USER MANUAL

PORSCHE 963 GTP

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DEAR iRACING USER,

Congratulations on your purchase of the Porsche 963 GTP! From all of us at iRacing, we appreciate your support and your commitment to our product. We aim to deliver the ultimate sim racing experience, and we hope that you'll find plenty of excitement with us behind the wheel of your new car!

The following guide explains how to get the most out of your new car, from how to adjust its settings off of the track to what you'll see inside of the cockpit while driving. We hope that you'll find it useful in getting up to speed.

Thanks again for your purchase, and we'll see you on the track!

CHASSIS

DOUBLE WISHBONE WITH PUSHROD-ACTUATED INBOARD SPRINGS

LENGTH	WIDTH	WHEELBASE	DRY WEIGHT	WET WEIGHT WITH DRIVER
5100 mm	2000 mm	3148 mm	1030 kg	1187 kg
200.8 in	78.7 in	124 in	2271 lbs	2616 lbs

POWER UNIT

TWIN-TURBO V8 WITH BOSCH MGU HYBRID SYSTEM

DISPLACEMENT	RPM LIMIT	TORQUE	POWER
4.6 Liters	8158 RPM	497 lb-ft	671 bhp
280.3 CID		673 Nm	500 kW

INTRODUCTION

The information found in this guide is intended to provide a deeper understanding of the chassis setup adjustments available in the garage, so that you may use the garage to tune the chassis setup to your preference.

Before diving into chassis adjustments, though, it is best to become familiar with the car and track. To that end, we have provided baseline setups for each track commonly raced by these cars. To access the baseline setups, simply open the Garage, click iRacing Setups, and select the appropriate setup for your track of choice. If you are driving a track for which a dedicated baseline setup is not included, you may select a setup for a similar track to use as your baseline.

After you have selected an appropriate setup, get on track and focus on making smooth and consistent laps, identifying the proper racing line and experiencing tire wear and handling trends over a number of laps.

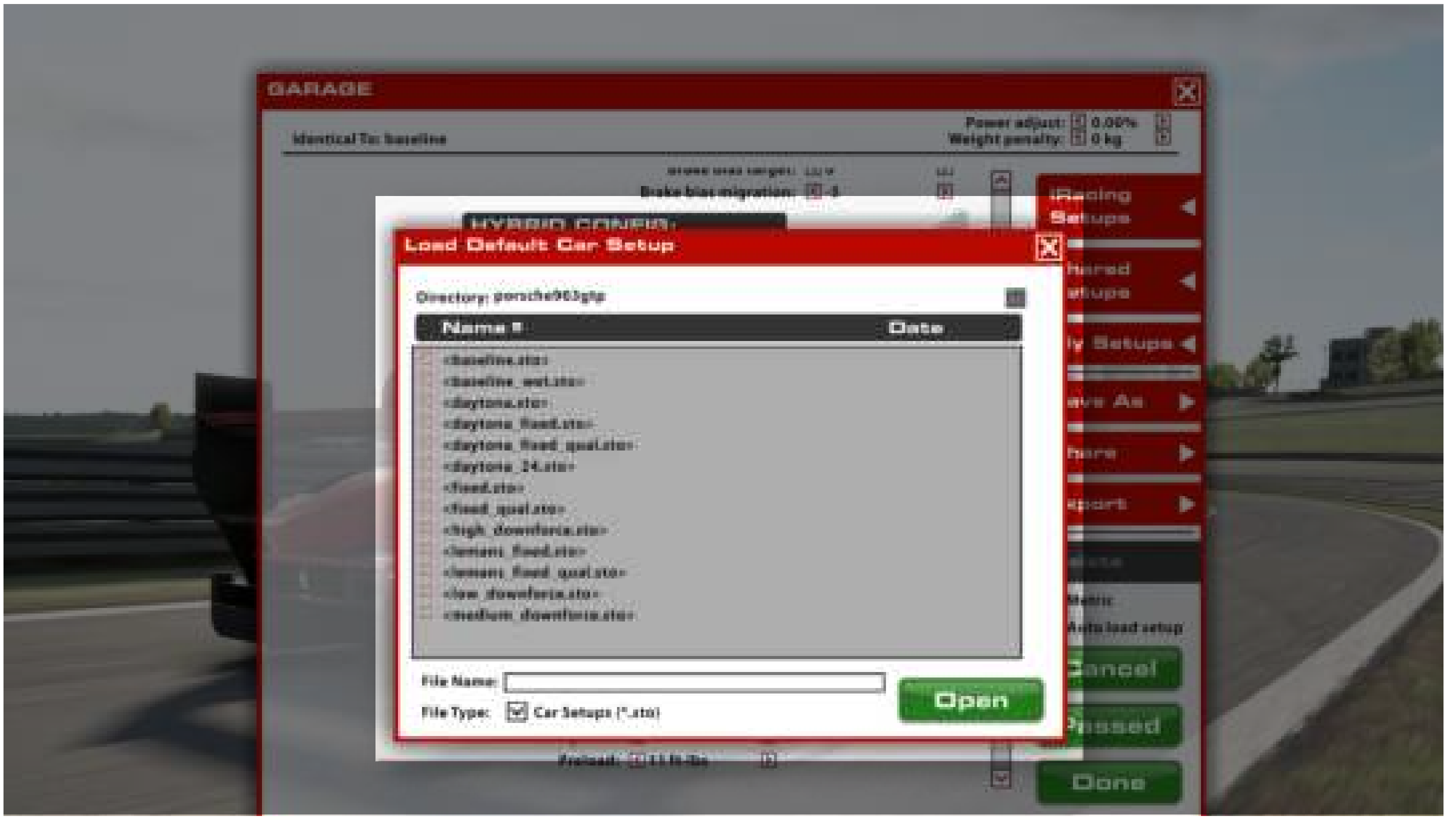
Once you are confident that you are nearing your driving potential with the included baseline setups, read on to begin tuning the car to your handling preferences.

GETTING STARTED

Before starting the car, it is recommended to map controls for Brake Bias, Traction Control and ABS adjustments. While this is not mandatory to drive the car, this will allow you to make quick changes to the driver aid systems to suit your driving style while out on the track.

Once you load into the car, getting started is as easy as selecting the "upshift" button to put it into gear, and hitting the accelerator pedal. This car uses a sequential transmission and does not require a clutch input to shift up or down. However, the car's downshift protection will not allow you to downshift if it feels you are traveling too fast for the gear selected and would incur engine damage. In these situations the downshift command will simply be ignored. Upshifting is recommended when all of the shift lights on the steering wheel have changed to blue.

LOADING AN iRACING SETUP



Upon loading into a session, the car will automatically load the iRacing Baseline setup [baseline.sto]. If you would prefer one of iRacing's pre-built setups that suit various conditions, you may load it by clicking Garage > iRacing Setups > and then selecting the setup to suit your needs.

If you would like to customize the setup, simply make the changes in the garage that you would like to update and click apply. If you would like to save your setup for future use click "Save As" on the right to name and save the changes.

To access all of your personally saved setups, click "My Setups" on the right side of the garage. If you would like to share a setup with another driver or everyone in a session, you can select "Share" on the right side of the garage to do so.

If a driver is trying to share a setup with you, you will find it under "Shared Setups" on the right side of the garage as well.

DASH CONFIGURATION

The Porsche 963's main display is integrated into the steering wheel, displaying all information on a single page to the driver.

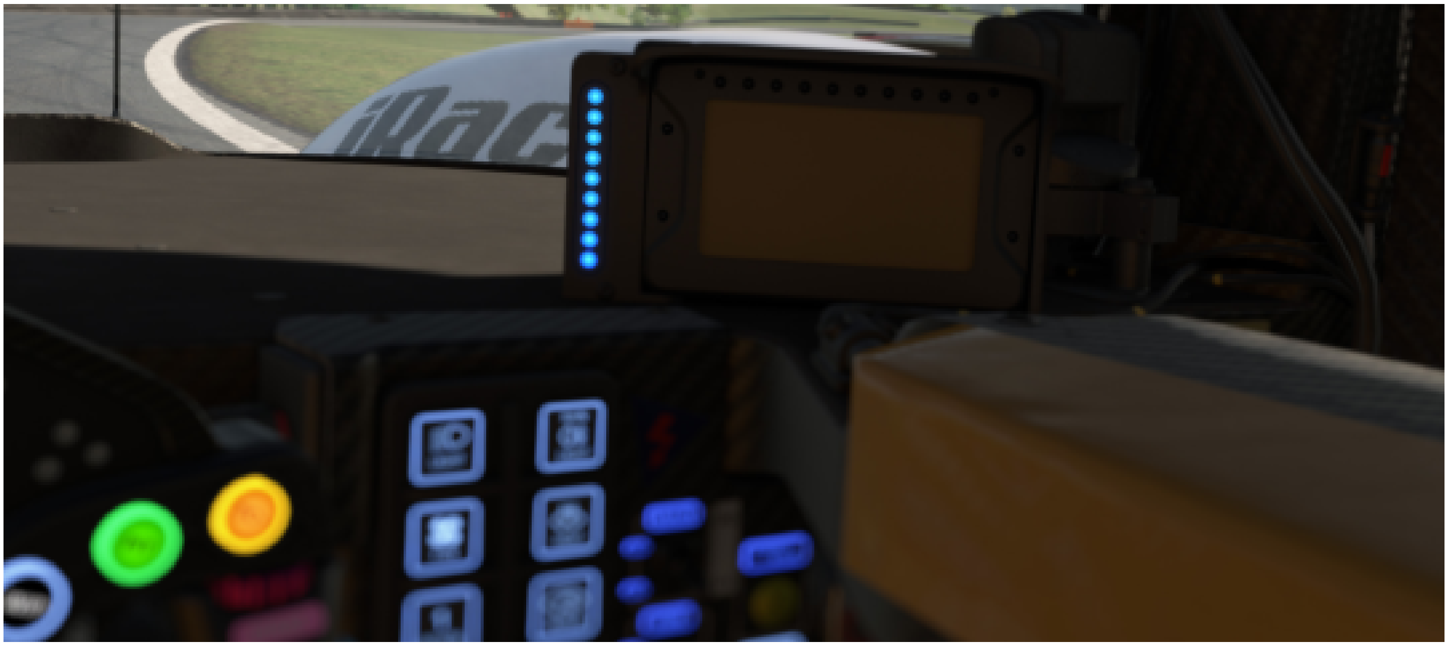
Left Column	
Fuel Target Bar	The far left of the display has a graphical representation of fuel usage compared to the current fuel Target. If the previously completed lap used less fuel than the target, this bar will show in green. If the previously completed lap used more fuel than the target, the bar will be red. The distance from the center represents how much fuel was used or saved, with the top and bottom representing 1 Liter over the target and 1 Liter under the target, respectively.
ERS	The currently selected Energy Recovery System mode is in the upper left green box. Each number is tied to a mode: 1 = No Deploy, 2 = Qual, 3 = Attack, 4 = Balanced, 5 = Build
TCLO	Setting for the Traction Control's Slip parameter
Lap	Current lap number
AR-F	Front Anti Roll Bar setting
Bias	Brake Bias Target setting
Mig	Brake Bias Migration setting
MIG	Brake Bias Migration setting
Target	The Brake Bias Target, or offset setting
	The following settings are within the FUEL box in the lower left:
Target	The amount of fuel expected to be used per lap. This is set in the garage.
Delta	The amount of fuel that was used relative to the Target value. Negative is fuel saved, positive is excess fuel used.
Fuel	Amount of fuel in the fuel tank. Units dependent on the units selected for the garage.
Laps	Estimated number of laps remaining before the fuel tank is empty.

Center Column	
Speed	The vehicle's speed is shown in the top of the display at the center with units dependent on the garage selection
Gear	Currently selected gear is shown in the center of the display
ERS Mode	Below the gear display is the active ERS deploy mode
	The following settings are within the yellow Tire box in the center:
Tire Temperature	Surface temps for each tire are shown in the outer corners of the tire info box
Tire Pressures	Tire pressures (units based on garage) are shown in the center

Right Column	
State of Charge Bar	A bar on the far right displays the current ERS Battery State of Charge (SoC). Color-coded sections are used to quickly show a full SoC (red), a low SoC (green), and a yellow section for a mid-level SoC.
AR-R	Rear Anti Roll Bar setting
Tyre	Inoperable
TCLA	Setting for the Traction Control's Gain parameter
Strat	Inoperable
Pred	The predicted lap time, updated live
Split	Split time, relative to the best time of the session, is shown underneath the predicted lap time.
Brake Temps	The current brake temperatures (units determined by garage) are shown in the lower right.
Low Fuel Warning	At low fuel levels the right side of the display will show this large red overlay with a low fuel message as well as a value showing the amount of fuel remaining. This can be cleared by pressing and holding the button assigned to **Low Fuel Accept** for two seconds

WHEELSPIN / BRAKE LOCK INDICATOR LIGHTS

A pair of LED clusters on either side of the cockpit can illuminate in various colors to convey wheel lockup and traction control activation.

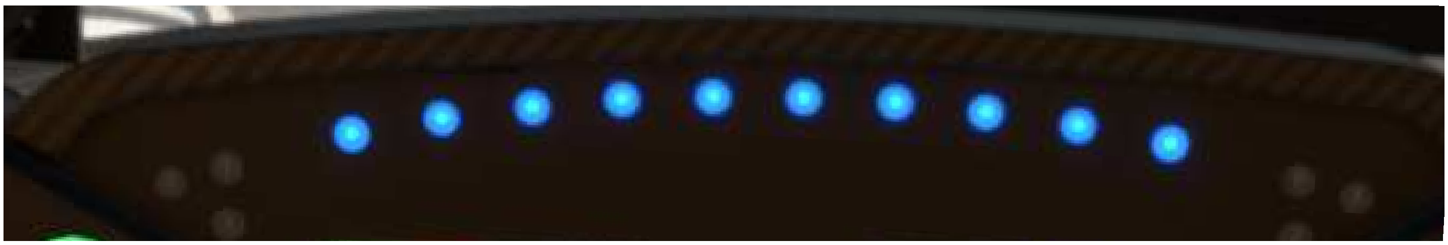


Traction Control Activation	If the Traction Control system activates to reduce wheelspin both LED clusters will flash in blue

Brake Lockup	If a wheel begins locking under braking the lights will illuminate to indicate which wheel is locking up. The cluster on the left represents the left side tires with the purple lights for the LF and the amber lights for the LR. The right cluster represents the right-side wheels in the same way. The severity of the lockup is represented by how many lights are illuminated, with 1 light being a mild lockup and 4 lights representing a near-full lockup.

SHIFT LIGHTS

The LEDs above the steering wheel's display are used to provide an indication to the driver of when to shift to the next gear. As RPM increases, the LEDs will illuminate from the outside to the inside from green to red. More lights will illuminate as the optimum shift point is approaching.



When the optimum shift point is reached, all the shift lights will flash in blue.

PIT LIMITER

A pair of LED clusters on either side of the cockpit can illuminate in various colors to convey wheel lockup and traction When the pit limiter is activated the main display will have a red or green overlay over the top half of the screen displaying the current gear and the current vehicle speed. The display and the side LED clusters will appear different depending on where the car is in relation to pit road and the current speed.

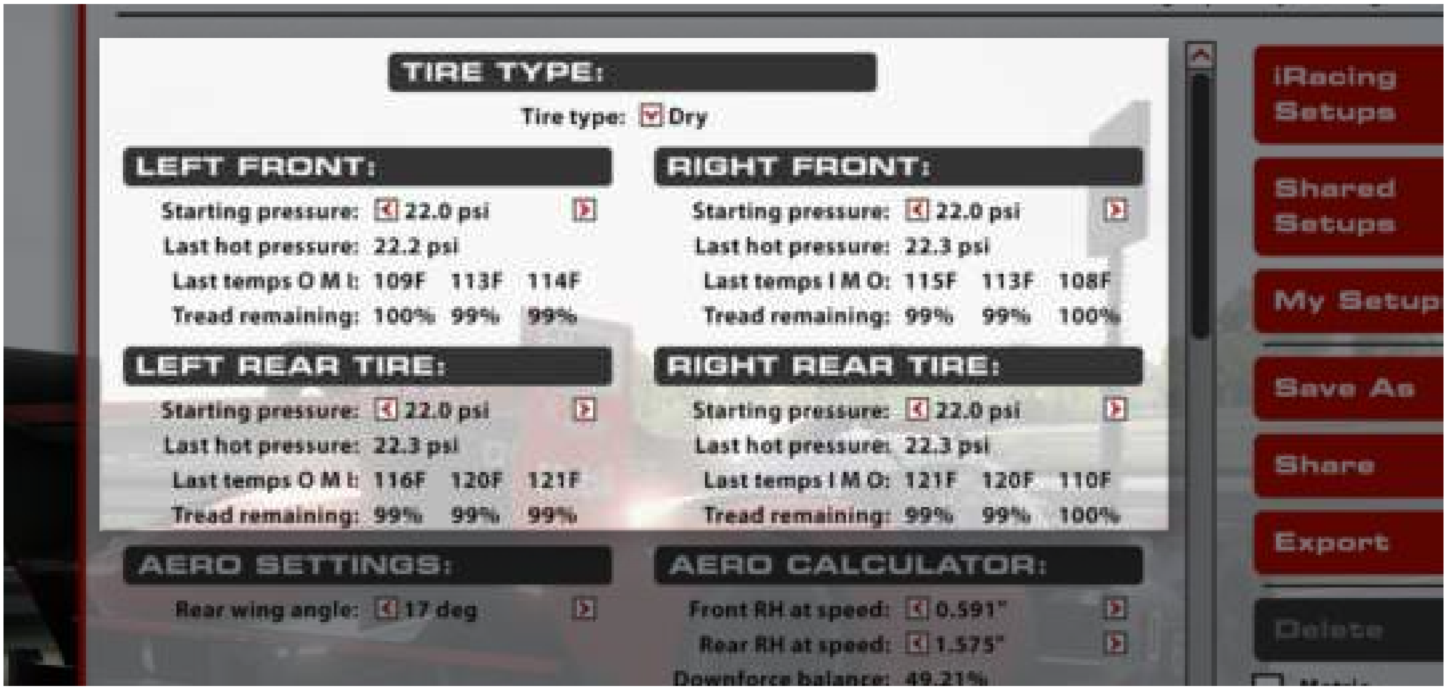
Approaching Pits	If the limiter is activated before the entry to pit road and the speed is above the pit road speed limit for the track the display banner and the side clusters will appear red. The side clusters will illuminate more lights the farther the current vehicle speed is above the pit road speed, with a full set of lights indicating the vehicle's speed is very high. As speed decreases and approaches pit road speed lights will begin to turn off, from the bottom to the top, until pit road speed is reached.
Correct Speed	Once the correct pit road speed is achieved, the side clusters will illuminate fully in green and the display banner will change from red to green.

ADVANCED SETUP OPTIONS

This section is aimed toward more advanced users who want to dive deeper into the different aspects of the vehicle's setup. Making adjustments to the following parameters is not required and can lead to significant changes in the way a vehicle handles. It is recommended that any adjustments are made in an incremental fashion and only singular variables are adjusted before testing changes.

TIRES & AERO

TIRE DATA



TIRE TYPE

Selects which type of tire is installed on the car when loaded into the world. Dry, or slick, tires are used for dry racing conditions while Wet tires are intended for raining and wet track conditions.

STARTING PRESSURE

The air pressure in the tires when the car is loaded into the world. Lower pressures will provide more grip but will produce more rolling drag and build temperature faster. Higher pressures will feel slightly more responsive and produce less rolling drag, but will result in less grip. Generally, higher pressures are preferred at tracks where speeds are higher while lower pressures work better at slower tracks where mechanical grip is important.

LAST HOT PRESSURE

When the car returns to the garage after an on-track stint, the tire pressure will be displayed as Hot Pressure. The difference between cold and hot pressure is a good way to see how tires are being loaded and worked while on track. Tires seeing more work will build more pressure, and paying attention to which tires are building more pressure and adjusting cold pressure to compensate can be crucial for optimizing tire performance.

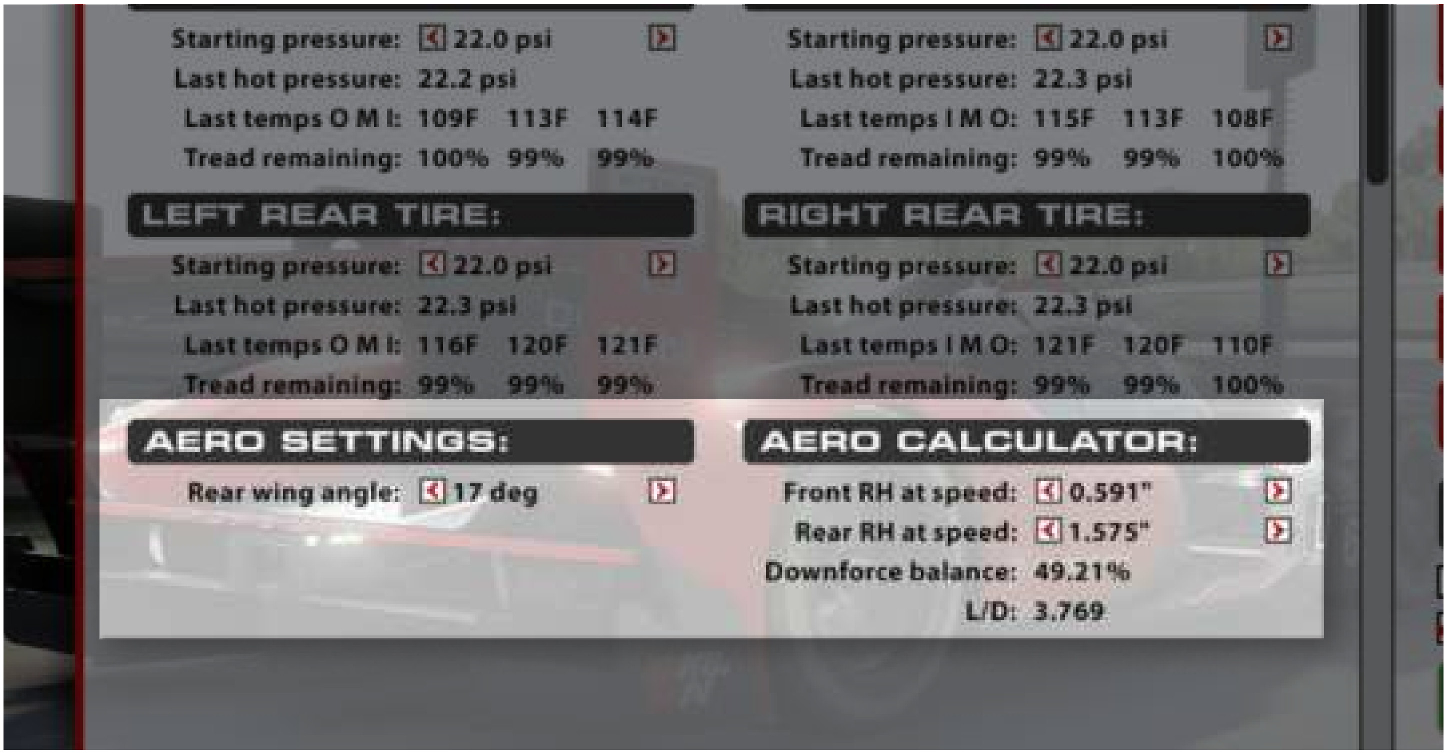
LAST TEMPS

The tire carcass temperatures (measured within the tread) are displayed after the car returns from the track. These temperatures are an effective way to determine how much work or load a given tire is experiencing while on track. Differences between the inner and outer temperatures can be used to tune individual wheel alignment and the center temperatures can be compared to the outer temperatures to help tune tire pressure.

TREAD REMAINING

The amount of tread on the tire, displayed as a percentage of a new tire, is shown below the tire temperatures. These values are good for determining how far a set of tires can go before needing to be replaced, but don't necessarily indicate an under- or over-worked tire in the same way temperatures will.

AERO SETTINGS



REAR WING ANGLE

The rear wing angle setting changes the Angle of Attack of the wing elements. Increasing wing angle increases the downforce generated by the wing but increases drag, while decreasing the wing angle reduces the downforce generated by the wing while reducing drag. Rear wing angle has a heavy influence on rear downforce, having a heavy influence on rear-end grip in mid- to high-speed corners.

AERO CALCULATOR

The Aero Calculator is a tool used to display the car's approximate aerodynamic values in a given configuration. Changes to the car's aerodynamic settings will be reflected in the Aero Calculator, giving an idea of how the car will behave aerodynamically while on the race track. This calculator can also be used to determine what changes need to be made to the car to alleviate aerodynamically-induced handling issues.

DOWNFORCE BALANCE

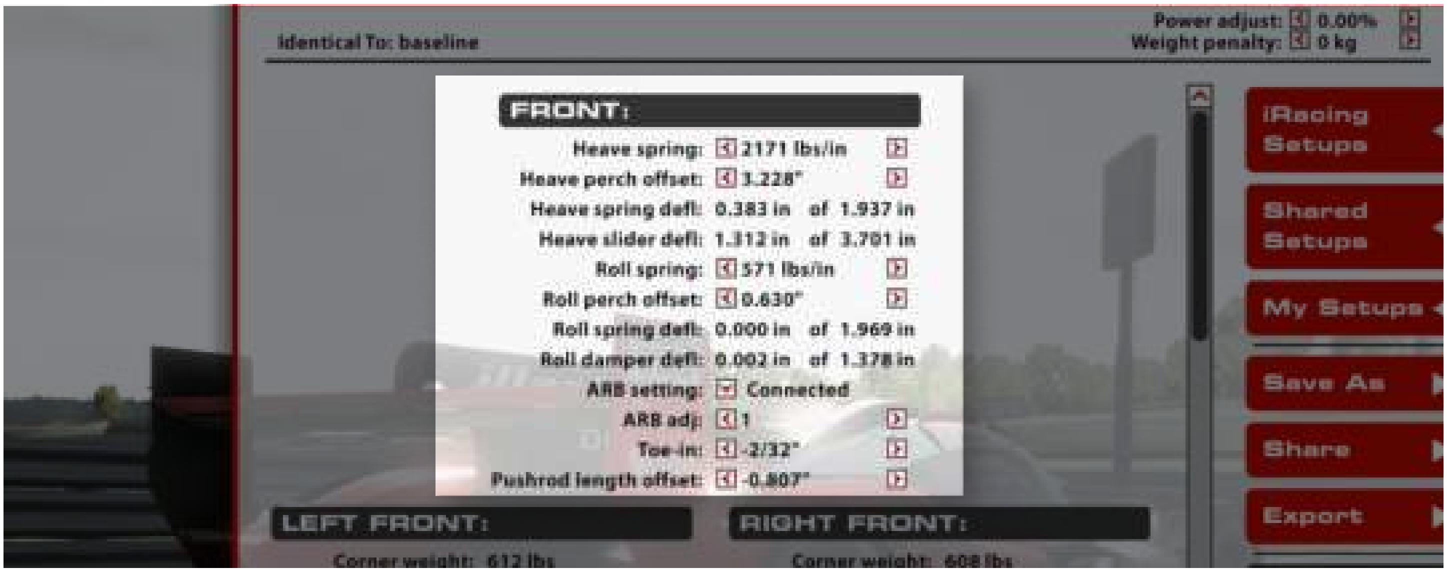
Displayed in percent of Front downforce, this value shows how much of the car's total downforce is over the front axle. A higher percentage value indicates more front downforce, increasing oversteer in mid- to high-speed corners and a lower percentage value indicates more rear downforce, increasing understeer in mid- to high-speed corners.

L/D

The "L/D" value is the ratio of Lift (downforce) to Drag. This quantifies how efficiently the car's bodywork is producing downforce in terms of how much drag is being produced as a result. A higher L/D value means more downforce is being produced for each unit of drag, meaning the bodywork is being more efficient. Having a higher L/D value without sacrificing overall downforce will result in a faster, more efficient car. Optimum values for L/D can vary based on the aerodynamic configuration and track type.

CHASSIS

FRONT



HEAVE SPRING

The front Heave Spring is a suspension element that handles external loads from purely vertical loads and doesn't control loads that would induce chassis roll when cornering. Generally these loads are present for increasing downforce loads at higher speeds, dips and crests in the track, or under heavy braking. Higher rate values will stiffen the suspension in heave, which is good for controlling ride heights to maintain a good aerodynamic platform, but can produce a bouncing effect on rough surfaces. Lower rates will absorb bumps and loads easier, but will hurt the aerodynamic platform due to excessive chassis movement.

HEAVE PERCH OFFSET

The Heave Perch Offset is used to adjust preload on the Heave Spring. This is one of two methods to adjust ride height through the front Heave element, with lower values preloading the spring more and raising front ride heights. Conversely, higher values will unload the spring and lower front ride heights.

HEAVE SPRING DEFLECTION

Heave Spring Deflection represents the amount the Heave Spring is compressed under static conditions. This is not directly adjustable but will change with adjustments to the Heave Perch Offset and front Torsion Bar settings.

HEAVE SLIDER DEFLECTION

The Slider Deflection is how far the slider mechanism the Heave Spring is mounted on has compressed from fully extended. Similar to a shock but without any damping forces produced, this doesn't influence the suspension's behavior.

ROLL SPRING

The Roll Spring is a device in the front suspension that counteracts roll movement but not vertical loading, similar to an Anti-Roll Bar. Changing the Roll Spring rate will alter the front suspension's stiffness in roll, with higher values increasing roll stiffness and lower values reducing roll stiffness. Higher roll stiffness will counteract chassis roll when cornering which can produce a more consistent aerodynamic platform, especially at high speeds, but can reduce mechanical grip across the front axle in slower corners. Lowering roll stiffness will increase mechanical grip at the front axle and reduce understeer in slow corners but can allow too much body roll in high-speed corners, hurting aero performance.

ROLL PERCH OFFSET

The Roll Perch Offset is used to adjust preload on the Roll Spring. This adjustment is used to remove pre-load from the Roll Spring following changes elsewhere on the chassis. Due to tech limits this cannot be used to alter ride heights and is mainly used to alter the Roll Spring Deflection value.

ROLL SPRING DEFLECTION

The Roll Spring Deflection is how much the Roll Spring has compressed from its free (unloaded) length. This is not directly adjustable, but is altered as a result of other front suspension adjustments, especially the Roll Perch Offset setting. In order to pass tech limits in the garage this value must be near-zero.

ROLL DAMPER DEFLECTION

This displays how much the Roll Damper is compressed from its fully-extended length while under static loads in the garage.

ARB SETTING

The ARB (Anti-Roll Bar) setting changes whether the ARB is connected or disconnected from the front suspension. Connecting the ARB will increase front roll stiffness, which can reduce mechanical grip and induce understeer, but it will allow for the ARB Adjustment (below) to be utilized by the driver. Disconnecting the ARB will increase grip across the front axle and reduce understeer, but will also disable the ARB Adjustment option for the driver.

ARB ADJUSTMENT

The configuration of the Anti-Roll Bar arms, or “blades”, can be changed to alter the overall stiffness of the ARB assembly. Higher values transfer more force through the arms to the ARB itself, increasing roll stiffness in the front suspension and inducing understeer. Conversely, lower values reduce the roll stiffness of the front suspension and reduce understeer or even promote oversteer in extreme cases. The front ARB Adjustment is available as an in-car adjustment via the F8 black box as the “FARB Setting”.

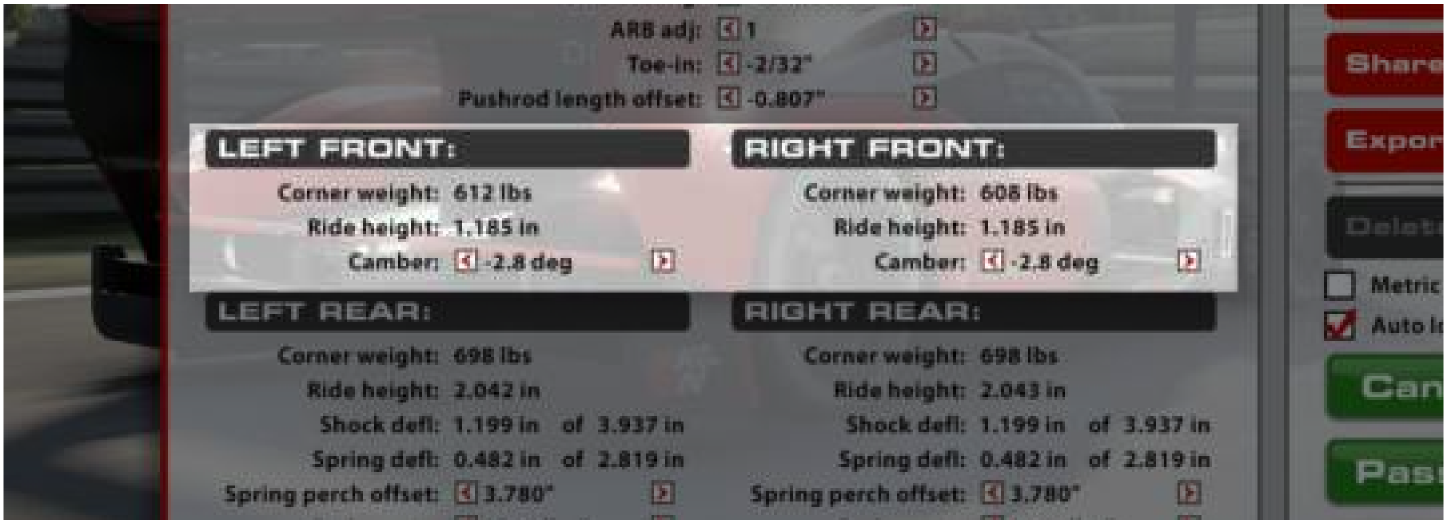
TOE-IN

Toe is the angle of the wheel, looking from vertical, relative to the chassis centerline. Toe-in is when the front of the wheels are closer to the centerline while Toe-out is when the front of the wheels are farther from the centerline than the rear of the tires. On the front end, Toe will alter how quickly the tires respond to steering inputs and influence how stable the car is in a straight line. Toe-out settings (negative garage value) will increase turn-in response and make the car less stable in a straight line, while Toe-in (positive garage value) will increase straight-line stability while making initial steering response more sluggish.

PUSHROD LENGTH OFFSET

This adjusts the length of both front suspension pushrods together, shown as an offset from a baseline length figure. This is a great way to adjust front ride height without altering the preload on the Heave Spring.

FRONT CORNERS



CORNER WEIGHT

The weight underneath each tire under static conditions in the garage. Correct weight arrangement around the car is crucial for optimizing a car for a given track and conditions. Individual wheel weight adjustments and crossweight adjustments are made via the Torsion Bar Turns setting on the front corners.

RIDE HEIGHT

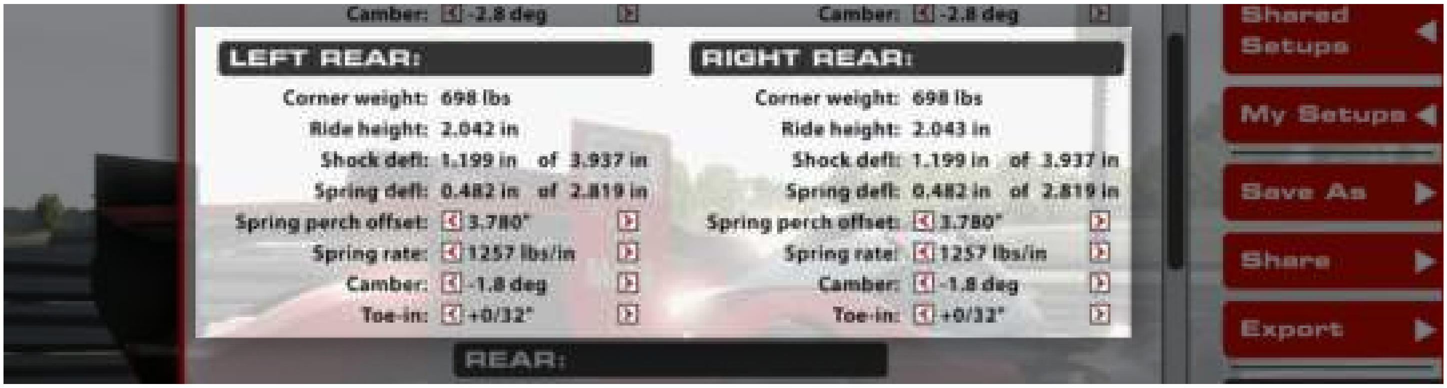
Distance from ground to the bottom of the center skid plank on the underside of the chassis. This setting is not directly adjustable and is changed via the front end settings (Heave spring and Pushrod offset). Adjusting Ride Heights is key for optimum performance, as they can directly influence the vehicle's aerodynamic performance as well as mechanical grip. Increasing the front ride height will decrease overall downforce and shift the aerodynamic balance rearward, but will decrease drag slightly. Conversely, reducing front ride height will increase downforce and shift aero balance forward while slightly increasing overall drag.

CAMBER

Camber is the vertical angle of the wheel relative to the center of the chassis. Negative camber is when the top of the wheel is closer to the chassis centerline than the bottom of the wheel, positive camber is when the top of the tire is farther out than the bottom. Due to suspension geometry and corner loads, negative camber is desired on all four wheels. Higher negative camber values will increase the cornering force generated by the tire, but will reduce the amount of longitudinal grip the tire will have under braking. Excessive camber values can produce very high cornering forces but will also significantly reduce tire life, so it is important to find a balance between life and performance.

CHASSIS

REAR CORNERS



CORNER WEIGHT

The weight underneath each tire under static conditions in the garage. Correct weight arrangement around the car is crucial for optimizing a car for a given track and conditions. Individual wheel weight adjustments and crossweight adjustments are made via the Spring Perch Offset setting.

RIDE HEIGHT

Distance from ground to a reference point on the chassis. Since these values are measured to a specific reference point on the car, these values may not necessarily reflect the vehicle's ground clearance, but instead provide a reliable value for the height of the car off of the race track at static values. Adjusting Ride Heights is key for optimum performance, as they can directly influence the vehicle's aerodynamic performance as well as mechanical grip. Raising the rear ride height will increase overall downforce and shift aero to the front of the car but will increase drag. Decreasing rear ride height will do the opposite, with aero shifting rearward and overall downforce and drag decreasing.

SHOCK DEFLECTION

Shock Deflection is how much the shock has compressed from its fully extended length while under static conditions in the garage. This is useful for determining how much shock travel is available before a bump stop is engaged on the shock.

SPRING DEFLECTION

Spring Deflection shows how much the spring has compressed from its unloaded length. This can be used to see spring preload under static conditions and compare it against other corners of the car, with higher values representing more preload on a given spring.

SPRING PERCH OFFSET

Used to adjust ride height and corner weight, adjusting this setting applies a preload to the spring under static conditions. Decreasing the value increases preload on the spring, adding weight to its corner and increasing the ride height at that corner. Increasing the value does the opposite, reducing height and weight on a given corner. These should be adjusted in pairs (left and right, for example) or with all four spring preload adjustments in the car to prevent crossweight changes while adjusting ride height.

SPRING RATE

Spring Rate changes how stiff the spring is, represented in a force per unit of displacement. Primarily responsible for maintaining ride height and aerodynamic attitude under changing wheel loads, stiffer springs will maintain the car's aero platform better while sacrificing mechanical grip. Softer springs will deal with bumps better and increase mechanical grip, but will cause the car's aerodynamic platform to suffer. Due to homologation rules, rear spring rates must be symmetrical across the rear axle and can only be changed in pairs.

CAMBER

Camber is the vertical angle of the wheel relative to the center of the chassis. Negative camber is when the top of the wheel is closer to the chassis centerline than the bottom of the wheel, positive camber is when the top of the tire is farther out than the bottom. Due to suspension geometry and corner loads, negative camber is desired on all four wheels. Higher negative camber values will increase the cornering force generated by the tire, but will reduce the amount of grip the tire will have under acceleration and braking.

TOE-IN

Toe is the angle of the wheel, when viewed from above, relative to the centerline of the chassis. Toe-in (positive value in the garage) is when the front of the wheel is closer to the centerline than the rear of the wheel, and Toe-out (negative value in the garage) is the opposite. On the rear end, adding toe-in will increase straight-line stability but may hurt how well the car changes direction.

REAR

THIRD SPRING

The Third Spring, similar to the front Heave Spring, is a spring element configured to provide resistance only in vertical suspension movement without affecting roll stiffness. This spring element is helpful with controlling increasing aerodynamic loads and maintaining the proper aerodynamic attitude around a circuit. Higher rates will stiffen the rear suspension in heave and maintain a more consistent chassis attitude through varying loads and speeds but can hurt rear mechanical grip. Lower rates will increase mechanical grip but can result in the rear bodywork moving excessively through changing loads and producing inconsistent aerodynamic performance.

THIRD PERCH OFFSET

The Third Perch Offset is used to adjust preload on the rear Third Spring. This will adjust ride height through the rear Third Spring element, with lower values preloading the spring more and raising rear ride heights. Conversely, higher values will unload the spring and lower rear ride heights.

THIRD SPRING DEFLECTION

Third Spring Deflection represents the amount the rear Third Spring is compressed under static conditions. This is not directly adjustable but will change with adjustments to the Third Perch Offset and rear Spring settings.

THIRD SLIDER DEFLECTION

The Slider Deflection is how far the slider mechanism the Third Spring is mounted on has compressed from fully extended. Similar to a shock but without any damping forces produced, this doesn't influence the suspension's behavior.

ARB SIZE

The ARB (Anti-Roll Bar) size alters the stiffness of the rear suspension in roll. Increasing the ARB size will increase the roll stiffness of the rear suspension, resulting in less body roll but increasing mechanical oversteer. Conversely, reducing the ARB size will soften the suspension in roll, increasing body roll but decreasing mechanical oversteer but can result in a less-responsive feel from the steering, but grip across the rear axle will increase. Disconnecting the bar will greatly reduce the roll stiffness by removing the ARB entirely, which will also disable the ARB Adjustment for the rear.

ARB ADJUSTMENT

The configuration of the Anti-Roll Bar arms, or "blades", can be changed to alter the overall stiffness of the ARB assembly. Higher values transfer more force through the arms to the ARB itself, increasing roll stiffness in the rear suspension and inducing oversteer. Conversely, lower values reduce the roll stiffness of the rear suspension and reduce oversteer. The rear ARB Adjustment is available as an in-car adjustment via the F8 black box as the "RARB Setting".

PUSHROD LENGTH DELTA

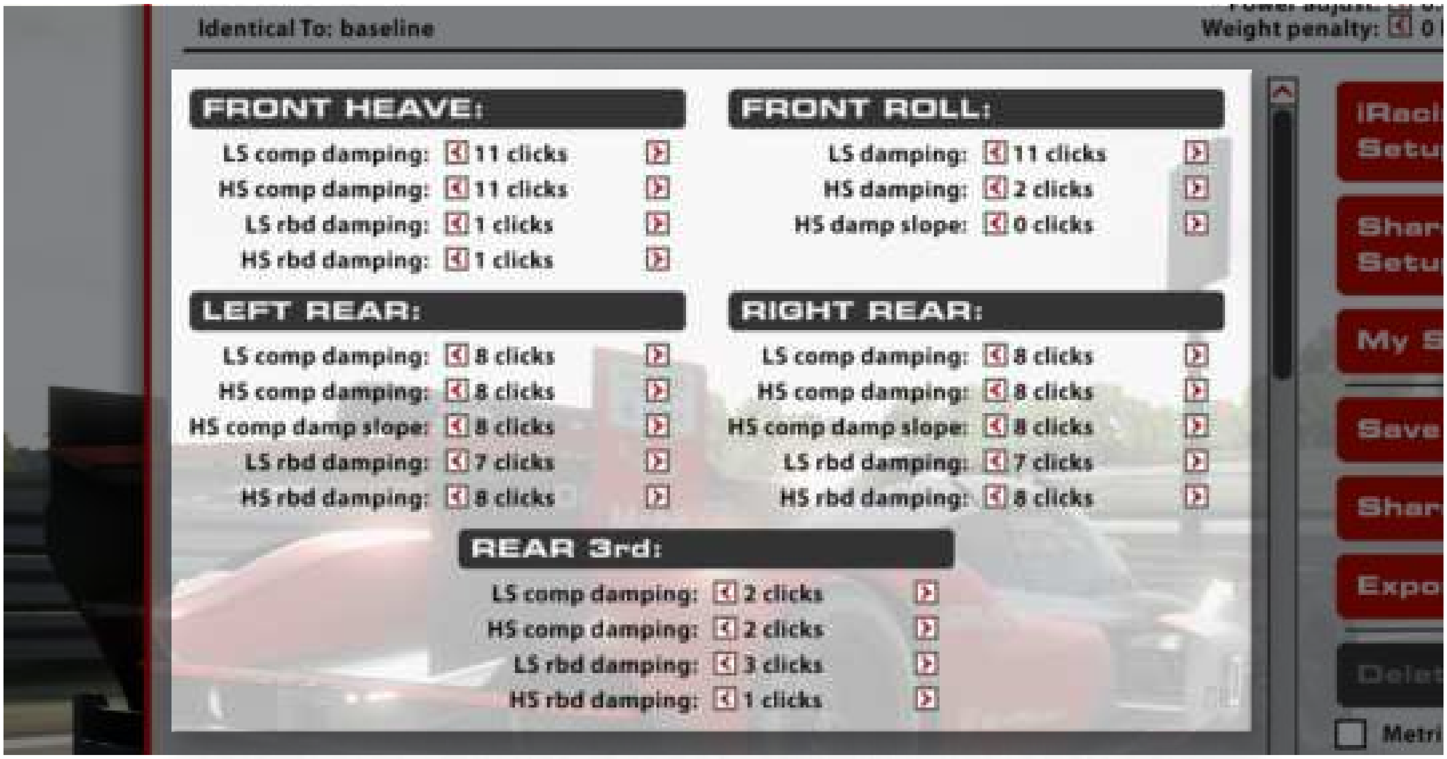
This adjusts the length of both rear suspension pushrods together, shown as an offset from a baseline length figure. This is a great way to adjust rear ride height without altering the preload on the rear Third Spring or either of the rear Torsion Bars.

CROSS WEIGHT

Cross weight is the amount of weight on the car's Left-Rear and Right-Front tires relative to the entire weight of the car, displayed in percent. This is adjusted via the rear spring perch offset settings on the rear corner springs. This value should be around 50% for most tracks.

DAMPERS

FRONT HEAVE / REAR CORNERS / REAR 3RD



LS COMPRESSION DAMPING

Low Speed Compression affects how resistant the shock is to compression (reduction in length) when the shock is moving at relatively low speeds, usually in chassis movements as a result of driver input (steering, braking, & throttle) and cornering forces. Higher values will increase compression resistance and transfer load onto a given tire under these low-speed conditions more quickly, inducing understeer on throttle application.

For shocks on the front end, increasing Low-Speed Compression can induce understeer under braking and at turn-in, reducing it will reduce understeer. Increasing Low-Speed Compression on the rear of the car will increase traction on initial throttle application, while reducing it can reduce on-throttle understeer.

HS COMPRESSION DAMPING

High-Speed Compression affects the shock's behavior in high-speed travel, usually attributed to curb strikes and bumps in the track's surface. Higher compression values will cause the suspension to be stiffer in these situations, while lower values will allow the suspension to absorb these bumps better but may hurt the aerodynamic platform around the track.

HS COMP DAMP SLOPE (REAR CORNERS ONLY)

The High-Speed Compression Damping Slope setting controls the overall shape of the high-speed compression side of the shock. Lower slope values produce a flatter, more digressive curve while higher values result in a more linear and aggressive compression graph. The value of the slope setting is very important in controlling bump absorption at high shock velocities and controlling the aerodynamic platform. A lower slope will be helpful for rougher tracks in absorbing bumps and sharp impacts such as curbs, while a higher slope will keep the suspension more rigid, which can be helpful in resisting compression and raising the chassis above a bump in the track surface. It's important to understand that these settings will affect the range the High-Speed Compression will have, with higher slope values producing a higher overall force for high-speed compression.

LS REBOUND DAMPING

Low-speed Rebound damping controls the stiffness of the shock while extending at lower speeds, typically during body movement as a result of driver inputs. Higher rebound values will resist expansion of the shock, lower values will allow the shock to extend faster. Higher rebound values can better control aerodynamic attitude but can result in the wheel being unloaded when the suspension can't expand enough to maintain proper contact with the track.

On the front of the car, higher Low-Speed Rebound can induce understeer on throttle application while higher settings on the rear of the car can induce understeer under braking.

HS REBOUND DAMPING

High-speed rebound adjusts the shock in extension over bumps and curb strikes. Higher values will reduce how quickly the shock will expand, while lower values will allow the shock to extend more easily. Despite not having as much of an effect on handling in result to driver inputs, High-speed rebound can produce similar results in terms of aerodynamic control and uncontrolled oscillations if set improperly.

LS DAMPING

The Low-Speed damping setting on the front Roll Damper will alter how resistant the damper is to both compression and expansion during roll. Higher values will produce a stiffer shock with chassis roll, which can load the outer tire in a corner more quickly, and lower values will soften the shock and delay load to the outer tire. Due to the Roll Damper's operation, rolling the chassis will result in the damper compressing for one direction and rebounding for the other direction, thus both compression and rebound are adjusted equally together.

HS DAMPING

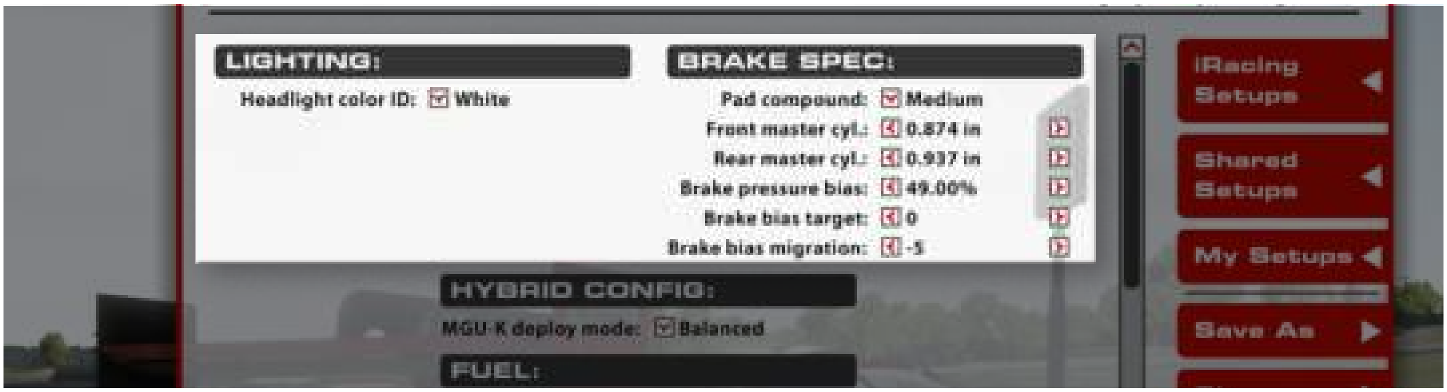
The High-Speed damping setting will alter how stiff the front Roll Damper is at higher velocities. As with the Low-Speed setting, the compression and rebound values are linked as one.

HS DAMP SLOPE

The High-Speed damping slope setting will alter how digressive or linear the rear Roll Damper is when shock velocities are in the high-speed regime. Higher values will produce a more linear response, with shock stiffness increasing as velocity increases, while lower values will produce a more digressive response where stiffness doesn't increase consistently with shock velocity.

BRAKES/DRIVE UNIT

LIGHTING & BRAKE SPEC



ROOF ID LIGHT COLOR

This setting will change the color of the small LED cluster in the headlights that illuminate whenever the Pit Limiter is active. This is strictly a visual change for identifying the car in nighttime conditions and has no effect on the vehicle's handling.

PAD COMPOUND

The vehicle's braking performance can be altered via the Brake Pad Compound. The "Low" setting provides the least friction, reducing the effectiveness of the brakes but allowing for better brake pressure modulation, while "Medium" and "High" provide more friction and increase the effectiveness of the brakes while increasing the risk of a brake lockup.

FRONT MASTER CYLINDER

The Front Brake Master Cylinder size can be changed to alter the line pressure to the front brake calipers. A larger master cylinder will reduce the line pressure to the front brakes, which will shift the brake bias rearwards and increase the pedal effort required to lock the front wheels. A smaller master cylinder will increase brake line pressure to the front brakes, shifting brake bias forward and reducing required pedal effort to lock the front wheels.

REAR MASTER CYLINDER

The Rear Brake Master Cylinder size can be changed to alter the line pressure to the rear brake calipers. A larger master cylinder will reduce the line pressure to the rear brakes, which will shift the brake bias forwards and increase the pedal effort required to lock the rear wheels. A smaller master cylinder will increase brake line pressure to the rear brakes, shifting brake bias rearward and reducing required pedal effort to lock the rear wheels.

BRAKE PRESSURE BIAS

Brake Bias is the percentage of braking force that is being sent to the front brakes. Values above 50% result in more pressure being sent to the front, while values less than 50% send more force to the rear. This should be tuned for both driver preference and track conditions to get the optimum braking performance for a given situation.

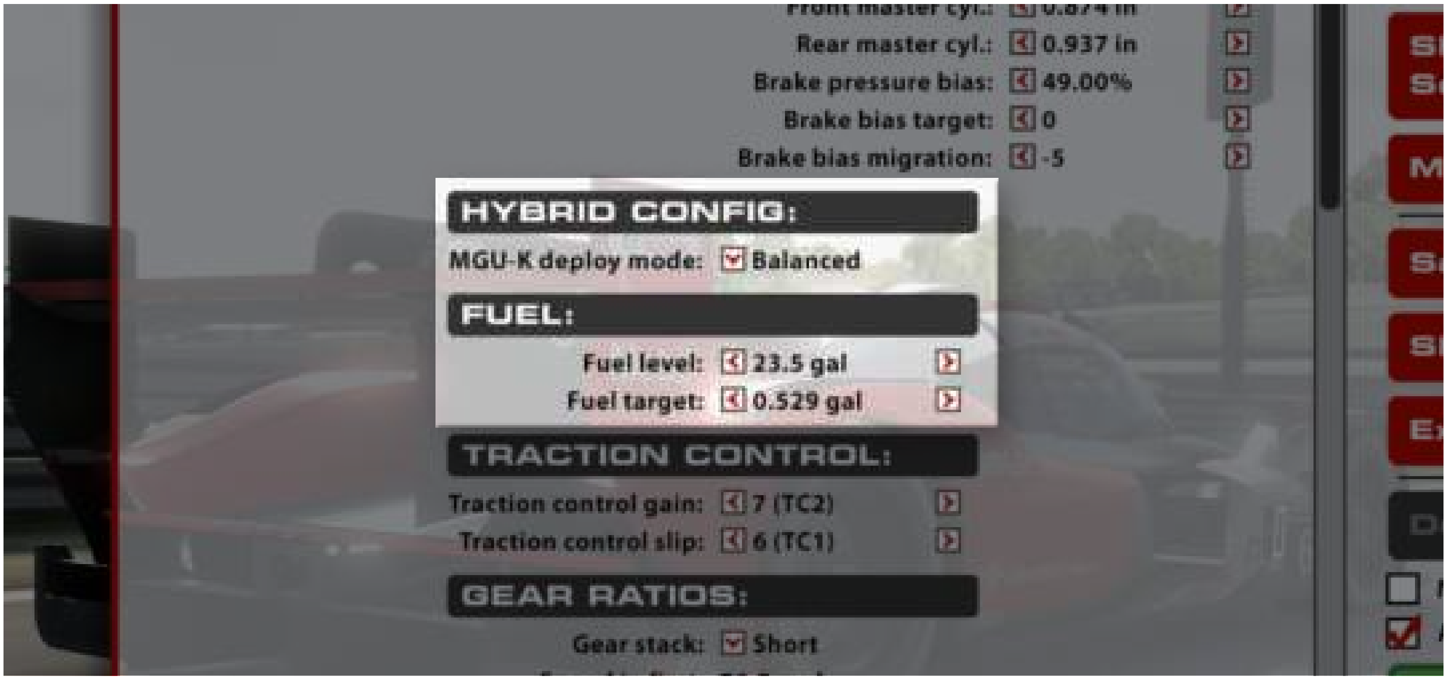
BRAKE BIAS TARGET

Sets the brake bias with an offset from the Brake Pressure Bias. Positive values will set the brake bias higher than the Pressure Bias setting by 0.5% per click, negative values will set the bias lower than the Pressure Bias by 0.5% per click. For example, if the Brake Pressure Bias is 50% and the Target is "2", the actual brake bias will be set to 51%. This is adjustable in-car via the F8 black box.

BRAKE BIAS MIGRATION

This sets how far forward or rearward the brake bias will shift with brake pedal travel. Positive values will migrate the bias forward and increase the maximum brake bias by 1% per click, negative values will migrate it rearward and reduce the minimum brake bias by 1%. This is adjustable in-car via the F8 black box.

HYBRID CONFIG & FUEL



The Porsche 963 GTP features five deploy modes for the MGU-K Hybrid system to alter the target State of Charge (SoC) for the end of a lap. Each of these modes will use varying levels of energy throughout a lap to reach a target, and thus some will produce more power over the course of a lap and faster lap times at the cost of discharging the battery.

NO DEPLOY

In the "No Deploy" mode, the Hybrid system will not use any energy stored in the battery. This essentially disables the Hybrid drive system and will only charge the battery throughout a lap. This is only available in Qualifying and Test sessions and is used to fully charge the battery before switching to Qual mode.

QUAL

This mode is intended to be used on flying laps during qualifying sessions and will attempt to use all of the battery charge during a lap. This is only available during Qualifying and Test sessions and should be preceded by the No Deploy setting on outlaps and warmup laps to ensure the battery is fully charged before switching to the Qual mode.

ATTACK

Attack mode reduces the target State of Charge to use more power during race sessions to help with overtaking. Generally the laptime gain from this mode is not enough to offset the loss in pace from having to recharge and recover from using Attack mode, so it should be used only when it is absolutely necessary to complete an overtake. This mode can also be used on the final lap for a burst of speed since the battery is no longer needed. This mode is only available for Practice, Race, and Test sessions.

BALANCED

The Balanced mode is the primary Race mode for the Hybrid system. This mode will attempt to deploy electrical charge to reduce lap times as much as possible while still maintaining a reasonable State of Charge over the duration of a lap. At the start of a session, it will take a few flying laps for the Hybrid system to learn the track and optimize deployment for the best lap times, and this mode is only available in Practice, Race, and Test sessions.

BUILD

The Build mode will attempt to build battery charge as quickly as possible in the event of a low battery charge or if it is needed prior to switching to Attack mode. Note that this will compromise lap times significantly compared to Balanced, and it's important to switch back to Balanced mode once the battery has charged to avoid losing harvested energy and to prevent unnecessary loss in pace. This mode is only available in Practice, Race, and Test sessions.

FUEL LEVEL

Fuel level is the amount of fuel in the fuel tank when the car leaves the garage.

TRACTION CONTROL, GEAR RATIOS, & REAR DIFF SPEC

TRACTION CONTROL GAIN

Gain is the amount of intervention the Traction Control will exert when wheel spin is detected. Higher values result in a more aggressive throttle cut to control wheelspin. This value can be changed in the F8 black box while driving.

TRACTION CONTROL SLIP

Slip is how sensitive the Traction Control system will be to wheelspin. Higher values will activate the Traction Control system with smaller amounts of wheelspin, while lower values will allow slightly more wheelspin prior to activating the system. This value can be changed in the F8 black box while driving.

THROTTLE SHAPE

The Throttle Shape setting will adjust how linear the torque delivery is based on the throttle pedal position. Setting "1" is purely linear, with a given percent of throttle delivering a similar percentage of max torque (25% throttle = 25% torque). As settings are increased the torque delivery becomes more non-linear, similar to a butterfly-style throttle: less torque increase at very low and very high throttle percentage and more torque increase in the throttle's mid-range. This will change the feel of the car when throttle is initially applied and is a good tool for drivers with various driving styles.

GEAR STACK

Gear Stack changes the gear ratios in the transmission. Two choices are available: Short and Long. The Short setting will choose a more acceleration-focused gear set for tracks with shorter straights or slower corners, while the Long option will choose gears more suited to high-speed tracks with long straights.

SPEED IN 1ST-7TH

Each of the transmission's seven forward gears will show the approximate ground speed at which the engine will reach maximum RPM. These values will change based on which Gear Stack is selected, but the true maximum speed may differ slightly due to on-track conditions.

COAST/DRIVE RAMP ANGLES

Coast and Drive Ramp Angles affect the force exerted by the differential to keep both driven tires locked together under acceleration. Lower values produce more locking force, and more locking force increases understeer during braking and acceleration phases. Higher values will produce less locking force and induce oversteer in these situations.

CLUTCH FRICTION PLATES

The number of clutch faces affect how much overall force is applied to keep the differential locked. Treated as a multiplier, adding more faces produces increasingly more locking force.

PRELOAD

The differential can be set with a static load applied. Higher values produce more locking force in the differential in all conditions, producing more understeer under acceleration and deceleration. This value will also affect mid-corner performance, with higher values not allowing the differential to unlock as much, increasing mid-corner understeer.

SETUP TIPS

This section is aimed toward helping users who want to dive deeper into the different aspects of the vehicle's setup.

SETUP TIPS

PROVIDED SETUPS

There are 12 iRacing setups provided for the PORSCHE 963 GTP:

BASELINE

A slightly more stable version of the high downforce setup for a driver's first time in the car or for those wanting more stability than the high downforce setup provides.

HIGH DOWNFORCE

For use at most tracks. Although quite efficient and creating the most downforce, this setup also makes the most drag.

MEDIUM DOWNFORCE

For use at track with long straights like Spa. Sacrificing more downforce and efficiency for more straight line speed.

LOW DOWNFORCE

For use at Le Mans. Lowest drag and downforce trim.

DAYTONA

A variation of the Low Downforce setup for use at Daytona with changes to avoid bottoming on the oval banking.

DAYTONA 24H

A variation on the Daytona setup made specifically with time of year, expected weather, and the demands of a 24 hour race setup in mind.

FIXED

The high downforce setup with limited fuel for the official IMSA fixed series.

FIXED QUAL

The fixed series setup with qualifying fuel and hybrid deployment.

FIXED LEMANS

The low downforce setup with limited fuel for the official IMSA fixed series.

FIXED LEMANS QUAL

The fixed LDF series setup with qualifying fuel and hybrid deployment.

FIXED DAYTONA

The Daytona setup with limited fuel for the official IMSA fixed series.

FIXED DAYTONA QUAL

The Daytona series setup with qualifying fuel and hybrid deployment.

The fuel level in all setups (except the fixed IMSA setups) are set to 89 L, which is the maximum tank capacity for this car.

AERODYNAMIC HEIGHT TARGETS

The Porsche 963 generates the most downforce with an average rear ride height around 45mm and an average front ride height around 25mm.

More rake (high rear ride heights compared to front ride heights) will move aero balance forward (oversteer) and less rake will do the opposite.

You can affect the dynamic ride heights (without changing the roll stiffness) on track by adjusting the front heave spring and the rear third spring.

A soft rear third spring will allow the rear of the car to drop under aero load but you will lose some amount of downforce and efficiency mid corner as the rear ride heights will be well under the target rear heights for maximum efficiency (45mm). Some compromises will need to be made regarding drag/downforce and dynamic aero balance.

REAR WING ADJUSTMENT

Should you choose to make adjustments to the setup the easiest way to change the balance of the setup is through adjustment of the rear wing angle. Generally speaking if you find you want to adjust wing position in more than a click in either direction it is recommended you start from one of the other downforce trim setups (high, medium, or low).

Lower wing angle = More oversteer, less downforce and higher straight line speed.

Higher wing angle = More understeer, more downforce and lower straight line speed.

HEIGHT ADJUSTMENTS

If you would like to change the aero balance without changing the downforce/drag trim adjust the rear ride height by increasing or decreasing the rear pushrod length offset.This will affect balance just about everywhere as we are making a lot of downforce but this will be particularly noticeable in mid and high speed corners.

Lower pushrod length offset = Lower rear ride height, less rake, a more rearward aero balance (understeer).

Higher pushrod length offset = Higher rear ride height, more rake, a more forward aero balance (oversteer).

REAR DIFFERENTIAL ADJUSTMENT

The rear differential is a powerful tool in the Porsche. Feel free to experiment with the various settings. The simplest change one can make is increasing or decreasing the preload. While adjusting the preload will affect the on throttle behavior you will probably notice more of a change on entry and turn in.

More preload = Less rotation off throttle, more stability on entry.

Less preload = More rotation off throttle, less stability on entry.