USER MANUAL

DIRT MICRO SPRINT

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DEAR iRACING USER,

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

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

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

CHASSIS

SOLID AXLE COILOVER FRONT / SOLID AXLE TORSION BAR REAR

LENGTH	WIDTH	WHEELBASE	DRY WEIGHT WINGED	DRY WEIGHT NON-WINGED	WET WEIGHT WITH DRIVER WINGED	WET WEIGHT WITH DRIVER NON-WINGED
2870mm 113in	**2007mm** 79in	**1499mm** 59in	**258kg** 570lbs	**247kg** 545lbs	**372kg** 820lbs	**361kg** 795lbs

POWER UNIT

SIDE-MOUNTED 4-STROKE MOTORCYCLE ENGINE

DISPLACEMENT	RPM LIMIT	TORQUE	POWER
600 CC 36.6 CID	**16000 RPM**	**67lb-ft** 91Nm	**160bhp** 119kW

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.

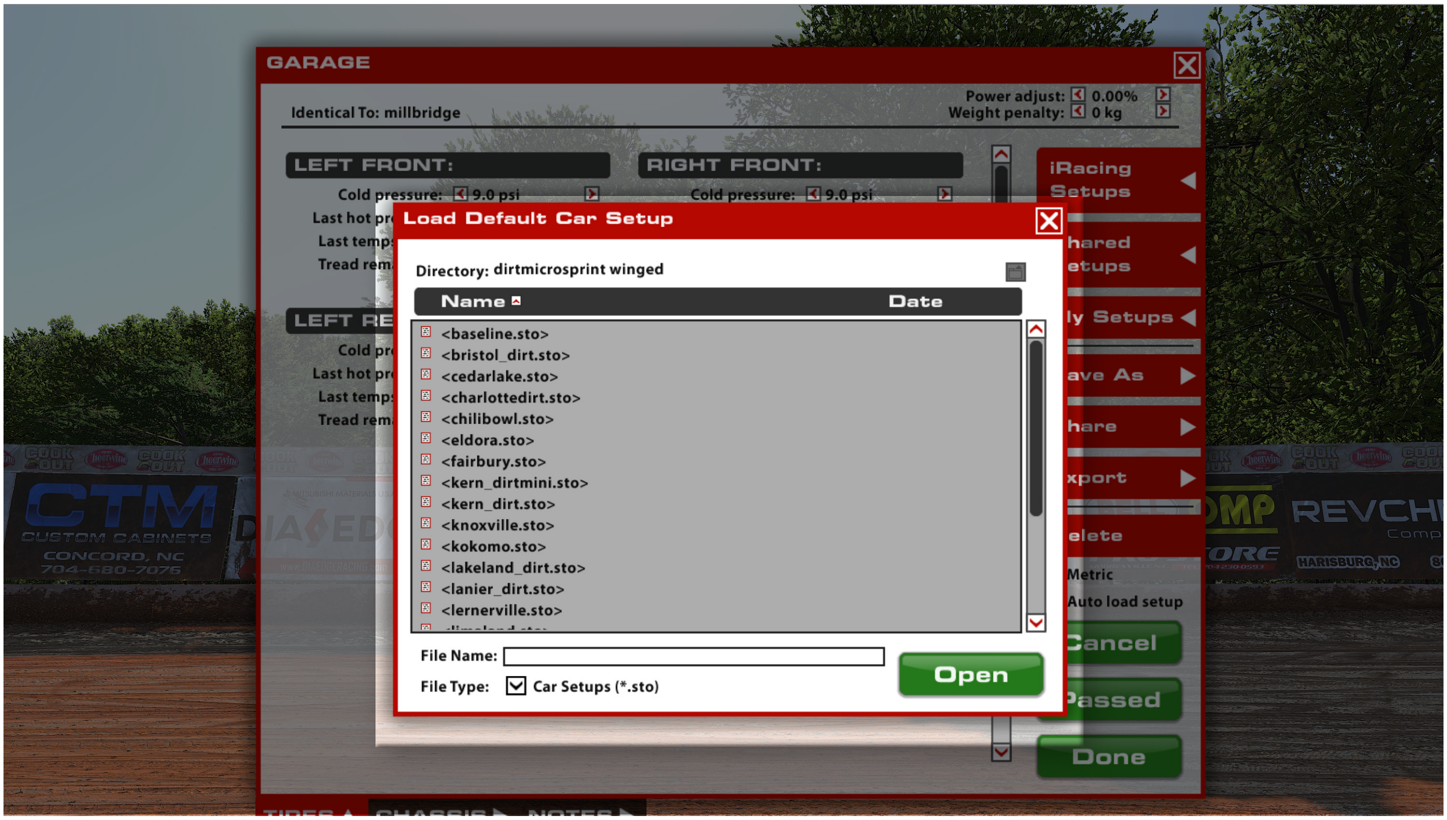
Before diving into chassis adjustments, though, it is best to become familiar with the car and track. To that end, we have provided baseline setups for each track commonly raced by these cars. To access the baseline setups, simply open the Garage, click iRacing Setups, and select the appropriate setup 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

Once you load into the car, select 1st gear and give it a bit of throttle to get underway. The Micro Sprints have five forward gears and a reverse gear but doesn't require a clutch for upshifts or downshifts, with upshifting requiring a quick lift off the throttle and downshifting requiring a small blip of throttle.

LOADING AN iRACING SETUP



When you first load into a session, the iRacing Baseline setup 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.

DASH CONFIGURATION

ECT - Engine coolant temperature in °C or °F

Fuel P - Fuel system pressure

Oil P - Engine oil system pressure

RPM - Engine RPM

TPS - Throttle Position in percentage of full pedal travel

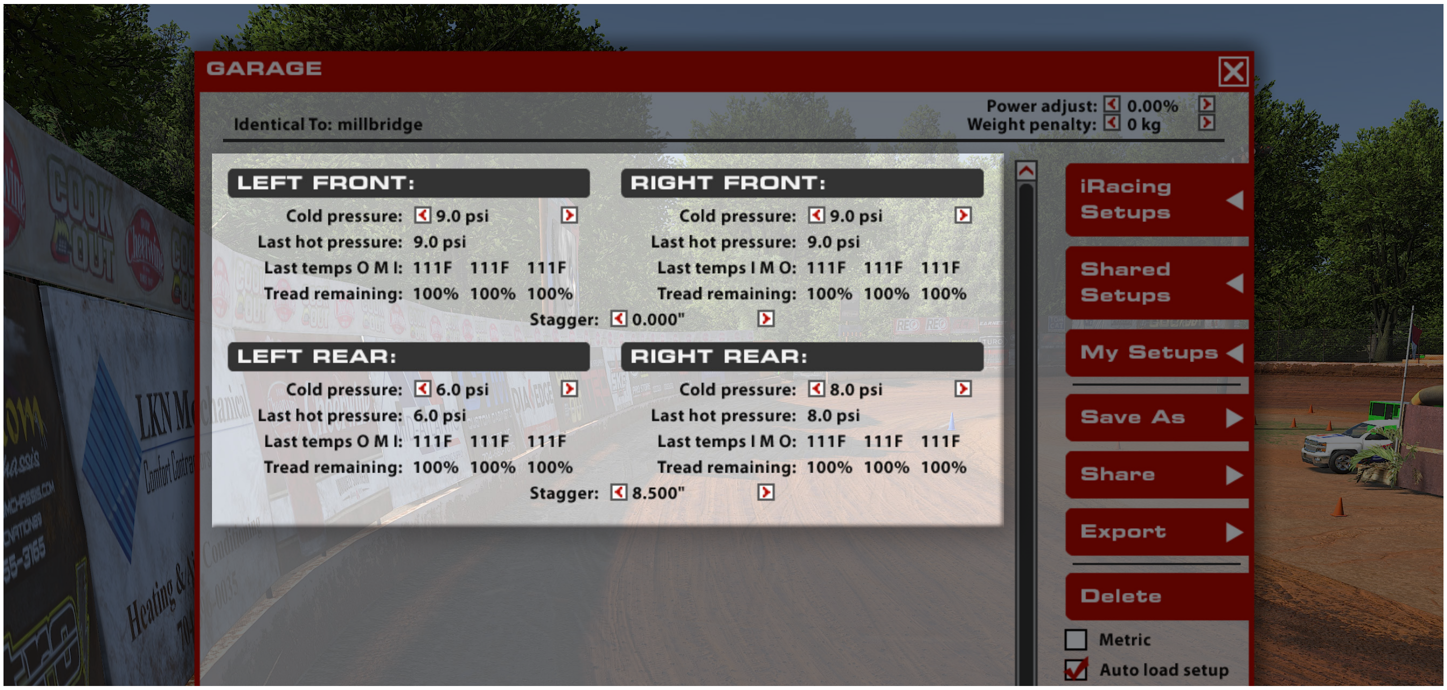
Battery - Current Battery Voltage

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

TIRE DATA



COLD 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 generally 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.

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.

LAST TEMPERATURES

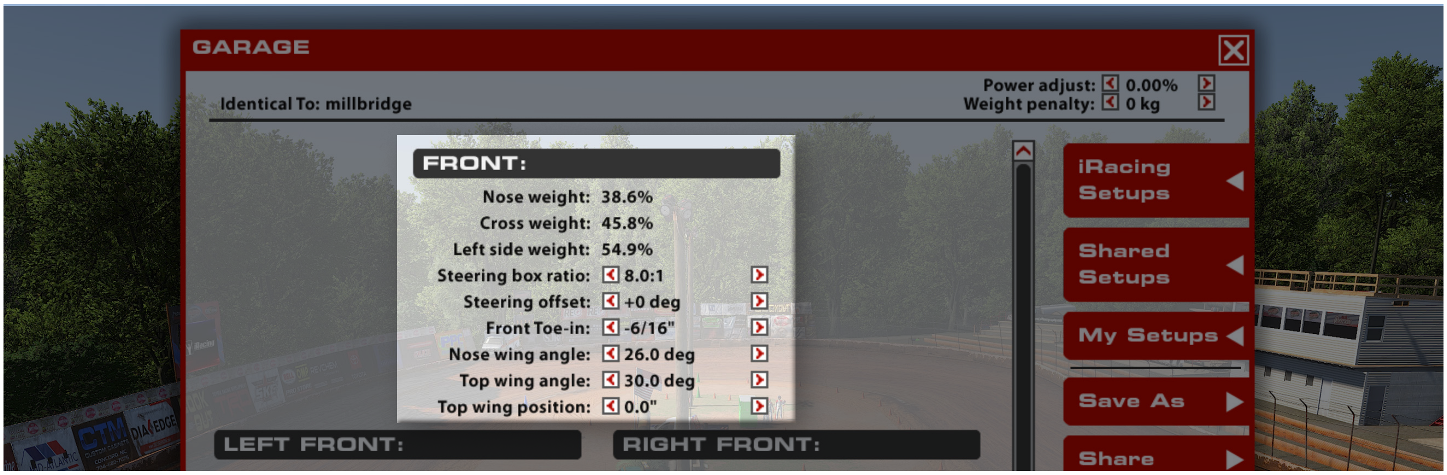
Tire carcass temperatures once the car has returned from the pits. Wheel Loads and the amount of work a tire is doing on-track is reflected in the tire's temperature, and these values can be used to analyze the car's handling balance. Center temperatures are useful for directly comparing the work done 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. The left sides of each tire should typically be the most heavily loaded and hottest, so the outsides of the left side tires and insides of right side tires.

TREAD REMAINING

The amount of tread remaining on the tire once the car has returned from the pits. For these cars and tires, wear is currently negligible, though this may change in the future.

CHASSIS

FRONT



NOSE WEIGHT

In order to meet minimum legal competition weights, lead blocks are installed within the chassis that can be moved to various locations in the car. This adjustment directly affects the Nose Weight setting and will have a large effect on the car's overall handling balance, especially at high-speeds on larger tracks.

CROSS WEIGHT

Percentage of total static weight supported by the right front and left rear tires. This percentage can be adjusted by changing wheel loads using front coil spring or rear torsion bar preload. When adjusting spring preload, to maintain ride heights you should adjust opposing corners in conjunction. If preload is added to the right front and left rear, preload on the left front and right rear should be correspondingly reduced. Increasing cross weight generally tightens the car, and reducing crossweight generally loosens the car.

LEFT SIDE WEIGHT

The percentage of total weight situated over the left-side tires. This is not directly adjustable but can change slightly from various chassis adjustments.

STERING BOX RATIO

The Steering Ratio will alter how "fast" the steering feels to the driver. This ratio is a representation of how much movement is applied to the steering box input shaft to produce a standard amount of movement on the steering box output shaft. For example, a "10:1" can be thought of as requiring 10° of steering input from the driver to produce 1° of steering output from the steering box. Increasing the value to 12:1 would require 12° of steering input to get the same output, and this would feel as if the steering has become slower and less responsive. Conversely, reducing the ratio will make the steering feel faster and more darty for the driver. This is purely a driver preference setting and has no effect on the rest of the chassis setup or its handling characteristics.

STEERING OFFSET

Due to the asymmetric nature of the Dirt Micro Sprint, the steering can often have a "pull" to the left on the straights. To counter this effect and re-center the steering wheel, an offset can be applied in the garage. Positive values will rotate the steering wheel to the right and negative values will rotate the steering wheel to the left. This offset will not affect the steering or the chassis in any way other than the steering wheel's orientation at neutral steering input.

FRONT 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

NOSE WING ANGLE (WINGED MICRO SPRINT ONLY)

The Nose Wing Angle can be changed to alter the car's aerodynamic handling balance and overall downforce level. Higher angles will shift aerodynamic balance forward and increase overall downforce, lower angles will shift the balance rearward and decrease overall downforce.

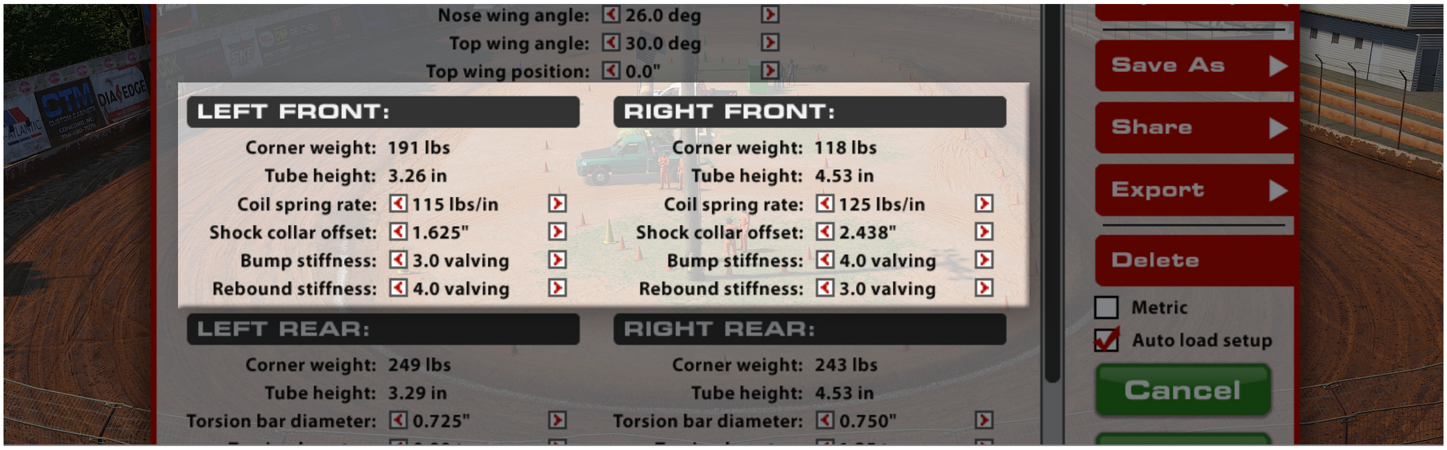
TOP WING ANGLE (WINGED MICRO SPRINT ONLY)

The Top Wing angle can be adjusted to control overall downforce levels with a small change in aerodynamic balance. Increasing the angle will increase overall downforce level and drag, while reducing the angle will decrease overall downforce and drag.

TOP WING POSITION (WINGED MICRO SPRINT ONLY)

The Top Wing can be moved fore and aft to control the aerodynamic balance without affecting the overall downforce level. Setting the wing to the highest value (0.0 inches or mm) will position the wing as far forward as possible, placing the aerodynamic balance as far forward as possible and shifting the handling towards oversteer. Reducing the value, setting it to more negative, will shift the wing more rearward and move the balance rearward and increase traction and understeer.

FRONT CORNERS



CORNER WEIGHT

The weight distribution on 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. Once ride heights and corner weights are set, any change to a spring rate will typically require a corresponding spring perch offset adjustment to maintain static corner weight.

TUBE HEIGHT

Distance from ground to the bottom of the chassis frame rail on the front of the chassis. Adjusting the Tube Height is key for optimum performance, as it can directly influence the vehicle's aerodynamic performance as well as mechanical grip.

COIL SPRING RATE

Spring Rate changes how stiff the spring is, represented in force per unit of displacement. Softer springs allow for more roll and slower load transfer, and can be better on rougher or slicker tracks. Stiffer springs allow for less roll and quicker load transfer, and can help provide bite in loose dirt and moisture.

SHOCK COLLAR OFFSET

Spring perch offset is used to adjust ride height and corner weight. Adjusting this setting changes the preload on 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.

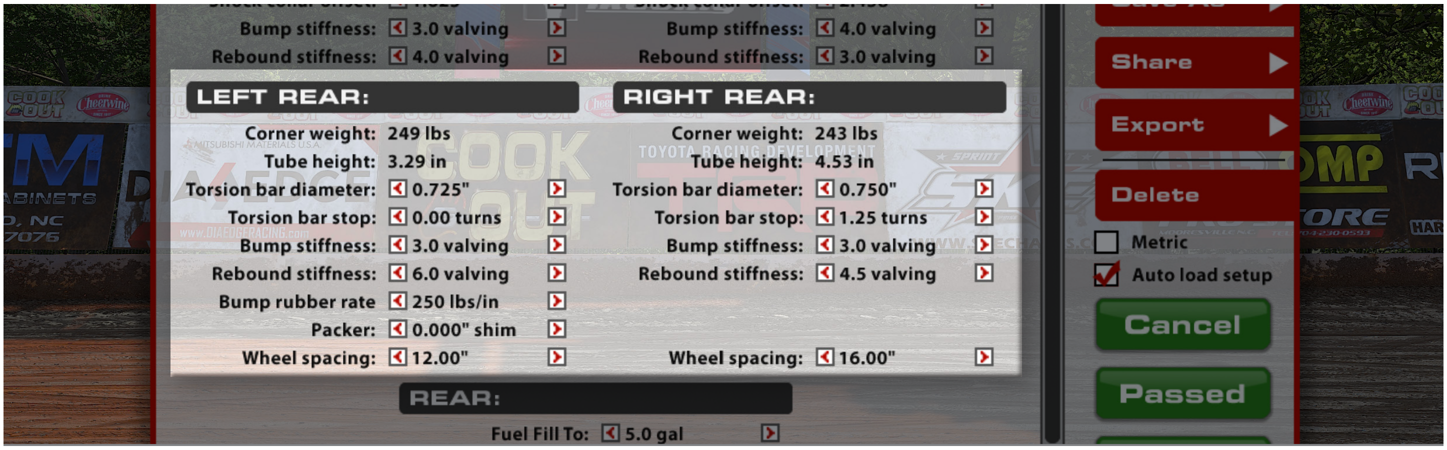
BUMP STIFFNESS

Bump stiffness affects how resistant the shock is to compression (reduction in length), usually in chassis movements as a result of driver input (steering, braking, & throttle) and cornering forces. Higher front Bump values will increase compression resistance and transfer load onto a given tire more quickly, inducing understeer under braking and turn-in. Lower values reduce compression resistance and transfer load onto a given tire more slowly, which can induce oversteer under braking.

REBOUND STIFFNESS

Rebound stiffness affects how resistant the shock is to extension (increase in length), typically during body movement as a result of driver inputs. Higher rebound values will slow extension of the shock, lower values will allow the shock to extend faster. When tuning for handling, higher front rebound can increase on-throttle mechanical understeer while lower values will maintain front end grip longer, helping to reduce mechanical understeer. Excessive front rebound can lead to unwanted oscillations due to the wheel bouncing off of the track surface instead of staying in contact.

REAR CORNERS



CORNER WEIGHT

The weight distribution on 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. Once ride heights and corner weights are set, any change to a spring rate will typically require a corresponding spring perch offset adjustment to maintain static corner weight.

TUBE HEIGHT

Distance from ground to the bottom of the chassis frame rail on the rear of the chassis. Adjusting the Tube Height is key for optimum performance, as it can directly influence the vehicle's aerodynamic performance as well as mechanical grip.

TORSION BAR DIAMETER

The Torsion Bars are the spring elements for the rear corners of the car and behave in the same way as a conventional coil spring. The Outer Diameter of each torsion bar determines the bar's spring rate and how stiff the bar is through changing suspension loads. Larger diameter bars will have a higher spring rate and will be stiffer, which is great for maintaining a consistent aerodynamic attitude around the track but will reduce mechanical grip, especially in slow corners. Smaller torsion bars will have a lower spring rate and produce more mechanical grip, however the extra movement from the suspension can hurt aerodynamic performance at high speeds.

TORSION BAR STOP

Each torsion bar can be preloaded to raise or lower a given corner of the car and increase or decrease the preload on the torsion bar springs. Increasing the Stop value will preload the torsion bar and raise the corner's ride height, decreasing the Stop value will reduce the preload on a given torsion bar and lower the corner's ride height.

BUMP STIFFNESS

Bump stiffness affects how resistant the shock is to compression (reduction in length), usually in chassis movements as a result of driver input (steering, braking, & throttle) and cornering forces. Higher rear Bump values will increase compression resistance and transfer load onto a given tire more quickly, increasing rear traction on corner exit. Lower values reduce compression resistance and transfer load onto a given tire more slowly, which can help reduce understeer on corner exit.

REBOUND STIFFNESS

Rebound stiffness affects how resistant the shock is to extension (increase in length), typically during body movement as a result of driver inputs. Higher rebound values will slow extension of the shock, lower values will allow the shock to extend faster. When tuning for handling, higher rear rebound can increase understeer when braking while lower values will induce oversteer under braking and during turn-in. Excessive rear rebound can lead to unwanted oscillations due to the wheel bouncing off of the track surface instead of staying in contact, reducing traction when exiting corners.

BUMP RUBBER RATE

A composite bump rubber can be used on the left-rear corner to limit travel and increase left-rear load. Higher rates will increase left-rear load faster, increasing dynamic crossweight and traction, while lower rates will reduce how quickly load is increased as the suspension compresses.

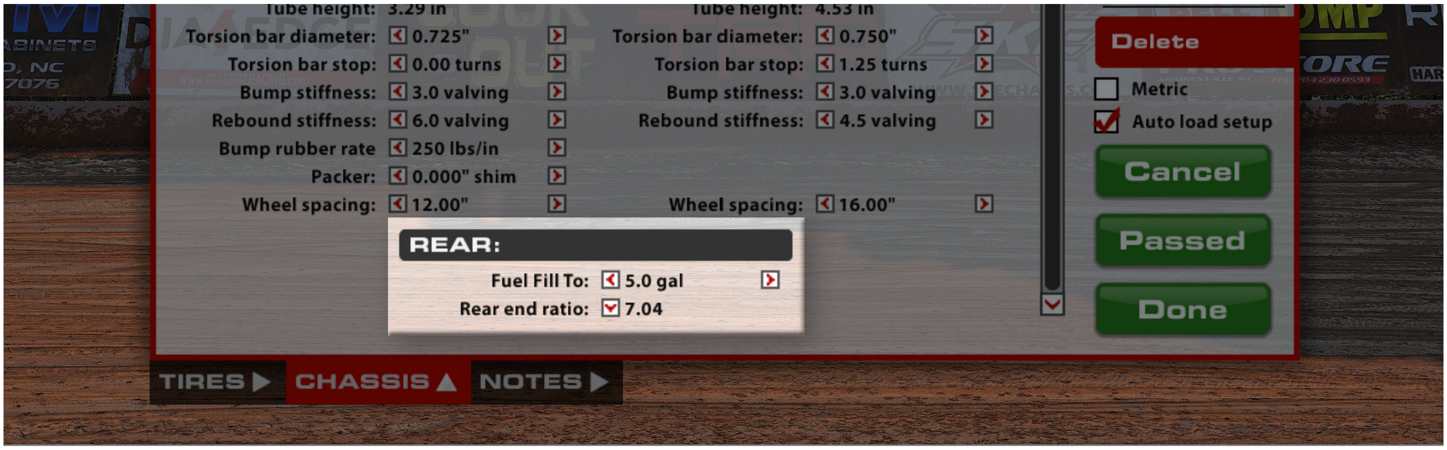
PACKER

Packers, or shims, are used to control when the left-rear bump rubber is engaged in suspension travel. Increasing the packer value will engage the bump rubber sooner, increasing traction and left-rear bite, while reducing the packer value will delay the bump rubber's engagement and the load applied from the bump rubber.

WHEEL SPACING

Using wheel spacers or a change in wheel offset, either wheel can be spaced further outboard or inboard to shift the leverage on that wheel. Spacing the left rear more outboard (more positive number) will generally tighten the car (understeer), and spacing it more inboard (more negative number) will generally free the car up more (oversteer). The opposite is true for the right rear.

REAR



FUEL FILL TO

Fuel fill level minimum should be sufficient for the desired number of laps to be completed, but can also be used for rear ballast. If you wish to increase the rear weight percentage for handling purposes, it can be useful to run excess fuel beyond the volume required to complete the laps.

REAR END RATIO

The gear ratio in the rear end should be set based on track length and track state to balance acceleration and top end RPM. Too low a numerical gear can lead to wheel spin and over rev the engine, while too high a numerical car can lead to bogging on throttle and slow acceleration. A good balance will provide manageable throttle response and good acceleration without reaching the rev limiter.