

# What is 'porpoising'? Formula 1 drivers face aerodynamic phenomenon ahead of Miami Grand Prix

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Three months ago, George Russell had never heard of the term "porpoising."

He's become a lot more familiar with the term and its effects since.

"Now it's the only thing we're talking about," the Mercedes Formula 1

driver told U.S. TODAY Sports.

Each [season](#), Formula 1 institutes new rules and regulations for how cars can be constructed, with the goal of eliminating "dirty air" so drivers can race closer to one another. This year's stipulations have resulted in a ground effect that causes the bottom of the car to make contact with the track.

With a combination of up and down forces at play, airflow beneath the car is the cause.

"And these tunnels are so big, it's creating so much suction to the ground, it sucks the car to the ground and when it hits the ground it causes a reaction," Russell explained. "And that reaction is bouncing the car back up and you hit suction again, you bounce it down, you hit the ground..."

Up and down, up and down. Kind of like a dolphin—or a porpoise. Thus, the term "porpoising" was born.

Russell said a consequence of the phenomenon is drivers feel every smack of the ground and it can wear on them throughout a race.

Some [teams](#) have figured out ways to minimize porpoising. Others, like Mercedes, are still figuring it out and hoping to find a [solution](#) in Miami—sacrificing grip at the corners and turns since the car is not low to the track.

"And you just go slow," Russell said. "So that's the limitation that we're in at the moment and we need to find a solution to get the car as low as possible to the ground."

Just not low enough to "porpoise."

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