2018 704Games. 704Games is a trademark of 704 Games Company. All rights reserved.

BROTHERS IN



When times were good, left to right: McLaren champions Fittipaldi, Hunt and Lauda



PICTURES: GLENN DUNBAR

ARMS

McLaren and **Williams** are two of Formula 1's biggest success stories, but they look increasingly outgunned amid the rise of manufacturers and 'B-teams' in grand prix racing's hybrid era. Can these proud independent constructors ever properly compete again, or are they now damaged beyond repair?

WORDS BEN ANDERSON

PICTURES  **motorsport**
IMAGES



And Williams greats, from left to right:
Jones, Rosberg and Piquet





‘ADAPT OR DIE’

...IS A LAW OF NATURE that applies perfectly to professional sport – and particularly to F1. It’s easy to fall foul of this, especially when adaptation is essentially all that colossal amount of time and money is spent on doing each year. F1 is forever evolving, thus its teams are too, but what to do when evolution leaves you eating dust?

There’s no sadder sight in sport than the slow, public decay of a once-great competitor valiantly trying, but failing, to recapture past glories. That deep-rooted determination never to quit is at the heart of what it means to compete professionally, but at the highest level there’s nowhere to hide once your reactions have faded and legs have gone.

When you’re still so invested in trying to find new ways to be better, faster and stronger, it can be difficult to see what’s going on around you. Even if the self-awareness is there, accepting the circumstances is like admitting defeat. It is anathema to what made you great in the first place. It is unthinkable.

It must be agony for those who wander the halls of Williams HQ in Grove or McLaren’s Technology Centre in Woking. It’s said that time makes fools of us all, and these two great teams look increasingly foolish as they slip towards the foot of F1’s competitive order. Collectively, they’ve won almost 300 grands prix and nearly 40 world titles, but it’s been six seasons and over 100 races since either took home a winner’s trophy.

As McLaren and Williams have become increasingly stuck

“MCLAREN, RENAULT AND WILLIAMS ARE STAYING TRUE TO THE SPORT. THE RULES HAVE GOTTEN AWAY AND ALLOWED THIS DYNAMIC THAT’S NOT HEALTHY”

ZAK BROWN

in their winless runs, the game has changed and continued to change around them. Now, F1 teams can be broadly divided into two groups: the manufacturer (or works partner) teams: Mercedes, Ferrari, Renault and Red Bull-Honda; and the customer teams engaged in what are jargonistically known as ‘technical partnerships’ with said manufacturer teams – namely Alfa Romeo (formerly Sauber) and Haas in the Ferrari camp, and Toro Rosso as Red Bull’s ‘B-team’.

Racing Point falls between the cracks. Buying as much of the Mercedes rear end as permitted, coupled with fresh investment from Lawrence Stroll’s consortium, suggests a team on the up, that stands apart from McLaren and Williams owing to a stronger recent track record and lean and mean approach to infrastructure and outsourcing of production.

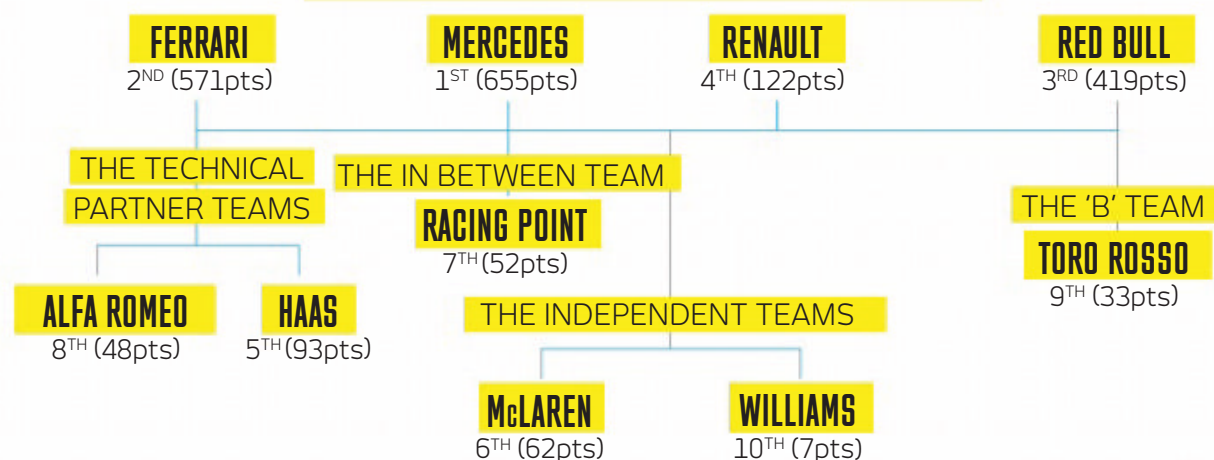


PICTURES: ANDY HONE; GLENN DUNBAR



THE MAKE UP OF MODERN FORMULA 1

THE MANUFACTURER/WORKS PARTNER TEAMS



All stats taken from 2018

WITHDRAWAL SYMPTOMS

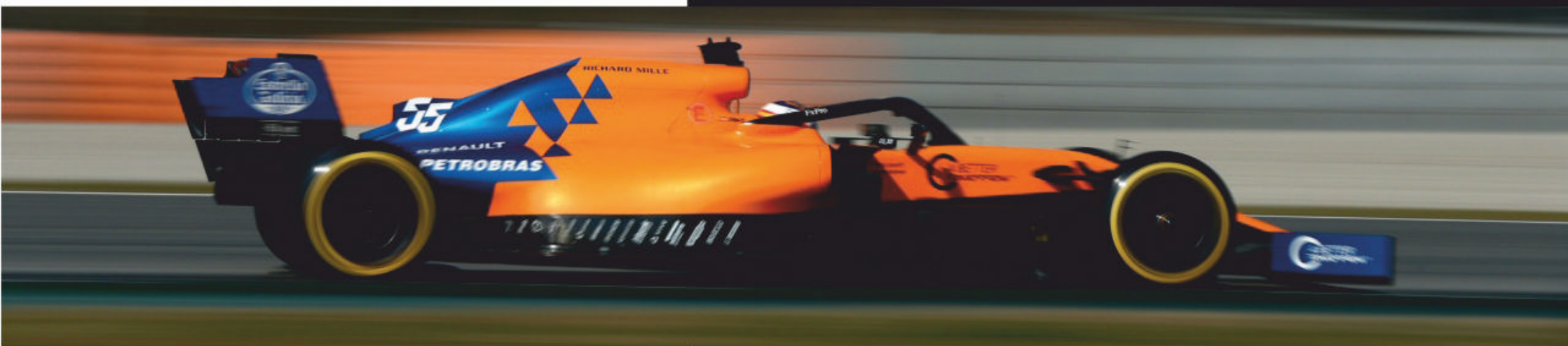
BOTH APPEAR TO BE suffering withdrawal symptoms from their days aligned to major car makers. Williams hasn't enjoyed a works engine partnership since its alliance with BMW ended in 2005, while McLaren is in recovery following a much more recent (and acrimonious) failed dalliance with Honda.

The circumstances are unique to each team, but there are common threads. Firstly, there's the question of status. Being affiliated to a global car manufacturer not only nominally provides a cheap supply of engines plus extra resources (depending on the structure of the deal), it's also a point of leverage for wooing sponsors and personnel. F1 is so often a numbers game – the bigger the better – and manufacturer engine deals allow you to throw bigger numbers at winning.

The major sticking point for McLaren and Williams is their fiercely protected independence. In 2005 Frank Williams could have sold out to BMW – as Peter Sauber partly did a year later – but he refused and Williams has never been the same since. On the one hand, the team's wonderful heritage is protected and lives on; but on the other it's rendered like insects in amber – left with remnants of what once was, caught between the rock

of being under-resourced and the hard place of being too big to shrink without almost ripping up the whole thing and starting again. Sauber fell on hard times too, of course, but pragmatism ruled purity and the team he built now looks set to thrive again – even if the price is a change of name above the door.

Williams has committed to trying to grow its own way, diversifying into Advanced Engineering, finding different ways to succeed with what it has, but it now looks trapped between business models at either end of the F1 scale it simply cannot match. McLaren remained in the works game longer, but Ron Dennis's refusal to cede further control to Mercedes blew that partnership apart, sending Mercedes down the path to its current success. McLaren even played a key role in brokering the engine deal that kept Ross Brawn's former works Honda



team on the grid before Mercedes took over. To think, all that subsequent success could have belonged to McLaren.

Ron did a deal with Honda instead – exclusive supply of works engines *and* sponsorship to boot – but we all know how spectacularly that backfired. If Red Bull becomes champion again, or wins races with Honda, it will look like a terrible own goal for McLaren. It too is now stuck in No Man's Land – a team built around factory ideals, no longer big enough and refined enough to compete with F1's biggest beasts, but too large to react to faster minnows. Williams once argued it was still possible to win the world championship as a Mercedes customer team in the hybrid era, but it hasn't built on the momentum that adroit engine deal gave it in 2014-15, when it finished third in the constructors' championship two seasons in succession, because it lags way behind in other key areas – aerodynamics in particular. McLaren argued the exact opposite but has come unstuck thanks to a combination of incompetence (its own and Honda's) and impatience. It also lags where it once led technologically, no longer possessing a state-of-the-art windtunnel, for example.

This is not necessarily a recipe for disaster, but the problem is McLaren and Williams look outmoded in a world where smaller rivals are moving ahead thanks to a submissive approach to manufacturer dominance. It's clear buying chunks of a Ferrari or a Mercedes is a more effective way to compete than building a Williams or a McLaren from the ground up. Realistically, the current ceiling for McLaren and Williams is being best of the midfield – ahead of Renault while it's still rebuilding – but they are nowhere near that, struggling against teams such as Racing Point and Haas, which are achieving way more on fractions of the resource required to keep McLaren and Williams in the game. To put in perspective, Mercedes spent more than £300m to win the 2017 world titles with a team of more than 850 people on the chassis side and around 1200 including the engine. McLaren competed with nearly 700 people on a £173m budget (with Honda); Williams used nearly 600 people and a £120m budget. Racing Point did better with nearly 200 people less than Williams while spending under £100m. Haas employs a team of less than 200 people, meaning it gets more bang for its buck from a £100m estimated spend.



PICTURES: MARK SUTTON; GLENN DUNBAR

THE SPIRAL OF DECLINE

SET AGAINST A BACKDROP OF RISING COSTS and declining sponsorship revenues – or should we say increasing difficulty in attracting sufficient sponsorship revenue, which all teams have suffered since the loss of overt tobacco advertising to Formula 1 – it pays to have a rich benefactor.

For Ferrari, Mercedes and Renault, that benefactor is a major car maker. Red Bull (and to a lesser extent Toro Rosso)

**“IT’S NOT EASY CURRENTLY, WITH THE WAY THE REGULATIONS ARE,
FOR TRULY INDEPENDENT CONSTRUCTORS TO COMPETE”** **CLAIRE WILLIAMS**



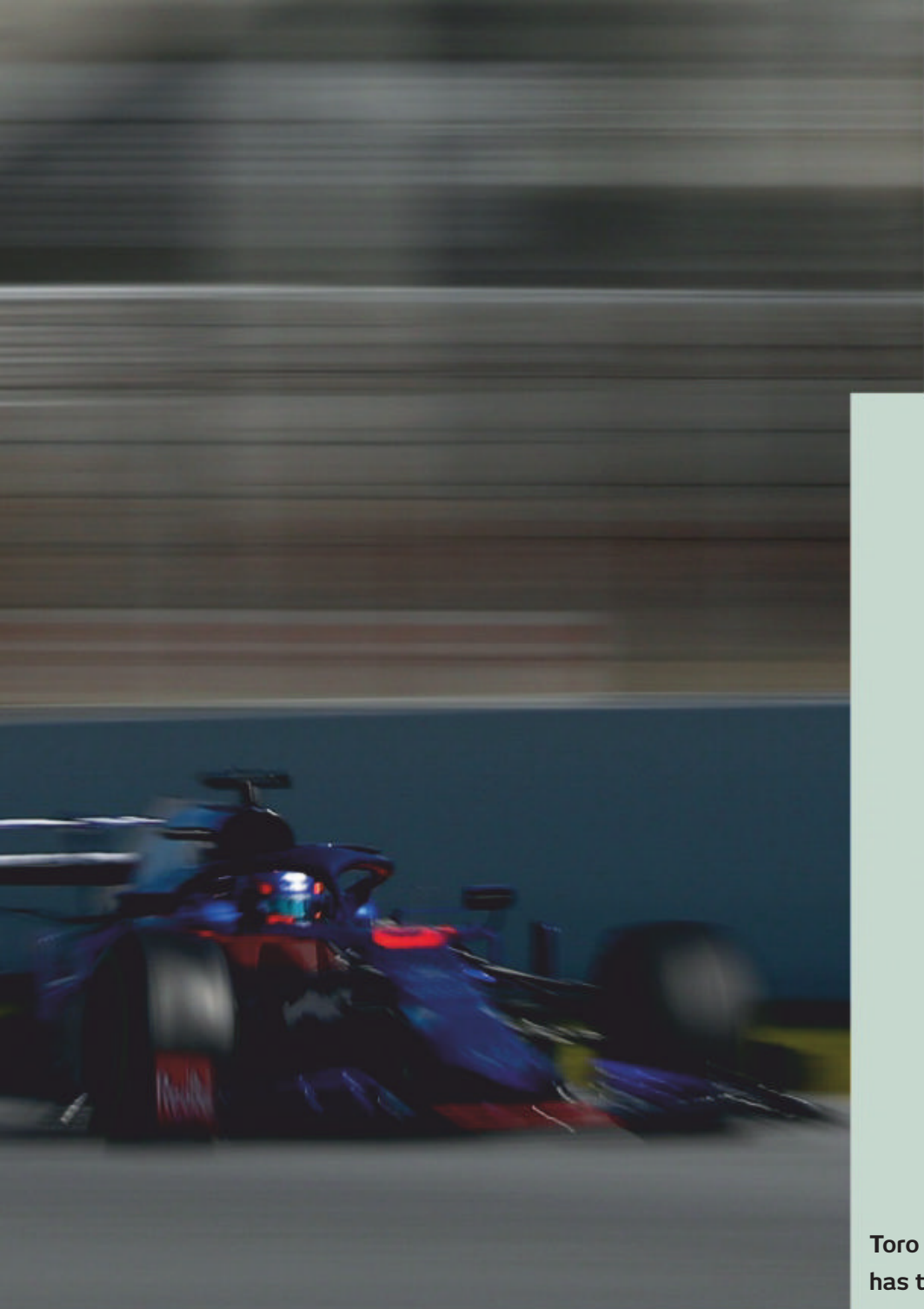
counts on Dietrich Mateschitz, and no longer pays for engines now it is with Honda. Haas has Gene Haas; Alfa Romeo/Sauber relies on Ferrari technical support and Swedish financing; Racing Point has Lawrence Stroll. Williams used to have Stroll, but no more; no longer can it count on Martini either. It previously lost major partner HP as a direct result of refusing to jump deeper into bed with BMW. Its residual financial safety net looks increasingly frayed, new title sponsorship deal with Rokit notwithstanding. Its share price has been steadily decreasing in the past year after a boost at the start of 2017. McLaren is more fortunate in counting on the patronage of a Bahraini sovereign wealth fund, but it also depends on diversification, Applied Technologies and an increasingly successful Automotive division to bolster its financial standing.

How to attract and retain the best drivers and personnel when you cannot compete with your rivals on and off the track? Red Bull bent over backwards to keep star designer Adrian

The light at the end of the tunnel for both Williams and McLaren is a hoped-for spending cap, and restrictions on B teams from the 2021 rule changes

Newey happy during its fallow recent period as a Renault engine customer, and still spent big to stay (occasionally) in the winners' circle. Newey is arguably *the* defining factor in the gradual competitive decline of both McLaren and Williams. Williams hasn't won a championship since Newey's influence departed the design office, and couldn't convince him to return before he joined Red Bull; McLaren likewise was never quite the same once Newey was no longer around.

Without such stability and star power, a peculiar kind of paralysis appears to have taken hold – both teams have enacted significant behind-the-scenes overhauls without showing signs of progress. Management and technical structures have been revamped again and again; key personnel hired and fired shortly thereafter. Williams began the hybrid era with 2008 championship runner-up Felipe Massa alongside future Mercedes race winner Valtteri Bottas in its cars, and finished last season with two inexperienced paying drivers. ▶



Toro Rosso (left) has the security of a parent team, while Haas (below) buys off-the-shelf components from Ferrari, taking advantage of all the development that comes with it

Key engineers and designers have also come and gone. Not long ago McLaren had two world champions on its F1 books, but Fernando Alonso has finally had enough and now McLaren must count on the relatively inexperienced line-up of Carlos Sainz and Lando Norris. The new broom has again recently swept through the design corridors of Woking too.

Both teams' ability to attract true star F1 power looks on the wane, which affects their ability to pull in sponsors, which leads to under-resourcing of their F1 programmes, which leads to poor track performance, which reduces prize money revenues coming in, which reduces further the ability to invest in the people and infrastructure necessary to turn things around – all while your rivals move the goal posts further away. Both teams also cling to their historical roots, while being outmanoeuvred by organisations with less tradition. The current Mercedes team can loosely trace its lineage to Tyrrell; Red Bull through Jaguar to Stewart; Renault's 'Team Enstone' has taken many forms. McLaren's lofty ambition to become the British Ferrari hasn't been realised, while the special payment Williams receives from F1 for protecting its heritage, worth £10m in 2017 and a little less last year, looks like a mere drop in the ocean.



BLAME IT ON THE GOOD TIMES

PRIOR SUCCESS CAN HANG around the collective neck like pearls of lead. Part of Williams' vast improvement in pitstop performance since 2014 came from slaying sacred cows that still used grazing methods dating back to the '80s and '90s – the prevailing thinking being 'those procedures worked when we won championships so why change them?' Destroying weaknesses you don't know you have is as important as attacking the obvious ones. To its credit, Williams is attempting what deputy team principal Claire Williams calls a "cultural transformation", clearly recognising that the game is constantly changing. You simply must change with it.

There's a danger that teams with proud histories get trapped by their own hubris. Williams has persisted with designing and building its gearboxes because it always has, and it has a department resourced to that end. But would it not be better off taking a Mercedes design 'off the shelf' and diverting resources elsewhere? McLaren finished 2012 with the best car on the grid but, instead of building on that success, went aggressive for 2013 in a bid to outdo Red Bull. It was historically the 'McLaren Way' to push boundaries, take risks and innovate, but it came spectacularly unstuck with a car that lacked compliance and aerodynamic consistency.

In preparation for a return to glory with Honda, much energy was expended on trying to change McLaren's culture, to create an environment where the technical departments would no longer over-reach and instead seek pragmatic solutions that took cues from better-funded and higher-achieving rivals. To a certain extent it succeeded in this regard – the 2017 McLaren chassis was genuinely decent on certain circuits – but it didn't work in harmony with the Honda engine and its successor was badly born while the team focused on minimising the hassle of switching to Renault. So poorly was it conceived that it produced less downforce than its predecessor. The error was not identified and fixed early enough and the team reverted to type with a new round of bloodletting and blame-gaming.


Contrast this with the "brutal honesty" Toto Wolff and his associates have instilled at Mercedes, a culture of success underpinned by embracing mistakes rather than fearing them. None of this is particularly revelatory, but it is thrown into sharper relief now McLaren and Williams are being squeezed at both ends. The bigger, better teams are stretching ever further away in nearly all areas, while the leaner, more agile minnows are achieving much better bang for their buck. Rather like Brexit Britain, the country's most successful and beloved teams look horribly and brutally exposed.



Sauber has ensured survival of the team, if not the name, with its tie-up with Alfa, a route that Williams and McLaren will find hard to follow

CAN EITHER ESCAPE "THE VOID"?

MARTIN BRUNDLE DESCRIBES THE PLACE McLaren and Williams presently occupy in F1 as "the void". It's an apt description, suggesting the lifeblood of these great teams is being sucked away by the changing landscape, leaving nothing but empty space. McLaren and Williams both accept conditions are tough for independent constructors – of which they are the only two – in F1 right now, but they refuse to entertain a 'can't-beat-'em-join-'em' approach. They would prefer F1 and the FIA to redraw the rules to restrict the partnerships that have borne such recent fruit for the likes of Haas and Alfa, and are expecting results from the major overhaul of F1's regulations and commercial arrangements due in 2021. A budget cap and a B-team ban would certainly aid their plight.

For better or worse these proud teams have remained steadfast in the face of the changing nature of F1, guarding their independence and heritage despite the decay of their competitive standing. As they slip further, this attitude looks misguided under the present rules. Perhaps they'll ultimately be proved correct. Maybe the world will change. It would be wonderful to see these British institutions rise to F1's summit again, and do it their way. But as things stand they don't look built to thrive. The climb up F1's mountain is unrelenting. It shows no mercy. You must adapt, or you will surely die. 

CELEBRATING 1000 F1 RACES

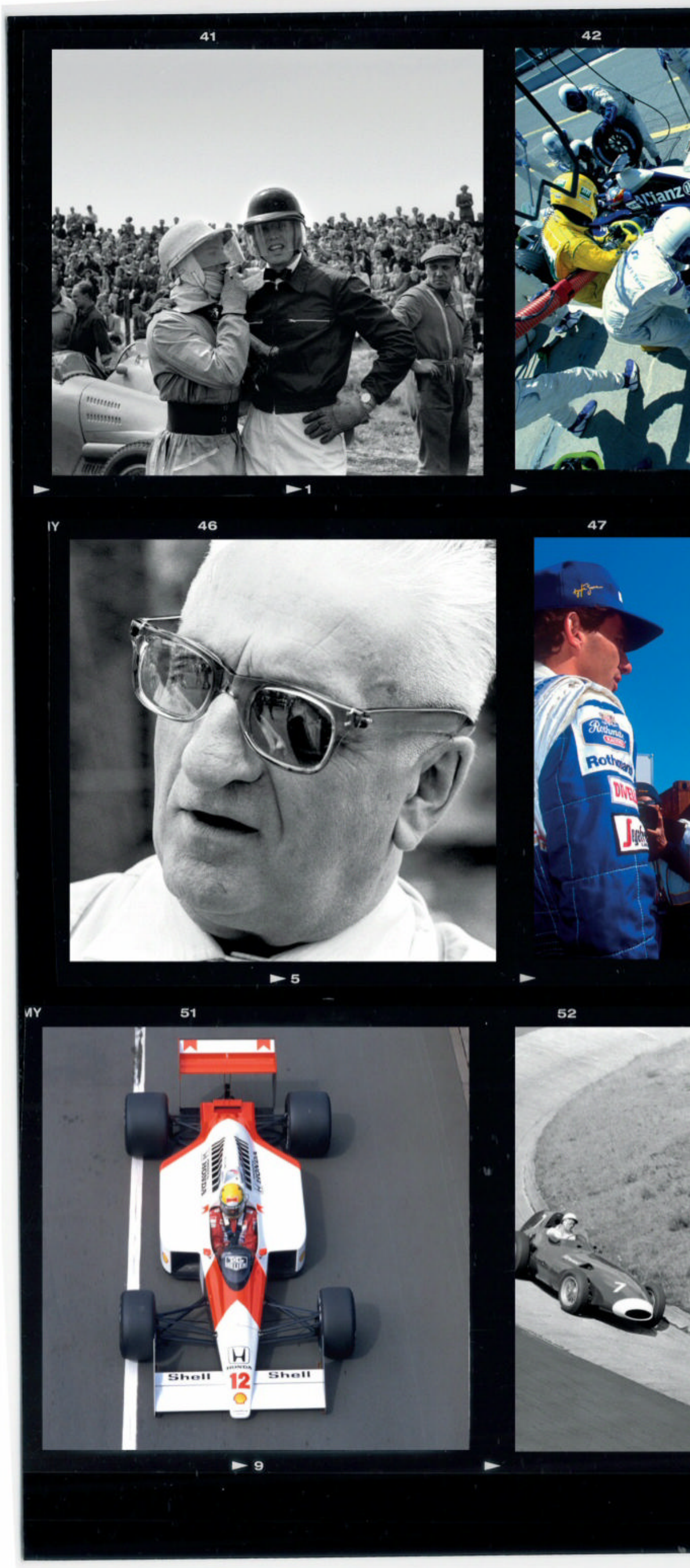
THROUGH THE EYES OF



motorsport
IMAGES

WORDS JAMES ROBERTS

This year's Chinese Grand Prix marks the 1000th Formula 1 world championship race since Silverstone in May 1950. To celebrate this landmark we've delved into the photographic archives of Motorsport Images, with seven of the world's greatest F1 photographers, to showcase some of the best pictures from 69 seasons of this fantastic sport





43



44



45



48



49



50

400



53



54



55

400T

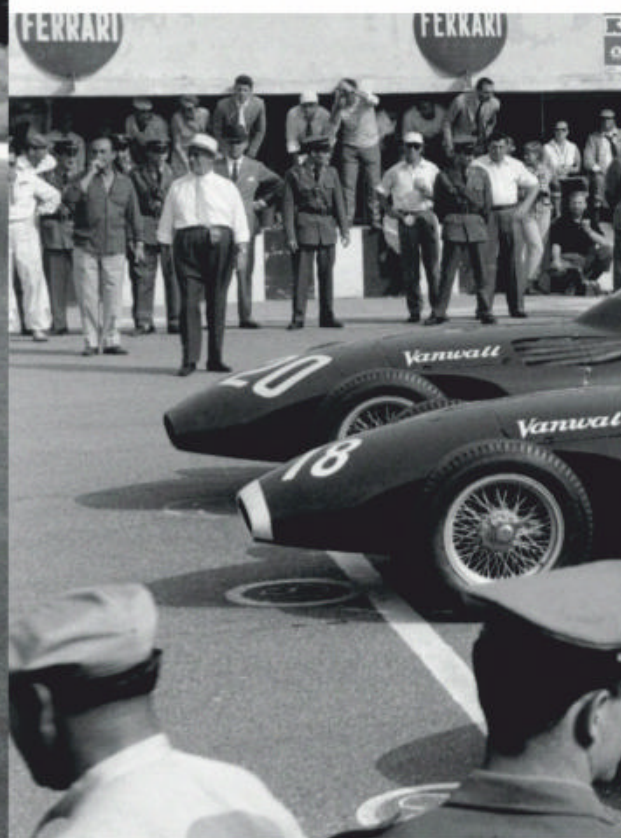
CELEBRATING 1000 F1 RACES

SILVERSTONE 1950
TO SHANGHAI 2019

1950s



◀ The second round of the 1957 world championship took place in Monaco. Juan Manuel Fangio (Maserati 250F) leads Tony Brooks's Vanwall as the pair finish 1-2 after 105 laps



◀ World champion Juan Manuel Fangio's damaged Maserati 250F is a study of balance and speed on its way to victory in the 1957 French Grand Prix at Rouen-les-Essarts

Photography



Michael Tee

Present at the first round of the world championship, Michael Tee was the founder of LAT and started just when 35mm film was taking over from plate cameras. He befriended drivers, such as Mike Hawthorn and Stirling Moss, who would often give him a wave as they passed by.



◀ Englishman Mike Hawthorn brings his Ferrari D246 into the Monza pits for a fresh set of Englebert tyres during the 1958 Italian Grand Prix. He went on to finish second



◀ Where it all began. Silverstone, 13 May 1950 and the first world championship race gets under way. Race winner Giuseppe Farina is third at the start behind Alfa Romeo team-mates Luigi Fagioli and Juan Manuel Fangio

Three Vanwalls: Stuart Lewis-Evans (#20), Stirling Moss (#18) and Tony Brooks (#22) start on the front-row of the 1957 Italian GP alongside Juan Manuel Fangio's Maserati



Jack Brabham is exhausted after pushing his Cooper-Climax across the line to secure fourth place and the first world title for a rear-engined car at the 1959 USGP at Sebring



▶ English driver Peter Collins is presented with champagne and a refreshing bottle of pop after winning the 1956 French Grand Prix at Reims in his Lancia-Ferrari D50



▶ Colour photography was in its infancy during the 1950s. This rare image is of race winner Juan Manuel Fangio accelerating out of Tabac in his Maserati 250F at the 1957 Monaco Grand Prix

CELEBRATING 1000 F1 RACES

SILVERSTONE 1950
TO SHANGHAI 2019

1960s

Photography

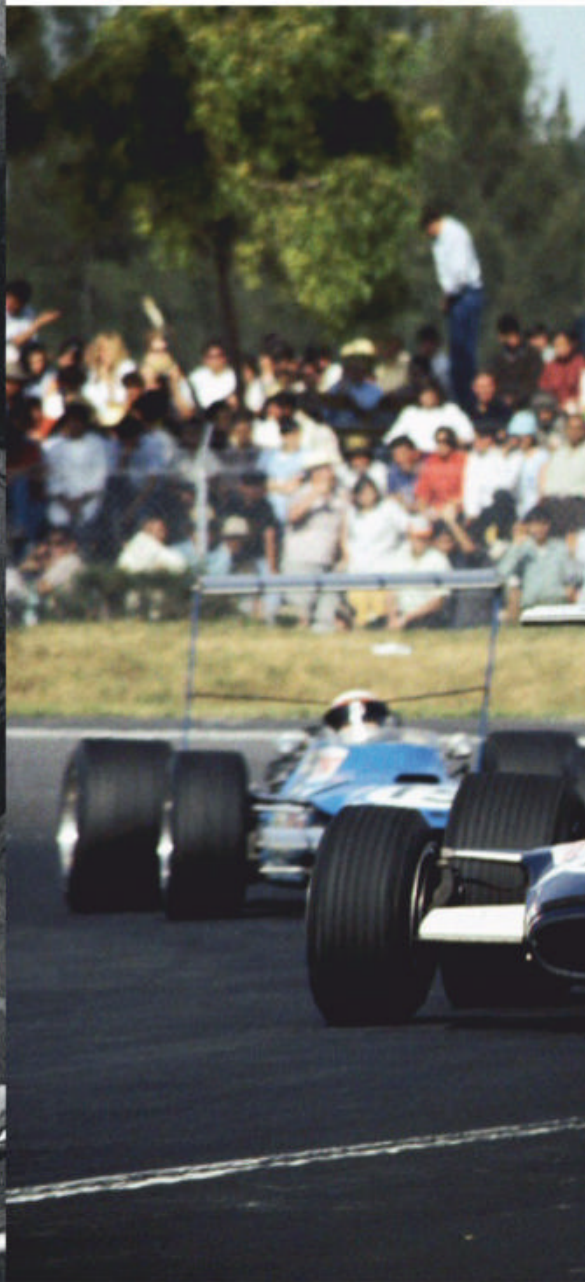
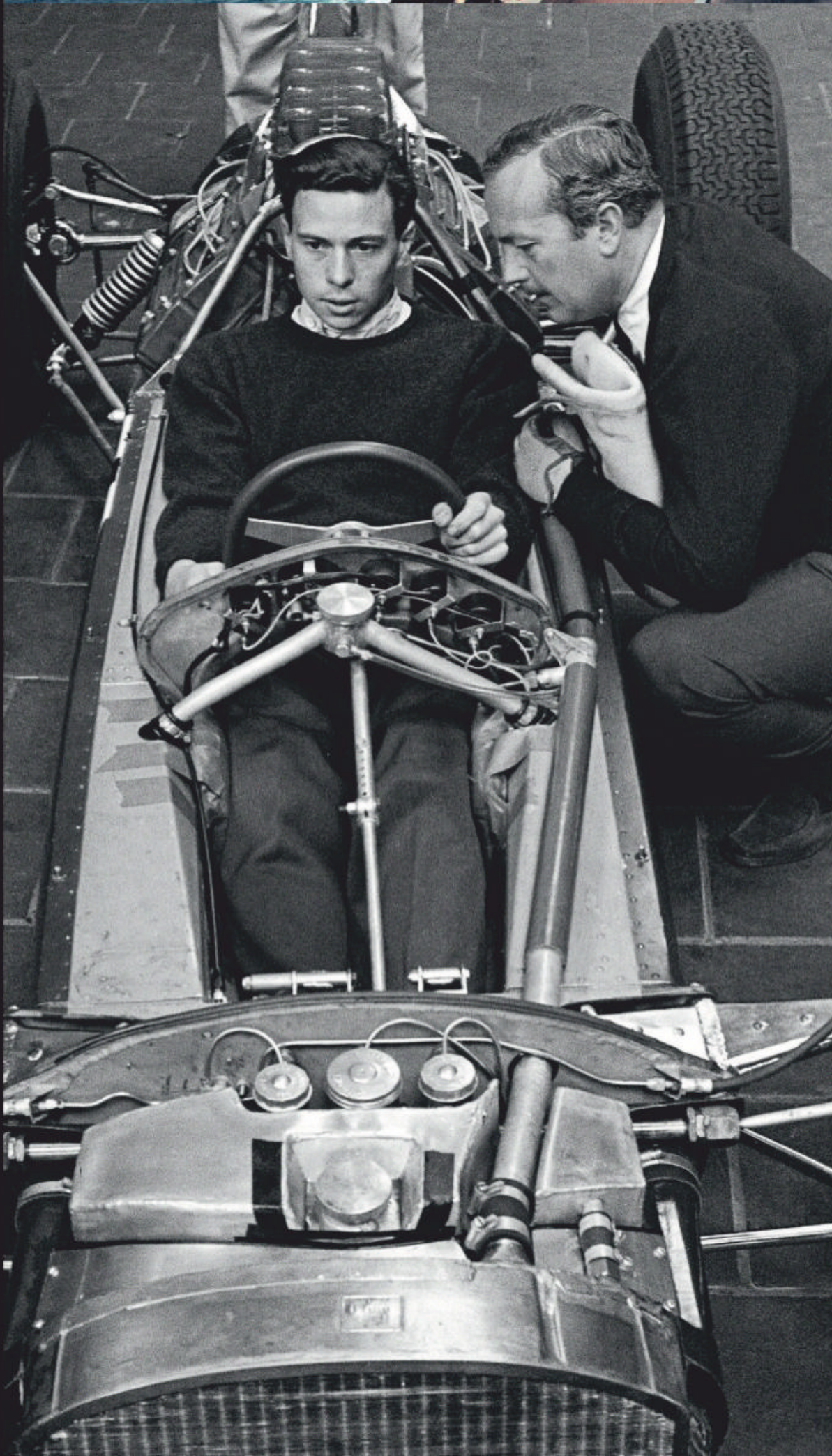


David Phipps

Shooting in a simpler time, David Phipps captured the changing landscape of F1 from the carefree 1960s to the commercialism of the 1970s. His work was a mixture of action and portrait, snapping drivers socialising with each other and getting within touching distance of the cars in an era before safety considerations such as crash barriers.



Monaco, 1960. The boats are concealed by the harbour wall, but the Prince's Palace is visible on the Rock of Monaco. Phil Hill powers his Ferrari D246 out of the tunnel



Lotus boss Colin Chapman talks to Jim Clark about the brand-new Lotus 25 with its revolutionary monocoque chassis at Zandvoort, the opening round of 1962

With a flick of the wrist, Jim Clark masterfully corrects the oversteer on his beautiful Lotus 49, on his way to victory in the 1967 British Grand Prix at Silverstone



Graham Hill (Lotus-Cosworth 49B) leads pole man Jo Siffert, in a similar Rob Walker-entered car and Jackie Stewart (Matra MS10) at Mexico in 1968. Hill won this final race of the season to be crowned world champion for a second time



Mexico City, 1969. Relaxing in the heat on top of his Lotus 49B, Austrian Jochen Rindt chills out while chatting to Jackie Stewart (right) and former Lotus driver Innes Ireland (left)

Through the typical Spa gloom, 1965 race leader Jim Clark gets a pit signal informing him second-placed Jackie Stewart is 25 secs behind and the rest of the field is 300 secs in arrears



CELEBRATING 1000 F1 RACES

SILVERSTONE 1950
TO SHANGHAI 2019

1970s

Photography



Rainer Schlegelmilch

is one of the sport's most famous photographers. He attended his first motor race in 1962, shooting the Nürburgring 1,000 Kilometres, and his first F1 race, the Belgian GP at Spa-Francorchamps, later the same year.

He became known for pioneering a more impressionistic style than most of his contemporaries, using slow shutter speeds and 'pull-zoom' techniques to artistic effect. Schlegelmilch's 'out of one hand' archive features over half a million negatives, transparencies, prints and digital photos from 1962 to 2017.



The stunning blue eyes belong to François Cevert, as he sits patiently in his March 701 in the Zandvoort pits. He would ultimately retire from the 1970 Dutch Grand Prix after 31 laps



This 'pull-zoom' technique is used to capture Emerson Fittipaldi as he exits the Brands Hatch pitlane in his JPS Lotus 72D. Victory at the 1972 British GP went to the Brazilian driver



Framed by the gap in the rear wing of the March 711, Frank Williams gives his driver, Henri Pescarolo, some last-minute advice for the 1971 Dutch Grand Prix at Zandvoort



▲ Launch season, 1975. James Hunts gets airborne in his Hesketh 308 at the infamous Nürburgring. The Englishman's German GP was curtailed after 10 laps by a wheel hub failure

While sitting in the Brands Hatch pitlane, Mario Andretti studies tyre data supplied by Goodyear. On race day, he retired his Lotus 79 with engine failure from the 1978 British GP



▲ Gilles Villeneuve at the wheel of the iconic Ferrari 312T4 in 1979. His drive at the Belgian Grand Prix at Zolder ended one lap from the finish after his flat-12 engine ran out of fuel

Comedy double act Graham Hill and Jackie Stewart share a joke as they sign autographs in the Clermont-Ferrand pitlane ahead of the 1972 French Grand Prix (which Stewart won)



Ferrari's Niki Lauda leads at the start of a wet Monaco GP in 1975. He's ahead of Tom Pryce's Shadow (centre), Ronnie Peterson's Lotus (right) and Vittorio Brambilla's March (left)



Belgian racer Jacky Ickx looks pensive as he sits on his JPS Lotus 76 in the Jarama pits during the 1974 Spanish Grand Prix. His race ended after 26 laps with leaking brake fluid



CELEBRATING 1000 F1 RACES

SILVERSTONE 1950
TO SHANGHAI 2019

1980s

Photography



Ercole Colombo

grew up within sight of Monza and as a young boy saw legendary drivers such as Fangio, Ascari and Farina race there. He began photographing races in the early 1970s and has been a familiar figure in the paddock ever since. The 2018 Italian GP at Monza was his 700th race.

Colombo developed a close relationship with Ferrari, becoming friends with many of the team's drivers, which enabled him to produce unique images of the team at work.

Niki Lauda contemplates the meaning of strife as he sits on the shoreline of the Detroit river, during Formula 1's visit to the US city in 1984



McLaren's Niki Lauda reads about his championship rival Nelson Piquet while sitting in his McLaren MP4-2 at the 1984 Dutch GP at Zandvoort. Lauda took second, while Piquet retired

Ayrton Senna heads McLaren team-mate Alain Prost through the chicanes at the 1988 Italian GP. In the foreground is Italian driver Piercarlo Ghinzani, at the wheel of the Zakspeed 881B



The Williams FW12 carrying the famous 'Red 5' being piloted in qualifying for the 1988 Belgian GP by Martin Brundle. His compatriot Nigel Mansell missed the race due to chickenpox





▲ Conditions are typically cramped at Monaco, but Nelson Piquet finds a space to extend his legs while chatting to Williams engineering brain Patrick Head at the '87 edition of the race



▲ Argentina, 1981: flat-out and beyond the limit. Gilles Villeneuve was loved for his flamboyant skill behind the wheel of the number 27 Ferrari, but gearbox failure ended his race early



▲ The cowling of Nelson Piquet's Brabham BT54 removed while the Brazilian is in the Paul Ricard pitlane at the 1985 French GP. In the race he beat Keke Rosberg (Williams) by seven seconds



▲ After illegally engaging reverse gear in the Estoril pitlane, Nigel Mansell was disqualified from the 1989 Portuguese GP. But the Brit failed to see the black flag and collided with McLaren's Ayrton Senna on the run through the first bend



▲ Enzo Ferrari sits himself down quietly at a table at the back of the Scuderia garage, among the pit equipment and car's bodywork, to observe proceedings during testing at Imola, 1985

CELEBRATING 1000 F1 RACES

SILVERSTONE 1950
TO SHANGHAI 2019

1990s

The grid forms up for the start of the 1991 Belgian GP. On the left side sits Martin Brundle's Brabham BT60Y behind JJ Lehto's Dallara 191 and the Leyton House CG911 of Italian Ivan Capelli



Photography



Steven Tee

First taken to a motor racing event by his father Michael in the '70s, the bug caught instantly. Since the 1984 San Marino GP, LAT's managing director has attended well over 500 races. "The most satisfaction I get from a photograph," says Tee, "is if you're surrounded by fellow photographers and you manage to capture something they haven't." Michael was at race number one, while Steven will photograph number 1,000 in Shanghai this month.



A shaft of sunlight glints off Michael Schumacher's helmet at Spa in 1994. He won that year's Belgian GP, but was subsequently disqualified for a overly worn skidblock on his B194



At the 1994 German Grand Prix, Jos Verstappen entered the pits to refuel, but a flash fire engulfed Benetton mechanic Paul Seaby, luckily without any long-term injury



Second-placed Nigel Mansell hits a bump on the Jerez asphalt during the 1990 Spanish Grand Prix, causing his Ferrari 641 to unleash a shower of sparks behind him

Entering the right-hander at Mirabeau, Michael Schumacher's front-right lifts off the ground as he takes his Benetton B195 to a dominant win on the streets of Monaco. His triumph in 1995 was the second of his five victories in the Principality

The intensity of a grand prix driver is captured in Damon Hill's study of concentration during the 1993 season. In his first year for Williams, the Englishman finished third with three wins



CELEBRATING 1000 F1 RACES

SILVERSTONE 1950
TO SHANGHAI 2019

2000s

Photography



Mark Sutton

Sutton Images was founded by Keith Sutton in 1980 and along with his younger brother Mark, the pair photographed the sport over the following two decades. By the late 2000s Sutton Images had amassed an extensive archive including an intimate collection spanning the career of Ayrton Senna. In 2017 Sutton became part of the Motorsport Images collection and Mark continues to shoot every GP.



◀ Pole position and a dominant lights-to-flag victory for newly crowned champion Fernando Alonso. The final race of 2005 was held in Shanghai and his win netted Renault the constructors' championship



At the start of the USGP at Indianapolis in 2006, McLaren's Juan Pablo Montoya caused a first corner chain reaction which led to Nick Heidfeld rolling his BMW Sauber multiple times

Felipe Massa stops forlornly at the end of the Singapore pitlane after being released from his Ferrari pits with the refuelling rig still attached. The error cost him valuable points in the '08 title race ▶



Despite Mika Häkkinen having a Mercedes engine in his McLaren, the German crowd at the Nürburgring were mainly supporting Ferrari's Michael Schumacher at the 2000 European GP. He duly won for them



As a personal sponsor of Jenson Button in Formula Ford, Sutton shared in the celebrations as the British driver achieved his ambition of becoming world champion in the Brazilian GP in 2009 with Brawn



After suffering a tyre failure at the final corner during Friday practice at Indy (2005), Ralf Schumacher kicks his Toyota in frustration. The incident led to only six starters for the race, after Michelin withdrew

CELEBRATING 1000 F1 RACES

SILVERSTONE 1950
TO SHANGHAI 2019

2010s

Photography



Glenn Dunbar

The family connections in motor racing photography run deep. Glenn's father John Dunbar worked at LAT in the 1970s, before going freelance. Dunbar Jr joined LAT in 2002 and has been full-time shooting F1 since 2006. He has a flair for finding new angles and experimenting with light, and regularly undertakes exclusive photoshoots for F1 Racing.



◀ Valtteri Bottas leaps for joy during his first season of racing in F1 in 2013. He created a stir in only his seventh race when he qualified third at a wet Canadian GP for the beleaguered Williams team

The Renault of Nico Hülkenberg misses its braking point and launches Fernando Alonso's McLaren over the top of Charles Leclerc's Sauber at the opening corner of the 2018 Belgian Grand Prix at Spa-Francorchamps

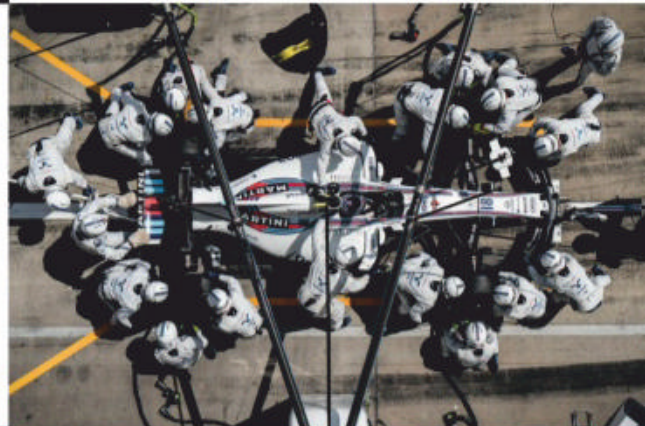


◀ Venezuela's Pastor Maldonado kicks up the spray while piloting his Williams FW34 during practice for the 2012 Australian Grand Prix. After qualifying eighth on the grid he ultimately spun out of the race



◀ Max Verstappen exits the tunnel during practice for the 2018 Monaco GP and his Red Bull RB14 creates a shower of sparks as he hits a bump. He finished ninth after starting last due to a crash

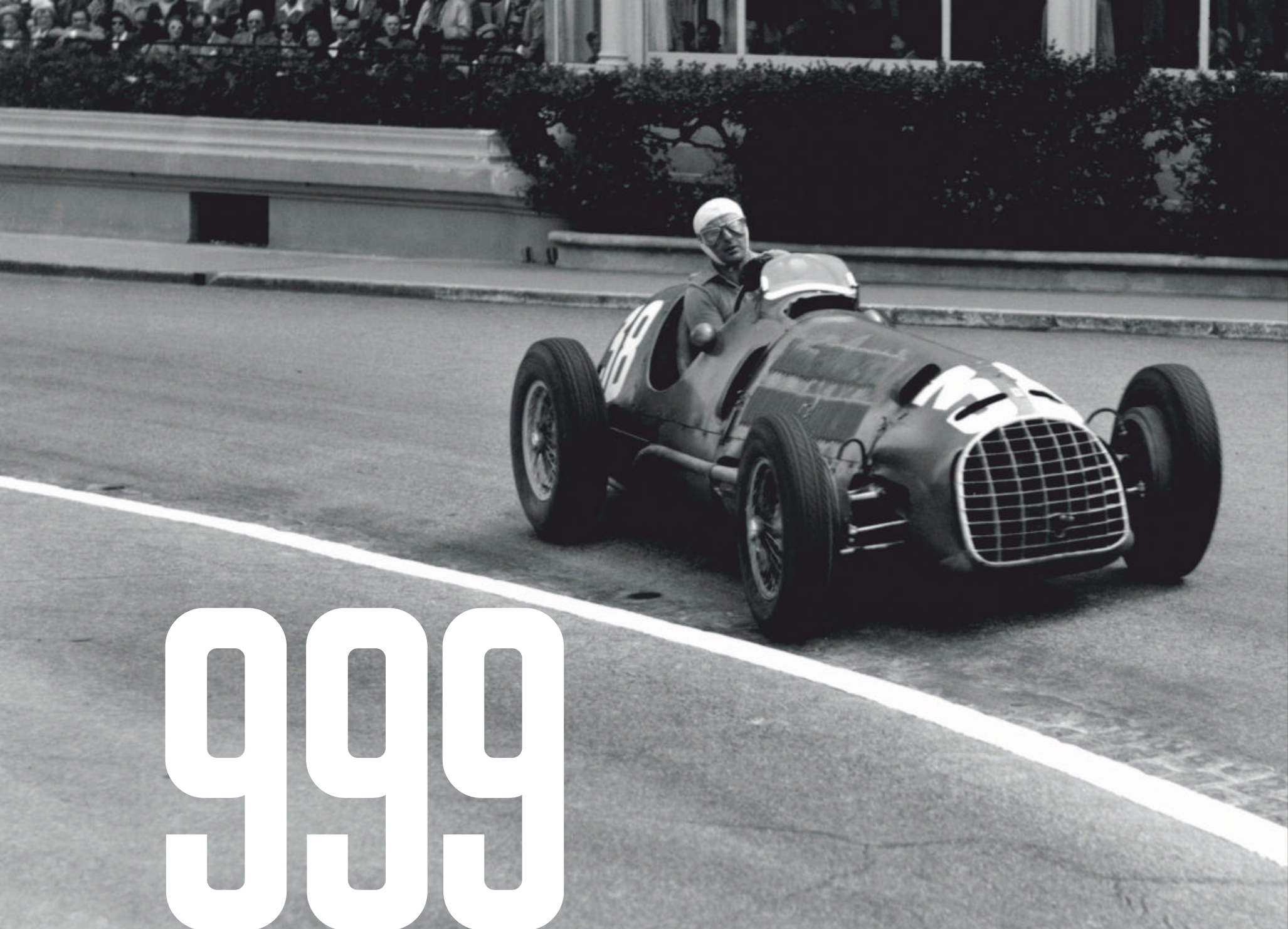
20 Williams mechanics service Lance Stroll's Williams FW40 as the Canadian pits for fresh Pirelli tyres during the 2017 Austrian GP at the Red Bull Ring. He finished the race in tenth place



◀ Thinking this could be his last ever Brazilian GP, Felipe Massa struggles to hold back the tears after crashing out of the 2016 race. He got a reprieve and raced for Williams again the following year



▲ Lewis Hamilton celebrates with his home crowd after winning the 2016 British Grand Prix from pole position. The victory reduced the gap to his Mercedes team-mate Nico Rosberg to just one point



999

AND NOT OUT (YET)

As F1 gears up to mark its 1000th championship race in China, **Nigel Roebuck** reflects on how the sport has lost its way and why he sees little cause for celebration

PICTURES



motorsport
IMAGES



The fact is,
Formula 1 has
always been about
the drivers – it's
not an engineers'
championship,
but I'm afraid it's
become one.

Martin Brundle

As race time nears in Peter Ustinov's *Grand Prix of Gibraltar*, Schnorcedes team manager Altbauer instructs his driver it's time to blow his nose: "A handkerchief would have to be carried in either the left pocket or the right – which would completely destroy the balance of our revolutionary new car!"

Life imitates art, they say. Sixty years on from Ustinov's glorious pastiche, Ferrari, aping Red Bull, go into 2019 with matt paintwork, rather than gloss. "The reason is not aesthetic," explains Mattia Binotto (and he can say that again), "but exclusively technical. Eliminating the shiny element gives us a few hundred grams, which may not sound much, but when you push everything to the limit even this has an effect..."

Given that in today's world a driver can be fined for wearing illegal underpants, nothing should surprise us, but saving an ounce or two on matt paintwork reminds me of a conversation years ago with Bernie Ecclestone.

"When you think," he said, "that these people's gear ratios last for 400km... it's a bit cranky, really, isn't it?" That's the word, Bernie, cranky.

"These gearboxes are like a Swiss watch, but the guy in the grandstand has no idea about that – and if he had, he wouldn't care. What he *does* care about is that the racing isn't very good..."

No, it wasn't, but it was better than now, and I know from talking to fans – be they Ecclestone's man

in the grandstand or such as David Coulthard and Martin Brundle – that I am not alone in believing Formula 1 has lost its way.

This month the 1000th 'world championship race' will be celebrated in China, but this figure includes 11 runnings of the Indianapolis 500 (unfathomably a round of the championship until 1960), and I'd have thought it more appropriate to commemorate the 1000th *grand prix*, which falls at a rather more fitting venue than Shanghai. Monza was, after all, on the calendar 69 years ago, when Formula 1 was born.

So, too, were Monaco, Spa – and Silverstone, where the world championship had its baptism. Back then the airfield circuit was marked out with straw bales and oil drums, and the race was won by the Alfa Romeo of Giuseppe Farina, his headwear made of linen.

Although Ferrari people love to stress that the Prancing Horse on the yellow shield is the one link between 1950 and 2019, Enzo did not send cars to this inaugural race, having failed to agree starting money with the organisers. Periodically this would remain a Maranello ploy until the early 70s, when Bernie unionised the teams.

Quite a bit else has changed in the course of seven decades. In 1951, for example, crash helmets were made mandatory, although it would be another 15 years before safety became any kind of issue in the sport. Fatalities were once regarded as an inevitable adjunct to an activity that could never be

safe. If this spawned a camaraderie among the drivers long lost now, so also it instilled a discipline on the race track: interlocking wheels, after all, could get you killed. With run-off areas unknown on the tracks of the day, what awaited were trees and walls.

Over time the safety aspect – to both cars and circuits – was transformed. As safety increased out of sight, so too did financial reward. A superstar today earns upwards of \$30m a year; in 1959 Dan Gurney's stipend at Ferrari was \$163 a month.

Then there is the technology. Time was, as Stirling Moss says, you fiddled with tyre pressures, and perhaps changed dampers, but that was about it. One revolution was the move to rear-engined cars, pioneered by Cooper in the late 50s, and another was the dawn 10 years later of downforce.

Not long before he died, Gurney contemplated how the sport had changed. "Jochen Rindt hated wings from the start – he said they reduced the importance of car control, and

Because the cars are
so bloody heavy, to
get them to go round
corners we've got a
ridiculous amount of
downforce, which is
terrible for racing!

David Coulthard

he was right. For both spectacle and overtaking, downforce has been disastrous – and so has telemetry, because anything that diminishes unpredictability might be great for engineers, but is terrible for spectators. Both the 'Ds' – downforce and data – were inevitable, but when people look back on the sport's history, they'll surely see them as wrong turnings."

What was it Bernie said to me all those years ago? "What we need

to do is get the aerodynamicists together, and say, 'What you're doing is bad for racing – we want you to find a way for us to get rid of you!' Then we have a meeting with the engineers, and say the same to them..."

Now, in the hybrid era, we have cars weighing as much as an Auto Union of 80 years ago, with monstrously expensive engines that make an insipid noise.

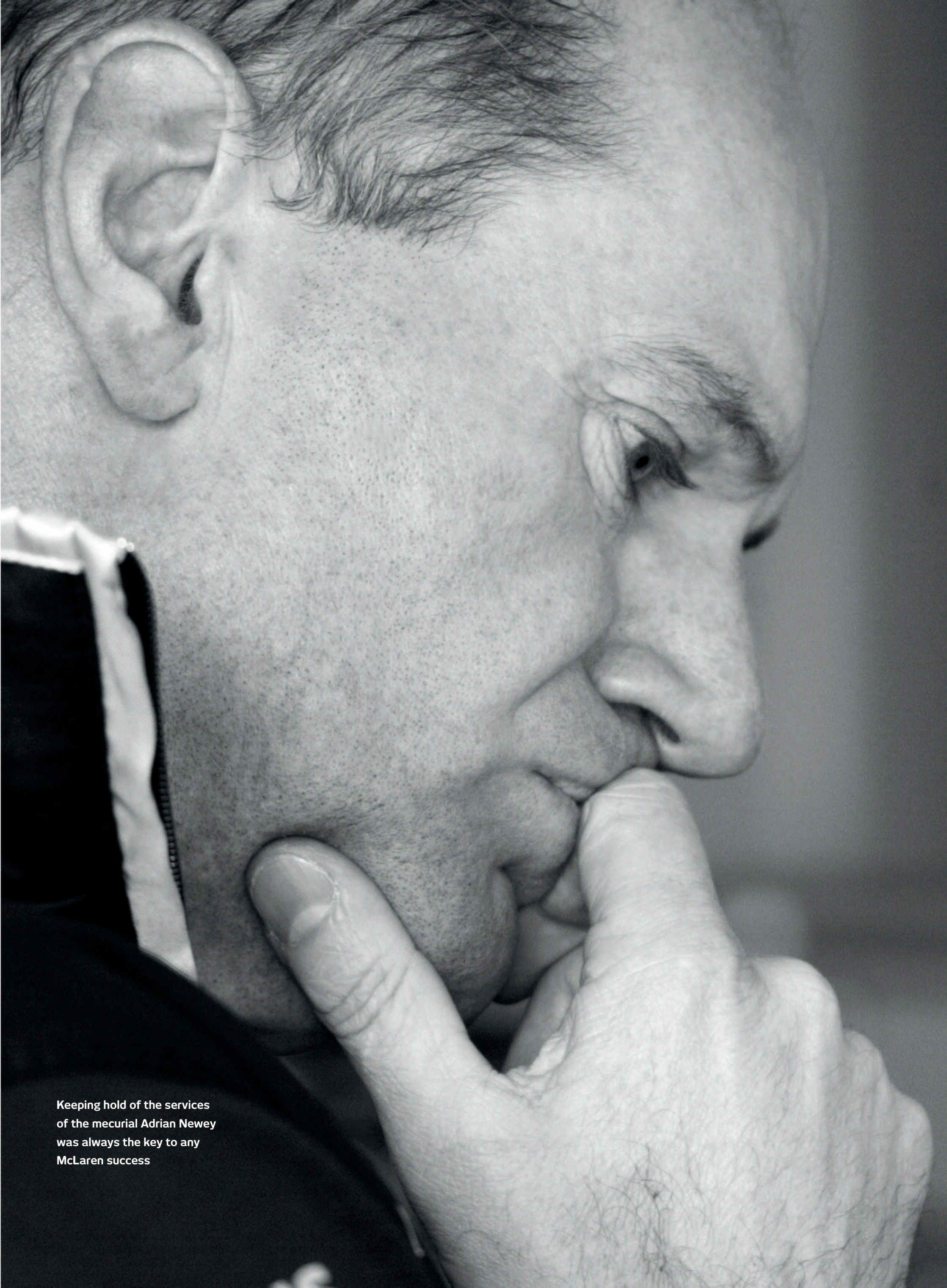
"At Goodwood," says Coulthard, "we heard the cars being fired up, and my son said, 'Daddy, why are they all so loud?' I said, 'Well, that's what a racing car was – and should be'. These cars... the weight limit is 740 kilos, which is a joke. Fifteen years ago, my V10 McLaren weighed 605 kilos – and had 20-odd kilos of ballast!

"What we've got is the result of all the hybrid, 'road car relevant', bullshit that attaches to F1 these days. Because the cars are so bloody heavy, to get them to go round corners we've got a ridiculous amount of downforce, which is terrible for racing! We've lost so much of what Formula 1 is supposed to be..."

Then there is the crippling expense of it all. Formula 1 has increasingly become a financial arms race, with Mercedes, Ferrari and Red Bull now operating on a wholly different level.

"The rest," says Brundle, "mostly get lapped, don't they? Any of the top six cars could start in the pitlane, and finish in the top six – the haves and have-nots just get further apart. It's *vital* that the FIA and Liberty get the regulations right for 2021, and don't allow themselves to be bullied by Mercedes and Ferrari. The fact is, Formula 1 has always been about the drivers – it's not an engineers' championship, but I'm afraid it's become one."

As we mark 1000 races, the future of Formula 1 looks far less secure than it did. "If it fails down the road," says Brundle, "the beginning of the failure was these bloody hybrid engines..." Anyone remember the Matra V12? 🚗



Keeping hold of the services
of the mecurial Adrian Newey
was always the key to any
McLaren success

ECHOES

THE HISTORY OF MCLAREN

OF

CHAPTER 5: 2002-2012

GLORY

PICTURES  **motorsport**
IMAGES

WORDS DAMIEN SMITH

As the millennium turned, McLaren had geniuses behind the wheel and at the drawing board – all the ingredients for lasting success. And yet there's only been one more title to celebrate...



The risky signing of Kimi Räikkönen to replace Häkkinen paid off initially, but he left for Ferrari at the end of '06

Somewhere in a parallel Formula 1 universe, Adrian Newey never left McLaren. He never lost his mojo, never felt undermined, and was given the trust he craved to conceive, design and build racing cars to his sole vision. There was never any need for him to join Red Bull.

In that universe, Newey's first constructors' crown with McLaren – delivered courtesy of the majestic MP4-13 in 1998 – was simply the first in a string of glories rather than an increasingly stark landmark, 21 long years later, as the team's last.

But this is the reality we live in. For the parallel to exist as history would have required McLaren's leader, Ron Dennis, to be an entirely different man, and therefore McLaren a different team. Dennis's unwavering, ego-driven demand for total control gave impetus to the rise of a truly great British company in the first decade of the 21st century – but in F1 his first (and by no means last) significant failure of the new millennium was the loss of Adrian Newey.

Initially the relationship showed promise. The signals were that Newey, in partnership with Ron's loyal lieutenant Martin Whitmarsh, would be the future of McLaren – that eventually Dennis would

The combination of Dennis (right) and Whitmarsh were unable to prevent Newey from moving to Red Bull



stand back. In his autobiography 'How to Build a Car', Newey recalls time spent with both at Ron's home in the south of France in 2000. A chill fell over the poolside discussion, as Newey made it clear he needed a timescale on Dennis's promise of power. This was not the blind loyalty Dennis demanded. Was that why a subsequent new contract offer amounted to a pay cut? Newey thought so, and it almost drove him there and then towards the team that would become Red Bull, as old friend Bobby Rahal nearly lured him to Jaguar. Only a late, desperate and much-improved bid from Dennis kept Adrian in Woking – but their relationship had been severely strained.

In such circumstances of mutual mistrust, perhaps it's little wonder Dennis pursued the logic of a new engineering structure, one that no longer relied on star individuals with 'artistic temperaments'. The new 'matrix' solution (devised by Whitmarsh, at Dennis's behest) spread responsibility and promised to soften the impact of a bombshell departure. But as far as Newey was concerned, it stripped him of control.

It's no coincidence that this era marked Newey's nadir in an otherwise glittering career. The 2002 MP4-17 won just a single race in David Coulthard's



“RÄIKKÖNEN NEVER WON AGAIN IN 2003 AFTER HIS BREAKTHROUGH VICTORY IN MALAYSIA, BUT HIS CONSISTENCY PAPERED OVER AN INTERNALLY TRAUMATIC SEASON FOR NEWEY”

hands, then the following season the MP4-18 proved aerodynamically unstable, a design misfire comparable with Newey’s difficult 1989 Leyton House and the first iteration of the 1994 Williams. At least a revised version of the 17 was good enough to win the first two grands prix and, in Kimi Räikkönen’s hands, strong enough to keep the Finn in the title hunt thanks to an unusually wide spread of race winners and a revised points system. To Dennis’s credit, Räikkönen was an inspired signing after his rapid rise through the junior ranks (he’d competed in just 23 car races before his F1 debut with Sauber in 2001), a like-for-like replacement for McLaren’s retired double world champion Mika Häkkinen. The ‘Iceman’ was similarly monosyllabic in public, uncomplicated in his approach – and spectacularly fast.

Räikkönen never won again in 2003 after his breakthrough victory in Malaysia, but his consistency papered over an internally traumatic season for Newey. Having investigated and understood his mistakes, he pushed to start from scratch with a new monocoque (and to hell with the costs) – but department heads within the matrix insisted the car was salvageable. When the tech director lost the argument in a ►



The team’s only victory in 2002 was Coulthard’s surprise Monaco triumph in the MP4-17

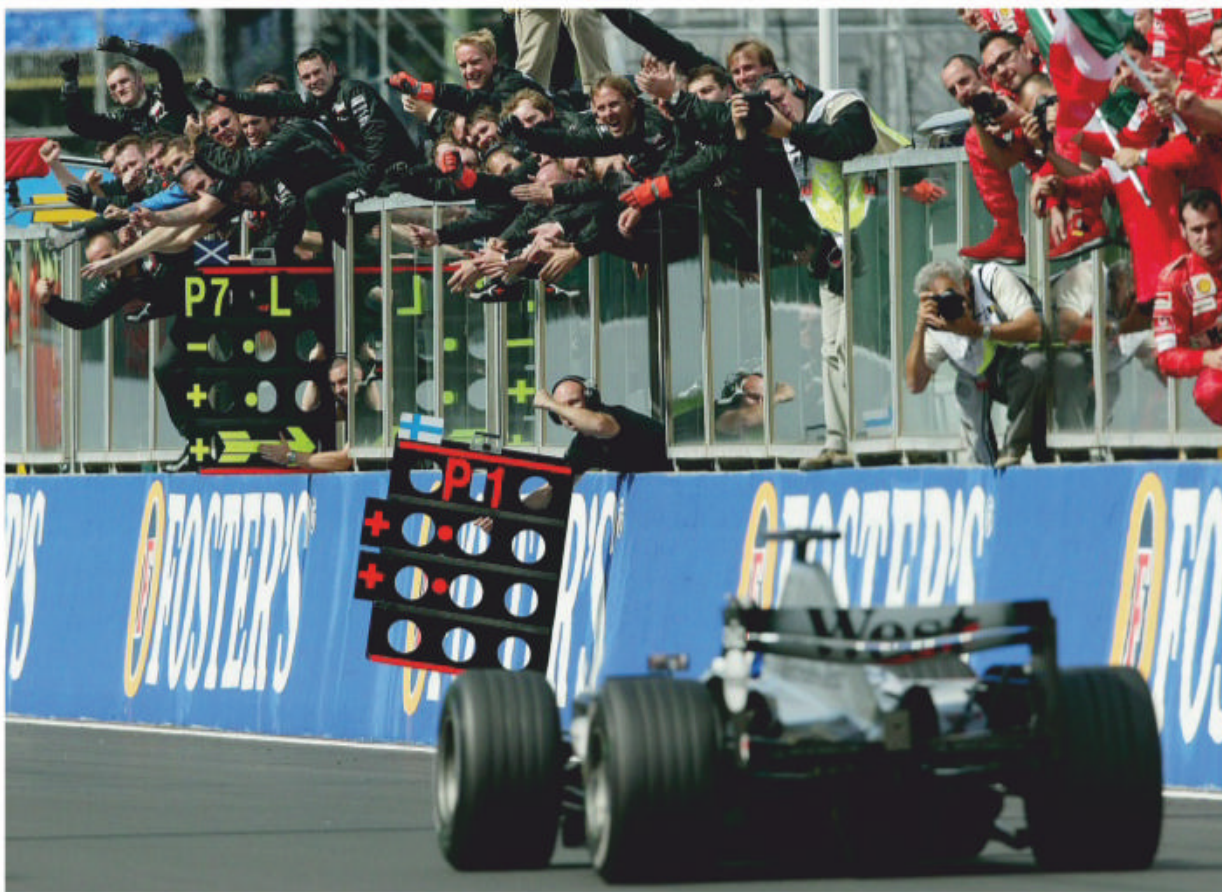
democratic vote, his departure for Red Bull shifted another step closer.

In May 2004, Dennis proudly unveiled McLaren's definitive statement of his ambitions as the company transferred to its dazzling new lair, designed by the eminent Sir Norman Foster. Doubters voiced concern over the reputed £300 million cost, but Mercedes-Benz's commitment to build its flagship SLR sports car at the McLaren Technology Centre signalled Dennis's intent, and solidified a partnership that had developed far beyond that of simple F1 engine supply. Mercedes bought a 40 per cent share in the McLaren Group.

Still, it didn't impress Newey, who felt his creative sensitivities further constrained by the MTC's "Orwellian" interiors. Given the team's lamentable form, it was easy to scoff. In the first half of 2004, Räikkönen scored just a single point before the MP4-19B, complete with the new monocoque Newey had always called for, resulted in immediate victory –

“THE MTC DIDN'T IMPRESS NEWAY, WHO FELT HIS CREATIVE SENSITIVITIES FURTHER CONSTRAINED BY THE SITE'S “ORWELLIAN” INTERIORS”

2004 was another difficult season with only Kimi's Belgian success to lift the spirits in Woking



and 'artist' vindication – at Spa.

The following MP4-20 for 2005 was a fitting McLaren swansong for Newey, who once again proved adept at making the most of a regulation change (a 50mm rise in front wing ride height). In a year when Ferrari's dominance was derailed by a ban on tyre changes, McLaren's Michelin-shod machine was the class of the field. The car won 10 races, seven of which fell to Räikkönen. His new team-mate Juan Pablo Montoya won three despite missing races through a controversial ankle injury ('he's fallen off his tennis racquet', was the paddock quip, in reference to a never-admitted-to motorcycle prang). Once a potential F1 game-changer, Montoya's F1 career was losing its oxygen. He would be dropped mid-season in 2006 after announcing his

Räikkönen's best year, and Newey's swansong, was 2005, but engine reliability let the team down



intentions to set a new course towards NASCAR.

Despite the speed in 2005, neither drivers' nor constructors' titles headed to Woking, as Mercedes engine reliability again let McLaren down. Newey had plenty of time for Merc's engine builder, Ilmor, especially since the tragic death of co-founder Paul Morgan in 2001 in a vintage aircraft accident. But his patience was spent. Following Christian Horner's dogged courtship, Newey broke the news to Dennis that he was leaving for Red Bull – and found himself escorted from the MTC forthwith.

McLaren might argue its commitment to collective responsibility now came into its own. But what it lost in Newey's departure is represented in what followed at Red Bull: as McLaren's form fluctuated season to season, Newey and Horner built a finely honed squad focused around the star designer's vision – and delivered the soft drinks brand four consecutive drivers' and constructors' world titles. In contrast to Dennis, Horner has kept his star asset settled and happy. As they enter their 14th season in partnership, Newey enjoys control and stability that he found impossible to get at McLaren.

Following this blow, both Juan Pablo Montoya and then a disaffected Räikkönen moved on during the course of a winless 2006, as the team entered one of its most tumultuous and dramatic chapters.

The world had known since December 2005 that Fernando Alonso would join McLaren in '07. Yet it was no distraction to the Spaniard as he saw off Michael Schumacher to claim a second consecutive world championship for Renault in '06, and his choice of new team appeared sagacious when the MP4-22 flew out of the box. What he could never have accounted for was his new rookie team-mate.

Lewis Hamilton had become a Dennis 'project' after the child karting star gamely approached him at the Autosport Awards. The rise through the junior car racing ranks was carefully managed, at times to a point of tension, but it worked for Lewis in the long run. By 2006, he convinced McLaren to show the ultimate faith – and happened to catch the team on the rise. Lando Norris will require significantly more fortune to prove so lucky in 2019.

From the first race, in Australia, Hamilton hit the ground running – reaping the rewards of surely the most comprehensive rookie preparation programme ever. Still, kicking off with nine consecutive podiums was unheard of, and his eventual four wins and final points tally exactly matched and ruffled Alonso. The champion was angry – at Dennis, whom he felt had gone back on his word. The promise had been precedence over the rookie, but when he made it the boss could never have imagined how well his young prodigy would start. When a tit-for-tat squabble between the drivers for track priority in qualifying broke out at the Hungaroring, the tension spilled



into a crisis of unimagined magnitude.

That summer, McLaren had already been cleared of wrongdoing, following the so-called ‘Spygate’ scandal when chief designer Mike Coughlan’s wife handed confidential Ferrari papers in for photocopying in a Surrey high-street shop. Coughlan and Ferrari’s Nigel Stepney lost their jobs, but the ramifications for McLaren seemed minimal. Then in Hungary, a furious Alonso threatened Dennis that he’d go to the FIA with email evidence that properly implicated the team. Not Fernando’s finest moment, and he’d quickly go back on his threat – but not quickly enough. An alarmed Dennis had already chosen to head off the blackmail by informing FIA president Max Mosley of the incriminating emails.

The Alonso and Hamilton partnership started well following Alonso’s win in the second race of 2007 at Malaysia. It didn’t last...

Punishment was brutal. Not only was McLaren excluded from the 2007 constructors’ championship, more seriously it was fined an outrageous \$100 million. “Vindictive” was how Dennis described it. Mosley had always been open in his antipathy for the McLaren boss, and would later admit “\$5m was for the offence, \$95m for Ron being a twat” – or perhaps something stronger. Dennis wanted to challenge the penalty in the civil courts, but was advised the fine could turn into a two-year ban if he did so...

No one emerged well from the mess, although sympathy for Dennis – at least from the British media – was genuine. A year later, with Alonso back at Renault, Hamilton clinched his first title, he and Fernando having let the driver’s crown slip to Ferrari’s Räikkönen ▶

(of all people) a year earlier. Once the excitement of 2008 had been digested – Hamilton left Felipe Massa and the partisan Interlagos crowd in tears by snatching the required fifth place to become champion at the final corner – there was also public vindication for Dennis after the toughest two years of his life, during which his marriage also broke down.

Just hours before the launch of the 2009 challenger, Ron unexpectedly handed the team reins to Whitmarsh, so to concentrate on McLaren's growing automotive arm, and seemingly walked away from F1 for good. McLaren was developing rapidly during these years, and with the investment demands required to fund growth, Dennis relinquished more of his share power. At the start of '07 the Bahrain Mumtalakat Holding Company – essentially the business face of the wealthy Middle Eastern sovereign state – bought half of his 30 per cent share. Despite their F1 travails, it says much for McLaren's overall potential that the Bahrainis then increased that share by buying out Mercedes' 40 per cent stake in 2009. The German manufacturer, for so long symbiont with McLaren in F1, was now backing away to pursue success on its own terms by buying out Brawn GP, who had swept to shock double title glory that year with Jenson Button. Could Dennis have saved the Mercedes partnership? As with Newey, only if he had been an entirely different man.

Whitmarsh, who – to Dennis's disgust – had even encouraged the initial Mercedes/Brawn deal, did his best to steer McLaren through the difficult years that followed. Now a world champion, Hamilton's final seasons at McLaren swung between the sublime and near-anonymity. A lack of emotional maturity made Hamilton implode from time to time, although a welcome sunny ingredient was added when Button surprised by signing for 2010. He brought light relief, as Gerhard Berger had to Ayrton Senna and the team in the early 1990s – although unlike Berger, Button proved at least a match, and at times genuinely faster than his world-class team-mate. In their three years together, Jenson surprised most by outscoring Lewis with 672 points to 657, and famously finished ahead of Hamilton in 2011 as championship runner-up.

By 2012, doubts had taken root that Hamilton would ever add to his title tally at McLaren, while the dry patch since the Newey-inspired constructors' crown of 1998 had become a drought. Whitmarsh was under pressure.

Always on his shoulder, and often behind his back, it turned out Ron Dennis still had a hand to play in F1 – and it was Whitmarsh who would find himself dealt out of the game. 🚫



**NEXT MONTH
A LONG HARD STRUGGLE
2013-PRESENT**

**“ONCE THE EXCITEMENT
OF 2008 HAD BEEN
DIGESTED – HAMILTON
LEFT FELIPE MASSA
AND THE PARTISAN
INTERLAGOS CROWD
IN TEARS – THERE
WAS ALSO PUBLIC
VINDICATION FOR
DENNIS AFTER THE
TOUGHEST TWO YEARS
OF HIS LIFE”**





Brazil 2008: Lewis Hamilton
en route to fifth and the
world title, McLaren's last
championship success

UNMISSABLE STORIES ALL SEASON LONG

TRY 3 ISSUES OF F1 RACING FOR £5

FREE! FORMULA 1 DIARY STICKERS



SUBSCRIBE ONLINE WWW.AUTOSPORTMEDIA.COM/OFFER/F12019
OR CALL 0344 848 8826 *QUOTE PROMO CODE PF1R19GEN*

OVERSEAS RATES ARE AVAILABLE ON +44 (0)1604 251 454

WHY SUBSCRIBE?

SAVE UP TO 50%
on the cover price

READ ON THE GO
access on your iPhone or iPad

FREE DELIVERY
direct to your door

SUBSCRIBE ONLINE
WWW.AUTOSPORTMEDIA.COM/OFFER/F12019



OR CALL 0344 848 8826
QUOTE PROMO CODE PF1R19GEN

OVERSEAS RATES ARE AVAILABLE ON
+44 (0)1604 251 454

IN EVERY ISSUE

DETAILED INSIGHT
from the sport's best writers

STUNNING IMAGERY
the best F1 photography

EXCLUSIVE COLUMNS
featuring Nigel Roebuck

F1 RACING **SUBSCRIPTION OFFER**

YES

I would like to subscribe to the F1 Racing print only package £5 for the first 3 issues, then £22.99 every six months and save **23%** on the cover price.

YES

I would like to subscribe to the F1 Racing print and digital bundle for just £5 for my first 3 issues, then £23.99 every six months and save **50%** on the cover price.

YOUR DETAILS BLOCK CAPITALS PLEASE (must be completed)

Mr/Mrs/Ms	First name
Surname	
Address	
	Postcode
Telephone	
Email	
Mobile	

DIRECT DEBIT DETAILS

Instructions to your bank or building society to pay by Direct Debit



Service user number. 161110

To the manager	bank/building society
Address	
	Postcode
Name of account holder(s)	
Sort code	Branch/building society account number
Reference number	

INSTRUCTIONS TO YOUR BANK OR BUILDING SOCIETY

Please pay **Autosport Network UK Ltd** Direct Debits from the account detailed in this instruction subject to the safeguards assured by the Direct Debit Guarantee. I understand that this instruction may stay with **Autosport Network UK Ltd** and, if so, details will be passed electronically to my bank/building society.

Signature(s)	Date
--------------	------

Banks and building societies may not accept Direct Debit instructions for some types of account

PLEASE RETURN THIS FORM TO:

**Autosport Media UK, 3 Queensbridge,
Northampton NN4 7BF**

Overseas rates available at +44 (0)1604 251 454

Quote promo code: PF1R19GEN

Autosport Network UK Ltd (trading as Autosport Media UK) use a best practice layered privacy policy to provide you with details about how we would like to use your personal information. To read the full privacy policy, please visit our website at www.autosport.com/privacy-policy or call us on 0345 120 2004. Please ask if you have any questions, since submitting your personal information indicates your consent, for the time being, that we and our partners may contact you about products and services that will be of interest to you via post, phone, email and text. You can opt out at any time by emailing datacontroller@autosport.com or by calling 0345 120 2004.

Terms and conditions: Offer valid for UK subscriptions by Direct Debit only. For the print only package, your subscription will continue at £22.99 every six months. For the print and digital bundle, after your first 3 months your subscription will continue at £23.99 every 6 months. Digital magazines only available on iPhone and iPad. Direct debit rates are valid for one year after which they are subject to change. Should you wish to cancel your subscription, it will be cancelled on expiry of the current term. You will be emailed instructions of how to gain access to your digital subscription. Savings are based on the standard UK cover price. Offer ends 5 May 2019.



**FAN
VILLAGE
2019**

F1 Racing Fan Village
is exclusively at



**WHITTLEBURY
PARK**



The *F1 Racing* Fan Village is back

If you're going to the 2019 British Grand Prix and need somewhere to stay, our Fan Village is the perfect place!

What to Expect

- F1 Racing Quiz night
- Guest experience area
- Star appearances
- Free hot drink and pastry on the way to the circuit
- Free pamper area - hand, neck and shoulder massage, manicure, etc
- Beer tent
- Live entertainment
- Giant screen
- Lots of competitions & giveaways

On-site facilities:

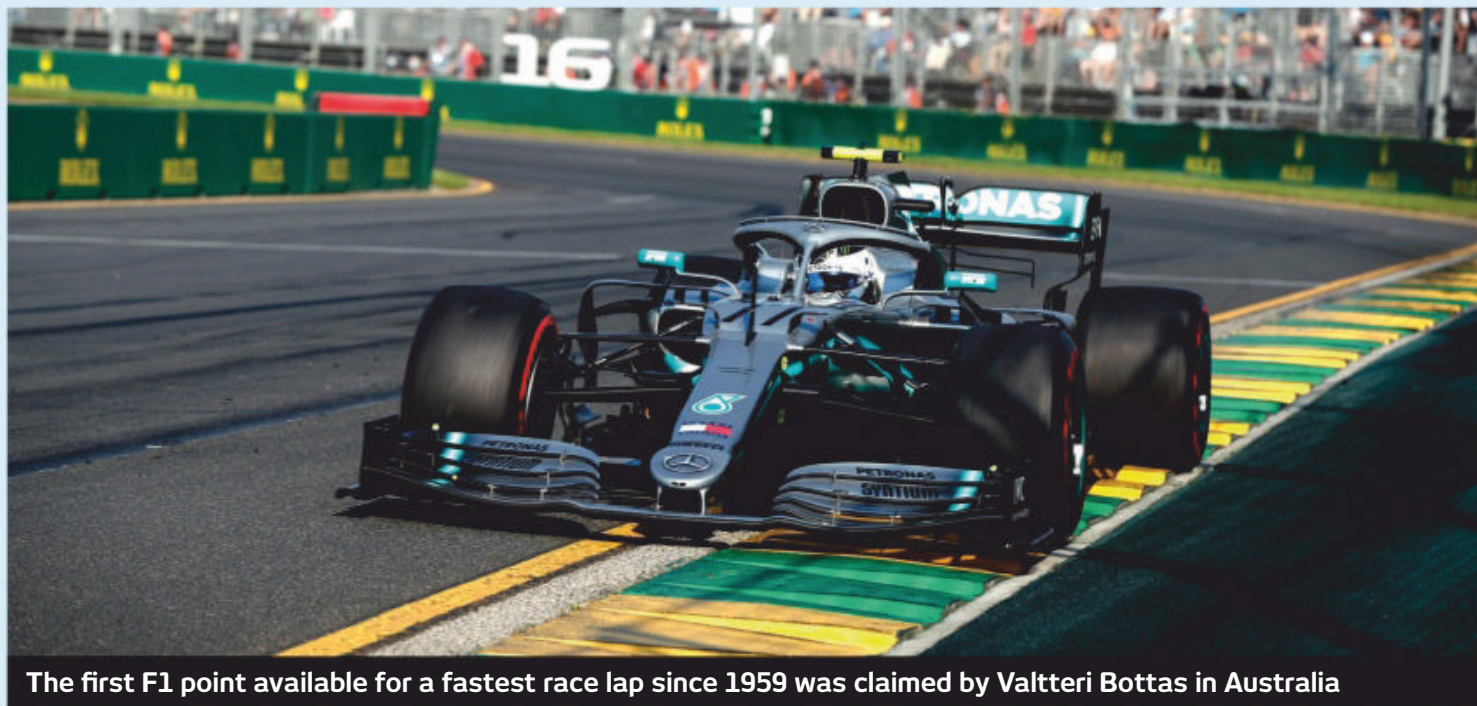
- Fully licensed bars & restaurants
- Fresh water supply
- Washing-up area
- Toilet buildings
- Shower buildings
- Hairdryers & sockets (ladies only at present)
- Essentials shop
- Glamping (on request)



A few highlights from 2018



Book Now @ www.motorsportlive.com/whittlebury



The first F1 point available for a fastest race lap since 1959 was claimed by Valtteri Bottas in Australia

Fastest lap fun

It was amusing to listen to the commentators and team radio during the Australian GP discussing the extra point for fastest lap but I must admit that when I first heard of the idea I wasn't particularly enthralled by it.

Now I've changed my view completely. It spiced up the last few laps of the race and I was taken aback a little by how much some of the drivers wanted it. I had thought that the leading runners wouldn't be that bothered about it but I suppose it's an extra point at the end of the day and, as one of the commentators said, that's an extra 21 points throughout the season.

It does add that little bit of jeopardy into the closing stages of a grand prix with drivers maybe

pushing a little bit harder than they should to garner that extra point. However, I can't help thinking that, sooner or later, one of the leading runners is going to throw away a whole clutch of points by making an error while going for the extra fastest lap point.

Toto Wolff obviously sees this as a potential problem as he forbade his Mercedes drivers for going for the point in Australia – although Valtteri Bottas claimed the point anyway – and I wouldn't like to be in a garage when this does happen.

Keith Brown*By email*

Just a blip?

What on earth was up with Ferrari in Australia? After it wiped the floor with everyone during pre-

season testing it looked as if we were in for a battle royal this season with Ferrari, Mercedes and Red Bull scrapping it out, but the Scuderia's performance was very disappointing.

Admittedly, Sebastian Vettel was roughly the same adrift of Hamilton in qualifying this time last year, yet still managed to take the fight to Mercedes until his mid-season implosion. The more worrying thing for the tifosi is that this time around even Mercedes was surprised at its pace, which could mean that there is more to come from the Silver Arrows.

I know everyone keeps on saying that Australia is a circuit unlike most of the tracks on the calendar and that Ferrari's problem could be solely down to getting the set-up

@F1Racing_mag
 facebook.com/f1racingmag
 instagram.com/f1_racing_mag
 letters@f1racing.com
 F1 Racing, 1 Eton Street,
Richmond, London, TW9 1AG

wrong, but if Ferrari wants to end its title drought, it is errors like this that need to be eliminated.

Patrick Hopkins*By email*

Welcome back Robert

It was great to see Robert Kubica make his return to the F1 grid in Australia and, as both a Williams and a Kubica fan, I felt all my Christmases had come at once.

I would have preferred that the two Williams cars had not been marooned right at the tail of the field but it was a remarkable achievement for Kubica to be back in Formula 1 at all, so congratulations Robert on battling your way back and not giving up.

That could be as good as it gets though. Yes, he can do his best and try to beat his young team-mate George Russell, but for a man who was destined for a Ferrari drive before his horrendous accident I suspect that Kubica will want more than to regularly be bringing up the rear on his return. That is, I fear, all that the FW42 will be capable of. And that is such a shame...

James White*By email***THIS MONTH****GET THE WORLD'S BEST F1 MAGAZINE WHEREVER YOU ARE**

★ Download and read it on your PC, Mac or iPad



★ It's identical to the print edition



★ On sale the same day as the print edition

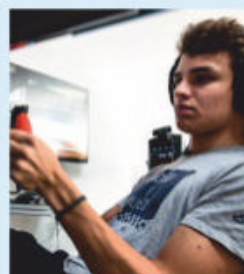
Go to www.f1racing.co.uk/digital-edition/

NEXT MONTH***McLAREN**

Can this sleeping giant be rebuilt?

**MATTIA BINOTTO**

Will he turn Ferrari into title winners?

**LANDO NORRIS**

At home with his own simulator

ON SALE**MAY 02**

> Long interview with Racing Point's Otmar Szafnauer
 > Now That Was a Car: McLaren M23
 > The concluding part of the history of McLaren
 > Reports from the Bahrain and Chinese Grands Prix



FINISHING STRAIGHT

RACE DEBRIEF

F1 WORLD CHAMPIONSHIP ROUND 1

THE AUSTRALIAN GP IN 3 KEY MOMENTS



PICTURES  **motorsport**
IMAGES



Ferrari clearly had the quickest package during testing. What a difference two weeks can make

1 Where did Ferrari's advantage go?

Sebastian Vettel summed up what many fans were thinking when he piped up on the radio in the closing quarter of the Australian Grand Prix: "Why are we so slow?" Ferrari had looked by far the strongest throughout pre-season but the silver Mercedes were on imperious form in Melbourne.

Lewis Hamilton topped every session in the build-up to the race, but it was team-mate Valtteri Bottas who hooked up more crisply from the line, shooting into a lead he would only give up briefly during the pitstop phase. The outcome of the grand prix was decided by a moment of wheelspin for Hamilton and the determination of Bottas to prove his detractors wrong (or as he put it on team radio, "To whom it may concern, f*** you...").

"We should be better than this," was Vettel's verdict after qualifying, when just a tenth of a second separated Hamilton and Bottas on the front row, while Ferrari was seven tenths adrift. "I'm certainly surprised. I think everybody is, probably even Mercedes themselves."

Worse still, the Ferraris were split by the Red Bull of Max Verstappen in qualifying, but that was more

a factor of Charles Leclerc doing what he described as "a very bad job" in his last Q3 run. Vettel suggested different track conditions compared with testing could have been a factor in Ferrari losing the poise it demonstrated in Barcelona.

"We have probably something like 10-15 degrees more ambient [temperature], a hotter track, and a different circuit," he said after qualifying. "But the car felt really good in testing and probably around here this weekend so far it didn't feel as good yet."

Come the race Verstappen posed the biggest threat to Mercedes' dominance. Vettel was already seven seconds off second-placed Hamilton when Ferrari brought him in for medium-compound Pirellis on lap 15, a move that prompted Mercedes to bring Hamilton in to cover the potential undercut. The new tyres weren't to the reigning world champion's liking and he struggled to match Bottas's pace thereafter, complaining that the pitstop had been too early, his cause not helped by floor damage sustained mysteriously in the early part of the race.

Vettel was in no position to challenge, though, and he was a sitting duck for Verstappen after the Red Bull pitted on lap 26. Late in the race he slipped into the clutches of Leclerc, but Ferrari ordered the cars to hold station, and they crossed the finishing line 50s behind Bottas – a chastening defeat for the pre-season favourites.

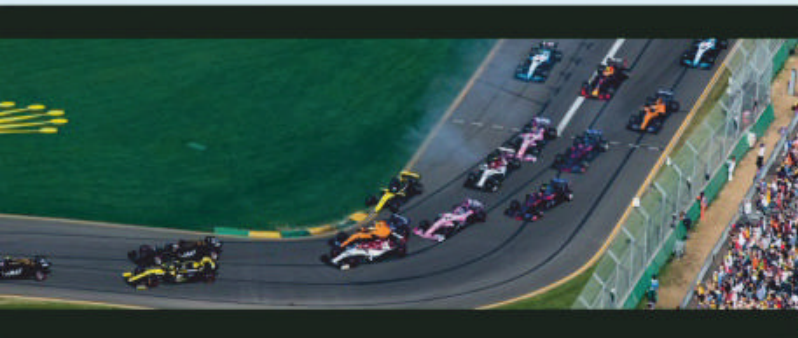
2 Gasly ghastriness masks Red Bull gains

Max Verstappen claimed Red Bull's first podium in Australia since Daniel Ricciardo finished second on the road (subsequently disqualified) in 2014. It was also the first podium for a Honda-powered car in the V6 hybrid era.

The question is how much, if at all, Red Bull has gained relative to Ferrari and Mercedes in terms of chassis and engine performance, and how much Honda is contributing to this? Verstappen's weekend was compromised from the off by a problem with his fuel cell that required a chassis change after Friday practice, and during qualifying the RB15 looked like a car from which the driver had to extract a laptime under duress.

While Verstappen qualified fourth, Pierre Gasly started 17th after an attempt to go through Q1 with one set of tyres went awry. Come the race a strategic gamble to run a long first stint on mediums almost elevated him into the points, but Toro Rosso's Daniil Kvyat (also Honda-powered) slipped by at Turn 3 while Gasly was on his out-lap.

Verstappen was 0.834s off Hamilton's pole time, having been just seven tenths off in 2018,



but rivals suggested that Red Bull's performance envelope had changed a great deal.

"I felt Honda has certainly made a huge step forward," said Mercedes' team boss Toto Wolff. "If you look at the speed trace, it looks a very different Red Bull than before. They're very fast on the straights and that's good to see."

Gasly and Kvyat were quickest through the speed trap, while Verstappen blitzed by Vettel and challenged Hamilton – although the Merc had picked up floor damage. "I'm very happy to be on the podium," said Max. "If I just compared top speeds against the other two teams I'm pleased."



Verstappen's third for Red Bull was the first podium for a Honda-engined car since 2008

3 Haas may not be best of the rest

Kevin Magnussen finished sixth for Haas in Australia, thereby claiming unofficial 'Class B' victory among those midfield outfits cast slightly adrift from the top three teams. But that may not be an accurate reflection of the pecking order in what is shaping up to be a brutal scrap for the pickings in the back half of the top 10.

Renault were expected to be the clear leader here, but Nico Hülkenberg and Daniel Ricciardo qualified 11th and 12th after being eliminated in Q2. Ricciardo admitted he didn't extract "100 per cent" of his car's potential, citing a lack of confidence in the grip available, while Hülkenberg suffered an electrical problem.

Romain Grosjean and Magnussen started sixth and seventh for Haas, ahead of Lando Norris's McLaren, Kimi Räikkönen's Alfa Romeo and Racing Point's Sergio Perez. Magnussen got by his team-mate at the start but Hülkenberg provided his toughest opposition for sixth, as Renault looked a match for Haas in race trim. Grosjean retired when an incorrectly fitted front-left wheel came loose after his stop, while Hülkenberg jumped Norris and Räikkönen at the start. Ricciardo lost his front wing trying to squeeze past Perez on the grass.

Albert Park is a tricky circuit to pass on so the first lap mostly set the order apart from mechanical issues. Hülkenberg pressured Magnussen during the middle of the race before fading, while Räikkönen was forced to pit early – compromising his race – when a visor tear-off lodged in one of his brake ducts. He still managed to finish under Hülkenberg's rear wing, though...

Magnussen headed up the midfield for Haas but that may not be the case as the season progresses



RESULTS ROUND 1

ALBERT PARK / 17.03.19 / 58 LAPS



1st	Valtteri Bottas Mercedes	1h 25m 27.325s
2nd	Lewis Hamilton Mercedes	+20.886s
3rd	Max Verstappen Red Bull	+22.520s
4th	Sebastian Vettel Ferrari	+57.109s
5th	Charles Leclerc Ferrari	+58.230s
6th	Kevin Magnussen Haas	+87.156s
7th	Nico Hülkenberg Renault	+1 lap
8th	Kimi Räikkönen Alfa Romeo	+1 lap
9th	Lance Stroll Racing Point	+1 lap
10th	Daniil Kvyat Toro Rosso	+1 lap
11th	Pierre Gasly Red Bull	+1 lap
12th	Lando Norris McLaren	+1 lap
13th	Sergio Pérez Racing Point	+1 lap
14th	Alexander Albon Toro Rosso	+1 lap
15th	Antonio Giovinazzi Alfa Romeo	+1 lap
16th	George Russell Williams	+2 laps
17th	Robert Kubica Williams	+3 laps

Retirements

Romain Grosjean Haas	29 laps - wheelnut
Daniel Ricciardo Renault	28 laps - damage
Carlos Sainz McLaren	9 laps - engine

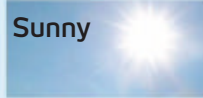
Fastest lap

Valtteri Bottas: 1min 25.580s on lap 57

TYRE COMPOUNDS USED



CLIMATE



AIR TEMP

24°C

TRACK TEMP

44°C

DRIVERS' STANDINGS

1 Bottas	26pts	11 Gasly	0pts
2 Hamilton	18pts	12 Norris	0pts
3 Verstappen	15pts	13 Pérez	0pts
4 Vettel	12pts	14 Albon	0pts
5 Leclerc	10pts	15 Giovinazzi	0pts
6 Magnussen	8pts	16 Russell	0pts
7 Hülkenberg	6pts	17 Kubica	0pts
8 Räikkönen	4pts	18 Grosjean	0pts
9 Stroll	2pts	19 Ricciardo	0pts
10 Kvyat	1pt	20 Sainz	0pts





FINISHING STRAIGHT

RACE PREVIEW

F1 WORLD CHAMPIONSHIP ROUND 3

CHINESE GP

12-14 April 2019
Shanghai

PICTURES: GLENN DUNBAR; STEVE ETHERINGTON; MARK SUTTON. ILLUSTRATION: ALAN ELDREDGE



RACE DATA

Circuit name Shanghai International Circuit
First GP 2004
Number of laps 56
Circuit length 3.387 miles
Longest straight 0.868 mile
Elevation change 24.3 feet
Race distance 189.559 miles
Lap record 1m 32.238s
 Michael Schumacher (2004)
F1 races held 15
Winners from pole 9
Pirelli compounds C2, C3, C4

CAR PERFORMANCE

Downforce level High
Cooling requirement Medium
Fuel consumption 1.71kg/lap
Full throttle 56%
Top speed 203mph
Average speed 127mph

TIMETABLE
(UK TIME)

Friday 12 April
Practice 1 03:00-04:30
Practice 2 07:00-08:30
Saturday 13 April
Practice 3 04:00-05:00
Qualifying 07:00-08:00
Sunday 14 April
Race 07:10
Live coverage Sky Sports F1
Highlights Channel 4

THE MAIN EVENT

The tricky, 3.3-mile Shanghai International Circuit has hosted every Chinese Grand Prix since its first appearance on the Formula 1 calendar in 2004.

This year's event will be a landmark occasion as it marks the 1000th grand prix race to be held since the drivers' world championship was inaugurated in 1950.

Engineers describe Shanghai as a front-limited circuit, since the nature of the corners places a high loading on the front tyres. The front-left suffers the most from the two snail-shaped right-handers on the lap: the tightening Turns 1, 2 and 3, and the quick Turns 11, 12 and 13 that lead onto the long back straight.

Add to the mix cool ambient temperatures (usually) and a relatively smooth track surface, and teams will often struggle with graining, leading to strategic races with multiple tyre stops.

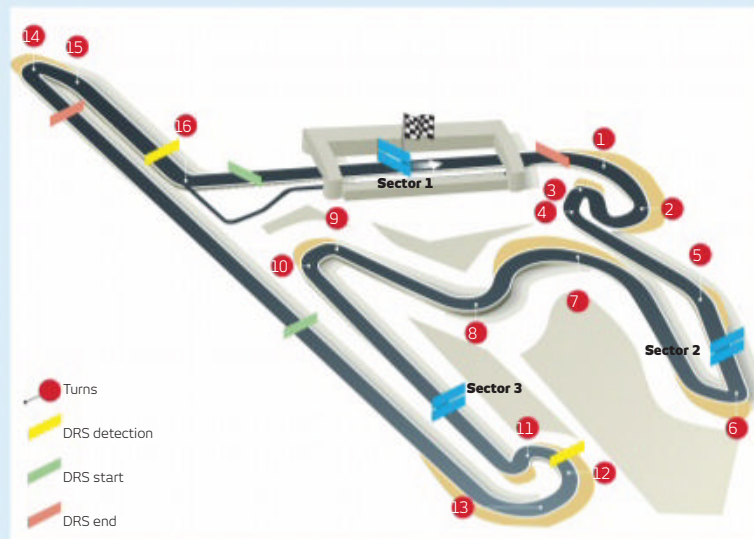
2018 RACE RECAP

In the early stages of last year's race Ferrari's Sebastian Vettel led the Mercedes of Valtteri Bottas, but Mercedes managed to reverse those positions at the pitstops. When the Toro Rossos of Pierre Gasly and Brendon Hartley

collided at the hairpin later on, the Safety Car was deployed. Red Bull quickly reacted and pitted both drivers.

With the advantage of fresh rubber, Daniel Ricciardo came through the field, picking off Lewis Hamilton, Vettel and finally Bottas with some classy overtaking moves that netted him the race win.

KEY CORNER: TURN 14 The second gear right-hander is taken at 45mph and is the best place on the lap to attempt an overtake.



THE LAST FIVE WINNERS HERE...



2018
 Daniel Ricciardo
 Red Bull



2017
 Lewis Hamilton
 Mercedes



2016
 Nico Rosberg
 Mercedes



2015
 Lewis Hamilton
 Mercedes



2014
 Lewis Hamilton
 Mercedes

2019

SEASON HIGHLIGHTS AT MSV CIRCUITS

BRANDS HATCH ■ DONINGTON PARK
OULTON PARK ■ SNETTERTON ■ CADWELL PARK

MSV

KIDS UNDER 13 GO FREE TO ALL EVENTS

**NOTHING BEATS EXPERIENCING THE THRILL AND ATMOSPHERE OF LIVE MOTOR RACING. OUR 2019 SEASON HIGHLIGHTS ARE LISTED BELOW BUT FOR A FULL CALENDAR AND IN-DEPTH INFORMATION VISIT OUR WEBSITE WWW.MSV.COM.
DISCOUNTED ADVANCE TICKETS AND GRANDSTAND SEATS ARE ALSO AVAILABLE ONLINE.**

6/7 April	Kwik Fit British Touring Car Championship	Brands Hatch	19 - 21 July	Bennetts British Superbike Championship	Snetterton (300)
19 - 22 April	British GT and BRDC British F3 Championships	Oulton Park	20/21 July	Mini Festival	Brands Hatch
21/22 April	British Truck Racing	Brands Hatch	27 July	Vintage Motorsport Festival	Cadwell Park
27/28 April	Kwik Fit British Touring Car Championship	Donington Park	3/4 August	British GT and BRDC British F3 Championships	Brands Hatch (GP)
3 - 5 May	Donington Historic Festival	Donington Park	3/4 August	Donington Classic Motorcycle Festival	Donington Park
4/5 May	Blancpain GT World Challenge Europe	Brands Hatch (GP)	3/4 August	Kwik Fit British Touring Car Championship	Snetterton (300)
4 - 6 May	Bennetts British Superbike Championship	Oulton Park	10/11 August	DTM (German Touring Cars)	Brands Hatch (GP)
6 May	Modified Live	Cadwell Park	10/11 August	Convoy in the Park featuring British Truck Racing	Donington Park
18 May	Vintage Motorsport Festival	Oulton Park	16 - 18 August	Bennetts British Superbike Championship	Cadwell Park
18/19 May	British GT and BRDC British F3 Championships	Snetterton (300)	18 August	Festival Italia	Brands Hatch
24 - 26 May	Bennetts British Superbike Championship	Donington Park	24 August	Vintage Motorsport Festival	Brands Hatch
25/26 May	Masters Historic Festival	Brands Hatch (GP)	24 - 26 August	The Historic Oulton Park Gold Cup	Oulton Park
1/2 June	American SpeedFest 7	Brands Hatch	6 - 8 September	Bennetts British Superbike Championship	Oulton Park
8/9 June	Masters Historic Weekend	Donington Park	7/8 September	British Truck Racing	Snetterton (300)
9 June	Tunerfest South	Brands Hatch	8 September	Ford Power Live	Brands Hatch
14 - 16 June	Bennetts British Superbike Championship	Brands Hatch (GP)	14/15 September	British GT and BRDC British F3 Championships	Donington Park (GP)
22/23 June	British GT and BRDC British F3 Championships	Donington Park (GP)	4 - 6 October	Bennetts British Superbike Championship	Donington Park (GP)
29 June	Vintage Motorsport Festival	Donington Park	12/13 October	Kwik Fit British Touring Car Championship	Brands Hatch (GP)
29/30 June	Kwik Fit British Touring Car Championship	Oulton Park	18 - 20 October	Bennetts British Superbike Championship	Brands Hatch (GP)
5 - 7 July	MOTUL FIM Superbike World Championship	Donington Park (GP)	2 November	Neil Howard Stage Rally and Fireworks Display	Oulton Park
7 July	Deutsche Fest	Brands Hatch	2/3 November	British Truck Racing and Fireworks	Brands Hatch
13 July	Tunerfest North	Oulton Park	17 November	Stage Rally and Fireworks	Cadwell Park



FOR MORE INFORMATION AND TO BOOK TICKETS

WWW.MSV.COM 0843 453 9000

Calls will cost 7p per minute plus your telephone company's access charge. All events and dates subject to change.



FINISHING STRAIGHT

RACE PREVIEW

F1 WORLD CHAMPIONSHIP ROUND 4

AZERBAIJAN GP

26-28 April 2019
Baku



PICTURES: STEVEN TEE; MARK SUTTON. ILLUSTRATION: ALAN ELDRIDGE



RACE DATA

Circuit name Baku City Circuit
First grand prix 2016
Number of laps 51
Circuit length 3.730 miles
Race distance 191.53 miles
Longest straight 1.304 miles
Elevation change 87.9 feet
Lap record 1m 43.441s
 Sebastian Vettel (2017)
F1 races held 3
Winners from pole 1
Pirelli tyre compounds
 C2, C3, C4

CAR PERFORMANCE

Downforce level Low
Cooling requirement Medium
Fuel consumption 1.96kg/lap
Full throttle 49%
Top speed 214mph
Average speed 129mph

TIMETABLE (UK TIME)

Friday 26 April
Practice 1 10:00-11:30
Practice 2 14:00-15:30
Saturday 27 April
Practice 3 11:00-12:00
Qualifying 14:00-15:00
Sunday 28 April
Race 13:10
Live coverage Sky Sports F1
Highlights Channel 4

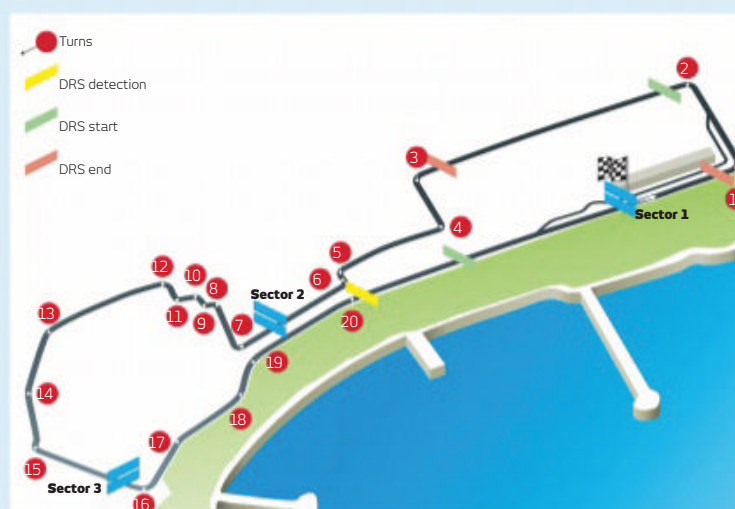
THE MAIN EVENT

This street race held in the Azerbaijani capital is the last of the opening four flyaway GPs of the season. Baku has hosted three grands prix so far but the venue is already one of the favourites on the calendar because races here are so unpredictable.

Unlike most street circuits, Baku is very quick as the track has a 1.3-mile pit straight where cars top 215mph and spend over 20 seconds with the throttle pinned.

There is also a tight, twisty section alongside a picturesque castle wall with uncompromising barriers. The mix in characteristics prompts teams to consider various compromises in set up, to balance high-speed performance on the straights with the need for grip in the middle sector of the lap.

KEY CORNER: TURN 8 This is where drivers need to avoid the wall at the extremely narrow castle section, taken in third gear at 62mph.



2018 RACE RECAP

Last year featured a thrilling duel between Red Bull pair Daniel Ricciardo and Max Verstappen which came to an end at Turn 1. After some robust defending from Verstappen, Ricciardo overtook his team-mate, only to drop behind during the pitstop sequence. As he attempted to retake the position the two collided. Up front Mercedes' Valtteri Bottas was set for victory until he ran over debris and suffered a right-rear puncture three laps from the flag – gifting team-mate Lewis Hamilton the

BAKU RACE WINNING HISTORY...



2018

Lewis
Hamilton
Mercedes



2017

Daniel
Ricciardo
Red Bull



2016*

Nico
Rosberg
Mercedes

* As European Grand Prix



ONLINE AUCTION

By order of the Joint Administrators Richard Beard,
Mark Firmin and Richard Fleming of Alvarez &
Marsal Europe LLP re: JD Classics Holdings Limited
& JD Classics Limited.



**OVER 30 HIGHLY DESIRABLE CHERISHED
REGISTRATION NUMBERS AND TRANSPORTER**

(All Subject to Availability)

Registration Numbers
(on retention & entitlement
certificates) including those
below and many others.

12 0

14 0

19 J

61 E

2 XK

15 0J

8 LLE

3 SNB

RGC 2

46 TE

J146 UAR

82 JD

2010 Mercedes Axor 1843LS 6x2
double sleeper cab **chassis fitted**
Conestoga Type CDS **two car race**
transporter with office/twin bunk
accommodation and side awning;
270,899 kms recorded; Cherished
number excluded from sale.



TO BID VISIT.  **BidSpotter.co.uk**

VIEW. By Appointment Only
AT. Maldon, Essex
BIDDING ENDS.
Tuesday 30th April 2019, from 3.00pm

CONTACT.
Jenni Pearce
t +44 (0)7788 394 330
e jpearce@gordonbrothers.com
GORDONBROTHERS.CO.UK

**Gordon
Brothers**

VALUATIONS
DISPOSITIONS
OPERATIONS
INVESTMENTS





**Iconic
retro style
timepieces.**

rouewatch.com

2 very significant historic F3 cars



1972 Chevron B20, Chassis No. B20-72-1
Unique, sole F3 version of B20 ever built and full history of ownership since new.
Works car for Chris Skeaping in 1972. Chris's best result was 3rd at Silverstone
14th may 1972. Winner of Formula 4 & Monoposto Championships in 1977 and
1980 respectively together with Classic F3 Championship in 1995. Raced at
Monaco 2010. Price £65,000 to include wets and some spares.



1971 Ensign, Chassis No. 71-3-1
Ex- Steve Thompson Contact 400 car. Car number 2 which was the first production
car and was raced by Steve Thompson in 1971. It was 4th at Monaco in 1971 and
went on to win at Monthery the following day. Completely restored with fresh, zero
hours Twin Cam. Price £37,500 to include wets and some spares.

Both of these cars are eligible for not only Classic F3 but also Classic Racing Cars and Historic F2
as well as Monaco, so are pretty versatile.

smpdesign@hotmail.co.uk • 07850 539117

SV05 SEB

NUMBER PLATE FOR SALE

May be of interest to a Formula 1 fan
and particularly to a Sebastian Vettel
supporter, with the combination of his
initials and 05 racing number

Currently on retention certificate

Price of £4,400 ono

Please contact Graham
0798 112 6618
graham7wheeler@gmail.com



FINISHING STRAIGHT

TRAVEL GUIDE

F1 WORLD CHAMPIONSHIP ROUND 7

VISIT THE CANADIAN GP

Montréal, 7-9 June, 2019



The panoramic skyline view from Montréal's Mount Royal hill



Turn 10 is the place to watch at the Circuit Gilles Villeneuve

PICTURE: GLENN DUNBAR. OTHER PICTURES: SHUTTERSTOCK

PICTURES  **motorsport**
IMAGES

YOUR GUIDE TO MONTRÉAL

The Canadian Grand Prix has one of the shortest laps on the calendar, meaning fans see more of the action as the drivers fly around the Circuit Gilles Villeneuve once every minute and 14 seconds or so. First held in Montréal in 1978, the race is definitely a fan favourite and this is also a venue where the current world champion has enjoyed great success. In 2019 Lewis Hamilton is hoping to equal Michael Schumacher's record of seven Canadian wins.

Away from the track, you'll find one of Canada's most fascinating cities. Under the

shadow of Mount Royal, after which the city is named, Montréal is a key hub for commerce and culture in one of the country's most diverse and interesting territories, Quebec. It's an ideal place to experience your first taste of life in Canada.

At the city's heart is Mount Royal and its surrounding parks are full of locals taking a break from the bustling city. Perfect for a hike or mountain cycle, the 750-foot peak is a favourite for its views over downtown Montréal and various winding routes around the famous 700 acres of green space. If you'd prefer not to walk or ride to the top, there is a visitor centre near

the car park, from which you can take a short walk to the Belvédère Camillien-Houde and get a great view of the St Lawrence River and downtown area without the hassle.

Head into the centre to start exploring the city's packed streets. First on the list should be Notre-Dame; the 190-year-old basilica is truly one of the most magnificent sights in the city and a great place to start your love affair with the vibrant centre of Quebec's metropolis.

From the outside its two towers, on either end of the front façade, stretch 200 feet into the sky while the interior floor, walls and ceiling all shine



The Botanical Garden is home to the Lion de la Feuillée



in association with



The waterfront park in the old city



Montréal's stunning Notre-Dame Basilica

FAST FACTS

Flight time

7hrs 25mins from London

Currency

Canadian dollar

Time zone

GMT-5

Temperature

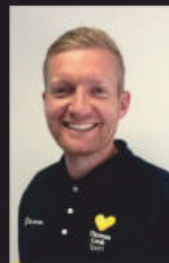
24°C (average high)

with a deep blue and gold finish. Visitors are asked to pay six Canadian dollars to enter the building but what you will find inside is worth the money.

At the very heart of Old Montréal is Rue Saint-Paul. This mile-long strip of cobbled street is the oldest in Montréal and home to a vast array of shops and restaurants. Your stroll along the famed spine from which the city grew is lined with magnificent architecture and punctuated with landmarks such as the Bonsecours Market and Notre-Dame-de-Bon-Secours Chapel. Make sure to head down on a Friday or Saturday night to see the area in full swing.

Next up is an ideal stop for sports fans. The Bell Centre is home to the Montréal Canadiens and has seen more than its fair share of great sporting moments. A mid-June visit coincides with the conclusion of the Stanley Cup and there is always a constant stream of concerts and events to enjoy.

After a full day of adventure and exploring, if you need to unwind, then head to Montreal's 190-acre public park. Full of various themed gardens, the park is home to all kinds of dazzling flora. Don't forget to find the Lion de la Feuillée, a giant bronze statue gifted to Montréal by sister city Lyon before you head off to watch the racing.



ASK THE EXPERT THE THOMAS COOK SPORT REP'S VIEW

What's your favourite part of the track?

It has to be the Turn 10 hairpin towards the end of the lap. It's a prime place for overtaking and you always see some action here.

The best thing to do away from the track?

Rue Saint-Paul and the streets alongside it are lined with enough bars and restaurants to last a lifetime. Take a wander along it in the early evening and watch the hours fly by as you go from one location to another.

Any local food or drink to recommend?

The Mile End Bagel from St Viateur Bagels is a must – they make over 10,000 a day. Smoked meat is also a dish you shouldn't leave Montréal without trying. You'll find it in most local eateries in various guises so tuck in and find your own favourite.

How long is the transfer?

There aren't any long transfers so there's little need to prepare any more than you would for any other short trip.

What's your top tip for this race and this particular destination?

This is one of my very favourite stops on the Formula 1 calendar so enjoy it! I would definitely make the most of your trip and stay as long as possible. There is a reason Montréal is held in such high regard in terms of culture, sport and history – it's brimming with things to do.

THOMAS COOK SPORT BREAK DETAILS

Hotel and ticket only, £729pp

YOUR BOOKING INCLUDES:

- ★ 4 nights accommodation with daily breakfast
- ★ Weekend general admission ticket
- ★ Welcome bottle of wine in the room
- ★ Service charges and taxes

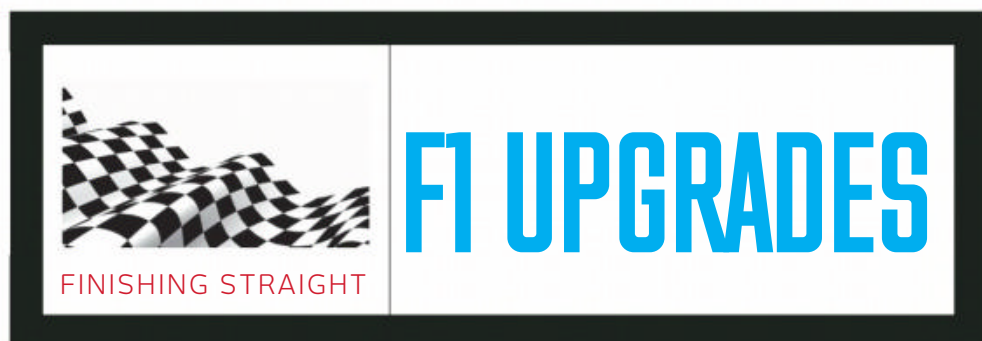
For more info visit
www.thomascooksport.com/motorsports

Or talk to an expert: 01733 224 573

@ThomasCookSport

Thomas Cook Sport

@ThomasCookSport



Enhance the F1 experience with the latest must-have products

**FORMULA ONE 2019:
THE CARLTON SPORTS GUIDE**

Author Bruce Jones

Price £14.99

www.carltonbooks.co.uk

This 128-page guide is a neat summary of what you need to know about the 2019 Formula 1 world championship season, written by former *Autosport* editor Bruce Jones.

A little over A5 in size, this paperback features a page on every driver and two pages on each team, plus summaries on every circuit. Littered with facts and accompanied

by nearly 100 photographs, this book has been designed with the F1 TV viewer in mind – a handy reference for reminding yourself what happened in 2018, or a particular driver's career record. This is its 23rd year of publication and much of the content is an update from the previous season's edition – but it remains a handy reference tool.



NASCAR HEAT 3

PS4 / Xbox / PC

Price \$29.00 on motorstore.com

www.nascarheat.com



If you fancy following in the footsteps of Fernando Alonso by sampling the world of NASCAR (see *F1 Racing*, Feb 2019), you can do so virtually with the latest version of this official NASCAR game. Available on various platforms, NASCAR Heat 3 has an update (for an extra £7.99) that features the 2019 driver and car liveries, including the new Mustang.

NASCAR Heat 3 gives you the option to compete online as it forms the basis of the first eNASCAR Heat Pro League eSports contest. There's also an offer on motorstore.com where a copy of the game comes with a discounted annual subscription to the Prime section of Motorsport.com (for \$50). With a deeper career mode and more tracks, plus the eSports element, this is a great racing title.

DIRT RALLY 2.0

PS4 / XBOX / PC

Price Dependent on platform

www.codemasters.com



The brains behind the popular F1 game, Codemasters, have brought the same level of fun to its latest offering, Dirt Rally 2.0. With a similar user-friendly interface and lush graphics, Dirt Rally 2.0 has a tie-up with the FIA World Rallycross Championship – the shorter format provides a perfect opportunity to compete in quick races without getting weighed down in lengthy set-up tweaks.

This game's roots are in the popular Colin McRae Rally series and enthusiasts will be delighted with the historic range of rally cars in the game, including an Audi Sport Quattro and McRae's title-winning 1995 Subaru Impreza.



DS PODIUM CHRONOGRAPH 1/10 SEC
WILVO YAMAHA LIMITED EDITION WATCH

Price £420

www.certina.com

This new timepiece signifies the latest tie-up between Certina and Yamaha's official motocross team. Limited to just 450 pieces, the new DS Podium Chronograph, with its 1/10 second display and state-of-the-art Precidrive quartz movement, appears in the blue colours of the Wilvo Yamaha Official MXGP team.

This limited-edition watch features a 41mm stainless steel case, anti-reflective sapphire crystal glass, a blue leather strap and luminous hands that appear in stark contrast to the blue dial. The back of the case features the Wilvo Yamaha Official MXGP logo and limited-edition number.



F1 SEASON REVIEW BOX SETS

1990-99

Price £109.99

2000-09

Price £109.99

1970-2009

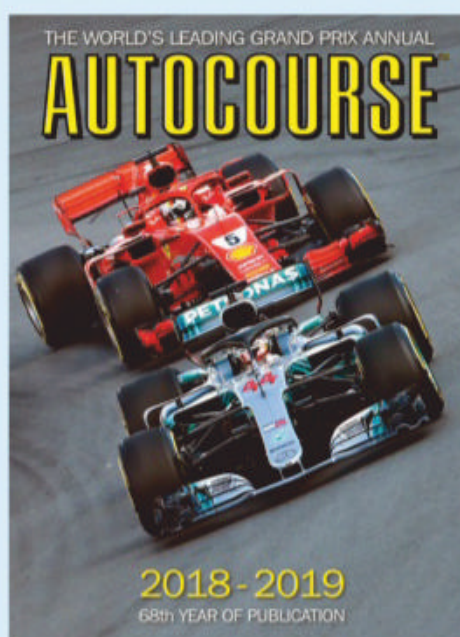
Price £379.66

www.dukevideo.com

For the first time, Formula 1's back catalogue of season reviews are appearing in DVD format and each decade can be purchased in a bespoke boxset. Last month we reviewed the 1970s and 1980s eras, while at the end of February, the 1990s boxset became available to order from distributors Duke Video. For fans of Michael Schumacher, the 1990s collection (running to 1252

minutes) charts the German's rise, from his debut at Spa in '91 through his two title-winning years at Benetton and subsequent switch to Ferrari. You also get to relive TV chat show host Jonathan Ross narrating the 1993 season highlights.

The first decade of the new century, from 2000-09, features Schumacher's successful seasons for Ferrari, before the dramatic years in which Lewis Hamilton ('08) and Jenson Button ('09) scooped the title. The total run time of the ten discs of the 2000s boxset is 2074 minutes, which is just under 35 hours of footage. In addition, Duke Video are offering a discount on all four decades (nearly 82 hours of footage) for £379.96 – a saving of £110.



AUTOCOURSE 2018-2019

Icon Publishing

Price: £47.50

www.autocourse.com

Weighing in at over 400 pages, this comprehensive motor racing annual is now in its 68th year of publication. Printed on thick, glossy paper with lavish photography, this is the perfect coffee table book for the discerning Formula 1 fan.

Written by respected F1 scribes Mark Hughes, Maurice Hamilton and Tony Dodgins, the 2018-19 edition provides a thorough race-by-race synopsis of last year's racing season, including lap charts, timesheets from practice, and race tyre strategies.

As well as an appreciation of the top ten drivers – ranked in order – there is a detailed technical analysis of all ten Formula 1 teams and a celebration of the career of double world champion Fernando Alonso.

Previous editions of these annuals are highly sought after by collectors. Nowhere else will you find such a comprehensive record of the year's racing action in a single volume.



FINISHING STRAIGHT

THE FINAL LAP

@CoddersF1 facebook.com/f1racingmag



FLAT CHAT

{ FULL THROTTLE
MUSINGS WITH
STUART CODLING }

PICTURES  **motorsport
IMAGES**

BRAWN: WHEN MYTH TURNS INTO LEGEND

“This is the West, sir. When the legend becomes fact, print the legend.” The punchline of the classic western *The Man Who Shot Liberty Valance* aptly sums up the theme of a film that meditates upon the enduring power of myth on the human psyche: a quarter of a century after a celebrated shoot-out, a newspaperman learns the truth but burns his story rather than publish it.

Formula 1 history is redolent with powerful myths treasured by fans, and few in recent years have proved so potent as the underdog narrative of Brawn GP, the team that came from virtually nowhere to snatch the 2009 world championship. Ten years have passed since Jenson Button swept to victory in the season-opening Australian GP, which is why you’ll have seen plenty of features celebrating the anniversary in recent weeks.

Trouble is, the hard facts don’t tally with the underdog myth. The Brawn BGP001 was comfortably one of the most expensive F1 cars of all time, the fruit of three separate windtunnel

influence work on the ’08 car (which proved to be every bit as bad as its predecessor) but with enough of a run-up to reorganise operations ahead of the major rule changes coming for ’09.

Some of the dramas stemmed from the Japanese (engine) and British (chassis) ends of the business blaming each other – sound familiar, anyone? – and Ross duly needed to bang a few heads together. He also dodged the famous trap of the sunk cost fallacy: rather than waste any more investment on the dead end that was the ’08 car, he set his reorganised design team to work on ’09 early, probing for potential loopholes in the regulations.

At its peak, this operation was using both of Honda’s windtunnels at Brackley, designers from the recently defunct Super Aguri F1 team, engineers at Honda’s R&D facility in Sakura, and a third windtunnel in Japan. Considering the spend this must have involved – in effect pursuing three different whole-car aero concepts and junking the two that didn’t work – there’s little wonder that Honda shuttered the team at the end of the year as the global recession bit.

Brawn’s money-no-object programme had not only identified the loophole enabling the BGP001 to run a downforce-boosting double-diffuser, it was also much further down the road than rivals in exploiting the outwash potential of the new, wider front wings. That



The double-diffuser on the BGP001 (top) ensured the car was quick and title glory followed (below)

programmes, two design teams working in parallel, and considerably more secondary resources than most teams would lavish upon “next year’s car” mid-way through a season.

Honda drafted in Ross Brawn to run its struggling F1 team at the end of 2007, too late to

“THE BRAWN BGP001 WAS COMFORTABLY ONE OF THE MOST EXPENSIVE FORMULA 1 CARS OF ALL TIME”

accounts for why the car was so much faster out of the box than the Williams and Toyota, which also had double diffusers. It stayed that way for several months despite carrying a wildly compromised rear end, which featured a shoehorned-in Mercedes engine.

One part of the underdog yarn is fair enough, though: the team might not have survived without the entrepreneurial zeal of Brawn himself. It spent three months in the ether as potential purchasers – sundry disaster capitalists, distressed-asset shysters and other chancers – threw their hats into the ring. Such folk were circling – later in 2009 Russell King, a convicted fraudster, almost bought Sauber from BMW for a song – so Brawn obtained backing from Bernie Ecclestone and a parachute payment from Honda and set up shop himself. It would prove to be a nice little earner when he sold the team on to Mercedes at season’s end. As John Wayne says in *The Man Who Shot Liberty Valance*, “Out here a man settles his own problems...”



Running time: 192mins

DVD & DVD NTSC | £14.99 Blu-ray | £16.99



4.1 / 5 • 28 reviews



The breathtaking Official Review of the 2018 FIA Formula One World Championship™

The action-packed official review of the 2018 FIA Formula One World Championship takes you through an unforgettable season with expert commentary from Tom Clarkson, Martin Brundle, and David Croft.

Winning one Formula One World Championship is extraordinary, but winning five? That's the stuff of legends

2018 saw Lewis Hamilton and Sebastian Vettel battle for a fifth world title to join the very select group of all-time greats Juan Manuel Fangio and Michael Schumacher.

First Vettel led the drivers' championship, then it was Hamilton. Thirteen races in, both had five wins each and the Championship was on a knife-edge.

But the title fight wasn't the only flashpoint in a season of breathless twists and turns, all of which are captured here for your enjoyment.

Formula 1® images © Formula One World Championship Limited 2018. The F1 FORMULA 1 logo, F1 logo, F1, FORMULA 1, FIA FORMULA ONE WORLD CHAMPIONSHIP, GRAND PRIX and related marks are trade marks of Formula One Licensing BV, a Formula 1 company. All rights reserved.

Order now at **dukevideo.com** or call **+44 (0) 1 624 640 011**

FREE SHIPPING Join the Duke Club for special offers on these and more great products

Blu-ray plays in US and UK systems.

Duke and the Duke logo are registered trademarks of Duke Marketing Limited. All rights reserved.



CUPRA ATECA



PLAY BY YOUR OWN RULES. WHAT CAR? SPORTS SUV WINNER 2019.

CUPRA ATECA. CREATE YOUR OWN PATH.

When we created a sport SUV with 300HP, DSG Automatic Gearbox and 4Drive, we were not following the crowd. When we crafted each detail, inside and out, we were not taking an easy road. When we chose to have 19-inch alloy wheels in aluminium and carbon fibre details, we didn't settle for the standards. We only knew. Not what we would find along the way, but exactly where we wanted to go. And here we are. The What Car? Car of the Year 2019 Sports SUV winner.

Made for those who create their own path.

Official fuel consumption for the CUPRA Ateca mpg (litres/100km):
33.6 (8.3) – 34.0 (8.4). CO₂ emissions 168 (g/km).

CUPRAOFFICIAL.CO.UK



Figures shown are for comparability purposes; only compare fuel consumption and CO₂ figures with other vehicles tested to the same technical procedures. These figures may not reflect real life driving results, which will depend upon a number of factors including the accessories fitted (post-registration), variations in weather, driving styles and vehicle load. There is a new test used for fuel consumption and CO₂ figures (known as WLTP). The CO₂ figures shown, however, are based on a calculation designed to be equivalent to the outgoing (NEDC) test cycle and will be used to calculate vehicle tax on first registration. For more information see cupraofficial.co.uk/wltp-ateca.