DALLARA P217 LMP2

USER MANUAL

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DEAR iRACING USER,

Congratulations on your purchase of the Dallara P217 LMP2! 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!

Dallara's return to prototype racing for the first time since the original Audi R18 TDI, the P217 made its debut in 2017. The car competes in the LMP2 class in both the FIA World Endurance Championship and European Le Mans Series, while a Daytona Prototype International-spec version of the car races at the top level of the IMSA WeatherTech SportsCar Championship with Cadillac branding as part of a relationship with General Motors.

The LMP2 P217 is powered by a 4.2-liter Gibson V8, and features a six-speed sequential paddle shift transmission by Xtrac. Drivers who raced in the car in its 24 Hours of Le Mans debut included Formula 1 legend Rubens Barrichello, former Le Mans winner Jan Lammers, and IndyCar veteran Mikhail Aleshin. Other Formula 1 veterans who have driven the car at Le Mans include Felipe Nasr, Sergey Sirotkin, and Giedo van der Garde.

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!

dallara

CHASSIS

DALLARA CARBON-FIBRE MONOCOQUE WITH ALUMINIUM HONEYCOMB AND ZYLON SIDE PANELS

DOUBLE WISHBONE INDEPENDENT PUSHROD SUSPENSION

LENGTH	WIDTH	WHEELBASE	DRY WEIGHT	WET WEIGHT WITH DRIVER
4745mm 186.8in	1900mm 74.8in	3010mm 118.5in	930kg 2050lbs	930kg 2050lbs

POWER UNIT

GIBSON GK-428

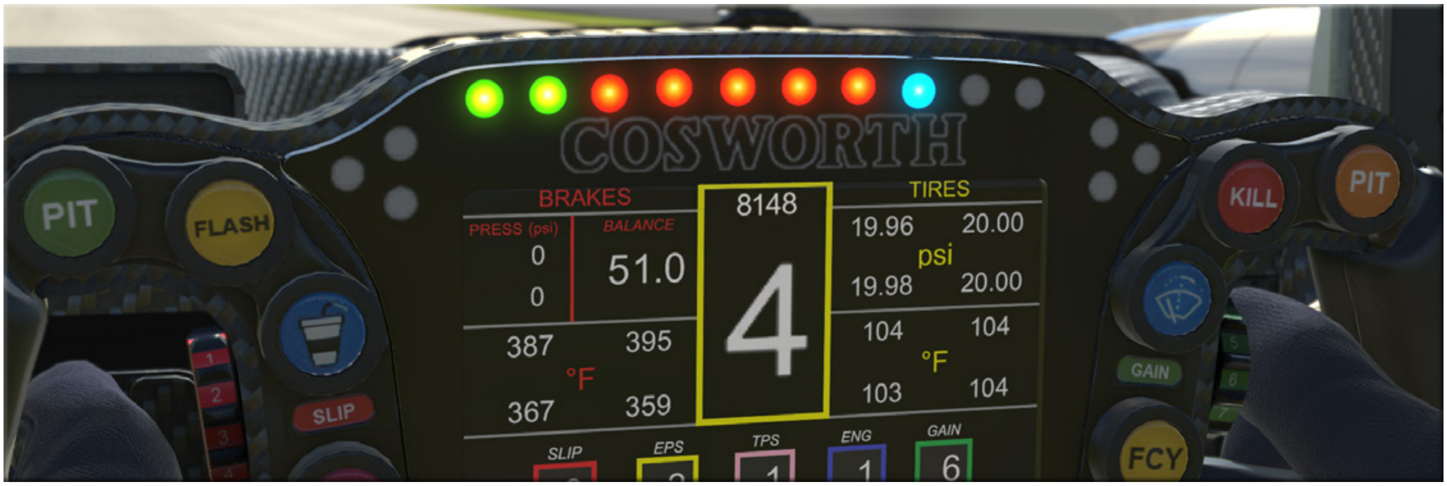
DISPLACEMENT	TORQUE	POWER	RPM LIMIT
4.2Liters 256CID	555Nm 409lb-ft	600bhp 450kW	8700RPM

Getting Started

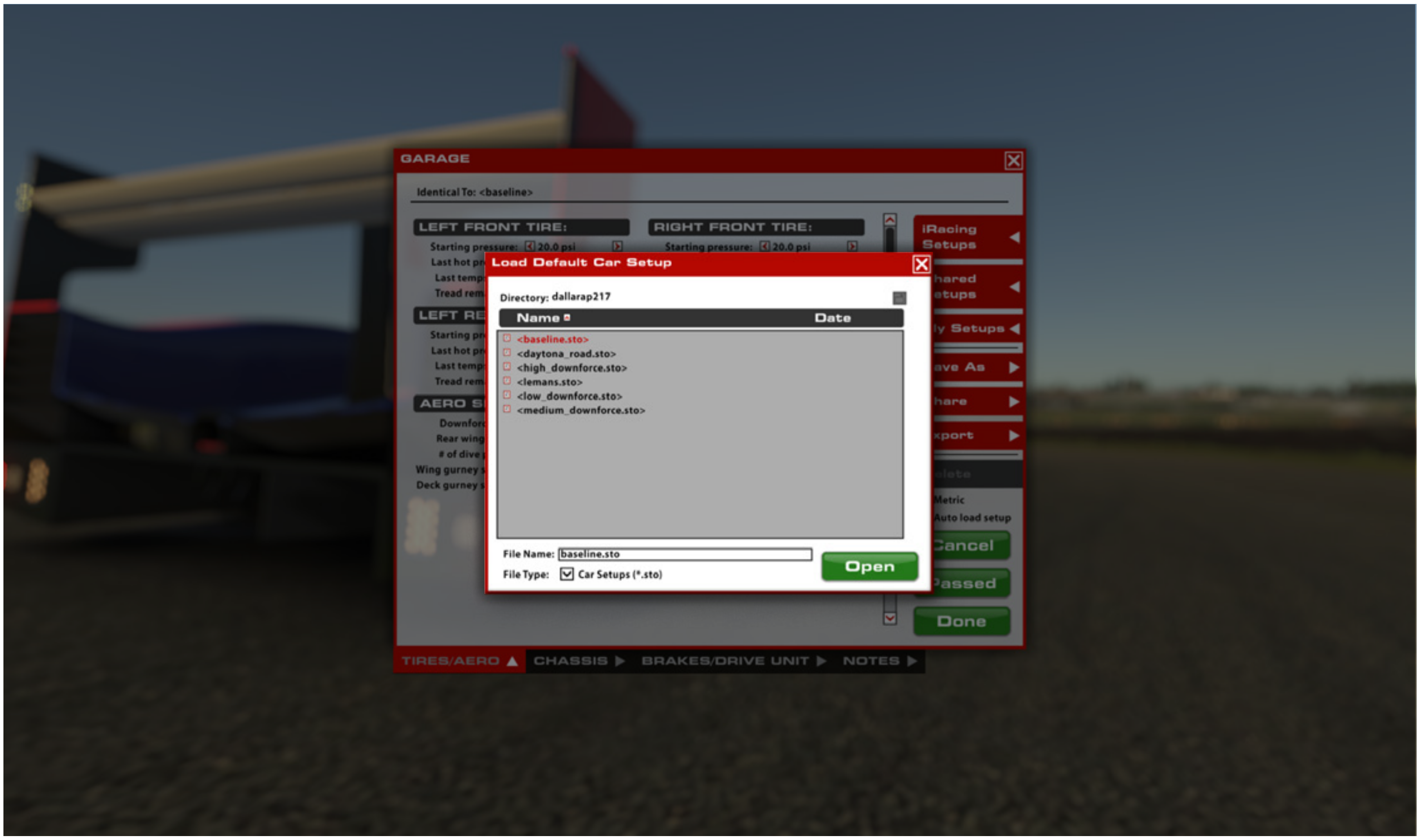
YOUR FIRST TIME IN THE CAR

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 in either direction. 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. If that is the case, the gear change command will simply be ignored.

Upshifting is recommended when the second and third blue lights come on at 8200 RPMs.



LOADING AN IRACING SETUP



When you first load into a session, the iRacing Baseline setup (baseline.sto) will be automatically loaded onto the car. If you would like to try any of the other iRacing pre-built options, you may select it by going to Garage > iRacing Setups > and then selecting another option that fits 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.

Steering Wheel Display

PAGE 1

LEFT CLUSTER

Speed - Vehicle speed

Live fuel - Fuel level in the tank

Brake Balance - % Front brake bias

Oil T - Engine Oil Temperature

Water T - Engine Water Temperature

RIGHT CLUSTER

Lap Fuel - Laps remaining at current fuel level

Delta - Time difference to session best lap

Lap Time - Current Lap Time

Last - Last Lap Time

BOTTOM ROW

SLIP - TC Slip Setting

EPS - Power Steering Setting (pit change only)

TPS - Throttle Shape setting

ENG - Engine Mode number. This value is not changeable.

GAIN - TC Slip setting

PAGE 2

LEFT CLUSTER

PRESS (psi) - Brake (Line) Pressure

BALANCE - % Front Brake Bias

°F - Brake Rotor Surface Temperature (°F)

RIGHT CLUSTER

TIRES - Tire Pressure (psi)

°F - Tire Surface Temperature (°F)

BOTTOM ROW

SLIP - TC Slip Setting

EPS - Power Steering Level (pit change only)

TPS - Throttle Shape setting

ENG - Engine Mode number. This value is not changeable.

GAIN - TC Gain setting

PAGE 3

LEFT CLUSTER

BATTERY VOLTAGE (V) - Battery Voltage output in Volts

OIL PRESS - Engine Oil Pressure

OIL TEMP - Engine Oil Temperature

RIGHT CLUSTER

LAP TIME - Current lap time

WATER PRESS - Engine Water Pressure

WATER TEMP - Engine Water Temperature

BOTTOM ROW

SLIP - TC Slip Setting

EPS - Power Steering Level (pit change only)

TPS - Throttle Shape setting

ENG - Engine Mode number. This value is not changeable.

GAIN - TC Slip setting

PIT LIMITER

LEFT CLUSTER

PIT LANE - Vehicle speed

CLUTCH P - Clutch pedal travel percent

BALANCE - % Front Brake Bias

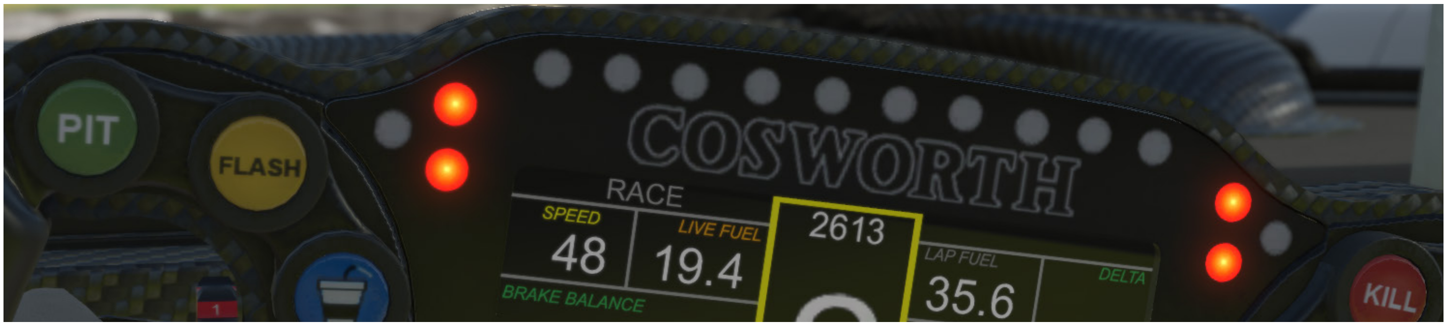
RIGHT CLUSTER

THROTTLE - Throttle travel percent

Tires P - Tire pressure

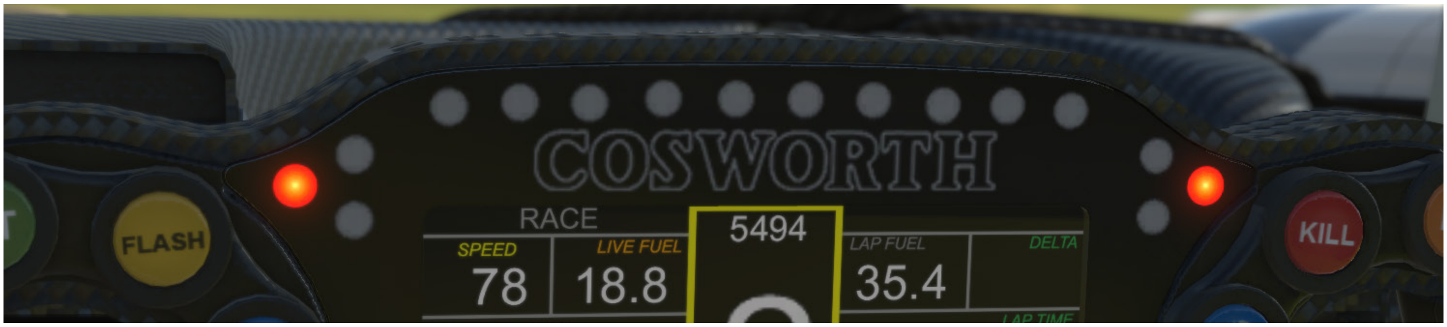
ECT - Engine coolant (water) temperature

DISPLAY INFORMATION



WHEEL LOCKUP WARNING LIGHTS

Two clusters of three status lights are placed in the upper corners of the display areas, with the inner two lights each representing the status of a wheel on that side of the vehicle. Whenever a wheel is locked under heavy braking, its corresponding status light will illuminate red, with the left-front wheel shown by the upper-left light, the right-front wheel shown by the upper-right light, and so forth.



TRACTION CONTROL ACTIVATION LIGHTS

The outermost status lights at the top of the dash display area show when the Traction Control system is active and attempting to control wheel spin. Whenever the system is activated, these lights will both illuminate in red.

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 SETTINGS (ALL FOUR TIRES)

COLD AIR PRESSURE

Air pressure in the tire when the car is loaded into the world. Higher pressures will reduce rolling drag and heat buildup, but will decrease grip. Lower pressures will increase rolling drag and heat buildup, but will increase grip. Higher speeds and loads will require higher pressures, while lower speeds and loads will see better performance from lower pressures. Cold pressures should be set to track characteristics for optimum performance.

HOT AIR PRESSURE

Air pressure in the tire after the car has returned to the pits. The difference between Cold and Hot pressures can be used to identify how the car is progressing through a run in terms of balance, with heavier-loaded tires seeing a larger difference between Cold and Hot pressures. Ideally, tires that are worked in a similar way should build pressure at the same rate to prevent a change in handling balance over the life of the tire, so Cold pressures should be adjusted to ensure that similar tires are at similar pressures once up to operating temperature.

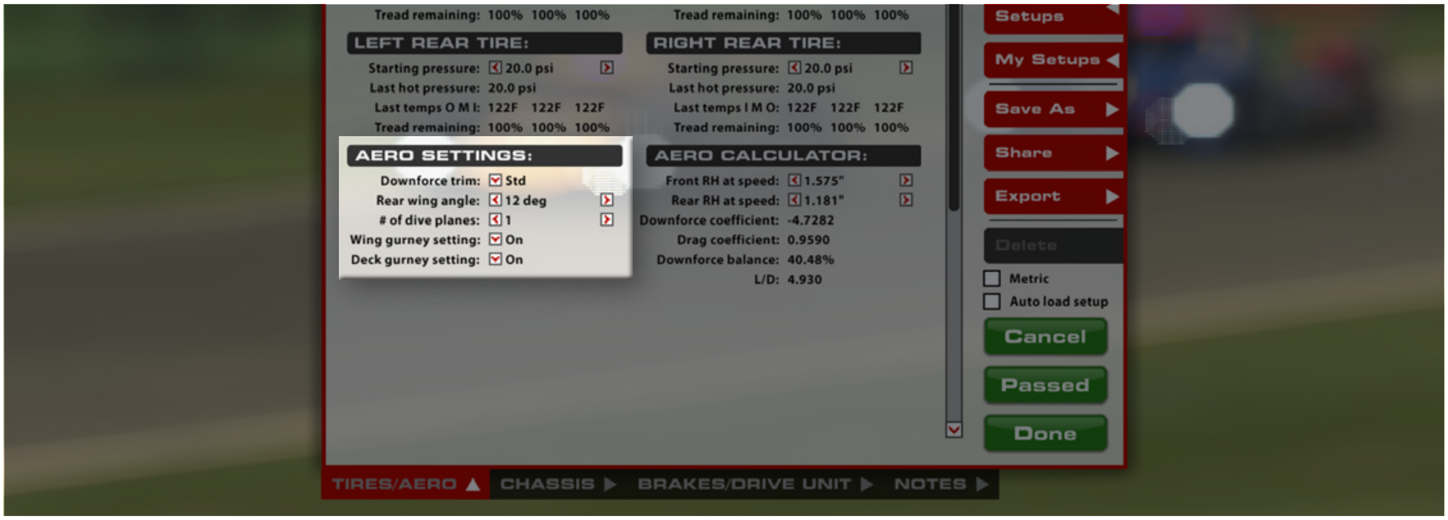
TIRE TEMPERATURES

Tire carcass temperatures, measured via Pyrometer, once the car has returned from the pits. Wheel Loads and the amount of work a tire is doing on-track is reflected in the tire's temperature, and these values can be used to analyze the car's handling balance. Center temperatures are useful for directly comparing the work done by each tire, while the Inner and Outer temperatures are useful for analyzing the wheel alignment while on track. These values are measured in three zones across the tread of the tire.

TREAD REMAINING

The amount of tread remaining on the tire once the car has returned from the pits. Tire wear is very helpful in identifying any possible issues with alignment, such as one side of the tire wearing excessively, and can be used in conjunction with tire temperatures to analyze the car's handling balance. These values are measured in three zones across the tread of the tire.

AERO SETTINGS



DOWNFORCE TRIM

This car can run in one of two aerodynamic configurations. The Standard setting is used for the majority of race tracks and produces a higher level of downforce. The "Low" setting is used for high-speed tracks such as Le Mans to reduce drag for long straights.

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.

OF DIVE PLANES

Dive planes are front-end aerodynamic elements placed on the leading edge of the front fenders above the splitter. Constructed with a slight upward curve, dive planes increase front downforce while adding a small amount of drag. The more dive planes are added, the more downforce (and drag) is increased at the front end.

WING GURNEY SETTING

The rear wing Gurney Flap is a small, vertical tab attached to the rear of the wing oriented perpendicular to the wing. Adding a gurney flap (Setting 1) will increase the downforce generated by the wing along with an increase in drag.

DECK GURNEY SETTING

Similar to the rear wing Gurney Flap, the Deck Gurney is a small tab attached to the rear of the main bodywork, between the rear wheels. Adding a Gurney to the deck will increase rear downforce but will increase drag.

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 (Wing Angles, Dive Planes, Gurney Flaps) 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.

FRONT RH AT SPEED

The Ride Height (RH) at Speed is used to give the Aero Calculator heights to reference for aerodynamic calculations. When using the aero calculator, determine the car's Front Ride height via telemetry at any point on track and input that value into the "Front RH at Speed" setting.

REAR RH AT SPEED

The Ride Height (RH) at Speed is used to give the Aero Calculator heights to reference for aerodynamic calculations. When using the aero calculator, determine the car's Rear Ride height via telemetry at any point on track and input that value into the "Front RH at Speed" setting.

DOWNFORCE COEFFICIENT

The Downforce Coefficient is a numerical representation of how much the baseline aero map has been altered with the car's current configuration. The value represents the overall Coefficient of Lift on the car at speed, thus the more negative the downforce coefficient value the more downforce the vehicle is generating.

DRAG COEFFICIENT

Similar to the Downforce Coefficient, the Drag Coefficient is a representation of how much drag is being generated by the vehicle. Higher values indicate a higher amount of drag on the car, lower values indicate less drag.

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 an increase in front downforce, increasing oversteer in mid- to high-speed corners. A lower percentage value indicates an increase in 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 END

THIRD SPRING

The Third Spring, also known as the Pitch 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. The front end's third spring is crucial in maintaining and controlling splitter height around a circuit to maximize the downforce produced by the front bodywork.

THIRD PERCH OFFSET

Changes the static load of the third spring via an adjustable spring perch. This is used to alter the overall front end ride height.

THIRD SPRING DEFLECTION

This displays how much the third spring is compressed from its total length under static loads in the garage. This value must be positive (spring compressed) to pass technical inspection.

ARB SIZE

The ARB (Anti-Roll Bar) size influences the stiffness of the front suspension in roll, such as when navigating a corner. Increasing the ARB size will increase the roll stiffness of the front suspension, resulting in less body roll but increasing mechanical understeer. This can also, in some cases, lead to a more responsive steering feel from the driver. Conversely, reducing the ARB size will soften the suspension in roll, increasing body roll but decreasing mechanical understeer. This can result in a less-responsive feel from the steering, but grip across the front axle will increase.

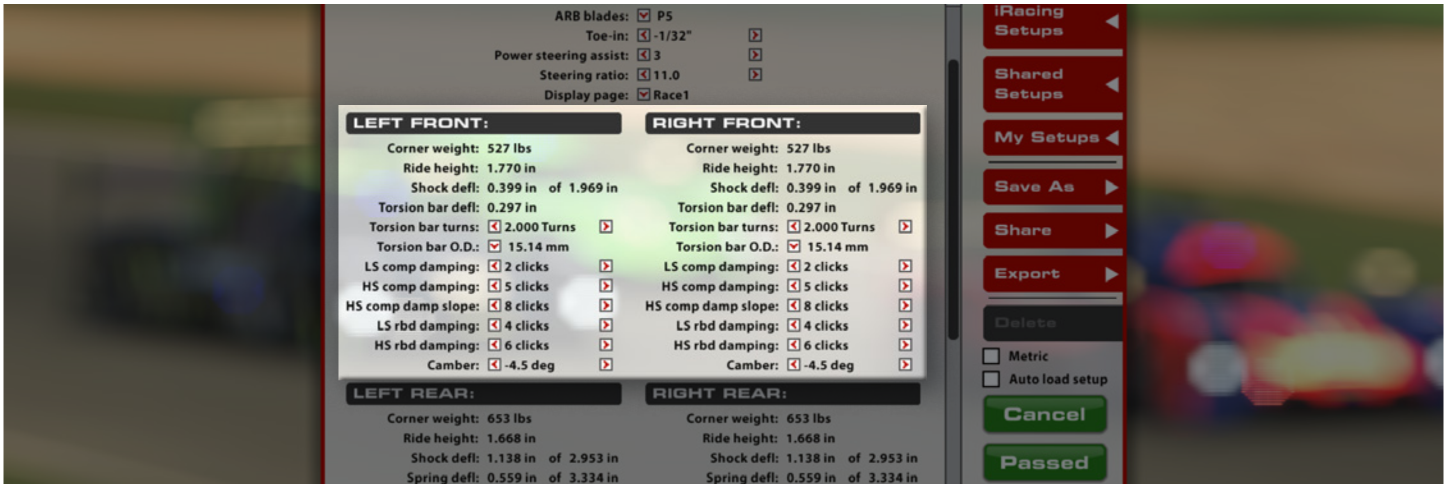
ARB BLADES

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 producing the same effects, albeit on a smaller scale, as increasing the diameter of the sway bar. Conversely, lower values reduce the roll stiffness of the front suspension and produce the same effects as decreasing the diameter of the sway bar. These blade adjustments can be thought of as fine-tuning adjustments between sway bar diameter settings.

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.

FRONT CORNERS (LEFT & RIGHT)



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.

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. Increasing front ride height will decrease front downforce as well as increase overall downforce, but will allow for more weight transfer across the front axle when cornering. Conversely, reducing ride height will increase front and overall downforce, but reduce the weight transfer across the front axle.

SHOCK DEFL

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.

TORSION BAR TURNS

Used to adjust ride height and corner weight, adjusting this setting applies a preload to the torsion bar under static conditions. Decreasing the value increases preload on the torsion bar, 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.

TORSION BAR OUTER DIAMETER

Similar to an Anti-Roll Bar, a torsion bar is a spring that exerts resistive forces via applied torque generated through suspension travel. However, these torsion bars are fixed to the chassis at one end, and thus resist movement only on one wheel in the same way a coil spring resists movement and load changes. Increasing the torsion bar's diameter gives a higher spring rate, and reducing the diameter gives a lower spring rate. Stiffer springs are very helpful for smooth tracks and applications where a high level of aerodynamic attitude control is required, however stiff springs reduce mechanical grip significantly, especially over bumps. On low-grip and/or bumpy tracks, as well as lower speed tracks where aerodynamics may not be as effective, softer springs will increase mechanical grip while sacrificing aerodynamic control. Torsion Bar Diameter adjustments should be made in conjunction with ride height adjustments to prevent unwanted grounding of the chassis while on track.

LS COMP DAMPING

Low Speed Compression affects how resistant the shock is to compresion (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. Lower values will slow weight transfer to a tire, reducing understeer when applied to the front shocks.

HS COMP 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 curbs better but may hurt the ability to control motion over bumps hurting the aerodynamic platform.

HS COMP DAMP SLOPE

The 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. 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 RBD 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. When tuning for handling, higher front low-speed rebound can increase on-throttle mechanical understeer (but reduce splitter lift) while lower values will maintain front end grip longer, helping to reduce understeer, but will allow more splitter lift. Excessive front rebound can lead to unwanted oscillations due to the wheel bouncing off of the track surface instead of staying in contact.

HS RBD 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. About 40% more HS rbd damping than HS comp damping is a recommended starting point.

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.

REAR CORNERS (LEFT & RIGHT)

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. Increasing rear ride height will decrease overall downforce and shift the aero balance forward while allowing for more weight transfer across the rear axle when cornering. Conversely, reducing rear ride height will increase overall downforce and shift aero balance rearward while reducing the weight transfer across the rear axle.

SHOCK DEFL

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 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.

LS COMP DAMPING

Low Speed Compression affects how resistant the shock is to compresion (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.

HS COMP DAMPING

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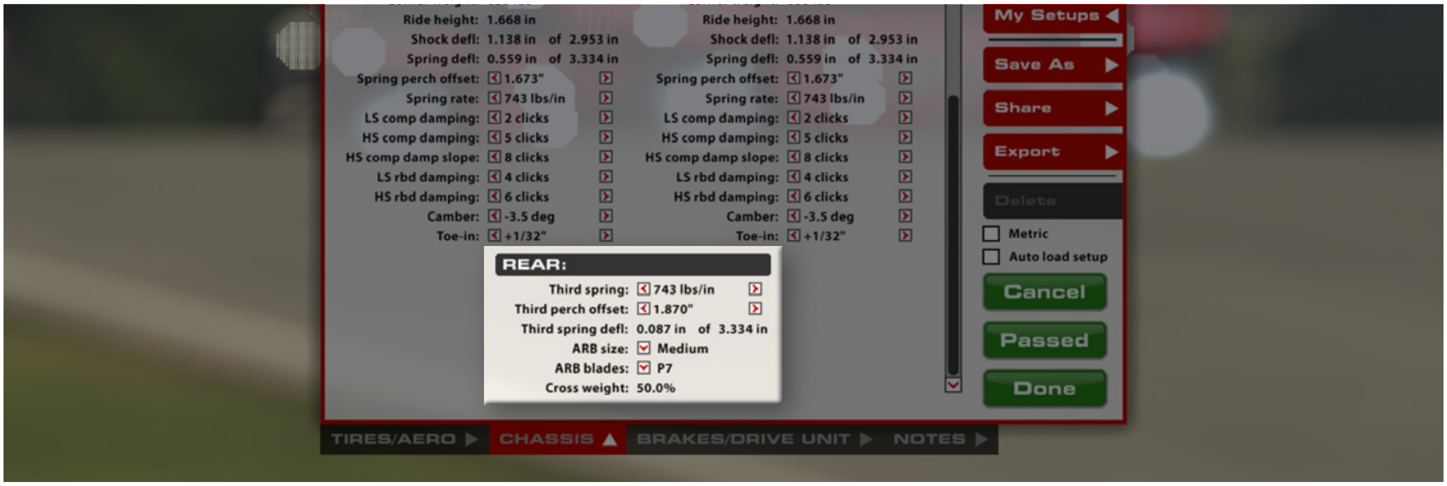
TOE-IN

Toe is the angle of the wheel, when viewed from above, relative to the centerline of the chassis. Toe-in is when the front of the wheel is closer to the centerline than the rear of the wheel, and Toe-out 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 END



THIRD SPRING

The Third Spring, also known as the 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. The rear end's third spring is crucial in maintaining and controlling the rear ride height around a circuit to maximize the downforce produced by the rear bodywork.

THIRD PERCH OFFSET

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THIRD SPRING DEFL

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ARB SIZE

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ARB BLADES

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 producing the same effects, albeit on a smaller scale, as increasing the diameter of the sway bar. Conversely, lower values reduce the roll stiffness of the front suspension and produce the same effects as decreasing the diameter of the sway bar. These blade adjustments can be thought of as fine-tuning adjustments between sway bar diameter settings.

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 corner spring preload adjustments (Front Torsion Bar Turns and Rear Spring Perch Offset). Typically 50% is the best.

Brakes/Drive Unit

LIGHTING

ROOF ID LIGHT COLOR

The color of a small light on the roof of the car can be changed to aid in identifying the vehicle, especially helpful in events where multiple cars are running the same livery.

BRAKE SPEC

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, while "Medium" and "High provide more friction and increase the effectiveness of the brakes while increasing the risk of a brake lockup.

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.

FUEL

FUEL LEVEL

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

TRACTION CONTROL

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.

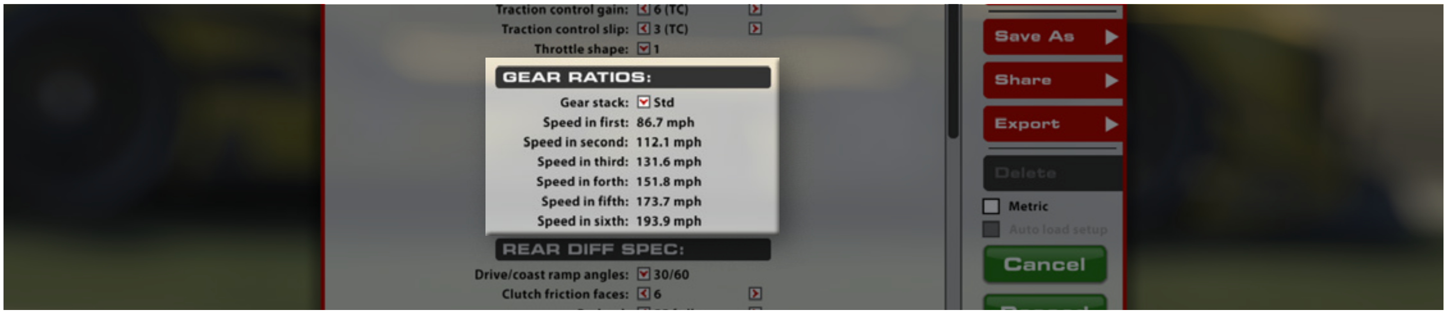
TRACTION CONTROL SLIP

Slip is how aggressive, or 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.

THROTTLE SHAPE

Throttle Shape controls the torque mapping of the throttle pedal. Setting 1 has a linear torque map, with each percent of throttle providing an equal amount of torque from the engine. Setting 10 has an S-shape map that produces less torque increase at low throttle inputs but rapidly increases engine torque at higher amounts of throttle input. Values in-between 1 and 10 result in a mix of the two settings.

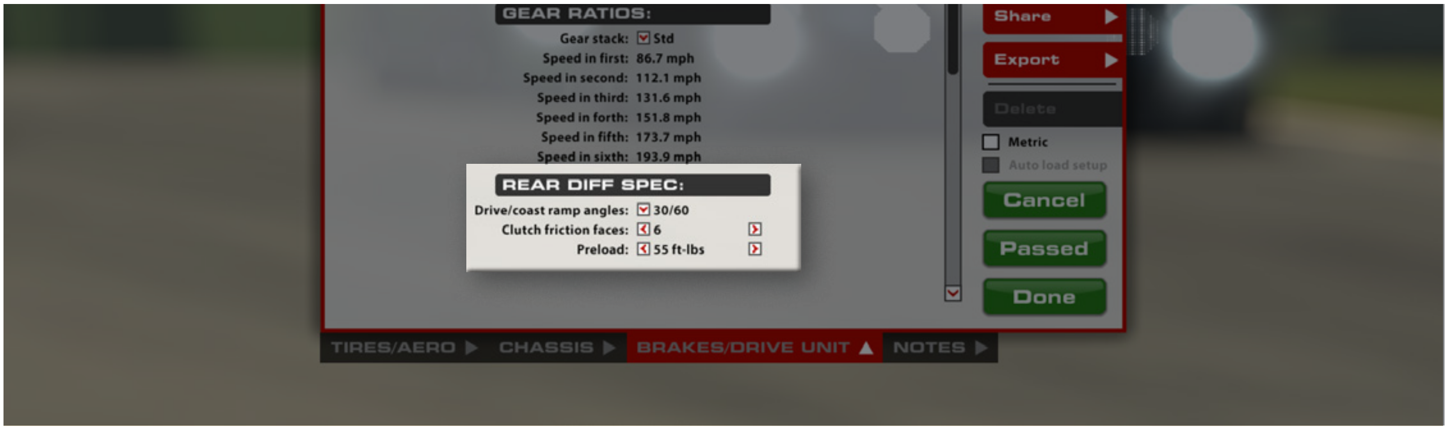
GEAR RATIOS



GEAR STACK

Gear Stack changes the gear ratios in the transmission. Three choices are available for this car, with Short providing the most acceleration with lower top-speed, Tall providing more top-speed at the cost of acceleration, and Standard providing a middle-ground for the two.

REAR DIFF SPEC



DRIVE/COAST RAMP ANGLES

Drive and Coast 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 in acceleration.

CLUTCH FRICTION FACES

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.