CAR TUNING MANUAL

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WHERE TO GO TO ADJUST VEHICLE

TO VISIT THE MECHANIC, GO TO YOUR GARAGE, CHOOSE THE VEHICLE YOU WOULD LIKE TO TUNE, AND SELECT CAR SETTINGS.

BASIC SETTINGS

POWER-TO-WEIGHT RATIO

The power to weight ratio of your vehicle affects acceleration, handling, braking, and emissions. In online races, these ratios are preset to ensure fair competition.

WEIGHT OF CAR

The lighter the vehicle, the quicker it accelerates. Reducing the weight of the car will make it faster, but on certain vehicles it also minimizes downforce and makes the car harder to handle.

POWER RATIO

In addition to lowering the weight of the vehicle, the power ratio can be adjusted to make it accelerate faster. The only rule is to make sure you can handle however your horses.

AERODYNAMICS

DOWNFORCE

Downforce is the amount of downward thrust created by the aerodynamics of the car and is determined largely by the airflow over and under the car. The degree to which the rear levels can be adjusted vary from model to model. Increasing the value adds downforce, which adds grip and stability, but doing so may also lower the top speed.
DRIVETRAIN

DIFFERENTIAL GEAR
Replacing the preset differential gear with the fully customizable option allows you to tailor your drive train.

LSD [LIMITED SLIP DIFFERENTIAL]

LSD INITIAL TORQUE
The initial torque determines how much power is needed to activate the differential. A higher number produces more understeer and offers stronger engagement but may make turning more difficult. A lower number produces more oversteer with tighter turning but less engagement.

LSD ACCELERATION SENSITIVITY
The LSD Acceleration Sensitivity level adjusts the engagement during full throttle. The higher the value the higher the engagement; however, the car may become unstable at full throttle. Another way to think about LSD Acceleration Sensitivity concerns the wheel spin. If the inside wheel spins first, raise the setting. If the outside wheel turns first lower the setting.

LSD BRAKING SENSITIVITY
The LSD Braking Sensitivity level adjusts the engagement during deceleration (braking, turning-in, and coasting). The higher the value, the higher the engagement; however, the car may understeer heavily when turning-in at high values. If you car is oversteering, raise the LSD braking sensitivity. If it is understeering, lower the LSD braking sensitivity.

TRANSMISSION

CHOOSING “FULLY CUSTOMIZABLE” WILL ALLOW YOU TO ADJUST THE SETTINGS OF YOUR GEARBOX.
**TOP SPEED**
The higher the top speed value the more acceleration decreases. If you are often spinning the tires when you accelerate, try increasing the top speed. Resetting the stop speed will automatically adjust the gear ratio unless you also manually adjust the ratio.

**GEAR RATIO**
The gear ratio allows you to adjust each gear independently to customize how your car accelerates. Remember to test the vehicle after making adjustments to test how they affect acceleration and speed. Remember that resetting the top speed will reset any manual adjustments you make.

**FINAL GEAR**
Set the final gear only after you’ve adjusted the gear ratio to your liking. Increasing the value of final gear helps raise the vehicle’s maximum speed. Reducing the value results in quicker acceleration.

**SUSPENSION**
Adjusting your vehicle’s suspension allows you to tailor it to the unique surfaces of each track.

**RIDE HEIGHT**
Ride height, or clearance, is the distance between the underbody of the car and the ground. You can adjust the ride height of both the rear and front ends of the vehicle. Lowering the vehicle lessens the chance of rollover and allows for better handling. However, if you set the vehicle too low, you may find yourself making contact with the road surface, which not only slows you down but ruins your paint job.
**SPRING RATE**

Adjusting the spring rate helps tailor the vehicle for a particular surface. Increasing the spring rate will make the suspension stiffer. Set it too high and the car may bounce on bumpy pavements. Lowering the spring rate loosens the suspension and makes for a more comfortable ride. But set it too loose and you run the risk of bottoming out.

**STABILIZERS**

The stabilizer bar connects the left and right wheel and affects the vehicle's body-roll. To minimize the car's body-roll and provide more driver control, raise the value (maximum 5). To allow the car more flexibility and maximize the amount of body roll, lower the value (minimum 1).

**DAMPERS**

Dampers are shock absorbers that help control how hard or soft a vehicle rides.

**DAMPERS (COMPRESSION)**

The compression of the dampers adjusts the speed at which the suspension contracts. The higher the value (maximum 10), the harder the suspension. The lower the value (minimum 1) the softer the suspension.
DAMPERS (REBOUND)
The rebound of the dampers adjusts the speed at which the suspension expands. The higher the value (maximum 10) the harder the suspension. The lower the value (minimum 1), the softer the suspension.

NEGATIVE CAMBER ANGLE
The negative camber angle adjusts the degree to which the bottoms of the wheels are wider apart than the top. At 0 degrees, the lowest value, the wheels are perpendicular and have the greatest traction on straightaways. The greater the camber angle (up to 10 degrees), the better the traction through corners.

TOE ANGLE
The Toe Angle adjusts whether the tires “toe in” and point towards the centerline of the vehicle or “toe out” and point away from the centerline. Each angle can be adjusted up to one degree in either direction. Together with camber, the toe angle affects steering stability. For example, on a rear-wheel vehicle, toeing in will offer greater straight-line stability but a slightly more sluggish turning response.
BRAKES AND TIRES

BRAKES

Balanced stopping is as important as a balanced suspension. Ensuring that your braking system shares the load proportionately will create a fast and stable car. Adjust the balance of your front and rear brakes and find the right fit. A negative value (down to -5) makes the front brakes stronger. A positive value (up to +5) makes the rear brakes stronger. At 0, the front and rear brakes share the load equally.

TIRES

There are four varieties of tire available (Hard, Medium, Soft, and Super Soft). Softer tires provide greater grip but are also less durable and have a shorter track life. Harder tires provide less grip but are more durable. In online races, these ratios are preset to ensure fair competition.

TRACTION

Adjusting the traction control affects how the tires spin during acceleration and grip through a corner. A higher traction control setting (Maximum 5) will prevent tire spinning when pressing the gas but maybe cause the vehicle to take longer when recovering from corners. A lower traction control (Minimum 0) the better the vehicle recovers when cornering but the less grip you have through a corner.