

[Transcript] Sky Sports F1 Podcast / EXPLAINED! How to fix Track Limits! | Sky Sports F1 Podcast

Hello, everyone. A very warm welcome to this week's episode. I hope you're well. Joining me for this one is our very own Karun Chandok and F1 content creator, Tomo. And Karun, before we start, if you're watching this, you might see a little bit of a strange camera filter on Karun. We've been trying to work out why he's so purple, but we might be able to get rid of that at the end. But you're also in a shirt and tie. So come on, explain why you've joined this podcast and shirt and tie.

I thought that was the dress code.

Did they get the memo?

No, I'm heading to Downing Street, which sounds like a very pompous thing to be saying, but I'm heading to Downing Street for a bit of a British Grand Prix, a pre-British Grand Prix reception. So I dressed up for the occasion and then my computer appears to have had some weird purple IT failure. And now I look like some form of alien. So I apologize to anyone who's watching. I don't know what to fix it. And Matt helpfully offered the classic grandma solution. Why don't you turn it off and turn it back on and see what happens?

Look, often works my grandma.

Oh, I'm sorry. Well, look, you never know, we might want to get rid of it at the end.

I'm very excited you're going to Downing Street. So who's going? It's, it's like an invited guest list from Formula One. Is that correct?

Yeah, just see it's team bosses. I think Stefano Domenicali, Stuart Pringle from the Servicen Circuit, obviously, and David Richards, who's chairman of Motorsport UK. I'm a board member of Motorsport UK. So yeah, there's a bunch of us. And and Simon Lazenby, who I'm meeting at Westminster Station, apparently. So the key will be, and Tom, you may not know this about Simon, but one of his fabulous habits is he manages to get stains on himself. So I'm trying to see if in that 300 yards between Westminster Station and Downing Street, what he could spill on himself, basically.

I hope he's not wearing a white shirt. Maybe he's gone, gone black, gone dark, just to save himself. Come see man, Simon.

I'll tweet a picture. So we find out.

Yeah, it'll be something in the local supermarket, won't it, getting a drink.

Can I tell you a fun fact on that vein, by the way? Austrian Grand Prix, Simon managed to get toothpaste on his shirt. He was found in the TV compound washing his shirt on Saturday for his Sunday race shirt was covered in toothpaste. He was washing it and then had a hanger to hang dry it in the TV compound. I'm talking at that level of entertainment. Glamorous TV.

Yeah, this is the side of TV that you don't see. Well, look, very good, Karuna. We're going to get this done in good time so you can get off to meet Simon. But yeah, I mean, I'm fascinated to hear how it goes. And you know, anything you want to raise with with our current transport secretary, thinking potholes, or that kind of, you know, maybe you can you can put in the good word, say.

Yeah, maybe you can import some kerbs from Austria.

Track limits. Right, let's that's perfect. We will segue nicely into what's coming up. So we're going to do our one word race reviews. First up, we're then going to talk about the track limit saga, which I'm going to call it a saga, which happened on Sunday after the race. And then we're going to look ahead to Silverstone sort of through the lens of what happened in Austria and who's going to be who's going to have good a good chance going into going into Silverstone. So one word

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race review, Tommy, let's start with you. What are you going to go for?

So which might it might sound a bit, what's he talking about at first? But I'm going to say competitive as much as Max did lead and was comfortable at the front. I think throughout the field, this for me, the Grand Prix had everything but that fight at the very front. You had fantastic scraps throughout the field, whether it was Carlos and Cheko, whether it was, you know, the freezing Magnussen towards the back and multiple cars. I remember last season, we saw that five car battle and it was a big deal. And I think this year we got again throughout the field where qualifying was you had a few drivers, you obviously had Cheko coming through the field. I think it had, it was a super competitive race and it had a bit of everything apart from again that fight at the front. So I think it was pretty competitive.

Okay, competitive. Oh, and a dog barking.

Let me actually grab him quickly. He's very, the people will want to see my sausage dog. This is Minton. He joins me on my YouTube channel and he's the one who's barking on the skyscraper. Well, it's nice to put a face to the bark.

Karune, competitive. Do you agree?

I'm going to go with chaotic. You know, honestly, the fact we had over 1200 track limit sort of questions or queries or investigations, whatever, transgressions, whatever you want to call it, potential transgressions in 1,353 racing laps that were completed in the race is bonkers, you know, one nearly one per lap. And I hate having results decided four hours and 16 minutes after the chequered flag, which is what was on Sunday.

And I think that's just way too chaotic and not good for Formula One.

We're going to get onto that because you did tweet that and I'm intrigued to understand why a bit in a bit more detail. Just before we move on, I'm going to go for action, kind of similar to you, Tomo, in that I think we had, across the sprint weekend as well, if you think back to Baku, what we would have done to have some of the battles that we had in Baku that we had this weekend in Austria, I thought they were, you know, I mean, you've got like three, four cars going into turn four. It was really, really exciting. I think particularly the sprint race as well, Croft barely caught his breath throughout that commentary. There was so much going on. And yeah, look, if we get more sprint races like that, I think they could be here to stay because I think they're absolutely brilliant. But yes, let's move on to talk about track limits. Karine, you were keen to put a little time limit on this. So we're going to try and keep this as succinct as we can because, you know, I don't know if we're going to class this as tire chat, similar kind of, you know, non-racing elements that we don't really want to be spending that long talking about. But I think it is important to get into because it had a massive impact on the final race result, could have had an impact even on the podium, you know, if things had gone in a different way. So I'm just going to go through how this all unfolded for people at home who might have not seen this on Sunday or just a refresher for people who did. So the race finished. Aston Martin launched a protest against the race results, suggesting a number of cars were not penalized for exceeding track limits. We were about to board a plane home from Austria on Sunday evening, and we learned that that protest was upheld, that a number of track limit infringements had not been previously referred to the stewards for a potential penalty. In fact, it was revealed that there were an excess of 1200, as you said earlier, Karine, 1200 reports of violations by drivers. And this,

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after all the penalties were applied, five hours after the race, this is what happened. So Sintz dropped two places to P6. Norris moved up to P4. Alonso to P5. Hamilton, who had a 10 second penalty, swapped with Russell to P8. Gasly swapped with Stroll down to P10. Ocon, that's the end of the points. And then Ocon, who was the biggest defender of them all, four separate penalties to combine to 30 seconds, went from P12 to P14. There are also penalties for Albon, Sargent, De Vries, Sonoda, as well. Final thing from me before I want to hear from you guys, the most pertinent line at the end from the stewards. The stewards very strongly recommend that a solution be found to the track limits, a situation at this circuit. Karine, why did you think it wasn't good for F1, apart from the obvious? Why this happened so long after the race?

Because I take Tomo's point that it was a really competitive race. It was entertaining, there was so much going on. I wanted to just, because I was at home, not in Austria, I wanted to just sit there with my family and a couple of mates and just enjoy watching the Grand Prix. And instead, all I kept waiting to hear and was hearing was these investigations and drivers complaining on the radio and drivers being told. And it sort of overshadowed what actually was a really good Grand Prix. And there was a lot of, you know, to Tomo's point, you had great action, three, four cars together, up and down the field. Okay, Max disappeared off. But otherwise, even strategically with the different, you know, two versus the one stops and or three stops, etc. So there was a lot going on. And I just thought that was bad for F1.

Yeah, I think I think part of it as well, Matt, is that, you know, all the sport reporting that this was flagged as an issue before the race had even begun. Like there was already an awareness that track limits could be a fundamental issue. And I'm all for enforcing it at the line. Okay, I don't, you know, I'm sitting here as a fan. I don't know, maybe I'm wrong, Karun, but I'm not buying the drivers complaining about its track limits. It's the lion's the lion. And it's the same rules for everyone. I'm fine with them enforcing it solid and giving out penalties. I think that could in part, you know, almost be something that makes this track a bit more unique that there is this, this extreme risk of track limit penalties. But you can only do that if you can guarantee you're going to be able to enforce it accurately. And clearly they couldn't. And whether it was because Aston Martin lodged the appeal, or they were going to do it anyway, I think the FIA claimed that they were already looking into it. At the end of the day, exactly, no one wants to see results changing after the fact. So imagine if the podium had changed, I mean, Lando P four from P five, I think getting podiums after the fact particularly would have been a shocker. And again, Ocon 30 seconds penalties, if Ocon's not being told of the transgressions, yes, it's still his fault. And there were other drivers, I think Joe and George didn't get a single one. But I mean, if you're not, if you don't know your exceeding track limits, you're not going to just drive into compensate. So again, Ocon getting 30 seconds penalty, which was a system, I think they just kind of made up because they gave him five 10, and then another five 10. And it just unheard of it is crazy. No, I think it's unprecedented. But I don't think I actually think what they applied was all correct, if I'm honest, when you go through what he did and the number of times because you get a reset effectively after your fifth strike. So I actually think I have no problem with what was applied. But I think the reality is it's been an issue of this track for a while, right? And so maybe Matt, just it might be worth for a second, just looking into some of the reasons, right? Why we have these issues, some tracks and none

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others. So one of the common things that most people have talked about is the tracks are compromised

because they're running bikes and cars. So as you know, man, I do some work in track design, and you know, we did Abu Dhabi and we've got various other projects going on the moment. So I looked into this and to what the FIM want for the bikes versus versus the cars, because that's the most commonly used excuse by circuits is we can't fix it, we can't change it, you guys just have to lump it. So it is actually quite a complicated situation. So if you imagine, and I'm going to use my phone here as the edge of the track. And so the so that you got the white line, there's a track, there's a white line, you got a curb. Now, I personally believe behind that curb, you need to have five meters of what I call a natural deterrent. So grass, gravel, something like that. And that is a deterrent, which means that cars won't go there. Because guess what? It's not going to be quicker. So drivers won't go there, right? So then basically that means that the the issue gets solved on the track and not in the steward's room. And that's that's to Thomas point, right? We don't want things decided and discussed upstairs and debated. So then let's fix them. But then you go to the bikes and they say, hang on a second, we don't want grass and gravel on the edge of the track. Because guess what? We've only got two wheels. We haven't got these big wings and flows producing the downforce that Formula One cars have. And if a rider makes

a small mistake, just dips a little bit of the tire off, it can be pretty catastrophic for them.

And obviously, bike racing is much more dangerous in many ways. So what F1 needs is five meters of

grass or gravel on the edge of the curb. And then you can have acres of tarmac. What the bikes want is five meters of tarmac, and then a load of gravel afterwards. So they actually want the exact opposite. They actually say they want 30% of the runoff area to be tarmac. And the other 70% they actually want gravel. So it's not like the bike people don't want gravel. They just want it the other way around. And that's the problem for circuits like the Red Bull Ring, like Silverstone, you know, circuits that host both motor GP and Formula One. I think the solution, in my opinion, sorry to go on, but just to offer a solution, my solution is, I think what they have on the outside of turn one is quite a good answer in Austria, where they've got a little yellow sausage curb, which is a bolt down curb. And we never saw track limits, transgressions at turn one, is it? Because if you end up on the top of that yellow curb, the car, the the floor will get beached and you'll lose time all the way up the hill, or you end up on the other side and you lose time anyway.

And I think running some sort of sort of curb parallel to the circuit, not perpendicular, like we had in Monza, which fired that F3 car up into the fence, it needs to run along the side of the track and parallel like it does a turn one. And if you so if we can't have the natural deterrent that I've talked about, then I think this could be a solution because they're just bolt down and then you take them off for the motor GP. So you're not knocking off the kneecaps of the riders.

I was going to ask Karine, sorry, one more question on that. How are track limits measured in the race? Because to my mind, given how advanced Formula One is as a sport, is there not a way that we can I mean, I think I was speaking to Bernie about this and she was saying GPS wouldn't be accurate enough. But can you not map cars onto a circuit to such a like I'm thinking Hawkeye with tennis or something like that, can you not map them so you actually have a

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definitive one millimeter in one millimeter out, it just is what it is and we move on and and that's the you know, you know the penalty, you know the infringement.

Yeah, I think you sort of answered your point in your question, because the trouble is the speed of the cars means that today, the sensors aren't yet accurate enough to read it. So you can even if you've got sensors on just on the outside of the curb, they're not accurate enough to pick up each and every one. So they are still relying on CCTV on on board cameras on television cameras, etc, etc, to pick up those those last little details. They have got sensors in there, but it does need to be verified with the cameras just because the sensors in today's world. And I know that the FIA are doing a lot of work with various technology companies to try and develop a higher higher frequency higher, what's it called, more precise sensor basically, to be able to trigger when a car goes over it. So but but I think the reality is that the the issue can be fixed on the tracks, right? You know, I think cops corner next weekend is always a nightmare. You know, there's we're going to have the same discussion there. And to me, I think this is where somehow the FIA and the FIM and the circuits need to come to some sort of consensus and agree, okay, you know, we don't want to be relying on sensors and stewards and timing systems. We want to just sort it out on track. And then it's clear for everyone to see whether somebody's on or off the track, right? If you're in the dirt, you're off and you're losing time. And and I really want to take the decision away from the stewards room. Tom, I was going to I was going to say you were you were actually at the circuit. So when you're watching a Formula One race, as a fan at the circuit, how are these penalties being communicated to people in the stands? They're not. I think to be fair, even watching the TV broadcast, so I flew back Sunday morning. So I was there Friday, Saturday, sat turn three, incredible view, like so good saw the obviously that the squeeze into turn three between Checo and Max in the drizzle. And it was amazing. But yeah, in terms of the penalties being communicated, again, I don't I don't even think that the full TV broadcast does that, you know, anywhere near enough. I think there is there should be some kind of especially obviously, Austria highlights it because there's such a propensity to get penalties around there. But just communicate in the graphics. I mean, yeah, when you're there,

there's literally none at all. You've got the little screen, even the Austria that the screen, I remember for for qualifying on Friday, they only have to one tenth of a second. So the gaps between drivers. So for example, show Charlotte Clair was half a tenth behind Max. So it was just nought point nought. And as I didn't know exactly what the gap was, because one tenth is not enough. Because that's huge. So yeah, no communication of that at all. Unfortunately, I think that is a solution that, you know, I feel like the broadcast needs to because then you it's hard enough anyway, like to have context of who how many times has this car stopped relative to this car or, you know, is this car pushing like we're not going to get all the information. But I think with something like penalties, I feel like there's just just a little something to know, oh, there's still five seconds in hand for this car so that at least you can look at it and draw some kind of more accurate conclusion, I guess.

Kareen, from a from a driver's point of view, obviously, these are the best drivers in the world, you know, 20 of the best drivers in the world going at it. So clearly, they're very, very good at what they do. Just just try to explain to us how difficult it is when you're in the cockpit, and you're going through those corners nine and 10 to see physically where your car is

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on the track. It is difficult because if you imagine when you're in the cockpit, you know, your your eye line, you can't see, you can't see the tires, basically, you see the tops of the tires. But you can't see what's immediately in front of you, because you're sitting so low down and just that your point of view is such that you can only see something probably 10 meters in front. So for example, if you're, you know, right up behind somebody's gearbox, you can't actually see if you're tapping them, you know, you can't see if you're the edge of your nose or touching their diffuser. So it's probably two or three car links in front that you can actually see where the ground is. And therefore, it's about judgment, you know, it's about over the weekend, you build up your experience and go, okay, I've got to I've gone through this corner at this speed, I've used this much of the edge of the track, go away with it, okay, bit more, bit more, and then you end up going a bit over in practice, and you go, okay, there's where the limit is, and you try and bring it back. It's hard to judge in a race because you've got few loads changing, tires changing, wind changing, et cetera, et cetera. But to your point, it is the best drivers in the world. And I fully accept that. I just think, you know, some of those transgressions we're talking were centimeters, you know, absolutely centimeters. And that's it is very hard to see. So I, you know, I have to say George and Joe Guan knew, you know, they, they were the only two drivers, obviously, as Tom said, who didn't go off the track. And to do that, it means you're having a slightly more conservative race, basically. You know, if you, if you're in a Lewis versus Lando battle, and you're absolutely ragging it through turns nine and 10, every lap, it's very hard. And you know, it's a frustrating thing as well. I remember I did a sports car race, European Le Mans race in Austria, and I got a drive through penalty for, they were quite strong there. It wasn't just five seconds of drive through for track limits there. And it's like, you're coming through the corner and you're like, oh, go away with it. Oh, go away with it. And actually, I don't like that. Like, you know, it's not a fun way to be driving a motor race. You want to be able to just be driving and watching the other people and be in the battle, not thinking about, oh, I don't want to, the stewards aren't seeing me there. The thing is, I think as well, like Joe in the end, he finished P12. You know, it wasn't a mile off the points after a weekend that, you know, wasn't, didn't seem particularly kind of special for, for Alfa Romeo, but he was able to gain. And I do think there is an, there's definitely an argument for, again, rather than changing the track, I think there's an argument for keeping this, you know, it almost builds a degree of strategy. Do you drive a little bit more conservatively, but then potentially bank some, you know, you what, you get three strikes, and then it's the black and white flag, you know, drive a bit more conservatively. If people are getting penalties in front, like we saw like the old last lap, Lando, when Lewis got that five second back in 2021, 2020, sorry. And, you know, Lando knew yet the five seconds yet to close that gap, and he closed it to 4.8. And look, again, we've got 20, we're meant to have 24 races on the calendar. And part of me is like, actually, if they can get that system where they can really truly be accurate, Hawkeye-esque, goal on technology-esque, if that can exist, then I'm not against actually keeping it as it is and just having this as a component. And maybe you, Karuna, as a racing driver, you know, you might not enjoy that, but I think from an entertainment point of view, as a fan, I could kind of buy into that. I think it's a big if. I sort of semi-agree with you. I think it can work. I mean, I was at Lord's on Saturday, and you're right, you know, there's a dismissal happens, and there's that element of, oh, as it all goes up in the Third Empire, and you're all sitting there waiting for a decision. And I agree, there is an element of sort of entertainment in

that. But it only works because they've got an accurate system now in Cricket and in Tennis. So I sort of semi-agree with you. But I think it's a big, big if at the moment. And until we get to that point, we need to find another solution. We can't have more races like this. Great. Yeah, certainly can't do it five hours after the race. Just a final thought on it as well. And I know Max, I think, you were saying, if you're not under pressure throughout a race, then obviously, you're not going to be pushing the track limits in the same way that you would if you were in a, in a will to will battle. But just imagine if Max, having pitted on to softs to get the fastest lap and reduced his 25 second lead down to about five seconds, imagine if he got pinged with a penalty afterwards. And that was the reason why Red Bull didn't win all the races this year. Just, just, just imagine, just imagine. But you know what, Matt? And this is a good way to segue away from this topic. I just think he's operating at such a high level. You know, I go back to Barcelona, right? He was drawn in around doing one, low 17, 17, 3, 17, 4, 17, 3, 17, 4. He didn't, you know, on that occasion, didn't pit for new tires. Go to the radio, I said, I'd like to go fastest lap. They say to him, you've already had a track limits, warning. We want you to be careful. Bosh, 16, 3, like a second quicker than he's boeing doing that entire Stint just for kicks. And it didn't go off the track. He knew exactly what he was doing. I just think he's a driver now who's in such a zone and the car is in such a good position for him as well. He's just got the confidence that he knows he's not going to go off track. He knows he's not going to lose the win. He knows he's not going to get penalty. And it's commendable, right? It's the same like when we watched that Lewis era a decade ago, or nearly a decade ago, or you watched the Michael era two decades ago, you just were watching greatness unfold. And it's remarkable to see the little details that they achieve. The stats are incredible. I'm going to nick one from your Twitter feed, actually, Karine. You said Max would be leading the Constructors Championship himself by 51 points. Absolutely ridiculous. And then also he's not far off the shared record of nine consecutive victories, which is held by Alberto Ascari and Sebastian Vettel. So this was his fifth. He could reach nine. It's very conceivable he could reach nine. And one more for you, that Red Bull scored their 10th consecutive win. And that's the second longest streak in history behind McLaren's 11 in a row in 1988. So they have the chance to equal that at Silverstone this week. Tommy, what did you make of Verstappen's performance? It like everything they got thrown at him, you know, well, which to be fair, probably wasn't all that much. But every, every, everything across the weekend, they had the sprint, you know, the lack of practice, he just seems to breeze through it, doesn't they? It's inevitable, isn't it? It just maxes, like you say, Karine, is the zone. That's the perfect way of putting it. He's, there's no driver, I think you can trust more to drive on that absolute limit and extract the absolute maximum from that incredible car. And it's again, driver, car in perfect harmony. Yeah, it's so impressive. And to do it in Austria as well, which again, having been there, you know, for the first time, it is like the support for Max for that is crazy. It's, it's, it's mad. Like going to a Grand Prix that is so, you know, I've never been to Italy. So I've never seen that, you know, Ferrari support you getting in kind of Monza, for example. But I've been to kind of Silverstone in Canada, I've been to a few races and, and it's always been, you know, it's a varied fan base, but it's so heavy into Max in Austria. So for him to do it there and go for the fastest app as well, and give the fans what they kind of wanted in that, because I'm sure,

you know, Max acknowledges that Austria has been, you know, was the de facto home race for a long

time before Zandvoort came on the calendar. So to do it there as well, yeah, I'm glad Red Bull let him come in and go for that fastest lap, because that was like the cherry on top of what has been an incredible season for him. Like it's easy to get to a point where you kind of just take it for granted, but he is doing incredible, you know, peak Hamilton, Vettel, Schumacher, Senna-esque, you know, performances week after week after week. And it's, yeah, it's incredible. Were you, were you enjoying any of the Dutch EDM in the, in the Grand Sport?

Yeah, there was a bit, you know, I was in, the Schnitzelburgers were really good. They were quite pricey. I'll be honest, they were quite pricey, but they were, they were decent. So that they, they, they paid back. Obviously there was a lot of Red Bull because they owned the track. There's a lot of Red Bull on show, but I'm not an energy drink drinker. So, oh, and the Karoon's left us as well. He had enough. Oh, Karoon, right, you're back.

Okay, let's, let's, let's continue and move, and move on, because I want to talk about McLaren and, and a really interesting weekend for McLaren Norris, who actually finished, finished fifth in the, in the race, but was bumped up to P4. Karoon, big improvements at McLaren, that upgrade package seems to be looking good, doesn't it? Well, I'm always a bit nervous about this, because, you know, one swallow doesn't a summer make, and Austria is an attract that Lando is exceptional at. B, McLaren have historically been pretty good there. So let's see, as the rest of the season unfolds, you know, they, they've been sort of up and down a bit, haven't they? But yeah, you're right, you know, hopefully, hopefully this is the turning point that the upgrade package has worked, and Oscar will have it this weekend, a Silverstone, and we'll get to see, because, you know, if you consider where they were the start of the year, you know, they, they had the slowest car at some points in the opening three races. And all of a sudden, this weekend, they're just off the podium, either quicker, genuinely quicker than Aston, genuinely quicker than Mercedes, or at least Lando was. That's an amazing turnaround. If this is, if this is not a one off, and this is something they can carry on.

Tom, are you actually at the MTC yesterday, weren't you, for the launch of their new livery this week? What, what was the mood, imagine a lot better launching a livery where you've got a slightly better car you feel underneath you?

Yeah, Lando had a bit of a twinkle in his eye, I think he was, he was very satisfied, rightly so, P4, and I think Oscar, I know Oscar, I think he tweeted after the race, you know, can't wait for the upgrades. So yeah, there's, I mean, you know, around a track like Austria, like you say, Karun, you know, they typically run well there. And I think it goes both ways, because I know Fernando after the race was like, Aston Martin last year wasn't particularly strong around here. So he's not overly surprised they didn't have a lot of performance this week.

But yeah, I think, you know, momentum is, is an important thing, I suppose. And, you know, being able to get them upgrades, I know there's more to come as well.

I think there's going to be some more potentially Silverstone slash Hungary, maybe Singapore, as well. So yeah, I think there's, there's more to come from Clarence, a good upward trajectory. They need to, the scrap is still without pain, because like you say, Karun, at the start of the season, the car was weak. So they have to make up for, for kind of lost points there. But yeah, I think it's, it's looking good. And I think Piastri, you know, given it, this is his rookie season,

I think his gap relative to Lando, typically has been, has been pretty, you know, two, three attempts, qualifying, kind of averaging out. So yeah, I think, I think the mood in the team should rightfully be positive. I mean, I know Mika Hakkonen's feeling very positive. I know he's, he's, there's a bit of a few quotes from him saying that, you know, he, he hopes that McLaren will be fight with Rebel by the end of the season, which I'm sure they'll take it. I'm sure they'll take it. I would say. I love, I love his optimism. It was, it was a strange weekend though, guys, wasn't it? Like, I was trying to get my head around it this morning, because did Aston and Mercedes underperform, which made Ferrari look better than, than they did. And therefore made McLaren look better. I think there is an element of that. I think the, the circuit layout, you know, I think that the Mercedes didn't ever seem comfortable, never got the car in a setup window that they were happy at. Their slow speed rotation wasn't great. And I think, I think that's somewhat flatter Lando and the Ferraris a bit. So I'll be interested to see when we get to Silverstone, which is a, you know, a very different circuit, obviously flat, no elevation changes, really very high speed. I do think the way that Aston and Mercedes have got their, their rear ride height control and the way they set their aero map, they should be more competitive this coming weekend. And I think Ferrari on a high speed track like this will start to struggle again with overloading the tires, but they've got an update, obviously, you know, so maybe it has changed it. So I'm very skeptical about looking at, you know, one race and saying, this is now the form guide in Ferrari, now have the second fastest car. I just think that midfield pack between Ferrari, Mercedes and Aston are so tight that there's certain weekends and certain circuits and conditions that suit one or the other. But we'll have to see as the updates come through, because actually, Gasly was quick and Ocon were quick. Well, they're different points of the weekend. They were both fast in qualifying and over one lap. And then the race, they've seemed to fade away. So that's just set up in tires. Yeah, I think that that's part of the intrigue. I mean, was it George who said, man, a couple of races ago, you know, if we got rid of Max, this would be a fantastic world championship battle. It really was. So we all just, we just had to scroll the page. When you look at the championship battle, just look from a second onwards. I literally, I did a video about this. So I replaced, I imagined that, you know, Max was just a kind of back marker driver never scored in any points. And before this weekend, Fernando was actually one point ahead of Checo. Now, obviously, Checo, you know, good recovery results. So he'd be now leading the championship. But you're right, it would be super and Lewis would be right up there as well in terms of points. So yeah, look, this, I think again, not to take anything away from Max, you know, he's doing incredible work at the front at the moment. But I am also quite, I feel a degree of optimism that, you know, the convergence, I mean, what the top 10 in Q1 split by eight and a half tenths, I know it's a short track, but, you know, I think that's it's positive. And I think even in Q3, it was about seven and a half excluding, you know, Alex, who you guys time deleted. So the convergence is, I'm feeling confident with, I don't know if that's too optimistic. Yeah. No, I think I think you are onto something there because I was looking back. So obviously a second year of a big regulation change. And I compared it with 2015, which was a second year of a big regulation change or the last big regulation change. And this time around the top 10 was covered by a second in Q3. And 2015, it was a second and a half. So we're a big, big chunk closer, you know, in terms of that convergence that Tom just talked about. But, you know, I put a tweet out saying, it'd be quite good fun if Max just

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went and drove the Alpha Tawery for a few races to let the championship battle tight now. Get Daniel in there. That'll be a chance for them to evaluate. Daniel versus Czechos, shoot out for next year. Well, because Max would have already won the world championship.

So this is just kind of a mid-season, you know. But Crofty said a stat, didn't he, that Max could miss every race until the Dutch Grand Prix and still be in the championship lead. So stick him in an Alpha Tawery for three or four races. And that'll be fun to watch and see what he could do. It'd be good marketing for Alpha Tawery to be fair. Yeah, exactly. Yeah. I mean, being pretty depressing for their incumbent drivers if he's in an Alpha Tawery and still getting on the podium. Very much so. I wonder with the McLaren, obviously, it's easy to get ahead of yourselves with McLaren this weekend and say, you know, it's all looking good. It's all looking amazing. I wonder if they will look at what happened to Mercedes in Spain and actually go, you know, after Spain, Mercedes looked for all intents and purposes like they would. They'd made huge gains and huge, huge progress. And Corrine, I guess, you know, we have to remember that we're going to specific tracks that suit specific cars. And, you know, would you say perhaps Silverstone is going to be a slightly more level playing field? Is that fair to say? Are we going to get more of an idea after this weekend about where the cars sit? Yeah, Silverstone is all about high speed. You've really only got three slow speed corners now. Well, four, if you argue a lot of fields. But, you know, it's a completely different track. It's very wind sensitive, very wind affected. And that's bad for Ferrari. Their car is on a very narrow sort of small knife edge in terms of their wind sensitivity. And that could be problematic. I think, you know, I'm just looking at the trees in my backyard at the moment, they are going mad. So if this wind carries on for the rest of the week, that's a big problem for Ferrari. So I think let's take Red Bull out of it. I would say we're going to be back to a Fernando versus the Mercedes. And then, listen, that's great for the home crowd. If we can have George and Lewis in contention for a podium, that'll be fantastic for the home crowd. Yeah. What do you make of Ferrari after Austria, Tom? Shall seem pretty boy, didn't he, from that result? And looking at Silverstone, which is a track that he likes? Yeah, I think, I feel like Ferrari got, you know, the timing of that VSC for Hülkenberg, who's ironically running a Ferrari power unit. I'm not sure if exactly it was the power unit that went pop, but yeah, it wasn't great timing for them. And Carlos's pace actually looks really strong, didn't it? So there was a bit of a, Carlos was chomping at the bit thinking, oh, I want to get past Charles and the team are saying a kind of whole position. So that was kind of a bit of a conflicting one. But again, this is the second, you know, Canada, as much as their qualifier was bad, their race pace was really good in Canada. And they got that clean air, and they managed to kind of move up through the field. So two good races back to back for Ferrari. Yeah, I'd love, of course, you know, one lap pace, you know, Shoal within a tenth of Maxine qualified in Austria, you know, is the only driver not in a Red Bull who's got any pole positions this year. And of course, I'd love it to be Ferrari if they can, you know, make up the lost ground and hopefully got some kind of better understanding of these tyre issues. But like you say, Karun, you know, they're operating windows small, same for, you know, team like Williams very wind affected as well. So I'd love to believe but Ferrari is just that team that, you know, when it doesn't work out, it hurts more because they just, there's no team

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like Ferrari. And I'd love to just for that, I think it'd be so good for the sport to see them backfired at the front. And again, I think Carlos is doing, he's impressed me actually, this year, how he's been able to hang with Shoal, that little bit more, he's obviously outscored him so far, but Shoal's had his, you know, DNF in Bahrain and that. This isn't the year for Ferrari this year, but hopefully they can build and consolidate and maybe 2024, we'll say. That was Ferrari's most convincing weekend of the season, I think, you know, if they're the race pace, obviously they qualify well in Bahrain, but the race pace was appalling.

I actually think this was their most solid weekend on the whole.

I think your point about Carlos was absolutely valid, you know, the first two stints of the race, he was very, very competitive and then it just sort of went away from him and then the frustration, the track limits and, you know, just losing, you're losing that time because guess what, we had another Ferrari strategic talking point around the first pit stop. And it kind of messed Carlos' race up actually, you know, having that, I think they should have split the strategy at that point, which is sort of what he was alluding to. I think he came on the radio, didn't he, and said, why do we pit and double stack? Because he just lost seven, eight seconds and that puts you in the pack and then you have to come past people and you lose another four, five seconds and it's, you know, across the race time, he lost 10, 12 seconds to Shoal and then he's lost contact, you know, then it's sort of, you're in this cycle then.

So I do think they could have done some things to help him out at that first stage because I was watching it on the Lifetiming and when, you know, you could kind of tell there was a safety car or VSC coming because where Nico's car was, it's like, that's not going to be quick to clear.

And we know Neil's Vintage is pretty quick with red flags and safety cars and things. He's not keen to just let things go under double yellows. So which is fair enough, you know, that's his philosophy and I think that's, that he just is what it is. So if I were Ferrari, I would have gambled on one or the other, you know, just split the strategies, get one car in a lap earlier, which is when Lewis and people like that came in for the, for their first stop, you know, just, I just feel again, they're not as on it as, as a red bull or a Aston or a Mercedes might be.

Yeah, because I mean, neither of the red bulls pit, they both kind of stuck to their, their strategy. Obviously they're in red bulls. So, you know, maybe I'm not, I don't know if Carlos would have, I guess in hindsight, maybe we'd have been really interested to see if he would have, you know, been clear of Czecho by the end. Obviously, Czecho was coming through quick, but also it would have, it might have denied us that really, really good multi-lap battle between the two of them. So, you know, swings and roundabouts. Let's just, before we go, talk about upgrades. And I want to understand Karin from you. There's a lot of talk of upgrades coming. We talked about with McLaren and a lot of the teams are rushing upgrades through. Can you just tell us about the process of sort of almost from designing an upgrade all the way through to getting it on the car? How easy is it for teams to rush? I'm using the word rush because that's kind of what, what drivers say. But how, how easy is it to get those upgrades through?

Well, I think this is where you have to really pay tribute to what Williams did with Albon and Ferrari have done. You know, the, the upgrade that they brought, I believe, was only due for Budapest, which is quite some way away. And they, they had a massive push, you know, to quickly summarize, if you think of an idea, you're designing it in CFD, you're validating it, then you make the bottle that goes into the wind tunnel. They're limited in the wind tunnel time,

so they have to be efficient in terms of validating it. And nowadays, not everything is necessarily validated. You know, sometimes they, they do take a risk and just look at the CFD numbers and try and put something on the car. But the sanity check it, you're better off making a, a 60% scale put in the wind tunnel. So therefore the timeline, you've got to think of an idea, draw it up, design it, test it on CFD, make a small model, test it in the wind tunnel.

If it works, then you have to test it, then you have to build the full size one. It has to be tested at the factory in terms of loads, and they'll have various ways to, to check, you know, the load bearing, sort of effective that really, you know, for example, if you've got a wing, and you're putting X amount of G on to it, can it sustain the load of it if you've got a new updated different front wing, or a different rear wing. So once I go through all that, you're looking at sort of six, seven weeks, really, as a normal lead time, six to eight weeks, depending on the size of the part and what it is. And also it has to work in conjunction with other bits, you know, you can't just, as Mercedes have said so many times, you can't just take the sidecars off a rainbow and put in their car, you know, it has to work in conjunction with the rest of the car. So to make sure that it's all working fine, and in, in tune with each other nowadays with cost cap, with wind tunnel limitations, you cannot, cannot afford to bring a part to a race we can put on the car. That's not going to add lap time. If it does, if it, you know, if you have that situation, then you are in big trouble, because the competition is just too tough. Tommy, we're seeing quite a few. Why do you think we're seeing so much of these upgrades being rushed

through this year? It feels like that's the narrative of a lot of teams is that they're really trying everything they can to push these upgrades through. Well, yeah, I mean, I guess certain teams historically have had a, you know, Haas, for example, rarely do much kind of throughout

the season. They tend to start strong and then typically kind of taper away towards the end. I guess maybe the cost cap has changed things a bit as well, especially for the, for the bigger teams. And you've not necessarily got certain advantages baked in. Obviously, you've still, you know, infrastructure. James Vow has talked about this a lot of Williams and how a lot of the infrastructure is holding them back and they're not able to be as efficient with the time as other teams are, you know, there's always been time limits, of course, but you can't just throw money at the problem like you used to. So I think, yeah, I think Karim, you nailed it. Like it's, you can't afford to mess them up. You know, in the past, you could, the big teams that with the big budgets, the Ferraris, the McLarens, the Red Bulls could, you know, just try like five different wings and see if one works. You know, you just, you throw money at the issue and it was, because you would have the top teams literally spending, you know, three, four times what the bottom teams were. And I think it's that it's not yet rushing. Rushing implies maybe that it's not well thought out. I think it's just you have to be efficient. I think you look at a team like, you know, Aston Martin, which obviously operated as Force India for so long, super small team, low budget, ultra efficient. I think it's those kinds of teams that are going to, and we've seen them jump up from, you know, seventh last year to second best calf, at least the kind of first half of the season with Fernando. So it's that efficiency that is really going to, you know, you can't be bloated. Like maybe these big teams were in the past, you have to operate on a solid one. And you have to be careful as well, because, you know, on one hand you're watching other

people

and you kind of think, oh, that's quite a good idea on a Red Bull. We should be able to copy that. But you don't know what they're thinking. You know, I'll give you a little example. I remember, I think it was the early 2000s and I won't mention which team it was, but McLaren that year had the fastest car. And this particular, you know, team and their senior designers saw that McLaren had a three-plane front wing for Monza. And they said to the design office, right, stop whatever you're doing. We need to get a three-plane front wing. That's what we have to have. Get it, get it. And they just stopped everything. They put all their efforts, huge amount of effort. Within, so three, four weeks, they had this three-plane front wing for the Italian Grand Prix, got to Monza, and McLaren had a two-plane front wing. God, no. And it's, as I say, one-name names. But, you know, it's a sort of thing which you can get caught out on, right? You don't want to watch, yes, you have to keep an eye on what other people are doing, but you have to have conviction in your own thought process, in your own design process, in your own people, and your own philosophy.

Sorry, that reminded me of, that reminded me of a Max quote, was he like, when he would say, oh, we've come with no Psypods. Just imagine if Red Bull pulled up with no Psypods

after Mercedes then put Psypods on. That would have been, no, because I think it's as well, if you're always copying, and by the time you've actually brought the upgrade, like you said, Karun, it's a long process, by the time you've actually bought it, well, that team's developed their, they've not just been sitting still that time. So it's, again, and let you know, you can take influence, I know Red Bull took the shape of their diffuser at the back, that was apparently inspired by Williams, which, you know, team's always the back bit, that doesn't mean that, you know, if Adrian in his notebook, he can't, you know, he's taking it all in, team's top and bottom ideas, regardless, and if you can make it work, you can make it work, but like you say, you can't just bolt the Red Bull Psypods on and expect performance, it is a bit more complicated than that, goes right over my head, to be honest. Yeah, it was fascinating, and there's going to be, you know, even more upgrades coming, we talked about, McLaren, I believe Mercedes also got some upgrades coming for Silverstone as well,

so it's going to be very interesting to see what happens with those. Right, Karun, I know you've got to go to Downing Street, not a line I thought we'd say on this podcast, but that's why we're going to have to draw it to a close here. Can I just make a play out before I go? Is there anyone out there in IT world who can send me a tweet and tell me why my camera's gone purple? If you could just tweet me a fix so that for the next episode, whenever Matt, you know, lets me come on, I don't look like an alien from Jupiter. Yeah, that's fair enough. It's a good look, Karun, I like it. Because clearly your solution of just turning it off and back on again did not work. I don't claim to be an IT expert. Yeah, exactly. Well, you know, maybe I'll smart Harper, the transport secretary, see what he has to say about the matter, Downing Street, he might have other things on his plate. Yeah. All right, guys, thank you so much for your time, really appreciate it. We'll be back next Tuesday after Silverstone to look back at that, so we hope you can join us then. Bye for now.