MERCEDES-AMG GT4

USER MANUAL

Table of Contents

CLICK TO VIEW A SECTION

Dear iRacing User,

Congratulations on your purchase of the Mercedes-AMG GT4! 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!

Compared to its big brother in the GT3 class, the Mercedes-AMG GT4 still packs a powerful punch. Despite carrying a smaller 4.0-liter V8 engine, bringing it in line with a street-legal Mercedes-AMG GT, the car still produces a whopping 544 horsepower. The car also possesses most of the signature elements that set Mercedes vehicle design apart from its competitors, from a long and menacing front end to a signature grille that lets other racers know exactly who's trailing you.

In the hands of the Black Falcon and Schnitzelalm race teams, the car has repeatedly proven its worth in the Nurburgring 24 Hours, winning the competitive SP10 class on its first two tries and adding a third victory in 2021. Also a popular addition to the IMSA Michelin Pilot Challenge grid, Team TGM gave the car its first championship in 2018 with drivers Hugh Plumb and Owen Trinkler, and the car took at least one win in each of its first four seasons in the division.

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

FRONT AND REAR DOUBLE WISHBONE SUSPENSION

LENGTH	WIDTH	WHEELBASE	DRY WEIGHT	WET WEIGHT WITH DRIVER
4619 mm	1,996 mm	2,630 mm	1486 kg	1595 kg
181.9 in	78.6 in	103.5 in	3276 lbs	3516 lbs

POWER UNIT

TWIN-TURBO ALUMINUM 90° V8

DISPLACEMENT	TORQUE	POWER	RPM LIMIT
4.0 Liters	425+ lb-ft	460+ bhp	6875
244.1 cid	576 Nm	343 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 wwselect 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.

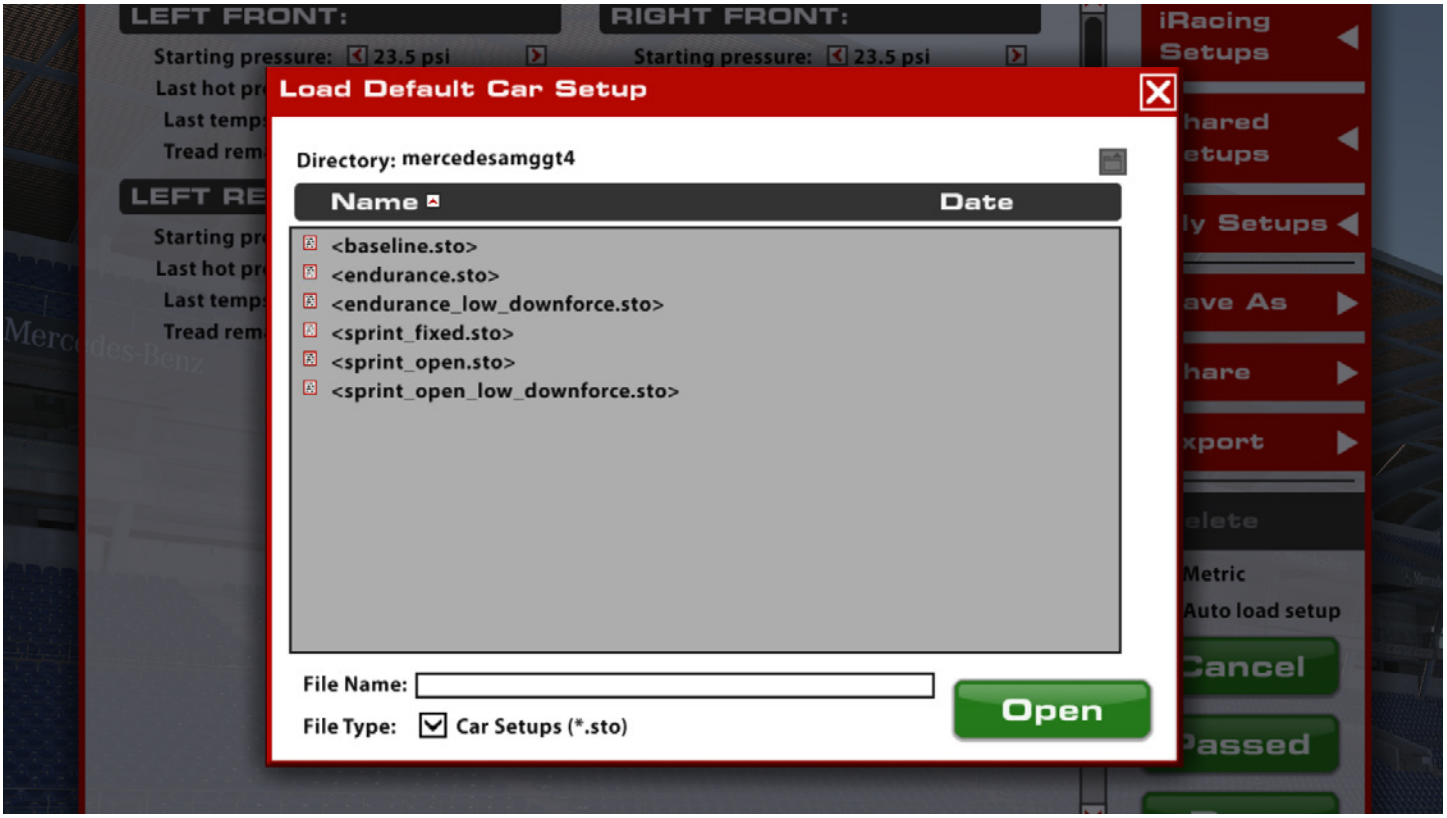
GETTING STARTED

Before starting the car, it is recommended to map controls for Brake Bias, TC and ABS settings. While this is not mandatory, this will allow you to make quick changes to the brake bias and stability management systems to suit your driving while out on track.

Once you load into the car, getting started is as easy as pulling the “upshift” paddle to put it into gear, and hitting the accelerator pedal. This car uses an automated sequential transmission and does not require manual clutch operation 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 requested. If that is the case, the downshift command will simply be ignored.

Upshifting is recommended when all the shift lights flash red, this is at approximately 6600 rpm but will shift up or down slightly depending on the selected gear.

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 Pages

The digital dash display in this car features two selectable pages.

DASH CONFIGURATION (PART 1)

Top Row	Graphical depiction of engine rpm.
Row 2 Left	Engine water temperature (Celsius or Fahrenheit)
Row 2 Second from left	Battery Voltage (V)
Row 2 Center	lap time delta to best lap
Row 2 Right	Road Speed (km/h or mph)
Row 3 Left	Engine oil temperature (Celsius or Fahrenheit)
Row 3 Second from left	Gearbox oil temperature (Celsius or Fahrenheit)
Row 3 Center	Currently selected gear
Row 3 Third from right	Currently selected ABS map
Row 3 Second from right	Currently selected Traction Control map
Row 3 Right	Currently selected engine map
Row 4 Left	Last lap time
Row 4 Right	Remaining fuel (Liters or US Gallons)
Bottom Row	Selected dash display page

DASH CONFIGURATION (PART 2)

Top Row.	Graphical depiction of engine rpm
Row 2 Left	Engine water temperature (Celsius or Fahrenheit)
Row 2 Second from left	Battery Voltage (V)
Row 2 Center	lap time delta to best lap
Row 2 Right	Road Speed (km/h or mph)
Row 3 Left	LF air pressure (Bar or psi)
Row 3 Second from Left	RF air pressure (Bar or psi)
Row 3 Center	Currently selected gear
Row 3 Third from right	Currently selected ABS map
Row 3 Second from right	Currently selected Traction Control map
Row 3 Right	Currently selected engine map
Row 4 Left	LR air pressure (Bar or psi)
Row 4 Second from Left	RR air pressure (Bar or psi)
Row 4 Right	Remaining fuel (Liters or US Gallons)
Bottom Row	Selected dash display page

PIT LIMITER / PIT DASH PAGE

When the pit limiter is active a blue bar will appear at the top of the screen specifying the current vehicle speed. This bar will be blue while under the limit and red when over. In addition to this, the shift light cluster will flash with alternating blue and yellow lights.

SHIFT LIGHTS

The shift lights illuminate from the outer edges towards the center in the following pattern:

2 Green	5790 rpm
4 Green	5950 rpm
2 Yellow	6110 rpm
4 Yellow	6270 rpm
2 Red	6430 rpm
All Red Flashing	6600 rpm

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

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 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.

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. 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.

TIRE TEMPERATURES

Tire carcass temperatures, measured via Pyrometer, 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 those of temperature.

Chassis

FRONT

ARB SETTING

Increasing the ARB setting shortens the ARB moment arm and will increase the roll stiffness of the front suspension, resulting in less body roll but increasing mechanical understeer. This can in some cases, lead to a more responsive steering feel for the driver. Conversely, reducing the ARB setting lengthens the ARB moment arm, softening the suspension in roll and 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. Along with this, the effects of softening or stiffening the ARB assembly in relation to aerodynamics should also be considered, a softer ARB configuration will result in more body roll which will decrease control of the aero platform in high speed corners and potentially lead to a loss in aero efficiency. Two ARB settings are available: 1 'soft' and 2 'stiff'.

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 the slip. This can be used to increase straight-line stability and turn-in responsiveness with toe-out. Toe-in at the front will reduce turn-in responsiveness but will reduce temperature buildup in the front tires.

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.

NOSE WEIGHT

The percentage of total vehicle weight in the garage acting on the front corners. This cannot be adjusted per say but is influenced by the total fuel load carried. As fuel burns (or less starting fuel is specified) the nose weight of the car will increase due to the fuel tank location. This will tend to push the overall balance towards understeer. As such, this reference item can be useful in establishing how much of an adjustment to the setup is required when changing fuel load.

IN-CAR DIALS

DASH DISPLAY PAGE

Changes the currently selected digital dash page. 2 options are available as previously described in the dash configuration section of this manual.

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 tires 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.

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 but providing the most modulation, while "Medium" and "High" provide more friction and increase the effectiveness of the brakes but the least modulation.

ABS SETTING

The current ABS map the car is running. 12 positions are available. Position 11 has the least intervention/support while position 1 has the most support. Position 12 disables the ABS completely. Position 4 is the recommended baseline setting. More intervention reduces the possibility of and the duration of lockups during braking but can result in longer braking distances if the system is set overly aggressive for the amount of available grip.

TC SETTING

The position of the traction control switch determines how aggressively the ecu cuts engine torque in reaction to rear wheel spin. 12 positions are available. Settings 1-11 range from least intervention/sensitivity (position 11) through to highest intervention/sensitivity (position 1). Position 12 disables the traction control completely. Position 10 is the recommended baseline setting. 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.

LEFT/RIGHT FRONT

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.

FRONT 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 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 legal front ride height is 113.0 mm.

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 superior aerodynamic performance through improved platform control; however, they will also result in increased tire load variation which will manifest as a loss in 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. Corner spring changes will influence both roll and pitch control of the platform and ARB changes should be considered when altering corner spring stiffnesses in order to retain the same front to rear roll stiffness and overall balance. When reducing corner spring stiffness the ARB stiffness should be increased to retain the same roll stiffness as previously. Three options for spring rate are available ranging from 150 N/mm (857 lbs/in) to 200 N/mm (1142 lbs/in). Spring perch offsets must be adjusted to return the car to the prior static ride heights after any spring rate change.

SPRING PERCH OFFSET

Used to adjust the ride height at this corner of the car by changing the installed position of the spring. Increasing the spring perch offset will result in lowering this corner of the car while reducing the spring perch offset will raise this 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.

BUMP STIFFNESS

The bump stiffness setting is a paired adjustment controlling both the low and high speed compression damping characteristics of the damper. In this case 0 is minimum damping (least resistance to compression) while 15 is maximum damping (most resistance to compression). Increasing the bump stiffness will result in a faster transfer of weight to this corner of the car during transient movements such as braking and direction change with increased damping usually providing an increase in turn-in response but a reduction in overall grip in the context of front dampers. High speed compression damping will increase proportionally to the increase in low speed compression damping which will also result in harsher response to kerb strikes. At smoother tracks more bump stiffness will typically increase performance while at rougher tracks or ones with aggressive kerbs less compression damping can result in an increase in mechanical grip at the expense of platform control.

REBOUND STIFFNESS

The Rebound Stiffness setting is a paired adjustment to both low and high speed rebound damping characteristics. Increasing rebound damping will slow down the rate at which the damper extends in both low and high speed situations. A typical low damper speed situation would be as the car rolls back to level on a corner exit while a high speed situation would be where the suspension is extending after large kerb contact. 0 is minimum damping (least resistance to extension) while 12 is maximum damping (most resistance to extension). While high rebound stiffness will result in improved platform control for aerodynamic performance and overall chassis response it is important to avoid situations where the shock is too slow in rebounding as this will result in the tire losing complete contact with the track surface which can induce or exacerbate severe oscillations.

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.

LEFT/RIGHT REAR

REAR RIDE HEIGHT

Distance from ground to a reference point on the rear of the chassis. 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 125.0 mm while maximum legal rear ride height is 135.0 mm.

BUMP STIFFNESS

The bump stiffness setting is a paired adjustment controlling both the low and high speed compression damping characteristics of the damper with identical ranges to those of the front dampers. Increasing the compression damping will result in a faster transfer of weight to this corner of the car during transient movements such as accelerating and direction change with increased damping usually providing an increase in response but a reduction in overall grip especially at corner exit traction in the context of rear dampers. Excessively stiff compression damping can cause very poor traction on rough tracks as it can result in large tire load variation and a reduction in overall grip.

REBOUND STIFFNESS

The rebound stiffness setting is a paired adjustment controlling both the low and high speed damping characteristics of the damper with identical ranges to those of the front dampers. Increasing rebound damping will slow down the rate at which the damper extends in both low and high speed situations. As at the front, high rebound stiffness will result in improved platform control for aerodynamic performance and overall chassis response but it is important to avoid situations where the shock is too slow in rebounding as this will result in the tire losing complete contact with the track surface. This can be particularly detrimental during braking events and during the initial turn-in phase though an increase in rebound stiffness can help to 'slow down' the change in pitch of the car as the brakes are applied, potentially increasing braking stability.

CAMBER

As at the front of the car it is desirable to run significant amounts of negative camber in order to increase the lateral grip capability; however, it is typical to run slightly reduced rear camber relative to the front. This is primarily for two reasons, firstly, the rear tires are wider compared to the fronts and secondly the rear tires must also perform the duty of driving the car forwards where benefits of camber to lateral grip become a tradeoff against reduced longitudinal (traction) performance.

TOE-IN

At the rear of the car it is typical to run toe-in. Increases in toe-in will result in improved straight line stability and a reduction in response during direction changes. Large values of toe-in should be avoided if possible as this will increase rolling drag and reduce straight line speeds. When making rear toe changes remember that the values are for each individual wheel as opposed to paired as at the front. This means that individual values on the rear wheels are twice as powerful as the combined adjustment at the front of the car when the rear toes are summed together. Generally, it is advised to keep the left and right toe values equal to prevent crabbing or asymmetric handling behavior; however, heavily asymmetric tracks such as Lime Rock Park may see a benefit in performance from running asymmetric configurations of rear toe and other setup parameters.

REAR

FUEL LEVEL

The amount of fuel in the fuel tank. Tank capacity is 97 L (25.6 g). Adjustable in 1 L (0.26 g) increments.

ARB SETTING

Increasing the ARB assembly stiffness will increase the roll stiffness of the rear suspension, resulting in less body roll but increasing mechanical oversteer. This can also cause the car to “take a set” more quickly at initial turn-in. Conversely, reducing the ARB assembly stiffness will soften the suspension in roll, increasing body roll but decreasing mechanical oversteer. This can result in a less-responsive feel from the rear especially in transient movements, but grip across the rear axle will increase. Four ARB settings are available ranging from 0 ‘disconnected’ to 3 ‘stiff’.

WING SETTING

The wing setting refers to the relative angle of attack of the rear wing, this is an 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.

DIFF CLUTCHES

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 but has no impact around zero input torque. This can be considered to be a coarse adjustment to the differential and is most impactful under true coast and wide open throttle situations.