1:10 Scale Electric 2WD Offroad Race Truck Manual
:: Introduction

Thank you for purchasing this Team Associated product. This manual contains instructions and tips for building and maintaining your new SC10. Please take a moment to read through it and familiarize yourself with these steps. We are continually changing and improving our designs; therefore, actual parts may appear slightly different than the illustrations. New parts will be noted on supplementary sheets located in the appropriate parts bags. Check each bag for these sheets before you start to build.

:: SC10 Features

- Built on 6-time National Champion RC10 T4 Platform
- Realistic Short Course Racing Truck 0.040” polycarbonate body
- KMC style wheels front and rear
- Aggressive tread multi-terrain scale tire with re-enforced sidewalls
- Realistic bumpers front and rear for maximum durability
- Rubber AE logo mud flaps
- 2.6:1 Ratio Gearbox equipped with sealed gear differential
- Dual-sided externally adjustable slipper clutch
- Molded composite low-CG chassis
- 2 spur gears included - 75 tooth gear for brushless stock and 87 tooth gear for brushed / modified
- Set-screw to secure antenna tube
- Hinged battery hold-down strap fits up to 8 cell battery pack (Reedy #699)
- Durable front and rear body mounts with adjustable height
- Complete set of 14 rubber sealed ball bearings
- Rugged steel turnbuckles
- Fully adjustable caster, camber, and toe-in
- Angled bellcrank “co-planar” steering
- Built in servo saver
- Vertical ball end adjustment, front and rear
- Blue aluminum shock bodies with molded pre-load clips
- Dog bone rear axles

:: Additional

:: SC10 Kit

Your new SC10 kit comes unassembled and requires the following items for completion (refer to catalog for suggestions):

- R/C two channel surface frequency radio system
- AA-size batteries for transmitter (8)
- 6-7 cell NiMH battery pack or 2-3 cell LiPo battery pack
- Battery charger (we recommend a peak detection charger)
- Electronic Speed Control (ESC)
- R/C electric motor
- Pinion gear, size to be determined by type and wind of motor you will be using
- Lexan specific spray paint

:: SC10 RTR

Your new SC10 RTR comes factory assembled including radio gear, motor, and ESC. However, there are some items you will need to complete your kit (refer to catalog for suggestions):

- AA-size batteries for transmitter (8)
- 6 cell NiMH battery pack or 2 cell LiPo battery pack
- Battery charger (we recommend a peak detection charger)

Tools included:
- Allen wrenches #6950 (.050”, 1/16”, 3/32”, 5/64”)
- 1.5mm allen wrench
- Molded tools #6956
- Camber gauge #1719
- Shock building tool #6429

:: Optional

Optional parts and gear to accessorize and maintain your SC10:

- Green Slime shock lube (AE Part # 1105)
- Cyanoacrylate glue (AE Part # 1597)
- Thread Locking Compound (AE Part # 1596)
- Silicone Shock Fluid (Refer to catalog for complete listings)
- Silicone Diff Fluid (Refer to catalog for complete listings)
- Body Scissors (AE Part # 1737)
- Reamer / Hole Punch
- FT Hex Wrenches (AE Part # 1541)
- Hobby Knife
- Needle Nose Pliers
- Wire Cutters
- Soldering Iron
- Calipers or a Precision Ruler
- FT Nut Driver Set (AE Part # 1561)

* These Symbols Indicate a special note or instructions.

* There is a 1:1 fold out in the back of the manual. Fold it out while building your kit for easy parts sizing!
:: Steering Rack Build

**BAG A**

**A2**

**STEP 1**

- 9659 servo saver (upper)
- 9659 servo saver (lower)

- 9657 heavy duty servo saver spring
- 9610 x2 servo saver washer (lower)
- 9610 servo saver bolt

*With supplied wrench, tighten servo saver bolt completely, but take care not to overtighten.*

:: Steering Rack Build (cont.)

**A2 / 3**

**STEP 2**

- 6272 dust cover foam
- 6276 ball end short (silver) x2
- 6272 dust cover bushing
- 6276 ball end short (silver) x2

- 9659 x2 block carrier bushing
- 9659 steering rack
- 2221 x2 4-40 x 7/16 bhcs

:: Steering Rack Build (cont.)

**A4 / 5**

**STEP 2**

- 9566 top plate
- 3856 x4 steering rack bushing

*Do not overtighten steering bolts. Make sure there is free movement in the steering rack.*

- 9640 steering bolt (right)
- 9640 steering bolt (left)
- 9659 steering brace

- 9563 front bulkhead

* (FT option available)

- 9823 SC10 chassis
- 6915 x2 4-40 x 5/8 ihcs

- 6925 x3 4-40 x 1/2 ihcs
:: Steering Knuckles Build

BAG B

B 2
STEP 1

4187 x2
.030 washer

9581 x2
steering block
1 left & 1 right

9613 x2
traction axle

6272 x2
dust cover foam

6277 x2
ball end long (silver)

6299 x2
e-clip

7260 x2
4-40 small plain nut

3983 x2
ball end long (black)

7919 x2
caster block
1 left & 1 right (25°)

6272 x2
dust cover foam

:: Steering Knuckles Build (cont.)

B 2
STEP 2

9622 x2
kingpin

9645 x2
2-56 x 1/8 bhcs

4187 x4
.030 washer

:: Front Arms

B 3
STEP 3

9645 x2
2-56 x 1/8 bhcs

9622 x2
hinge pin front outer

9580 x2
spacer

7446 x2
A-arms, front

9621 x2
hinge pin front inner

4334 x2
2-56 x 5/16 bhcs

9645 x2
2-56 x 1/8 bhcs

9564
front hinge pin brace

[FT option available]
:: Front Shock Tower

**B 4**

- **STEP 4**
  - 9825: front shock tower
  - 9821 x2: front body posts
  - 6277 x2: ball end long (silver)
  - 6272 x2: dust cover foam
  - 9630 x2: washer
  - 6924 x2: 4-40 x 3/8 shoes
  - 9820: front body mount

:: Steering Knuckles Build (cont.)

**B 4**

- **STEP 5**
  - 6295 x2: 4-40 plain nut
  - 6924: 4-40 x 3/8 shoes
  - 7738 x2: 4-40 x 7/8 shcs
  - 6924 x4: 4-40 x 3/8 shoes

:: Front Bumper

**B 5**

- **STEP 6**
  - 9816: front bumper
  - 9816: front bumper brace
  - 9816: skid plate
  - 6925 x4: 4-40 x 1/2 shoes
  - 6915 x2: 4-40 x 5/8 fhcs
  - 6292 x2: 4-40 x 3/8 fhcs
**Front Turnbuckles**

**B 6**

**STEP 7**

* Orient the notch to the left throughout the car. It indicates which end has the left hand threads.

*2

7230 ball cup [large]

3.52" (89.4mm)

7101 2.80" turnbuckle *

[FT option available]

*2

7230 ball cup [large]

3.33" (84.2mm)

7230 ball cup [large]

7253 2.62" turnbuckle *

[FT option available]

**Side Nerf Bars**

**B 7**

**STEP 8**

*2

9822 nerf bars

1 right & 1 left

* Twist and flex side nerf guards into place

*2

6917 4-40 x 3/8 bhcs

**Transmission**

**BAG C**

**C 2**

**STEP 1**

9828 differential gear 52T, 48P

9831 3.8mm x 0.7mm o-ring

9830 5mm x 9.5mm shim

9830 outdrive cup

9829 5mm x 14mm shim, diff rebuild

9831 4.7mm x 1.42mm o-ring

9830 2mm x 8mm round end pin
:: Transmission (cont.)

**C 2 / 3**

**STEP 2**

- 9829 sun gear
- 9829 x2 cross pin
- 9829 x4 planet gear
- Align pin with groove in sun gear
- Black grease #6559

:: Transmission (cont.)

**C 2**

**STEP 3**

- 9828 diff gear cover
- 9831 3.6mm x 0.7mm o-ring
- 9830 5mm x 9.5mm shim
- 9830 outdrive cup
- Black grease #6559

:: Transmission (cont.)

**C 2 / 4**

**STEP 4**

- 9829 sun gear
- 9831 diff gear seal
- 4675 x4 2.5 x 8mmfhcs
- Black grease #6559

*Use the 1.5mm allen wrench to tighten the 2.5x8mm fhcs on the diff gear cover.*
**:: Transmission (cont.) ::**

**C5 / 6**
STEP 5

- **9826 x2**
  transmission case
  1 left & 1 right

- **3977 x2**
  ball bearing
  3/16 x 3/8

- **9832 x2**
  ball bearing
  10 x 16mm

- **9602**
  top shaft spacer

- **9601**
  top shaft

- **9360**
  idler gear

- **9361**
  idler gear shaft

**:: Transmission (cont.) ::**

**C7**
STEP 6

- **9819**
  motor guard

- **9630 x3**
  .030 ball stud washer

- **6925**
  4-40 x 1/2
  shcs

- **6928 x3**
  4-40 x 1
  shcs

- **6919 x2**
  4-40 x 5/16
  shcs

**:: Transmission (cont.) ::**

**C8 / 9**
STEP 7

- **9817 x2**
  rear bumper braces (upper)
  1 left & 1 right

- **6913**
  4-40 x 1 1/4
  shcs

- **9600**
  motor plate

- **9833**
  4-40 x 1 3/4
  shcs

- **4449**
  3/16
  aluminum locknut

- **9817**
  rear bumper brace [lower]

[FT option available]

* Do not overtighten.
**:: Transmission (cont.)::**

**C 10**

**STEP 8**

- **9603 x2** slipper pad
- **9604 x2** slipper hub
- **9654** spur gear (97T) *(or)* **9650** spur gear (75T)

*spur gear #9654 (97T) is recommended for brushed/modified motors. Spur gear #9650 (75T) is recommended for brushless stock motors.*

- **6629** 5-40 locknut

*Compress spring first.*

- **9605** slipper spring

*Install locknut until even with end of shaft. Then tighten 3 turns for kit slipper setting. Recheck after initial run.*

---

**:: Rear Arms::**

**BAG D**

**D 2**

**STEP 1**

- **9818** rear chassis plate
- **7448 x2** rear A-arms 1 left & 1 right
- **9621 x2** hinge pin [rear inner]
- **9645 x2** 2-56 x 1/8 bhcs

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**:: Rear Arms (cont.)::**

**D 2**

**STEP 2**

- **9818** rear arm mount (3+8)
- **9269 x2** 5-40 x 1/2 fhcs

---
:: Rear Upper Plate

**D 5**
STEP 6

- 9821 x2 rear body posts
- 9820 rear body mount
- 6924 x2 4-40 x 3/8 shcs
- 6924 x4 4-40 x 3/8 shcs

:: Rear Bumper

**D 6**
STEP 7

- 89430 x2 mud flaps
- 9817 rear bumper
- 6917 x4 4-40 x 3/8 shcs
- 6925 x4 4-40 x 1/2 shcs

:: Rear Hubs

**BAG E**

**E 2**
STEP 1

- 6272 x2 dust cover foam
- 3883 x2 ball stud long (black)
- 7260 x2 4-40 small plain nut
- 9584 x2 rear hub carriers 1 left & 1 right
- 7377 x2 bearing spacer
- 3977 x4 ball bearing 3/16 x 3/8
:: Rear Hubs (cont.)

E 3 / 4 / 5
STEP 2

:: Rear Camber Turnbuckle

E 6
STEP 3

:: Shocks

BAG F

F 2
STEP 1
:: Shocks (cont.)

**F 2 / 3**

STEP 2

- [Image of shock caps and piston]
- 6469 shock cap o-ring
- Front x2
- Rear x2
- Remove burrs
- Piston number here

:: Shocks (cont.)

**F 3**

STEP 3

- Front x2
- 6465 shock piston #3
- 6299 e-clip
- 6459 shock shaft 1.02” stroke
- 6466 x5 downstop 1/32
- (FT option available)
- Rear x2
- 6465 shock piston #1
- 6299 e-clip
- 6458 shock shaft 1.32” stroke
- 6466 x2 downstop 1/32
- (FT option available)
- 7217 eyelet
- 7217 pivot ball

:: Shocks (cont.)

STEP 4

- 6428 shock cap (molded)
- Front x2
- Rear x2

**Shock Bleeding Steps:**

1. Slowly compress the shaft.
2. If there is pressure at the top of the stroke, there is too much oil or air. You must bleed it out.
3. Slowly pull shaft out.
4. Unscrew the cap 3/4 turn and tilt the shock at a slight angle.
5. Slowly compress the shaft to push out excess oil and air. You should see bubbles coming out from under the cap.
6. With the shaft compressed, tighten the cap and re-check for pressure at the top of the stroke. If there is still pressure, repeat steps 3-5.

Check for pressure

Slow
:: Steering Servo (cont.)

G 4
STEP 2

9170 servo link

*Leave a 1/16" gap

8292 x2
4-40 x 3/8 fhcs

:: Motor / Gear Cover

G 5 / 6
STEP 3

9626 Ready Radon

* motor not included with kit

8255 18T 48P pinion gear w/ setscrew

* pinion and set screw not included with kit

31531 x2 m3x6mm bhcs

6936 x2 washer #4 aluminum

7460 gear cover (black)

6285 x2 4-40 x 1/4 shcs

* See page 18 for gear mesh setting instructions

:: Electronics / Battery Strap

G 7 / 8
STEP 4

6338 antenna tube and cap

29122 XP2 receiver

9814 x2 4-40 x 1/2 set screw

9815 foam spacer

9814 thumb knob

* receiver and electronic speed control not included with kit

3862 5-40 x 1/8 set screw

29140 XP 5C200 esc

* leave a 2.5mm gap
:: Battery Strap (cont.)

**G 7 / 8**

**STEP 5**

- **9814**
  - pivoting battery strap
- **9814 adhesive foam**

* battery not included in kit

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**STEP 6**

- **9835 x2**
  - 5-40 x 3/4
  - shcs
- **9814 x2**
  - battery pivots

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- Move thumb screws to the unlocked position and lift the battery strap to remove your battery pack. Look the thumb screws after you install your battery pack.

- Leave a 1/16" gap between the battery pivots and the chassis.

:: Wheels and Tires

**BAG H**

**H 1**

**STEP 1**

- **9806 x2**
  - rear wheel
- **9809 x4**
  - tire foam
- **9805 x2**
  - front wheel
- **9809 x4**
  - SC10 tire

- Use #1597 or equal cyanoacrylate glue to glue your tires to the wheels.
:: Wheels and Tires

H 2
STEP 2

Front x2

3977 x2
ball bearing
3/16 x 3/8

6629
5-40 locknuts

Rear x2

9834
8-32 aluminum locknut (silver)

:: Body

H 2
STEP 3

3897 x4
swivel mounts

6332 x4
body clip

9836
SC10 clear body

* Place body clips in the third hole from the bottom for stock body height.

:: Final Adjustments

Use the following steps to make the final adjustments on your truck.

1. Turn the transmitter on.
2. Make sure the motor is disconnected.
3. Connect your battery pack and turn the power switch on.
4. Move the steering control on the transmitter to the right and left. Do the wheels move in the correct direction? If not, you must reverse the steering servo direction on your transmitter (see transmitter manual).
5. Adjust your steering trim (see radio manual) until the steering rack is centered under the top plate. Then, using the two steering turnbuckles, adjust the front wheels so they are pointing straight ahead.
6. Adjust the ESC (electronic speed control) according to the speed control manufacturer’s instructions. Some manufacturers have the motor connected during adjustment and some do not. Now turn the power switch off.
7. Connect the motor: Place your car on a block or car stand so that all four wheels are elevated. Turn the power switch on again. Check the throttle, brake, and steering settings you have made and then turn the power switch back off.
8. Remember this! The transmitter is always the FIRST TO BE TURNED ON and THE LAST TO BE TURNED OFF.
Motor Gearing:
Proper motor gearing will result in maximum performance and run time while reducing the chance of overheating and premature motor failure. The gear ratio chart lists recommended starting gear ratios for the most widely used motor types. Gear ratios will vary depending upon track conditions, driving style, and personal preference. Generally, you should not increase the pinion gear size more than one tooth greater than the starting size.

<table>
<thead>
<tr>
<th>MOTOR</th>
<th>Pinion</th>
<th>Spur</th>
<th>FDR</th>
</tr>
</thead>
<tbody>
<tr>
<td>27T Stock Motor</td>
<td>19</td>
<td>87</td>
<td>11.91:1</td>
</tr>
<tr>
<td>18T Super Stock Motor</td>
<td>19</td>
<td>87</td>
<td>11.91:1</td>
</tr>
<tr>
<td>17T Modified Motor</td>
<td>24</td>
<td>87</td>
<td>9.43:1</td>
</tr>
<tr>
<td>15T Modified Motor</td>
<td>22</td>
<td>87</td>
<td>10.26:1</td>
</tr>
<tr>
<td>14T Modified Motor</td>
<td>21</td>
<td>87</td>
<td>10.77:1</td>
</tr>
<tr>
<td>17.5 Brushless Motor</td>
<td>28</td>
<td>75</td>
<td>6.96:1</td>
</tr>
<tr>
<td>13.5 Brushless Motor</td>
<td>26</td>
<td>75</td>
<td>7.50:1</td>
</tr>
<tr>
<td>10.5 Brushless Motor</td>
<td>24</td>
<td>87</td>
<td>9.42:1</td>
</tr>
</tbody>
</table>

Set The Gear Mesh
You should be able to rock the spur gear back and forth in the teeth of the pinion gear without making the pinion gear move. If the spur gear mesh is tight, then loosen the #31531 screws and move the motor away, then try again. A gear mesh that is too tight or too loose will reduce power and damage the gear teeth.

MAINTENANCE

Check For Fit
Periodically check all moving suspension parts. Suspension components must be kept clean and move freely without binding to prevent poor and/or inconsistent handling.

Motor Maintenance
Brushed motors require frequent maintenance to keep performance levels at their maximum. Between runs and after letting the motor cool completely, inspect the brushes to ensure that they are moving freely in their holders. Remove the springs and slide the brushes in and out of their holders checking for any resistance or rough spots. If found, remove the brush and carefully wipe it clean. Removing buildup will allow the brush to slide freely and create maximum contact with the commutator resulting in maximum power output.

After every 3-5 runs, remove the brushes from their holders and inspect the tips for wear or burning. If there is noticeable wear (less than 75% of the brush remaining), replace the brush with a new pair. If the tips become a burned blue color, the lubricant in the brush has been burned away and new brushes should be installed.

Occasionally, the motor should be cleaned with a soft brush to prevent dirt build up around the brush hood area and ball bearings. At this time, it is a good idea to add one drop of bushing/bearing oil to each bushing or ball bearing.

If using a brushless motor, please refer to the motor manufacturer’s guidelines for proper maintenance.

Slipper Clutch
The assembly instructions give you a base setting for your clutch. Turn the nut on the shaft so that the end of the top shaft is even with the outside of the nut. Tighten the nut 3 more turns. At the track, tighten or loosen the nut in 1/8 turn increments until you hear a faint slipping sound for 1-2 feet on takeoffs.

Another popular way to set the clutch is to hold both rear tires firmly in place and apply short bursts of throttle. If the clutch is properly set, the front tires should lift slightly up off the surface.
:: Adjustments / Tips

Front Camber Links
Changing the length of the camber link is considered a bigger step than adjusting the ball end height on the tower. Shortening the camber link (or lowering the ball end) will give the front end less roll and quicker steering response. Lengthening the camber link (or raising the ball end) will give the front more roll and slower steering response. Longer camber links are typically used on high grip tracks and shorter links tend to work better on medium-grip loose tracks.

Caster
Caster describes the angle of the kingpin as it leans toward the rear of the vehicle. Positive caster means the kingpin leans rearward at the top. The supplied 25° caster blocks (#7919) are recommended in most cases. For more corner entry steering and less exit steering, try the optional 30° blocks (#7822).

Front Camber
Camber describes the angle at which the tire and wheel rides when looked at from the front. Negative camber means that the tire leans inward at the top. A good starting camber setting is -1°. Use the included #1719 camber gauge to set your camber. Positive camber, where the top of the tire is leaning out, is not recommended.

Rear Camber Link
Changing the length of the camber link is considered a bigger step than adjusting the ball end height on the rear chassis brace. Shortening the camber link (or lowering the ball end) will give the rear end less roll and the car will tend to accelerate on “square up” better. Lengthening the camber link (or raising the ball end) will give the rear more roll and more cornering grip. Longer camber links are typically used on high grip tracks, while shorter links tend to work better on med-grip loose tracks. The kit setting is the best compromise of cornering grip and acceleration.

Rear Camber
Camber describes the angle at which the tire and wheel rides when looked at from the back. Negative camber means that the tire leans inward at the top. A good starting camber setting is -1°. Use the included #1719 camber gauge to set your camber. Adding a small amount of positive camber where the top of the tire is leaning out, will tend to improve straight-line acceleration on loose tracks.

Ride Height
Ride height is the distance from the ground to the bottom of the chassis. The standard front ride height setting is with the front arms level (referred to as “arms level”). Check the ride height by lifting up the entire car about 8-12 inches off the bench and drop it. After the suspension “settles” into place, add or remove pre-load clips so that the left & right arms appear to be level.

The rear ride height setting you should use most often is with the outdrive, driveshift, and axles all on the same imaginary horizontal line (referred to as “bones level”). Check the ride height by lifting up the entire car about 8-12 inches off the bench and drop it. After the suspension “settles” into place, add or remove pre-load clips so that the left & right driveshifts appear to be level.

Wheelbase Adjustment
You have three options for rear hub spacing, Forward, Middle, & Back. The kit setting provides the most rear traction, and will be used most often. For improved handling in bumps or rhythm sections, try moving the hubs to the Middle or Back position. This can also make the car handle better in 180° turns.

Anti-Roll bar
The optional #9635 rear anti-roll bar kit (also called the “swaybar”) allows you to add roll resistance to the rear end with minimal effect on handling over bumps and jumps. It is an especially helpful tuning item on high-grip tracks (try the gold bar). The silver and black anti-roll bars are typically used on medium-grip loose tracks.
### Front End
- Camber: __________
- Washers: __________
- Toe: _______
- Ride height: __________
- Axle height: caster up/down/middle: __________
- Bump steer spacer: __________

### Rear End
- Camber: __________
- Washers: __________
- Anti-squat: std/other
- Rear hub carriers: std/0°/0.5°/1°
- Ride height: __________
- Wheel base: long/medium/short
- Anti-roll bar: none/black[soft]/silver[med]/gold[hard]

### Front Shocks
- Spring: __________
- Piston: __________
- Shock oil: __________
- Limiter: __________

### Rear Shocks
- Spring: __________
- Piston: __________
- Shock oil: __________
- Limiter: __________

### Electronics
- Motor & wind: __________
- Pinion: __________
- Spur gear: __________
- ESC: __________
- Setting: __________
- Batteries: __________
- Battery placement: __________

### Transmitter
- Radio: __________
- Steering expo: __________
- Brake e.p.a: __________
- Throttle expo: __________
- Servo: __________
- Initial brake: __________
- Drag brake: __________

### Other
- Body: __________
- Notes: __________

### Gear Differential
- Fluid: __________

### Front Tires
- Tire: __________
- Compound: __________
- Insert: __________
- Wheel: __________

### Rear Tires
- Tire: __________
- Compound: __________
- Insert: __________
- Wheel: __________

### Race and Vehicle Comments
- Qualify: _____
- Main: _____
- Finish: _____
- Tq: _____
- Comments: __________

### Track Info
- Smooth: _____
- Bumpy: _____
- Blue groove: _____
- Traction: high/med/low
- Soft dirt: _____
- Grass: _____
- Clay: _____
- Wet: _____
- Dusty: _____
- Other: __________

:: For more setups, visit www.RC10.com and click on ‘Setup Sheets’