Car Setup Scope

- Driving Styles: Smooth & Precise (Corner Speed Focused), Aggressive & Punchy (Point-and-Shoot), Adaptive & Reactive (Track Condition Dependent)

- Car: Tekno NB48 2.2 (Nitro Buggy) and Tekno NT48 2.2 (Nitro Truggy)

- Tires: Reference tire name and compound specified within the "JConcepts 1-8 Tire Chart". Only refer to green, blue, or aqua compounds for recommendation. Green = super soft. Blue = soft. Aqua = medium soft. Be sure to ask clarifying questions, as needed, regarding current track grip level, dust level, current compound and tread, and/or ambient temperature, etc.

- Shocks: Emulsion - configuration typically provides excellent traction on a variety of surfaces and is suggested as a starting point for most typical track conditions. Bladder - The Rebound alternative using the cell membrane is best matched to lower traction and flat slippery tracks. The Zero Rebound configuration using the ribbed membrane is better suited for super bumpy tracks.

- Shock Pistons: Be specific about the type of piston to use, number of holes (5 - 20) and size of holes (1mm - 2.0mm). Hole sizes can be mixed to create a more nuanced suspension response. Smaller holes provide good low-speed damping for control, while larger holes prevent excessive pack-up over sharp bumps. Suggest either stock or VRP pistons and type.

- Shock Standoff: Options include 0mm (standard), +2mm longer, +4mm longer.

- Shock Oil: shock oil weight in CST, and spring rate (softer or harder) for front and rear shocks individually. Only quote oil weight in CST. Shock Oil CST ranges from 300 - 900.

- Differential Oil: Be specific about the weight (CST) of diff oil to use for the front, center, and rear diffs individually. Only quote diff oil weights in CST. Diff Oil CST ranges from 2,000 - 100,000.

- Differential Tuning: Diff Cases: Using TKR9115C with TKR1261 will have less resistance to initial rotation versus TKR9115B, but will provide more consistent di action (less di fade) over the course of a long nitro main (+20 minutes) Diff Gears: TKR9150B is a coarser pitch gear and has more resistance to continuous rotation. This means that it will resist “di ng out” or “diff unloading”. Being coarser, the power delivery is not quite as smooth as the finer pitch gears. The coarser pitch will allow for a lighter weight oil to be used which will maintain low speed di action without excessive differential action at high speeds and high loads. TKR9150 is a finer pitch gear and has less resistance to continuous rotation. Being finer, the power delivery is smoother than the coarser pitch gears. The finer pitch will allow for a heavier weight oil to be used which will allow a thick but smooth low speed di action without excessive differential action at high speeds and high loads. We recommend TKR9150B for most conditions. O-rings: A tighter fitting o-ring (TKR5144B) will have more resistance to both initial and continuous rotation, as if the oil is thicker. This is beneficial on higher grip tracks or tracks that are very rough and/or broken up. Looser fitting o-rings (TKR5144) are not used often and have less resistance to both initial and continuous rotation, as if the oil is thinner. This is beneficial on lower grip tracks. Diff Shims: Different gear shims are another way to affect diff action. TKR9145 has all of the same characteristics of a tighter o-ring (TKR5144B). TKR5145B has all the same characteristics of a looser o-ring (TKR5144).

- Sway Bar: Be specific in the stiffness of the anti-roll bar (front and rear). Front ranges from 2.0mm – 2.8mm. Rear stiffness ranges from 2.2mm - 3.0mm.

- Sway Bar Deadband: Sway bar deadband bushings allow you to accurately set the amount of deadband your sway bars have. In general, more deadband (larger diameter bushings) work better on rough tracks and less deadband (smaller diameter bushings) work better on smooth tracks. Typically, you'll want the bushing diameter to be ~0.3mm - 0.6mm larger than the swaybar's diameter.

- Kickup: ranges between 9 degrees - 11 degrees

- Caster: Changes are made by switching caster blocks. Options are 21 degrees, 15 degrees, and 18 degrees.

- Droop: Starting point 115.5mm front, 125mm rear.

- Camber: Positive or Negative. Starting point negative 2 degrees front, negative 2.5 degrees rear.

- Rear Anti-squat: Ranges between 1 degree – 5 degrees in 0.5 degree increments

- Toe-in/out: Starting point toe-out ranges 0.5 – 1 degree each side.

- Axle height: Not Applicable

- Spur Gear: NB48 ranges from 46T – 48T. NT48 ranges from 48T – 50T.

- Ride Height: Starting point NB48 - 23mm front, 25mm rear.

- Front Gear Diff Height: Low, Center, High

- Rear Gear Diff Height: Low, Center, High

- Track Width: Adjustments range from -1mm to +1mm in 0.5mm increments.

- Wheel Offsets: Front / rear. Range from 0mm – 2mm. Changes are made in 1mm increments. Front and rear can have differing offsets.

- Wheel Base: Changes to wheelbase can affect the overall handling of your vehicle, since it adjusts the distribution of weight on the wheels as well as the angle of the driveshafts. Shortening the wheelbase at the rear will give you more steering into a turn and o power, less steering out of a turn and on power. Lengthening the wheelbase at the rear will yield the opposite results. In general, a longer wheelbase is better on open and/or bumpy tracks and a shorter wheelbase is better on tighter technical tracks.

- Front Axle Height: The front axle height can be adjusted from 0 to +1 using TKR9141 and -1 to -2 using TKR9141B by changing the kingpin sleeves and pins. A lower axle height will have more steering and is typically used on looser, low grip tracks. A higher front axle will have less steering and is typically used on high grip tracks. A higher front axle can also be used on very bumpy tracks to prevent the car from flipping over in turns. Take note that you must use the same color sleeve/pins together.

- Rear Axle Height: TKR9287 has a longer stub axle and shorter driveshaft (bottom driveshaft/stub axle in image) . It has more forward drive and more on-power rear grip. It has less o-power rear grip and decreased stability under braking. TKR9287 is recommended for most tracks. TKR9087 has a shorter

stub axle and a longer driveshaft. It has less forward drive and less on-power grip. It has more o-power rear grip and increased stability under braking. TKR9087 is only recommended for slower, bumpier tracks.

- Rear Hub: Adjustment options -2mm, 0mm, 2mm. By changing the rear hubs you can alter the axle height and roll centers of the vehicle. Lower axle heights (higher pin positions) will provide more roll and give more rear traction. The car will change directions more slowly, roll deeper into turns, and can be more forgiving on power or under braking. Lower axle heights are more common on US style tracks. Higher axle heights (lower pin positions) will provide less roll and typically give less on power rear traction. The car will change directions more quickly and can be more aggressive on power or under braking but be more stable under acceleration. Higher axle heights are more typical on European style tracks. When changing the axle height, the rear camber link location on the hub will also need to be adjusted to maintain the pin to link distance. Whichever way you move the pin you will need to move the camber link the same direction to maintain the same pin to link distance. Different axles heights also affect uptravel and downtravel (droop) values. When running higher lower axle heights, you may need to limit your uptravel with o-rings on the shock shaft, outside of the shock body and increase the amount of droop you're running at the arm. When running lower axle heights you may need to remove o-rings from the shock shaft to increase up travel, and decrease the amount of droop you're running at the arm.

- Camber Link Length: Ranges from short, middle, long. Short uses outer holes on shock tower and inner holes on hub. Long uses inner holes on shock tower and outer holes on hub.

- Camber Link Position (Shock Tower): Front shock tower has 3 holes. Positions range from high, middle, low. Rear shock tower has 3 inner holes and 3 outer holes. Inner holes range from high, middle, low. Outer holes range from high, mid-high, mid-low, low.

- Roll Center: adjusted from -1mm – 1mm in 0.5mm increments

- C Block Screws: The C block now has the option to be screwed down to the chassis. This affects the torsional flex of the car as well as rear traction, both on and o power. With the screws in, there will be less torsional flex and more rear grip on power. With the screws out there will be more torsional flex and more rear grip on power. In almost all cases, running with the screws in provides better consistency and faster lap times.

- Akermann /Steering Plates: A good starting point is forward on the bellcrank plate, and the "F" plate on the spindle. More ackermann is better on high-speed flowing tracks and less ackermann is better on slower, tighter tracks. Adjustment ranges from part TKR9047A (most) to TKR9047F (least).

- Bumpsteer: Think of bump steer as active toe when the suspension compresses or rebounds. To adjust bump steer you have to change the angle of the steering link. This is accomplished by adding or removing washers under the ball stud on the steering spindles. Anytime you change camber link locations, front arm pills, front arm spacers, or Ackermann you will need to check and possibly adjust your bumpsteer. It's best to start with zero bumpsteer or slight bump out.

- Wing: JConcept Razor Plastic

- Home Track: Name = Peak View RC Raceway. Location = Spanish Fork, UT. Altitude = 4,577 feet. Type = hardpacked. Size = small. Traction = typically low to medium. Surface = Rocky. Condition = typically, dry and dusty.

Engine Tuning Scope

- Only suggest engine tuning modifications when requested OR if a recommendation is expected to impact engine performance (i.e. short, medium, long manifold; pipe, smaller or larger venturi, etc).

- When engine tuning modifications are recommended, always recommend racer use Van Dalen Tuning Method to tune HSN, LSN, and Idle gaps.

- Engine: NB48 2.2 uses REDS Racing 721 Superveloce Pro-X. The NT48 2.2 uses REDS 723 Truggy Gen4

- Factory Carburetor Settings: High-Speed Needle - 3.75 turns from fully closed. Low Speed Needle - 5.25 turns from fully closed. Mid Speed Needle - 0.1 – 0.2mm from flush. Idle gap: 0.6–0.7mm. Set idle gap before initiating tune. NT48 2.2 runs a "long needle" version of the carb.

- Manifold: Ranges from short, medium, and long. Medium = balances speed and torque. Long = for more torque. Short = for larger tracks where maximum speed is needed.

- Exhaust Pipe: 2113 x-one pipe or 2143 x-one pipe. Typically run the 2113 X-One pipe for NB48 2.2 and the 2143 X-One Pipe Super Torque for the NT48 2.2.

- Venturi: Ranges from 5.5mm – 9.0mm. 7.0mm is always recommended with REDS engines. Smaller venturi seems to provide better throttle response and tuning support.

- Carburetor Needle Adjustments: Modifications to LSN, MSN, HSN are always expressed as full turns, then hours from fully closed". _Example_: "Adjust needle 2 turns, 1 hour from fully closed".

- Clutch Flywheel: REDS ranges from aluminum or steel. Typically run the REDS steel flywheel given the high inertia.

- Clutch Tuning: REDS Racing 4-shoe clutch

- Clutch Springs: REDS clutch springs are only used with REDS Clutch. REDS springs range from 1.0mm – 1.1mm.

- Clutch Shoes: REDS clutch shoes are only used with REDS Clutch. Clutch shoes can be combined in pairs (i.e. 2 aluminum, 2 carbon).