Charlie Perez' setup hints- Compilation

SETUP STUFF

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Moving the Steering Spindle Up and Down changes two things.

(1) It changes the Total down travel your front end has. More Down travel in the front will give you more predictable landing off of jumps. It will also give you less steering as you exit the corner on power. Less Down Travel in the front will make your car less predictable landing off of jumps, such as sticking into the dirt like a lawn dart if you land extremely nose down. The advantage of less down travel is increased corner exiting steering when you are on power. I like to use this adjustment to quickly see if increasing or decreasing the down travel in my shocks will provide the corner handling that I desire.

(2) The spindle height will also change the amount of bump steer your car has. Lowering the spindle will give the front end more Bump-In. Raising the spindle will give the front end more Bump-Out. This is if you do not add or take out any washers under the steering ball end. Bump-In will give you more steering entering and through the corner. It will also make your car feel more aggressive to initial steering inputs. Bump-Out will give you less steering entering the corner but more through and exiting the corner. So in high speed sweepers Bump-Out will give you a more consistent steering “Feel”. Bump-Out will also dull some of the initial steering inputs. I personally like to use Zero bump in or out. So if I change the height of the spindle I have to add or subtract shims from under the ball end to keep the Bump at Zero.

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If your car wants to nose dive off of jumps then stick on the landing like a lawn dart give the following suggestions a try.....(1) Raise the rear ride height to just above dog bones level. This will keep the car from "Bucking" the rear end up over jumps. The disadvantage to this is that the car will have less side bite as you enter the corners..... (2) Increase the front down travel of the shocks. Stock down travel limiting is .090 of shims. Take out one of the shims so your down travel limiting is .060. With the increased front down travel this will make your car more forgiving on the landings that are nose down. The disadvantage of increasing the front down travel is a loss in corner exiting steering

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(1) What is the difference between 1-B with 3 washers and 1-C with no washers?

The difference is the "arc" of the camber change as the suspension is compressed. When you fully compress the suspension these two setups may be at the same total negative camber, so it may seem that they are providing the same camber change result. The longer the camber link is, the more "Linear" the arc of the camber change is going to be. For example, if you put 1-C with no washers on your car and then set the camber at 0 degrees at ride height, then slowly push the rear end down, the negative camber will progressively increase at a steady or linear rate. If you put 1-B with 3 washers on your car and then set the camber at 0 degrees at ride height, then slowly push he rear end down, there will be a "Dead" spot where the camber will not change as you push it down, then aggressively change at the end of the suspension compression. Now the handling differnece between these two setups can be felt in the form of inconsistency. The speed at which you enter the corner will magnify the differences. The 1-C no washer will have the same side bite no matter how fast or slow you enter the corner. The 1-B three washer setup will be speed sensitive and have not enough side bite if you go too slow or too much side bite if you go too fast. Everything is a give and a take you may like the way the 1-C feels because it is consistent but it may not produce the maximum amount of corner speed that a 1-B setup may give you,

even if it may be harder to drive.

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Zero degrees of antisquat "Frees Up" the rear end On Power and it also gives you a little more side bite. I like to start with the minimum amount of Antisquat because it gives the rear end the most balanced amount of traction as you enter and exit the corner. It also minimizes wheelies, which are cool to watch, but waste time. The only time that I increase the Antisquat is if I am on a smooth surface track that has limited traction. If I am on a ruff track I always run 0 as it makes it easier for the suspension to soak up the bumps and ruts.
The amount of Antisquat you use depends on the track conditions. If the track is very smooth, more antisquat will give you more forward traction. If the track is bumpy or rutty more antisquat will give you less forward traction

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Changing the steering link hole position in the steering rack (From front to back), with out changing the spindles to the inline version, will change the amount of Ackerman the front tires have when turned. Ackerman is the front tire angle difference when the tires are fully turned to the right or left. For example, if your car has no Ackerman, when the steering is fully turned both front tires will be at the same 45 degree angle. If you add Ackerman, the inside tire (the one closest to the apex of the turn) will be at an increased angle compared to the opposite front tire. For example, if you turn the front wheels fully to the right, the right tire will be at a 45 degree angle and the left tire will be at a 30 degree angle. This difference in front tire angle is called Ackerman.
Increasing Ackerman will tame the steering down and give you better high speed sweeper steering. Decreasing Ackerman will make the steering more aggressive high speed steering and give you better low speed 180 degree corner steering. So using the "Back" steering rack position will make your car a little easier to drive because it will tame down the steering, but it may also tame it down too much and make you too slow in the corners. I like a lot of steering in my cars so I only use the front steering rack position.

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The "Spindles" are what your front tires attach to. You can change the height of the spindle and this mainly changes your corner exiting steering. If you need more steering as you exit the corner, you can raise the spindles (Two washers on the bottom). If you need less steering as you exit the corner, you can lower the spindles (Two washers on the top). Just make sure that you add or remove bump steering spacers as you raise or lower the spindles. This will keep your bump steer the same.

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If you are running on the inside hole of the rear A-arm a # 1 piston does not have enough "Pack". This causes the rear end to bottom out easily and perform a nice Slap Bounce routine that Scott Hamilton would envy. You need to run at least a #2 piston with 25wt AE oil. If your track has large jumps and you are landing flat after a four or five feet of air time you will need a lot of “Pack” to absorb the landing. So a #3 piston with 20wt or 25wt oil will be ideal for that situation. Pack can be your enemy though if the track is rutty. Too much Pack on a rutty track will cause your car to be very unpredictable in the rough stuff.

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A softer front spring will give you less corner entering steering and more corner exiting steering.....
It is all about tire pressure. As you enter the corner your chassis leans opposite of the corner direction,

which transfers more weight to the outside front tire. Now based on the spring rate, the shock / spring has one of two choices (1) Resist the chass is lean and transfer the weight to the tire. This gives you more tire pressure and thus more friction with the racing surface = more entering steering. (2) Absorbe the chassis lean and lower the ride height. This gives you less tire pressure and thus less friction with the racing surface. But since the front ride height is lower you gain exiting steering becuase there is more weight transfered to the front end = more exiting steering

The front and rear tie rod lengths will effect your vehicle differently. On the front, 1-B (longer tie rod) will give you more steering as you exit the corner. 1-A will give you a less steering as you exit the corner and a little more as you enter the corner. To me the "A" camber link position makes the steering inconsistent throughout the whole corner. It comes in good, pushes in the middle, and then comes out hard. It is hard for me to get use to this handling but maybe it will work for you. In the rear if you shorten the camber link it will give you more side bite and less forward traction. If you lengthen it it will give you more forward traction and less side. When the camber link is the same length, and you move whole link in or out compared to the center line of the chassis, you are changing the camber link pivot point distance as it compares to the A-arm hinge pin pivot points. This changes "Where" in the suspension travel the camber starts to change. When the camber link pivot points are close to the A-arm pivot points there is a very steady and linier change of camber as the suspension is compressed. This gives the car a very neutral and non-speed sensitive handling characteristics. When the camber link pivot pints are further away from the A-arm pivot points this makes the camber change more dramatically at the start of the suspension compression or at the end. This makes the car more finicky on corner entry and exit speed and can be harder to drive if you don't enter and or exit the corners at the same speed lap after lap. The best way to think about camber link adjustments is to break it into two different aspects. (1) Camber change magnitude and (2) Camber change path through out the suspension travel. When you add and remove washers under the camber link ball studs you are changing #1 above. When you change the camber link length or camber link position you are changing #2 above. I consider a #2 as a major change as it will usually effect the handling greatly. I consider a #1 a minor change as it usually only applies minute handling effects. 99% of the time I usually run 2-B with one washer in the front and 1-B with 2 washers in the rear and add or take away a washer here or there to fine tune.

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The top of the rear shock affects the progressiveness of the spring and damping. The more the shock is laid down the more progressive the suspension will be. If the top of the shocks are moved in, this will give you more side bite and make the rear end feel softer. If you move the top of the shock out that will give you less side bite and make the rear end feel stiffer. I have found that one shock tower hole position "Feels Like" going to one step softer/harder spring. I almost always run on the inside hole of the rear shock tower. If I need a lot less side bite then I will move to the middle shock tower hole.

The bottom shock mounting position is a huge change. This changes how much leverage the shock and spring have against the A-arm. mounting to the inside hole gives the shock less leverage against the a-arm. Moving it out gives the shock more leverage against the A-arm. This is considered a HUGE change as you will have to change Oil, Piston, Spring and internal limiters to properly compensate for the leverage difference. The inside hole on the A-arm loosens up the rear end traction. The Outside hole on the A-arm tightens up the rear end traction and makes the car feel more predictable. 99% of the time I use the inside hole on the rear A-arm because it generates the best corner speed. It may be a little looser and harder to drive than the outside hole, but fast corner speed is what wins races, not an easy to drive car. I have only used the outside hole on the A-arm in extremely low traction conditions, such as the recent ROAR Mod Nats. I would recommend that you stick to using the inside hole on the rear A-arm as this will work 99% of the time. If you do want to move to the outside hole on the A-arm you will have to use a bigger hole piston, lighter oil, and a softer spring because the shock will have more leverage against the A-arm. For example lets say that you were running on the inside hole with #2 piston, 30wt oil, and a silver spring. You would have to change to a #1 piston, 25wt oil, and a Green spring to keep the relatively same static damping feel on the bench. Even though it may feel the same on the bench, it

will handle completely different on the track.

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There are adjustments that effect the "Middle of the corner" steering or traction. 90% of the time you are going into and out of a corner so quickly that you are only in the "Middle" for about 1 - 2 tenths of a second. Now when you are in a sweeping corner where you are cornering for 1 - 2 seconds that is when you have to worry about "Middle of the corner" adjustments. The adjustments that affect the "Middle of the corner" steering and rear traction the most are Ackermann, Caster, Antisquat and Sway Bars. The adjustments that you will feel the most are Ackermann and Caster.

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Taking out the shock travel limiters front and back will do a couple of things. When you take out the limiters in the front shocks your car will lose a LOT of steering when you exit the corners. It will land off of jumps better and have a little better bump and rut predictability but this little gain in predictability is not worth the loss in corner exiting steering..... If you take out the limiters in the rear shocks your car will lose rear side bite traction as you enter the corner. So it will want to spin out as you enter a corner. It will also make your car very easy to traction roll at high speeds. Just like the front, it will land off of jumps better and also have a little better bump and rut predictability. The little gain in predictability is not worth the loss in side bite traction..... I have tried many piston and oil setups on my B4 and Number 1 pistons in the rear just don't work. With the Number 1 pistons your rear end will want to bottom out over small bumps and jumps causing the car to perform a nice little "Slap, Bounce" routine, then get kicked sideways. I would suggest that you leave the down travel alone and try the Number 2 pistons in the rear with 25wt oil. This will give the rear end more "Pack" which will make it less susceptible to the "Slap, Bounce" routine.

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If you want increased steering exiting the corner with this setup you have a couple of adjustment options. (1) you can move the rear hubs towards the rear of the car. The further you move your rear hubs back will give you more overall steering and less overall rear traction. (2) you can add more .030 washers under the front camber tie rod. This will decrease the camber change as the suspension compresses which gives you more steering when you exit the corner. (3) You can move the front spindles to the "Up" position. This lowers the front ride height which also gives you more exiting steering..... these are three easy adjustments that you can make that will only take a couple of minutes to change and will make a big difference in your exiting steering.

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changing from 1 B to 2 C changes where the camber starts to change as the suspension compresses. 1 B gives you camber change early in the suspension compression..... 2 C gives you camber change later in th suspension compression. 2 C will give you a little less initiall side bite than 1 B as well as a little more forward traction

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If you need more side bite as you enter the corner then try a softer rear spring or less washers under the rear ball stud..... if you need more traction as you exit the corner add more antisquat or add more washers under the rear ball stud..... If you need more over all rear traction move the rear hubs forward.

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About the #1 Piston V.S. #3 Piston in the front..... here you go. The main difference you will feel will be in the bump and jump handling. The #1 pistons will absorb ruts and bumps better but will tend to make the front end bottom out easily off of jumps. The #3 pistons will make your front end bounce and skip on the ruts and bumps but will not bottom out as easily off of jumps. For a general rule of thumb you want to use large hole pistons (#1's) for rough tracks with small jumps. You will want to use small hole pistons (#3's) for smooth tracks with very large jumps. I usually run #2 pistons all the way around on my car, this gives me a happy medium between both worlds. I recently raced at the ROAR Stock Nats and that track was really rutty and rough. I had to use #1 pistons at that track in order to hook up properly.

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For a low-traction, dusty, tight track I would recomend running a softer foam insert in your rear tires. Running stiffer rear foams will give you more side bite but you will lose a lot of forward traction. You can also run more "Toe In" in the rear but there is the potential of losing a lot of corner exiting steering when you do that. I have tried running the Racers Edge 1 degree hubs before. It gives you monster On Power traction but you lose a lot of corner speed because your vehicle will not want to turn. As we all know corner speed = low lap times. Start with the softer foam and moving your rear A-arms forward, then if that isn't enough try the 1 dregee hubs.

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A lot of times you are tuning your vehicle to remove traction from the front or rear end, not gain it. Limiting the down travel in the rear minimizes traction rolling and also increases corner speed. Limiting the front down travel improved corner exit steering but also makes the turck more sensitive to harsh landings. So you have to down side the back of the landing jumps or the front end may bottom out and bounce up or lawn dart. If I want more forgiving jump handling and more rear end rotation as I enter the corners I will remove .030 from the front and rear shocks.

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The best way to set your diff is to tighten it all the way down then back it off 1/16th of a turn. When you build a new diff and use this method of tightening it will seem too tight initially but when you run your car a couple of times the Diff and thrust balls will seat into their rings and it will loosen up. The diff should not slip or "Bark" when you land off of jumps on power. If it does start by loosening your slipper and if the diff still continues to slip, tighten it up 1/32nd of a turn. If you have properly set the diff tension and run it a couple of times you should be able to spin one rear tire and the other should spin in the opposite direction for two or three revolutions. It should feel like there is only a slight resistance to the differential action. For your slipper a good place to start the adjustment is to tighten it all the way down, then back the slipper nut off two full turns. This is a good medium point to start the slipper, you may have to tighten it or loosen it for the given track conditions, but usually no more than a half a turn in either direction.
The tightness of your diff will directly affect your rear traction when on the throttle. This in turn affects the amount of steering you have when exiting the corners. If you have a diff that is too tight, on a smooth track, you will have too much forward traction and your car will push excessively when you try to exit the corner. If the track is ruff and rutty and you have a tight diff it will make your car loose when you are on the throttle because your tires can’t "absorb" the variations in the quickly changing track surface causing the tires to break loose. Over all you want to run your diff as loose as you can with out it slipping for the most consistent results. If you happen to run on a super smooth track that has a crazy amount of traction, and you have too much steering when exiting the corners, this is the only condition where you might want to tighten it up. But this is a very rare track condition.

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Foams affect the handling of your car differently front and rear. In the front the stiffer your foam, the

more steering you will have while entering the corner. It will also feel "Twitchy" with stiff front foams. If you use soft front foams you will gain corner exit steering but it will also make your high speed corner entry steering inconsistent. Usually you want to run a relatively stiff foam in the front on high bite tracks to ensure that the tire will not deform too much during high speed cornering. On tracks that have low traction and your car wants to push easily, a soft front foam will increase your steering. In the rear a stiffer foam will give you more side bite as you enter the corner but less forward traction as you exit the corner. This is due to the foam being able to support the side wall of the tire, keeping it from deforming too much under side load. But on the other hand it can not compress easily to conform to the varying track surface changes which gives you a smaller overall contact patch with the racing surface thus less forward traction. Stiff foams will also increase tire ware. If you run a soft rear foam in the rear you will have less side bite as you enter the corners, maybe a better representation is less consistent side bite, and you will have more forward traction. In the rear I like to run Proline 2-stage foams because you get as close as you can get to the "Best of both worlds" in terms of side bite and forward traction. Another good foam to use in the Trinity Bomb 1 Gray foam. This is a little stiffer than the stock foam but will last a long time and many racers are able to reuse them a couple of times. If you are on a budget and want to try a stiffer foam you have a couple of choices. (1) Use a stock foam that is larger than it should be and cram it into the tire, such as cramming a full or 3/4th rear car foam into a front tire. Or cramming a full stock Truck foam into a Car rear tire. This "Cramming" will make the tire feel stiffer, just watch out because it may deform the contour of the tire if you go too far and that will completely change the contact patch of the tire which will affect how it handles (Side bite and forward traction). (2) Use the Trinity Bomb 1 Gray foam. For the money and how long it lasts before "Breaking Down" and getting soft, you can't beat it.

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When you have the front shock bottom mounted on the outside hole of the A-arm, the shock has a lot of leverage over the A-arm so a soft spring is needed. If you ran a Green or Silver spring on the outside hole, it would be too stiff. If you use the inside hole on the front A-arm the shock has less leverage over the A-arm so a stiffer spring is needed. When you run on the inside front A-arm hole you will have to use Green or Silver springs to match the same "A-arm Leverage" as the Brown or Black springs on the outside hole. Most racers are using the outside hole on the front A-arm instead of the inside hole because it makes the car feel more consistant. The inside hole will make the car more "Reactive" and feel more aggressive. Is one better than the other, no. It all comes down to your own driving style and what works for you.

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The #1 pistons are 54's, #2 pistons are 56's, and the #3 pistons are 58's. Even with knowing these "Hole Sizes" it is going to be very difficult for you to match the same damping/pack ratio between an AE sock and a Losi shock. There are main differences between the two pistons them selves that make it nearly impossible to match them. For example the AE piston only has 2 holes and the Losi piston has 3. Another difference is the actual shape of the piston, AE pistons have 90 degree edges on the pistons and Losi's are rounded. So on Losi pistons it is easier for the oil to go "Around" the piston versus getting forced through the piston holes. Then you have the inherent chassis weight distribution and shock mounting position differences between the two cars that can throw everything off from one car to another. There is no easy answer to this and the only way that you will be able to get them to "Feel" exactly the same is to start with a small holed piston in the Losi and a medium weight oil and one at a time drill the piston holes out until it feels the same. This will be a long and tedious process.

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MISCELLANEOUS TIPS

If you are looking for bearings to put into the steering bellcranks you can use the TC3 Rack bearing kit (P/N 3971). It includes 4 bearings that are the same size as the bushings on the B4 Bellcranks.

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(1) The front shock tower holes for the top of the shock are drilled at an angle for the Outer hole on the A-arm. So if you are using the inside hole on the A-arm, changing the angle of the top of the shock will DRAMATICLY change the front down travel. This is not cool. This is not fun but you can compensate for the change in down travel by adding or taking away .030 washers inside of the shock. Here is an example..... If you are in the middle hole on the shock tower and you have three .030 washers inside the shock, you will have to add one .030 washer (Four Total) if you move the top of the shock to the inside hole. If you move the top of the shock to the outside hole on the shock tower you will have to take out one .030 washer (Two Total) just to keep the same amount of down travel. This is a lot of work for minimal amount of handling change that takes place when you move the top of the shock around. The good news is that the Rear shock tower holes are at the correct angle for the inside hole on the rear a-arm. If you are using the outside hole on the rear a-arm you will have to go through the same process of adding or subtracting washers if you move the top of the shock around.

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Your shock rebuilds should be to clean everything up and replace the O-Rings. The O-Rings will swell up after only a couple of weeks and will hinder the smooth and free movement of the shock shaft. You can also prematurely ruin your O-rings if you get ANY motor spray on them. DO NOT use motor spray to clean the dirt off the shocks when they are still assembled. The motor spray soaks into the O-rings and will make them swell up to twice their size and when they get that big they get torn up easily. When my shocks start collecting dirt around the seals or on the spring clamp, I just use a tooth brush and knock off the dirt. Don't use the blue MIP O-rings as they will swell up twice as big as the stock Red ones. The stock Red O-rings are the best. If you replace them every 2 - 3 weeks and you will be rewarded with consistent shock performance with very minimal leakage.

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The positioning of the front Caster block. Normally you put the big black washer behind the caster block to bias it forward. I replaced the big black washer with five aluminum .030 washers. I had to slightly file down the a-arm to get all five to fit but it is worth the extra effort. You don’t want anything bound up. Well moving the Caster block towards the rear of the car gives you less Ackerman. Less Ackermann gives you more aggressive steering in the 180 degree turns but also makes your high speed sweeper steering less consistent. I moved the front caster block back .060 (Two Washers in front) and the car had too much low speed steering. I would suggest that you take some time and play around with this adjustment. It is easy to change and you can feel the steering difference big time.

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I am not a big fan of cutting springs down to achieve a spring rate between what is currently available. You have to be carefull with cutting springs down because front and rear springs of the same color are not the same rate. Here is an example of some Silver spring rates for the Front of the Car, Truck, and the Rear..... Car Silver Front = 3.85 Lbs..... Truck Silver Front = 3.225 Lbs..... Silver Rear = 2.10 Lbs..... All three of these springs are different lengths and also differnt rates. If you are looking for a front spring rate that is between a Blue and Silver the easiest way is to move the top of the shock in or out. Roughly, moving the top of the shock one hole will "Feel" like softening or stiffening the spring half a spring rate. If you move the top of the shock IN, it will soften the spring. If you move the top of the shock OUT, it will stiffen the spring. So I would suggest that you use a Blue front spring and move the top of your shock to the Inside hole on the shock tower (Doing this will increase the down travel so you will have to add an additional .030 washer on the inside of the shock to keep your down travel the same). This will give you the "Feeling" of a spring that is between a Blue and a Silver.

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(1) I find the tires that are working the best overall.
(2) I change my Spring / Damping to conform to the majority of the track.
(3) Then I move the rear hubs forward or back to gain or loose the majority of the rear traction that I will need.
(4) I change my Camber links, Camber, Antisquat, Ackerman, and Caster to fine tune the Corner Entering and Exiting Steering and Rear Traction

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The 3 hole pistons generate more "Pack" than a two hole piston. As oil passes through the piston holes the resistance that you feel is actually the oil shearing across the edges of the hole. With more hole surface area (three hole piston) there is more "Shearing" as the oil passes through the holes. This gives the shock more pack. Don't confuse Pack with Damping though. Damping is the consistant resistance the shock provides when it is slowly compresses and decompressed. Pack is the instant resistance a shock provides when it is quickly compressed or decompressed. Here is a good example of the two. Damping is how fast the Chassis leans in a corner or when you change directions. Pack is how much the shock compresses when you hit the face of a jump or land after the jump. It all comes down to how much pack you need for the track you are racing on. If you are running on a track that has a bunch on big air time jumps, you will need to use a setup with a lot of pack. If you are running on a track that is rough, rutty and has small jumps you will need a setup with little pack. From what I have tested so far on the B4 the standard pistons (1,2 and 3) have the right "Pack" range to support just about any level of pack setup you could or would need.

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Most Mod motors have a lot less "Timing Breaks" than stock motors, which allow your car or truck to coast a lot longer and easier when you are off the throttle. Most sock motors have a tremedous amount of timing breaks so as soon as you lift off the throttle the rear tires want to lock up. There are also some Mod motors that exhibit this trait such as the Reedy KR and Trinity P94 series motors. The additional timing breaks gives you a lot more steering and makes your rear end feel like it is loose when you lift off the trottle. The trick that I use to minimize this effect is to turn my throttle trim up, out of the "Neutral" point, until my car is slowly creeping forward when the trigger is in the physical neutral point. The amount of traction available and how much corner speed I want determines the initial "Creep" setting. For example, if I am racing on a very low traction track, I will give it a lot of creep so my car will not spin out as soon as I lift off the throttle to enter a corner. If I am racing on a high traction track, I will minimize the creep to increase the timing break effect so I can take advantage of the additional steering and reduced side bite as I enter the corner. If the timing break effect can't be overcome by additional creep, I will then start changing my setup for additional side bite and or reduced steering, but this is rare. The creep adjustment resolves the handling issues 90% of the time. Play around with this the next time you are at the track, it can make a HUGE differnce in how your car or truck handles.

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Narrow front Wheels give you less entering steering and more exiting steering. It makes the steering feel more even entering and exiting the corners. The Wide front wheels tend to have too much entering steering for my like.

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When racing on loose or loamy dirt all of the little adjustments on any car get numbed. You can make little changes but you really can't "Feel" the effects of the change because there isn't enough traction to

show the difference. When I race on Really low traction tracks that have loose or loamy dirt I have to make huge changes to even feel them a little bit. The first thing that I would change to gain more forward and side bite would be the Rear Hubs. I would move them forward. I have even had to shave off .060 from the front of the rear a-arm so I could move the whole A-arm forward even more in some cases, but that is a drastic change. When racing on low traction tracks it usually comes down to the Tire and foam insert combination which generates the most traction.

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Most misguided racers tune their suspension for the minoritys of the track and not the majority. Such as a rutty track that has one or two large jumps. If 85% of the track has small jumps and is rutty, then you have to tune your suspension for for the ruts and small jumps and just deal with the poor large jump handling. The same goes for a smooth track that has a lot of large jumps but one corner is rutted out. You will have to tune your suspension for the big jumps and smooth portions of the track and just deal with the poor rut handling in that one corner. Every thing is a give and a take. If a track has varying conditions throughout the track you will have to tune for the majority and deal with the minority.

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Plastic chassis make your vehicle a little more forgiving to drive than the Graphite version. Graphite chassis are also more prone to glitching and shorting out your batteries. If you are running on a high traction Clay track, I would advise running a plastic chassis. The Graphite chassis may make your car too twitchy and always seem like it is on edge. I always run the plastic chassis on my B4 and T4, this is mainly due to me not liking the glitch prone Graphite and not due to the performance differences.

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