



FERRARI 296 GT3

USER MANUAL



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Dear iRacing User,

Ferrari's latest foray into GT3 racing, the 296 GT3 made its debut in the IMSA WeatherTech SportsCar Championship and other major global championships in time for the 2023 season. It succeeds the 488 GT3 EVO that made its debut in 2020, and it was designed to build on that car's successes with easier setup modifications for the crew and significantly more downforce than its predecessor.

Powered by a V6 engine just like its road-going counterpart, the 296 GT3 is capable of producing 600 horsepower from its 2.9-liter powerplant. Four cars took to the track across IMSA's GTD and GTD Pro classes in its debut at the 24 Hours of Daytona, and the car took its first win in a twice-around-the-clock endurance race a few short months later at the Nürburgring.

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 OUTBOARD
SPRINGS AND DAMPERS



LENGTH
4565 mm
179.7 in

WIDTH
2050 mm
80.7 in

WHEELBASE
2660 mm
104.7 in

DRY WEIGHT
1350 kg
2976 lbs

WET WEIGHT
WITH DRIVER
1508 kg
3325 lbs

POWER UNIT

TWIN-TURBOCHARGED
FERRARI F163 V6



DISPLACEMENT
3.0 Liters
183 cid

TORQUE
490 lb-ft
664 Nm

POWER
524 bhp
391 kW

RPM LIMIT
8000



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.

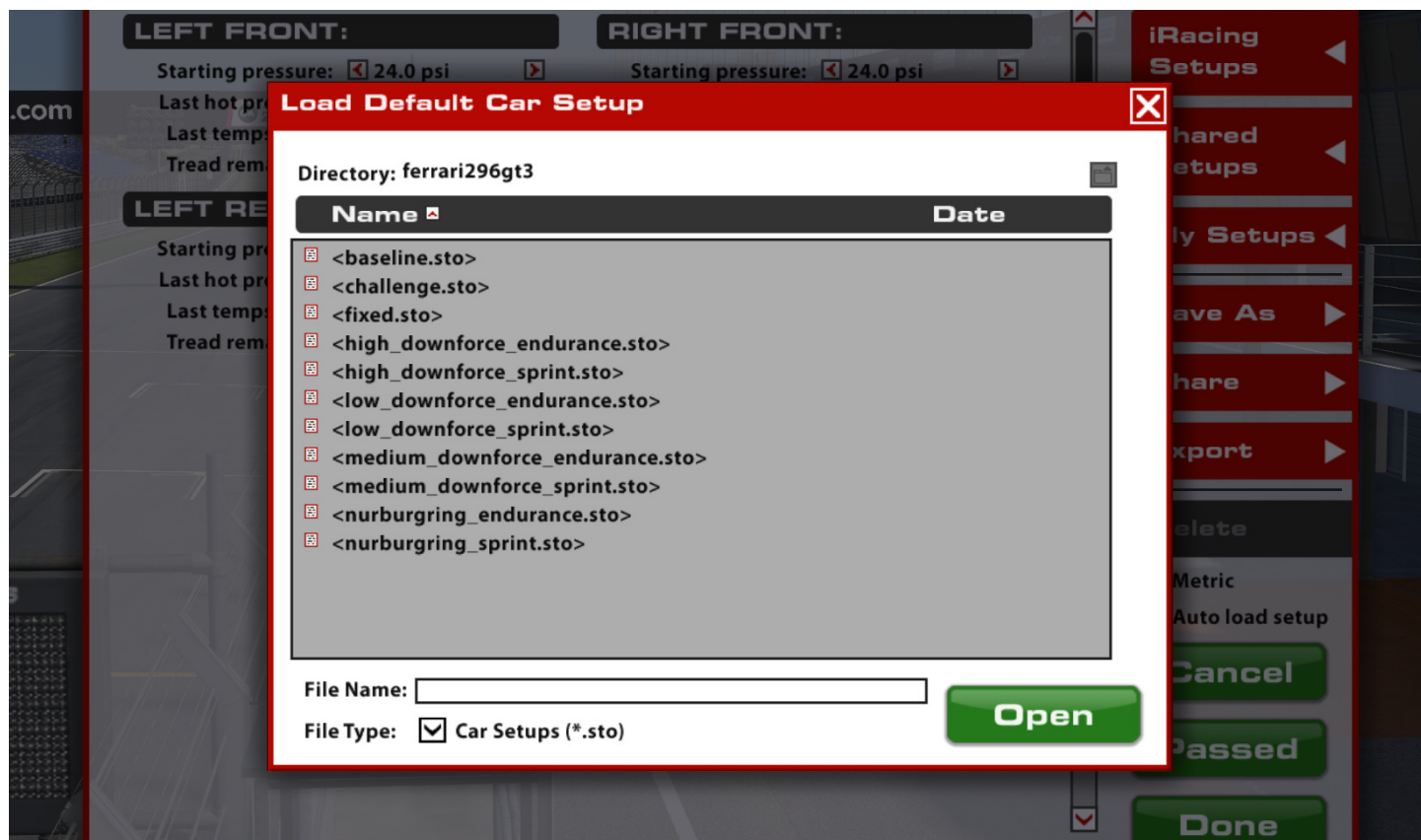
GETTING STARTED



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 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.

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 Ferrari 296 GT3 features a Bosch DDU 10 display that organizes and shows all vital information to the driver. Two options for the display page are available: The “RACE 1” page shows all information available and the “QUALI” page removes speed and fuel information.

Left Column	
Display Page	The upper-left of the display will show which display page is active, either “RACE 1” for the Race page and “QUALI” for the Qualifying page.
ENG BRK	Not currently driver adjustable.
Speed	Current vehicle speed in kph or mph. This box is removed for the QUAL page.
Tire Pressures	The live pressure in each tire is shown in the four boxes on the left side of the display. When pressures are too low the boxes will be blue, the boxes will be black when the pressures are in the optimum range, and the boxes will be red when too high.
PED	Current Throttle Shape setting
ENG	Fuel saving engine maps are not currently adjustable in the iRacing GT3 class
ABS	Current Anti-Lock Brake System setting
Center	
RPM/Tachometer	A digital tachometer is located at the top of the display above the gear indicator
Gear Indicator	Currently selected gear
Stint	Amount of fuel used since last leaving the pits. This box is removed for the QUAL page.
Lap	Amount of fuel that was used in the previous lap. This box is removed for the QUAL page.
Pred	Predicted amount of fuel that will be used on the next lap. This box is removed for the QUAL page.

Right Columns

BBAL	Current Brake Bias setting
Lap Counter	Number of completed laps for the current session
Tire Surface Temperature / Brake Temp	Each tire's tread surface temperature is shown in the boxes on the right side of the display. These boxes can display Brake Temperature using the Dash Page 2 Set button (more information below). When the tires/rotors are too cold the boxes will be blue, the boxes will be black when they are in optimum temperature range, and will be red when overheated.
TC3	Inoperable
TC2	Current Traction Control system setting. This is linked to the TC1 display and will show the same number for both settings.
TC1	Current Traction Control system setting. This is linked to the TC2 display and will show the same number for both settings.

Bottom Row

Previous Lap / Best Lap	Lap time for the previously completed lap. This will change to the Session Best Lap with the Dash Page 2 Set button.
Diff	Time difference between the current lap and the fastest lap of the session, updated live
Predicted Lap	The estimated lap time for the current lap, updated live

SHIFT LIGHTS

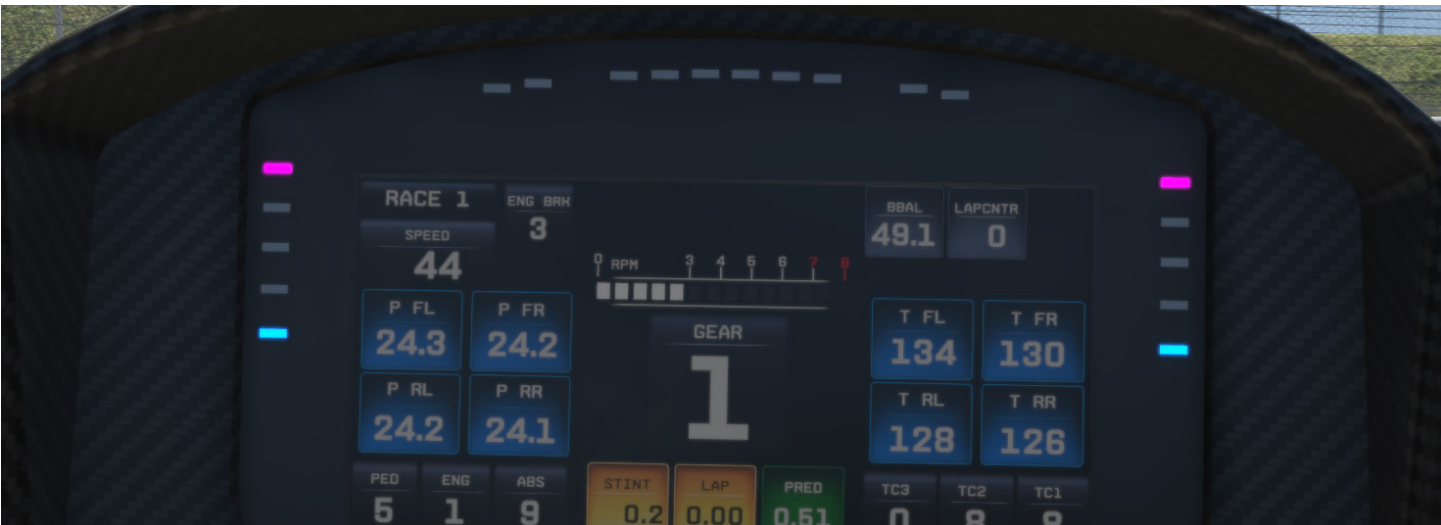
The top of the digital display has a set of LED shift lights to help the driver know when to upshift while accelerating.



As RPM increases the lights will illuminate from left to right, with all lights turning red when the ideal shift point has been reached.

BRAKE LOCKUP LIGHTS

Two LED lights on either side of the display will illuminate in the event of a wheel lockup, their location indicating which wheel is locking. The upper magenta lights will illuminate when the front wheels are locked and two cyan lights indicate lockups on the rear wheels.



DASH PAGE SET CONTROLS

The In-car Adjustments control assignments on the Options > Control page has two settings to control the dash display without navigating to the In-Car Adjustment black box.

DASH PAGE SET

The Dash Page Set assignment will allow toggling between the Race and Qual dash pages. The button assigned to increase the value will change the dash to the Qual page while the button assigned to decrease the value will change the dash to the Race page.

DASH PAGE 2 SET



The Dash Page 2 assignment will change the data displayed on either page and can be toggled back and forth just like the main pages themselves can be toggled. When activated, the following information is displayed:

BRAKE ROTOR TEMPERATURES

On the right side of the dash the Tire Temperature values will be replaced with Brake Rotor temperatures. As with the tire temperature values, the brake temperatures will be color-coded to easily identify the status of each brake system. Blue indicates too cold, black indicates the optimum temperature range, and red indicates an overheated brake rotor.

BEST LAP TIME

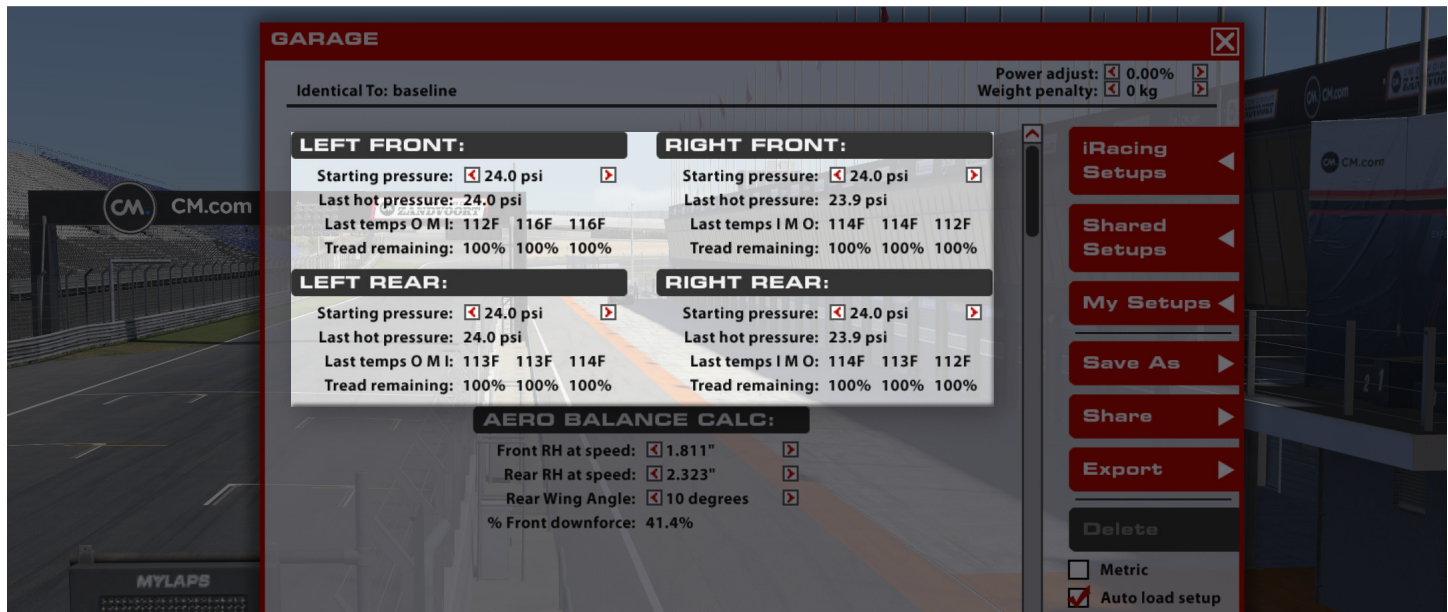
The bottom right box, usually displaying the Previous Lap time, will show the session Best Lap Time in purple.

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



STARTING 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 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. Generally speaking, it is advisable to start at lower pressures and work your way upwards as required.

LAST HOT 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. Hot pressures should be analyzed once the tires have stabilized after a period of laps. As the number of laps per run will vary depending upon track length a good starting point is approximately 50% of a full fuel run.

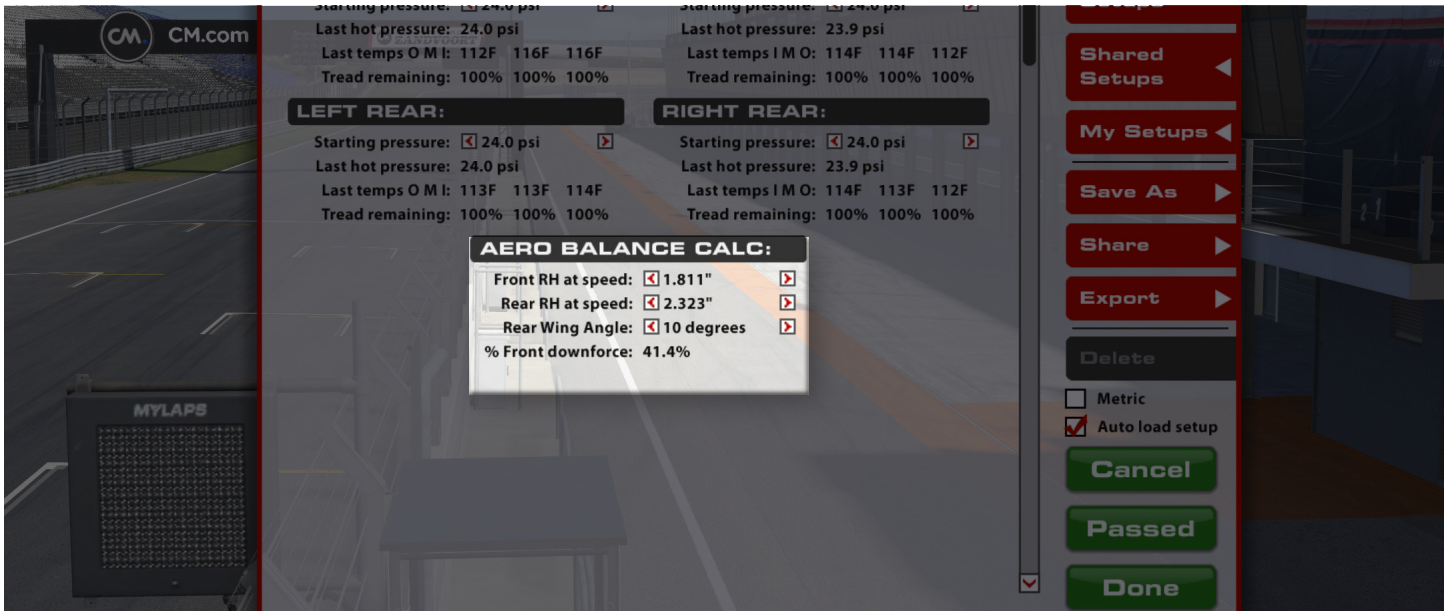
LAST TEMPS

Tire carcass temperatures once the car has returned to the pits. Wheel Loads and the amount of work a tire is doing on-track are 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 (predominantly camber) while on track. These values are measured in three zones across the tread of the tire: Inside, Middle and Outer.

TREAD REMAINING

The amount of tread remaining on the tire once the car has returned to 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 the same zones as the temperatures.

AERO BALANCE CALCULATOR



The Aero Calculator is a tool provided to aid in understanding the shift in aerodynamic balance associated with adjustment of the rear wing setting and front and rear ride heights. It is important to note that the values for front and rear ride height displayed here DO NOT result in any mechanical changes to the car itself, however, changes to the rear wing angle here WILL be applied to the car. This calculator is a reference tool ONLY.

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. It is advisable to use an average value of the LF and RF ride heights as this will provide a more accurate representation of the current aero platform rather than using a single corner height.

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. It is advisable to use an average value of the LR and RR ride heights as this will provide a more accurate representation of the current aero platform rather than using a single corner height.

REAR WING ANGLE

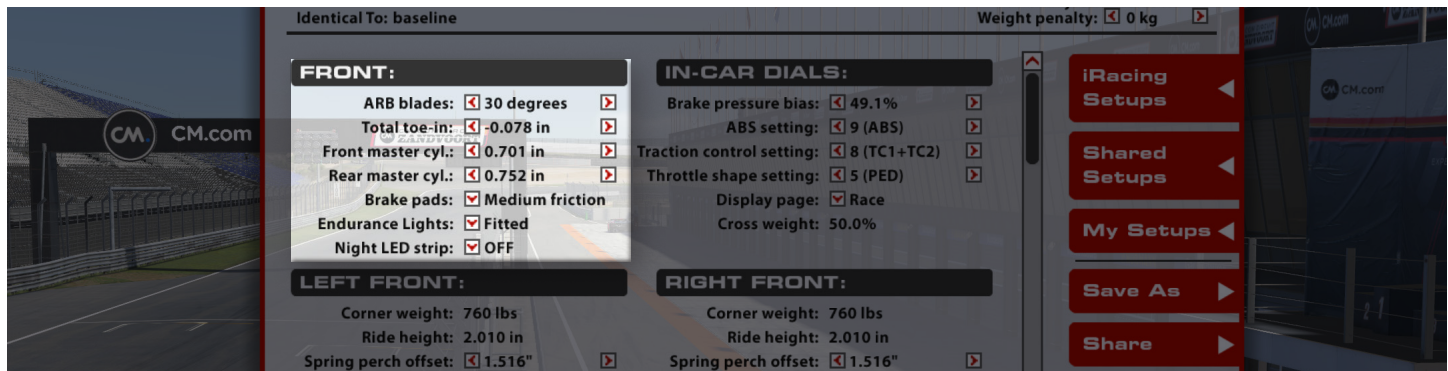
The Rear Wing Angle refers to the relative angle of attack of the rear wing, this is a powerful aerodynamic device which has a significant impact upon the total downforce and drag produced by the car as well as shifting the aerodynamic balance of the car rearwards with increasing angle. Increasing the rear wing angle results in more total cornering grip capability in medium to high speed corners but will also result in a reduction of straight line speed. This setting in the Aero Calculator is linked to the Rear Wing Angle setting on the Chassis / Rear section, changing one setting will also change the other.

% FRONT DOWNFORCE

This value displays the percentage of total downforce acting at the front axle for the given wing and ride height combination set within the calculator parameters. This value is an instantaneous representation of your aero balance at this exact set of parameters and it can be helpful to pick multiple points around a corner or section of track to understand how the aerodynamic balance is moving in differing situations such as braking, steady state cornering and accelerating at corner exit. A higher forwards percentage will result in more oversteer in mid to high speed corners.

Chassis

FRONT



ARB BLADES

The angle 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, inducing understeer while cornering. Conversely, lower values reduce the roll stiffness of the front suspension and reduce understeer.

TOTAL 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 front end, adding toe-out will increase slip in the inside tire while adding toe-in will reduce slip. Front Toe-out (negative garage value) will increase turn-in response but will reduce straight-line stability. Toe-in will reduce turn-in responsiveness but will reduce temperature buildup in the front tires and increase straight-line stability.

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, this will shift the brake bias rearwards and increase the pedal effort required to lock the front wheels. A smaller master cylinder will do the opposite and increase brake line pressure to the front brakes, shifting brake bias forward and reducing required pedal effort.

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, this will shift the brake bias forwards and increase the pedal effort required to lock the rear wheels. A smaller master cylinder will do the opposite and increase brake line pressure to the rear brakes, shifting brake bias rearward and reducing required pedal effort.

BRAKE PADS

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.

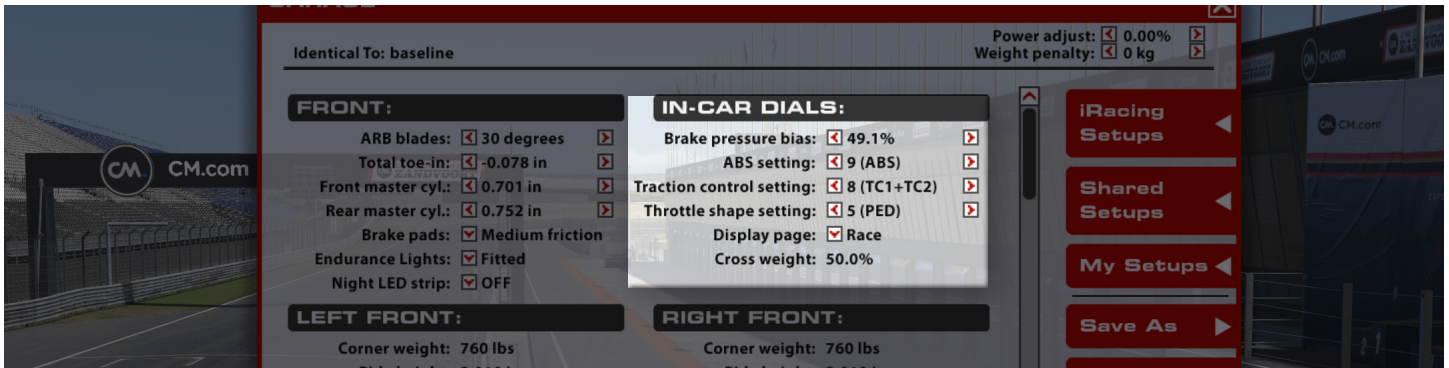
ENDURANCE LIGHTS

An extra set of headlights can be installed for night racing to increase driver visibility. Installing these will not affect vehicle performance.

NIGHT LED STRIP

This changes the color of the LED strips on the right side of the windshield to help identify cars with similar liveries in nighttime conditions. This is strictly a visual change for identifying the car in nighttime conditions and has no effect on the vehicle's handling.

IN-CAR DIALS



BRAKE PRESSURE BIAS

Brake Bias is the percentage of braking force that is being sent to the front brakes. Values above 50% result in greater pressure in the front brake line relative to the rear brake line which will shift the brake balance forwards increasing the tendency to lock up the front tyres but potentially increasing overall stability in braking zones. This should be tuned for both driver preference and track conditions to get the optimum braking performance for a given situation. It is important to note that differing combinations of master cylinder size will necessitate differing brake pressure bias values, this is because increasing or reducing the split in master cylinder size difference between front and rear axles will produce an inherent forward or rearward bias in brake line pressure.

ABS SETTING

The current ABS map the car is running. The ABS system features 12 positions divided into three groups to suit varying track conditions, with lower values providing less assistance and higher values providing more assistance to prevent brake lockup. Settings 2-7 are for slick tires in dry conditions, 8-12 are for wet conditions. Generally, setting 8 will be good for light rain while settings will need to be increased as conditions worsen, with setting 12 being for heavy rain. Setting 1 disables the system completely.

TRACTION CONTROL SETTING

The position of the traction control switch determines how aggressively the ecu cuts engine torque in reaction to rear wheel spin. Twelve settings are available with Position 2 providing the least intervention and Position 12 providing the most. Like the ABS setting, Position 1 will disable the Traction Control System. More intervention will result in less wheelspin and less rear tire wear but can reduce overall performance if the traction control is cutting engine torque too aggressively and stunting corner exit acceleration.

THROTTLE SHAPE SETTING

Throttle shape setting refers to how changes in the drivers pedal position result in changes in provided engine torque. Ten positions are available with setting 1 providing a linear torque response through pedal travel and the map moving towards a more S-shaped curve as the value increases to setting 9. Setting 10 is linear, just like setting 1, but has a higher slope and will be more aggressive as throttle is applied.

DISPLAY PAGE

This sets which of the in-car display pages is shown when the engine is started.

CROSS WEIGHT

The percentage of total vehicle weight in the garage acting across the right front and left rear corners. 50.0% is generally optimal for non-oval tracks as this will produce symmetrical handling in both left and right hand corners providing all other chassis settings are symmetrical. Higher than 50% cross weight will result in more understeer in left hand corners and increased oversteer in right hand corners, cross weight can be adjusted by making changes to the spring perch offsets at each corner of the car.

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 spring perch offset adjustments at each corner.

RIDE HEIGHT

Distance from ground to the floor of the car at the front axle centerline. 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 decrease 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.

Minimum drag setups with very low rear wing angles may require higher front ride heights in order to achieve the proper aerodynamic balance.

SPRING PERCH OFFSET

Used to adjust the ride height at the corner of the car by changing the installed position of the spring. Increasing the spring perch offset will result in lowering the corner of the car while reducing the spring perch offset will raise the corner of the car. These changes should be kept symmetrical across the axle (left to right) to ensure the same corner ride heights and no change in cross weight. The spring perch offsets can also be used in diagonal pairs (LF to RR and RF to LR) to change the static cross weight in the car.

SPRING RATE

This setting determines the installed corner spring stiffness. Stiffer springs will result in a smaller variance in ride height between high and low load cases and will produce better aerodynamic performance through improved ride height control however, but they will also result in reduced mechanical grip. Typically the drawbacks of stiffer springs will become more pronounced on rougher tracks and softer springs in these situations will result in increased overall performance. Spring perch offsets must be adjusted to return the car to the prior static ride heights after any spring rate change.

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. Increasing front camber values will typically result in increased front axle grip during mid to high speed cornering but will result in a loss of braking performance and necessitate a rearward shift in brake bias to compensate.

REAR CORNERS

The screenshot shows the 'REAR CORNERS' setup screen. At the top, there are two identical sets of settings for the left and right rear corners, each with a 'Ride height' of 2.010 in, 'Spring perch offset' of 1.516", 'Spring rate' of 1714 lbs/in, and 'Camber' of -3.9 deg. Below these are two columns: 'LEFT REAR:' and 'RIGHT REAR:'. Each column has 'Corner weight' at 860 lbs, 'Ride height' at 2.704 in, 'Spring perch offset' at 2.972", 'Spring rate' at 1200 lbs/in, 'Camber' at -3.0 deg, and 'Toe-in' at +0.064 in. Below these columns are 'REAR:' settings (Fuel level: 13.7 gal, ARB blades: 60 degrees) and 'GEARS / DIFFERENTIAL:' settings (Gear stack: FIA, Friction Faces: 8). On the right sidebar, there are buttons for 'Share', 'Export', 'Delete', and checkboxes for 'Metric' (unchecked) and 'Auto load setup' (checked). At the bottom of the sidebar are 'Cancel', 'Passed', and 'Done' buttons.

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 adjustments at each corner.

RIDE HEIGHT

Distance from ground to the floor of the car at the rear axle centerline. Increasing rear ride height will decrease rear downforce as well as increase overall downforce and will allow for more weight transfer across the rear axle when cornering. Conversely, reducing ride height will increase rear downforce percentage but reduce overall downforce while reducing the weight transfer across the rear axle. Rear ride height is a critical tuning component for both mechanical and aerodynamic balance considerations and static rear ride heights should be considered and matched to the chosen rear corner springs for optimal performance. Minimum legal rear ride height is 50.0 mm while maximum legal rear ride height is 92.5 mm.

SPRING PERCH OFFSET

Used to adjust the ride height at the corner of the car by changing the installed position of the spring. Increasing the spring perch offset will result in lowering the corner of the car while reducing the spring perch offset will raise the corner of the car. These changes should be kept symmetrical across the axle (left to right) to ensure the same corner ride heights and no change in cross weight. The spring perch offsets can also be used in diagonal pairs (LF to RR and RF to LR) to change the static cross weight in the car.

SPRING RATE

This setting determines the installed corner spring stiffness. Stiffer springs will result in a smaller variance in ride height between high and low load cases and will produce better aerodynamic performance through improved ride height control however, but they will also result in reduced mechanical grip. Typically the drawbacks of stiffer springs will become more pronounced on rougher tracks and softer springs in these situations will result in increased overall performance. Spring perch offsets must be adjusted to return the car to the prior static ride heights after any spring rate change.

CAMBER

At the rear of the car, camber performs a similar job to the front by increasing lateral grip with negative values. However, with the rear tires being driven camber can directly affect the amount of traction available on throttle and under braking. While larger negative camber values can increase lateral grip and cornering stability, it can hurt forward traction when throttle is applied as well as increase the risk of a rear lockup under heavy braking when the load is reduced on the rear tires.

REAR

LEFT REAR:	RIGHT REAR:
Corner weight: 600 lbs	Corner weight: 600 lbs
Ride height: 2.704 in	Ride height: 2.704 in
Spring perch offset: <input checked="" type="checkbox"/> 2.672"	Spring perch offset: <input checked="" type="checkbox"/> 2.672"
Spring rate: <input checked="" type="checkbox"/> 1200 lbs/in	Spring rate: <input checked="" type="checkbox"/> 1200 lbs/in
Camber: <input checked="" type="checkbox"/> -3.0 deg	Camber: <input checked="" type="checkbox"/> -3.0 deg
Toe-In: <input checked="" type="checkbox"/> +0.004 in	Toe-In: <input checked="" type="checkbox"/> +0.004 in

REAR:	GEARS / DIFFERENTIAL:
Fuel level: <input checked="" type="checkbox"/> 13.7 gal	Gear ratio: <input checked="" type="checkbox"/> FIA
ARB blades: <input checked="" type="checkbox"/> 60 degrees	Friction focus: <input checked="" type="checkbox"/> 6
Rear Wing Angle: <input checked="" type="checkbox"/> 10 degrees	Diff preload: <input checked="" type="checkbox"/> 74 ft-lbs

Export
Delete
☐ Metric
☒ Auto load setup
Cancel
Passed
Done

TIRES/AERO ► CHASSIS ▲ DAMPERS ► NOTES ►

FUEL LEVEL

The amount of fuel in the fuel tank. Tank capacity is 104 L (27.5 gal). Adjustable in 1 L (0.26 g) increments.

ARB BLADES

The angle 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 while cornering. Conversely, lower values reduce the roll stiffness of the rear suspension and will reduce oversteer.

REAR WING ANGLE

The Rear Wing Angle refers to the relative angle of attack of the rear wing, this is a powerful aerodynamic device which has a significant impact upon the total downforce (and drag!) produced by the car as well as shifting the aerodynamic balance of the car rearwards with increasing angle. Increasing the rear wing angle results in more total cornering grip capability in medium to high speed corners but will also result in a reduction of straight line speed. Rear wing angle should be adjusted in conjunction with front and rear ride heights, specifically the difference between front and rear ride heights known as ‘rake’. To retain the same overall aerodynamic balance it is necessary to increase the rake of the car when increasing the rear wing angle. This setting on the Chassis page is linked to the Rear Wing Angle setting in the Aero Calculator section, changing one setting will also change the other.

GEAR DIFFERENTIAL



GEAR STACK

Three options for the transmission gear stack are available for selection depending upon track type. The FIA stack is suitable for almost all track types and should be treated as the baseline. IMSA Daytona and IMSA Short provide two alternative options which are targeted for tracks with longer and shorter straightaways respectively.

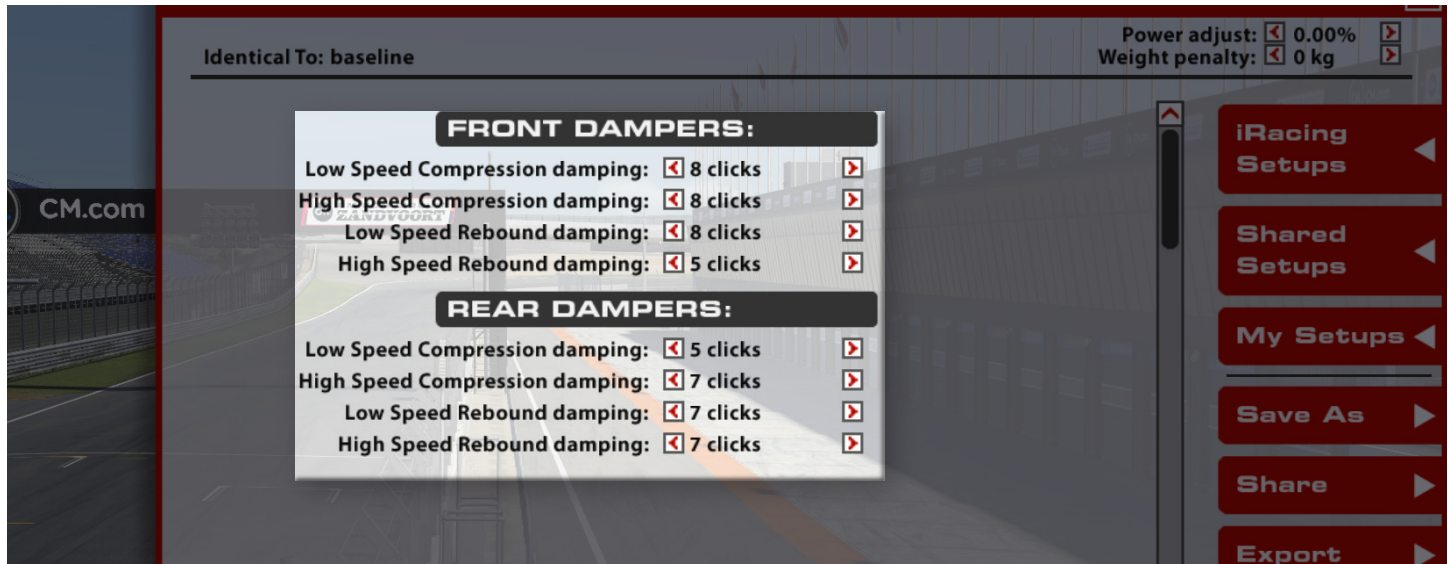
FRICTION FACES

The number of friction faces in the differential affect how much overall force is applied to keep the rear axle locked. Treated as a multiplier, adding more faces produces increasingly more locking force. For example, 8 friction faces will have twice the locking force of 4 faces, which will have twice the force of 2 faces.

DIFF PRELOAD

Diff preload is a static amount of locking force present within the differential and remains constant during both acceleration and deceleration. Increasing diff preload will increase locking on both sides of the differential which will result in more understeer when off throttle and more snap oversteer with aggressive throttle application. Increasing the diff preload will also smooth the transition between on and off throttle behavior as the differential locking force will never reach zero which can be helpful in reducing lift-off oversteer and increasing driver confidence. Typically diff preload should be increased when there is noticeable loss in slow corner exit drive and/or over-rotation during transition between the throttle and brake in low to mid speed corners.

Dampers



LOW SPEED COMPRESSION

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. Setting 0 is minimum damping (least resistance to compression) while 11 is maximum damping (most resistance to compression). Increasing the low speed compression damping will result in a faster transfer of weight to the front or rear of the car during transient movements such as braking and direction change with increased damping usually increasing the cars tendency to understeer on throttle application.

On the front end of the car, increasing Low Speed Compression will induce understeer under braking and whenever the front suspension is compressing. On the rear, more compression will increase traction on throttle and when the rear suspension is in compression, which can be perceived as understeer in extreme cases.

HIGH SPEED 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. At smoother tracks more high speed compression damping will typically increase performance while at rougher tracks or ones with aggressive kerbs less high speed compression damping can result in an increase in mechanical grip at the expense of platform control.

LOW SPEED REBOUND

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 stiffness will result in improved platform control for aerodynamic performance and overall chassis response but can result in the tire losing complete contact with the track surface if the suspension can't extend fast enough with reduced loads.

On the front end, higher rebound settings will hold the front of the car down longer during acceleration but can induce understeer on throttle application or over crests. On the rear of the car, more rebound will stabilize the car under braking but can induce understeer if set too aggressively.

HIGH SPEED REBOUND

High-speed rebound adjusts the shock in extension after 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.