TRAKKRATS CHASSIS TUNING GUIDE

1.11.20

ADJUSTMENT	DECREASE UNDERSTEER	DECREASE OVERSTEER
FRONT TIRE PRESSURE	Lower	Higher
REAR TIRE PRESSURE	Higher	Lower
FRONT TIRE SECTION WIDTH	Wider	Narrower
REAR TIRE SECTION WIDTH	Narrower	Wider
FRONT CAMBER	More negative	More positive
REAR CAMBER	More positive	More negative
FRONT SHOCK COMPRESSION (BUMP)	Soften	Stiffen
REAR SHOCK COMPRESSION (BUMP)	Stiffen	Soften
FRONT SHOCK REBOUND	Soften	Stiffen
REAR SHOCK REBOUND	Stiffen	Soften
FRONT TOE	More toe out	More toe in
REAR TOE	More toe in	More toe out
FRONT CASTER	More positive	More negative
FRONT SPRING RATE	Soften	Stiffen
REAR SPRING RATE	Stiffen	Soften
FRONT ANTI-ROLL BAR	Soften	Stiffen
REAR ANTI-ROLL BAR	Stiffen	Soften
WEIGHT DISTRIBUTION	More rearward	More forward

TOO MUCH TIRE PRESSURE	TOO LITTLE TIRE PRESSURE
Harsh ride, excessive wheel patter	Soft and mush response
Sliding and wheelspin, no grip in general	High tire temps with dip in tread center
High tire temps at tire center	Very slow to come in
Very quick warmup, then drop in grip as pressures overbuild	Hydroplaning in wet conditions, especially at high speeds and/or in deep water
Better high speed wet grip	

INCREASE TIRE PRESSURE	DECREASE TIRE PRESSURE
Reduce contact patch	Increase contact patch
Increase grip at cold temps	Reduce grip in cold temps
Decrease heat generation	Increase heat generation
Reduce grip if tire not reaching operating temps	Initially less responsive at colder temps but will generate heat more quickly
Decrease rolling resistance	
Tires will be more responsive at colder temps, but may not reach optimum temps in time	Increase grip as tire reaches appx. 65% of optimum temps. (between 80 degrees and peak)
May decrease wear rate	May increase wear rate

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GENERAL COMMENTS AND SHOCK ABSORBER SETUP

There is a certain range that in which shock compression and rebound need to function. Too much compression makes the car harsh with no grip. Too little allows the car to feel soft and sloppy, as well as too quick to roll. Too much rebound won't allow weight transfer to promote grip. Too little rebound will make the car feel "floaty" and oscillating after bumps. Rebound generally has more effect on grip than compression does.
Within limits, grip is to be gained by softening the car.
It is generally best to work on the end of the car that needs it. That means if the car is understeering, try to get more grip in the front than taking grip from the rear to achieve a more
For initial shock setup. Set all four shocks to minimum damping. Be careful when first going out as the car will be underdamped.
Bump damping controls the unsprung weight of the car (wheels, axles, etc.) It should not be used to control roll or bottoming or any downward movement of the car.
To set bump, increase bump adjustment 3 clicks and just see how car feels over bumps. Also notice how car is for "side hop" on bumpy turns. Disregard body lean or roll at this point. Go out for one or two laps at a time. Keep increasing bump by three clicks each time until the car starts to feel "hard" over bumpy surfaces. Then, back off two clicks and bump is set. Please note that one end of the car will probably be correct before the other, so you will need to need to approach them separately in the end phase.
Rebound damping controls the transitional roll (lean) when entering a turn. It does not limit the amount of roll, but it does limit how fast this total roll is achieved. Total lean is controlled by spring rate, sway bars, roll center heights, etc. Too much rebound can cause loss of grip.
To set rebound, increase rebound adjustment 3 clicks and just see how car feels over bumps. Also notice how car is for "side hop" on bumpy turns. Begin 3 click sweeps on the car and run 1-2 laps before adjusting. Repeat until the car enters the turns smoothly with no drastic attitude changes and without leaning excessively. At that point, the rebound is set and no more stiffness is needed. In fact, additional stiffness may be detrimental. Please note that one end of the car will probably be correct before the other, so you will need to need to approach them separately in the end phase. If driver preference is such that oversteer or understeer at turn entry is desired, this can be influenced by rebound adjustment.
When making shock adjustments, after initial setup, change at least 2-3 clicks, as the effect may be subtle. If it seems to work, then back up some to find optimum.
KEEP NOTES ON WHAT YOU DO AND NEVER MAKE MORE THAN ONE CHANGE AT A TIME!!!