ASSOCIATED 1:10 SCALE ELECTRIC BUGGY

INSTRUCTION MANUAL FOR THE TEAM ASSOCIATED RC10B4



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# RC10B4

# **B4 Features**

>> New Longer MIP CVD dog bones and axles in kit version.

>> Lower motor mounting position.
>> Kimbrough Spur Gear.

>> Pro-Line M3 racing compound front and rear tires in kit version.>> Plenty of chassis room to hold most electronics.

>> All-new molded composite low-CG chassis.

>> Adjustable battery position. >>New design battery hold-down strap.

>> Rugged steel turnbuckles.
 >> Fully adjustable caster, camber, and toe-in.

>> Angled bellcrank "co-planar" steering.

>> Built-in servo saver.
>> Vertical ball end adjustment, front & rear.

**B4 Factory Team Kit #9035** 

Threaded shock bodies. CVD rear axles. Unpainted body.

#### Also includes:

Bearing Assoc. Transmission. Pro-Line racing compound tires. Factory Team carbon. Factory Team blue aluminum. Factory Team titanium turnbuckles. Factory Team Unobtainium shock shafts. **B4 Team Kit** #9034

> Hard anodized shock bodies. CVD rear axles. Unpainted body.

Also includes: Bearing Assoc. Transmission. Pro-Line racing compound tires.



Blue aluminum shock bodies. Associated dogbone rear axles. Painted body.

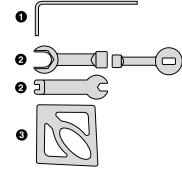
#### Also includes:

Associated Transmission. 2-Channel radio. Electronic speed control. Receiver. Electric motor and pinion gear. Racing tires. Already assembled!

# TOOLS

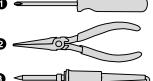
# KIT TOOLS SUPPLIED

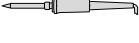
- Allen wrenches #6950 (.050", 1/16", 3/32", 5/64")
- 2 Molded tools #6956
- 3 Camber gauge #1719



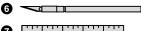
# EXTRA STUFF NEEDED

- Phillips screwdriver
- 2 Needlenose pliers
- Soldering iron (40-50 watts) and a small amount of Rosin core solder. Pencil-type soldering iron is better than the gun type. DANGER! Tip will be HOT!
- Thread locking compound (#1596 Locking Adhesive or equivalent)
- Super glue (cyanoacrylic glue or #1597 Tire Adhesive).
- Hobby knife WARNING! This knife cuts plastic and fingers with equal ease, so be careful.
- Precision ruler



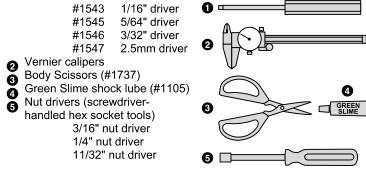






#### Allen drivers (straight Ällen wrenches with hex shaped handles) such as the following made by Associated: #1542 .050" driver #1543 1/16" driver

**HELPFUL ITEMS (NOT REQUIRED)** 



### 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 the molded parts or strip the threads during installation.

EXTRA ITEMS NEEDED				
	9035	9034	9037	
1 R/C two channel surface frequency radio system.	need	need		
<b>2</b> Battery pack (6 cell).	need	need	need	
<b>3</b> Battery charger (we recommend a peak detection charger).	need	need	need	
4 Electronic speed control.	need	need		
5 R/C electric motor.	need	need		
<b>6</b> Pinion gear, size to be determined by type and wind of motor you will be using.	nered	need	$\supset$	

# CONTACTING US

# CUSTOMER SUPPORT

(714) 850-9342 Fax (714) 850-1744 http://www.rc10.com/help



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# **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.

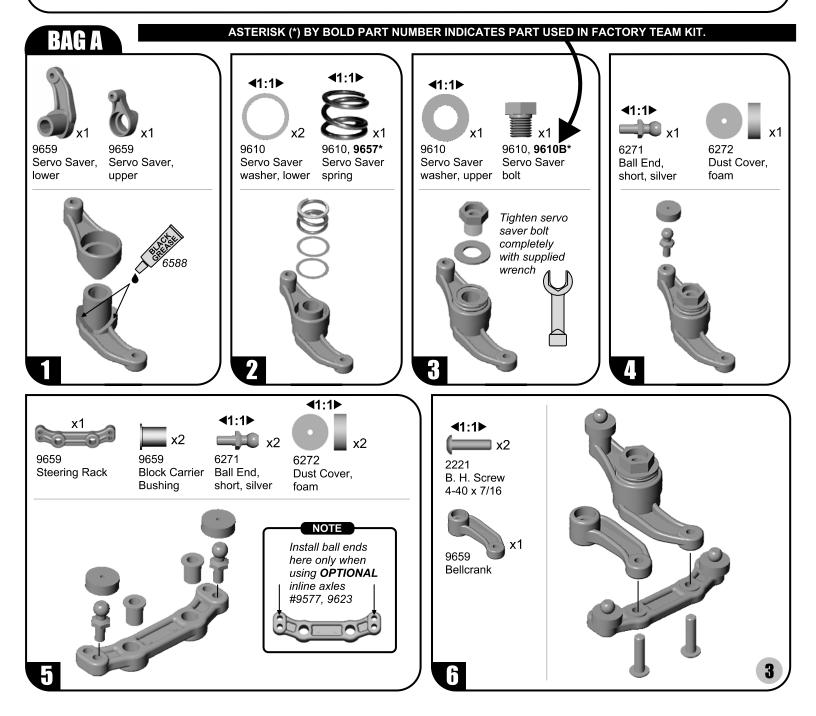
# LEFT AND RIGHT

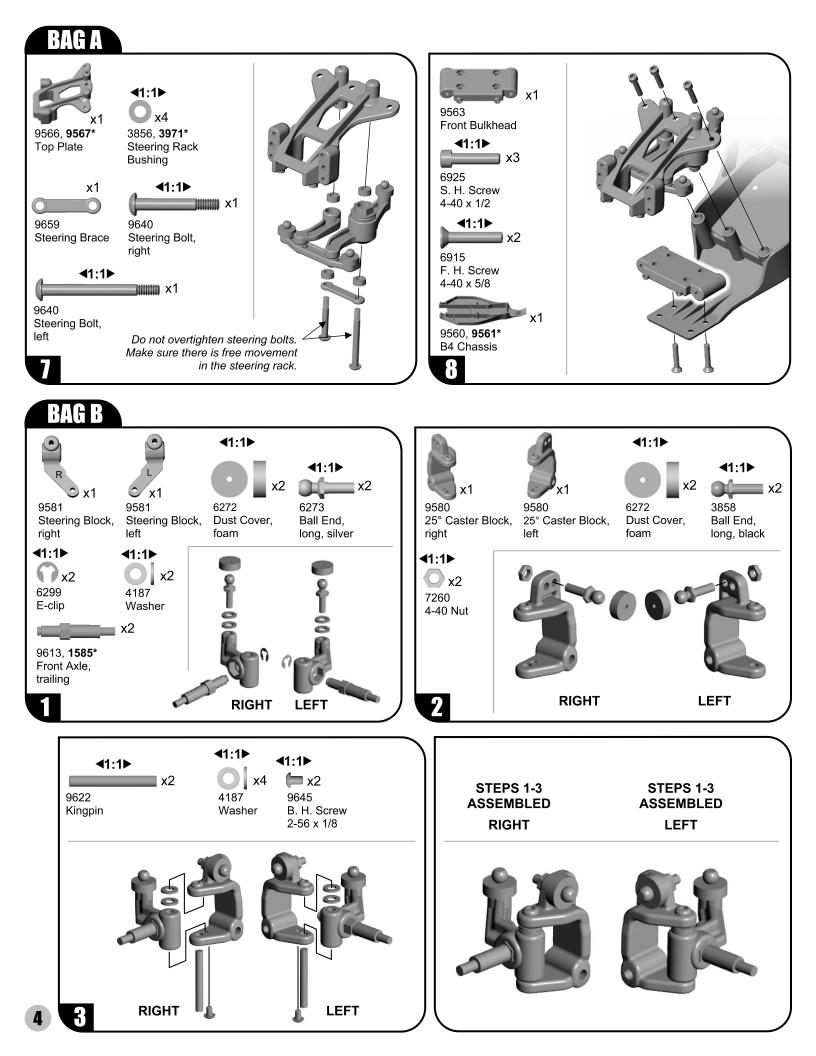
When we refer to left and right sides of the car, we are referring to the driver's point of view while sitting in the car.

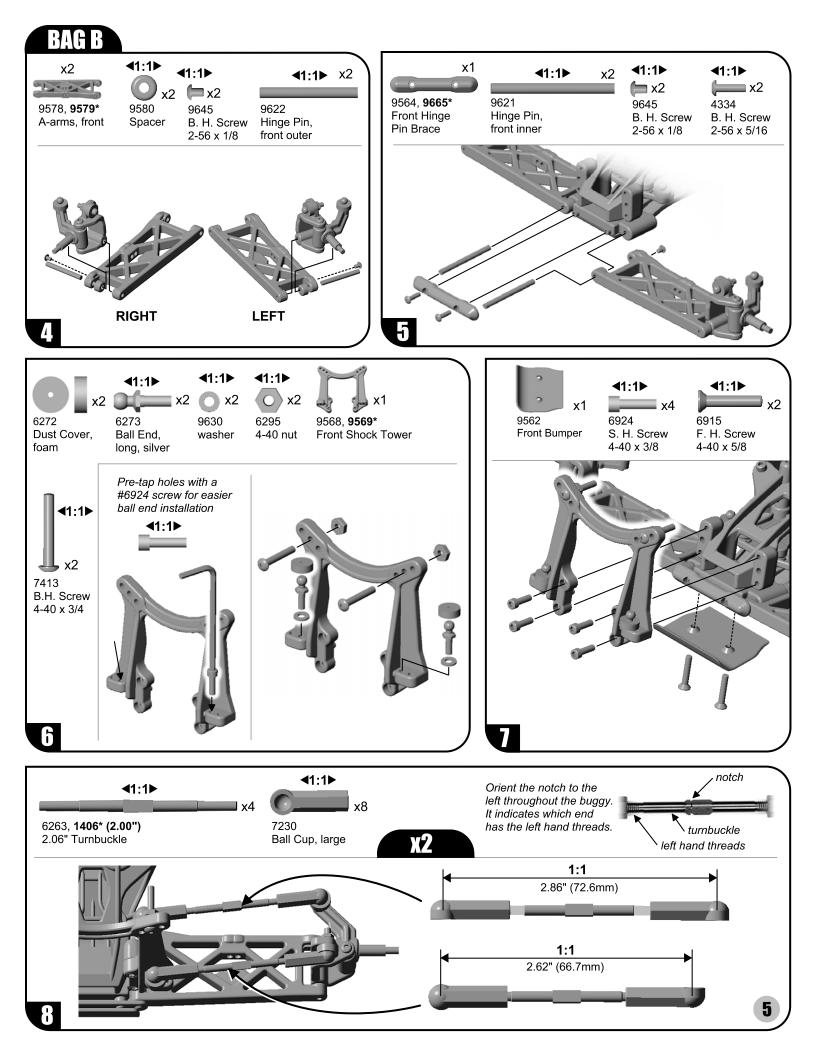
# SUPPLEMENTAL SHEETS

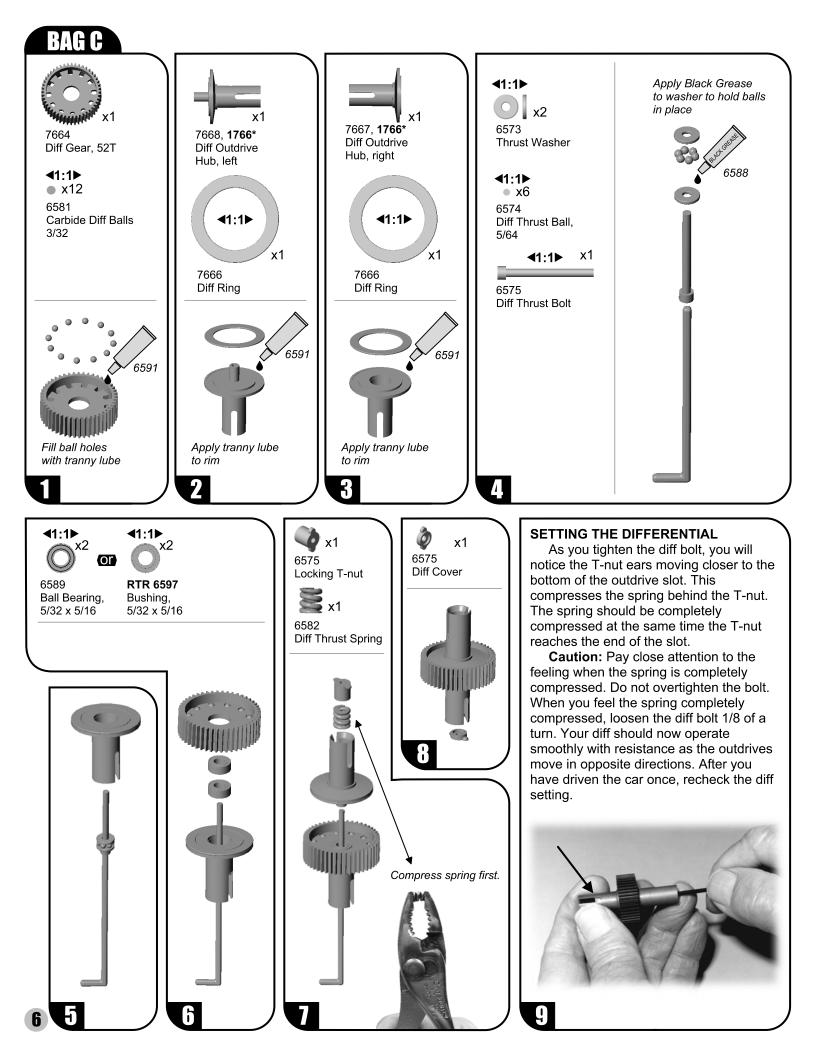
Improvements to our kits, if any, will be noted in supplementary sheets located in a parts bag or inside the kit box. Check the kit box before you start and each bag as it is opened. When a supplement is found, attach it to the appropriate section of the manual.

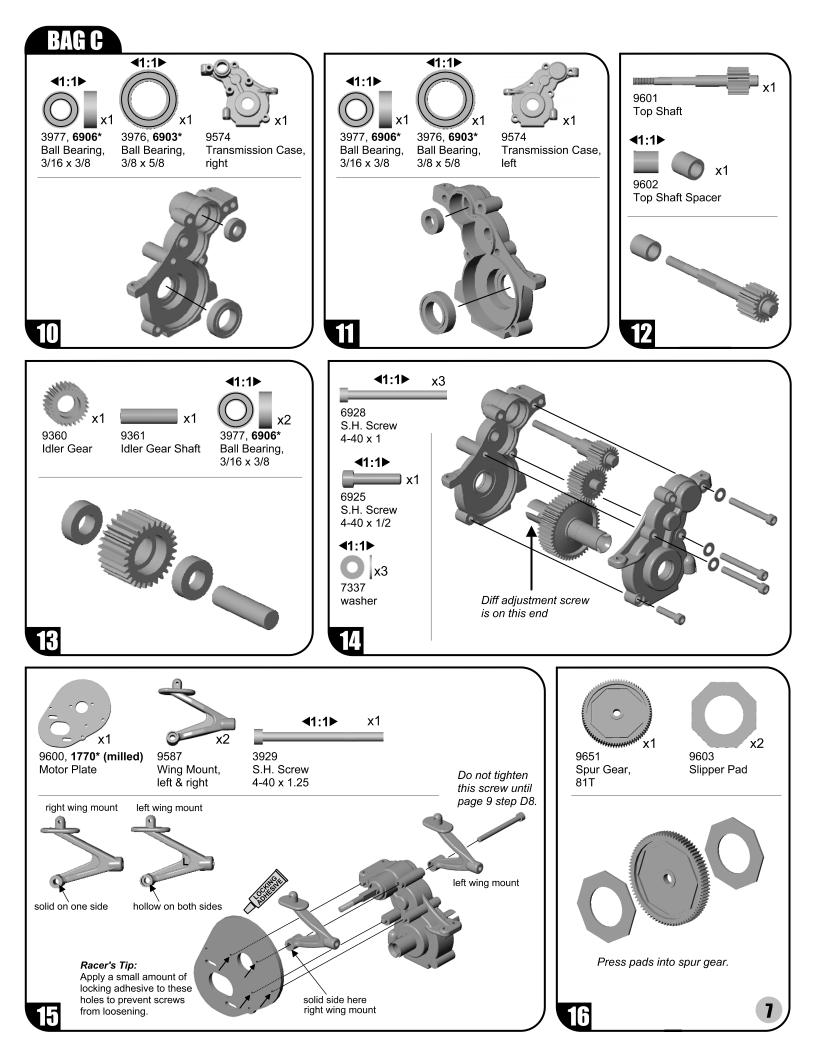
41:1▶ = Actual size part. x2 = Quantity for step.
Rear x2 = Do entire step twice. ! = Pay attention to this detail.
RTR: 9181 = Part number for RTR buggies.

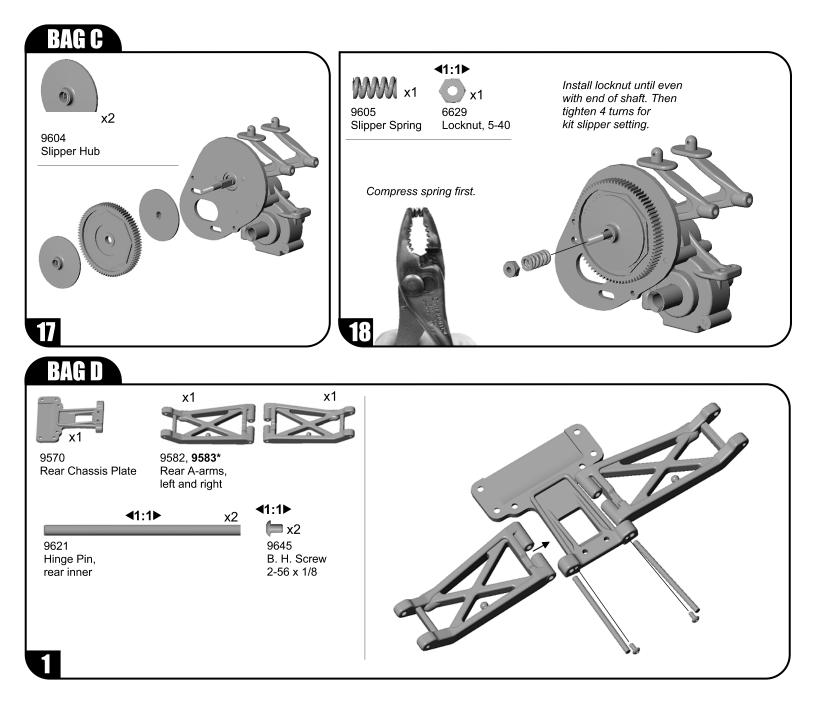


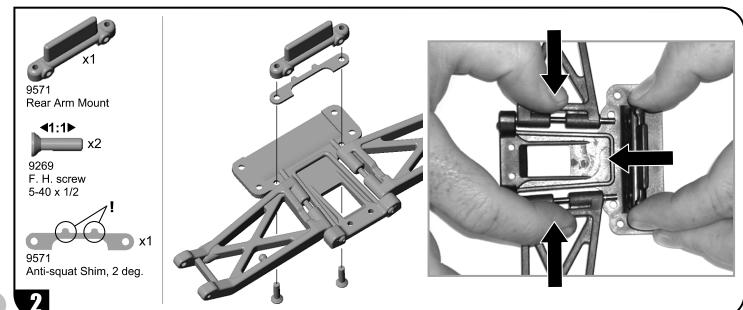


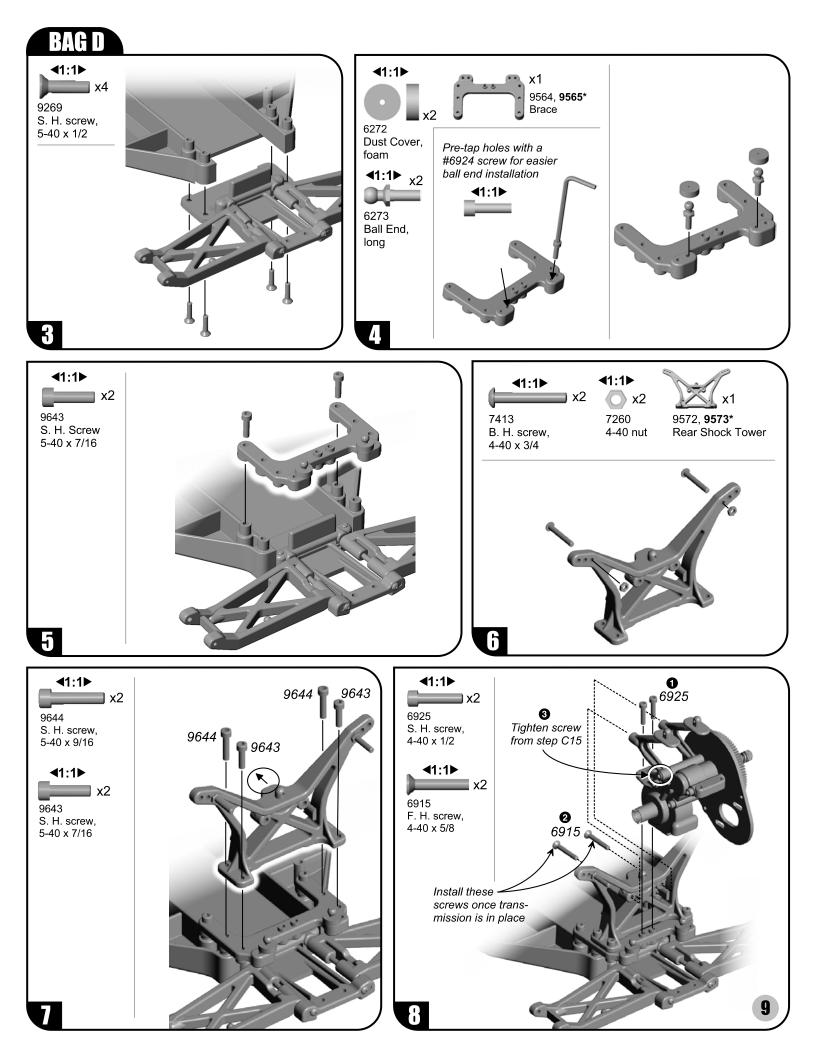


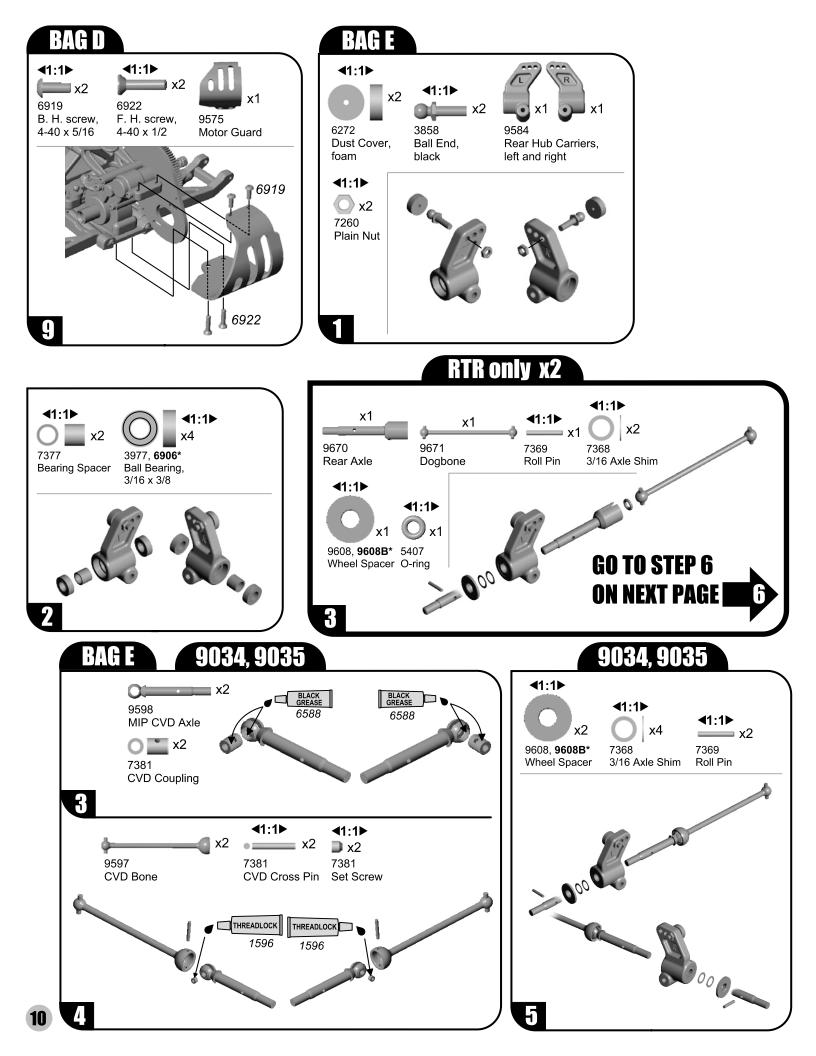


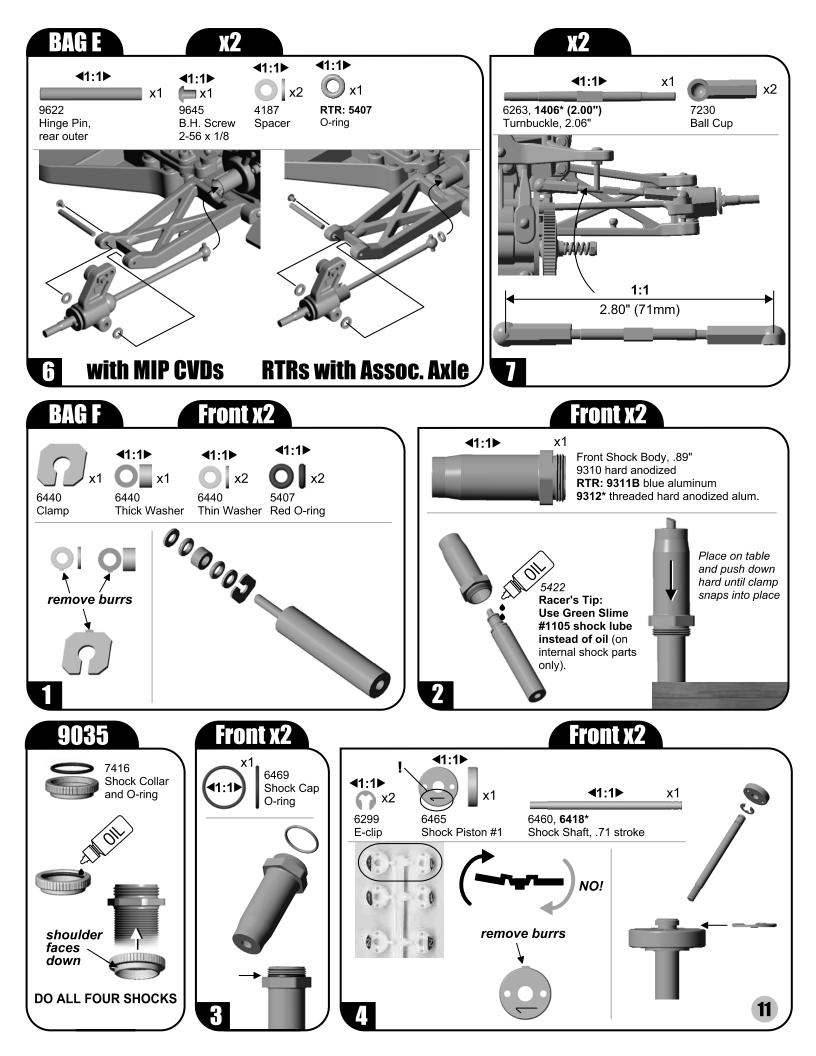


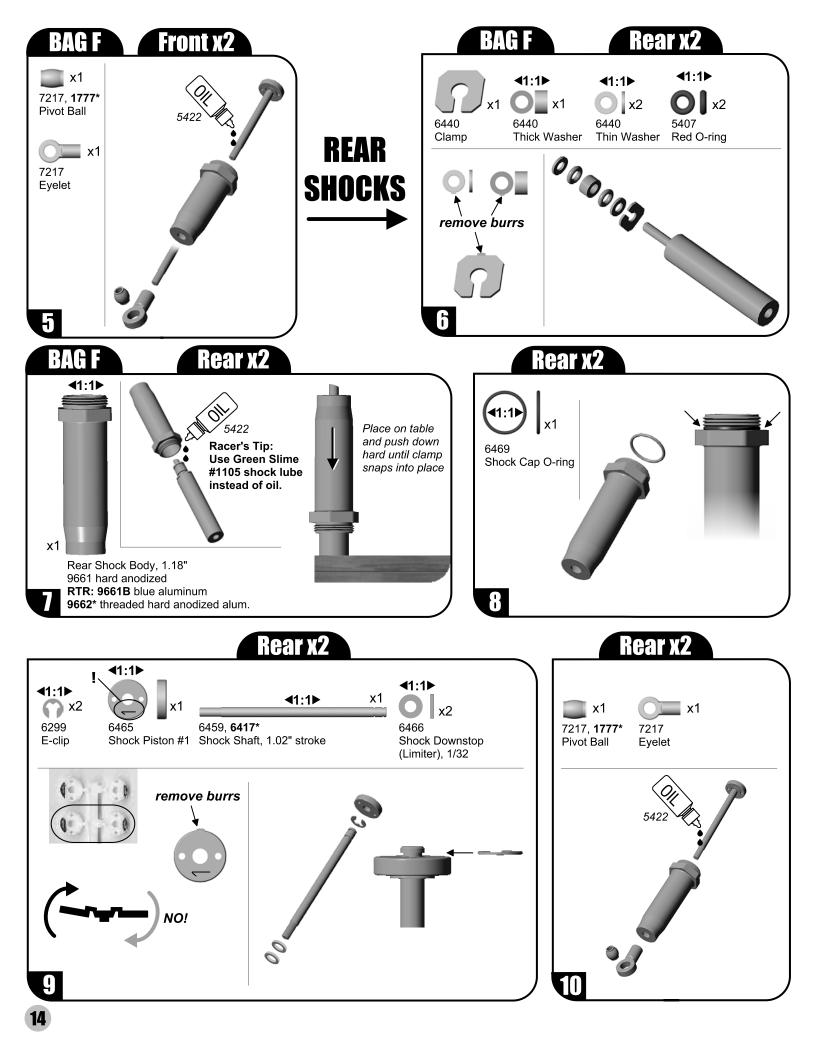


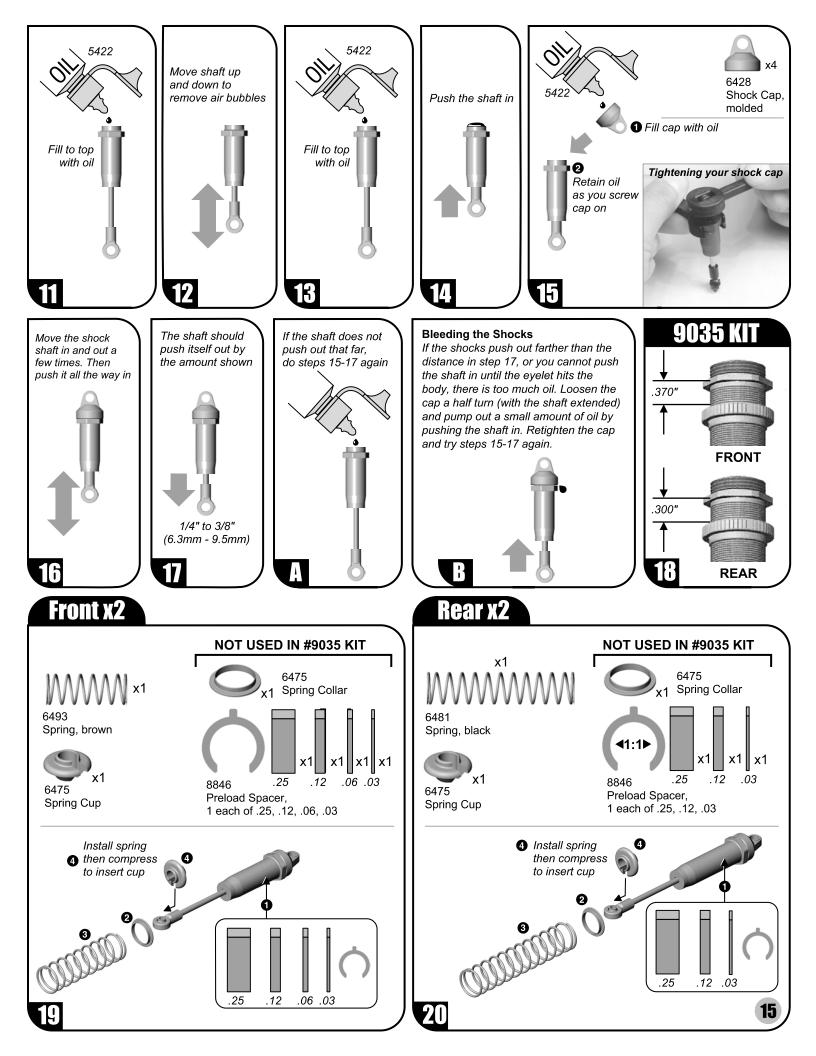


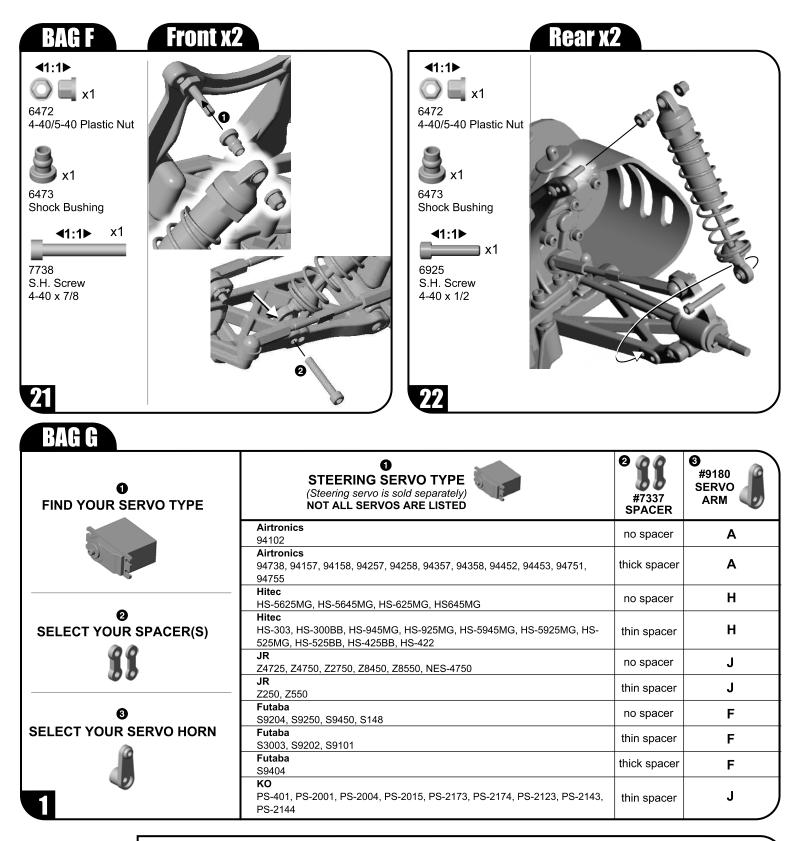








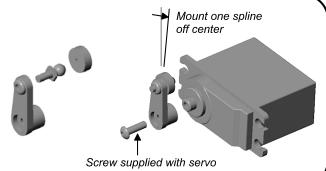




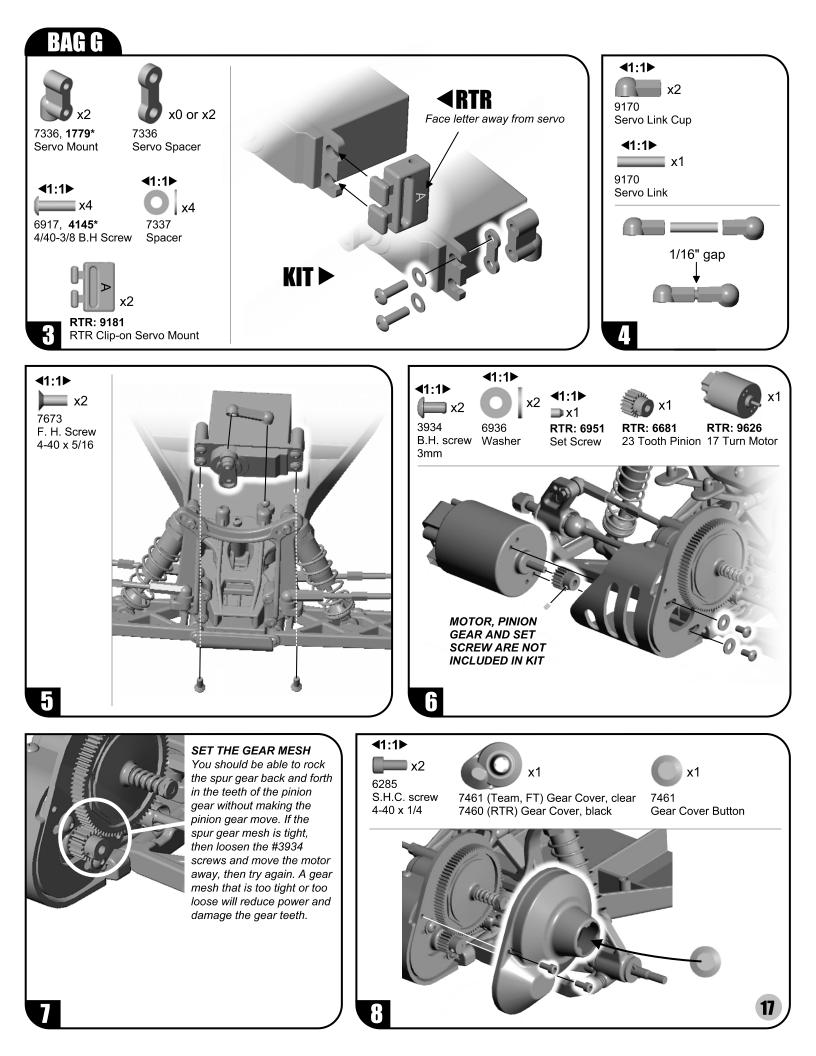


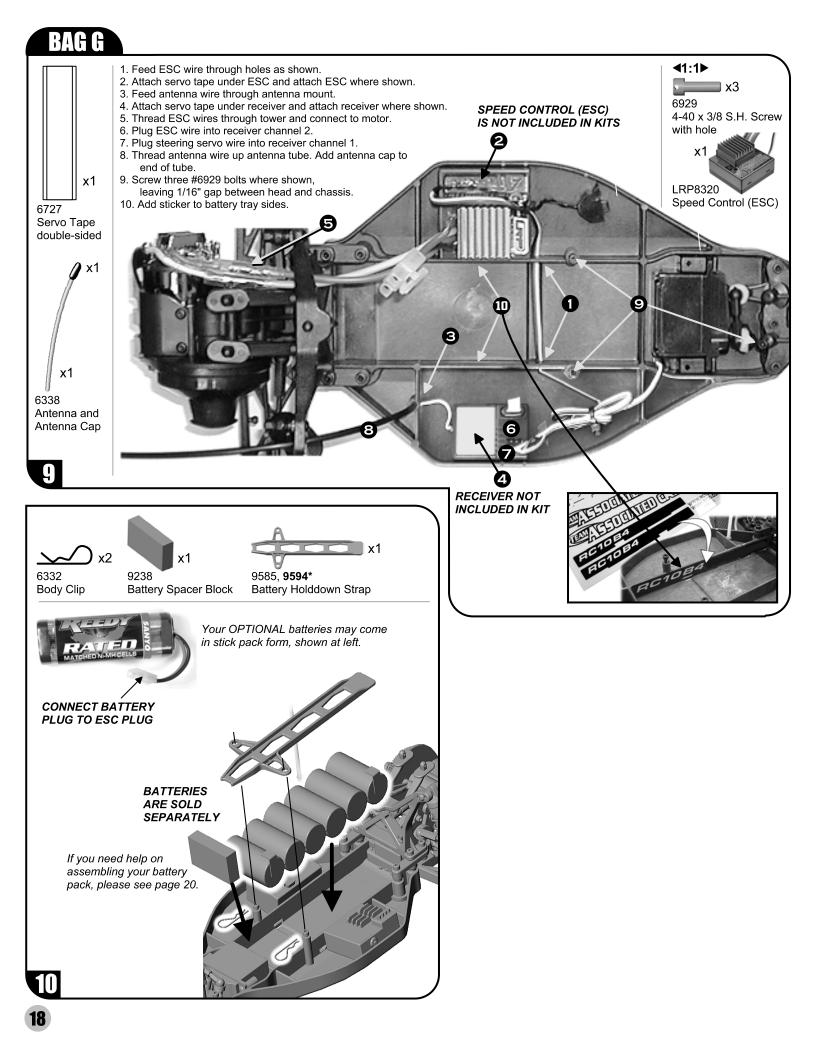
9180 3858 Servo Horn Ball End, black

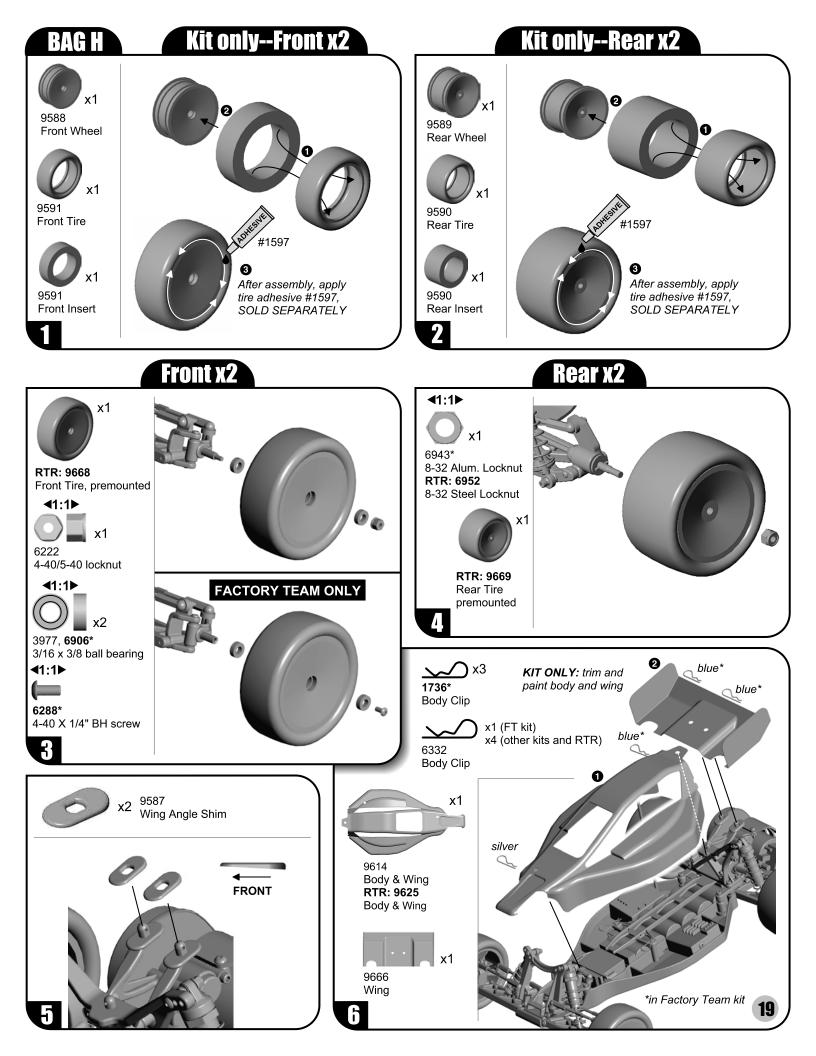
🔳 x1



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# RADIO ADJUSTMENTS

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

1. Turn the transmitter on.

**2.** Make sure the motor is disconnected.

**3.** Connect your battery pack (if RTR) and/or turn the ESCs power switch on (if included).

**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 radio manual.)

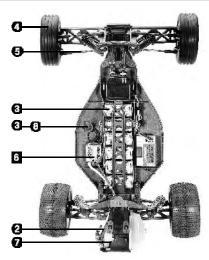
**5.** Adjust your steering trim (see radio manual) until the #9659 steering rack is centered under the top plate. Then, using the two steering

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 ESC and steering settings you have made and then turn the power switch back off.

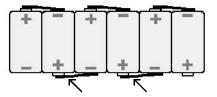
8. Remember this! The transmitter is always the FIRST TO BE TURNED ON and THE LAST TURNED OFF.



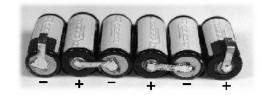
# **ASSEMBLE BATTERY PACK**

If you are not using a stick battery pack, here is how to assemble your battery pack. Solder individual cell connections as shown.

Team racers prefer battery bars for sturdier connections. Insulated wire will not allow the pack to fit in the battery slot.



Solder connections with Reedy Battery Bars (#651)



Aim negative lead toward the front

# MOTOR GEARING

To get the most from your motor, proper gearing is important. The gear ratios listed in the chart 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.

# MAINTENANCE

# CHECK FOR FIT

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

# DIFFERENTIAL

Adjust the differential ("diff") as noted on page 6. Adjusting the diff is not meant to be a tuning option. If you can hear the diff making a "barking" or "chirping" sound on jump landings, either your diff is set too loose or your slipper clutch is set too tight. First check your slipper setting, then re-set the diff according to the instructions on step C-9. **CAUTION!** Increasing the pinion size by more than one tooth can damage your motor from excess heat.

			FINAL
MOTOR	PINION	SPUR	DRIVE RATIO
24° stock (torque-based)	24	81	8.78:1
24° stock (RPM-based)	22	81	9.57:1
Spec 19	22	81	9.57:1
14 turn modified motor	23	81	9.16:1
13 turn modified motor	22	81	9.57:1
12 turn modified motor	21	81	10.03:1
11 turn modified motor	20	81	10.53:1
10 turn modified motor	19	81	11.08:1

Follow these steps to keep your buggy in shape for racing

the brush and carefully wipe the brush clean. This will clean off any buildup so the brush 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 brush and commutator area. Run the motor for approximately 15 seconds. Disconnect the motor and spray it again, making sure the runoff is clear and clean. If the runoff is still dirty, repeat the spraying action until clean. After completing the cleaning, apply a small amount of lightweight oil to each bushing or bearing for lubrication. Be careful not to apply too much oil, for this will pick up dirt and contaminate the commutator and brushes.

# 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 4 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.

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# **TUNING & SETUP 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 quicken 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 med-grip loose tracks.

Raise or lower the ball end by adding or subtracting washers here

These steps prepare your buggy for maximum performance

# STEERING BLOCKS

The included trailing steering blocks (# 9581) should be used in most cases. The Team especially recommends the trailing blocks on high-grip or "blue-groove".

Changing to the optional inline steering blocks (#9577) will give the car an overall aggressive feeling. Steering entering and exiting the corners is increased, but straight line stability is slightly reduced.

# CASTER

Caster describes the angle of the kingpin as it leans toward the rear of the vehicle. Positive caster means the kingpin learns rearward at the top.

The supplied 25° caster blocks (#9580) are recommended in most cases. For more corner entry steering and less exit steering, try the optional 30° blocks (#9593).

The optional 20° blocks (#9592) will give you more exit steering and less entry steering.

# FRONT TOE-IN

Toe-in describes the angle of the front tires when viewed from the top. With toe-in, the front of the tires point inward.

Zero degree toe-in (tires pointing straight forward) is the setting that should be used in almost all track conditions. Occasionally you can increase turn in by adding a little toe-out (front of tires point slightly out). Front toe-in is not a typical tuning adjustment used by the Team.

# 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  $-1^{\circ}$ . Use the included #1719 camber gauge to set your camber as shown. Positive camber, where the top of the tire is leaning out, is not recommended.

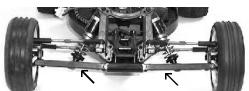


Testing camber with the camber gauge

# FRONT 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 flat as seen in the following picture.



Front arms should be in a straight line when ride height is set as "arms level"

# ANTI-SQUAT

Anti-squat denotes the angle of the rear arms relative to the ground. Zero anti-squat means that the rear arms are flat, parallel with the ground. The kit setting is 2°, and can be adjusted by installing or removing the included

shims underneath the arm mount.

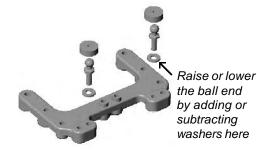
The shim with 2 tabs is for 2° and the shim with 1 tab is for 1°. You can use any combination of shims to get 0, 1, 2, or 3° antisquat. Adding anti-squat tends to make the car "rotate" more in corners, but doesn't handle as well through the bumps.



Upper shim (with one tab), 1° Lower shim (with two tabs), 2°

# **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 or "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.



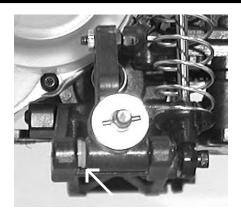
REAR CAMBER

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  $-1^{\circ}$ . Use the included #1719 camber gauge to set your camber (shown above). 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.

# 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.



Spacers to the rear will place hubs forward, shortening the wheelbase

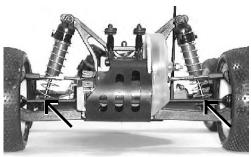
# ANTI-ROLL BAR

The optional #9635 B4 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 mediumgrip loose tracks.

# **REAR RIDE HEIGHT**

Ride height is the distance from the ground to the bottom of the chassis.

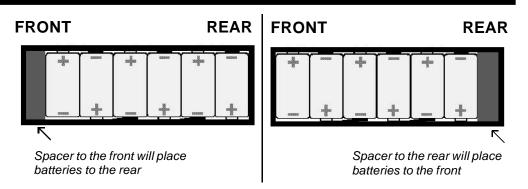
The rear ride height setting you should use most often is with the outdrive, driveshaft, and axles all on the same imaginary horizontal line (referred to as "bones level"). Check the ride height by lifting up the entire car about 8-12 inches off the bench and dropping it. After the suspension "settles"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



Dogbones should be in a straight line when ride height is set as "dogbones level"

# BATTERY PLACEMENT

This is one of the best adjustments on the car, and it can have the biggest effect on handling. Most of the time, moving the battery pack back will yield more rear traction and decrease steering. Conversely, moving the battery pack forward will yield less rear traction and increase steering. But in some cases on extremely high grip or extremely low grip tracks, moving the pack forward will make the buggy feel more balanced and actually improve rear grip.



# SETUP SHEETS

The best way to get your car handling right is to go to our website, <u>www.rc10.com</u>, and click on the links for setup sheets. Our Team Drivers help develop these setups at National events.

Also, most drivers have a "base" setup that they use as a starting point for every event. Try running some of these base setups or look for track conditions and tires that are similar to your local track and mimic that setup. Remember, each adjustment has a purpose, so copy everything from the setup sheet and then make adjustments based on the recommendations in here.

For more information on setups, please go online to the Tuning Guide page and order the **#9656** *Complete Tuning Guide: B4.* 

# TEAM ASSOCIATED ONLINE

Get online help, tips, and new product information for your kit through Team Associated's web site, www.TeamAssociated.com.

**Tech Help.** Answers to racer's questions are posted for all to learn from.

**Racer Spotlight.** Racers proudly show off their favorite kits. Get your painting ideas here!

**Setup Sheets.** Where racers find blank and standard setups to download for their kit.

**New Products.** Learn of new kits and parts before they are announced anywhere else.

Team Associated Insider's Newsletter. Sign up for it if you want the latest Team Associated news delivered right to your e-mail box. Hobby Shop and Track Directory. Locate shops carrying spare parts and tracks where you may race your kit.

Parts Catalogs. Find the most up-to-date listing of parts for your kit.

**Contact Associated.** Our expert staff answers your toughest questions about Associated, Reedy, and LRP products.



	Driver
	Track / City
SETUP SHEET for the Team Associated RC10B4	Event Date
FRONT SHOCK MOUNTING	REAR
& CAMBER LINK	4 2 3 & CAMBER LINK
1200	000
CAMBER°	#WASHERS CAMBER°
#WASHERS AB	
RIDE HEIGHT	RIDE HEIGHT
TOE-IN (+) / OUT (-) °	ANTI-SQUAT ANTI-ROLL BAR
BUMP STEER SPACER	
	□1° □2° □black (soft) □sivler (med)
AXLE HEIGHT CASTER	□ 3° WHEELBASE ← → □ gold (heavy) □ long
→ → → → → → → → → → → → → → → → → → →	🗆 medium
	short
STEERING BLOCK  trailing  inline	
	REAR SHOCKS OIL wt
•••=	
SPRING (color)         PISTON #	SPRING (color)         PISTON #
SHAFT unobtainium STD #LIMITERS	SHAFT unobtainium STD #LIMITERS
FRONT TIRES & WHEELS	REAR TIRES & WHEELS
FRONT TIRES	REAR TIRES
INSERTS WHEELS	INSERTS WHEELS
TRACTION COMPOUND	
	OTOR OTHER
RADIO SERVO MOTOR & WIND	BODY
ESC BRUSHES	WING
DRAG BRAKE INIT BRAKE SPRING	WING ANGLE □ 0° □ 3° □ 6°
BATTERY PLACEMENT front rear PINION / SPUR	/ CHASSIS
BATTERIES	
CONDITIONS COMMENTS	
□ bumpy □ soft dirt □ low traction □ grass	
med traction blue groove	
☐ high traction ☐ clay	
🗋 wet 🗌 dusty	

FOR MORE SETUPS, VISIT www.RC10.com and click on "SETUP SHEETS"