

NTT INDYCAR SERIES

News Conference

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Jay Frye

Mark Stielow

Wayne Gross

Press Conference



Big thanks to Honda, big thanks to Chevrolet. Thanks to some of our other partners, Dallara, Extract. A lot of people have touched this, been involved in this, done a lot of work to get us to this point. We couldn't be more excited about going to Mid-Ohio with the new INDYCAR hybrid era this weekend.

THE MODERATOR: This weekend will mark the competitive debut of the INDYCAR designed specific hybrid power unit, a thorough process of development that's really been highlighted by over 30,000 miles of testing since August of last year and accomplished in a very unique collaboration with Chevrolet and Honda in a program that now really gets passed on to the race teams as INDYCAR racing is enhanced with greater overtake options on driver demand throughout the course of the remainder of 2024 and beyond.

THE MODERATOR: Mark, we'll come to you next. I know from Chevrolet's perspective, it's certainly a unique collaboration, but what has this meant for your program and why are you so excited about this moment?

Joining us today, INDYCAR president Jay Frye; Mark Stielow is also joining us, the director of motorsports competition engineering at General Motors; and Wayne Gross, the manager of trackside engineering for HRC USA. Thank you, by the way.

MARK STIELOW: It's an interesting moment, as Jay alluded to. Honda and Chevy are used to trying to beat each other up every weekend, and this was an opportunity for us to work collaboratively on something for the good of the sport and the good of the series.

Jay, obviously this week has been much anticipated. Just open us up with your thoughts as we see this new hybrid power unit on track in competition this weekend.

I think this has been a huge effort. Thanks to my partners at Honda. Every week twice a week we're having meetings, pushing the ball forward on this, and really we got a package pulled together that I think we should all be proud of and happy with, and I couldn't be more thankful to our partners at Honda and our other partners at Ilmor to pull this whole partnership together.

JAY FRYE: Well, thank you, Dave, and thanks to everybody for joining us today.

THE MODERATOR: Wayne, it's clear how important hybrid technology is for Honda. It's a project that's really more than just about racing. It's become a part of the fabric of the company, has it not?

If you think about it, it's been really pretty cool. This project basically in its current configuration was born in like November of 2022. That's when we helped put this really unique partnership together, like you mentioned, between Honda and Chevrolet.

WAYNE GROSS: Absolutely, and I think that's part of why we were so excited to get involved in this project. It's engaged all of our engineers. It's very relevant to the road cars.

Since then, we've ran almost 21,000 laps, almost 32,000 miles. Just a spectacular achievement to date.

You look at Mid-Ohio this weekend presented by the 2025 Civic Hybrid, it's been core to Honda's DNA for many years now, and I think as we go into the electrified future and relating what we do on the racetrack to selling cars -- the old race on Sunday, sell on Monday mantra, so it's really tying it together, and it's something we were pretty excited to get behind and work together with Chevrolet and Ilmor and put them on the racetrack this weekend, so looking forward to it.

Now we're headed to Mid-Ohio with 27 cars, so this has all happened within about an 18-month period. I know it seems like a long time, but it's happened in a very short amount of time, and a lot of work has been done in a really short amount of time.



Q. Will you start off focusing on reliability, making sure all these units have a long last life before you start pumping up the speed and the horsepower?

JAY FRYE: Yes, from our perspective that's absolutely true. We've got nine races left in 2024. We'll bump this thing up in '25 and '26. So there's a lot of runway to go with this project and this program. Yes, it's very robust where it's at starting in 2024, but there's definitely some runway in '25 and '26.

Q. At the Milwaukee hybrid test, some of the drivers that I spoke with afterwards said you really feel it. Others said they would rather feel more. Obviously drivers always want to feel more horsepower, but where do you have it set at the moment? And also, how confident is everybody with the supply chain issues?

JAY FRYE: I think from my supply perspective, we're in good shape. Obviously you always want to be better, but I think we're in really good shape right now.

From a performance standpoint, I think we've mentioned this weekend with Push-to-Pass hybrid unit, they'll be pushing close to 120 horsepower, which is legit. That's a lot of horsepower, obviously.

Going on the ovals, they won't have Push-to-Pass, obviously, but it should definitely make a difference. I think it's funny when you mentioned some of them felt it, some of them didn't feel it. Well, that's part of what's going on with this whole program.

We've put all this technology in the drivers' hands. There's multiple ways for them to use it. So if someone is feeling it on ovals and others are not, maybe they need to do it a different way possibly.

Again, it was important that the drivers have big input in this, and I think over the next couple years they'll have even more.

Q. How long do you think it'll take for the drivers to get the hang of yet another tool to use in the cockpit along with all the other Push-to-Pass, the ride heights, the adjustments, everything else that they have to use inside that cockpit? It can seem like it would be pretty chaotic, especially when they're racing inches apart from each other at very high speeds?

JAY FRYE: Yeah, well, we've talked to them. We think we have some of the greatest race car drivers in the world, and I know they're excited about this additional tool.

The thing about it, like we've mentioned earlier, we've 21,000 laps, 32,000 miles, so there's been a lot of testing on this already. Again, I think it'll be interesting to see this weekend different drivers use it different ways.

Obviously they'll all get better at it as we go on, and obviously with us having the most diverse schedule in motorsports, we go from Mid-Ohio this weekend to Iowa next weekend, so it's going to be a completely different thing. So there will be a lot of different scenarios that I think will play out over the next couple years.

Q. Maybe the two OEMs can weigh in on this: How efficient was it to be able to have each OEM focus on one part of the hybrid, one focused on the ESS, the other focused on the MGU? How efficient was that and how much did that speed up the timeline?

MARK STIELOW: I think it sped things up quite a bit. Honda took on the ESS and owned it. Ilmor and Chevy, with our MGU supplier being in Great Britain, it was good to have them on that side of the pond working on that side. Every week, like I mentioned before, we had meetings working through issues, and I thought we were constantly pushing the ball forward.

WAYNE GROSS: I'm just going to echo that. I think it was one of those things where to get it done in a timeline, it needed both of us and all of us to come to the table. It was a lot to take on, just one of us independently, so it was good to split up and work together.

Like Mark said, we try to beat each other as much as possible every weekend on the racetrack, and then we come away on Monday or Tuesday and have some meeting and work together and go back to the racetrack on Friday and beat each other up again.

It's been a very unique project but pretty rewarding from that perspective, as well.

Q. Was this whole thing like getting ready for a moon launch?

WAYNE GROSS: In many ways, yeah. I think Jay has mentioned the 31,000 miles we completed in testing. The past few tests coming into Milwaukee and all the cars were at Iowa last weekend, they've been very smooth. Very productive, a lot of running, a lot of laps turned, all the drivers experienced it. So we've come a very, very long way from where we were six, nine months ago. It's been very impressive, and I think it's been a big challenge but very rewarding at the same time.

Q. How much horsepower is coming solely from this



unit, the hybrid unit? And number two, will the driver have sole control of it, or will the racing entity be able to control the on-off switch, so to speak, in certain situations? Number three, how have you solved the situation of harvesting on an oval? I'm very intrigued by that aspect of this.

WAYNE GROSS: So the system itself is about 60 horsepower from just the hybrid system itself with the full capacity.

As far as the sanctioning body having control, it's pretty much all in the drivers' hands. There's certain situations where it can be turned off via timing loops, say in pit lane, those kind of things, so there is some control there, but most of it is in the drivers' hands, like Jay said.

So the regeneration, there's some things we've been doing on the software side with mapping, whether it's throttle based or brake pressure based, but the driver can always use the paddles up on the steering wheel to regenerate or a button, so it's very much in their hands.

Then coming to the oval question, that's kind of why we're pretty excited to see it, really, because when a car is in traffic and you're kind of pedaling or just driving along, you can pull the paddle and kind of regenerate or harvest energy in those moments.

It'll be pretty exciting, I think. Watching the cars go around Iowa last week, everyone is playing with different scenarios and different ways to get a feel for it. It's racing; some people get on top of it quicker than others. That's kind of the exciting thing. But a lot of opportunity there to shake up the racing, which is cool.

Q. On Mid-Ohio, where do you anticipate it being used the most? I know that sounds like it could be used anywhere, I'm sure, but where do you anticipate it being at its most efficient, I guess, from a use standpoint?

WAYNE GROSS: To complement the Push-to-Pass. I think the same place you see drivers use that, you can use it for overtaking on the straight stuff, or a lot of people use it for in laps, out laps, start a straight kind of application for lap time. It'll complement all of that, but unlike Push-to-Pass where you're limited for your 150 to 200 seconds a race, it's as much as you can regenerate over a lap, you can use it throughout the event.

We'll work with our teams to where a user would apply it, where it's optimal, and then they'll take it and go from there.

Q. Mark and Wayne, how do you judge success from this engine this weekend? Obviously success is winning, but what are you looking for when you look at the whole unit, the engines and all the cars? What's good?

MARK STIELOW: From the Chevrolet side, we want it to be good racing and we want the units to not interfere with the race, number one. Number two is for it to be used by the drivers to make the racing more dynamic and more interesting for the spectators.

So this is another tool that we're bringing to the drivers to enable there to be a little bit better competition, a little more passing. The fans at home like to see active racing, so we're hoping this is another tool in the drivers' tool bag to demonstrate the talent between the drivers.

WAYNE GROSS: Very much the same from our side. We want to win. That's why we're all here. But yeah, it's just like Mark said, adding more tools, more things to separate the drivers and add some variability to strategies in how the race plays out, and yeah, just more tools in the arsenal to go racing with.

THE MODERATOR: Jay, I think we'll all find out how the drivers -- as they find out individually where the best part of each racetrack is to regenerate or deploy, right?

JAY FRYE: Yeah, absolutely. This whole project is about putting a different tool in their hands. You think about we mentioned earlier, you could push the Push-to-Pass button and hybrid button at the same time. That's 120-ish horsepower. That's legit; that's a lot of horsepower.

It'll be interesting to see how they use that this weekend at Mid-Ohio, and then going to Iowa next week, as you know, we don't have Push-to-Pass on ovals, so this is a whole different tool that they'll have at their disposal at an oval that we certainly have not had.

It's going to be an exciting final nine races of the season.

Q. Jay, if you could talk a little bit about qualifying and practice and how the hybrid unit is going to be used there because we've read about how it might be used in the race and how the drivers might use it but not so much maybe about the rules surrounding qualifying and how it'll all play out there. Can you talk through a little of that?

JAY FRYE: Yeah, so we're going to do our standard Fast Six qualifying format this weekend, so yes, it will be at the drivers' disposal, the hybrid unit will, just like it would be during a race.

It's, again, a drivers' tool. They can use it when they want it. They can deploy it when they want it. We won't have Push-to-Pass in qualifying, so that'll just be turned on in warmup and in the race like we normally do.

One of the things we wanted to avoid was introducing too many things all at once, so at Mid-Ohio, basically standard practice, standard qualifying procedure. They'll have the hybrid unit at their disposal for both of those, and then in warmup and the race they'll have the Push-to-Pass.

Q. With the rules, I have not seen a copy of the updated rule book yet myself. Obviously the drivers get four engines per season, and that's kind of written into the rules. Is there any sort of number on the hybrid, or how have you governed for that in the rules, the usage of it, and if a driver has a problem with the hybrid, how does that work in terms of the rules? Is it similar to the engine format or is there not a number placed on that?

JAY FRYE: There's not really a number at this point. It's more we talked about not having penalties, like red penalties for engine changes. We won't have those for hybrid units, certainly this season.

The rules should be posted this afternoon yet. Again, we have been working on those for a while, but teams are aware of what's going on. It's just where they're formalized in writing, those will go out this afternoon.

Q. Jay, you've got two manufacturers here, Chevrolet and Honda, both committed to going fully electric over the next 10, 15 years. Why not go fully electric now with INDYCAR like Formula E and make this a test bed for fully electric Chevys and Hondas?

JAY FRYE: It's really -- each series has their own identity, their own niche of what they do, that type of thing. INDYCAR, we certainly have no aspirations of being a fully electric series. We're fast, loud and authentic, that type of thing.

This is an enhancement to our overall program. This is something that is very relevant as was mentioned earlier in street cars and in passenger cars. We think the hybrid program is the way to go into the future. We're very comfortable with where we're at right now. We're very comfortable where we're going to be the next couple, two, three years, and then we'll see what the future looks like beyond that.

I certainly don't see INDYCAR becoming a full EV series.

Q. Why is that? Is it concerns about range? Is it concerns about the emotion of the sound of 32 cars coming to the green flag at the Indy 500? Why is INDYCAR not an EV series?

JAY FRYE: Like I mentioned, there is a series that does that, and they do a great job of that. Each of the international and national touring series do a little bit different things. We, again, with our partners at Honda and Chevrolet, feel really good about the hybrid and we feel really good about the future of the hybrid.

I think there's been a lot of talk about that here recently. We're very comfortable with the direction we're going.

Q. Could I ask Mark and Wayne to both weigh in on that, how you see this hybrid unit benefiting you guys from a marketing and technological point of view?

MARK STIELOW: Yeah, our OE strategy, we're definitely getting some hybrid cars. I drove an E-Ray for a while, one of our electric front axle Corvette for a while, and it was a great experience. You get to play with a little bit of the ICE and the EV together, so it's not exactly the same as this, but it's a good opportunity for us to add a different element into the series, give another little bit more for the competition, and it also ties back into our production side, where hybrids are kind of the bridge gap between full ICE and full electric.

We're definitely going to keep adding more of those to our portfolio, and we're learning more about it on the racing side, and we also have another Acura and Chevy -- and Cadillac have hybrids in the LMDH cars, also, so we have some experience with some hybridization in racing already, so there's some ties together for this.

WAYNE GROSS: Yeah, quite similar from our side. I think the hybrid is that bridge in electrification to where we're maybe in the future 10, 15 years out, but Honda has been pretty heavily into the hybrids for a few years now with CRV and Accord and now the Civic.

It's kind of to Jay's point, kind of the DNA of INDYCAR is you get that visceral experience of the noise and the sound and that experience at the racetrack that fans love and enjoy, and I think we all do. So it's how do you add that electrification and the performance that comes from the hybrid coupled with the ICE package that we've had for years.

Yeah, just ties back into what we're doing on the production car side, and it's just a very good package we feel.

Q. For a layman, can you explain the difference between the hybrid unit in the IMSA sports cars and the hybrid unit in the INDYCAR?

WAYNE GROSS: The biggest difference is probably the energy storage. So the LMDH cars, a large battery pack sits next to the driver inside the passenger seat, so it's a very large, fairly heavy battery. The package unit kind of how we wanted the use case for INDYCAR, we've gone with a super capacitor ESS, which sits in the bell housing behind the engine in front of the gearbox and then allows us to very quickly kind of charge and deploy that energy. So we can charge the full pack in half a dozen seconds and deploy it in four and a half, five seconds, so it just really adds the Push-to-Pass factor, the quick deployment factor, the packaging and the lightweight within the INDYCAR.

So kind of a similar means for it but just a different kind of technology and packaging deployment for INDYCAR.

Q. One is 48 volt and one is 800 volt, right? So you don't have this high voltage issue like you do with the GTP cars?

WAYNE GROSS: Right, it's an inherently safe package because a lot of voltage at 48, 60 volt maximum on the system, where LMDH you have 700 and 800 volts. So there's a lot of PPE and safety requirements on the IMSA side which we've learned to deal with the past couple years, where in INDYCAR, again, it's inherently safe which works well with the oval racing and getting people used to it and familiar with it in the paddock and just how we'll apply it for this series.

Q. Do you guys expect any fuel savings from this unit?

JAY FRYE: This would be a better question for Wayne and Mark, but yes, absolutely.

Q. So it's not just a performance play? You're also seeing this is going to help in terms of fuel economy? There's going to be an element to that?

MARK STIELOW: Yeah, there's an energy recovery system, so you're taking some of the energy that would be thrown away to brake heat and being able to use that for propulsion.

As we start racing this thing in anger and we learn more about it, I'm sure Honda and on my side we'll be going through a lot of driving simulator optimizations on how we can best use this for performance and fuel economy gain.

In these first few races we don't know what we don't know, so I think we're going to be using it in anger, and once we kind of -- I think Sunday afternoon we'll all be standing around going, wow, I didn't expect that, but it's classic it'll be some engineering learnings and we'll -- as the season goes on, we'll learn a lot more about it and then we'll probably have a much stronger and more refined package for next season.

Q. Can you please just talk a bit about the journey that you've been on and maybe some of the obstacles since testing commenced last August kind of to reach this stage now where it's reliable and the hybrid is ready to make its competitive debut?

WAYNE GROSS: It's been a lot. There's been a lot of testing, a lot of track testing, a lot of running on dynos and test rigs. Very early on we were up against some reliability and just supply chain issues, just getting parts in our hands, but we're definitely on top of that and ready to go racing.

But I think we were testing at different tracks, spent a lot of time in Florida, spent way too many days in Homestead I feel like and some days in Sebring, and yeah, every weekend heading south.

But just started off with off with one car (indiscernible) Ganassi on our side and Penske on the Chevy side and then brought Andretti and McLaren into the fold, just trying to get more drivers and more cars testing, and then earlier this year getting it in all the teams' hands.

It was just (indiscernible) and all these things you start developing early on, you come into teething problems, and it's part of really the kind of exciting thing from an engineering standpoint is you find issues, you go and solve them, you come back to the racetrack, you fix them, and that's the cool thing about racing is that that kind of quick reaction development, validation kind of cycle that really pushes us forward and drives us forward. It's good for the engineers, it's good for us, it's good for the competition, it's good for the teams, something new.

I think when we stood there and we watched the INDYCAR with a push button for the first time it was -- it sounds simple, but it was hard to get there and a very cool thing to be a part of. It's that stuff that we're really pushing forward, and it's just an exciting thing to be a part of.

It's been a quick journey, but it feels like we've done four years' worth of work in 18 months. But it's been very fun to be a part of.

Q. Kind of a follow-up to that, obviously some people

 . . . when all is said, we're done.®

have commented on the imbalance in testing between certain teams over the course of the last year or so. Why was it important to take that decision to initially start with teams like Penske and Ganassi before phasing in other teams to the test program?

WAYNE GROSS: I think it comes down to resources really. To be honest, it's just what teams have the most, say, people and experience and resources to help support it. It's a lot -- go back to those initial kind of teething problems. It's running around all day long every day. It's a lot of extra workload on people and building cars and limited parts and scheduling issues. It's teams that have the people that can rotate in staff and support it that way. It's drivers with the most experience and kind of the most -- you have an opportunity to use a Scott Dixon or a Will Power, people that have been driving cars 10 or 12 years at a very high level, that's the experience you want into this.

It's not to take away from the other teams, it's just you have to go with the resources that best support it and that's just kind of where you're at, and as it opens up you bring other teams into the fold and get them involved.

But we were inviting engineers from all the teams, debriefing with the different teams, sharing some data here and there what was going on and giving that feedback back. It's not like they were completely cut out; it's just you've got to go where the resources best support it.

Q. Jay, are there any concerns with the hybrid coming in mid season, and can you give a quick overview on why the decision was taken to introduce the hybrid now as opposed to waiting until the start of next season?

JAY FRYE: Well, we thought this was kind of a natural break in the season launching it at Mid-Ohio. We certainly wanted to be 100 percent ready, like we mentioned, so we feel really good about where we're at. We feel really good about the technology, the performance, the supply, all of that.

This is as good a time to do it as any. We've been, again, testing it a lot. We've been running a lot. We're really excited to see this thing launch this weekend.

Q. How important was it to see Honda and Chevy come together when they are usually fierce rivals on the track? How important was that collaboration to reaching this stage now?

JAY FRYE: Yeah, so when we mentioned we really put this together in November of 2022, Chevrolet and Honda

are great partners at everything they do. Everything they do with us is amazing. We had these weekly meetings about just engine stuff. We had weekly meetings about all kinds of different things, so this was a whole other element to what we currently already do or what they already currently do, but this was a unique one because this was actually them working on something together.

When they both agreed to do it, we could not be more excited about that because we knew -- we thought we had a really good idea with the technology when we put in the bell housing and it was going to work, but we knew they would be able to help us make it raceable, so that was a huge part of this whole program. How do you make it raceable, how do you service it at the track, how do you build those different kind of things. So they're the experts at that, and again, like I mentioned, we couldn't be more excited to get it launched this weekend.

Q. Jay, obviously there's been a lot of moving parts with this process, and it was originally announced a very long time ago and there's been some delays, some changes along the way. I'm curious what your emotions are now that we're finally here, now that the goal posts have kind of stopped moving, so to speak.

JAY FRYE: Well, really, as I kind of just mentioned, we really felt really good about the program in November of 2022. Again, we've got two phenomenal partners that know how to get things done, and they went into this with great enthusiasm.

Like was mentioned, the program was split. They worked on different elements of the hybrid unit. Come together -- again, we had these weekly -- we had this timeline, this diary of how it's all went since then basically, and it's really amazing the amount of work that's went into this, the amount of things that have been done. Again, there's other partners, too, involved. Like I mentioned, Dallara, Extract, Skeleton, Empel, a lot of people involved in this, so it's really exciting to get to where we got to.

And again, like I mentioned, it seems like a long time, but really it was just 18 months ago since Honda and Chevrolet got involved, took this thing over with the intention of getting it over the top, making it raceable, making it interesting, giving the drivers a different tool, that type of thing.

It's going to be a great weekend.

Q. I know a lot of this the selling point is there's a lot of room for growth within this power plan, within this hybrid unit. What do you view as the trajectory as we get finished with this year, go into the next few years?



Where do you see that growth? Is it a horsepower percentage? Where do you see this needle moving upward?

JAY FRYE: Yeah, well, like was mentioned earlier, it's around 60 horsepower now. It has the potential to get up more in the 150-ish range, I guess, so there will be a natural progression over the next couple years to get it more towards that, I guess would be the best way to look at it.

There could even be a certain point where it completely replaces Push-to-Pass, where it gets to a certain point where it's a big enough, robust enough system that we would just have the hybrid system and eliminate Push-to-Pass.

Q. Wayne, I want to make sure I have this correct because in the paperwork in the press release, it said 20 super capacitors. I know in the HRC episodic series that you did, talking about this, it said 21 super capacitors is what David Salters ended up saying. I know it's like a small detail, but I was just curious to get that correct on if it's 20 or 21.

WAYNE GROSS: Yeah, 20 is what my paperwork says, as well, so let's go with 20.

Q. Mark and Wayne, you guys are obviously competitors on the track, but you had to work together to do this. How unique was that, and how hard was it to sort of balance that competition with also wanting to keep some privacy or some of your secrets to yourselves?

MARK STIELOW: Well, some of it was invention on the critical path. A lot of this hasn't been done before, so that part of it, you're trying to get a very small package -- we had a lot of clear criteria. We wanted a through shaft, we wanted a small MGU, all that stuff, and that stuff had to be produced.

So yeah, we're fierce competitors, but the Honda has really good engineers. They're a really smart group of individuals over there. We have some smart people on our side, also, so it was fun to collaborate and work back and forth. Yes, there was definitely some tense moments, but everybody stayed positive and we pushed through it.

WAYNE GROSS: I think it's really just at the end of the day what's best for the series, what's best for all of us, the collective whole, and that's a big part of it and what helps us go back to the people that fund this at American Honda to what's important to them with the hybrid and that kind of thing.

Yeah, it's what's good for the whole and what's good for the series and what's good for the racing and the product on the track for the fans and the fan base.

For the most part, we were aligned on most things. There's things that might be unique to our installation or the Chevy engine with just different -- say vibration spectrum, that we'll find as we go along and that kind of stuff, but I think at this point it's just getting a product on track and getting it reliable and getting it in all the cars and then obviously as we go forward and start using it in different ways, we might start to get a bit more competitive on things, but for right now it's how do we get the product on track and all the cars and go racing at Mid-Ohio this weekend.

Q. Jay, there's going to be no limit to how much they can use this hybrid unit on a per-lap basis, per-race basis, anything like that?

JAY FRYE: Yes. But Push-to-Pass has a finite number, 150 or 200 -- no, the hybrid will not be restricted to that. It'll be use it as much as you can deploy it and regenerate it.

Q. Jay, will there be an indicator on the car anyplace where fans at the racetrack will be able to see who's using the hybrid, who isn't? Those little flashing lights or anything like that?

JAY FRYE: Well, right now it'll be on the INDYCAR app. You'll be able to monitor it, and it'll be on the NBC broadcast. They'll have graphics that show who's using it and who's regenerating it.

Q. If you have problems with the hybrid unit during the race, how much will that affect the performance do you think overall, because you'll still have access to Push-to-Pass, if in fact that's still working? How much do you anticipate that being a problem if someone has a problem with the hybrid during the race?

JAY FRYE: I think it matters the magnitude of the problem, but Wayne and Mark could probably answer that better.

WAYNE GROSS: I think it just adds to the magnitude of the problem. Like all the stuff on the car and the engine, all the telemetry we're monitoring, our engineers, some INDYCAR engineers will be monitoring telemetry, and there will be stuff on the dash for the driver to monitor as far as state of charging and those kind of regeneration levels, et cetera, so it really comes down to what the problem is. We've been racing this current spec engine for 12 seasons now, 13 seasons now, and we still have issues with that. It just depends on what it is and if we can work

through it.

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There's switches and things we can default out and tune around and work around, but I think, yeah, Mid-Ohio will be the first race we're going into it with a bit of unknown. We've done a lot of testing, but it is a race with 27 cars and we'll see what happens. But we're pretty confident and pretty excited for it, and we'll work through it.

Q. Mark, will it cause a drag on the system? Of course it depend on what happens to it, I know, but is there a way to in essence get rid of it out of your system if you have problems with it from a driver standpoint?

MARK STIELOW: Hopefully it just fails inertly and it's not a drag. Right now the hybrid adds enough performance to kind of offset the weight, so if it's not working functionally, I think that car could be at a disadvantage in my opinion.

It definitely is a way to help the cars go faster, so if it's not working properly, I think the driver will be at a disadvantage.

Q. Jay, you mentioned at some point this system might replace Push-to-Pass. There's been some comment along this process from folks like Michael Andretti, that he thinks that IMSA and INDYCAR could share their power units. Question for both Wayne and Mark. Does this system share anything with the IMSA hybrid system?

MARK STIELOW: Nothing to my knowledge. They're totally different systems, architected way differently. Nothing in my program is shared between the two of them.

WAYNE GROSS: Yeah, I'd echo that. There's nothing hardware-wise that's shared. Some of the things we've learned over the years with the LMDH, just from an engineering kind of approach is we can share, but the hardware is all unique to this application.

Q. Jay, Push-to-Pass is still a completely separate system from the hybrid system, right?

JAY FRYE: Yes, 100 percent. Like I said earlier, I'm not saying it will, but at some point at some day where the hybrid becomes so robust, but right now it's pretty cool; when you use them both, you have 120 horsepower. That's amazing.

It's really an enhancement to what we're currently doing with the Push-to-Pass and the hybrid system, so we've always talked about more power, more power, so we're going to have more power at Mid-Ohio.