

RACER KIT

RC10TC3 Racer Kit

Shocks: VCS Macro shock.

Tires and Wheels: Pro-Line V-Rage tires and Axis wheels.

Front & Rear Axles: Composite MIP CVD's.

Turnbuckles: Associated steel turnbuckles

Choice of three Protoform bodies, with matching Protoform decal.

Also includes: Precision stainless-steel rubber-sealed ball bearings.

EACH KIT INCLUDES

Pro-Line std. 12m Hex wheels & tires.
 Aluminum motor mount with a built-in heatsink.
 Carbide ball aSSOC. differentials.
 Adjustable caster, camber, toe-in, anti-squat, kickup. Several tie-rod mounting positions.
 Foam bumper.
 TC3 decal sheet
 Rear bumper



TEAM KIT

#3030 RC10TC3 Team Kit

Shocks: Blue anodized aluminum-body VCS Macro shocks.

Tires and Wheels: Pro-Line V-Rage tires and Axis wheels.

Front & Rear Axles: Blue-anodized alloy MIP CVD's.

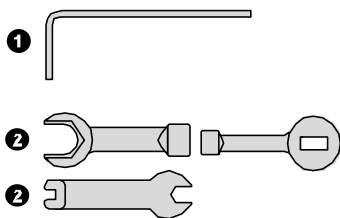
Turnbuckles: Factory Blue titanium turnbuckles.

Also includes: Precision stainless steel PTFE/rubber-sealed ball bearings.

TOOLS

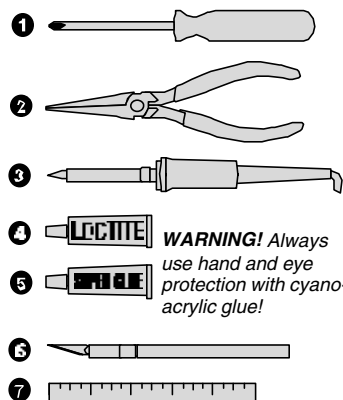
KIT TOOLS SUPPLIED

- 1 Allen wrenches, .050", 1/16", 3/32",
- 2 5/64" molded tools



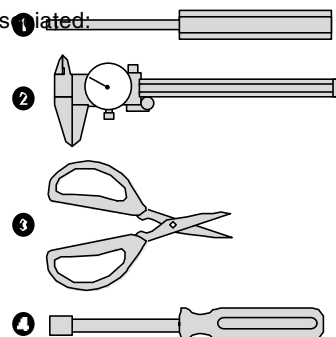
EXTRA STUFF NEEDED

- 1 Phillips screwdriver #2
- 2 needlenose pliers
- 3 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 is HOT!**
- 4 Thread locking compound (#242 Blue Loctite® or equivalent)
- 5 Super glue (cyanoacrylic glue).
- 6 hobby knife **WARNING! This knife cuts plastic and fingers with equal ease, so be careful.**
- 7 precision ruler
- 8 electrician's tape
- 9 strapping tape



HELPFUL TOOLS (NOT REQUIRED)

- 1 Allen drivers (straight Allen wrenches with hex shaped handles) such as the following made by Associated:
 - #6957 .050" driver
 - #6958 1/16" driver
 - #6959 5/64" driver
 - #6960 3/32" driver
 - 2 #6961 2.5mm driver
- 3 Vernier calipers
- 4 Hobby scissors
- Nut drivers (screwdriver-handled hex socket tools)
 - 3/16" nut driver
 - 1/4" nut driver
 - 11/32" nut driver

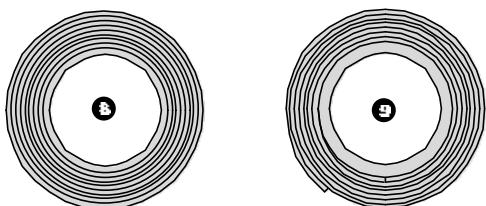


WARNING! Do not use a power screwdriver to install screws into nylon, plastic, or composite materials. The fast rotation speed can heat up the screws being installed. They can then

ITEMS NEEDED TO COMPLETE 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 (Team Kit only).

*Available from Team Associated. See your catalogs.



REACHING US

CUSTOMER SUPPORT
 (714) 850-9342
 FAX (714) 850-1744
 web site: <http://www.rc10.com>



ASSOCIATED ELECTRICS, INC.
 3585 Cadillac Ave.
 Costa Mesa, CA 92626
 USA
 ©1998 Associated Electrics, Inc.

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**") and which steps you'll be using those parts for ("**FOR STEPS 1-3**").
- 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 tools you should have handy for that section.

4 In some drawings, the word "**REAR**" with an arrow indicates which direction is the rear of the car to help keep you oriented.

5 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.

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

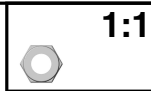
7 Occasionally you will see an upside-down triangle next to a part. ▼ This indicates that more information is given about the part next to the matching triangle near the text.

SUPPLEMENTAL SHEETS

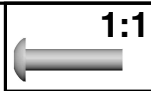
We are constantly developing new parts to improve our kits. These changes, if any, will be noted in supplementary sheets located in a parts bag or inside the kit box. Check the kit box before you start and each bag as it is opened. When a supplement is found, attach it to the appropriate section of the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

BAG A

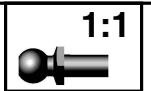
REMOVE THESE PARTS FOR: Step 1



4449, qty 1
4-40 locknut



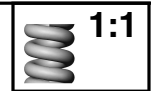
6918, qty 1
4-40 x 1/2



3858, qty 3
short special ball end, black



3855, qty 1
.125 x .250 rack shim, black



6587, qty 1
spring black

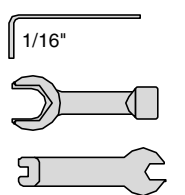


3855, qty 1
steering rack



3855, qty 1
steering rack arm

TOOLS USED

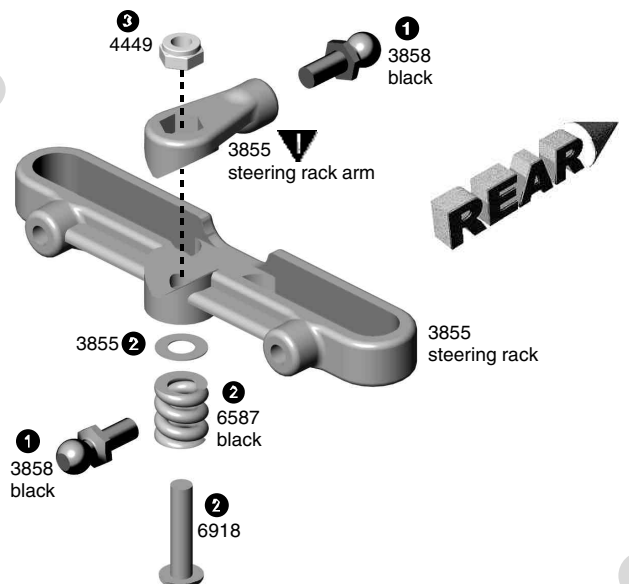


step 1

STEERING RACK ASSEMBLY

- 1 Attach two #3858 short ball ends to the #3855 steering rack and one #3858 short ball end to the #3855 steering rack arm.
- 2 Slide the #6587 spring and the #3855 rack shim onto the #6918 screw. Slide the screw assembly through the bottom of the steering rack.
- 3 Attach the #3855 rack arm to the rack with a #4449 locknut.
- 4 Tighten down the spring until the screw is flush with the top of the nut.

Match this number to the text to find your way faster



3855, qty 2
spacer, black

See page 21 for Ackerman setup options using the spacer supplied in bag A.

▼ Make sure the rack arm is facing the rear when assembled on the rack: The ball end on the rack arm and the ball ends on the rack should be pointing in opposite directions.

BAG A

REMOVE THESE PARTS FOR: Step 2



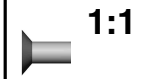
3856, qty 4 washer



3856, qty 2 rack post shim



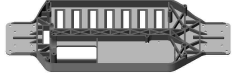
3856, qty 4 1/8 x 1/4 steering rack bushing



6291, qty 2 4-40 X 1/4 screw



6222, qty 2 nylon locknut

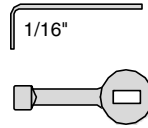


3850, qty 1 chassis
NOT IN BAG A



3856, qty 2 rack post

TOOLS USED

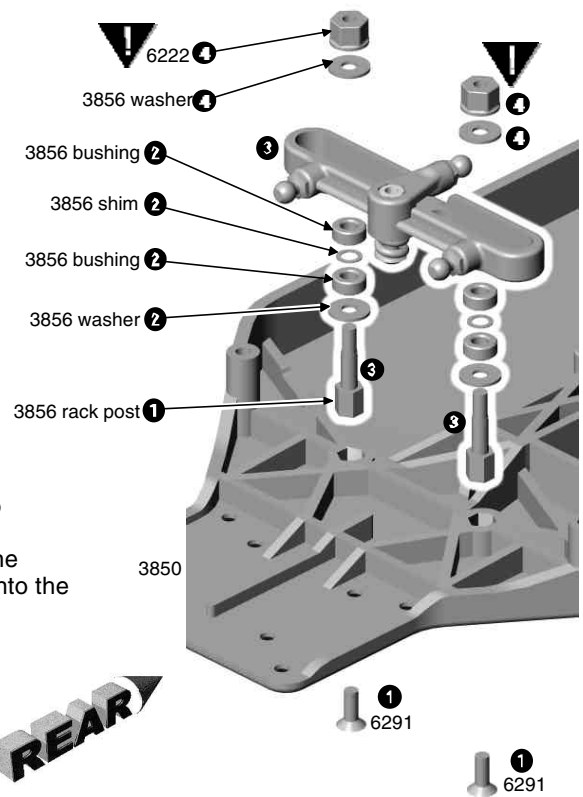


step 2

RACK TO CHASSIS ASSEMBLY

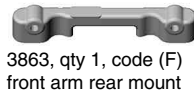
- 1 Install the two #3856 rack posts to the #3850 chassis with two #6291 screws.
- 2 Slide one #3856 washer, one #3856 steering rack bushing, one #3856 rack post shim and one #3856 steering rack bushing onto the rack post. Repeat for the other post.
- 3 Place the rack assembly over the rack posts.
- 4 Add two #3856 washers, then the two #6222 nylon locknuts.

! Tighten each nut down until the rack does not move side-to-side freely. Then loosen the nuts 1/4 turn or until the rack moves freely.



BAG B

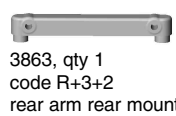
REMOVE THESE PARTS FOR: Steps 1-2



3863, qty 1, code (F) front arm rear mount



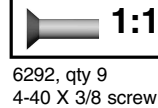
3863, qty 1, code (F+2) front arm front mount



3863, qty 1 code R+3+2 rear arm rear mount



3863, qty 1, code (R) rear arm front mount



6292, qty 9 4-40 X 3/8 screw



3860, qty 2 front arm



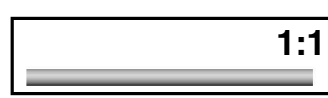
3851, qty 1 front bumper



3890, qty 2 rear arm

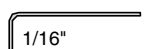


3900, qty 1 rear bumper

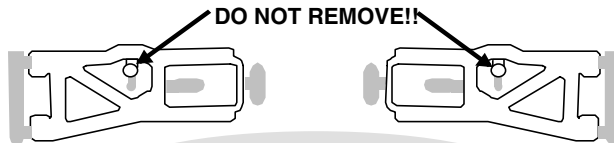


3866, qty 4 inner hinge pin

TOOLS USED



step 1



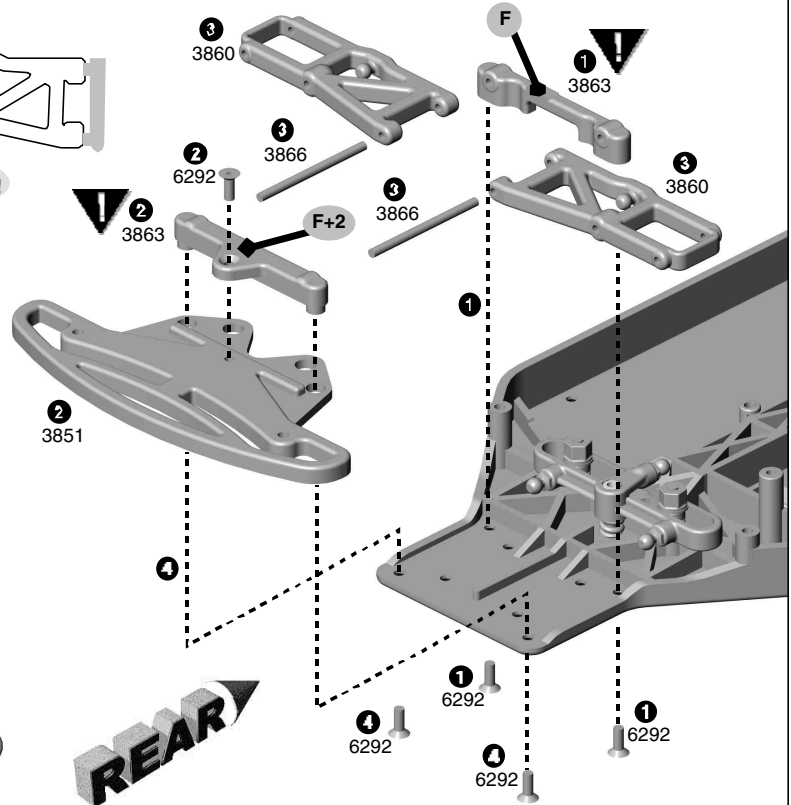
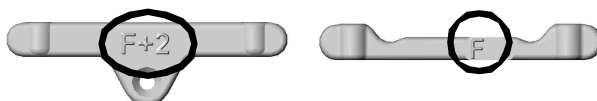
REMOVE GRAY AREAS WHERE SHOWN BE CAREFUL NOT TO REMOVE THE BALLS!!
Remove flashing so balls are perfectly smooth.

FRONT ARM ASSEMBLY

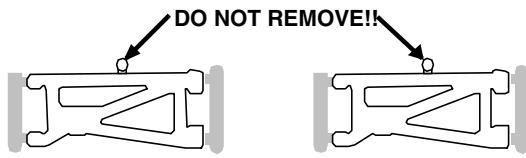
- 1 Attach the #3863 front arm rear mount (with the "F" molded into mount--see below for location) to the chassis with two #6292 screws.
- 2 Attach the #3863 front arm front mount (with the "F+2" molded into the mount) to the #3851 bumper with one #6292 screw.
- 3 Slide the #3866 inner hinge pins through the #3860 front arms. Slide the pins with the arms into the front arm rear mounts.
- 4 Align the front arm front mount and bumper with the two hinge pins and slide together. Tighten it down with two #6292 screws.

! By changing arm mounts you can adjust for kickup and anti-dive. For more information about kickup and anti-dive settings, see the tuning section at the rear of the manual.

WHERE TO FIND THE ARM MOUNT CODE
(See page 20 for full explanation of arm mount codes)



step 2



REMOVE GRAY AREAS WHERE SHOWN
BE CAREFUL NOT TO REMOVE THE BALLS!!
 Remove flashing so balls are perfectly smooth.

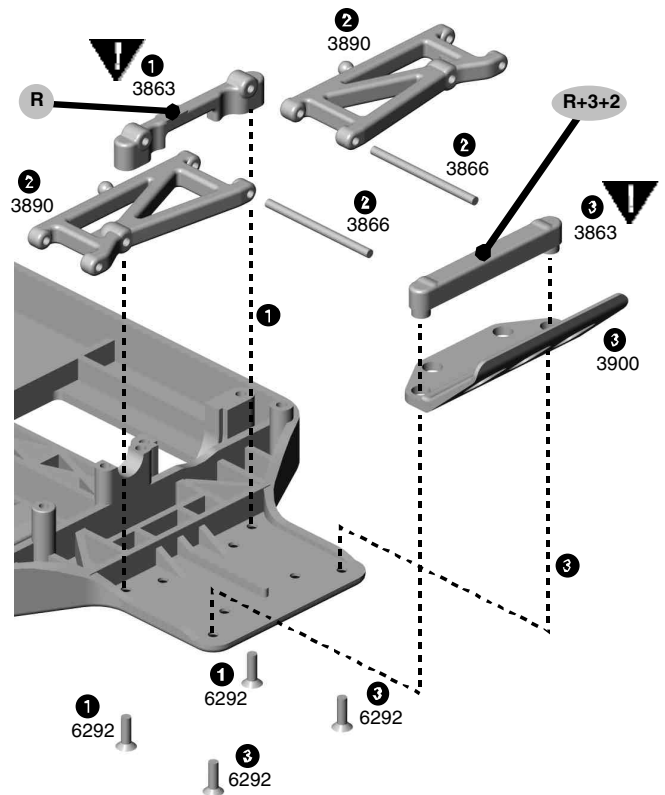
REAR ARM ASSEMBLY

- 1 Attach the #3863 rear arm front mount (with the "R" molded into mount-see below for location) to the chassis with two #6292 screws.
- 2 Slide the #3866 inner hinge pins through the #3890 rear arms. Slide the pins with the arms into the #3863 rear arm front mount.
- 3 Place the #3863 rear arm rear mount (with the "R+3+2" molded into the mount) on the #3900 rear bumper. Align the rear arm mount and bumper with the two hinge pins and slide together. Tighten it down with two #6292 screws.

! By changing arm mounts you can adjust toe-in and anti-squat. For more information about the rear toe-in and anti-squat settings, see the tuning section at the rear of the manual.

WHERE TO FIND THE ARM MOUNT CODE

(See page 20 for full explanation of arm mount codes)



BAG C

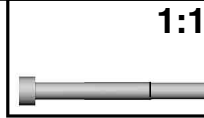
REMOVE THESE PARTS FOR:
 Steps 1-3



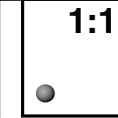
6573, qty 4
diff thrust washer



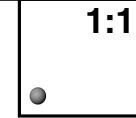
6909, qty 2
3/16 x 5/16 bearing unflanged



6575, qty 2
diff bolt



6581, qty 24
3/32 diff ball large

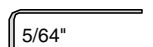


6574, qty 12
5/64 thrust ball small

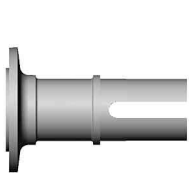


6591, qty 1
aSOC. diff lube

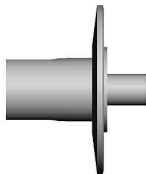
TOOLS USED



5/64"



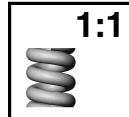
3912, qty 2
long outdrive hub



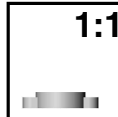
3912, qty 2
short outdrive hub



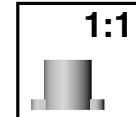
3914, qty 2
differential ring gear



6582, qty 2
diff spring, silver



6575, qty 2
diff bolt cover



6575, qty 2
T-nut

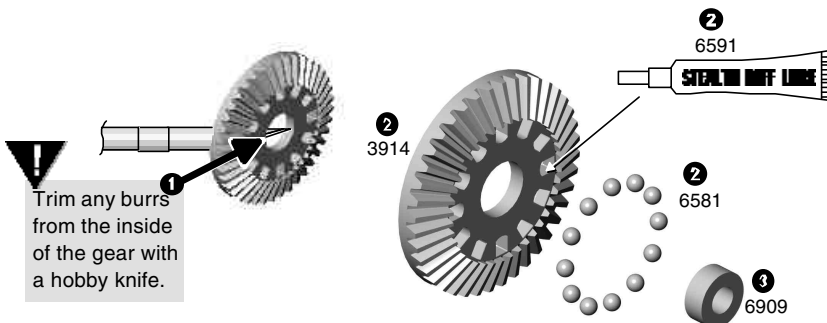


6588, qty 1
black grease

step 1

SET UP DIFFERENTIAL RING GEAR

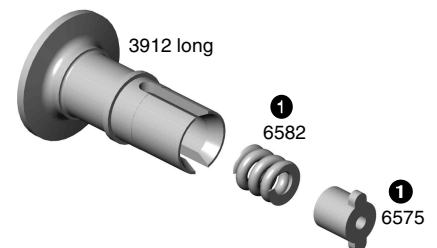
- 1 Trim any burrs from the inside of the gear with a hobby knife.
- 2 Add a generous amount of #6591 diff lube to the #3914 differential ring gear holes and push in the twelve large #6581 diff balls. Then push back in the lube that came out.
- 3 Insert one #6909 bearing into the gear.



step 2

SET UP LONG OUTDRIVE HUB

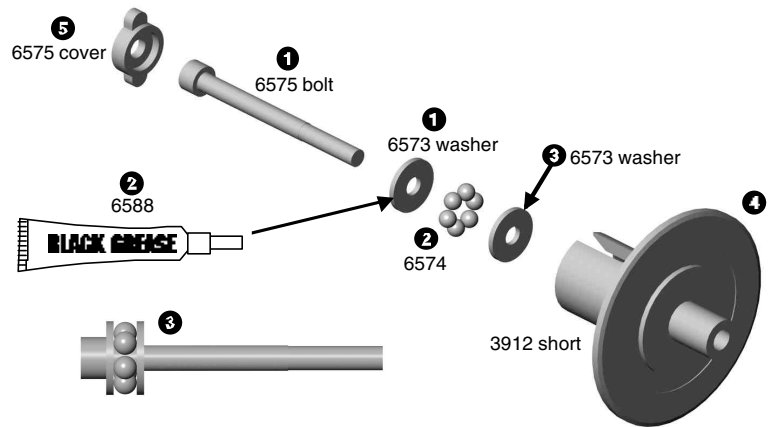
- 1 Push the #6582 spring and #6575 T-nut into the #3912 long outdrive.



step 3

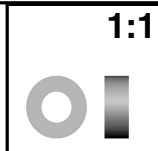
ASSEMBLE THE SHORT OUTDRIVE HUB

- Slide one #6573 washer onto the #6575 bolt.
- Apply a generous amount of #6588 black grease to the washer on the side facing away from the bolt head.
- Place six #6574 balls into the grease against the #6575 bolt and washer. Add the other #6573 washer. The grease will hold the balls in place during assembly, sandwiched between the washers. See figure for installed view.
- Slide the thrust assembly into the #3912 short outdrive hub, bearing careful not to lose any of the balls.
- Insert the #6575 bolt cover.

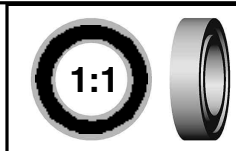


BAG C

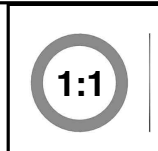
REMOVE THESE PARTS FOR:
Steps 4-5



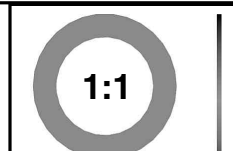
6909, qty 2
3/16 x 5/16 bearing
unflanged



3976, qty 4
3/8 x 5/8 bearing
rubber sealed, unflanged



3911, qty 4
outdrive shim



6579, qty 4
diff drive ring



3926, qty 2
long outdrive
dust cap

TOOLS USED

5/64

step 4

ASSEMBLE THE LONG OUTDRIVE HUB

- Insert one #6909 bearing into the #3912 long hub.
- Add a light coat of #6591 Assoc. lube to the long hub face where shown.
- Place a #6579 diff drive ring and then the gear assembly on the hub.

ASSEMBLE THE HUBS

- Add a light coat of #6591 Assoc. lube to the #3912 short hub face where shown.
- Place a #6579 diff drive ring on the hub.
- Push the #3912 short hub into the back side of the differential ring gear. Center the diff bolt in the hub.

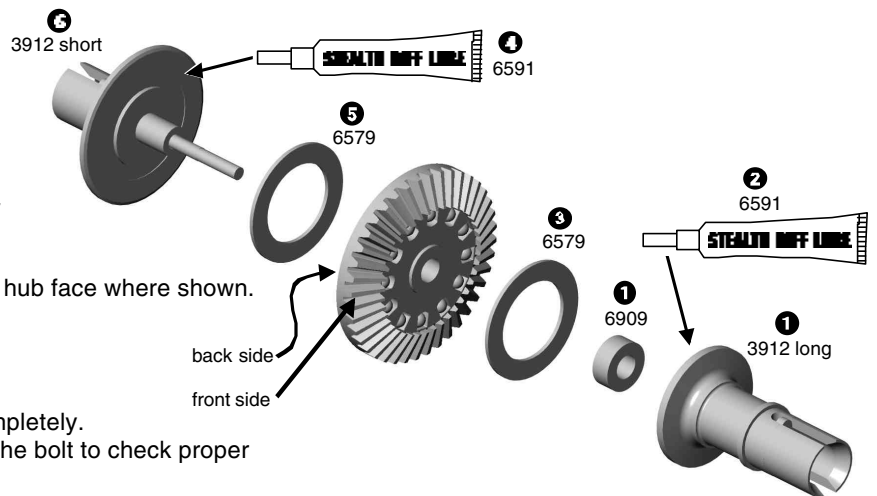
CHECK ALIGNMENT OF HUBS

- Tighten the diff with your 5/64" Allen wrench, but not completely.
- Rotate the diff hubs several times as you are tightening the bolt to check proper alignment of the parts. **Read step 9 carefully.**

ADJUST THE DIFF

- As you tighten the diff bolt, you will notice the T-nut ears moving closer to the bottom of the diff hub slot. This compresses the spring behind the T-nut. The spring should be fully compressed at the same time the T-nut reaches the end of the slot. **Caution:** Pay close attention to feeling when the spring is full compressed. **Do not overtighten the bolt.** When you feel the spring fully compressed, loosen the diff bolt 1/8 to 1/4 of a turn. No more, no less. Your diff should now operate very smoothly when turning the hubs in opposite directions. After you have driven the car once, recheck the diff adjustment. Never adjust the diff any other way.

- Now assemble the second diff the same way.

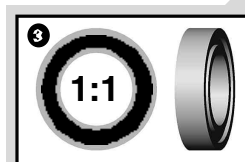


IMPORTANT NOTE: STEPS 5, 6, 7 AND 8 INVOLVE SETTING THE MESH OF THE BEVEL GEARS. IT IS EXTREMELY IMPORTANT TO USE THE EXACT AMOUNT OF SHIMS SUGGESTED IN THESE STEPS.

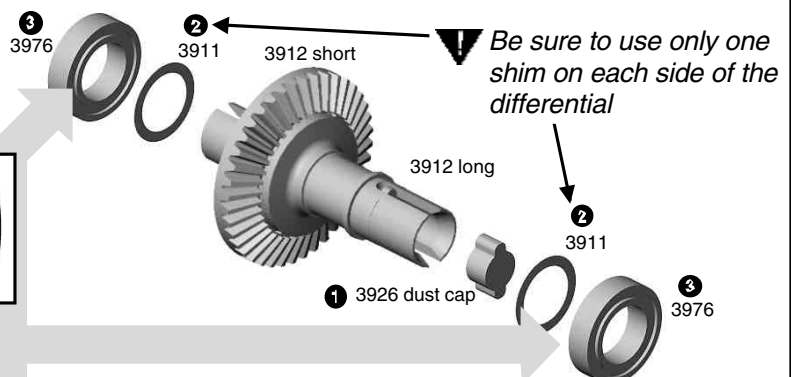
step 5

FINAL OUTDRIVE ASSEMBLY

- Press the #3926 outdrive dust cap into the #3912 long outdrive.
- Place one #3911 outdrive shim on both the long and short hubs.
- Place one #3976 bearing over each outdrive hub.



3976, qty 4
3/8 x 5/8 bearing
rubber sealed, unflanged



BAG C

REMOVE THESE PARTS FOR: Steps 6-9



3919, qty 1
C-clip

3911, qty 6
input shaft
shim

3919, qty 2
small E-clip

3919, qty 1
large E-clip

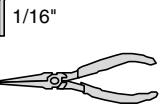
RACER KIT ONLY
3977, qty 4
3/16 x 3/8
bearing, rubber sealed

TEAM KIT ONLY
6906, qty 4
3/16 x 3/8
bearing, PTFE sealed

6288, qty 2
4-40 x 1/4
screw

5407, qty 1
red O-ring

TOOLS USED



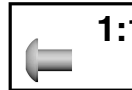
3917, qty 1
spur gear adapter



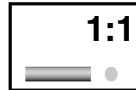
3914, qty 2
drive pinion



3917, qty 2
drive cup



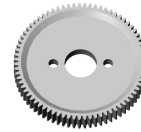
6920, qty 2
4-40 x 3/16 screw



3919, qty 5
dowel pin



3911, qty 1
input shaft spacer, alum.

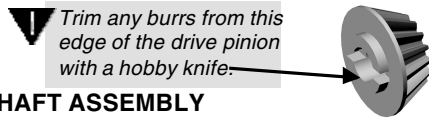


3922, qty 1
72T Kimbrough spur gear

3915, qty 1
rear input shaft

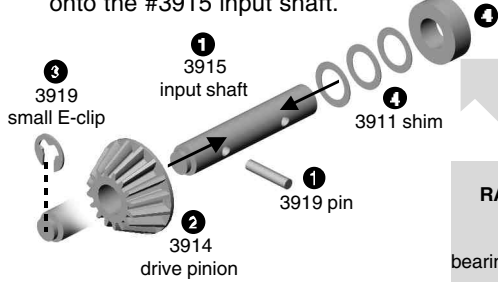
3915, qty 1
front input shaft

step 6

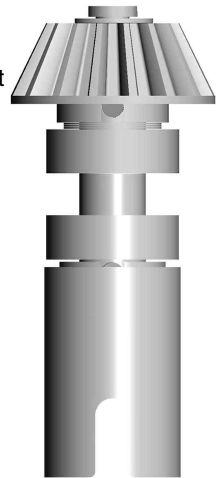
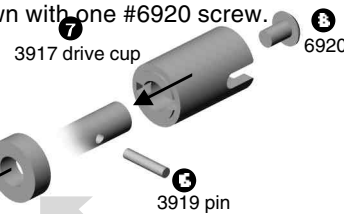


FRONT INPUT SHAFT ASSEMBLY

- 1 Install and center the #3919 dowel pin into the #3915 front input shaft.
- 2 Trim burrs from the drive pinion edge where shown above. Slide the #3914 drive pinion onto the input shaft. **Make sure the dowel pin aligns perfectly with the slot in the pinion.**
- 3 Add the #3919 small E-clip.
- 4 Slide three #3911 input shaft shims and one #3977 or #6906 bearing onto the #3915 input shaft.

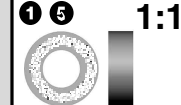


- 5 Slide the second #3977 or #6906 bearing onto the input shaft.
- 6 Install and center the #3919 dowel pin into the input shaft.
- 7 Slide a #3917 drive cup onto the end of the input shaft. Tighten it down with one #6920 screw.



front input shaft assembled
PLEASE COMPARE YOUR ASSEMBLY CAREFULLY

RACER KIT ONLY
3977, qty 2
3/16 x 3/8
bearing, rubber sealed

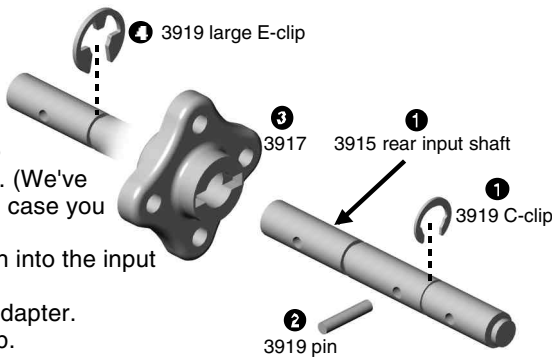


TEAM KIT ONLY
6906, qty 2
3/16 x 3/8
bearing, PTFE-sealed

step 7

REAR INPUT SHAFT ASSEMBLY

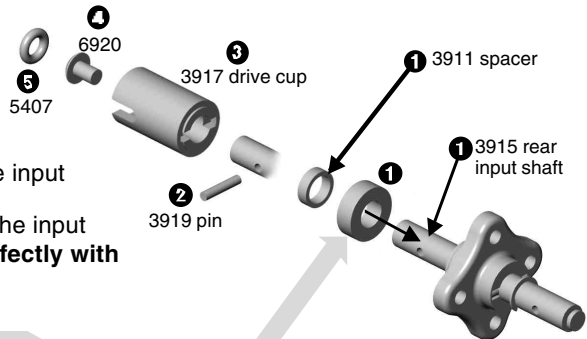
- 1 Attach the #3919 C-clip to the #3915 rear input shaft. (We've included an extra C-clip in case you lose one.)
- 2 Install the #3919 dowel pin into the input shaft.
- 3 Slide on the #3917 gear adapter.
- 4 Add the #3919 large E-clip.



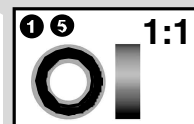
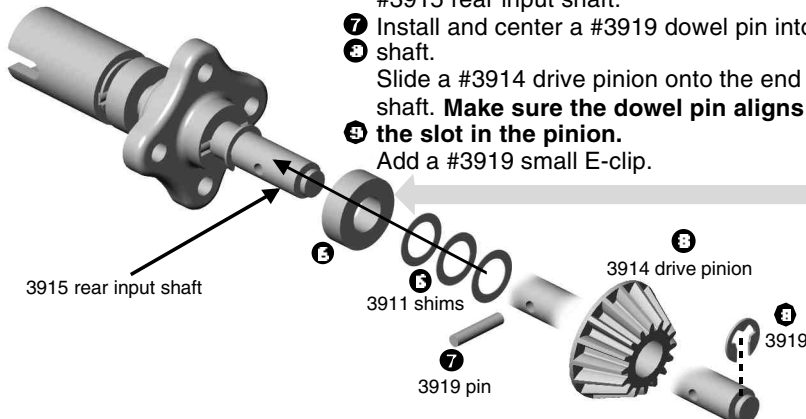
step 8

REAR INPUT SHAFT ASSEMBLY

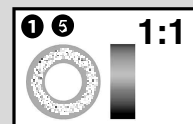
- 1 Slide one #3977 or #6906 bearing and one #3911 input shaft spacer onto the #3915 rear input shaft.
- 2 Install and center one #3919 dowel pin into the input shaft.
- 3 Slide a #3917 drive cup onto the input shaft.
- 4 Tighten it down with one #6920 screw.



- 5 Slide one #3977 or #6906 bearing and three #3911 input shaft shims onto the #3915 rear input shaft.
- 7 Install and center a #3919 dowel pin into the input shaft.
- 8 Slide a #3914 drive pinion onto the end of the input shaft. **Make sure the dowel pin aligns perfectly with the slot in the pinion.** Add a #3919 small E-clip.



RACER KIT ONLY
3977, qty 2
3/16 x 3/8
bearing, rubber sealed

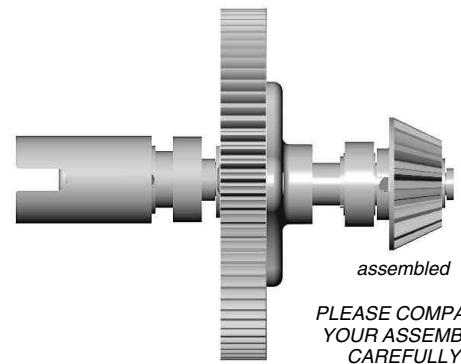
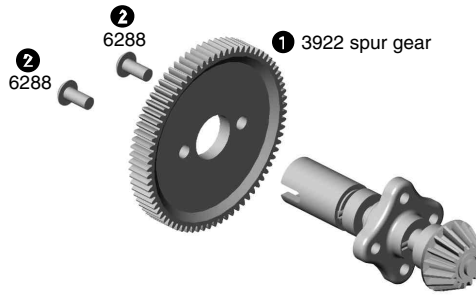


TEAM KIT ONLY
6906, qty 2
3/16 x 3/8
bearing, PTFE sealed

step 9

REAR INPUT SHAFT ASSEMBLY

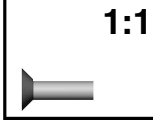
- Slide the #3922 spur gear over the drive cup and align it on the #3917 gear adapter.
- Tighten down the spur gear with two #6288 screws.



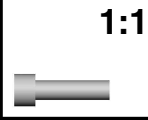
PLEASE COMPARE
YOUR ASSEMBLY
CAREFULLY

BAG C

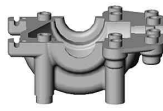
REMOVE THESE
PARTS FOR:
Steps 10-12



6292, qty 8
4-40 x 3/8 screw



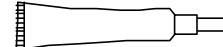
6924, qty 6
4-40 x 3/8 screw



3910, qty 2
lower transmission case



3910, qty 1
upper transmission case



6591, qty 1
Assoc. diff lube

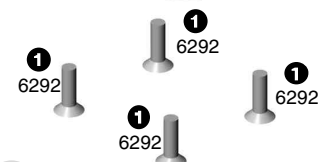
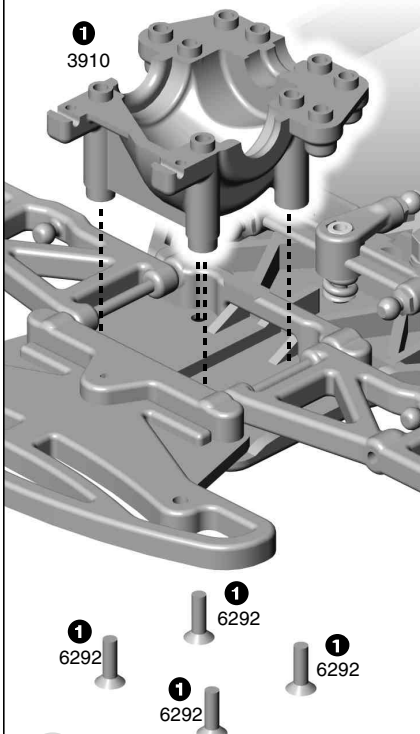
TOOLS USED

1/16, 3/32

step 10

FRONT TRANSMISSION ASSEMBLY, LOWER HALF

- Attach the #3910 lower transmission case to the chassis with four #6292 screws.

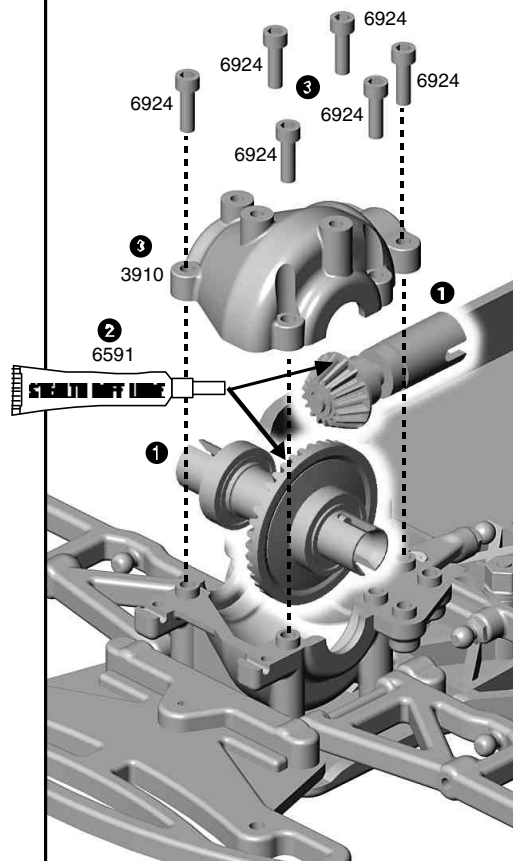


8

step 11

FRONT TRANSMISSION ASSEMBLY

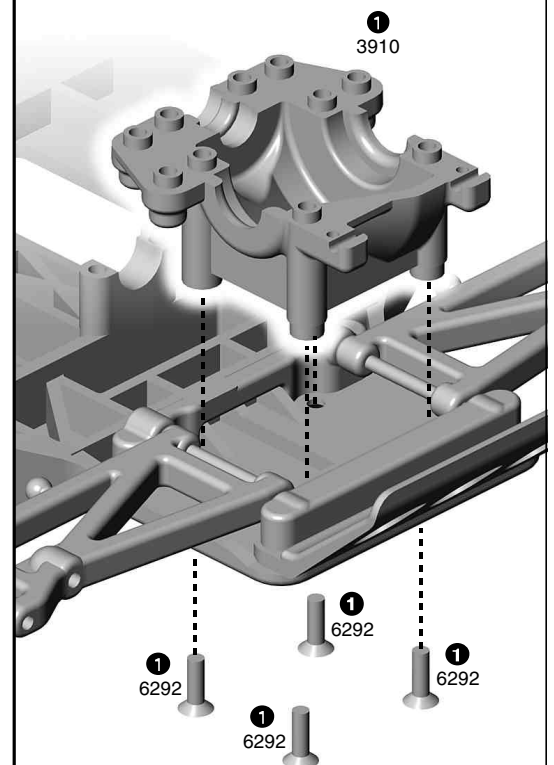
- Install the diff assembly and front input shaft assembly into the lower transmission case.
- Add a small amount of #6591 diff lube to the front side of the ring rear and pinion gear.
- Attach the #3910 upper transmission case to the lower case with six #6924 screws.



step 12

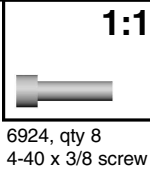
REAR TRANSMISSION ASSEMBLY, LOWER HALF

- Attach the #3910 lower transmission case to the chassis with four #6292 screws.

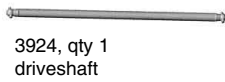


BAG C

REMOVE THESE PARTS FOR: Steps 13-14



6924, qty 8
4-40 x 3/8 screw



3924, qty 1
driveshaft



3910, qty 1
upper transmission case



3917, qty 1
drive bearing cap



6591, qty 1
Assoc. diff lube

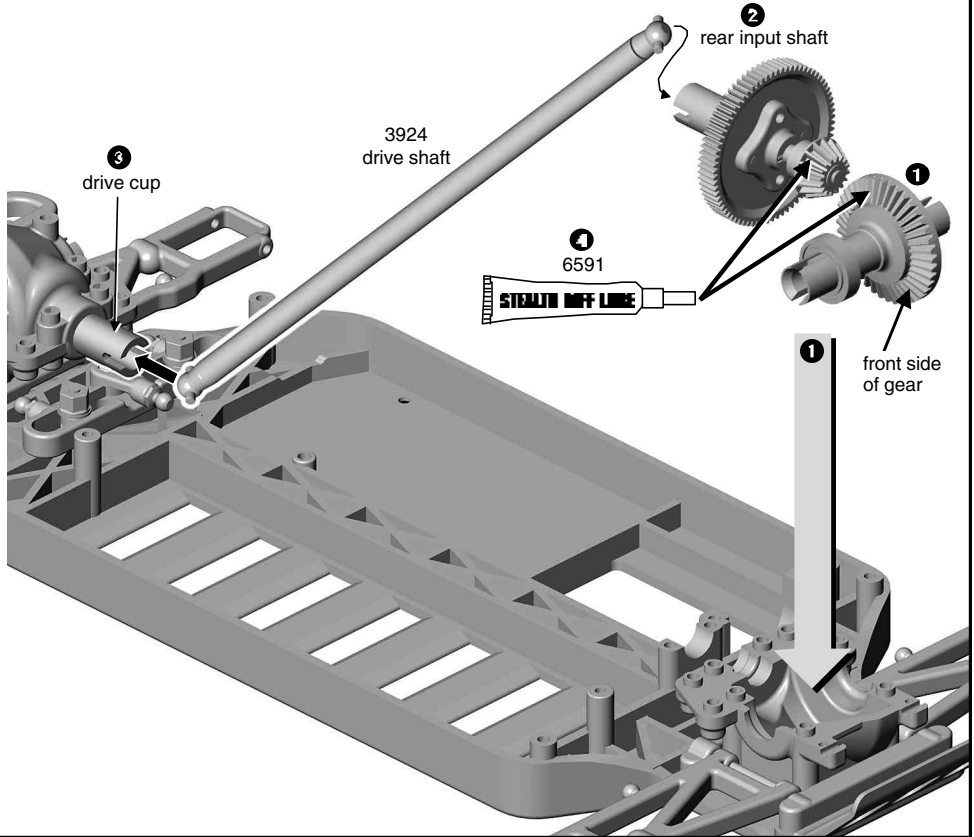
TOOLS USED

3/32

step 13

REAR TRANSMISSION ASSEMBLY

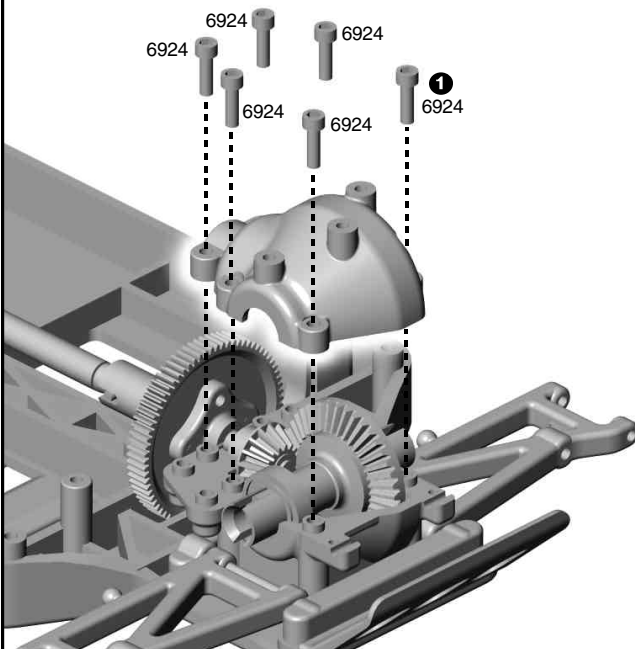
- 1 Install the diff assembly into the lower transmission case.
- 2 Place one end of the #3924 drive shaft into the drive cup on the rear input shaft assembly.
- 3 Install the opposite end of the drive shaft into the front drive cup. Set the rear input shaft into place.
- 4 Add a small amount of #6591 diff lube to the front side of the ring gear and pinion



step 14

REAR TRANSMISSION CASE

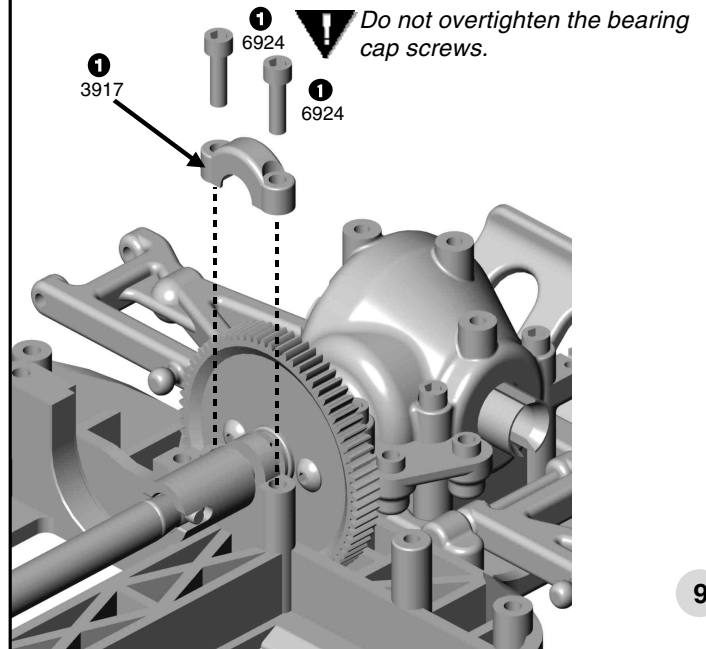
- 1 Attach the #3910 upper transmission case to the lower case with six #6924



step 15

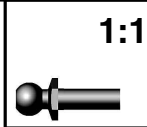
DRIVE BEARING CAP

- 1 Align the #3917 drive bearing cap over the bearing and attach with two #6924 screws where shown.



BAG D

REMOVE THESE PARTS FOR:
Steps 1-4



3858, qty 4
long special
ball end, black



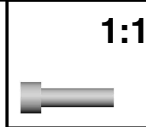
3881, qty 1
front shock tower



6272, qty 4
ball end dust cover



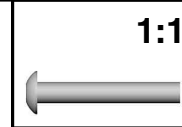
3895, qty 1
rear shock tower



6924, qty 6
4-40 x 3/8 screw



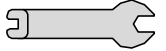
7260, qty 8
4-40 plain nut



7413, qty 4
4-40 x 3/4 screw

TOOLS USED

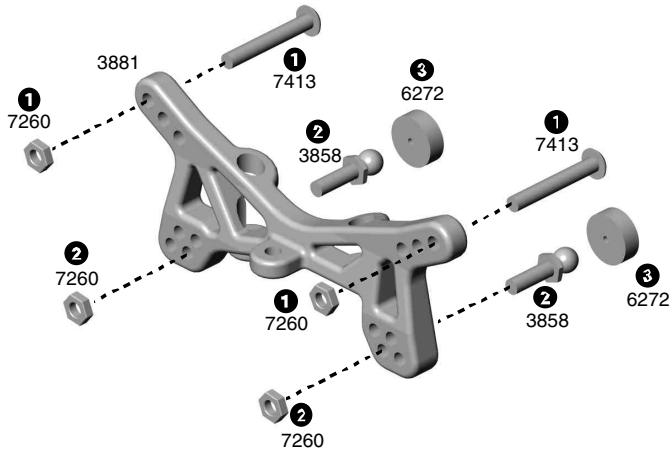
1/16", 3/32"



step 1

FRONT SHOCK TOWER ASSEMBLY

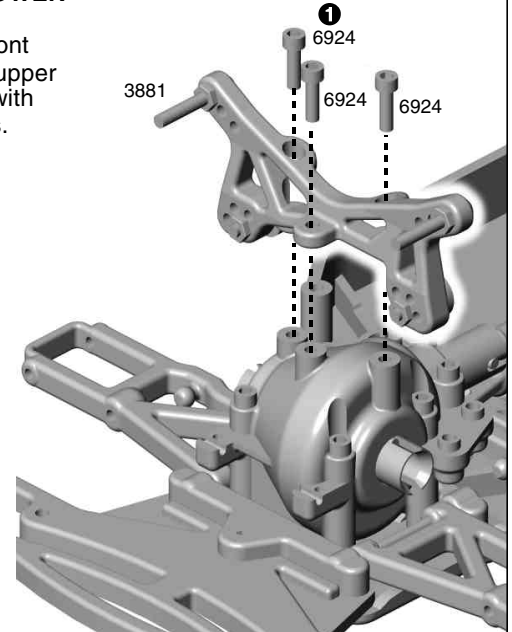
- 1 Install the two #7413 screws through the outer holes on the #3881 front shock tower. Then thread on the #7260 nuts.
- 2 Attach the #3858 ball ends and #7260 nuts through the lower inner holes on the shock tower.
- 3 Add a #6272 dust cover to the ball ends.



step 2

FRONT SHOCK TOWER ASSEMBLY

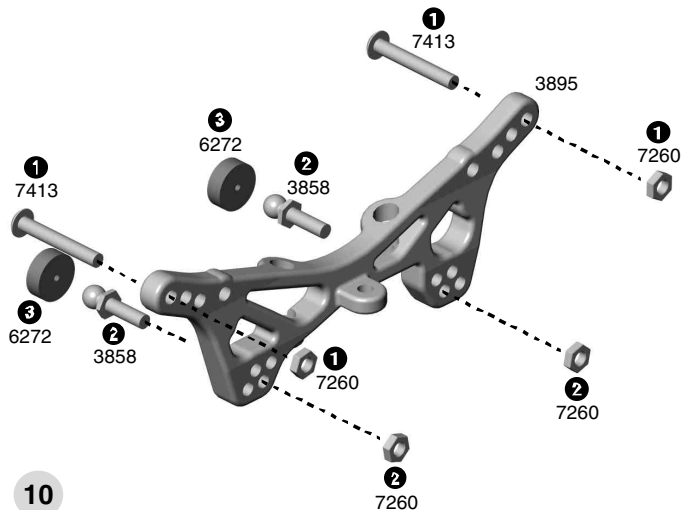
- 1 Attach the #3881 front shock tower to the upper transmission case with three #6924 screws.



step 3

REAR SHOCK TOWER ASSEMBLY

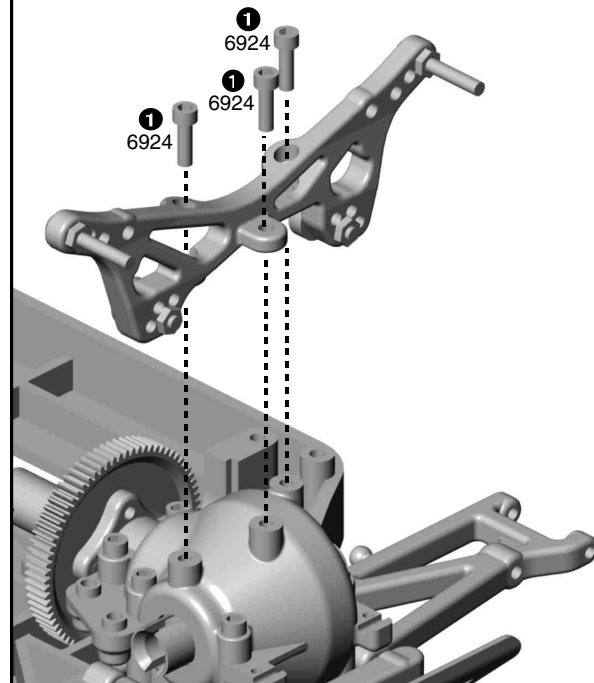
- 1 Install the two #7413 screws through the outer holes on the #3895 rear shock tower. Then thread on the #7260 nuts.
- 2 Attach the #3858 ball ends and #7260 nuts through the lower inner holes on the shock tower.
- 3 Add a #6272 dust cover to the ball ends.



step 4

REAR SHOCK TOWER ASSEMBLY

- 1 Attach the #3895 rear shock tower to the upper transmission case with three #6924 screws.



BAG E

REMOVE THESE PARTS FOR: Steps 1-4

3887 or 3888, qty 4
CVD bone



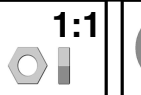
7381, qty 4
CVD coupling



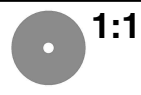
7381, qty 4
CVD cross pin



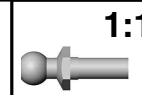
7381, qty 4
CVD set screw



7260, qty 2
4-40 plain nut



6272, qty 2
ball end dust cover



6273, qty 2
long ball end natural color



7368, qty 2
shim

3876, qty 2
front steering block

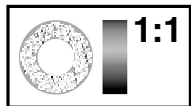
3886, qty 4
CVD axle

3876, qty 2
front steering block

3868, qty 2
front block carrier (caster block)



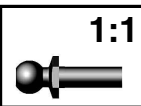
RACER KIT ONLY
3977, qty 4
3/16 x 3/8 rubber sealed bearing



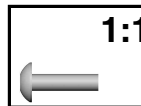
TEAM KIT ONLY
6906, qty 4
3/16 x 3/8 PTFE sealed bearing



7369, qty 2
CVD roll pin



3858, qty 2
long special ball end, black



3875, qty 2
4-40 x 11/32 screw with shoulder



3866, qty 2
front outer hinge pin

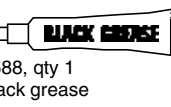
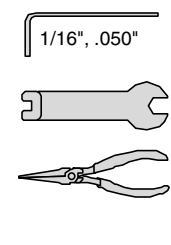


3862, qty 2
5-40 set screw gold



3874, qty 4
block carrier bushings

TOOLS USED

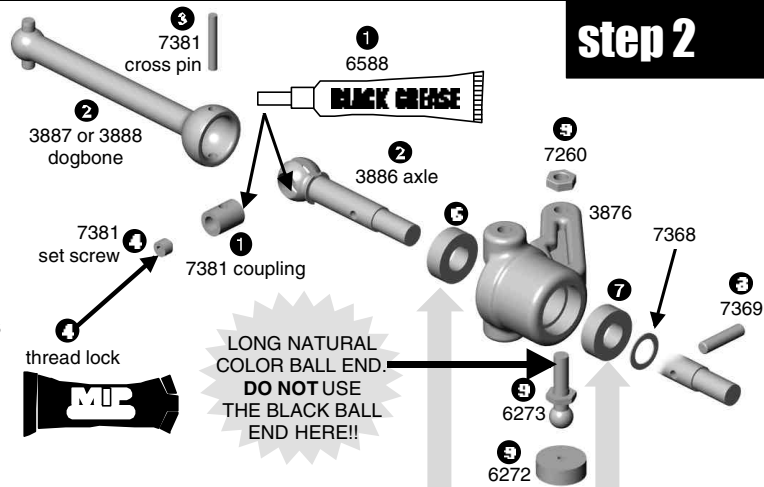


6588, qty 1
black grease

step 1

MIP CVD ASSEMBLY

- Spread some Associated #6588 black grease inside the axle hole where shown, then on the coupling and insert the coupling into the axle.
- Slide the axle into the dogbone, aligning the cross holes.
- Insert the cross pin, making sure it is evenly spaced on both sides of the bone.
- Add the MIP thread lock to the set screw. Angle and turn the CVD so the set screw can be screwed in with the Allen wrench.
- Repeat steps for the three remaining CVD's.



RACER KIT ONLY
3977, qty 4
3/16 x 3/8 rubber sealed bearing



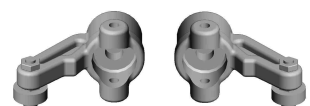
TEAM KIT ONLY
6906, qty 4
3/16 x 3/8 PTFE-sealed bearing



step 2

STEERING BLOCK ASSEMBLY

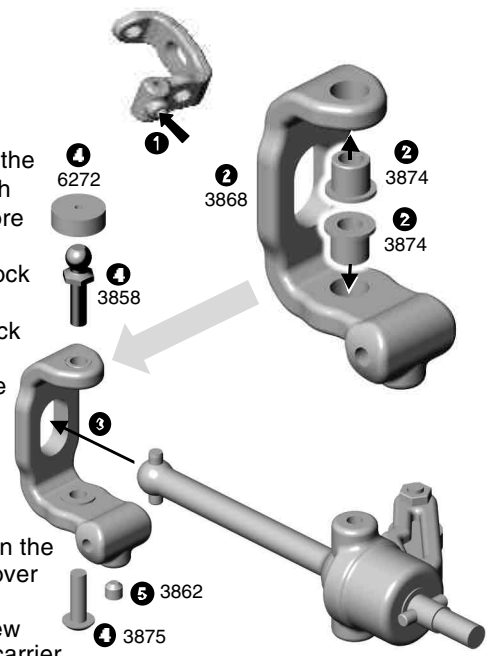
- Install one #3977 or #6906 bearing on the axle. Slide the axle assembly into the back of the #3876 steering block.
- Install the second #3977 or #6906 bearing into the steering block and on the axle, followed by one #7368 thin spacer.
- Insert the #7369 roll pin into the axle.
- Thread the **natural color** #6273 ball end into the **bottom** of the #3876 steering block and add the #7260 plain nut. Add a #6272 dust cover over ball the end.
- Repeat steps for the right side, installing the steering block ball end in the opposite way:



step 3

LEFT BLOCK CARRIER ASSEMBLY

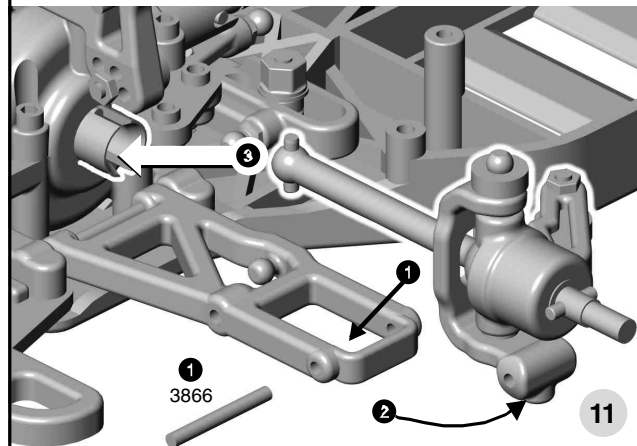
- Break through and push out the thin webbing in the holes with your 2mm Allen wrench before assembly.
- Insert two #3874 steering block bushings and steering block assembly into the #3868 block carrier as shown.
- Make sure the CVD dogbone goes through the hole of the block carrier as shown.
- Align the steering block and block carrier and thread a #3858 long special ball end on top, and a #3875 screw on the bottom. Add a #6272 dust cover over the ball end.
- Insert the 3862 5-40 set screw into the bottom of the block carrier. Do not thread it all the way in. We will tighten it in the next step.
- Repeat steps for the right side.



step 4

ATTACH BLOCK CARRIER ASSEMBLY

- Place the left block carrier assembly between the arm holes. Insert the #3866 front outer hinge pin through the arm holes.
- Tighten the set screw of step 3, locking the hinge pin in place.
- Insert the universal dogbone into the slots of the outrdrive hub.
- Now install the block carrier for the other side.



BAG E

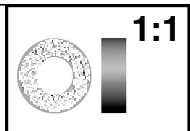
REMOVE THESE PARTS FOR:
Steps 5-6



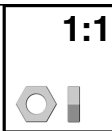
3876, qty 2
rear hub carrier



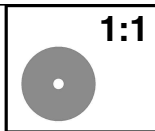
RACER KIT ONLY
3977, qty 4
3/16 x 3/8
rubber sealed bearing



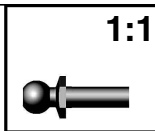
TEAM KIT ONLY
6906, qty 4
3/16 x 3/8
PTFE sealed bearing



7260, qty 2
4-40 plain nut



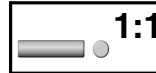
6272, qty 2
ball end dust cover



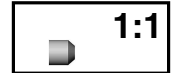
3858, qty 2
long special
ball end, black



7368, qty 2
3/16 axle shim



7369, qty 2
CVD roll pin



3862, qty 2
5-40 set screw, gold

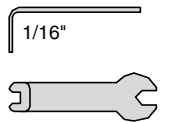


4187, qty 4
washers, plastic



3866, qty 2
rear outer hinge pin

TOOLS USED



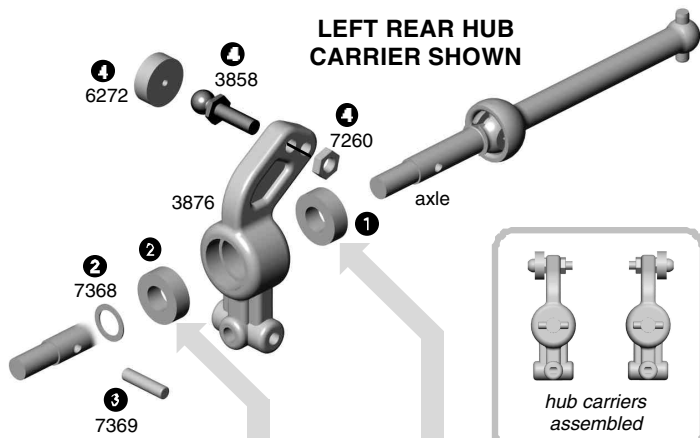
step 5

REAR HUB CARRIER ASSEMBLY

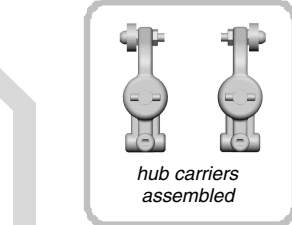
- 1 Break through and push out the thin webbing in the holes of both hub carriers with your 2mm Allen wrench (as shown above). Install one #3977 or #6906 bearing on to the axle. Slide the axle assembly into the back of the #3876 rear hub carrier.
- 2 Install the second #3977 or #6906 bearing into the hub carrier and onto the axle followed by one #7368 axle shim.
- 3 Insert the #7369 roll pin into the axle.
- 4 Thread on the #3858 long special ball end into the front of the hub carrier as shown and add the #7260 plain nut. Add a #6272 dust cover over the ball end.
- 5 Repeat steps for the right side. See assembly picture at lower right.



Break through and push out the thin webbing in the holes with your 2mm Allen wrench before assembly.

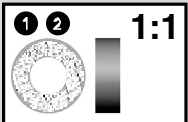
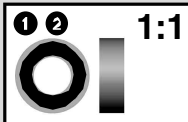


LEFT REAR HUB CARRIER SHOWN



hub carriers assembled

RACER KIT ONLY
3977, qty 4
3/16 x 3/8
bearing

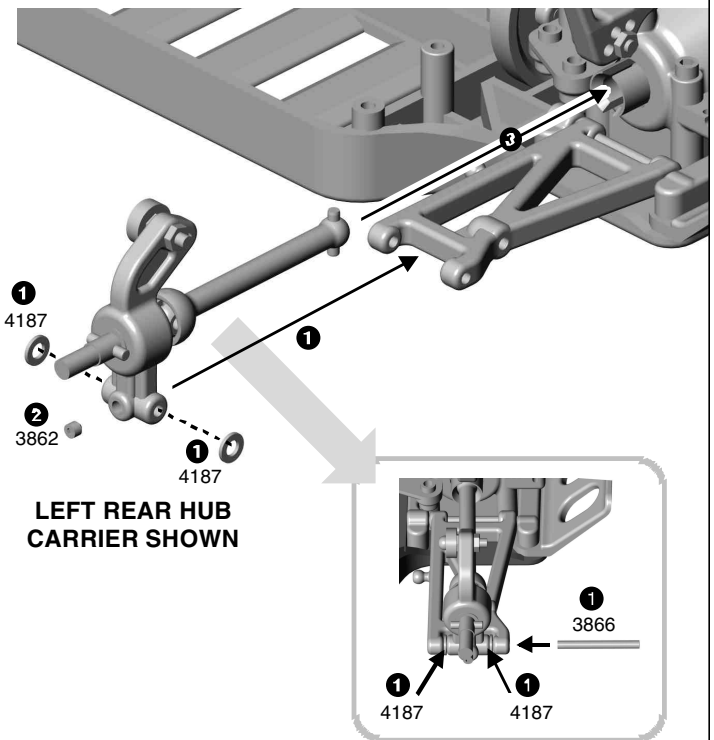


TEAM KIT ONLY
6906, qty 4
3/16 x 3/8
PTFE-sealed bearing

step 6

ATTACH REAR HUB CARRIER ASSEMBLY

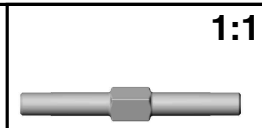
- 1 Place the left hub carrier between the arm holes as shown and add two #4187 spacers where shown. Insert the #3866 rear outer hinge pin through the arm and hub carrier.
- 2 Thread in the #3862 5-40 set screw into the hub carrier. Tighten down the set screw, locking the hinge pin in place.
- 3 Insert the universal dogbone into the slots of the outride hub.
- 4 Now install the hub carrier assembly for the right side.



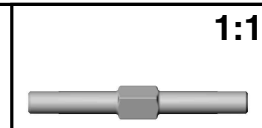
LEFT REAR HUB CARRIER SHOWN

BAG F

REMOVE THESE PARTS FOR:
Steps 1-2



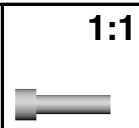
TEAM KIT ONLY
1356, qty 6
blue titanium turnbuckle



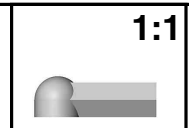
RACER KIT ONLY
3867, qty 6
steel turnbuckle



6923, qty 4
4-40 x 3/4 screw

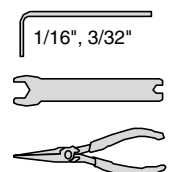


6924, qty 8
4-40 x 3/8 screw



6274, qty 12
ball cup

TOOLS USED



3879, qty 2
rear chassis brace

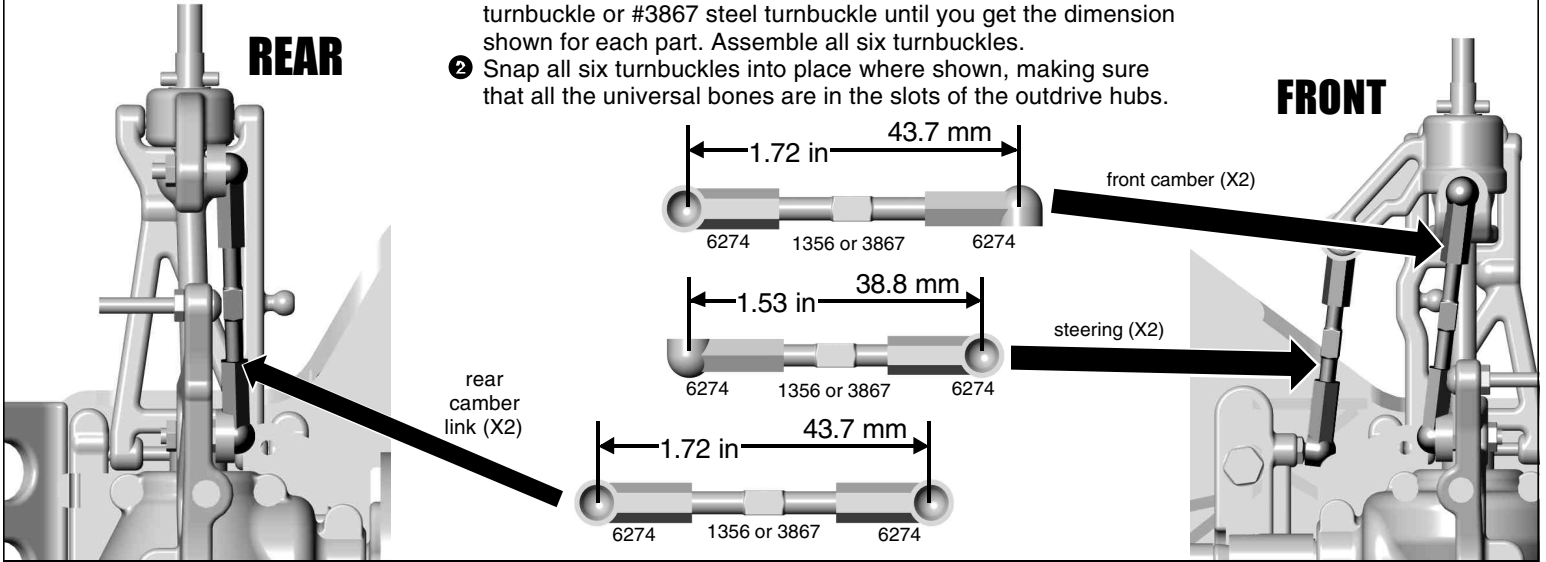


3879, qty 2
front chassis brace

step 1

TURNBUCKLE ASSEMBLY

- Twist the #6274 ball cups onto the #1356 blue titanium turnbuckle or #3867 steel turnbuckle until you get the dimension shown for each part. Assemble all six turnbuckles.
- Snap all six turnbuckles into place where shown, making sure that all the universal bones are in the slots of the outdrive hubs.



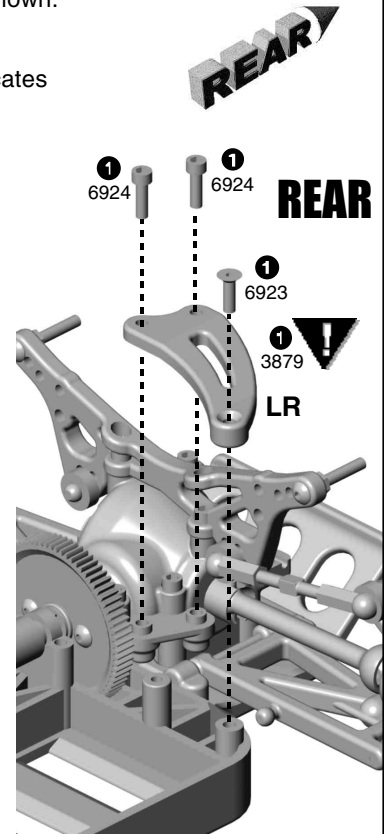
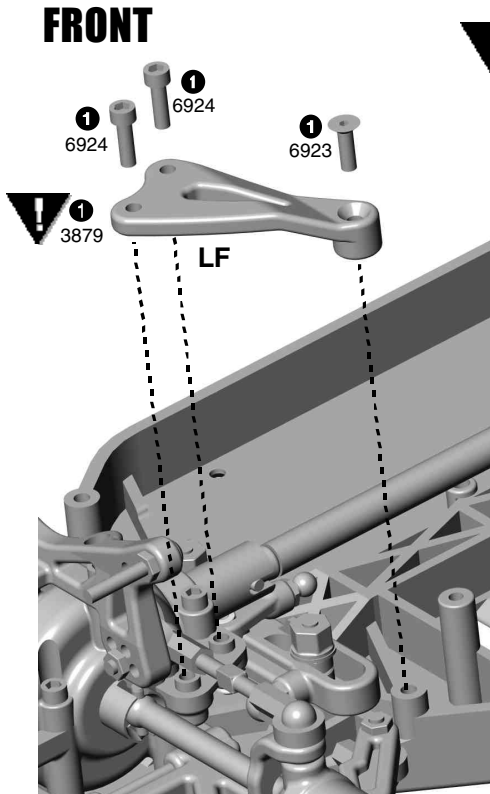
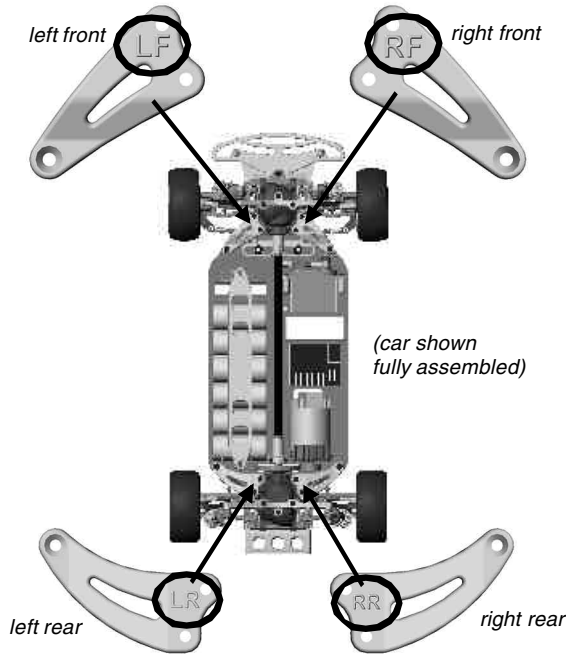
step 2

INSTALLING CHASSIS BRACE

- Mount the #3879 left front and left rear chassis braces with two #6924 screws and one #6923 screw for each brace as shown.
- Repeat step for the right side.

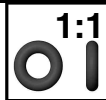
⚠ Each chassis brace has a molded identification that indicates where it goes on the car, as shown below.

WHERE TO FIND THE CHASSIS BRACE I.D.



BAG G

REMOVE THESE PARTS FOR: Steps 1-4



5407, qty 8 red O-ring



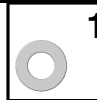
6299, qty 8 E-clip



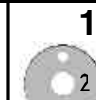
8456, qty 4 VC foam



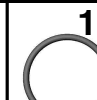
4187, qty 12 shock limiters



7217, qty 4 shock pivot ball



6465, qty 4 shock piston #2



6469, qty 4 large O-ring



7217, qty 4 shock eyelet



8456, qty 4 VC bobbin



8844, qty 4 shock shaft



RACER KIT ONLY
8458, qty 4 macro shock body



TEAM KIT ONLY
8450B, qty 4 macro shock body blue

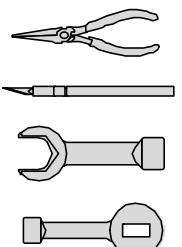


5423, qty 1 40 wt silicone oil



6428, qty 4 shock cap

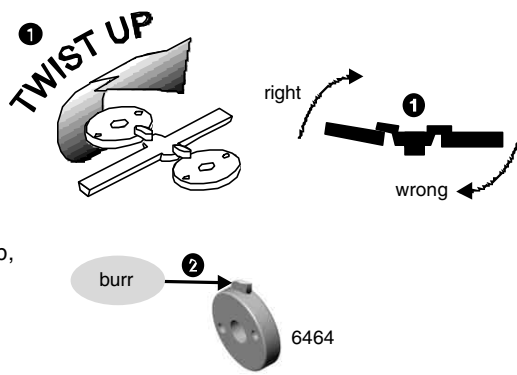
TOOLS USED



step 1

TRIM SHOCK PISTON

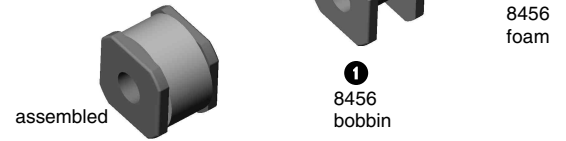
- 1 Burrs on the #6465 shock piston interfere with smooth shock action within the shock body. To remove from tree without creating burrs, twist up, not down. Remove four #2 shock pistons.
- 2 Remove remaining burrs carefully with a hobby knife.



step 2

VC FOAM AND BOBBIN

- 1 Soak the #8456 VC foam with #5423 40wt shock oil and install it onto the #8456 VC bobbin.



step 3

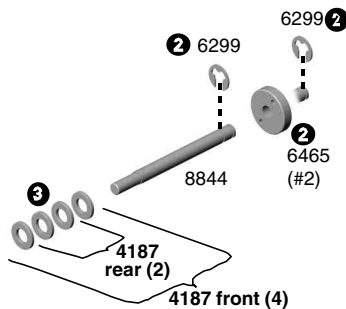
INTERNAL SHOCK ASSEMBLY

- 1 (Assemble all four shocks at once.) Install the #6469 O-ring over the threads of the shock body.

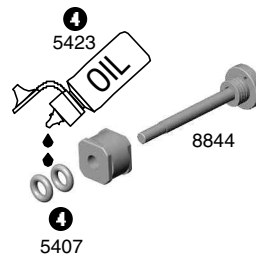


TEAM KIT ONLY: 8450B
RACER KIT ONLY: 8458

- 2 On the #8844 shock shaft, install a #6299 E-clip on both sides of a #6465 (#2) piston from step #1.
- 3 Slide four #4187 limiters over two front #8844 shock shafts and two limiters over two rear #8844 shafts.

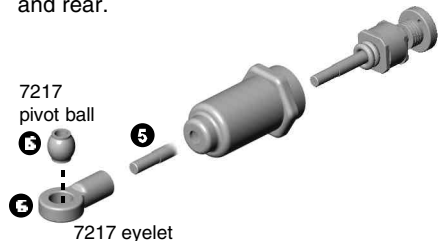


- 4 Slide the VC foam/bobbin assembly over the #8844 shaft and then two #5407 O-rings. Place a couple drops of oil on the O-rings.



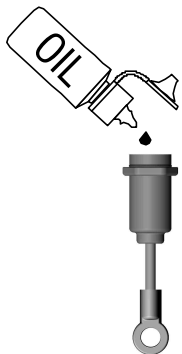
- 5 Insert the assembly into the shock body and pull the shaft through firmly to seat the VC bobbin at the base of the shock bore.
- 6 Push the #7217 pivot ball and eyelet together. As you hold the shaft with a rag and needlenose pliers next to threads, screw the eyelets onto the end of the shock shaft.

TIP: Use a permanent marker to mark your shocks with an F and R to designate front and rear.

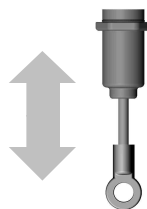


step 4

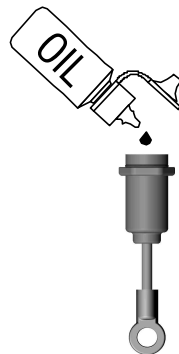
- 1 Holding the shock upright, fill with oil to the top of the body.



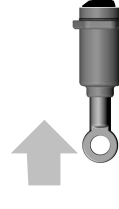
- 2 Slowly move the shaft up and down several times to allow air bubbles to escape to the top.



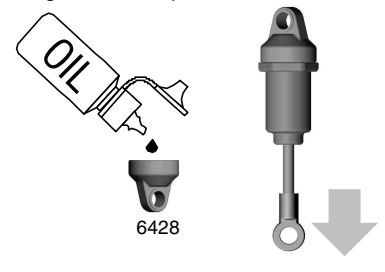
- 3 Refill with oil to the top of the body.



- 4 Push the shaft up until the piston is level with the top of the body. The oil will bulge up above the shock body.

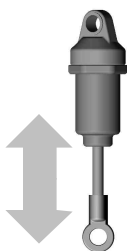


- 5 Fill The #6428 shock cap about halfway with oil and install onto the body. Try to retain as much oil as possible during assembly. The shaft will extend out as you tighten the cap down.



SETTING THE REBOUND

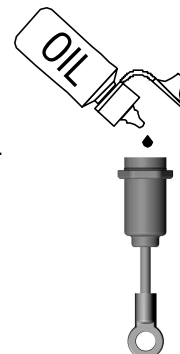
- 6 Move the shock shaft in and out a few times and then push it all the way in. It should be easy to push the shaft in until the eyelet hits the body



- 7 Then the shaft should push itself out to its full length very slowly.



- 8 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.



- 9 If the shock rebounds too fast, or you cannot push the shaft in until the eyelet hits the body, there is too much oil. Loosen the cap about a full turn and pump out a small amount of oil by pushing the shaft in. Retighten the cap and try steps 6-7 again.

BAG G

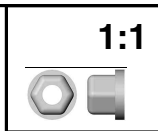
REMOVE THESE PARTS FOR: Steps 5-6



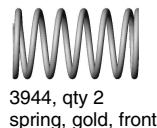
6925, qty 4
4-40 x 1/2 screw



8846, spring preload spacer
qty 4 ea. 1/8"
qty 2 ea. 1/16"



6472, qty 4
shock nut,
small



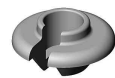
3944, qty 2
spring, gold, front



3942, qty 2
spring, silver, rear



6475, qty 4
spring collar



6475, qty 4
spring cup



6473, qty 4
shock bushing

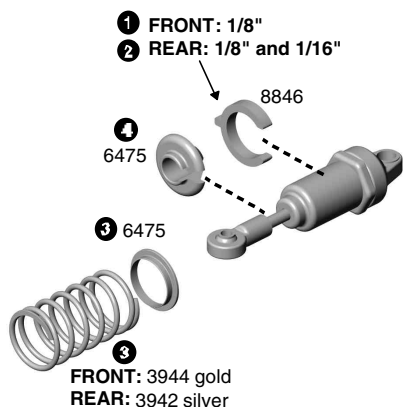
TOOLS USED

3/32"

step 5

FINAL SHOCK ASSEMBLY

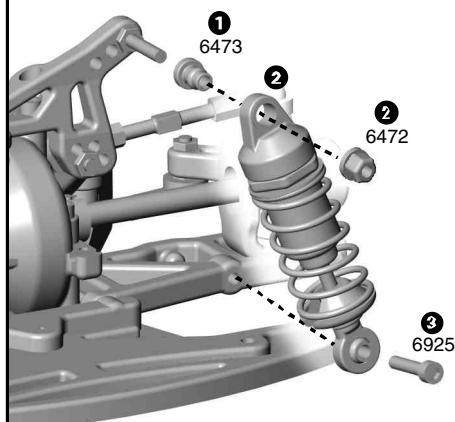
- Slide the 1/8" #8846 preload spacer onto the body of the two front shocks.
- Slide the 1/8" and 1/16" preload spacers onto the rear shocks.
- Slide on the #6475 spring collar, then #3944 gold spring on the front shocks, and #3942 silver spring on the rear shocks.
- Compress the spring to add the



step 6

FRONT SHOCK MOUNTING

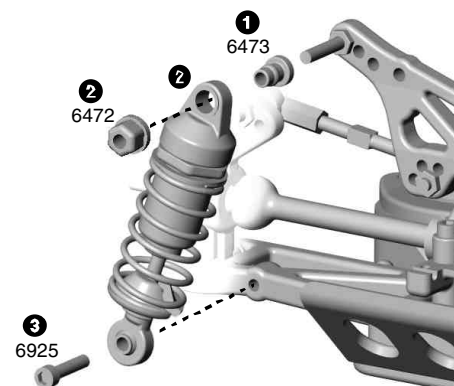
- Add the #6473 shock bushing to the shock tower.
- Push the shock cap over the bushing and add the #6472 nut. **Do not overtighten or the shock will bind.**
- Fasten the lower shock into the arm with the #6925 screw.
- Do the other front shock.



step 7

REAR SHOCK MOUNTING

- Add the #6473 shock bushing to the rear shock tower.
- Push the shock cap over the bushing and add the #6472 nut. **Do not overtighten or the shock will bind.**
- Fasten the lower shock into the arm with the #6925 screw.
- Do the other rear shock.

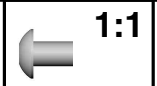


BAG H

REMOVE THESE PARTS FOR: Steps 1-5



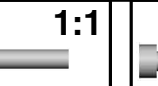
3858, qty 1
short special
ball end, black



3934, qty 2
3mm motor screw



4449, qty 2
4-40 locknut



6917, qty 4
4-40 x 3/8 screw



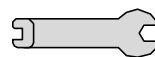
6928, qty 1
4-40 x 1 screw



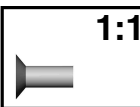
6916, qty 2
4-40 x 1/2 screw
with hole

TOOLS USED

1/16"
5/64"
3/32"



7337, qty 4
steel washer



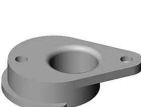
7673, qty 2
4-40 x 5/16 screw



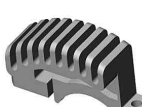
6272, qty 4
ball end dust cover



3848, qty 1
foam spacer



3930, qty 1
motor cam



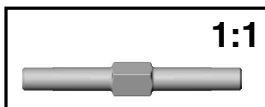
3931, qty 1
motor clamp
(with heatsink)



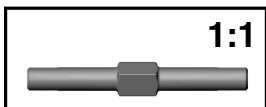
9180, qty 4
servo horn



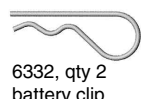
7336, offset spacer
qty 2, thin
qty 2, thick



TEAM KIT ONLY
1356, qty 1
blue titanium turnbuckle



RACER KIT ONLY
3867, qty 1
steel turnbuckle



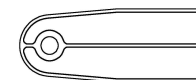
6332, qty 2
battery clip



3853, qty 1
battery brace



6727, qty 1
servo tape



TEAM KIT ONLY
3902, qty 1
transponder mount



3939, qty 1
4-40 x 1.25 screw



3939, qty 1
motor clamp spring



6338, qty 1
antenna tube and cap

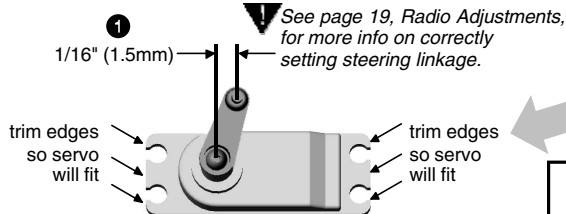
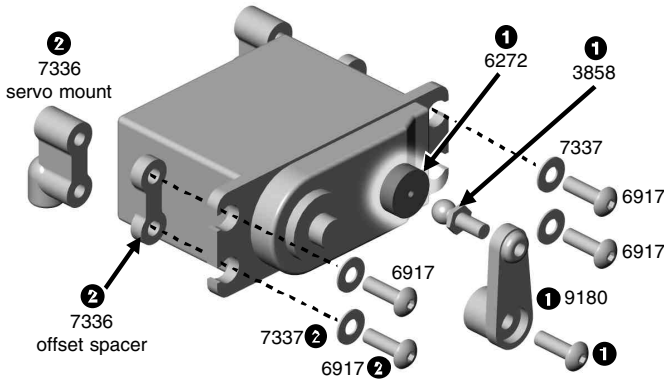


7336, qty 2
servo mount

step 1

ADD MOUNTS TO THE SERVO

- Find the appropriate #9180 servo horn for your servo from the chart at right. Install the #3858 ball end into the servo horn. Add the #6272 dust cover. Remove the servo horn from your servo and replace it with the #9180 horn that you selected, then fasten with the stock mounting screw that came with your servo in the position shown below. **DO NOT POINT IT STRAIGHT UP!** See drawing for correct dimension.
- Find the appropriate #7336 offset spacer for your servo from the chart at right. Attach the spacer, if any, in between the #7336 mount and the servo with the #7337 washers and #6917 screws.



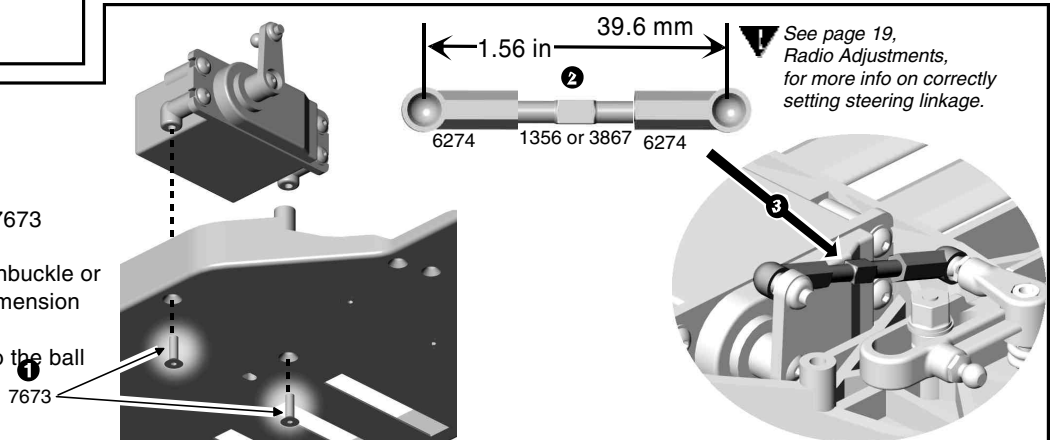
| SERVO TYPE | SPACER | SERVO ARM |
|---|---------------------|-----------|
| Airtronics 94102 | no spacer | A |
| Airtronics 94155, 94156, 94157, 94158, 94257, 94258, 94737, 94738, 94741 | thick spacer | A |
| Futaba S3003, S9404, S9402, S9303, S3401, S9101, S9202 | no spacer | F |
| Hitec S-300, HS-303, HS-525BB, HS-545BB, HS-422, HS-425, HS-605BB, HS-615MG, HS-925MG, HS-945MG | no spacer | H |
| JR NES-4721, NES-4735, Z4750 | no spacer | J |
| JR Z250, Z550, Z2750 | thin spacer | J |
| KO PS-1012 FET, PS-2000 FET, PS-2001 FET, PS-2004 FET, PS-2015 FET | no spacer | J |

On Futaba servo S3003 and on all KO servos you will need to trim a off the sides of the servo ears. We have not tested any servos that were released after mid-1999.

step 2

MOUNT THE SERVO

- Mount the servo to the chassis with two #7673 screws.
- Twist #6274 ball cups onto #1356 blue turnbuckle or #3867 steel turnbuckle until you get the dimension shown.
- Use needle-nose pliers to attach the link to the ball.



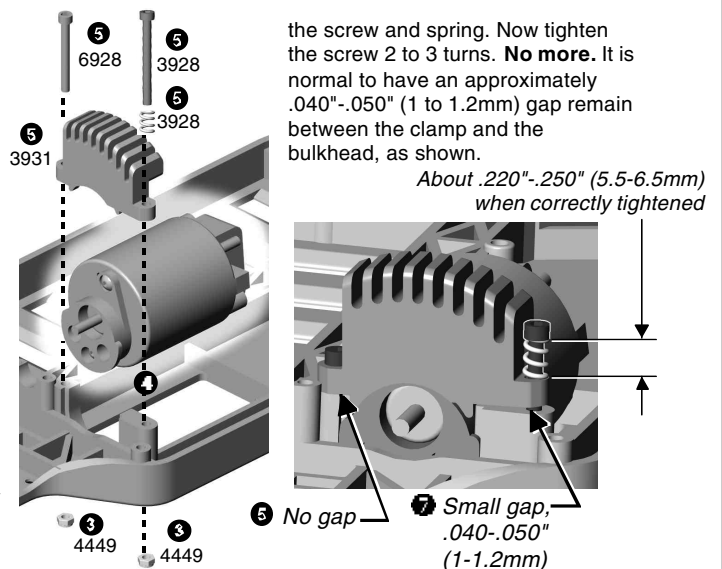
step 3

INSTALL YOUR MOTOR

- Attach the #3930 motor cam to the optional motor with two #3934 button head motor screws.
- Install the optional pinion gear of your choice. (Refer to the gearing chart on page 19.)
- Install the two #4449 locknuts to the underside of the chassis. These fit tight, so be sure to put them in straight and all the way in.
- Slide the motor and cam down into the groove of the chassis.
- Screw down the #6928 inner screw first until the #3931 motor clamp just touches the chassis bulkhead.
- Set your gear mesh.
- Slide the #3929 spring onto the #3929 screw and thread in only until there is no free play

the screw and spring. Now tighten the screw 2 to 3 turns. **No more.** It is normal to have an approximately .040"-.050" (1 to 1.2mm) gap remain between the clamp and the bulkhead, as shown.

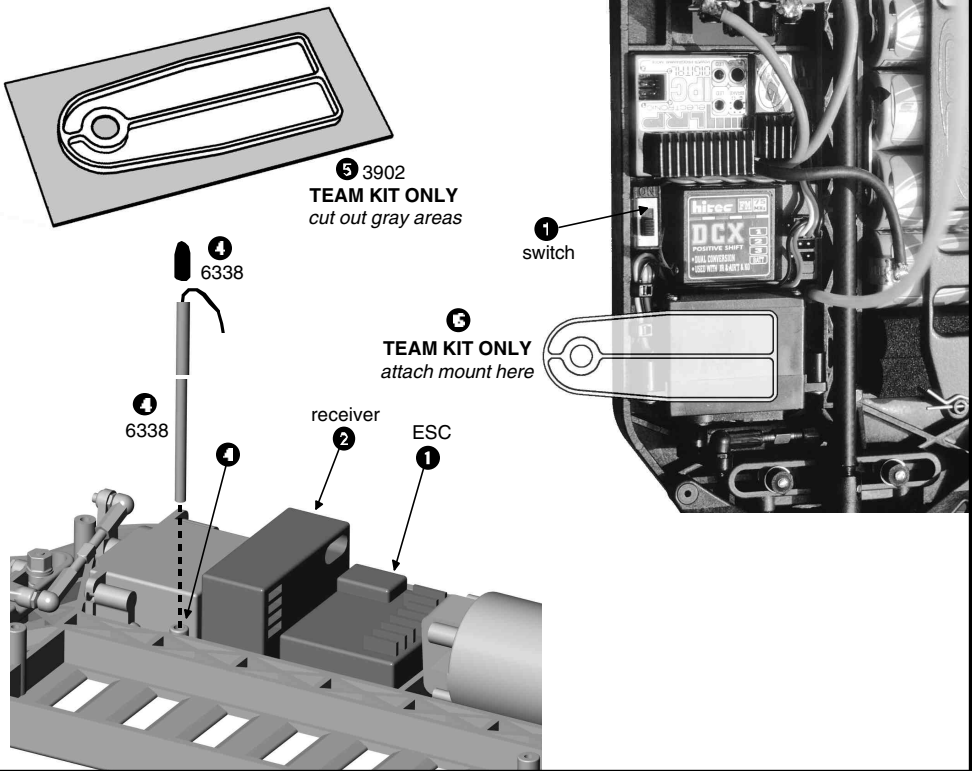
About .220"-.250" (5.5-6.5mm) when correctly tightened



step 4

RADIO AND RECEIVER INSTALLATION

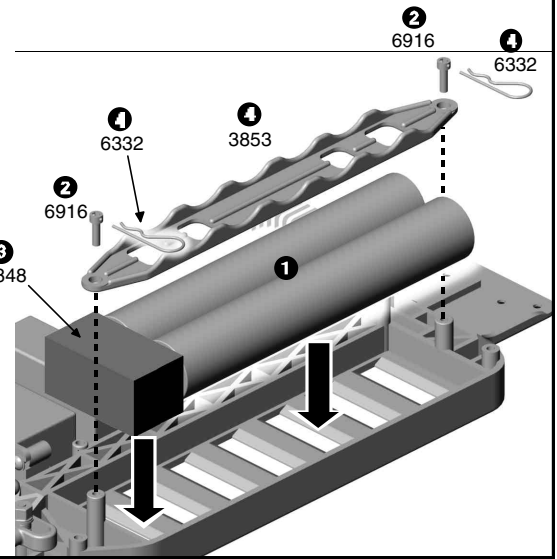
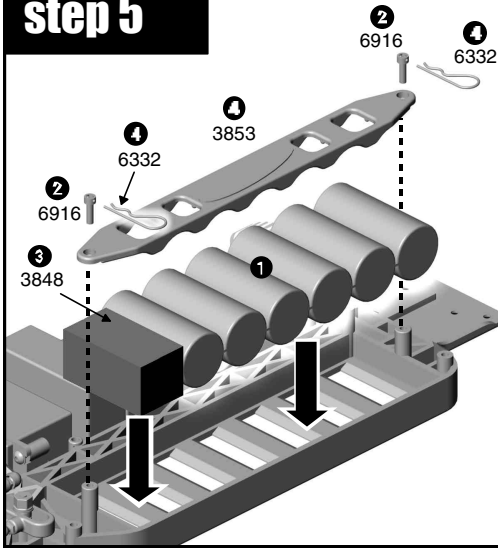
- 1 Cut a piece of #6727 servo tape and use it to attach your optional ESC and switch where shown.
- 2 Cut a piece of #6727 servo tape and use it to attach your optional receiver where shown.
- 3 Connect the ESC and steering servo to your receiver according to your radio or ESC instructions. Then connect the motor to your
- 4 ESC.
Push your receiver wire through the built-in antenna mount. Slide the wire through the #6338 antenna and push the antenna firmly into the chassis antenna mount hole. Cap the other end of the antenna tube and wire with the black rubber cap.
- 5 **TEAM KIT ONLY**
If needed, remove the transponder mount and cut away all the gray areas as shown in illustration.
Attach the mount to the servo where shown with



step 5

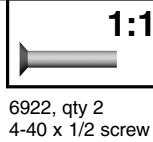
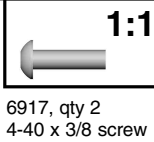
BATTERY INSTALLATION

- 1 Install your battery pack. See which figure, at left or right, best represents your battery orientation.
- 2 Thread on the two #6916 screws. Aim the body clip hole across the chassis.
- 3 Add the #3848 foam spacer.
- 4 Add the #3853 battery hold down strap, orienting it up or down according to your battery pack design. Adjust the screws so the batteries are held tight, but you are still able to push the

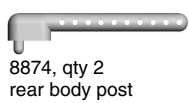
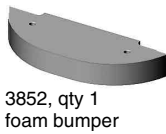
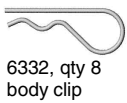
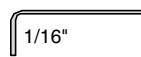


BAG 1

REMOVE THESE PARTS FOR: Steps 1-2



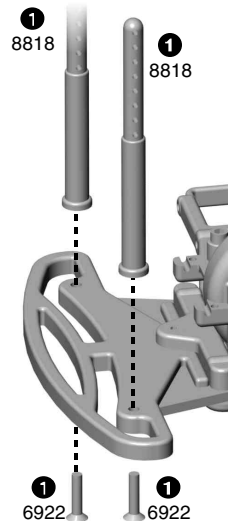
TOOLS USED



step 1

FRONT BODY POSTS

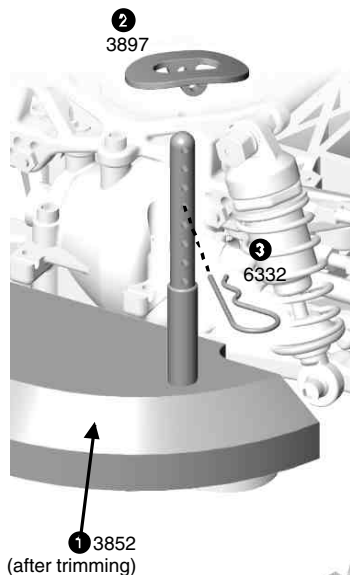
- 1 Attach each #8818 front body post to the front bumper with one #6922 screw.



step 2

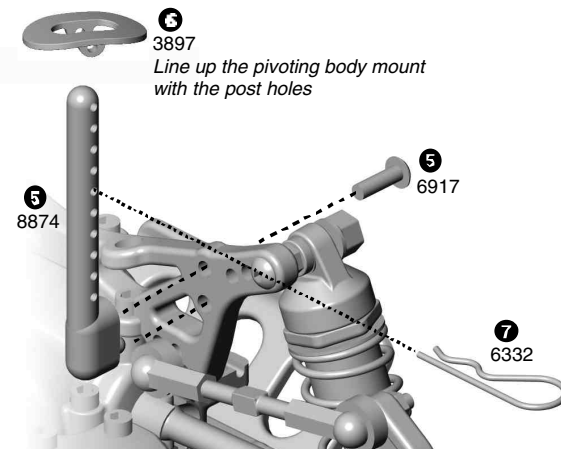
FOAM BUMPER

- 1 Place the #3852 foam bumper over the front body posts. (You will trim it later to fit your body.)
- 2 Slide the #3897 pivoting body mount over the body post so its holes line up with the fourth hole from the top. (Adjust for proper hole later when you fit your body.)
- 3 Slide the #6332 body clip into the body post and pivoting body mount. (You'll add another body clip after you install your body.)
- 4 install your body.)
Do both front posts.



REAR BODY POSTS

- 5 Place the rear #8874 body post to the front side of the rear shock tower. Align the tab and hole and attach it with a #6917 screw.
- 6 Slide the #3897 pivoting body mount over the body post so its holes line up with the fifth hole from the top. (Adjust for proper hole later when you fit your body.)
- 7 Slide the #6332 body clip into the body post and pivoting body mount. (You'll add another body clip after you install your body.)
- 8 Do the other rear body post.



BAG J

REMOVE THESE PARTS FOR:
Steps 1-2



6943, qty 4
8-32 locknut



3950, qty 4
wheel hex adaptor



3951, qty 4
TC3 wheel



3955, qty 4
foam wheel insert



3955, qty 4
TC3 tire

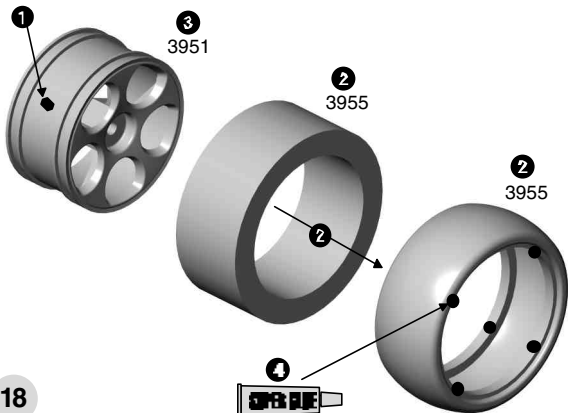
TOOLS USED



step 1

TIRE ASSEMBLY

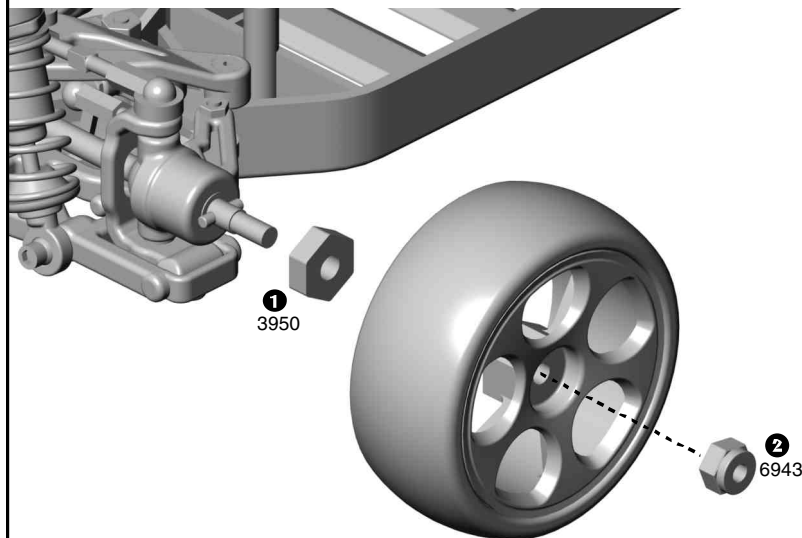
- 1 Make a 1/8" hole in the #3951 TC3 wheel.
- 2 Insert the #3955 foam insert into the #3955 tire. Make sure the insert is centered in the tire.
- 3 Install the #3955 tire and insert onto the #3951 wheel.
- 4 Glue the tire to the wheel with super glue (cyanoacrylic glue) in four equally-spaced spots around the tire on both sides. **WARNING!** Follow the adhesive manufacturer's instructions for proper use and safety. Wear eye and hand protection.
TIP: Place a rubber band around the tire to hold it tight to the wheel while gluing.
- 5 Repeat steps for the three remaining tires.



step 2

MOUNT TIRES

- 1 Install the #3950 wheel hex adaptor to the axle, lining up the roll pin with the slot in the hex adapter.
- 2 Slide the wheels over the axle and tighten it down with a #6943 lock nut.
- 3 Install the remaining tires.



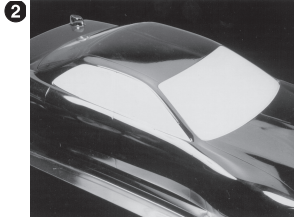
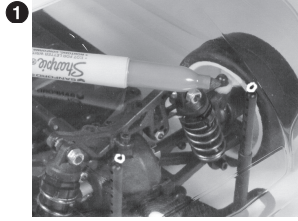
FINAL ADJUSTMENTS

Make these adjustments before racing

FINISHING THE BODY

Before you start to mask and paint the inside of your TC3's body, wash it out with soap and water to remove any mold release residue or dirt that may show up in your paint.

1. Mark the body post holes and rear wheel cutout



with a marker on the outside of the body.

2. Each body comes with pre-cut self-adhesive window masks for your convenience.

3. Be sure to use a paint that is specifically formulated to adhere to Lexan. Spray several thin coats (instead of one thick coat) to avoid runs. If possible,

spray your darker colors first.

4. After painting, trim the wheel wells with curved scissors or a sharp hobby knife.

5. Trim out the rear wing and mount it to the body with the supplied 4-40 button head screws and nylon nuts.

6. Finish by applying decals.

RADIO ADJUSTMENTS

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

1. Turn the transmitter on.

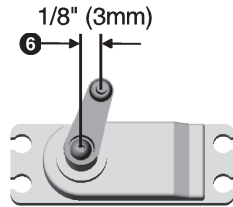
2. Make sure the motor is disconnected.

3. Connect your battery pack.

4. Turn the power switch on.

5. 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.)

6. Look at the servo horn mounted on the servo. It should lean toward the centerline of the chassis about 1/8" (3mm).



7. Adjust the servo turnbuckle so that the steering rack arm is EXACTLY in the center of the car.

8. Using the two steering turnbuckles, adjust the front wheels so they are pointed straight ahead.

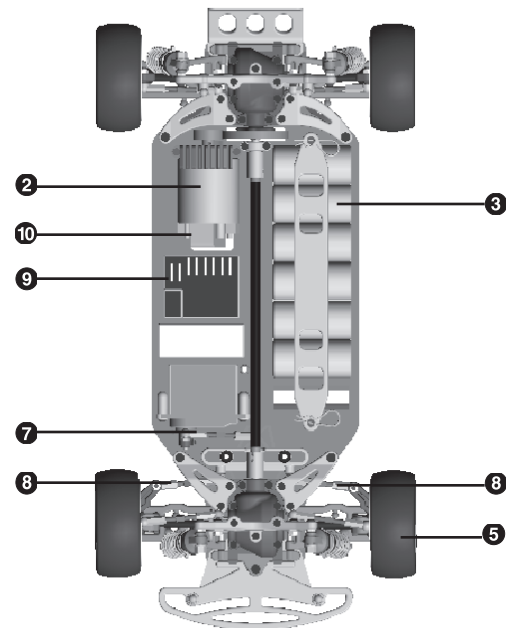
9. Adjust the ESC (electronic speed control) according to the speed control manufacturer's instructions.

Note: Some manufacturers have the motor connected during adjustment and some do not. Now turn the power switch off.

10. Connect the motor. Place your car on a block or car stand so that all four wheels cannot touch anything. Turn the power switch on again. Check the ESC and steering settings you have made and then turn the power switch back off.

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

CONGRATULATIONS! YOUR CAR IS NOW READY TO RUN!



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.

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

| MOTOR | PINION | SPUR | FINAL DRIVE RATIO | OVERALL RATIO |
|------------------------|--------|------|-------------------|---------------|
| 24° ROAR stock motor | 28 | 72 | 2.5:1 | 6.43 |
| 36° stock motor | 26 | 72 | 2.5:1 | 6.92 |
| 16 turn modified motor | 26 | 72 | 2.5:1 | 6.92 |
| 15 turn modified motor | 25 | 72 | 2.5:1 | 7.2 |
| 14 turn modified motor | 24 | 72 | 2.5:1 | 7.5 |
| 13 turn modified motor | 23 | 72 | 2.5:1 | 7.83 |
| 12 turn modified motor | 22 | 72 | 2.5:1 | 8.18 |
| 11 turn modified motor | 21 | 72 | 2.5:1 | 8.57 |
| 10 turn modified motor | 20 | 72 | 2.5:1 | 9.00 |
| 9 turn modified motor | 19 | 72 | 2.5:1 | 9.47 |

MAINTENANCE

Follow these steps to keep your car in shape for racing

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 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 care-

fully 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.

DIFFERENTIAL ADJUSTMENT

1. Tighten the diff screw down until the T-nut reaches the bottom of the diff hub slot and you feel the spring fully compressed. **Do not overtighten.** When you feel the spring fully compressed, loosen the diff bolt 1/8 to 1/4 of a turn. No more, no less.

2. Go ahead and run the car for approximately one minute. Then recheck the diff adjustment by again following step 1 above. Your diffs should be ready to go now.

DIFFERENTIAL MAINTENANCE

You should rebuild the differentials when the action gets somewhat "gritty" feeling. Usually cleaning the diff parts and applying new lube per the instructions will bring it back to new condition again. The standard 3/32" carbide balls rarely need replacing. Normally, as the parts seat, the diff will get smoother.

If the diff still feels gritty after carefully cleaning and re-lubing the diff parts, the thrust balls, thrust washers, and drive rings should be checked and pos-

sibly replaced.

The parts will normally wear out in the following order:

1. #6575 5/64" diff thrust balls (qty 6).
2. #6573 diff thrust washers (2).
3. #6579 diff drive rings (2).

Refer to the differential section to correctly assemble the diff.

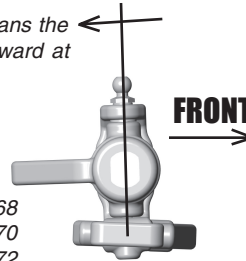
TUNING & SETUP TIPS

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 from vertical when looked at from the side of the car. Positive caster means the kingpin leans rearward at the top. Negative caster should never be used.

These tips prepare your car for maximum performance

Positive caster means the kingpin leans rearward at the top.



- 0° block carrier, #3868
- 2° block carrier, #3870
- 4° block carrier, #3872

Associated makes block carriers for the TC3 with 0° (kit standard), 2°, and 4° of caster. Increasing caster in the TC3 (with 2° or 4° block carriers) will give your car more steering entering corners but less steering exiting corners. It will also be more stable in bumpy conditions.

Note: When figuring total caster in your car, add the amount in the block carrier to the amount of kickup. Example: 2° of kickup (kit standard) and 0° block carrier equals total of 2° of caster.

KICKUP AND ANTI-DIVE refers to the angle at which the front suspension is mounted in relation to horizontal when looked from the side of the car. Kickup and anti-dive are adjusted by changing the suspension arm mounts, which have molded codes to help you tell them apart. The three front arm mount combinations are as follows:

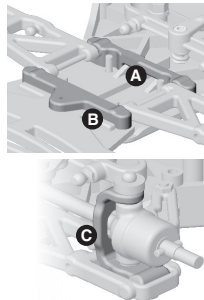
RECOMMENDED ARM MOUNT/BLOCK CARRIER COMBINATIONS

| FOR THIS SETUP: | USE THESE PARTS: | | |
|-------------------------|------------------|-----|---------------|
| | Arm Mounts | | Block Carrier |
| | A | B | C |
| 2° kickup, 2° caster | F | F+2 | 0° |
| 2° kickup, 4° caster | F | F+2 | 2° |
| 0° kickup, 0° caster | F | F-0 | 0° |
| 0° kickup, 2° caster | F | F-0 | 2° |
| 0° kickup, 4° caster | F | F-0 | 4° |
| 2° anti-dive, 0° caster | F-2 | F-0 | 2° |
| 2° anti-dive, 2° caster | F-2 | F-0 | 4° |

BLOCK CARRIER/ARM MOUNTS PARTS

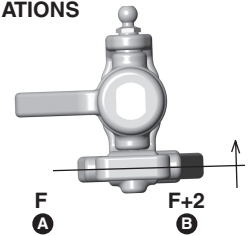
| A B ARM MOUNT INFORMATION | | |
|---------------------------|-----------------|------------------|
| code | effect | part # |
| F | | #3863 (std) |
| F+2 | +2° kickup | #3863 (std) |
| F-0 | 0° kickup | #3864 (optional) |
| F-2 | 2° of anti-dive | #3864 (optional) |

| C BLOCK CARRIER INFORMATION | |
|-----------------------------|------------------|
| effect | part # |
| 0° caster | #3868 (std) |
| 2° caster | #3870 (optional) |
| 4° caster | #3872 (optional) |

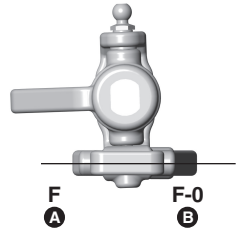


EFFECTS OF ARM MOUNT/BLOCK CARRIER COMBINATIONS

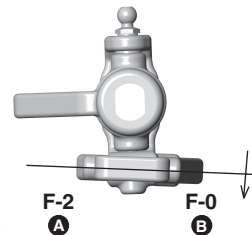
The kit setting of 2° kickup will work best in most conditions, especially in bumpy conditions.



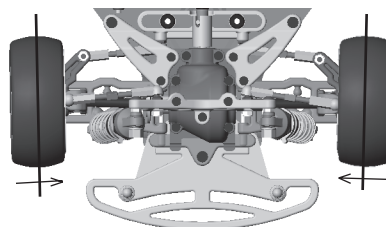
0° kickup will have a more aggressive steering feeling but will not absorb bumps as well as 2°.



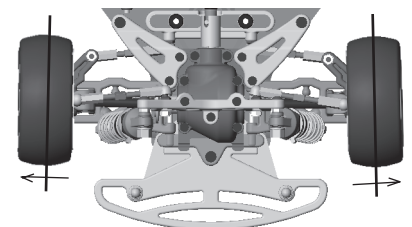
2° anti-dive will have a very aggressive steering feeling and will improve front braking traction entering corners. However, this setting will not work well in bumpy conditions.



FRONT TOE-IN AND TOE-OUT is adjusted by turning the steering turnbuckles. Toe-in will make your car easier to drive by improving stability during acceleration. Toe-out will increase steering when entering corners but will be slightly more difficult to drive. We suggest using 0° to 1° toe-out on the TC3.



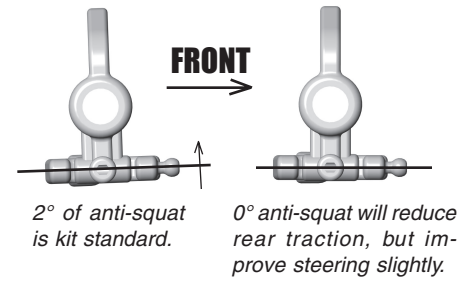
Toe-in:
Easier to drive.
Improves stability during acceleration.



Toe-out:
Harder to drive.
Increases steering entering corners.

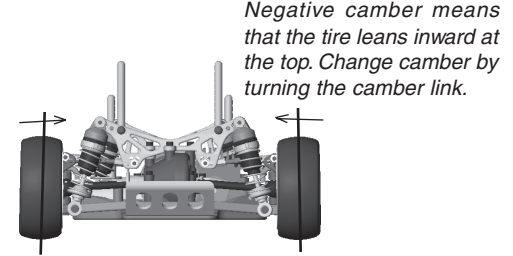
REAR ANTI-SQUAT describes the angle at which the rear suspension is mounted in relation to horizontal when looked at from the side of the car. The TC3 comes standard with 2° of rear anti-squat. This provides good rear traction. Installing the #3864 (R3+0) rear arm mount reduces anti-squat to 0° and will reduce rear traction. However, it will improve acceleration in bumpy conditions and increase steering slightly.

| REAR ARM MOUNT INFORMATION | | |
|----------------------------|---------------------------|------------------|
| code | effect | part # |
| R | | #3863 (std) |
| R+3+2 | 3° toe-in & 2° anti-squat | #3863 (std) |
| R+3+0 | 3° toe-in & 0° anti-squat | #3864 (optional) |
| R+2+0 | 2° toe-in & 0° anti-squat | #3864 (optional) |
| R+2+2 | 2° toe-in & 2° anti-squat | #3864 (optional) |

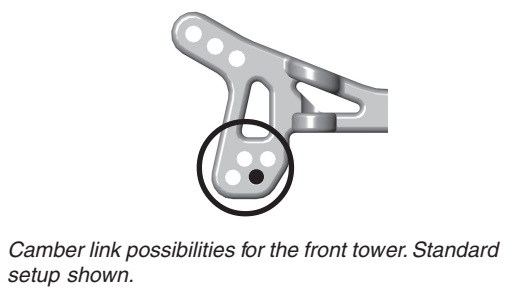
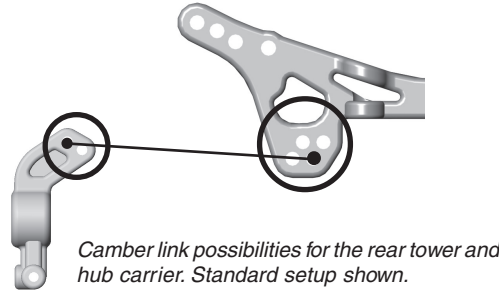


REAR TOE-IN is adjusted by changing the rear arm mounts. The TC3 comes standard with 3° of toe-in on each side. This setting should work best in any condition. However, if less toe-in is desired, install the #3864 (R+2+2) or #3864 (R+2+0) rear arm mounts. These mounts have 2° of toe-in and will decrease rear traction and add steering. (See rear anti-squat details above for more info on the mounts.)

CAMBER describes the angle the wheels ride relative to the ground when looked at from the front or back. Negative camber means that the tire leans inward at the top. Positive camber means just the opposite, and should not be used. We suggest using 2° of negative camber at all times. However, more negative camber can be used up to 4° for high traction conditions. Less than 2° can be used for low traction conditions.



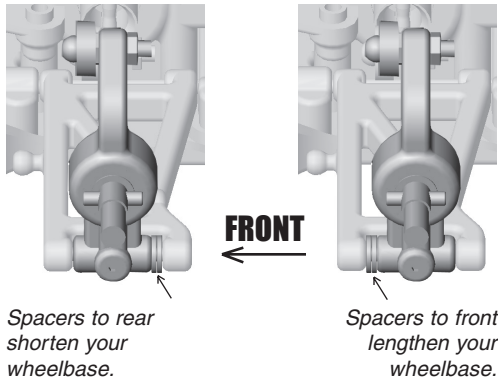
CAMBER LINK LOCATIONS on the TC3 have been thoroughly tested to find the best all around positions. We suggest using the standard setting for all conditions. However, if you must make adjustments, the following guidelines should help you: The longer or higher the link, the more traction and less stability. The shorter or lower the link, the less traction and greater stability.



WHEELBASE ADJUSTMENT can be made to the TC3 by moving the two #4187 1/32" plastic spacers on the outer rear hinge pins (next to the hub carrier).

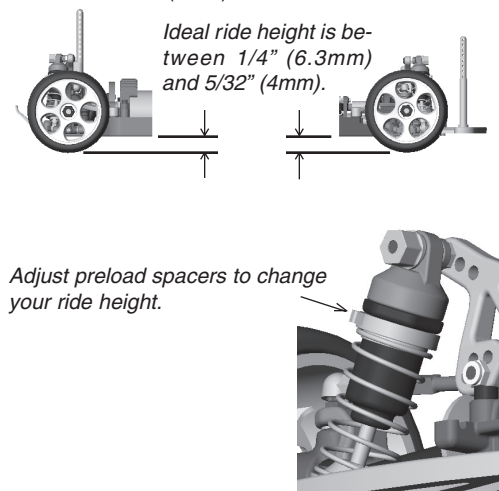
Moving the spacers to the front of the hub carrier will lengthen the wheelbase and decrease rear traction.

Moving the spacers to the rear of the hub carrier will shorten the wheelbase and increase rear traction.



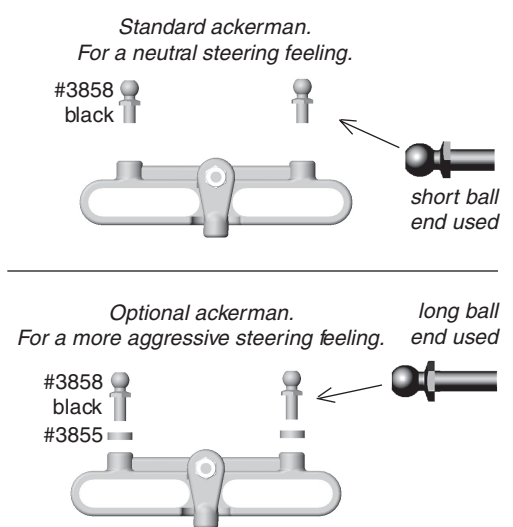
RIDE HEIGHT describes the height of the chassis in relation to the surface it is sitting on. This adjustment must be made with the chassis ready-to-run but with no body. The #8846 shock preload spacers are used for raising and lowering the ride height.

We suggest starting with about 1/4" (6.3mm) clearance between the chassis and ground. Try using a slightly lower ride height for high traction conditions such as carpet racing. Do not use a ride height lower than 5/32" (4mm).



ACKERMAN is a term describing the effect of the inside front wheel turning tighter than the outside front wheel. The standard setup works best in most conditions and will provide a very neutral driving feeling.

By adding two .100" (2.5mm) spacers and the longer #3858 ball ends to the steering rack, a more aggressive steering feeling can be achieved. This is because there will be less ackerman.



SHOCK SPRINGS try to keep your car level during acceleration, deceleration, and cornering.

Stiffer springs will help your suspension respond more quickly, but because of their stiffness will not absorb bumps as well. Use stiffer springs in high traction conditions such as carpet racing.

Softer springs are best for slippery or bumpy conditions.

| | | | |
|-------|--------|-------------------------|-----------------------------|
| #3941 | Green | 12 lbs/in | softer ↑ ↓ stiffer |
| #3942 | Silver | 14.5 lbs/in (std rear) | |
| #3943 | Blue | 17 lbs/in | |
| #3944 | Gold | 19.5 lbs/in (std front) | |
| #3945 | Red | 22 lbs/in | |
| #3946 | Copper | 25 lbs/in | |

SHOCKTRAVEL can be adjusted on the TC3 to help speed up or slow down how fast the car changes direction when cornering. The TC3 standard setup has four limiters in each front shock and two in each rear shock. This setup will work best in almost any condition.

If your track is bumpy, you may want to remove

Standard setting for front shocks is four limiters each shock.

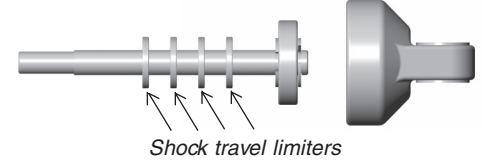
Standard setting for rear shocks is two limiters for each shock.



one or two limiters from each shock.

If your track has very high traction, such as carpet, then you may want to add one more limiter to each shock. Too many limiters will cause a loss of traction.

The #6466 shock travel limiter kit has four each of three sizes of travel limiters: 1/8" (.125), 1/16" (.062), 1.32" (.031). Standard setting is four .031 limiters for front, and two .031 limiters for rear.



ANTI-ROLL BARS are used to stabilize a car from excessive chassis roll (which occurs when your car leans through the turns by centrifugal force). Anti-roll bars are generally used on smooth, high traction track conditions. If the conditions are very bumpy, then anti-roll bars are probably not necessary.

If you are driving on a high traction surface and your car wants to oversteer, then use the optional

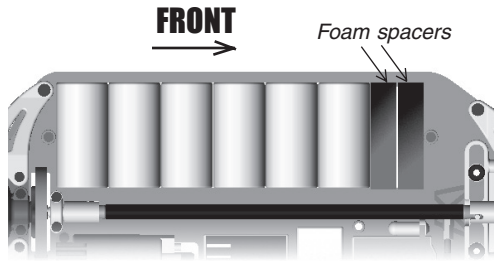
#3960 anti-roll bar kit on the front only. This will decrease the front chassis roll and decrease steering throughout the corner. This has the feeling of increasing rear traction.

If your car is understeering, then try the optional #3960 anti-roll bar kit on the rear only. The rear anti-roll bar will decrease rear chassis roll and decrease rear traction (this has the feeling of increasing steering).

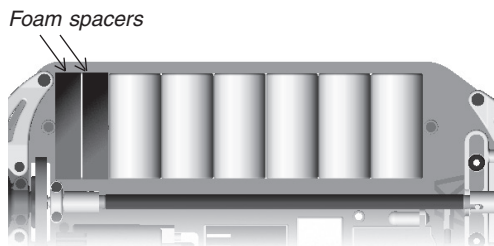


Antiroll bar (sway bar) kit #3960.

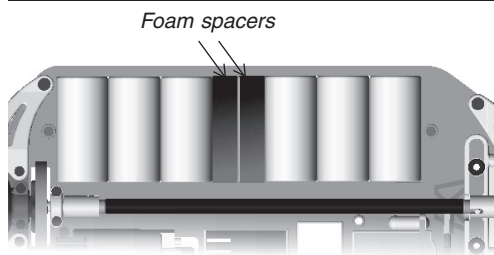
BATTERY PLACEMENT in the TC3 allows you to slide your batteries forward or back to change the handling characteristics of your car. There are many combinations, but here are three we suggest trying.



*Batteries to rear:
More traction.
Less steering.*



*Batteries to front:
Less traction.
More steering.*



*Batteries separated:
Slightly more steering than full rear.
Slightly less rear traction than full front.
Easy to drive.*

TIRES & INSERTS are two of the most influential changes you can make to your car. The TC3 comes standard with Pro-Line S-2 compound V-Rage tires. This is a good traction, long-wearing tire for all around use.

If you would like more traction, try the Pro-Line #1091 S-3 compound tires with Pro-Line tire inserts. For racing conditions, try the Pro-Line #1089S2 S-2 slicks or #1089S3 S-3 racing slicks. These optional tires are available from Pro-Line.

SETUP SHEET for the TC3 is included. Set up your TC3 with the standard settings at right, then deviate from them in response to your track conditions and driving style, as noted below.

Tips for beginners:

For best results, make only one setup change at a time, testing it before making another change. Make a copy of the setup sheet included in this manual to help keep track of your changes.

Before you make any changes to the standard settings, make sure you can get around the track without crashing. None of your setup changes will work if you cannot stay on the track.

Your goal is consistent lap times. Inconsistent lap times may indicate poor control. When you have consistent lap times, then make changes to your car.

If the change results in a faster lap, then mark the change in your setup sheet. If performance is worse, then revert back to the previous setup and try another change.

Fill out your setup sheet thoroughly when you are satisfied with it and file it away. It can be a practical guide for future track layouts and conditions you encounter.

STANDARD SETTINGS of the TC3 are presented below.

1. Front camber: -2°.
2. Front camber link: inside lower hole on tower.
3. Front block carrier: 0°.
4. Front toe: 0° to 1° toe-out.
5. Front ride height: 1/4" (6.3mm).
6. Kickup: +2°.
7. Bump steer spacers: none.
8. Ackerman: #3858 ball ends, no spacers.
9. Front anti-roll bar: none.
10. Rear camber: 1° to 2° negative.
11. Rear camber link: tower: inside lower hole. Hub carrier: outside hole.
12. Rear toe-in: 3°.
13. Rear ride height: 1/4" (6.3mm).
14. Rear Anti-squat: 2°.
15. Rear anti-roll bar: none.
16. Driveshafts: MIP CVD's.
17. Wheelbase: hub carriers centered.
18. Shock body: macro shock.
19. Shock oil: front, 40wt. Rear, 40wt.
20. Shock shaft: front, #8844. Rear, #8844.
21. Shock pistons: front, #2. Rear, #2.
22. Shock springs: front, Gold. Rear, Silver.
23. Shock limiters: front, 4. Rear, 2.
24. Shock mounting, front tower, outside hole.
25. Shock mounting, rear tower, outside hole.
26. Batteries: 6-cell.
27. Battery placement: rear.
28. Motor: varies.
29. Speed control: varies.
30. Radio: varies.
31. One way, front diff: none.
32. Tires, front: Pro-Line V-Rage S-2 compound.
33. Tires, rear: Pro-Line V-Rage S-2 compound.
34. Tire additive: none.
35. Inserts: incl. with tires.
36. Wheels: Pro-Line.
37. Spur gear: 72
38. Pinion gear: varies.
39. Lead weights: none.
40. Chassis: Composite.
41. Body: varies.
42. Wing: varies with body.



TC3

SETUP SHEET Team Associated
RC10TC3 4WD Touring Car

Driver: _____

Track/City: _____

Event: _____ Date: _____

FRONT SUSPENSION

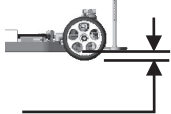
CASTER 0° 2° 4° ANTI-ROLL BAR: None Size: _____

KICKUP 0° 2° -2°

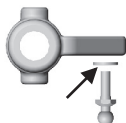
TOE-IN _____° TOE-OUT _____°

CAMBER _____°

RIDE HEIGHT



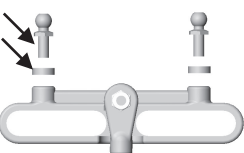
BUMP
STEER



ACKERMAN SETTING
 Std Other: _____

Ball end: _____

Spacer: _____



FRONT SHOCKS

BODY Composite Alum.

SHAFT Std Other: _____

LIMITERS:

Inside: _____

Outside: _____

PISTON # _____

OIL _____ WT

SPRING _____

SHOCK MOUNT &
CAMBER LINK
Fill in holes used



REAR SUSPENSION

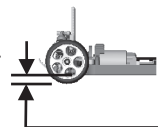
ANTI-SQUAT 0° 2°

ANTI-ROLL BAR: None Size: _____

TOE-IN 3° Other: _____

CAMBER: _____°

RIDE HEIGHT



WHEELBASE
ADJUSTMENT

← FRONT

Short



Medium



Long



REAR SHOCKS

BODY Composite Alum.

SHAFT Std Other: _____

LIMITERS:

Inside: _____

Outside: _____

PISTON # _____

OIL _____ WT

SPRING _____

SHOCK MOUNT &
CAMBER LINK
Fill in holes used



OTHER

FRONT TIRES: _____ Compound: _____ Insert: _____ Wheel: _____

REAR TIRES: _____ Compound: _____ Insert: _____ Wheel: _____

BATTERY PLACEMENT Back Front Other: _____

CHASSIS Std Carbon Fiber

FRONT/REAR DRIVE Std One-way

SPUR/PINION _____ T / _____ T

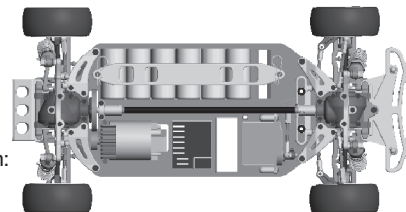
MOTOR _____ BRUSH _____ SPRING _____

RADIO _____ SERVO _____ ESC _____

BODY _____ WING _____

TIRE ADDITIVE _____
 None

LEAD WEIGHTS _____ (oz/gm) Indicate location:
 None



TRACK CONDITIONS

SURFACE: Smooth Bumpy

TRACTION: Low Med. High

COMPOSITION:

Concrete Asphalt Carpet Other: _____

NOTES: _____

RACE COMMENTS

MAIN _____ FINISH _____ QUALIFYING. POS. _____

NOTES: _____

CAR COMMENTS

NOTES: _____
