Thank you for purchasing the Tekno RC ET410 1/10th Scale 4WD Competition Electric Truggy kit. We are always working on new projects, so please check our website regularly at www.teknorc.com or visit us on Facebook at www.facebook.com/teknorc for all the latest news, parts, and kits.

Take your time! When you work your way through these building instructions, keep an eye out for the following important indicators below:

- **RED TEXT** - This indicates important areas of the build process that should be observed.

**Thread Lock icons**

Thread lock is always used when a screw is inserted into any metal part. (Included with kit)

**Grease icons**

Grease is usually used on areas with movement and for sealing. (Included with kit)

- **YOUTUBE** - We also have many useful build videos on Youtube, so be sure to check these out! https://www.youtube.com/c/teknorc

**Additional equipment and parts needed:**

- 2 Channel radio and receiver
- 1/10th scale ESC
- Motors: 540 size 6.5-8.5 turn OR 540 size 4-pole 4000-4600kv (550 size motors not recommended)
- Standard size high torque steering servo (at least 200 oz/in)
  * Running less than the recommended rating will increase the chance of premature servo failure.
- 2S (2 cell, 7.4v) shorty LiPo battery, 5000 mAh or higher recommended
- Paint for body and CA Glue for wheels/tires
- 1/10th scale Associated offset stadium truck OR Traxxas Slash SC offset wheels & tires (Losi offset is NOT COMPATIBLE)
- 32 pitch pinion 10 tooth - 25 tooth (see gearing recommendations on page 20 or 26 for more guidance)

**Tools needed:**

- Hex drivers 1.5mm (TKR1104), 2.0mm (TKR1105), 2.5mm (TKR1106)
- Nut drivers 5.5mm (TKR1108), 7.0mm (TKR1109)
- Hobby knife
- Needle-nose pliers
- Shock tool (TKR1115) OR adjustable (Crescent) wrench (for shock assembly)
- 4mm turnbuckle wrench (TKR1103) AND 5.5/7.0 two sided wrench (TKR1119)
- 1/16th (or 1.6mm) drill bit for shock cap emulsion hole
- Body reamer

**Disclaimer:** Tekno RC is not responsible or liable for any property or personal damage, loss, or injury incurred as a result of using this product. This kit is meant for use by persons 14 years of age or older and in the strict confines of a legally permitted RC track or facility.

**Warnings:** Always double-check that your radio gear is working properly before operating vehicle. Never operate the vehicle indoors (unless the RC track is an indoor facility). Use caution while operating vehicle so as not to collide with people who may be turn marshalling or who might otherwise not be aware that a fast moving RC vehicle is in the vicinity.

**Warranty:** We warrant that the parts included in this kit are free from defects. If you find a defective part in your kit, please contact us @ info@teknorc.com and we will help you to resolve the issue. We do not warranty parts that may be broken during operation of the vehicle or otherwise. Refer to the end of this instruction manual for a listing of spare/replacement and option parts. All spare parts and other info are available on our website (www.teknorc.com) and through our network of domestic and international dealers and distributors.
Bag A
Center Differential (overview)

Step A-1

TKR6514
TKR6550

Note: Apply grease to the recess inside TKR5113, where the o-ring is placed as well as the o-ring itself.

TKR6514
TKR5144

Grease

TKR6513

Note: Apply grease to the groove in the outdrive.

TKR6514

Step A-2

TKR6550

TKR5144

Grease

TKR6513X

Step A-3

TKR1303 x4

TKR1303
M2.5x10mm Flat Head Screw

TKR5144

Differential O-rings

TKR6517

Differential Shims (5x14mm)

Fill Level

TKR7253

Fill with #30,000 CST oil to 1mm below full
DO NOT OVER FILL

Step A-4

TKR1303 x4

Note: These screws only need to be snug. Do not over-tighten or the internal gears may bind up.

TKR7253

TKR5144

Grease

TKR6517

TKR6515

3
Bag B
Front and Rear Differential (overview)

**Step B-1**
Repeat for rear diff

**Step B-2**
Repeat for rear diff

**Step B-3**
Repeat for rear diff

**Step B-4**
Repeat for rear diff

---

**Step B-1**
Note: Apply grease to the recess inside TKR5113, where the o-ring is placed as well as the o-ring itself.

**Step B-2**
Note: Apply grease to the groove in the outdrive.

**Step B-3**
Repeat for rear diff

**Step B-4**
Repeat for rear diff

---

**TKR1303 x4**
M2.5x10mm Flat Head Screw

**TKR5144**
Differential O-rings (x4)

**TKR6517**
Differential Shims (5x14mm)

**TKR7221**

---

**Fill Level**
Fill FRONT with #30,000 CST oil
Fill REAR with #10,000 CST oil to 1mm below full
DO NOT OVER FILL
Bag C
Steering Assembly
(overview)

Step C-1

Step C-2

Note: Push these steering rack bushings hard into place until they click into the bellcranks.

Note: These screws only need to be snug. Do not overtighten.
Bag C
Front Bulkhead Assembly
(overview)

**Step C-3**
- x2 TKR1301 M2.5x6mm Flat Head Screw
- TKR6597

**Step C-4**
- Note: Thread Lock

**Step C-5**
- x1 TKR6519B

**Step C-6**
- x1 TKR7222

---

Note: Use a 5.5mm nut driver to install steering posts.

Note: Screw the TKR1402's all the way down, then back off 1/4 turn.

---

Bag C
Front Bulkhead Assembly
(overview)
Bag D
Rear Bulkhead/Wing Mount Assembly (overview)

**Step D-1**
- TKR1403
- TKR6519B
- TBX805114

**Step D-2**
- TKR1602
- TKR6597
- TBX805114

**Step D-3**
- TKR1602
- TKR6597
- TBX805114

**Step D-4**
- TKR1602
- TKR6597
- TBX805114

**Step D-5**
- TKR1221
- M3x8mm Washer x12
- TKR1201
- M3 Locknut Black x2
- TKR1403
- M2x6mm Flat Head Screw x2
- TKR1602
- M3x8mm Button Head Screw x4
- TKR1403
- M3x10mm Button Head Screw x4
- TKR1411
- M3x25mm Button Head Screw x2
- TKR1602
- M4x4mm Set Screw x1
- TKR6210
- M3x10mm Ball Stud x2
- TBX05114
- Ball Bearing (5x11x4) x2
- TBX10154
- Ball Bearing (10x15x4) x2

**Step D-6**
- TKR1221
- M3x8mm Washer x12
- TKR1201
- M3 Locknut Black x2
- TKR1403
- M2x6mm Flat Head Screw x2
- TKR1602
- M3x8mm Button Head Screw x4
- TKR1403
- M3x10mm Button Head Screw x4
- TKR1411
- M3x25mm Button Head Screw x2
- TKR1602
- M4x4mm Set Screw x1
- TKR6210
- M3x10mm Ball Stud x2
- TBX05114
- Ball Bearing (5x11x4) x2
- TBX10154
- Ball Bearing (10x15x4) x2

**Note:** Screw the TKR1402’s all the way down, then back off 1/4 turn.

**Build Tip:** Apply a bit of CA glue to help keep these nuts in place during maintenance and rebuilds.

**Grease**

**CA Glue**
Bag E
Rear End Assembly

**Step E-1**

- TKR6610 - 1.5mm
- TKR6611 - 10mm
- TKR6611 - 11mm
- TKR6611 - 12mm
- TKR6611 - 13mm
- TKR6611 - 14mm
- TKR6610 - 16mm
- TKR6610 - 17mm
- TKR6610 - 18mm
- TKR6610 - 19mm

(Optional)

**Step E-2**

- TKR6611 - 1.0mm
- TKR6611 - 1.1mm
- TKR6611 - 1.2mm
- TKR6611 - 1.3mm
- TKR6611 - 1.4mm
- TKR6610 - 1.6mm
- TKR6610 - 1.7mm
- TKR6610 - 1.8mm
- TKR6610 - 1.9mm

(Note: With these center dot inserts, Rear Toe = 1.5° per side)

**Step E-3**

- TKR6611 - 2°

(Note: Do not over-tighten.)

**Wheelbase Shims**

- front 2mm
- large 1mm
- small 5mm
- rear 3mm

(all shims go toward the front)

**Stock Position**

- Stock Position

**Note:** Refer to page 25 for setting droop.
Bag F
Rear Hub/CVA Assembly

Step F-1

- TKR1229
  6x10x0.2mm Shim x2
- TKR1400
  M3x4mm Button Head Screw x2
- TKR1601
  M3x4mm Set Screw x2
- TKR1609
  M3x3mm Set Screw x2
- TKRBB06124
  Ball Bearing (6x12x4) x2
- TKRBB10154
  Ball Bearing (10x15x4) x2

Note: These screws only need to be snug. Do not over-tighten.

Step F-2

- TKR1601
  Note: These screws only need to be snug. Do not over-tighten.
- TKR1400
  Note: These screws only need to be snug. Do not over-tighten.
### Bag F
**Rear Camber Links**

**Step F-3**

Build Tip: Use some grease or Chapstick on the threads to help prevent "pop-off" when adjustments are being made.

Build Note: Hold the turnbuckle stationary with pliers and push the rod end hard onto the turnbuckle while turning at the same time. Keep in mind that one end of the turnbuckle has normal threads and the other has reverse threads. Start the rod end straight and it will thread on straight.

Note: Notch always goes on left side of vehicle.

- **TKR6250**
- **TKR6253**

Actual Size:
- 49.50mm

**Step F-4**

Note: Always press on with logo visible.

- **TKR6208**

Build Tip: Use some grease or Chapstick on the threads to help prevent "pop-off" when adjustments are being made.

Stock position is 2/B

- **TKR6208 M3x8mm Ball Stud**

- **WASHERS x2**
Bag G
Front End Assembly

Step G-1
TKR6624 - 1.6mm
*TKR6623 - 1.0mm
*TKR6623 - 1.1mm
*TKR6623 - 1.2mm
*TKR6623 - 1.3mm
*TKR6623 - 1.4mm
*TKR6624 - 1.5mm
*TKR6624 - 1.7mm
*TKR6624 - 1.8mm
*TKR6624 - 1.9mm
(Option)

Note: Do not over-tighten.

Below options sold separately.

*TKR6623 - 1.0mm
*TKR6623 - 1.1mm
*TKR6623 - 1.2mm
*TKR6623 - 1.3mm
*TKR6623 - 1.4mm
*TKR6623 - 1.5mm
*TKR6623 - 1.6mm
*TKR6624 - 1.7mm
*TKR6624 - 1.8mm
*TKR6624 - 1.9mm

Step G-2

Note: With these center/lower dot inserts, Kick Up is 11°
For reference: With center dot inserts, Kick Up = 10°

Note: Do not over-tighten.

Step G-3

Wheelbase Shims
front 2mm
large 1mm
small 0.5mm
rear 0mm
all shims go toward the front

Note: Refer to page 25 for setting droop.
Bag H
Front CVA / Spindle & Carrier Assembly

Step H-1
DO NOT SKIP THIS STEP!
Note: These are steering stop screws. They provide a mechanical limit to the steering throw and make the car easier to drive by greatly improving the consistency of the steering.

Step H-2
Grease

Step H-3
Note: These screws only need to be snug. Do not over-tighten.

Step H-4
Note: These screws only need to be snug. Do not over-tighten.

Step H-5
Note: This screw is included to keep the hole from deforming. Install before TKR6208.

TKR1201
M3 Lock Nut Black

TKR1221
M3x8mm Washer

TKR1229
6x10x0.2mm Shim

TKR1400
M3x4mm Button Head Screw

TKR1601
M3x4mm Set Screw

TKR1609
M3x3mm Set Screw

TKRBB06124
Ball Bearing (6x12x4)

TKRBB10154
Ball Bearing (10x15x4)

TKR6201
M3x8mm Ball Stud

TKR6208
M3x10mm Ball Stud
Bag I
Front Camber Links & Steering Links

**Step I-1**

- **Left**
  - TKR6250
  - TKR6253

- **Right**
  - TKR6250
  - TKR6253

**Note:** Notch always goes on left side of vehicle.

Build Tip: Use some grease or Chapstick on the threads to help prevent “pop-off” when adjustments are being made.

Build Note: Hold the turnbuckle stationary with pliers and push the rod end hard onto the turnbuckle while turning at the same time. Keep in mind that one end of the turnbuckle has normal threads and the other has reverse threads. Start the rod end straight and it will thread on straight.

**Front Camber Links**

- **Actual Size**
  - 30.00mm

**Steering Links**

- **Actual Size**
  - 31.50mm

**Step I-2**

**Left**

- TKR1201
- TKR6208

**Right**

- TKR6208

**Note:** Always press on with T logo visible.

**Step I-3**

**Left**

- TKR1201
  - TKR6208

**Right**

- TKR6208

**Note:** Always press on with T logo visible.

30.00mm

**Note:** Notch always goes on left side of vehicle.

Actual Size

Build Tip: Use some grease or Chapstick on the threads to help prevent “pop-off” when adjustments are being made.

Build Note: Hold the turnbuckle stationary with pliers and push the rod end hard onto the turnbuckle while turning at the same time. Keep in mind that one end of the turnbuckle has normal threads and the other has reverse threads. Start the rod end straight and it will thread on straight.

31.50mm

**Note:** Notch always goes on left side of vehicle.

Actual Size

**Step 1-2**

- TKR1201
  - M3 Lock Nut Black

- TKR6208
  - M3x8mm Ball Stud

**Note:** Always press on with T logo visible.
Bag I
Front Tower Assembly

Step 1-4

TKR1403
M3x10mm Button Head Screw

TKR1405
M3x14mm Button Head Screw

TKR1409
M3x20mm Button Head Screw

TKR7281
TKR7281C (Option)

Note: These screws only need to be snug. Do not over-tighten.

Step 1-5

TKR1403
Note: Always press on with T logo visible.

TKR1409

TKR7210

WASHERS

Stock position is 1/A
Note: It is necessary to slightly loosen both screws holding the A block in place before attaching the front clip to the chassis. This is due to the fact that the A block is now keyed into the front of the chassis. This feature helps secure the front clip and improves durability.
Bag J
Center/Rear Assembly

Step J-4
TKR6634
TKRBB10154

Step J-5
TKR1402
TKR6634
TKR6634
TKR6635C (Option)

Step J-6
TKR1211
TKR6538
TKR1409
TKR1323
TKR1402
TKRBB10154

TKR1211
M3 Lock Nut Flange Black

TKR1323
M3x10mm Flat Head Screw

TKR1402
M3x8mm Button Head Screw

TKR1409
M3x20mm Button Head Screw

TKRBB101504
Ball Bearing (10x15x4mm)

TKRBB101504

TKR6599

Step J-7
TKR1323 x 8pcs

Note: Use both rear braces for the least chassis flex. Use just the long rear for medium flex and short rear for the most flex. More flex is best suited for bumpy tracks.

*TKR6635C (Option)
**Bag K**

**Front Shock Assembly**

---

**Step K-1**

- TKR6712
- TKR6708
- TKR6709
- TKR6708
- TKR6709
- TKR6712
- TKR6711

**Note:** Slot in spring perch should face outside of car.

**Note:** Use green slime or oil on shock shaft threads AND O-rings to prevent tearing and leaking.

---

**Step K-2**

- TKR1245
  - Note: Do not over-tighten
- TKR6705
  - TKR6731
  - TKR6732
  - TKR6735 (Option)
- TKR6704
  - TKR6704 (Option)

**Note:** 1.7mm piston with writing up.

---

**Step K-3**

- TKR1240
  - M3x18mm Shock Mnt Screw x2
- TKR1248
  - M2x4mm Emulsion Screw x2
- TKR1245
  - M2x5mm Piston Screw x2
- TKR1211
  - M3 Lock Nut Flange Black x4
- TKR1604
  - M3x8mm Set Screw x2
- TKR6527
- TKR1240

**Note:** Do not over-tighten

---

**Step K-4**

- TKR6712
  - TKR6712A (Option)
- TKR7235
  - TKR7233
  - TKR7234
  - TKR7236
  - TKR7237 (Option)
- TKR6712
  - TKR6712A (Option)
- TKR1248
  - M2x4mm Emulsion Screw

**Note:** Screw rod end on until distance measures 28mm at full extension.

---

**Step K-5**

- TKR1211
- TKR6712
- TKR6527
- TKR1211

**Note:** Slot in spring perch should face outside of car.

- TKR1240
  - Note: Black screw is RH threaded. It goes on the left side of the car.
  - Silver screw is LH threaded. It goes on the right side of the car.

---

- Stock shock position is outside hole on the arm and middle hole on the tower (2/B)
- Shock length (droop) is 88mm
- Stock front ride height is 27mm with ST tires/31mm with SC tires
Bag L
Rear Shock Assembly

Step L-1

TKR6712
TKR6708
TKR6709
TKR6708
TKR6709
TKR6712
TKR6756
TKR6712
TKR6719A

Note: 1.8mm piston with writing up.

Note: Slot in spring perch should face outside of car.

Step L-2

TKR1245
*TKR6705
*TKR6731
*TKR6732
*TKR6735
(Option)

TKR6757
TKR6757
(Option)

TKR1245
Note: Do not over-tighten

Step L-3

#350 cst shock oil

Note: Screw rod end on until distance measures 38mm at full extension.

Step L-4

Refer to filling instructions on page 19 during this step.

TKR6712
TKR6712A
(Option)

TKR7245
*TKR7243
*TKR7244
*TKR7246
*TKR7247
(Option)

TKR6701

Step L-5

TKR6712

Note: Slot in spring perch should face outside of car.

TKR1240
M3x18mm Shock Mnt Screw

x2

TKR1245
M2x5mm Piston Screw

x2

TKR1248
M2x4mm Emulsion Screw

x2

TKR1604
M3x8mm Set Screw

 TKR1211
M3 Lock Nut Flange Black

x4

Stock shock position is inside hole on the arm and middle hole on the tower (2/A)

Shock length (droop) is 108mm

Stock rear ride height is 27mm with ST tires/31mm with SC tires

Note: Do not over-tighten

Note: Black screw is RH threaded. It goes on the right side of the car.

Silver screw is LH threaded. It goes on the left side of the car.

Note: Use green slime or oil on shock shaft threads AND O-rings to prevent tearing and leaking.

Note: 1.8mm piston with writing up.

Note: Use green slime or oil on shock shaft threads AND O-rings to prevent tearing and leaking.

Note: Use green slime or oil on shock shaft threads AND O-rings to prevent tearing and leaking.

Note: Use green slime or oil on shock shaft threads AND O-rings to prevent tearing and leaking.

Note: Use green slime or oil on shock shaft threads AND O-rings to prevent tearing and leaking.

Note: Use green slime or oil on shock shaft threads AND O-rings to prevent tearing and leaking.
Shock Filling Instructions
For both front and rear shocks

We’ve found it’s easiest to complete steps 1 & 2 on each shock before moving on to step 3. By the time you’ve finished step 2 on the last shock, the first one will be ready for step 3.

**Step 1.** Start by drilling out the emulsion hole. Use a 1/16th (or 1.6mm) drill bit to drill all the way through and clear any flashing created by this. Insert the four larger o-rings into the emulsion caps and set aside. Install the small o-rings onto the small emulsion screws by placing the o-rings on a pit mat or towel and pressing the screws into the o-rings (add 1 small drop of oil onto the seal to help make the screw slide in easier).

**Step 2.** Fill shock with oil all the way to the top and pump the shock shaft up and down 3-5 times.

**Step 3.** Screw on the cap all the way tight (shock tool TKR1115 is helpful for holding the shock body). Be careful to not cross-thread the caps. Start by turning in the opposite direction before tightening.

**Step 4.** With the shock at about a 45° angle, push and hold the shock shaft to the top of the stroke and insert the prepared emulsion screw/seal. Oil should leak out during this process. If it does not, add more oil. Tighten the screw until snug (do not over-tighten). Wipe off excess oil before moving on to step 5.

**Step 5.** Pump the shock shaft up and down about 20 times vigorously. This emulsifies the oil.

**Step 6.** With the shock shaft fully extended, remove the emulsion screw from the cap to do the final bleed.

**Step 7.** With the shock at about a 45° angle, push and hold the shock shaft to the top and insert the prepared emulsion screw/seal again. Oil will leak out during this process. Finish by tightening the screw until snug (do not over-tighten).
Bag M
Final Assembly

IMPORTANT RADIO SETUP TIPS, MUST READ:
The Tekno RC ET410 is highly tunable, but can be very aggressive depending on track conditions and tires used. To help with this, we recommend that you are well informed about setting up your Steering EPA, Servo Speed, Dual Rate, and Exponential Curves.

PLEASE READ PAGE 27 FOR MORE DETAILS.

Steering servo (not included)
Note: We recommend using a full size servo with at least 200 oz/in torque and metal gears. Running less than our recommended rating will increase the chance of premature servo failure.

**Gearing Recommendations**

<table>
<thead>
<tr>
<th>Vehicle</th>
<th>Motor 540 2-Pole or 540 4-Pole</th>
<th>Small Track (50-80 ft Straight)</th>
<th>Large Track (80-150 ft Straight)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ET410 (2 cell)</td>
<td>4.6T</td>
<td>16 tooth</td>
<td>17 tooth</td>
</tr>
<tr>
<td>6.5T</td>
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<td>18 tooth</td>
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<tr>
<td>17 tooth</td>
<td>18 tooth</td>
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<td></td>
</tr>
</tbody>
</table>

**Thread Lock**

**Step M-1**

TKR1323
M3x10mm Flat Head Screw

TKR1221
M3x8mm Washer

**Step M-2**

TKR1409
M3x8mm Button Head Screw

TKR1221
M3x8mm Cap Head Screw

**Step M-3**

TKR6539
Motor (not included)
Step M-4

TKR1323
M3x10mm Flat Head Screw

Note: Refer to page 20 or 26 for a recommended pinion chart to best suit your motor.

Note: MESH SHOULD BE AS TIGHT AS POSSIBLE WITHOUT BINDING.

Pinion/Set screw (not included)

Step M-5

TKR1321
M3x6mm Flat Head Screw

TKR6586
M3x8mm Washer

Fan (not included) 25mm and 30mm fans compatible.

Mount ESC, receiver & transponder during this step. (not included)

Step M-6

TKR6685
TKR1323
M3x10mm Cap Head Screw

TKR1523
M3x10mm Cap Head Screw

TKR1221
M3x8mm Washer
Note: Servo horn should be positioned after trim and sub-trim have been zero'd out. It should be positioned about 4 degrees off parallel from the steering bellcranks.

Steering bellcranks should be perfectly parallel from front to rear of the chassis.

SERVO HORN ALIGNMENT

Note: Servo horn should be positioned after trim and sub-trim have been zero’d out. It should be positioned about 4 degrees off parallel from the steering bellcranks.

Steering bellcranks should be perfectly parallel from front to rear of the chassis.
**Bag N Final Assembly**

**Step N-1**

- **x2** TKR5230 M3x18 Threaded Rod
- **x6** TKR1403 M3x10mm Button Head Screw

**Note:** Screw in TKR5230 until 8mm of threads are still visible.

---

**Bag O Wing**

**Step O-1**

- **x2** TKR1323 M3x10mm Flat Head Screw

**Note:** Stock hole position is in the rear of the wing. Wing forward creates LESS rear downforce. Wing rearward creates MORE rear downforce.

---

**DOWNFORCE OPTIONS**

<table>
<thead>
<tr>
<th>Shim/Direction</th>
<th>Total Wing Angle</th>
</tr>
</thead>
<tbody>
<tr>
<td>9°</td>
<td></td>
</tr>
<tr>
<td>7.5°</td>
<td></td>
</tr>
<tr>
<td>6°</td>
<td></td>
</tr>
<tr>
<td>4.5°</td>
<td></td>
</tr>
<tr>
<td>3°</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** More downforce will give more rear traction everywhere, will jump more nose up, have less steering into a turn, and have slightly less top speed. Less downforce will have less rear traction everywhere, will jump more level or nose down, have more steering into a turn, and have a slightly higher top speed.
**Bag O**
Body/Tires

**Step 0-2**

Hook and Loop Tape Placement: Look for indentations on the side walls of the body.

**Step 0-3**

Battery Installation

TKR6280
TKR5125

Thumb Screw Assembly

Wheels/Tires (not included)

Note: Use either Associated offset stadium truck OR Traxxas Slash SC offset wheels/tires.

**Step 0-4**

Hook and Loop Note:

Please note that there is a slight handling difference between using body clips and using the hook and loop tape to secure the body. Using only body clips to fasten the body will allow more flex and be easier to drive in rougher conditions. Using the hook and loop tape, with or without the body clips, will result in a stiffer chassis that is better suited for smoother tracks.

Body Clip

x4

TKR1235

M4 Alum Lock Nut Flange Black

x4

TKR1213

Note: For hook and loop tape placement. Look for indentations on the side walls of the body.
The purpose of making adjustments is to make the car go faster around the track, or to make it more controllable, or both if possible. A car that's easier to drive should produce lower, more consistent lap times. It will also inspire more confidence in the driver, which is always good when nerves start getting the best of you.

Before you start thinking about changing your car’s setup, consider these two things: First, is the car in perfect working order? Be sure that all of the suspension components operate freely without excessive play, and that the car isn’t tweaked. Binding and worn out parts will result in poor performance and inconsistent handling. Second, always consider tires before making other adjustments. Time spent trying to get the vehicle to work with the wrong tires mounted will be wasted time. Without the right tires, even a great setup won’t be a winning setup.

### Setup Information

**Ride Height**

Ride height is the distance from the bottom of the chassis to the running surface. Ride height should only be checked and adjusted with your vehicle ready to run (i.e. with battery installed/body on). Ride height is the first adjustment to be made and should be set with a ride height measurement tool. Measurements should be taken from the flat parts of the chassis, front and rear. Be sure to measure the front ride height at a point before the kick up in the chassis starts. To measure ride height, first make sure the suspension is completely free, then simultaneously compress the front and rear all the way down and let the vehicle settle. Take your measurement from that position. Use the shock spring adjustment collars to raise or lower the ride height to your desired setting. 27mm front and rear is a good starting point.

**Camber**

Static camber affects the car’s side to side traction. More negative camber front and rear quickens rotation in corners. Less negative camber will make the vehicle easier to drive but you may give up some responsiveness (i.e. steering). To set your static camber have your vehicle at ride height (see above) and adjust the camber links until desired angle is achieved. Please note that a large adjustment of front camber will affect front toe and you may have to readjust the toe and then re-check front camber again. A good starting measurement for camber is 1-2 degrees in the front and 1.5-2.5 degrees in the rear.

**Front Toe**

Front toe is used to describe the angle in which the front wheels point when looking down at them from the top of a vehicle. You will always use some amount of toe out. Toe-out will affect how your vehicle enters and exits corners. More toe out will result in more off-power steering and less on-power steering and less toe out will have the opposite results. To set your front toe, have your vehicle at ride height (see above) and adjust the steering links until desired angle is achieved. Please note that a large adjustment of front toe will affect front camber and you may have to readjust the camber and then re-check front toe again. A good starting point is approximately 0.5-1 degree of toe out per side.

**Ackermann Effect**

Think of Ackermann as active toe when the steering moves from left to right. More Ackermann effect makes more toe out at full turn and produces more steering off-power. Less Ackermann effect makes less toe out at full turn and produces more steering on-power. A good starting point is 0 washers behind the ball stud.

**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.

**Droop**

Droop is the measured amount of down travel in the suspension. It is measured from the shock mounting points while the vehicle is up on a stand allowing the arms to hang freely and is adjusted by turning the droop screw located in the suspension arms front/rear. This screw limits the suspension travel by providing a stopping point against the chassis. Left and right sides should always be equal, however the front and rear of the vehicle can have different values. Droop affects all aspects of chassis performance, including braking, acceleration, jumping, traction, and bump handling. A good starting droop measurement is 88mm front, and 108mm rear.
**Differentials**

**Front:** Changing front diff oil affects overall steering response. Thinner can increase off-power steering but the vehicle may be twitchy and harder to drive. Thicker can increase on-power steering and stability. We recommend 30k in the front diff.

**Center:** Changing center diff oil affects the front-to-rear drive balance. Thicker will reduce off-power steering and on-power rear traction but increases on-power steering and acceleration if traction is available. Thinner will increase off-power steering and on-power rear traction but reduce on-power steering and acceleration. We recommend 30k in the center diff.

**Rear:** Thinner rear diff oil increases off-power steering and reduces traction into a corner. It also reduces on-power steering and increases traction out of a corner. Going too thin will make your vehicle inconsistent, however. Thicker rear oil will have opposite effects, and once again, going too thick will make the vehicle inconsistent. We recommend 5k to 10k in the rear diff.

**Wheelbase Adjustments**

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 off power, less steering out of a turn and on power. Lengthening the wheelbase at the rear will yield the opposite results.

Shortening the wheelbase in the front will land jumps a little better and lengthening it will be better through small bumps. In general a longer wheelbase is better on open and/or bumpy tracks and a shorter wheelbase is better on tighter technical tracks.

**Springs**

Softer springs will increase traction through the turns by allowing more roll, slow down the responsiveness of the vehicle, and can be better in the bumps. Stiffer springs will increase corner speed if traction is available and will also tend to jump and land better. Once you find a set of springs you like you will typically only change them for tracks with dramatically different conditions.

**Pistons**

Pistons with smaller holes work well for smoother tracks with large jumps and pistons with larger holes work well for rougher tracks with less jumps. Smaller hole pistons will typically use thinner oil than larger hole pistons. Shock oil is also affected by the ambient temperature so a change in viscosity might be necessary with a change of 5°C or ~10°F.

**Sway Bars**

Sway bars are used to adjust a vehicle’s lateral grip by resisting chassis roll. A thicker bar decreases roll more than a thinner bar will. More roll means more grip and less roll means less grip. The front sway bar affects mainly off-power steering at corner entry. The rear sway bar affects mainly on-power steering and stability in mid-corner and at corner exit.

**Bearing Chart**

- **TKRR040725** – Ball Bearings (4x7x2.5mm, sold in pack of 4pcs) Bearings for the bellcrank/ackerman plate. 8pcs required in kit.
- **TKRR05114** – Ball Bearings (5x11x4, 4pcs) Diff pinion support bearings for the front/rear transmission housings. 4pcs required in kit.
- **TKRR06124** – Ball Bearings (6x12x4mm, 4pcs) Bearings for outside of steering blocks and outer rear hub carriers. 4pcs required in kit.
- **TKRR01054** – Ball Bearings (10x15x4mm, sold in pack of 4pcs) Bearings for all three diffs. Also inner front steering blocks/rear hub carriers. 10pcs required in kit.

* For bearing maintenance, please refer to page 28.

**Gearing Recommendations**

This chart shows the recommended starting ratios for the common motor types. Please consult the motor/esc manufacturers recommended settings to ensure you start with the best final drive ratio (FDR) for your equipment. When setting your mesh you want have it set as tight as possible, without any binding. Tekno RC is not responsible for damage done to your electronic equipment or gears due to improper gearing or mesh.
The Tekno RC ET410 is highly tunable, but can be very aggressive depending on track conditions and tires used. To help with this, we recommend that you are well informed about setting up your Steering End Points (EPA), Dual Rate (D/R), Exponential Curves, and Servo Speed.

Start by setting your EPA such that the vehicle can reach ‘full lock’ while on the ground. Be careful not to go too far with this setting as it may damage your servo. Drive the vehicle around the track. If you are turning into pipes or losing traction out of a corner, you probably have too much overall steering throw. The simplest way to reduce this is with Dual Rate. Reducing Dual Rate will turn down both the left and right side EPA proportionately without having to adjust the EPA settings independently. D/R is usually pre-assigned to one of the trim buttons on most mid-to-high level radios.

The next setting is ‘Expo’ or ‘Curve’. Expo does not change your EPA or D/R, it simply turns the wheels less around center and ramps up to the end points as you reach full lock on the steering wheel. We would suggest starting at -15%. If your vehicle still feels “twitchy” around center, dial in more negative expo to continue smoothing everything out. If it starts to feel too numb around center, dial some back out.

Another valuable and often overlooked radio adjustment is “Servo Speed”. Servo Speed allows you to slow the steering servo down from the transmitter resulting in reduced twitchiness. We like to set this at around -40 to start. If you find that it’s too lazy, increase the servo speed slightly and run a few more laps. Repeat as necessary until the steering response feels natural without delay.

After setting the servo speed you might find that you need to go back and adjust the expo setting. This is normal, it might take a few adjustments of each to achieve the proper steering “feel” to suit your driving style and track conditions.

With these four settings, you should be able to make your vehicle consistent and easy to drive lap after lap assuming the rest of the setup is close for your particular track. Of course there are many other factors and setup options to tune for more or less steering, but sometimes all your vehicle needs is a small radio adjustment to keep you headed in the right direction.

**Notes:**
Bearing Maintenance:

Bears should always be smooth and free in order to preform their function. We recommend inspecting and cleaning each bearing on a regular basis. It will be necessary to break down parts of the vehicle in order to inspect them properly. The procedures below should be done every couple of weeks or prior to an important race.

1. Inspect the outer seals for any visible damage and check the rolling resistance of each bearing.
2. If any bearing does not spin freely, then take the following steps to clean them.
3. Spray the bearing with motor spray and spin it again to remove any debris trapped inside. Repeat if necessary. If the bearing does not start to spin freely after cleaning, then they may need to be replaced.
4. Allow the clean bearing to dry or blow into the bearing with compressed air to speed up the drying process.
5. Oil each bearing with a proper bearing lubricant. One or two drops is enough.

Shock Maintenance:

When comparing the left and right shocks of the front end, they should feel identical. Same goes for the rears. The procedures below should be done every race day to make sure they are leak free and operating correctly.

1. After removing the shocks from the vehicle, remove the springs and inspect each shock for visible leaks (build up of debris at the bottom of the shock shaft or visible oil).
2. If the shock binds when pushing the shaft through its stroke, then the shaft may be bent and will need to be replaced.
3. If the shocks from left to right do not feel consistent when compared to each other, or have built up too much air inside (feel empty when pushing the shaft through its stroke), then you will need to rebuild them following the steps outlined on page 19 of this manual.

Hinge Point & Drive Line Maintenance:

Checking the hinge points while the shocks are removed from the vehicle is the best time to inspect these parts. The other items to inspect are the camber links, steering links and drive shafts. Follow the steps below every couple of weeks in order to keep the vehicle preforming at the maximum level.

1. With the shocks off the vehicle, check the movement of the arms, hubs, and spindle carriers. They should move freely. If there is a bind, then the inner or outer hinge pin may be bent and would need to be replaced. The arms should not have any play when twisted or moved in any direction against the hinge points. If there is excessive slop present, then the arms or hubs may be worn and will need to be replaced.
2. Remove the camber links, steering links and servo link from the vehicle. Check the movement of the spindles to see if they turn freely. If they don’t, then check the kingpin shoulder screws to see if they are tightened down too far. Also, check for slop. If there is excessive slop present, then the spindle carriers may need to be replaced.
3. Check the steering rack to make sure it moves freely. If it binds, then the screws holding the Ackermann or the steering posts could be too tight. If they still bind, then check the bearings and follow the steps above to clean them.
4. After re-installing the camber links, steering links and servo link, check the movement of the rod ends on the ball studs. If they have excessive slop or are binding, then they may need to be replaced.
5. Check the drive shafts by rotating them. Look for any wobbles. If they are bent, replace them immediately.
6. With the drive shafts removed, check for slop in the CV area. If it is present, then reposition the CV pin to another fresh hole, re-lubricate and install back into the vehicle.

Differential Maintenance:

Properly maintained differentials are essential for a smooth operating vehicle. Check all three diffs regularly to make sure they are filled and operating as designed.

1. Remove each diff and verify the differential action is happening and is smooth. If there is any notchy feel to them, follow the steps below to rebuild them.
2. Open the diff and pour out the oil. Remove the gears and pins to release the outdrives, then remove the seals. Inspect everything to make sure there are no damaged parts. If the seals are old or show any signs of degradation, replace them immediately. Re-lubricate the seals and outdrives, then rebuild the diff following the steps on page 3 and 4.
Name: Box Setup (starting point)

Track: Indoor  
Outdoor  
Size: Small  
Medium  
Large  
Traction: Low  
Med  
High  
Surface: Smooth  
Bumpy  
Rutted  
Type: Dirt  
Clay  
Carpet  
Astroturf  
Condition: Dusty  
Dry  
Wet  
Muddy

Bumpsteer/Ackermann/Steering Stop:

Front End:

Suspension:

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<thead>
<tr>
<th></th>
<th>FRONT</th>
<th>REAR</th>
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<tbody>
<tr>
<td>RIDE HEIGHT</td>
<td>27mm</td>
<td>27mm</td>
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<tr>
<td>CAMBER</td>
<td>-2°</td>
<td>-2°</td>
</tr>
<tr>
<td>CASTER</td>
<td>15°</td>
<td></td>
</tr>
<tr>
<td>SWEEP</td>
<td>0°</td>
<td></td>
</tr>
<tr>
<td>KICK UP</td>
<td>11°</td>
<td></td>
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<tr>
<td>ANTI-SQUAT</td>
<td>2°</td>
<td></td>
</tr>
<tr>
<td>TOE (in/out)</td>
<td>0.5° out (per side)</td>
<td>1.5° in (per side)</td>
</tr>
<tr>
<td>SWAY BAR</td>
<td>1.6</td>
<td>1.5mm</td>
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<tr>
<td>SPRING LENGTH (DROP)</td>
<td>88</td>
<td>108</td>
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Shocks:

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<tr>
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<td>5 %</td>
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Body/Wing:

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Tires / Wheels:

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Differential Oil:

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<tbody>
<tr>
<td>30K</td>
<td>30K</td>
<td>10K</td>
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Electronics:

| ESC       |       |
| BATTERY   |       |
| MOTOR     |       |
| RADIO     |       |
| SERVO     |       |

Drivetrain:

| PINION/SPUR | 53 |

Chassis Braces:

|          | Short Rear | Long Rear |

Notes:
### Setup Sheet

**Name:**

**Date:**

**Event:**

**Track:** Indoor ○ Outdoor ○

**Size:** Small ○ Medium ○ Large ○

**Surface:** Smooth ○ Bumpy ○ Rutted ○

**Type:** Dirt ○ Clay ○ Carpet ○ Astroturf ○

**Condition:** Dusty ○ Dry ○ Wet ○ Muddy ○

---

#### Bumpsteer/Ackermann/Steering Stop:

- **Ride Height**: Front | Rear
- **Camber**:
- **Caster**:
- **Sweep**:
- **Kick Up**:
- **Anti-Squat**:
- **Toe (In/Out)**:
- **Sway Bar**:
- **S-Clock Length (Drop)**:

---

#### Front End:

- **A Block**: (Sweep) (0° with Center Dot Insert)
- **B Block**: (Kick Up) (0° with Center Dot Insert)

---

#### Rear End:

- **C Block**: (Anti-Squat) (2° with Center Dot Insert)
- **D Block**: (Rear Toe) (0.5° with Center Dot Insert)

---

#### Suspension:

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<tbody>
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<tr>
<td>Caster</td>
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<td>Sweep</td>
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<tr>
<td>Kick Up</td>
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<td>Toe (in/out)</td>
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<tr>
<td>S-Clock Length (Drop)</td>
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#### Shocks:

- **Rebound**:
  - %
  - %

- **Build**:
  - Notes:

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#### Tires/Wheels:

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#### Body/Wing:

- **Body/Wing**:

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#### Differential Oil:

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#### Electronics:

- **ESC**:
- **Battery**:
- **Motor**:
- **Radio**:
- **Servo**:

#### Drivetrain:

- **Pinion/Spur**:

#### Chassis Braces:

- **Short Rear** ○
- **Long Rear** ○

---

#### Wheelbase/Axle Sweep:

- **Front Arm**
  - Large Millimeters: 2mm TOTAL
  - Small Millimeters: 3mm
- **Rear Arm**
  - Large Millimeters: 2mm TOTAL
  - Small Millimeters: 3mm

---

#### Notes:

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