NEW FEATURES
New graphite chassis design.
New composite material for front suspension parts.
New front end brace.
Fiberglass antenna rod.
Graphite T-bar pivot brace.
New symmetrical T-bar design.
Improved T-bar performance.
New molded damper post.
Improved damper geometry.
New roll stop limiters.
New rear pod geometry.
Redesigned composite left rear bulkhead.
Redesigned aluminum motor bulkhead.
New graphite damper plate design.
New rear lower pod plate design.
New molded nerf wings

IMPROVED CAR PERFORMANCE
Using performance improvements we developed for the 1996 On Road World Championships, we moved the battery mounting position and added a brace to the T-bar pivots so that only the T-bar will flex under heavy load conditions. The new T-bar and T-bar spacer design improve the car’s rear traction and rough track performance. Yet it still maintains the same side to side stiffness we wanted. We have relocated the damper post location of the rear pod for consistency and performance. The new rear pod changes have lowered the motor’s center of gravity, fine tuned the rear axle alignment, and made it easier to access the motor and solder it in. The roll stop inserts allow the car to respond to direction changes even quicker. We have also widened the battery slots of the RC10L2O on the left side of the chassis. This allows you to move the battery closer to or farther away from the center line of the chassis for different track and setup options.

HELPFUL TOOLS (NOT REQUIRED)
1. Allen drivers (straight Allen wrenches with hex shaped handles) such as the following made by Associated:
   #6957 .050” Allen wrench
   #6958 1/16” Allen wrench
   #6960 3/32” Allen wrench
   #6961 2.5mm Allen wrench
2. Vernier calipers
3. Hobby scissors
4. Nut drivers (screwdriver-handled hex socket tools) such as the following from Associated:
   #SP-6 3/16” nut driver
   #SP-8 1/4” nut driver
   #SP-82 1/16” nut driver
5. WARNING! Do not use a power screwdriver to install screws into nylon, plastic, or composite materials. The fast rotation speed can heat up the screws being installed. They can then break or strip the threads during installation.

ITEMS NEEDED TO OPERATE YOUR CAR
1. R/C two channel surface frequency radio system.
2. Battery pack (6 cell).
3. Battery charger (we recommend a peak detection charger).
4. Electronic speed control.
5. R/C electric motor.
6. Pinion gear, size to be determined by type and wind of motor you will be using.
7. 1:10 scale Lexan body and wing.

* Available from Associated. See your 10L catalog.
BEFORE BUILDING

OPEN THE BAGS IN ORDER
The assembly is arranged so that you will open and finish that bag before you go on to the next bag. **Sometimes you will have parts remaining at the end of a bag. These will become part of the next bag.** Some bags may have a large amount of small parts. To make it easier to find the parts, we recommend using a partitioned paper plate for spreading out the parts so they will be easier to find.

MANUAL FORMAT
The following explains the format of these instructions.

**The beginning of each section indicates:**
1 Which bag to open ("BAG A").
2 Which parts you will use for those steps. Remove only the parts shown. "1:1" indicates an actual size drawing; place your part on top and compare it so it does not get confused with a similar part.
3 Which of the two kits the parts will be used for, and for which steps they apply ("Remove these parts for: 8015: step 1, 8016: step 1").
4 Which tools you should have handy for that section.
5 In some drawings, the word "REAR" with an arrow indicates which direction is the rear of the car to help keep you oriented.
6 The instructions in each step are ordered in the order you complete them, so read the words AND follow the pictures. The numbers in circles are also in the drawing to help you locate them faster.

SUPPLEMENTAL SHEETS
We are constantly developing new parts to improve our kits. These changes, if any, will be noted in supplementary sheets located in a parts bag or inside the kit box. Check the kit box before you start and each bag as it is opened. When a supplement is found, attach it to the appropriate section of the manual.

**Now clear off your workbench,** line up some paper plates, grab your no-spill mug, double pattie hamburger, beef jerky, turn on some music, and let's begin!

---

**BAG A**

**REMOVE THESE PARTS FOR:**
- 8015: step 1
- 8016: step 1

**TOOLS USED**
- 1/16"
- 8415, qty 2 upper suspension arm mount
- 8407, qty 2 upper suspension arm mount
- 8419, qty 2 lower suspension arm
- 8411, qty 2 upper suspension arm eyelet
- 8415, qty 4 pivot ball
- 8409, qty 4 4-40 x 1/2" shoulder screw

**STEP 1 LEFT SIDE**

ASSEMBLE UPPER SUSPENSION ARM
1. Assemble parts #8405, 8415, and 8411.

ATTACH UPPER ARM MOUNT TO LOWER ARM
2. Attach #8407 mount to the #8419 lower suspension arm using two #8409 screws. (L2 kit: 10° mount, L20 kit: 0° mount.) **WARNING!** Screws are difficult to screw in. Turn carefully so you do not strip out the head.

INSTALLING UPPER AND LOWER PIVOT BALLS
3. Before popping in the pivot balls, make sure there are no burrs inside the pivot ball holes.
4. Pop the #8417 pivot balls into the suspension arms as shown. Make sure that the shoulders of the pivot balls in the lower suspension arms are facing upward and the pivot balls in the upper arm are facing downward as shown. Orient ball to the rounded side of the upper arm as shown.
5. Now assemble the right side.
**STEP 2**

**FILE THE CHASSIS**
1. Use your file to bevel the slots on the top of the chassis so the edges won’t cut through the battery cell wrap. **WARNING!** Graphite dust can be harmful to your health. File in a well ventilated area. Then wash the chassis with running water and dry with paper towels. Wash your hands afterward with cold water and soap. Deposit graphite filings in trash.

**TAPE THE CHASSIS**
2. Insulate the battery slots by wrapping the slots with electrical tape.

**NOTE:** The bottom of the chassis has the screw holes countersunk.

**STEP 3**

**LEFT SIDE**

**SUSPENSION ARMS TO CHASSIS**
1. Slip the #8179 spacer between the suspension arm and the chassis, then bolt on with two #8439 screws from underneath the chassis. Do the other side.

**MOUNT THE CROSS BRACE**
2. Mount the cross brace (L2 kit: #8402, L20 kit: #8403) to the front suspension using two #6917 button head screws.

**UPPER ARM TO THE SUSPENSION MOUNT**
3. Assemble the upper arm assembly to the suspension mount as shown, using the #8413 hinge pin and shims.

**FINAL FRONT SUSPENSION ASSEMBLY**
4. Assemble the #8421 steering block as shown using parts #3213, 6299, 4448, and 4449. Install the ball end into the rear hole.
5. Place one #6299 E-clip on the bottom of the #8423 kingpin then slide the #8429 spring over.
6. Slide the #8423 kingpin completely through the bottom of the suspension arm and up through the steering block.
7. Place one #8425 shim on top of the #8421 steering block. Now push the upper arm over the kingpin. Place four #8425 shims over the kingpin and secure with a #6299 E-clip.
8. Do the other side.
**STEP 1
LEFT SIDE**

**T-BAR ASSEMBLY**

1. Trim the sides on the #4335 front pivot socket in order to make room for the T-bar tweak screws. The back rear pivot stays the same.
2. Assemble the #4335 T-bar sockets and #4336 pivot balls.
3. Secure the T-bar pivot assembly to the #8191 T-bar using four #4334 screws as shown, installing both on the same side of the T-bar. The side with the screw head showing will be the bottom.
4. Install the two #4436 tweak screws as shown. Do not overtighten the screws.

**STEP 2
RIGHT SIDE**

**REAR POD ASSEMBLY**

1. Bolt the lower pod plate (L2 kit: #8204, L20 kit: #8320) to the black #4536 left bulkhead and aluminum #4537 motor bulkhead with the five #6292 screws.
2. Attach the lower pod plate to the T-bar with #4526 spacers, #6292 screws, and #4449 locknuts. The spacer goes between the T-bar and the pod plate. The T-bar is on top.
### Step 3
**Left Side**

**T-Bar to Chassis**
1. Insert the #4519 screw through the chassis hole shown and into the T-bar.
2. Place the #8192 T-bar brace over the screw and secure with a #4449 locknut.

### Step 4
**Left Side**

**Rear Chassis Brace Assembly**
1. Mount the aluminum #4442 and #4515 standoffs to the rear chassis brace (L2 kit: #8207, L20 kit: #8313) with the #6919 screws.
2. Mount the rear body mounts (L2 kit: #4513, L20 kit: #8186) to the rear chassis brace in the holes shown and secure the mounts using the #6917 screws.
3. Place a small amount of Locktite on the tip of a #6917 screw. Mount the #4516 dampener post to the rear chassis brace with the #6917 screw.

**Dampener Assembly**
4. Slide the #4517 spring, #8330 O-ring, and #4340 washer over the #4516 post in the order shown.
BAG B

Tools Used

- 1/16" roll stop insert
- Optional - see tuning section

Remove These Parts:
- 8015: steps 5-6
- 8016: steps 5-6

- 6270, qty 1 - 4-40 ball end
- 6920, qty 1 - 4-40 x 3/16
- 8330, qty 1 - dampener O-ring
- 4517, qty 1 - dampener spring
- 6917, qty 1 - 4-40 x 3/8
- 6919, qty 2 - 4-40 x 5/16
- 8189, qty 2 - molded nerf bar

L2 Kit ONLY
- 8206, qty 1 - dampener plate

L20 Kit ONLY
- 8310, qty 1 - dampener plate
- 4340, qty 1 - dampener washer

L20 Kit ONLY
- 8312, qty 1 - molded nerf bar

L2 Kit Shown

Step 5
Left Side

Chassis Brace/Nerf Bar Mounting
1. Align the molded nerf bar(s) (L2 kit: #8189, qty 2. L20 kit: #8312, qty 1) over the rearmost chassis holes, the large hole of the nerf bar to the rear. Mount the bar to the chassis with the #6292 screw through the forwardmost hole of the bar.
2. Push the outside aluminum standoffs through the rear hole of the nerf bars. Insert the #6915 screw up through the chassis and into the rear part of the T-bar, and screw it into the center chassis brace standoff tube.
3. Secure the outside aluminum standoffs to the chassis with the #7673 screws.

Step 6
Left Side

Dampener Plate Assembly
1. Install the dampener plate (L2 kit: #8206, L20 kit: #8316) to the rear pod using two #6919 screws into the aluminum bulkhead and the longer #6917 screw into the plastic bulkhead.
2. Slide the #4340 dampener washer, #8330 O-ring, and the #4517 spring over the dampener post as shown.
3. Secure the dampener assembly using a #6466 1/32" spacer and #6920 screw.
4. Install the #6270 ball end and #4449 locknut as shown.
**Step 3**

**FINAL DIFF ASSEMBLY**

1. Hold the axle (L2 kit: #8210, L20 kit: #4355) upright and slide the #6625 diff ring over the axle and onto the aluminum hub of the axle.
2. Slide the #8282 spur gear over the axle and center it on the hub.
3. Apply a small amount of #6636 grease to the second #6625 diff ring as shown. Slide it over the axle, greased side towards the gear. This will keep the diff ring in place while assembling.
4. Insert a #897 flanged bearing into each end of the spacer (L2 kit: #8211, L20 kit: #3322). Add a little #6636 grease to the smaller end, then slide the spacer over the axle.
5. Install the #8213 cone so that the smaller end is facing the bearing. Place the three #8213 washers over the axle so that the smaller end faces away from the cone, and secure with a #4185 locknut. We will adjust the diff after we put the wheels on.

**Step 4**

**INSTALLING DIFF ASSEMBLY**

1. Slide one of the #8321 axle spacers onto the axle, shoulder away from gear.
2. Slide the complete rear axle assembly through the motor bulkhead until it extends through the plastic bulkhead on the other side.
3. Slide on the second #8321 axle spacer, the shoulder of the spacer facing the bearing.
4. Install the #8212 left wheel hub onto the rear axle. Thread the #8212 set screw into the hub to tighten it to the axle. **Note:** To make sure the hub will not come off, file a small slot in the axle where the set screw would touch, as shown. We will adjust the diff after we put the wheels on.

**SETTING THE AXLE END PLAY**

Make sure there is a slight (less than 1/32") amount of axle end play when tightening the left hub set screw.
**STEP 1  LEFT SIDE**

**SHOCK/ANTENNA MOUNT**
1. Remove the shock cap bushing from the #8184 shock antenna mount.
2. Install the mount using two #6922 screws.

**STEP 2  TRIM SHOCK PISTON**
1. Burrs interfere with smooth shock action within the shock body. To remove from tree without creating burrs, twist up, not down. Remove one #1 shock piston.
2. Remove remaining burrs carefully with hobby knife.

**STEP 3  SHOCK SEAL PARTS**
1. Install the #5407 and #6440 parts shown onto the #6429 tool tip.
2. Add 3-4 drops of #5422 oil to the inside of the #6438 shock body, and to the shock seal parts.
3. Insert the tool tip into the shock body all the way. Push easily until the parts snap into place.
4. Check the tool height in photo. The right shock shows just before snapping parts in place, the left shows after.
5. If your shock does not snap together easily, check the parts for burrs again.

**DISMANTLING THE SHOCK WHEN IT'S REBUILD TIME**
1. Put the shock assembly tool tip into the bottom of the shock until it rests against the small washer, as shown, then push.
**STEP 4**

**FINAL INTERNAL SHOCK ASSEMBLY**

1. Add #6469 O-ring over threads of shock body.
2. Install a #6299 E-clip on either side of a #6464 (#1) piston.
3. Place a couple drops of #5422 oil on threaded part of #6460 shaft and insert into shock body.
4. Screw the #6274 ball cup onto the end of the shock shaft, holding the shaft with rag and needlenose piers next to threads.

---

**STEP 5**

**FILLING THE SHOCKS**

1. Holding the shock upright, fill with oil to the top of the shock body.
2. Slowly move the shaft up and down several times to allow air bubbles to escape to the top.
3. Refill with oil to the top of the shock body.
4. Push the shaft all the way up into the shock body. The oil will slightly bulge up above the shock body.
5. Install the #6428 shock cap and tighten. There should be no gap between the cap and the hex portion of the shock body when tight.

**SETTING THE REBOUND**

1. Move the shock shaft in and out a few times, then push it all the way in. It should be easy to push the shaft in until the ball cup hits the body.
2. Then the shaft should push itself out approximately 1/4" to 3/8" (6.3mm - 9.5mm).
3. If the shock does not push out this far, there is not enough oil in it. Add just a little oil and try steps 6-7 again.
4. If the shock pushes out further than the distance in step seven, or you cannot push the shaft in until the ball cup hits the body, there is too much oil. Loosen the cap a half turn (with the shaft extended) and pump out a small amount of oil by pushing the shaft in. Relighten the cap and try steps 6-7 again.

---

**TOOLS USED**

<table>
<thead>
<tr>
<th>3/32&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>6474, qty 1</td>
</tr>
<tr>
<td>spring clamp</td>
</tr>
<tr>
<td>L2 KIT ONLY</td>
</tr>
<tr>
<td>8232, qty 1</td>
</tr>
<tr>
<td>spring, black</td>
</tr>
</tbody>
</table>

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**STEP 6**

**FINAL SHOCK ASSEMBLY**

1. Pull the shock shaft out as far as it will go.
2. Start the #6932 screw into the #6474 spring clamp, then slide the clamp up the shock body as far as it will go.
3. Slide on the spring collar, then spring, then spring cup, orienting them according to the drawing.
4. Adjust the spring clamps to the dimensions shown. Next tighten the #6932 screw to hold them there.

**DRAWING NOT ACTUAL SIZE**
**STEP 7**

**MOUNT THE SHOCK**

1. Pick up the small bushing you had removed from the antenna/shock mount and insert it into the shock cap.
2. Install the shock cap and bushing into the antenna mount and secure using a #6926 screw.
3. Snap the rear of the shock onto the ball end as shown.

**STEP 1**

**MOUNTING REAR TIRES**

1. Install both #8165 rear tires to the hubs with four #6924 screws into each wheel hub.

**MOUNTING FRONT TIRES**

2. Look at the spoked #8141 front wheel closely. Notice that one side of the wheel hub has indentations (see picture) that will seat the flange of the ball bearing. That indented side will face toward the chassis. Put a #3655 flanged ball bearing into each side of the front wheels.
3. Place a #4187 washer over the axle, then slide the wheel on and secure it with a #6299 E-clip. Install the other wheel the same way.
**STEP 2**

**DIFFERENTIAL ADJUSTMENT**

1. While holding rear wheels with your hands, use your right thumb and index finger to try and rotate the spur gear. The spur gear should be very difficult to rotate. If you can rotate it easily, then tighten the #4185 11/32” nut at the end of the axle, a little at a time, until the spur gear is difficult to rotate.

**TOOLS USED**

- 8445, qty 1 screw saver
- 8445, qty 1 screw saver screw
- 8445, qty 2 servo saucer
- 4448 qty 2 ball end
- 7337 qty 4 #4 washer
- 4449 qty 2 4-40 locknut
- 4445 qty 4 4-40 x 5/16 aluminum
- 8445 qty 1 servo saucer adapter

**STEP 1**

**DRILLING STEERING SERVO BLOCKS**

1. For the 1:10 scale cars we recommend you use a larger, more standard size servo. This would be a 94102 or 94737 from Airtronics; an S148 or 9101 from Futaba.
2. Drill two holes with a #43 (or 3/23”) drill into the 8435 servo blocks where shown for your servo size.

**STEP 2**

**MOUNTING THE SERVO**

1. Secure the servo to the blocks with four #4145 screws and four #7337 #4 washers.
2. Thread two #4448 ball ends into the front side of the #8445 servo saver. Secure the ball ends with the #4449 locknuts.
3. Try the three #8445 adapters on the servo until you find one that fits. Push that adapter into the servo saver.

**ASSEMBLING THE SERVO SAVER**

- 4445
- 8445
- 6292

**MOUNTING THE SERVO ASSEMBLY**

1. Mount the servo saucer to the servo with the #8445 screw. Note: If you have a metal gear servo, use the stock mounting screw.
2. Mount the servo mounting blocks to the chassis with two #6292 screws.
**BAG E**

**REMOVE THESE PARTS FOR:**
- 8015: steps 3-4
- 8016: steps 3-4

**TOOLS USED**

**L2 KIT ONLY**
- 8437, qty 2 steering turnbuckle
- 8177, qty 2 front bumper
- 4220, qty 2 front body mount
- 6330, qty 2 front body mount
- 8438, qty 2 tie rod

**L2O KIT ONLY**
- 8303, qty 2 front bumper
- 8304, qty 2 front body mount

---

**STEP 3**

**STEERING LINKAGE**

1. Install the plastic ball cups onto the steering turnbuckles (L2 kit: #8437, L2O kit: #8438). Match the length of the turnbuckles to the actual size picture.
2. Snap one ball cup onto the ball end on the servo saver. Snap the opposite end on as shown. Install both turnbuckles.
3. When you are adjusting your turnbuckles, always make sure that the servo saver is pointing straight down.

---

**STEP 4**

**FRONT BUMPER**
1. Install the front bumper (L2 kit: #8177, L2O kit: #8303) and secure to the front of the chassis with two #6280 screws from underneath and two #4185 locknuts on top.

**FRONT BODY MOUNT POSTS**
2. Tighten the body posts (L2 kit: #6330, L2O kit: #8304) to the bumper, where the two large arrows indicate, with two #6280 screws from underneath.
3. Add #6332 body clips to the front posts and the rear.

---

**#8015 L2 KIT**

- 6280 screw
- 4185 locknut
- 8177
- 6332
- 6330
- 6280

**Your kit includes two body posts. Use the one that best fits the body you chose.**

---

**#8016 L2O KIT**

- 6280 screw
- 4185 locknut
- 8303
- 6332
- 6330
- 6280

**Your kit includes an extra hole for an optional body post for those bodies that require support for the hood.**
**STEP 5**

**PINION GEAR INSTALLATION**
1. Slide the pinion gear onto the shaft so that the gear is 1/16" away from the motor can. Tighten the set screw to hold it in place. Teeth side should be farthest from can.

**MOTOR INSTALLATION**
2. Insert the motor into the rear pod assembly as shown, the pinion gear coming through the right side motor bulkhead.
3. Tighten the motor to the bulkhead with two #6515 screws and two #7337 gold washers.
4. Set the gear mesh so that there is very little play between the spur and pinion gear. **Note:** If the gear mesh is too tight, you can lose significant power.

**MOTOR AND PINION GEAR ARE NOT INCLUDED IN KIT**

**STEP 6**

**ELECTRICAL INSTALLATION**
1. Solder your single cell batteries together with battery braid or battery bars. Solder plus (+) to minus (-).
2. Hold the batteries to the chassis with strapping tape. Wrap the tape over the batteries, through the chassis slot, underneath the chassis, and up again through another slot, several times.
3. Cut the #6726 servo tape to fit the bottom of the speed control and receiver. Peel the backing from the servo tape and place them where shown in the drawing.
4. Insert the #4510 roll over antenna into the antenna mount, wrap the antenna wire up the antenna, and secure the wire with the antenna cap.
5. Now connect the electronic speed control and steering servo to your receiver according to your radio or ESC instructions, then connect the motor to the ESC.

**ELECTRICAL ITEMS ARE NOT INCLUDED IN KIT**

- **= RED WIRE**
- **= BLUE WIRE**
- **= BLACK WIRE**
### RADIO ADJUSTMENTS

Charge the transmitter batteries if they are NiCads. (See your radio manual for instructions.) Next charge your battery pack according to the instructions included with your battery charger or battery pack. Make sure all the ESC connections are according to the appropriate manuals. Now use the following steps to make the final adjustments on your car.

1. Turn the transmitter switch ON
2. Make sure the motor is unplugged or unsoldered.
3. Plug in or solder in your battery pack.
4. Turn the car switch to the ON position. (This is normally attached to the ESC.)
5. Move the steering control on the transmitter to the right. Do the wheels steer to the right? If not, you must reverse the steering servo direction on your transmitter (see radio manual).
6. After you have the wheels steering in the correct direction, remove your hand from the steering control on the transmitter. Now look at the servo horn mounted on the servo. Is it pointing straight down? If not, adjust its position with the steering trim control on the transmitter, or move its position on the servo.
7. Now look at your front wheels. Are they pointed straight ahead in relation to the center line of the chassis? If not, first check the alignment of the servo saver in relation to the wheels. Do they now point straight ahead? If not, use the steering tie-rod turnbuckles to adjust each wheel so that it is pointed straight ahead.
8. Adjust the ESC (electronic speed control) according to the speed control manufacturer’s instructions. Note: Some manufacturers have the motor connected during adjustment and some do not. Now turn the car ON/OFF switch OFF.
9. Plug in or solder in your motor. Place your car on a block or car stand so that the rear wheels cannot touch anything. Turn the car switch back ON. Check the ESC operation and settings. After you have set and checked the speed control, turn the car switch OFF.
10. The transmitter switch must always be the FIRST SWITCH TURNED ON and THE LAST SWITCH TURNED OFF.

CONGRATULATIONS! YOUR CAR IS NOW READY TO RUN!

### PAINTING THE BODY

1. While the body is still clear, mark and cut out the holes for the body mounts and antenna tube.
2. Clean the body and wing thoroughly before painting with warm water and a mild dish soap.
3. Mask the inside of the body according to your paint scheme, using automotive masking tape for the best results. Take the time to press down all edges of the tape. Mask off the holes you cut with tape on the outside of the body.
4. Spray the body and wing, applying the paint in thin coats and letting it dry between coats. We recommend Pactra paints.

### MOTOR GEARING

To get the most from your motor proper gearing is important. The gear ratios listed in the chart below are recommended starting gear ratios. Ratios can vary from track to track but you should not change the pinion size more than one tooth from the recommended ratio.

**CAUTION!** Increasing the pinion size by more than one tooth can damage your motor from excess heat.

### TIRE DIAMETER ADJUSTMENT

If you change tire diameter you can affect your gearing. You can calculate any gearing adjustments by using the following formulas.

#### Old Tire

<table>
<thead>
<tr>
<th>Tire Dia.</th>
<th>New Tire Dia.</th>
<th>Factor</th>
<th>Old Pinion Gear</th>
<th>Factor</th>
<th>Results Gear</th>
<th>New Pinion Gear</th>
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</thead>
<tbody>
<tr>
<td>2.1&quot;</td>
<td>1.9&quot;</td>
<td>1.105</td>
<td></td>
<td></td>
<td>19.89</td>
<td>20 (round to nearest whole number)</td>
</tr>
</tbody>
</table>
MAINTENANCE

FOLLOW THESE STEPS TO KEEP YOUR CAR IN SHAPE FOR RACING

You should periodically check all the moving parts: front and rear end, suspension arms, steering blocks, steering linkage, shocks, and so on. If any of these should get dirty or bind, then your car’s performance will suffer.

MOTOR MAINTENANCE

Between runs, inspect the brushes to ensure they are moving freely in the brush holder. This is done by carefully removing the spring and sliding the brush in and out of the holder. If there is any resistance or rough spots, remove the brush and carefully wipe the brush clean. This will clean off any buildup and lubricate the brush so it slides smoothly in the brush holder.

After every 3 to 5 runs, remove the brushes from the holders and inspect the tips for wear and/or burning. If there is a noticeable amount of wear, replace the brush with a new pair. If the tip is a burnt blue color, then the lubricant in the brush has been burned away and new brushes should be installed.

After every other battery charge you should carefully clean the motor. One recommended method is to spray motor cleaner directly on the motor or electronics with normal household cleaners like 409, Fantastic, Simple Green or Associated’s #711 Reedy Car Wash. These cleaners have more water in them, so to prevent rust on the metal parts you must completely dry all of these parts, or else spray them with WD40. WARNING! Most of these cleaners have chemicals in them that will affect the Lexan body. (Reedy Car Wash is Lexan safe.) The best way to clean your Lexan body is with warm water and a mild dish soap.

DIFFERENTIAL MAINTENANCE

You should rebuild the differential when the action gets somewhat “gritty” feeling. Usually cleaning the differential and applying new lube per the instructions will bring it back to new condition. Normally, as the parts seat, the diff will get smoother. If, after carefully cleaning and relubing the diff parts, the diff still feels gritty, the 1/8” balls and drive rings should be checked and possibly replaced. Refer to the diff section to correctly assemble the diff. Associated recommends the use of a good quality automatic peak detection type charger. Peak detection chargers will automatically sense when the battery pack is fully charged and shut off, thus lessening the chance of damage due to over charging. Timer chargers are not recommended because a mistake can be made, thus damaging the battery pack.

CLEANING YOUR CAR

You can clean your car and electronics (radio and speed control) with an electronics parts cleaner that is designated safe for plastics. They are convenient and work very well, but can be expensive. If you remove your electronics you can also clean the car and motor with motor cleaning sprays. Like the electronics cleaners, this works very well, but can cost a lot. To keep your maintenance costs down, you can clean the car (not the motor or electronics) with normal household cleaners like 409, Fantastic, Simple Green or Associated’s #711 Reedy Car Wash. These cleaners have more water in them, so to prevent rust on the metal parts you must completely dry all of these parts, or else spray them with WD40. WARNING! Most of these cleaners have chemicals in them that will affect the Lexan body. (Reedy Car Wash is Lexan safe.) The best way to clean your Lexan body is with warm water and a mild dish soap.

TUNING & SETUP TIPS

THESE STEPS PREPARE YOUR CAR FOR MAXIMUM PERFORMANCE

Your car is one of the most tunable on road cars on the market. This section will try to explain the parts and adjustments you can use to tune your car for different track conditions.

CASTER describes the angle of the kingpin, in relation to the vertical plane, when looked at from the side of the car. As an example, 0° of caster puts the kingpin in a vertical line. Positive caster means the kingpin leans rearward at the top. Increasing the positive caster on your car will slightly increase the steering turning into a corner and slightly decrease steering coming out of the corner. Reducing the positive caster will decrease the amount of steering you have going into a corner and increase the amount of steering you have in the middle of the corner and exiting the same corner.

Your car has adjustable caster in increments of 2°. With the 0° upper arm mounts you can have settings of 0°, 2°, and 4° of positive caster as shown. You change the caster by placement of the PTFE caster shims on either side of the upper arm mount. The three drawings below show the location of the caster shims and what the resulting caster settings will be. The 0° mounts are recommended for oval racing or for a less aggressive steering feel.

For greater amount of caster than moving the upper arm caster shims, you can add the #4127 caster spacers under the suspension arms. They come in 2° increments. Be aware that adding these caster shim spacers will change your ride height.

The battery packs used for R/C cars are six-cell, sub-C, rechargeable type found in any hobby shop.

CHARGING. Proper battery charging and discharging is important to maintain the performance and life of your battery pack.

CHARGING. The battery packs are six-cell, sub-C, rechargeable type found in any hobby shop. If you remove your electronics you can also clean the car and motor with motor cleaning sprays. Like the electronics cleaners, this works very well, but can cost a lot. To keep your maintenance costs down, you can clean the car (not the motor or electronics) with normal household cleaners like 409, Fantastic, Simple Green or Associated’s #711 Reedy Car Wash. These cleaners have more water in them, so to prevent rust on the metal parts you must completely dry all of these parts, or else spray them with WD40. WARNING! Most of these cleaners have chemicals in them that will affect the Lexan body. (Reedy Car Wash is Lexan safe.) The best way to clean your Lexan body is with warm water and a mild dish soap.

DIFFERENTIAL MAINTENANCE

You should rebuild the differential when the action gets somewhat “gritty” feeling. Usually cleaning the differential and applying new lube per the instructions will bring it back to new condition. Normally, as the parts seat, the diff will get smoother. If, after carefully cleaning and relubing the diff parts, the diff still feels gritty, the 1/8” balls and drive rings should be checked and possibly replaced. Refer to the diff section to correctly assemble the diff.

CLEANING YOUR CAR

You can clean your car and electronics (radio and speed control) with an electronics parts cleaner that is designated safe for plastics. They are convenient and work very well, but can be expensive. If you remove your electronics you can also clean the car and motor with motor cleaning sprays. Like the electronics cleaners, this works very well, but can cost a lot. To keep your maintenance costs down, you can clean the car (not the motor or electronics) with normal household cleaners like 409, Fantastic, Simple Green or Associated’s #711 Reedy Car Wash. These cleaners have more water in them, so to prevent rust on the metal parts you must completely dry all of these parts, or else spray them with WD40. WARNING! Most of these cleaners have chemicals in them that will affect the Lexan body. (Reedy Car Wash is Lexan safe.) The best way to clean your Lexan body is with warm water and a mild dish soap.

TUNING & SETUP TIPS

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CASTER CHANGE
The 0° mount is level with the chassis when mounted. The 10° mount is angled 10° in relation to the chassis or lower suspension arm. This angle provides a change in caster during suspension movement. The caster angle will change two degrees during full suspension travel. Your car will steer more aggressively when using this option. The starting or static caster setting is changed in the same manner using the PTFE caster shims. Static caster starts at either 2°, 4°, or 6°. A more detailed example would be a starting caster of 2° will have 0° caster at full suspension travel and a starting caster of 6° will be only 4° at full suspension travel. This setup is recommended for road racing applications, giving you the most aggressive steering possible.

CAMBER is a word describing the angle at which the tire and wheel rides relative to the ground when looked at from the front or back. This is one of the most important adjustments on the car. Negative camber means that the tire leans inward at the top, putting it closer to the centerline of the car than the bottom of the tire. Positive camber means just the opposite, the top of the tire is further away from the centerline of the car than the bottom of the tire.

Excessive negative camber will decrease traction but increase stability. Positive camber will also decrease traction and decrease stability. A tire’s maximum traction is achieved when it is straight up and down. We suggest a starting setting of 2° of negative camber. If you want to add a little more steering, reduce front camber to 1° negative or even 0°. Keep in mind that using little or 0° of camber can cause the car to be unpredictable. Try to use at least 1 to 2° negative camber at all times. This can be adjusted by turning the upper arm turnbuckles in the appropriate direction.

TOE-IN AND TOE-OUT is a beneficial adjustment and has a fairly significant effect on the car. Toe-in will help stabilize your car and it also removes a small amount of turn in steering. Toe-out will allow the car to turn in to a corner quicker but will reduce stability exiting the corner. Both toe-in and toe-out will scrub speed so try to use as little, of either, as possible. You adjust the toe-in or toe-out by adjusting the length of the steering tie-rod turnbuckles.

FRONT SUSPENSION SPRINGS are available in various wire sizes as listed below. Changing springs will increase or decrease steering. In general a softer spring (smaller wire diameter) will add steering and a harder spring (larger wire diameter) will decrease steering. Oval racing will normally require a harder spring than road course racing. The #8015 L2 kit includes #8427 springs. The #8416 L2O kit includes #8429 springs.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Wire Size</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#8433</td>
<td>(.024&quot;)</td>
<td>Harder</td>
</tr>
<tr>
<td>#8431</td>
<td>(.022&quot;)</td>
<td></td>
</tr>
<tr>
<td>#8429</td>
<td>(.020&quot;)</td>
<td></td>
</tr>
<tr>
<td>#8427</td>
<td>(.018&quot;)</td>
<td>Softer</td>
</tr>
</tbody>
</table>
DAMPENER PLATE MAINTENANCE

It is very important to keep the dampener plates CLEAN and lubed for each race. We recommend using the Associated #6636 diff lube that came with your kit, or Green Slime from R/C Performance Specialties.

DAMPENER PLATE ROLL STOP INSERTS #4518, are included with your kit. There are two different size roll stops. Each stop will control the amount of roll that the chassis can make during hard cornering. The stop with the smallest side to side opening (in the middle) will reduce the chassis roll the most. This stop insert will make the car change directions VERY quickly during cornering. The second roll stop insert with a slightly larger opening will have slightly less of this effect. No roll stop insert (which is what we recommend for a starting setting) will be the least aggressive for steering during hard cornering. WARNING! You must pay very close attention to tire diameter when using either of the roll stop inserts. This is because any difference in tire diameter (side to side) may cause the dampener post to rest against the roll stop insert. We do not recommend these inserts for oval racing.

T-BAR FLEX

Look at the back end of the of the T-bar at the "T" shaped section. You will see there are three holes which can be used to attach the T-bar to the lower rear pod plate. You have assembled your car using only the two outermost holes. This setup will make the rear suspension very active (soft) front-to-rear with very little effect on the side to side stiffness. Your car will have more rear traction and will accelerate through bumps better than if you were using all three attachment holes. Try using all three attachment holes when racing on smooth, high traction conditions.

REAR AXLE HEIGHT ADJUSTERS

Your car comes with four sets of rear axle height adjuster inserts. These inserts allow you to raise or lower the height of the back of the car without changing tire diameters. Even though there are only four offsets, three can be rotated 180° for a total of seven different axle heights as shown.

FRONT RIDE HEIGHT

To obtain your desired ride height, you can place a thick #3323 spacer under the lower suspension arm. To raise the car, take away spacers, and to lower the car add spacers.

INCREASING STEERING

To increase steering, replace the stock #8421 steering blocks with the optional #8441 inline steering blocks and #8443 axles. This will make the car steer very aggressive.

SETUP SHEET

The next page shows Team Associated’s setup sheet for your car. Copy this form and keep a record of the settings you used for a particular track. This record of your settings will make it easier to set up your car the next time you race at that track, as well as compare differences between tuning adjustments. This is a feature that our Team drivers take full advantage of.

SAVE THIS BOOKLET!

More than an instruction manual, its also a handy pictorial supplement to Team Associated’s RC10L catalog. Refer to this manual for part numbers and description when ordering parts or explaining problems for customer service calls.

TEAM ASSOCIATED

3585 Cadillac Ave.
Costa Mesa, CA  92626
(714) 850-9342
# Setup Sheet

## Front Suspension

**Notes:**

**Upper Arm Mount:**
- 0°
- 10°

**Caster Shim Position:**
- Rear
- Centered
- Front
- Other

**Front Ride Height Spacers:**

**Steering Block:**
- STD
- Inline

**Camber:**
- Left
- Right

**Toe-In:**
- **Toe-Out:**

## Front Springs

**Springs:**
- 0.018
- 0.020
- 0.022
- 0.024
- Other

**Kingpin:**
- STD
- Other

**Label Drawing for Shim Position, Qty and Thickness:**

**Shim Qty, Thickness:**

## Rear Suspension

**Axle Height Adjuster:**
- 4-up
- 1-up
- 2-up
- #3
- 2-down
- 1-down
- 4-down

**T-Bar Thickness:**
- 0.075
- Other

**Dampener Lube:**
- Yes
- No
- Type

**Dampener Lube Springs:**
- STD
- Other

## Shock

**Body:**
- STD
- Other

**Oil:**
- WT

**Piston #**

**Limiters:**
- Inside
- Outside

## Other

**Wheels & Tires**

<table>
<thead>
<tr>
<th>Wheel &amp; Tires</th>
<th>Front</th>
<th>Rear</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tire Type</td>
<td></td>
<td></td>
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<tr>
<td>Tire Dia</td>
<td></td>
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</tr>
<tr>
<td>Stagger</td>
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<td>Car Width</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wheels</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Rear Axle:**
- STD
- Other

**Tire Treatment Type:**

**Shade in Amount of Tire Treatment:**

- Front
- Outside
- Inside
- Rear
- Outside

## General

**Track Desc.:**

**Race Comments:**

**Notes:**